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on

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REBASING OF THE SINGAPORE SYSTEM OF NATIONAL ACCOUNTS TO REFERENCE YEAR 1995

Singapore Department of Statistics

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I INTRODUCTION

1 The Singapore Department of Statistics (DOS) has completed the rebasing of the Singapore System of National Accounts (SSNA) to reference year 1995. The estimates of production and expenditure on the Gross Domestic Product (GDP) at constant prices will now be expressed in terms of prices prevailing in 1995, instead of prices prevailing in 1990. The rebased series will be used as the basis for reporting GDP growth rates with effect from the Annual Economic Survey of Singapore 2002.

2 The rebasing exercise not only revalues GDP at the new base year, but also serves to reconcile the different estimates of GDP and provides the occasion for methodological and conceptual reviews and improvements. One major issue that has been addressed in this rebasing exercise is the treatment and presentation of taxes on products. This issue arises from the introduction of a value-added tax (VAT), namely the Goods and Services Tax (GST), in April 1994. As there was no GST in 1990, real GDP at 1990 prices are not affected by GST. In rebasing the national accounts to 1995 prices, GST (as well as other taxes on products) needs to be explicitly recognised and accounted for in the national accounts.

3 Section II explains the different bases for the valuation of output in the national accounts, and why the incorporation of GST in the national accounts makes it necessary to change the existing basis (producer's price) to a new basis (basic price) for the valuation of output by industry. Section III documents the reconciliation exercise and improvements in data sources and methodology during this rebasing exercise as well as those introduced since the previous rebasing exercise. Section IV analyses the impact of the rebasing exercise and other non-routine improvements on the major national accounts aggregates.

II VALUATION OF OUTPUT, TREATMENT OF GST AND TAXES ON PRODUCT

4 The goods and services tax (GST) was introduced in Singapore on 1 April 1994. GST is a value-added tax (VAT) on the domestic consumption of goods and services, including those imported from abroad. A single rate of 3 per cent has been imposed across all goods and services sold within the domestic economy, while exports are zero-rated. Since 1 Jan 2003, the GST rate

has been raised to 4 per cent. A relatively small number of selected activities is exempted, eg sale or lease of residential properties and most financial services. As a value-added tax, GST paid on goods and services used as intermediate inputs by GST-registered businesses are deductible or refundable. The net amount of GST paid or collected is referred to as non-deductible GST[1].

5 GST has an immediate and direct effect on nominal GDP, or GDP at current market prices, raising it by the amount of non-deductible GST. Presently, for output-based GDP, non-deductible GST is distributed to the respective industries. For expenditure-based and income-based GDP, GST is included in private consumption expenditure (PCE) and in taxes on production and imports respectively.

6 GST, however, has no effect on the estimates of real (or constant price) GDP estimates at 1990 market prices. The market prices prevailing then were unaffected by GST. The weights used to compute real GDP at 1990 prices would not reflect or account for GST. This applies to both output-based and expenditure-based estimates of real GDP at 1990 prices.

7 However, with the rebasing of the national accounts, GST would have to be accounted for in real GDP estimates at 1995 prices. The relative prices prevailing in 1995 would have been affected by, or at least reflect the effects of GST.

8 Since expenditure-based GDP estimates are inherently valued at market prices, nominal estimate of PCE[2] would reflect fully the effects of GST. Hence, the impact of GST at constant prices would have been embedded in the real or constant price estimate of PCE, which is derived through the deflation of nominal estimates of the various components of PCE using appropriate price deflators, including the relevant components of the CPI.

9 However, in the case of output-based constant price GDP estimates, a separate estimate of GST at constant price has to be derived. One approach would be to use an appropriate price deflator, say a 'GST tax price index', to deflate nominal or current price estimate of GST. A tax price index is a price index on the tax payable on a basket of goods and services weighted by the relative amount of tax paid for each type of good and service. As GST is taxed at a single, uniform rate, a GST tax price index would behave similarly to a basket of GST-taxable goods and services weighted by the relative expenditure of each type of good and service. Since the final impact of GST is on PCE, the basket of GST-taxable goods and services would essentially be reflected by

1 Non-deductible GST can also be viewed as the residual portion of GST payable after deducting all GST rebates (or deductible GST) on purchases for intermediate consumption.

2 Since exports are zero-rated and GST is deductible for intermediate inputs, GST impact mainly on PCE, which is valued at market prices (or purchasers' prices, inclusive of GST).

PCE. Thus, the implicit price deflator on PCE would be equivalent to a GST tax price index.

10 A more direct approach is to extrapolate from the 1995 GST tax using a volume indicator of the growth of the appropriate basket of goods and services. This approach has been adopted by some other statistical agencies, eg the Australian Bureau of Statistics (ABS). In the case of Singapore, such an indicator would be the constant price estimates of an adjusted PCE[3]. Using this indicator, any change in the GST rate will show up correctly as a price effect. In other words, the increase in GST rate from 3 per cent to 4 per cent in January 2003 will not have an impact on GST at constant price, but will instead be fully accounted for in an implicit 'GST tax price index'. DOS has adopted this more direct approach to derive quarterly estimates of GST at constant price.

Valuation of Output

11 The incorporation of GST into the national accounts requires an examination of the basis used to value output and consequently, value-added. Three different prices for the valuation of output are defined in the 1993 System of National Accounts (SNA93) as follows :

(a) Basic price is "the amount receivable by the producer from the purchaser for a unit of a good or service produced as output minus any tax payable, and plus any subsidy receivable, on that unit as a consequence of its production or sale. It excludes any transport charges invoiced separately by the producer." (SNA93, para 6.205a)

(b) Producer's price is "the amount receivable by the producer from the purchaser for a unit of a good or service produced as output minus any value-added tax or similar deductible tax, invoiced to the purchaser. It excludes any transport charges invoiced separately by the producer." (SNA93, para 6.205b)

(c) Purchaser's price is "the amount paid by the purchaser, excluding any deductible VAT or similar deductible tax, in order to take delivery of a unit of a good or service at the time and place required by the purchaser. It includes any transport charges paid separately by the purchaser to take delivery at the required time and place." (SNA93, para 6.215)

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3 Adjusted to exclude components which are not subjected to GST (for example, residents' spending abroad).

The relationship between the three different prices can be given as follows :

	Purchaser's price
minus	Trade and transport margins
equals	***Producer's price***
minus	Taxes on products (sales tax, manufacturers' excise tax, and/or non-deductible VAT)
plus	Subsidies on products
equals	***Basic price***

12 The difference between basic price and producer's price is the inclusion of excise, sales and other similar taxes on products in the latter. Intermediate consumption is always valued at purchaser's price. Since gross value-added (GVA) is output less intermediate consumption, the different prices will yield two different measures of gross value added (GVA) depending on whether basic price or producer's price is used to value output.

13 In a world without taxes and subsidies, these different prices would not arise. Further, in the absence of a value-added tax (VAT) such as GST or other deductible taxes, producer's price is equivalent to market price. However, this is no longer the case once VAT is introduced since "in the presence of VAT, the producer's price excludes invoiced VAT, and it would be inappropriate to describe this measure as market prices." (SNA93, para 6.227) Nonetheless, except for the transport charges paid by the purchaser to take delivery of the goods (the output of which will be separately attributed), purchaser's price remains equivalent to market price.

14 Singapore, like many other countries, has been compiling and publishing GVA by industry at producer's price. The change in tax regime following the introduction of GST in 1994 has made this no longer appropriate, and it would be necessary to re-compile estimates of GVA by industry at basic price. Basic price is, in fact, the "preferred method of valuation, especially when a system of VAT or similar deductible tax is in operation". (SNA93, para 6.218).

15 The re-compilation of GVA at basic price will remove the impact or effect of taxes (and subsidies) on products on the estimates of GVA. As these tend to fall mainly on a few industries, the relative share of GVA (or GDP) by industry will be more correctly reflected. In addition, as most OECD countries (eg Australia, UK, Netherlands) compile GVA at basic price, the adoption of basic price as the basis of valuation will enhance the international comparability of Singapore's estimates of GVA and labour productivity (value-added per worker) by industry.

16 As a result of the re-valuation of output at basic price, there will be significant changes in the relative share of GDP by industry. This is because

GST and other taxes on products (such as COE, hotel CESS, stamp duties and betting duties) tend to fall mainly on a few industries. In particular, the relative shares of wholesale and retail trade would be lowered while those of manufacturing, transport and communications, and business services would be increased. These changes in relative shares are discussed further in Section IV.

Taxes on Products

17 Taxes on products are payable on goods and services when they are produced, delivered, sold, transferred or otherwise disposed of by their producers. They include taxes and duties on imports, goods and services tax and other taxes on products, eg excise duties, COE/ARF, betting and sweepstake duties, hotel cess etc. Table 1 shows the breakdown of these taxes in reference year 1995 and in 2001. The most significant of these taxes is COEs/ARFs, which amounted to $3.5 billion in 2001, which are imposed on the sale of cars and attributed to the wholesale and retail sector. Stamp duties fall largely on the real estate industry, which is within the business services sector. Betting and sweepstake duties would be applied to 'other services'.

TABLE 1 TAXES ON PRODUCTS, 1995 AND 2001

$ Million

	1995	2001
Taxes on Products	**8,394.5**	**9,947.0**
Of which :		
Taxes & Duties on Imports	751.9	1,105.3
Goods & Services Tax	1,647.4	2,013.0
Other Taxes on Products	5,995.2	6,828.7
Excise Duties (include Tax on Petroleum, Tobacco, Liquor, etc)	837.6	734.7
COE/ARF	3,090.4	3,548.7
Betting, Sweepstake & Lottery Duties	981.6	1,573.5
Stamp Duties	990.7	757.3
Others	94.9	214.5

18 GST and other deductible taxes would be attributed to the industries in which goods and services are sold to the final sector. Thus, most of the GST collected would be attributed to the wholesale and retail sector (Table 2). No GST is attributed to the manufacturing sector for two reasons. First, most manufacturing output are exported (zero-rated GST). Second, manufacturing establishments do not sell their products directly to the final consumer but through marketing and distribution agents.

TABLE 2 DISTRIBUTION OF GST BY INDUSTRY, 2001

	$ Million
Total	**2013.0**
Wholesale & Retail Trade	963.7
Hotels & Restaurants	70.4
Transport & Communications	166.2
Financial Services	92.9
Business Services	430.2
Others	289.6

Source : Total GST collected from MOF, distribution by industry based on survey returns from companies.

19 With the re-valuation at basic price and the separate identification of taxes on products, the estimates of output-based GDP will be presented in a new table format (Table 3).

TABLE 3 PRESENTATION OF OUTPUT-BASED GDP

New Format	Existing Format
Goods Producing Industries	**Goods Producing Industries**
Manufacturing	Manufacturing
Construction	Construction
Utilities	Utilities
Other Goods Industries	Other Goods Industries
Services Producing Industries	**Services Producing Industries**
Wholesale & Retail Trade	Wholesale & Retail Trade
Hotels & Restaurants	Hotels & Restaurants
Transport & Communications	Transport & Communications
Financial Services	Financial Services
Business Services	Business Services
Other Services Industries	Other Services Industries
Owner-Occupied Dwellings	**Owner-Occupied Dwellings**
Less : FISIM	Less : Imputed Bank Service Charge
Gross VA at Basic Prices	
Add : Taxes on Products	Add : Taxes & Duties on Imports
GDP at Market Prices	**GDP at Market Prices**

Note : Other Goods Industries comprise Agriculture, Fishing and Quarrying.

GDP Identities

20 Estimates of GDP from the three different approaches can be represented by the following identities :

The output approach views GDP as the sum of the value-added of the various industries in the economy and is represented as:

$$GDP = \Sigma\, GVA + \text{Taxes on Product} \tag{1}$$

where GVA is gross value added valued at basic price

The expenditure approach regards GDP as the sum of final demand components, ie

$$GDP = C + G + I + (X - M) \tag{2}$$

where
- C = Private Consumption Expenditure
- G = Government Consumption Expenditure
- I = Gross Capital Formation
- X = Exports of Goods and Services
- M = Imports of Goods and Services

The income approach measures GDP as the sum of the incomes generated by production to: firms (gross operating surplus), households (compensation of employees) and the government (taxes on production and on products).

$$GDP = GOS + Rem + \text{Other Taxes on Production} + \text{Taxes on Products}$$

where
- GOS = Gross Operating Surplus
- Rem = Compensation of Employees

21 In theory, these three approaches should yield the same GDP estimate. However, due to different data sources, timing and valuation issues, there may be discrepancies between estimates from the different approaches.

III RECONCILIATION AND IMPROVEMENTS

22 As noted earlier, the rebasing exercise does not entail merely the revaluation of the GDP estimates to the new base year. Central to the rebasing exercise is the reconciliation among the GDP estimates obtained using the three separate approaches (output or production, expenditure and income). The reconciliation of the different estimates serves to cross-validate and ensure the reliability of the separate estimates of the various components of GDP compiled on the basis of diverse and independent data sources.

23 In the present exercise, the separate estimates of GDP were reconciled using the 1995 benchmark input-output tables as the basis for reconciliation. Thus, no statistical discrepancy is recorded for 1995 and the statistical discrepancies in most years have also been reduced (Tables 4 and 5).

TABLE 4 STATISTICAL DISCREPANCY BETWEEN OUTPUT-BASED (GDP) AND EXPENDITURE-BASED (GDE) ESTIMATES AS A PERCENTAGE OF GDP

Per Cent

Year	Current Prices		Constant Prices	
	Before Rebasing (GDE)	After Rebasing (GDE)	Before Rebasing (GDE)	After Rebasing (GDE)
1995	–0.7	0.0	–0.5	0.0
1996	–1.4	–0.8	–1.8	–0.5
1997	–2.0	–0.9	–2.0	–0.8
1998	–1.9	–1.8	–1.8	–1.0
1999	–2.0	–1.3	–1.8	–1.3
2000	–0.2	–0.1	–1.8	–1.5
2001	–0.2	–0.2	–1.7	–1.6

TABLE 5 STATISTICAL DISCREPANCY BETWEEN OUTPUT-BASED (GDP) AND INCOME-BASED (GDI) ESTIMATES AS A PERCENTAGE OF GDP

Per Cent

Year	Current Prices	
	Before Rebasing (GDI)	After Rebasing (GDI)
1995	–0.7	0.0
1996	–0.8	–0.1
1997	–0.3	0.1
1998	0.2	–0.2
1999	1.0	0.1
2000	1.0	0.2
2001	1.2	0.6

24 The close and careful examination of data sources and methodology undertaken during the rebasing exercise also provides the occasion for several improvements and non-routine revisions, including updating and revisions to national accounting concepts. These improvements, revisions and updating serve to ensure that our national accounts estimates better reflect the underlying economic reality.

25 They can be grouped as follows :

(a) methodological revisions;
(b) review of conceptual treatment;
(c) changes in industrial classifications;
(d) improvements in coverage and data sources; and
(e) updating/changes in terminology.

26 While these improvements and revisions would generally be undertaken in connection with a rebasing exercise, their introduction has not been held back till the completion of the rebasing exercise. Indeed, in view of the urgency to ensure the continuing relevance of our national accounts estimates amidst rapid economic changes and technological advancements, they were introduced during the last two or three years even while the rebasing exercise was in progress. The following brief review and discussion would be useful in providing a more complete perspective on the rebasing exercise, particularly on the continuing improvements to the Singapore System of National Accounts.

(a) Methodological Revisions

Value-added of Financial Services :
<u>Revision in Methodology and Estimates</u>

27 The financial services industry has expanded rapidly during the past decades while experiencing significant changes. Hence, we need to ensure that the methodology used to assess the growth and performance of financial services continues to provide accurate, relevant and timely estimates. Thus, DOS undertook with MAS a comprehensive review of the methodology used to estimate the value-added of financial services. The review resulted in the adoption of more output-based measures such as fees and commissions received in place of traditional input-based measures such as employment. For stock-brokers, fees and commissions would be better able to take into account value-added arising from off-SGX stock transactions compared to the previous methodology which uses mainly stock trading in the SGX, and the values of the SGX indices. Changes in actuarial reserves were included in the assessment of the output of insurance services, consistent with industry practice as well as with

the 1993 System of National Accounts (SNA). These changes and revisions were introduced and explained in an information paper 'Value-added of Financial Services: Revision in Methodology and Estimates' released in July 1999.

(b) Review of Conceptual Treatment

Royalties

28 The 1993 SNA recommended the re-classification of royalties paid and received from factor income to payments/receipts for services. The re-classification would result in the inclusion of royalties as intermediate consumption (for business establishments who pay royalties) or output (for business establishments who receive royalties). As Singapore-based business establishments pay more royalties than they receive, the re-classification, which was adopted with effect from the 1999 Annual Economic Survey, lowers nominal GDP by the net royalties paid by our business establishments (Table 6).

TABLE 6 ROYALTIES AT CURRENT MARKET PRICES

$ Million

	1995	1996	1997	1998	1999	2000
Royalties Received	204.2	256.5	268.7	267.3	349.3	344.1
Royalties Paid	2,750.1	3,332.3	2,890.8	3,701.9	7,289.1	7,422.8
Net Royalties	–2,545.9	–3,075.8	–2,622.1	–3,434.6	–6,939.8	–7,078.7

Computer Software

29 The 1993 SNA has recommended that computer software which are used in the production of goods and services for more than one year are to be treated as intangible fixed assets. This recommendation means that expenditure on computer software is to be treated as investment instead of as intermediate consumption. The adoption of this treatment would have the impact of increasing estimates of gross fixed capital formation, and hence would raise the level of GDP. With the view to adopting this recommendation, DOS has since 1999 introduced modifications to the various annual surveys to collect information on the expenditure of software. These comprise expenditure on three major types of software: pre-packaged, custom-designed and own account (or in-house) software.

30 DOS is presently reviewing and assessing the quality of the data collected, as some respondents have reported difficulties in providing the data requested, particularly for own account software. Further, it will be necessary to identify appropriate high-frequency (monthly or quarterly) proxy indicators as the basis for deriving quarterly estimates. Thus, DOS considers it prudent to undertake further studies before proceeding to implement this recommendation. DOS will review the practices and experiences of countries that have implemented this recommendation and, at the same time, work with the Infocomm Development Authority of Singapore (IDA) to identify appropriate monthly or quarterly indicators that could be used to derive timely and reliable quarterly estimates of software expenditure.

(c) Changes in Industrial Classifications

Singapore Standard Industrial Classification 1996 (SSIC 1996)

31 DOS adopted a new reporting format for output-based GDP estimates in 1999 when implementing the Singapore Standard Industrial Classification 1996 in the national accounts. The new reporting format provides explicit recognition of the increasing importance of services through the separate identification of goods and services producing industries. More detailed estimates of GDP by industry are also provided through the decomposition of GDP into nine major economic sectors instead of the previous five, allowing for the separate identification of wholesale and retail trade, hotels and restaurants, financial services and business services. The details are provided in an information paper 'Implementation of SSIC 1996 in the National Accounts (New Reporting Format for Output-based GDP)' released in September 1999.

Singapore Standard Industrial Classification 2000 (SSIC 2000)

32 In this rebasing exercise, the industrial classification used for output-based GDP is further updated to the Singapore Standard Industrial Classification 2000. The general structure of SSIC 2000 is essentially similar to SSIC 1996, and no change in the reporting format is necessary. The adoption of SSIC 2000 ensures that new and emerging economic activities as well as the shift of some activities are reflected in our estimates of output-based GDP.

33 The new and emerging economic activities introduced in SSIC 2000 include :

(i) value-added logistics providers and internet access providers (under transport, storage and communications);

(ii) venture capital companies, property fund management (under financial intermediation);

(iii) development of e-commerce applications, software and multimedia works; and

(iv) research experimental development on life sciences (under real estate, renting and business activities).

34 Examples of the shifts in economic activities across economic sectors include :

(i) the transfer of publishing activities from "manufacturing to business services"; and

(ii) the transfer of restaurants cum nightclubs from "'hotels and restaurants" to "other services".

35 Data for the estimation of value-added of new, emerging activities introduced in SSIC 2000 are available only from surveys for reference year 2000 and later.

(d) Improvements in Coverage and Data Sources

Survey of International Trade in Services (TIS)

36 The balance of payments (BOP) accounts are closely related to the national accounts not only in theory but also in practice. In the case of the Singapore System of National Accounts, the relationship is reinforced by the fact that estimates for the BOP are subsequently incorporated in the relevant external components of the national accounts. Along with the rebasing of the national accounts, the BOP estimates and these components have been updated to incorporate the results of the Survey of Trade in Services (TIS) from reference year 1995 onward.

(e) Updating/Changes in Terminology

Gross National Income

37 Unlike GDP which measures the production of goods and services within an economy, Gross National Product (GNP) measures the income receivable by the residents and resident institutional units of an economy. Noting that the term GNP is a misnomer since GNP is not a measure of production, the 1993 SNA recommends the use of the term Gross National Income (GNI) in place of GNP. GNI is equal to GDP plus net income from abroad, which is the income balance of the BOP accounts.

Financial Intermediation Services Indirectly Measured (FISIM)

38 Financial intermediation arises when a financial intermediary such as a bank or finance company channel funds from lenders (depositors) to borrowers. Most financial intermediaries do not charge explicitly for their services. Instead, they pay lower interest rates to their depositors than the rates they charge to their borrowers. The services they provide to their depositors and borrowers are measured directly. These are referred to in the 1968 System of National Accounts as imputed bank service charge (IBSC), but as financial intermediation services indirectly measured (FISIM) in the 1993 SNA.

39 Following the 1993 SNA, IBSC will be re-termed FISIM. The 1993 SNA recommends further the allocation of FISIM among the different users in the various industries, which is different from the 1968 SNA's treatment as the intermediate consumption of a nominal industry.

40 DOS will work with MAS to develop the necessary data sources and methodology to allocate FISIM across the different industries, as recommended in the 1993 SNA. The allocation of FISIM will raise the level of GDP, and is likely to result in an increase in the financial sector's share of GDP. Since the relative size of FISIM varies across economies, the allocation of FISIM will enhance further the international comparability of our GDP estimates.

IV IMPACT ON MAJOR MACRO-ECONOMIC AGGREGATES

41 Constant price GDP estimates are essentially volume indices. They measure changes in volume of economic activity while maintaining relative prices constant. In the rebasing of the national accounts estimates, the updating of the relative weights on the basis of a the prices prevailing in the new base year will result in changes in the growth rates not only of overall GDP, but also of the individual components of GDP. These changes are referred to as the rebasing effect.

42 Changes in the growth rates as well as in the relative share of GDP may not be due entirely to the rebasing effect, as methodological and conceptual changes could result in significant changes. As noted above, methodological and conceptual improvements have been progressively introduced during the last few years even while the rebasing exercise was in progress. The impact of these improvements would have already been reflected in the national accounts estimates, and consequently changes arising from them would not be significant. However, as explained in Section II above, the adoption of basic price as the basis of the valuation of output would have a significant impact on the relative shares of GDP by industry. The separate estimation of GST and other taxes on

products at constant price necessitated by the adoption of basic price has also contributed to changes in quarterly estimates of real GDP growth rates.

(a) GDP by Output Approach

Nominal GDP

43 Arising from the reconciliation of the various GDP estimates, nominal GDP is revised upwards by $1.2 billion in 1995, or about 1 per cent of GDP. As noted above, the progressive introduction of methodological and conceptual improvements have resulted in revisions during this rebasing exercise being relatively moderate at between -1 to 1 per cent (Table 7).

TABLE 7 GDP AT CURRENT MARKET PRICES

Year	Before Rebasing	After Rebasing	Percentage Change
	$ Million		%
1995	117,768	118,963	1.01
1996	128,244	129,506	0.98
1997	140,279	141,438	0.83
1998	137,618	136,801	–0.59
1999	140,070	138,764	–0.93
2000	159,888	159,216	–0.42
2001	153,455	153,572	0.08

44 The share of nominal GDP by industry should be more precisely termed the share of nominal gross value-added (GVA) by industry. Countries that compile these estimates such as the United Kingdom and Hong Kong also analyse the percentage distribution by industry on the basis of GVA (excluding taxes on products). The adoption of basic price in the compilation of GVA has resulted in significant changes in the industrial distribution (Table 8) with significant decline in the share of wholesale and retail trade. The relative shares of manufacturing, transport and communications, and business services have shown corresponding increases (Table 8 and Table A1).

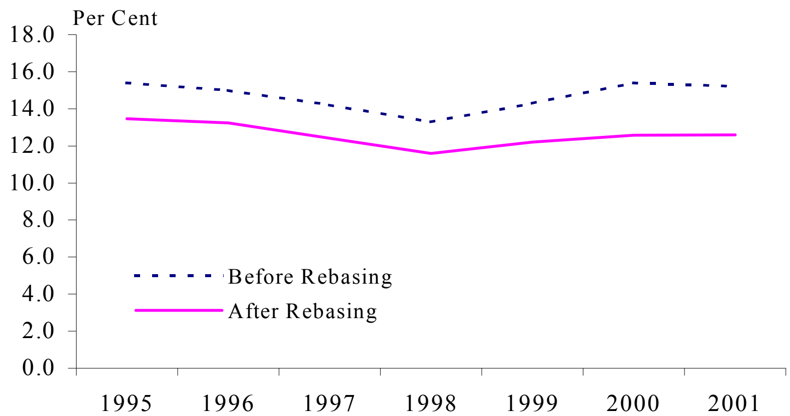
TABLE 8 SHARE OF NOMINAL GROSS VALUE-ADDED BY INDUSTRY

Per Cent

	1995		2001	
	Before Rebasing	**After Rebasing**	Before Rebasing	**After Rebasing**
Total	100.0	**100.0**	100.0	**100.0**
Goods Producing Industries	32.4	**33.9**	30.1	**31.1**
Manufacturing	23.9	**25.0**	22.3	**23.1**
Construction	6.8	**7.1**	5.8	**6.1**
Utilities	1.5	**1.5**	1.8	**1.8**
Other Goods Industries	0.2	**0.2**	0.1	**0.1**
Services Producing Industries	64.2	**62.6**	66.4	**65.2**
Wholesale & Retail Trade	15.4	**13.5**	15.2	**12.6**
Hotels & Restaurants	2.9	**2.7**	2.6	**2.4**
Transport & Communications	11.6	**12.1**	10.6	**11.2**
Financial Services	11.3	**11.1**	12.4	**12.9**
Business Services	12.8	**13.4**	13.7	**14.7**
Other Services Industries	10.2	**9.8**	11.9	**11.4**
Owner-Occupied Dwellings	3.4	**3.5**	3.5	**3.6**

45 The share of wholesale and retail trade in GVA declined from 15.4 per cent to 13.5 per cent in reference year 1995, and from 15.2 per cent to 12.6 per cent in 2001 (Chart 1). The change is due to the fact that GVA of wholesale and retail trade would have included COE/ARF and other taxes on products at producer's price, but not at basic price.

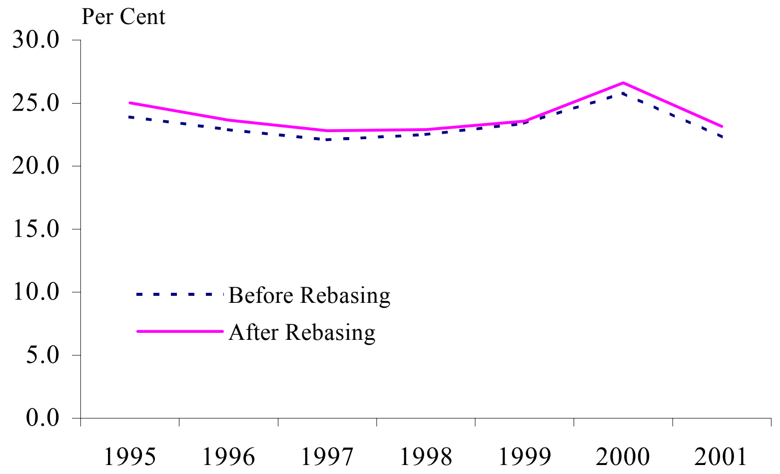
CHART 1 CHANGES IN SHARE OF WHOLESALE & RETAIL TRADE IN NOMINAL GVA



46 The increase in the relative share of manufacturing from 23.9 per cent (before rebasing) to 25 per cent (after rebasing) in 1995 (Chart 2) was due not just to the change in the basis of valuation. Part of the increase could be

attributed to the under-coverage of smaller manufacturing establishments identified through commodity balancing as part of the reconciliation exercise with the 1995 input-output tables.

CHART 2 CHANGES IN SHARE OF MANUFACTURING IN NOMINAL GVA



Gross National Income

47 As noted above, the term Gross National Income (GNI) will be adopted in place of Gross National Product (GNP). The changes in nominal GDP will result in corresponding changes in GNI. As with GDP, revisions in GNI and per capita GNI are moderate, ranging from between –1 and 1 per cent (Table 9).

TABLE 9 PER CAPITA GNI AT CURRENT MARKET PRICES

Year	Before Rebasing	After Rebasing	Percentage Change
	$		%
1995	34,420	34,759	0.98
1996	35,454	35,794	0.96
1997	39,394	39,702	0.78
1998	37,193	36,977	–0.58
1999	36,323	35,979	–0.95
2000	40,051	39,801	–0.62
2001	37,433	37,628	0.52

Annual Growth Rates

48 Real GDP growth rate is the basic measure of economic growth and performance. Constant price growth rates based on different years would differ, as the prices prevailing in the reference years are not the same. The changes in the growth rates have been relatively moderate, with real GDP growth in the rebased series lower for the most recent years 1998 to 2001 (Table 10 and Table A2). This is consistent with the observations of many statistical offices that real GDP growth estimates is more likely to be revised downward when the base year is updated to a more recent period. This is because goods that grow more rapidly tend to be over-weighted as their prices are usually falling at a faster rate.

TABLE 10 ANNUAL REAL GDP GROWTH

Per Cent

Year	Before Rebasing	After Rebasing
1995	8.0	8.0
1996	7.7	8.3
1997	8.5	8.5
1998	–0.1	–0.8
1999	6.9	6.4
2000	10.3	9.9
2001	–2.0	–2.1

49 Growth rates of individual economic sectors and industries show a greater variation than the growth rate of the overall economy, particularly for wholesale and retail trade, transport and communications and financial services. Growth rates for the wholesale and retail trade, and transport and communications sectors are generally revised downwards, while those for the financial services sector are revised upwards. Consequently, the contribution to growth by the different economic sectors would also differ. For example, the contribution of the financial services sector to real GDP growth in 1996 was 0.9 per cent at 1990 prices, compared to 1.3 per cent at 1995 prices (Table 11 and Table A3).

TABLE 11 CONTRIBUTION TO GROWTH IN REAL GDP

Per Cent

	1996		2001	
	Before Rebasing	**After Rebasing**	Before Rebasing	**After Rebasing**
Total GDP at Market Prices	7.7	**8.3**	–2.0	**–2.1**
Goods Producing Industries	2.6	**2.4**	–3.1	**–3.0**
Manufacturing	0.8	**0.7**	–3.0	**–2.9**
Construction	1.7	**1.6**	–0.1	**–0.2**
Utilities	0.1	**0.1**	0.1	**0.1**
Other Goods Industries	0.0	**0.0**	0.0	**0.0**
Services Producing Industries	5.5	**5.8**	1.1	**1.2**
Wholesale & Retail Trade	1.0	**0.8**	–0.5	**–0.4**
Hotels & Restaurants	0.2	**0.2**	–0.1	**–0.1**
Transport & Communications	1.1	**0.9**	0.4	**0.3**
Financial Services	0.9	**1.3**	0.2	**0.3**
Business Services	1.1	**1.6**	0.3	**0.4**
Other Service Industries	1.1	**1.0**	0.7	**0.7**
Owner-Occupied Dwellings	0.2	**0.2**	0.1	**0.2**
Less : Imputed Bank Service Charge/FISIM	0.6	**0.6**	0.2	**0.2**
Add : Taxes on Products	–	**0.4**	–	**–0.2**
Taxes & Duties on Imports	0.0	**–**	0.1	**–**

Quarterly Growth Rates (as at 3rd Quarter 2002)

50 Not surprisingly, quarterly growth rates would be affected more significantly than annual growth rates. From 1Q95 to 3Q02, quarterly year-on-year growth rates are revised by between –1.5 to +1.0 percentage points. On average, quarterly growth rates are revised down by 0.2 percentage points. Of these 31 quarters, 21 quarterly growth rates are revised down, while the remaining 10 are revised up.

51 The rebased GDP series show that the decline in economic activities during the last two quarters of 2001 was less than previously estimated. Conversely, it also shows that recovery during the first three quarters of 2002 was also slower than previously estimated. Quarterly year-on-year growth rates in 2002 on 1995-based series were lower than the 1990-based estimates by between 0.2 to 0.4 percentage points.

52 The impact on quarter-on-quarter annualised growth rates are more even. From 1Q95 to 3Q02, 14 quarterly growth rates are revised down, while the

remaining 17 are revised up. On average, the quarterly growth rates are revised down by 0.2 percentage points (annualised).

53 As explained earlier, changes in growth rates could be attributed to one of three factors, i.e. the rebasing effect, the adoption of basic price as the basis of valuation and methodological changes and improvements. As most of the major methodological revisions were introduced while the rebasing exercise was in progress, there is little impact from these changes. However, the extent to which the change in growth rates is affected by first two factors is difficult to assess and depends on the specific quarters that we are referring to.

TABLE 12 QUARTERLY REAL GDP GROWTH

Per Cent

		Year-on-Year		Quarter-on-Quarter*	
		Before Rebasing	After Rebasing	Before Rebasing	After Rebasing
2000	1Q	10.0	9.9	12.8	14.7
	2Q	8.7	8.6	13.0	9.2
	3Q	10.9	10.3	9.4	10.0
	4Q	11.4	10.8	10.5	9.7
2001	1Q	5.0	4.3	–11.4	–10.4
	2Q	–0.5	–0.5	–8.3	–9.3
	3Q	–5.4	–5.1	–10.5	–8.7
	4Q	–6.6	–6.4	5.6	4.1
2002	1Q	–1.5	–1.7	8.1	7.9
	2Q	3.8	3.4	13.4	11.8
	3Q	3.9	3.5	–10.1	–8.8

* Seasonally Adjusted Annualised Rates.

Price Deflators

54 The economy slowed down significantly in 1998 and 1999, and again in 2001. This has the effect of depressing prices in response to reduced demand. The decline in prices has been reflected in CPI, but is shown more clearly by the implicit GDP deflators, which have been declining. The implicit GDP deflator was 96.8 in 2001 (Table 13), and has been below 100 since 1998. This means that nominal (or current price) estimates of GDP are lower than real (or constant price) estimates of GDP during this period (Table A4).

TABLE 13 GROSS DOMESTIC PRODUCT DEFLATORS BY INDUSTRY

Per Cent

	1995		2001	
	Before Rebasing	**After Rebasing**	Before Rebasing	**After Rebasing**
Total GDP at Market Prices	114.5	**100.0**	110.7	**96.8**
Goods Producing Industries	110.8	**100.0**	108.2	**97.0**
Manufacturing	110.6	**100.0**	109.9	**99.0**
Construction	112.2	**100.0**	97.6	**87.1**
Utilities	108.7	**100.0**	126.1	**110.6**
Other Goods Industries	104.1	**100.0**	109.0	**100.5**
Services Producing Industries	115.4	**100.0**	113.2	**98.7**
Wholesale & Retail Trade	113.6	**100.0**	112.1	**97.7**
Hotels & Restaurants	107.3	**100.0**	108.0	**101.8**
Transport & Communications	106.4	**100.0**	86.1	**83.7**
Financial Services	114.4	**100.0**	124.8	**108.1**
Business Services	129.1	**100.0**	130.7	**102.9**
Other Service Industries	117.4	**100.0**	119.2	**101.6**
Owner-Occupied Dwellings	118.5	**100.0**	113.7	**94.2**
Imputed Bank Service Charge/FISIM	106.0	**100.0**	126.2	**116.9**
Taxes on Products	–	**100.0**	–	**97.0**
Taxes & Duties on Imports	112.3	–	98.6	–

(b) GDP by Expenditure Approach

55 In the previous rebasing exercise, several conceptual changes relating to the expenditure-based approach (GDE) were introduced. This included a change in the treatment of government subventions to restructured hospitals and child-care centres from current transfers to social transfers in kind. It has resulted in higher government consumption expenditure and operating receipts of the restructured hospitals by the corresponding amount.

56 Additional registration fees (ARFs) and certificate of entitlements (COEs) were previously treated as current transfers and excluded from the production accounts. However, these were re-classified in the previous rebasing exercise to reference year 1990 as taxes on products, and consequently included in PCE and GVA at market price. This change in treatment and classification had resulted then in raising nominal GDP and the share of PCE in final demand.

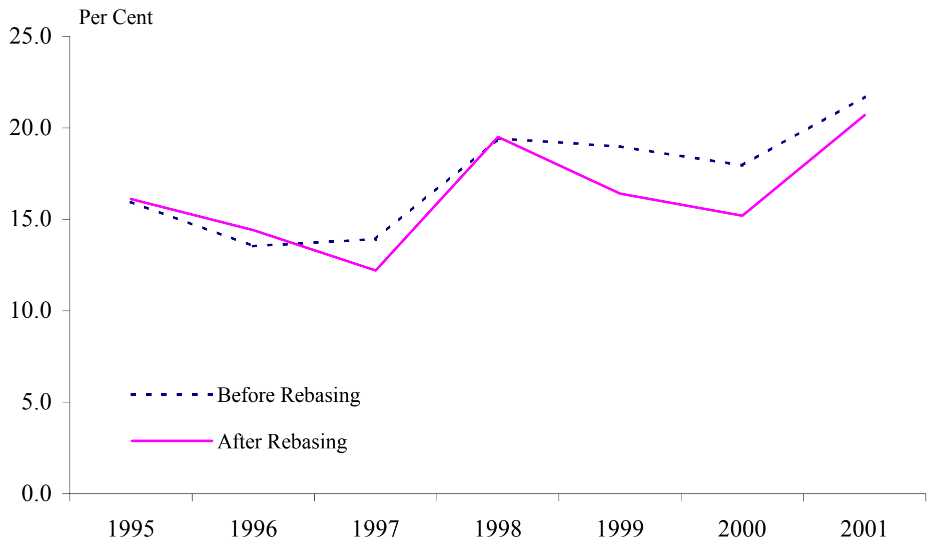
57 No major conceptual change concerning GDE is introduced during this rebasing exercise. However, the compilation of GDE has been enhanced through methodological improvements. These included the following :

(i) the adoption of suitable overseas price indices, after adjustment for exchange rates, for used as deflators in some GDE components, eg ships and aircraft in gross fixed capital formation; and

(ii) a composite overseas price index using the exchange rate-adjusted all-items consumer price indices (CPI) of selected countries, namely the top tourist destinations of Singaporeans, to deflate current price estimates of residents' expenditure abroad in PCE.

58 These methodological improvements serve not only to improve the quality of GDE estimates, but also to align our methodology with those of the national statistical agencies in the OECD countries, including Australia, US, Canada and the UK.

CHART 3 NET EXPORTS OF GOODS AND SERVICES AS A PERCENTAGE OF GDP AT CURRENT MARKET PRICES



59 In addition to methodological improvements, the data sources and coverage used to estimate the various components of GDE have been improved. As noted above, a significant improvement in data coverage was the incorporation of data from the Survey of International Trade in Services (TIS). The decline in the share of net exports of goods and services in GDE can be attributed to the upward revision of the import of transportation services on the basis of TIS data (Chart 3).

60 Changes in the share of other final demand components in GDE have been relatively small, with a slight increase in the share of PCE since 1998 (Table 14 and Table A5).

TABLE 14 FINAL DEMAND AS A PERCENTAGE OF GDP AT CURRENT MARKET PRICES

Per Cent

	1995		2001	
	Before Rebasing	**After Rebasing**	Before Rebasing	**After Rebasing**
Private Consumption Expenditure	41.5	**41.3**	42.2	**42.8**
Government Consumption Expenditure	8.6	**8.5**	11.9	**11.8**
Gross Fixed Capital Formation	33.9	**33.4**	29.2	**29.4**
Increase in Stocks	0.8	**0.7**	–4.9	**–4.5**
Net Exports of Goods and Services	16.0	**16.1**	21.7	**20.7**

(c) GDP by Income Approach

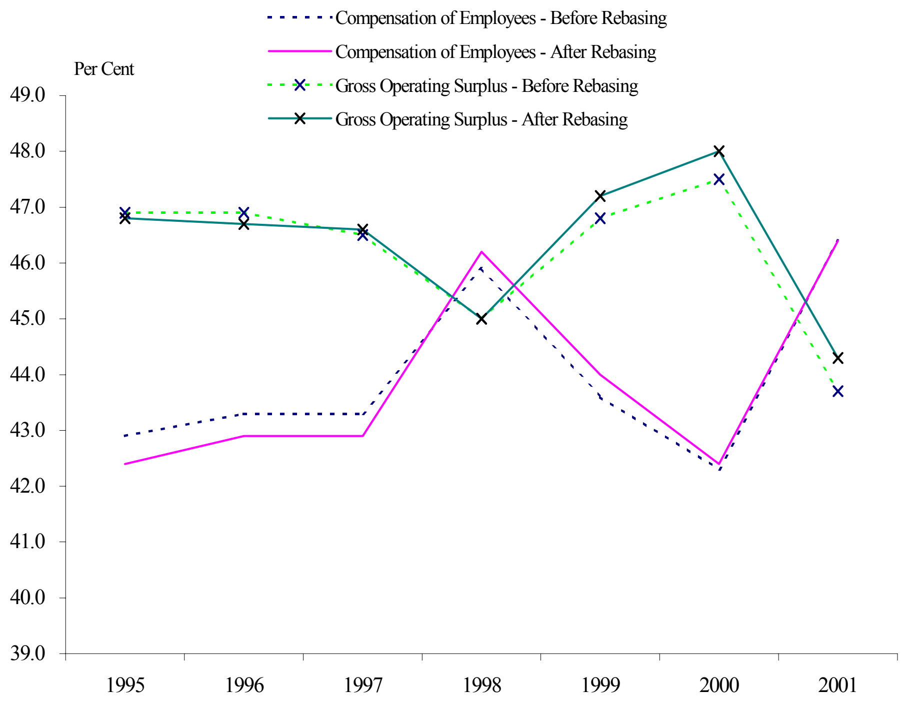
61 Constant price estimates of income-based GDP or GDI are not compiled. However, the current price estimates of GDI have been reconciled to GDP as part of the reconciliation on the basis of commodity balancing using the 1995 input-output tables. The impact of this reconciliation was to reduce the share of compensation of employees to GDP from 42.9 per cent to 42.4 per cent in 1995. Following the reconciliation, the statistical discrepancy between GDI and GDP was reduced significantly, while the share of operating surplus (or 'profits') of the non-financial corporations has been generally revised upwards (Tables 15 and Table A6.).

TABLE 15 INCOME COMPONENTS AS A PERCENTAGE OF GDP AT CURRENT MARKET PRICES

Per Cent

	1995		2001	
	Before Rebasing	**After Rebasing**	Before Rebasing	**After Rebasing**
Compensation of Employees	42.9	**42.4**	46.4	**46.4**
Gross Operating Surplus	46.9	**46.8**	43.7	**44.3**
Of Financial Corporations	6.6	**6.5**	7.9	**7.9**
Of Non-Financial Corporations	36.2	**36.3**	33.2	**34.3**
Of Others	10.0	**9.9**	9.6	**9.1**
Less : Imputed Bank Service Charge/FISIM	–5.9	**–5.9**	–7.0	**–7.0**
Taxes on Production & Imports	10.9	**10.8**	8.7	**8.7**
Statistical Discrepancy	–0.7	**0.0**	1.2	**0.6**

CHART 4   SHARE OF SELECTED INCOME COMPONENTS TO GDP
AT CURRENT MARKET PRICES



VI CONCLUSION

62 The successful completion of the rebasing of the national accounts, including the reconciliation of the various national accounts estimates and the continuing methodological and conceptual improvements introduced in the last few years, ensure that our national accounts continue to provide reliable, accurate and timely economic statistics. They also ensure that our methodology and practices conform to international standards and practice.

63 In view of the progressive improvements introduced prior to the completion of the rebasing exercise, revisions pertaining to these improvements had been relatively moderate. Thus, revisions to nominal GDP, GNI and per capita GNI have been moderate, ranging between –1 and 1 per cent. However, arising from the reconciliation exercise and the adoption of basic price as the basis of valuation, the relative shares of output-based GDP by industry have been significantly revised with substantial decline in the share of wholesale and retail trade.

64 Statistical tables of the rebased national accounts estimates (as at 3Q02) dating back to 1995 are included in the statistical appendix. Historical series are available in TREND, DOS's on-line time series database. Diskettes with a complete set of the rebased statistical series as at 3Q02 are available from DOS. These data series will be subsequently updated and revised to incorporate more comprehensive and complete data; the final GDP estimates for 2002 will be released in the Annual Economic Survey of Singapore in February 2003.

SINGAPORE DEPARTMENT OF STATISTICS
24 JANUARY 2003

Statistical Appendix

Appendix

TABLE A1 SHARE OF GROSS VALUE-ADDED AT CURRENT PRICES

Per Cent

	1995	1996	1997	1998	1999	2000	2001
	Before Rebasing (Producer's Price)						
Goods Producing Industries	**32.4**	**32.6**	**32.6**	**33.3**	**32.6**	**33.4**	**30.1**
Manufacturing	23.9	22.9	22.1	22.5	23.4	25.8	22.3
Construction	6.8	7.9	8.6	8.9	7.6	6.0	5.8
Utilities	1.5	1.6	1.7	1.8	1.6	1.5	1.8
Other Goods Industries	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Services Producing Industries	**64.2**	**64.1**	**64.1**	**63.2**	**63.9**	**63.4**	**66.4**
Wholesale & Retail Trade	15.4	15.0	14.2	13.3	14.3	15.4	15.2
Hotels & Restaurants	2.9	2.9	2.8	2.6	2.5	2.5	2.6
Transport & Communications	11.6	11.0	10.8	10.9	11.1	10.6	10.6
Financial Services	11.3	11.0	12.4	12.9	12.6	11.6	12.4
Business Services	12.8	13.7	13.5	12.9	12.5	12.7	13.7
Other Services	10.2	10.6	10.5	10.8	10.8	10.6	11.9
Owner-Occupied Dwellings	3.4	3.3	3.2	3.5	3.5	3.2	3.5
	After Rebasing (Basic Price)						
Goods Producing Industries	**33.9**	**33.7**	**33.7**	**34.1**	**33.2**	**34.5**	**31.1**
Manufacturing	25.0	23.7	22.8	22.9	23.6	26.6	23.1
Construction	7.1	8.2	9.0	9.3	8.0	6.3	6.1
Utilities	1.5	1.6	1.7	1.8	1.6	1.5	1.8
Other Goods Industries	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Services Producing Industries	**62.6**	**62.9**	**63.0**	**62.3**	**63.2**	**62.1**	**65.2**
Wholesale & Retail Trade	13.5	13.2	12.4	11.6	12.2	12.6	12.6
Hotels & Restaurants	2.7	2.7	2.6	2.4	2.4	2.4	2.4
Transport & Communications	12.1	11.5	11.2	11.2	11.8	11.2	11.2
Financial Services	11.1	11.1	12.5	13.0	12.7	12.0	12.9
Business Services	13.4	14.3	14.2	13.8	13.6	13.7	14.7
Other Services	9.8	10.1	10.0	10.3	10.5	10.2	11.4
Owner-Occupied Dwellings	3.5	3.4	3.3	3.6	3.6	3.4	3.6

TABLE A2 ANNUAL CHANGES IN REAL GROSS DOMESTIC PRODUCT

Per Cent

	1995	1996	1997	1998	1999	2000	2001	1Q2002	2Q2002	3Q2002
	Before Rebasing									
TOTAL	**8.0**	**7.7**	**8.5**	**–0.1**	**6.9**	**10.3**	**–2.0**	**–1.5**	**3.8**	**3.9**
Goods Producing Industries	**9.7**	**7.4**	**7.6**	**0.6**	**7.1**	**10.8**	**–8.9**	**–5.1**	**7.8**	**8.3**
Manufacturing	10.0	2.9	4.5	–0.6	13.6	15.3	–11.5	–4.5	13.3	14.8
Construction	9.6	23.2	16.3	2.8	–8.8	–1.7	–2.1	–9.0	–10.2	–11.0
Utilities	6.2	7.3	10.8	4.9	3.2	3.2	4.0	2.7	3.2	5.9
Other Goods Industries	–3.1	3.5	0.1	–6.9	–1.1	–5.7	–4.9	–8.8	–7.6	–7.0
Services Producing Industries	**7.5**	**8.1**	**9.6**	**–0.6**	**6.1**	**9.0**	**1.6**	**0.2**	**1.7**	**1.8**
Wholesale & Retail Trade	9.6	6.1	6.4	–4.1	7.1	15.2	–2.8	–3.8	4.0	4.0
Hotels & Restaurants	4.9	6.0	6.5	–7.5	4.0	8.9	–2.6	–3.9	–3.7	–3.6
Transport & Communications	10.6	8.2	8.8	6.4	7.5	8.5	2.7	4.8	5.9	5.4
Financial Services	2.8	7.3	18.6	–7.4	5.1	4.6	2.2	–1.7	–6.4	–4.3
Business Services	7.9	9.6	8.4	2.3	3.7	7.3	2.8	–0.1	0.2	0.0
Other Service Industries	6.2	10.9	8.0	3.2	7.0	7.2	6.2	3.5	4.5	3.7
Owner-Occupied Dwellings	**5.2**	**5.9**	**5.8**	**7.4**	**7.5**	**6.2**	**4.4**	**2.1**	**2.1**	**2.2**
Taxes & Duties on Imports	–4.5	0.4	3.2	1.8	18.1	24.1	8.3	–4.7	0.3	–9.0
Imputed Bank Service Charge	8.0	9.1	12.6	1.9	0.4	–1.3	3.9	0.8	0.3	0.5
	After Rebasing									
TOTAL	**8.0**	**8.3**	**8.5**	**–0.8**	**6.4**	**9.9**	**–2.1**	**-1.7**	**3.4**	**3.5**
Goods Producing Industries	**9.6**	**7.3**	**7.5**	**0.3**	**6.6**	**10.7**	**–9.0**	**–5.2**	**7.6**	**8.3**
Manufacturing	10.0	2.8	4.3	–0.7	13.0	15.1	–11.5	–4.5	13.3	14.8
Construction	9.6	23.1	16.6	2.4	-8.9	–1.7	–2.3	–9.4	–10.4	–11.3
Utilities	6.3	7.4	10.8	5.0	3.3	3.4	4.0	2.6	3.0	5.9
Other Goods Industries	–3.1	3.8	0.7	–7.0	–1.8	–4.9	–5.9	–8.2	–6.1	–6.0
Services Producing Industries	**7.5**	**9.4**	**9.7**	**–0.9**	**5.6**	**8.4**	**1.9**	**0.2**	**1.4**	**1.7**
Wholesale & Retail Trade	10.3	6.3	6.2	–6.0	6.5	14.9	–3.2	–4.0	4.7	4.8
Hotels & Restaurants	5.1	6.2	6.4	–7.0	3.7	8.4	–2.2	–3.9	–3.8	–3.6
Transport & Communications	10.5	7.5	8.4	6.5	6.6	7.5	2.6	4.7	5.6	4.8
Financial Services	2.8	12.1	17.8	–7.6	6.0	5.9	2.5	–1.9	–6.7	–5.1
Business Services	7.8	11.7	9.1	1.6	2.7	6.7	2.9	–0.1	–0.1	0.6
Other Service Industries	5.9	10.6	8.0	3.5	7.1	6.6	6.5	3.6	4.8	4.1
Owner-Occupied Dwellings	**5.2**	**5.9**	**5.9**	**7.6**	**7.8**	**6.3**	**4.5**	**2.1**	**2.1**	**2.4**
FISIM	8.0	10.8	12.6	1.8	0.6	–1.2	4.0	0.9	0.4	0.6
Taxes on Products	5.5	6.0	6.9	–7.8	6.3	12.8	–2.5	–3.6	1.5	–2.8

TABLE A3 CONTRIBUTION TO GROWTH IN REAL GROSS DOMESTIC PRODUCT

Per Cent

	1995	1996	1997	1998	1999	2000	2001	1Q2002	2Q2002	3Q2002
	Before Rebasing									
TOTAL	**8.0**	**7.7**	**8.5**	**–0.1**	**6.9**	**10.3**	**–2.0**	**–1.5**	**3.8**	**3.9**
Goods Producing Industries	**3.3**	**2.6**	**2.6**	**0.2**	**2.5**	**3.7**	**–3.1**	**–1.6**	**2.6**	**2.6**
Manufacturing	2.5	0.8	1.1	–0.1	3.2	3.8	–3.0	–1.1	3.2	3.3
Construction	0.7	1.7	1.3	0.3	–0.8	–0.1	–0.1	–0.6	–0.7	–0.8
Utilities	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1
Other Goods Industries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Services Producing Industries	**5.1**	**5.5**	**6.5**	**–0.4**	**4.1**	**6.1**	**1.1**	**0.1**	**1.2**	**1.3**
Wholesale & Retail Trade	1.6	1.0	1.1	–0.7	1.1	2.4	–0.5	–0.7	0.7	0.6
Hotels & Restaurants	0.2	0.2	0.2	–0.2	0.1	0.3	–0.1	–0.1	–0.1	–0.1
Transport & Communications	1.3	1.1	1.2	0.8	1.1	1.2	0.4	0.7	0.9	0.8
Financial Services	0.4	0.9	2.2	–1.0	0.6	0.5	0.2	–0.2	–0.8	–0.5
Business Services	0.9	1.1	1.0	0.3	0.5	0.9	0.3	0.0	0.0	0.0
Other Service Industries	0.7	1.1	0.9	0.3	0.8	0.8	0.7	0.4	0.5	0.4
Owner-Occupied Dwellings	**0.2**	**0.2**	**0.2**	**0.2**	**0.3**	**0.2**	**0.1**	**0.1**	**0.1**	**0.1**
Add : Taxes & Duties on Imports	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.0	–0.1
Less : Imputed Bank Service Charge	0.5	0.6	0.8	0.1	0.0	-0.1	0.2	0.0	0.0	0.0
	After Rebasing									
TOTAL	**8.0**	**8.3**	**8.5**	**–0.8**	**6.4**	**9.9**	**–2.1**	**–1.7**	**3.4**	**3.5**
Goods Producing Industries	**3.2**	**2.4**	**2.5**	**0.1**	**2.2**	**3.6**	**–3.0**	**–1.6**	**2.4**	**2.6**
Manufacturing	2.4	0.7	1.0	–0.2	2.9	3.6	–2.9	–1.1	3.0	3.3
Construction	0.7	1.6	1.3	0.2	–0.8	–0.1	–0.2	–0.6	–0.7	–0.8
Utilities	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.1
Other Goods Industries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Services Producing Industries	**4.9**	**5.8**	**6.0**	**–0.6**	**3.5**	**5.2**	**1.2**	**0.2**	**0.9**	**1.1**
Wholesale & Retail Trade	1.6	0.8	0.8	–0.8	0.8	1.8	–0.4	–0.5	0.6	0.6
Hotels & Restaurants	0.2	0.2	0.2	–0.2	0.1	0.2	–0.1	–0.1	–0.1	–0.1
Transport & Communications	1.3	0.9	1.0	0.8	0.8	1.0	0.3	0.6	0.7	0.7
Financial Services	0.3	1.3	2.0	–0.9	0.7	0.7	0.3	–0.2	–0.8	–0.6
Business Services	0.9	1.6	1.2	0.2	0.4	0.9	0.4	0.0	0.0	0.1
Other Service Industries	0.6	1.0	0.8	0.3	0.7	0.7	0.7	0.4	0.5	0.5
Owner-Occupied Dwellings	**0.2**	**0.2**	**0.2**	**0.3**	**0.3**	**0.2**	**0.2**	**0.1**	**0.1**	**0.1**
Less : FISIM	0.5	0.6	0.8	0.1	0.0	–0.1	0.2	0.1	0.0	0.0
Add : Taxes on Products	0.2	0.4	0.5	–0.5	0.4	0.8	–0.2	–0.2	0.1	–0.2

TABLE A4 GROSS DOMESTIC PRODUCT DEFLATORS BY INDUSTRY

	1995	1996	1997	1998	1999	2000	2001	1Q2002	2Q2002	3Q2002
	Before Rebasing									
TOTAL	**114.5**	**115.8**	**116.7**	**114.6**	**109.1**	**112.9**	**110.7**	**108.8**	**108.2**	**107.3**
Goods Producing Industries	**110.8**	**113.5**	**115.9**	**116.2**	**108.2**	**112.7**	**108.2**	**104.3**	**101.0**	**106.4**
Manufacturing	110.6	112.3	113.9	115.2	107.3	116.0	109.9	105.1	99.5	107.3
Construction	112.2	115.7	119.0	117.3	111.6	101.0	97.6	98.6	97.9	98.0
Utilities	108.7	119.7	127.6	124.2	106.1	109.7	126.1	116.2	133.7	121.6
Other Goods Industries	104.1	115.2	120.6	110.2	109.1	111.8	109.0	106.7	112.5	108.8
Services Producing Industries	**115.4**	**116.0**	**116.1**	**113.4**	**110.4**	**113.4**	**113.2**	**112.7**	**113.1**	**110.2**
Wholesale & Retail Trade	113.6	113.3	110.0	105.9	108.3	114.4	112.1	108.1	113.9	108.9
Hotels & Restaurants	107.3	108.6	109.0	108.2	103.9	105.2	108.0	106.6	107.7	106.3
Transport & Communications	106.4	102.0	100.3	93.9	91.8	90.8	86.1	86.2	86.5	83.4
Financial Services	114.4	112.6	117.3	129.4	123.4	122.7	124.8	130.7	133.5	124.8
Business Services	129.1	137.3	138.4	126.6	120.7	129.0	130.7	126.5	125.0	124.8
Other Service Industries	117.4	119.1	119.9	117.8	113.2	116.4	119.2	122.3	115.6	118.5
Owner-Occupied Dwellings	**118.5**	**119.0**	**120.7**	**119.5**	**113.8**	**112.7**	**113.7**	**113.3**	**111.7**	**111.7**
Taxes & Duties on Imports	112.3	113.1	108.5	102.5	98.5	101.3	98.6	109.9	81.0	85.5
Imputed Bank Service Charge	106.0	107.1	107.7	112.1	119.2	115.6	126.2	132.8	120.0	135.1
	After Rebasing									
TOTAL	**100.0**	**100.6**	**101.3**	**98.8**	**94.2**	**98.3**	**96.8**	**94.5**	**95.6**	**94.1**
Goods Producing Industries	**100.0**	**101.7**	**103.5**	**102.6**	**94.6**	**99.9**	**97.0**	**91.5**	**93.9**	**95.7**
Manufacturing	100.0	100.8	102.1	101.5	93.2	102.9	99.0	91.9	93.8	96.7
Construction	100.0	102.8	105.2	104.1	99.2	89.5	87.1	87.6	87.8	88.0
Utilities	100.0	108.8	113.8	110.5	93.3	96.4	110.6	101.5	118.7	108.4
Other Goods Industries	100.0	108.3	108.0	99.5	101.2	100.9	100.5	98.1	99.8	99.3
Services Producing Industries	**100.0**	**100.5**	**100.5**	**98.8**	**95.6**	**97.6**	**98.7**	**99.0**	**98.1**	**96.8**
Wholesale & Retail Trade	100.0	101.2	98.0	95.8	95.1	96.7	97.7	97.5	99.3	96.1
Hotels & Restaurants	100.0	101.5	102.2	101.3	97.5	99.2	101.8	99.6	100.1	101.5
Transport & Communications	100.0	96.8	95.1	88.2	88.2	87.3	83.7	83.5	83.2	81.7
Financial Services	100.0	97.7	102.3	113.2	104.8	105.0	108.1	112.1	116.3	109.7
Business Services	100.0	104.4	104.2	97.6	94.5	100.8	102.9	100.4	97.2	97.5
Other Service Industries	100.0	101.6	102.6	100.3	96.0	99.2	101.6	104.4	97.9	101.4
Owner-Occupied Dwellings	**100.0**	**100.5**	**101.5**	**99.7**	**94.3**	**93.5**	**94.2**	**93.1**	**92.8**	**92.8**
FISIM	100.0	99.5	100.2	104.3	110.7	107.3	116.9	123.7	111.7	125.4
Taxes on Products	100.0	94.6	96.2	83.0	93.6	106.5	97.0	90.5	95.1	86.4

TABLE A5 FINAL DEMAND AS A PERCENTAGE OF GROSS DOMESTIC PRODUCT AT CURRENT MARKET PRICES

Per Cent

	1995	1996	1997	1998	1999	2000	2001	1Q2002	2Q2002	3Q2002
	Before Rebasing									
Private Consumption Expenditure	41.5	41.3	40.1	39.1	41.1	40.1	42.2	43.5	41.6	41.2
Government Consumption Expenditure	8.6	9.5	9.4	10.1	10.1	10.5	11.9	15.0	10.2	11.6
Gross Fixed Capital Formation	33.9	38.5	38.7	37.4	33.7	29.4	29.2	26.7	26.9	25.4
Increase in Stocks	0.8	–1.4	–0.1	–4.1	–1.8	2.1	–4.9	–7.2	–1.4	–7.0
Net Exports of Goods & Services	16.0	13.5	13.9	19.4	19.0	17.9	21.7	23.3	21.5	29.6
	After Rebasing									
Private Consumption Expenditure	41.3	41.1	40.0	39.5	41.6	41.1	42.8	44.6	42.5	42.0
Government Consumption Expenditure	8.5	9.4	9.3	10.1	10.1	10.5	11.8	15.6	9.7	11.6
Gross Fixed Capital Formation	33.4	38.1	38.8	37.7	33.9	29.7	29.4	27.3	26.8	25.6
Increase in Stocks	0.7	–2.2	0.5	–5.0	–0.8	3.6	–4.5	–8.5	0.3	–6.1
Net Exports of Goods & Services	16.1	14.4	12.2	19.5	16.4	15.2	20.7	22.4	19.8	27.8

TABLE A6 INCOME COMPONENTS AS A PERCENTAGE OF GROSS DOMESTIC PRODUCT AT CURRENT MARKET PRICES

Per Cent

	1995	1996	1997	1998	1999	2000	2001
	Before Rebasing						
Compensation of Employees	**42.9**	**43.3**	**43.3**	**45.9**	**43.6**	**42.3**	**46.4**
Gross Operating Surplus	**46.9**	**46.9**	**46.5**	**45.0**	**46.8**	**47.5**	**43.7**
of Financial Corporations	6.6	6.2	7.3	7.9	7.6	7.3	7.9
of Non-Financial Corporations	36.2	36.6	35.3	33.8	36.1	37.0	33.2
of Others	10.0	10.1	10.1	10.0	10.1	9.1	9.6
Less : Imputed Bank Service Charge	–5.9	–6.0	–6.2	–6.7	–7.0	–5.9	–7.0
Taxes on Production & Imports	**10.9**	**10.6**	**10.5**	**8.9**	**8.6**	**9.2**	**8.7**
Statistical Discrepancy	**–0.7**	**–0.8**	**–0.3**	**0.2**	**1.0**	**1.0**	**1.2**
	After Rebasing						
Compensation of Employees	**42.4**	**42.9**	**42.9**	**46.2**	**44.0**	**42.4**	**46.4**
Gross Operating Surplus	**46.8**	**46.7**	**46.6**	**45.1**	**47.2**	**48.1**	**44.3**
of Financial Corporations	6.5	6.1	7.2	8.0	7.7	7.4	7.9
of Non-Financial Corporations	36.3	36.5	35.6	34.3	36.9	37.9	34.3
of Others	9.9	10.0	10.0	9.6	9.7	8.7	9.1
Less : FISIM	–5.9	–5.9	–6.2	–6.8	–7.1	–5.9	–7.0
Taxes on Production & Imports	**10.8**	**10.5**	**10.4**	**8.9**	**8.7**	**9.3**	**8.7**
Statistical Discrepancy	**0.0**	**–0.1**	**0.1**	**–0.2**	**0.1**	**0.2**	**0.6**