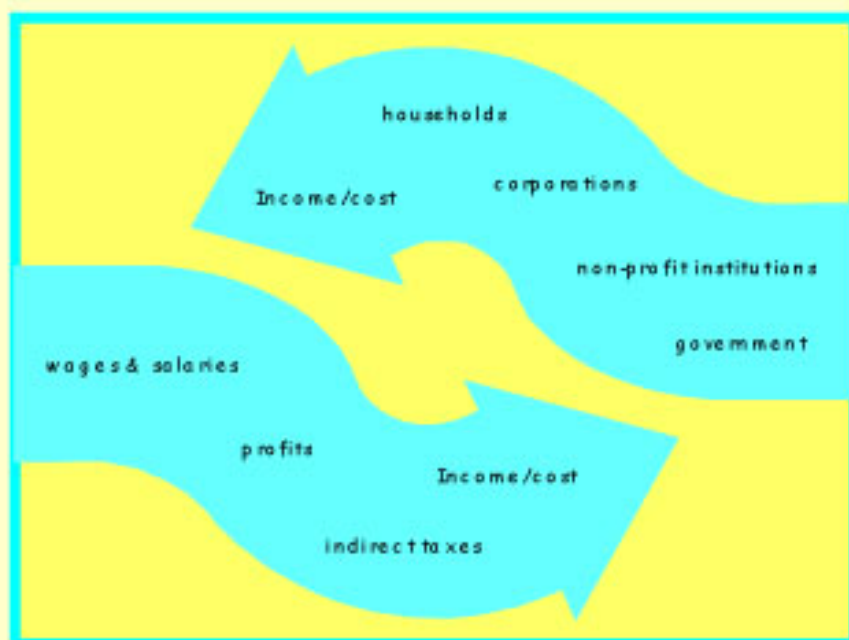




# THE INCOME APPROACH TO GROSS DOMESTIC PRODUCT



**The Income Approach to Gross Domestic Product**  
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## PREFACE

As part of the on-going efforts to review and improve Singapore's economic statistics, the Singapore Department of Statistics has completed the development of annual income-based estimates of GDP. The availability of GDP estimates from the income approach or GDP(I) will facilitate the cross-validation of our GDP estimates and provide useful statistics for economic analysis.

This report, *The Income Approach to Gross Domestic Product*, explains the methodology underlying the compilation of GDP using the income approach as well as presents the historical data series from 1980 to 1997 for the first time. Annual estimates of GDP(I) will be released with the Annual Economic Survey. Detailed tables are included in the statistical appendix to facilitate more in-depth studies by users. In addition, a technical note is included to provide better understanding of the methodology and the main data sources used. A glossary is included to help readers understand the technical terms used in the report.

The compilation of GDP using the income approach requires a vast amount of data, both administrative and survey data. I would like to thank the many government agencies, statutory boards and private organisations for their co-operation in providing these data.

Dr Paul Cheung  
Chief Statistician  
Singapore

July 1998

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Statistics, Economic Accounts Division at Telephone: 332 7776

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## NOTATION

p	preliminary
-	nil or negligible
na	not applicable or not available

Figures may not add up due to rounding



# **CHAPTER 1**

## **INTRODUCTION**

### **INTRODUCTION**

The income approach estimates gross domestic product (GDP) as the sum of income generated by the domestic production of goods and services. The income approach is one of the three different but equivalent ways of measuring GDP. The other two approaches are the production and expenditure approaches. The production approach, also called the output approach, estimates GDP as the sum of the value-added of all industries. The expenditure approach estimates GDP as the sum of all final expenditures. Each of the three approaches views GDP from a different perspective. Taken together, these three approaches provide a more complete picture of an economy structure than any single approach could.

The detailed income accounts constitute an important part of the sequence of national accounts. Together with the capital and financial or flow of funds accounts as well as the input-output tables, they form an integrated set of national accounts.

As part of the on-going efforts to review and improve Singapore's economic statistics, the Department has completed the development of annual income-based estimates of GDP or GDP(I). The methodology underlying the compilation of GDP(I) as well as the historical data series from 1980 to 1997 contained in this report are released by the Singapore Department of Statistics for the first time. Annual estimates of GDP(I) subsequently will be released with the Annual Economic Survey. With the dissemination of income-based estimates of GDP, Singapore will be one of the few countries in the Asia-Pacific region to publish annual GDP estimates using all three approaches. Production-based and expenditure-based estimates of GDP (or GDP(P) and GDP(E) respectively) have been available since the 1960s.

## **ORGANISATION OF THE REPORT**

This report presents the GDP estimates using the income approach. This chapter introduces the income approach to the compilation of GDP. Chapter 2 provides a brief explanation of the income approach to GDP, and compares the three approaches of measuring GDP. As more than one independent approach to the measurement of GDP is undertaken, it is inevitable that the three approaches yield slightly different estimates. Chapter 3 examines the historical trends of the components of GDP(I) from 1980-1997. Chapter 4 gives an analytical comparison of the structure of Singapore's GDP(I) with selected Asian economies and industrial countries.

More details on the methodology underlying the compilation of GDP(I) as well as a summary of the main sources are provided in the Technical Notes in Chapter 5. A glossary is included in Chapter 6 to help readers understand the technical terms used in the report. Finally, tables that show the estimates by detailed components for the years 1980 to 1997 are appended in the Statistical Appendix.

## CHAPTER 2

### THE INCOME APPROACH TO MEASURING GDP

#### THE INCOME APPROACH

The income approach estimates GDP as the sum of the incomes receivable by each institutional sector from the domestic production of goods and services. The estimates of GDP(I) and its main components which include compensation of employees and gross operating surplus are shown in Table 1. Reflecting the expansion of the domestic economy, Singapore companies have enjoyed healthy profits while Singapore workers have enjoyed higher wages over the years. Since GDP may be measured by three approaches, the growth of GDP(I) over the years mirrored the growth of GDP(P) and GDP(E).

Table 1 Income Approach to Measuring GDP in Singapore

	1980	1985	1990	1995	1996	1997p
	<i>Millions of Singapore Dollars</i>					
Compensation of employees	9,595	18,828	28,610	50,661	56,104	61,067
Gross operating surplus (GOS)	13,794	16,628	33,505	57,971	62,388	67,881
GOS of corporations	11,966	15,232	30,069	54,550	59,003	64,810
GOS of financial corporations	1,466	2,895	4,469	9,367	10,064	10,800
GOS of non-financial corporations	10,499	12,337	25,601	45,183	48,940	54,010
GOS of unincorporated enterprises <sup>1</sup>	3,095	4,490	7,075	11,184	11,894	12,748
GOS of non-profit institutions	144	103	391	680	800	863
Less Imputed bank service charge	1,411	3,197	4,029	8,442	9,309	10,540
<b><i>Equals GDP(I) at current factor cost</i></b>	<b>23,389</b>	<b>35,456</b>	<b>62,115</b>	<b>108,632</b>	<b>118,493</b>	<b>128,949</b>
<b><i>Plus Taxes on production and on imports</i></b>	<b>1,819</b>	<b>3,304</b>	<b>5,764</b>	<b>12,791</b>	<b>13,490</b>	<b>14,742</b>
<b><i>Equals GDP(I) at current market prices</i></b>	<b>25,208</b>	<b>38,760</b>	<b>67,879</b>	<b>121,424</b>	<b>131,982</b>	<b>143,691</b>
<b>GDP(I) at 1990 market prices</b>	<b>33,745</b>	<b>45,175</b>	<b>67,879</b>	<b>103,164</b>	<b>110,538</b>	<b>118,655</b>

<sup>1</sup> Includes imputed rental of owner-occupied dwellings.

## INCOME COMPONENTS OF GDP

The income components include compensation of employees (remuneration as return to labour of the households), gross operating surplus (profits as return to capital of corporations) and taxes less subsidies on production and on imports (indirect taxes paid to government) (see Table 1). More details on the methodology underlying the compilation of GDP(I) can be found in the Technical Notes on page 19.

**Compensation of employees** is the income of workers. It consists of wages and salaries including benefits in kind and employers' contributions to the Central Provident Fund (CPF), private pension funds and insurance schemes.

**Gross operating surplus** is the surplus accruing to the shareholders of the enterprises from the processes of production. This represents the remainder of corporate revenue after employee compensation and taxes (and subsidies, if any) on production and on imports have been paid from value added (see glossary of technical terms on page 33). Gross operating surplus of unincorporated enterprises includes rental income of persons which is the income earned by individuals who own building structures that they rent to others and imputed rental of owner-occupied dwellings.

**Taxes on production and on imports**, such as import and excise duties, foreign workers' levy, business registration fees, stamp duties, and property tax, are paid by businesses and households to the government.

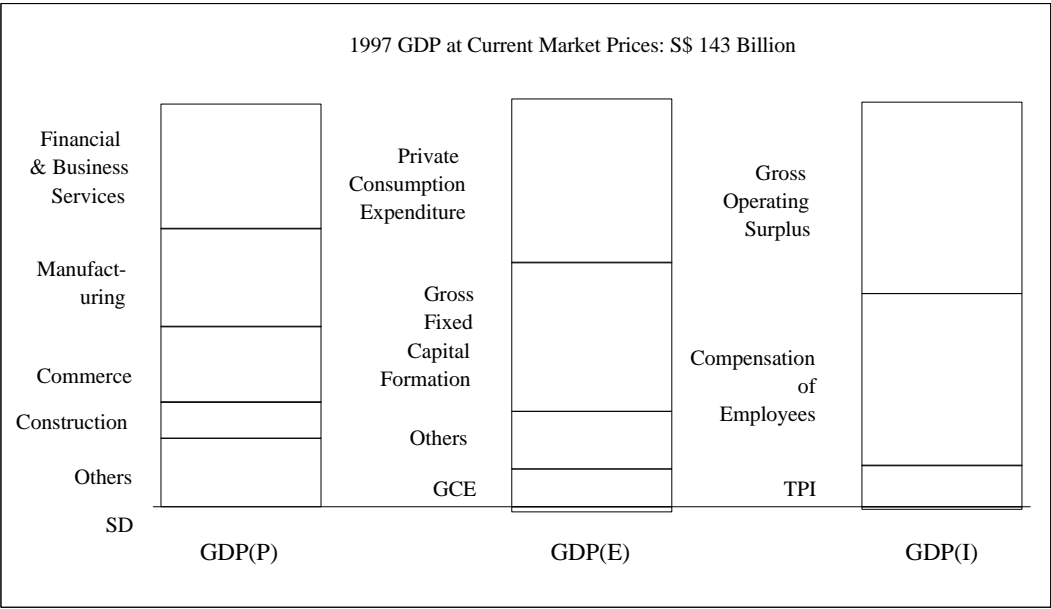
## COMPARISON OF THE THREE APPROACHES

The three approaches of measuring GDP should, in theory, produce the same result. In practice, the three measures of GDP are based upon different and diverse surveys and administrative sources. It is therefore inevitable that the three approaches yield slightly different estimates. In Singapore, GDP(P) is considered to

be the most reliable, and estimates of GDP(I) and GDP(E) are adjusted accordingly by including a statistical discrepancy (SD).

Nevertheless, the three approaches provide different but equivalent perspectives of GDP. Besides serving different analytical needs, they cross-validate the separate estimates of GDP. Chart 1 shows the components of GDP using the three approaches. The production approach shows that financial and business services contribute the largest share to GDP, followed closely by manufacturing. The expenditure approach shows that private consumption expenditure contributes the largest share to GDP followed by gross fixed capital formation while government consumption expenditure (GCE) accounts for the smallest share. The income approach shows that gross operating surplus of enterprises is the largest component of GDP followed by compensation of employees and taxes on production and on imports (TPI).

Chart 1 Major Components of GDP in Singapore, 1997



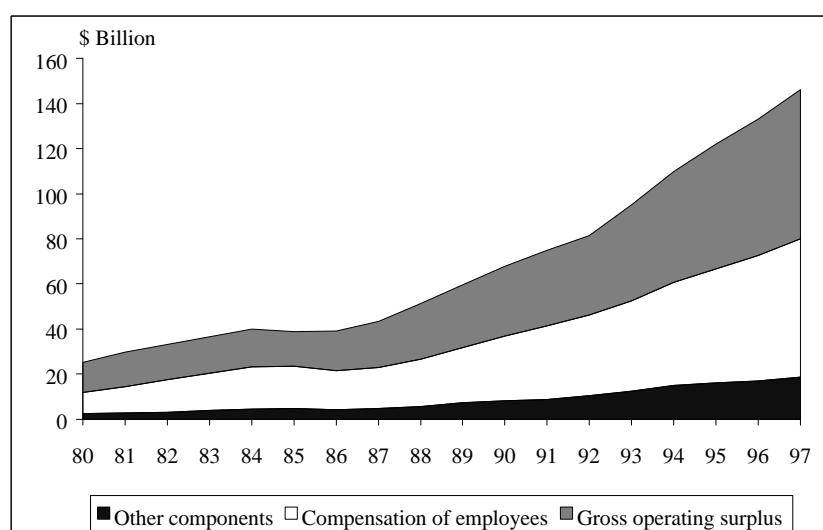
## CHAPTER 3

### HISTORICAL TRENDS IN SINGAPORE

#### Overall Trends

Between 1980 and 1997, GDP(I) at current market prices increased more than five-fold, at an average rate of 11 per cent per annum while at 1990 market prices, it has increased more than 3 times, at an average rate of 7.7 per cent per annum. Chart 2 shows the current price estimates of GDP(I) and the behaviour of the main components such as compensation of employees (remuneration) and gross operating surplus (profits).

Chart 2 Income-based Estimates of GDP at Current Market Prices, 1980-1997

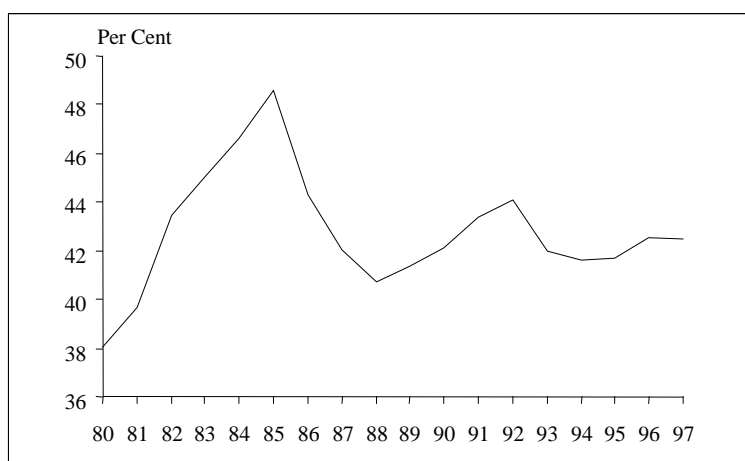


#### Trend in Remuneration

Remuneration is the second largest income component of GDP, comprising nearly 43 per cent of GDP(I) at current market prices in 1997. Over the years, the share of remuneration in GDP(I) varied counter-cyclically, rising during economic slowdown and falling during economic expansion. Remuneration is a key

component of production costs, and rising remuneration share means that remuneration is increasing faster than profits. A sustained increase in the share of remuneration tends to raise the cost of production, which will have an adverse impact on competitiveness.

Chart 3 Share of Remuneration in GDP(I) at Current Market Prices



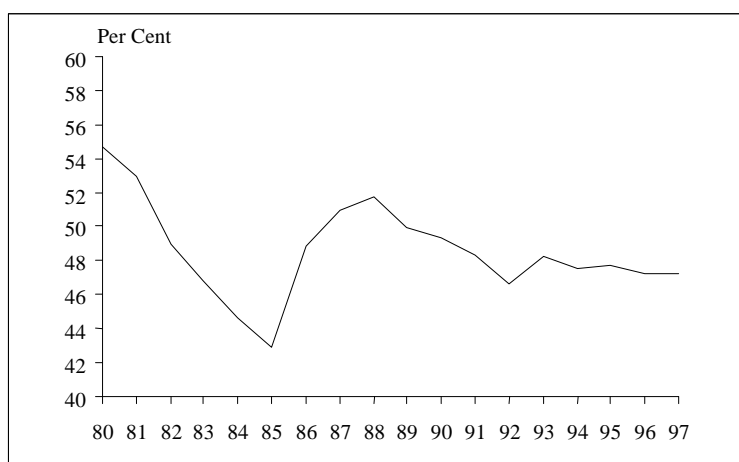
As Chart 3 indicates, a rising remuneration share preceded the recession (in 1985) and the slowdown (in 1992). This eroded the profitability of Singapore companies. The sharp decline after 1985 reflects the wage restraint policies that were implemented to improve Singapore's competitiveness and ensure sustainable economic growth. With the 15-percentage point cut in employers' CPF contribution rate and wage restraint and reform policies implemented during and after the recession in 1985, wage share fell to 41 per cent in 1988.

Following the restoration of employers' CPF contribution rates and as a result of keener competition for workers in an increasingly tight labour market, remuneration share rose to around 44 per cent in 1992. However, in recent years between 1993 and 1997, Singapore companies have been successful in moderating increases in wages and salaries. Remuneration share has therefore been maintained at a relatively stable level of around 42 per cent.

## Trend in Profits

Profits is the largest income component of GDP, accounting for 47 per cent in 1997. During the economic expansion in early 1980s, corporate profits accounted for nearly 55 per cent of GDP(I) at current market prices, but plunged to 43 per cent in 1985. Profit share recovered strongly immediately after that and rose to 52 per cent in 1988. It has dipped to 47 per cent in 1992. Over the past five years, it has remained relatively stable at about 48 per cent of GDP(I).

Chart 4 Share of Profits in GDP(I) at Current Market Prices



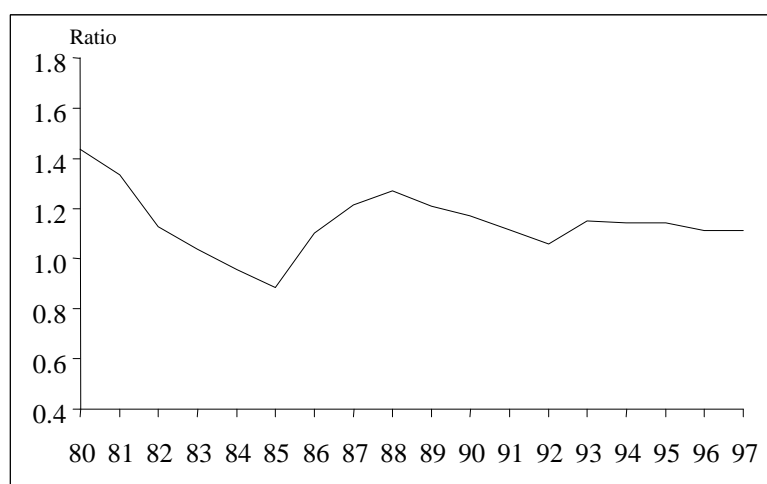
Unlike remuneration share, profit share varied pro-cyclically, rising during economic expansions and falling during economic slowdown. Wages and salaries tend to be less responsive than profits to changes in economic conditions. Declining profits provide early signals of an imminent economic slowdown. This was the case in 1985 and 1992. However, the impact of the financial turmoil on profits was not apparent in 1997, as profit share has so far remained relatively stable (Chart 4). This is consistent with the assessment that our domestic economic fundamentals are sound.



## Profit-to-Remuneration Ratio

The profit-to-remuneration ratio can be used as an indicator of the future trend of the economy. Chart 5, which plots this ratio, shows that the ratio tends to move very closely with the level of economic activity. The ratio was able to indicate the turning points of the economy. A declining ratio tends to suggest lower economic activity. In fact, prior to the recession in 1985, the ratio has been declining since 1982, and reached its lowest level of 0.9 in eighteen years in 1985. Similarly, the ratio declined slightly in 1992. Since 1992, the ratio has shown gradual improvement before reaching a plateau in 1996 and 1997.

Chart 5 Profit-to-Remuneration Ratio, 1980-1997



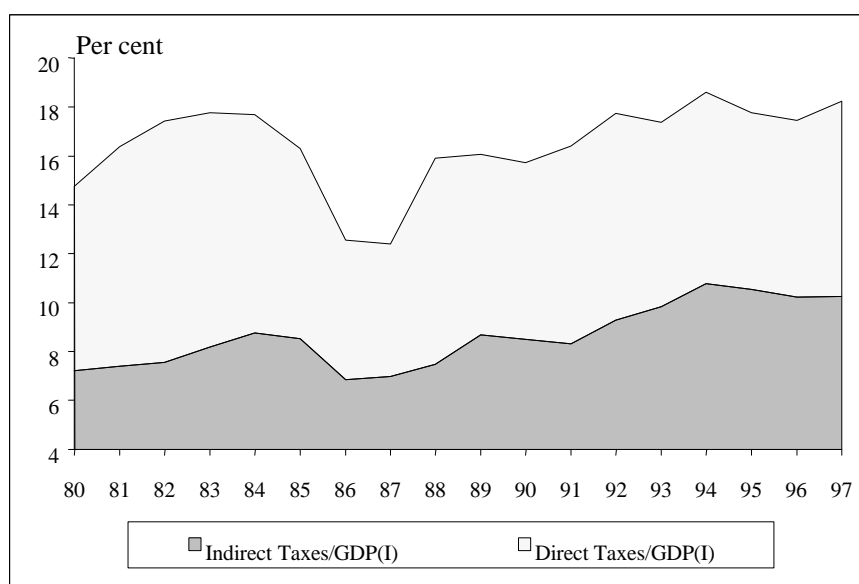
## Trend in Indirect Taxes

The share of indirect taxes has increased from 7.2 per cent in 1980 to around 10 per cent of GDP in 1997 (see Chart 6). The changes in the share of indirect taxes reflected fiscal measures to achieve desired social and economic objectives. Motor vehicle related taxes such as additional registration fees and certificate of entitlement (COE), foreign workers' levy and goods and services tax (GST) were the main reason for the gradual rise in indirect tax share from 1987 to 1994.

## Tax Burden in Singapore

The increase in the share of indirect taxes in GDP does not suggest an increase in the tax burden, which is based on the sum of indirect taxes and direct taxes on income and profits. This measure reveals that the overall tax structure in Singapore has been relatively stable over the years. Gross tax burden is estimated to range between 16 per cent and 19 per cent of GDP in the 1990s.

Chart 6 Share of Direct and Indirect Taxes, and Gross Tax Burden as a Ratio of GDP(I) at Current Market Prices



## CHAPTER 4

### COMPARISON WITH SELECTED ECONOMIES

The increases in wages and salaries enjoyed by Singaporeans have not resulted in a deterioration in profit share. Table 2 compares the shares of remuneration, profits and indirect taxes of the Singapore economy with selected economies. The exclusion of ASEAN economies like Malaysia and Philippines from the comparison is due to the fact that data on their income components of GDP are not available.

Table 2 Shares of Remuneration, Profits and Indirect Taxes by Selected Economies<sup>1</sup>

Economy	Remuneration	Profits	Indirect Taxes (less subsidies, if any)	Per Cent
				Statistical Discrepancy
Singapore <sup>4</sup>	42.7	47.5	10.3	-0.5
Taiwan <sup>3</sup>	53.2	37.5	9.3	-
S Korea <sup>3</sup>	47.6	39.0	13.4	-
Hong Kong <sup>1</sup>	45.9	48.1	5.6	0.4
Thailand <sup>2</sup>	28.7	59.3	12.0	-
United States <sup>4</sup>	58.2	34.5	7.3	-
Japan <sup>3</sup>	55.3	36.5	7.4	0.8
Canada <sup>3</sup>	52.4	34.2	13.4	-
France <sup>3</sup>	52.1	35.0	12.9	-

<sup>1</sup> Refers to data for 1994; <sup>2</sup> Refers to data for 1995; <sup>3</sup> Refers to data for 1996; <sup>4</sup> Refers to data for 1997

### Share of Remuneration

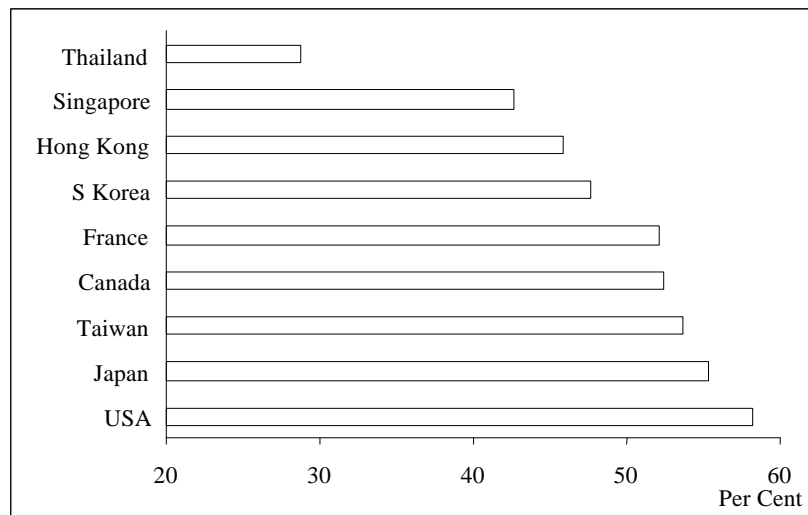
Remuneration share in GDP in Singapore is substantially lower than that for the industrialised economies. Our remuneration share of 43 per cent compares favourably with the United States (58 per cent), Japan (55 per cent), Canada (52 per cent) and France (52 per cent). Among the Asian newly industrialising economies<sup>2</sup>

<sup>1</sup> Sources: OECD Quarterly National Accounts, National Income in Taiwan Area, National Accounts of Korea, National Accounts of Thailand and Hong Kong - Estimates of GDP.

<sup>2</sup> Includes South Korea, Taiwan, Hong Kong (SAR, China) and Singapore.

(NIEs), Singapore has the most competitive wage structure with the lowest remuneration share, while Taiwan has the highest remuneration share (Chart 7).

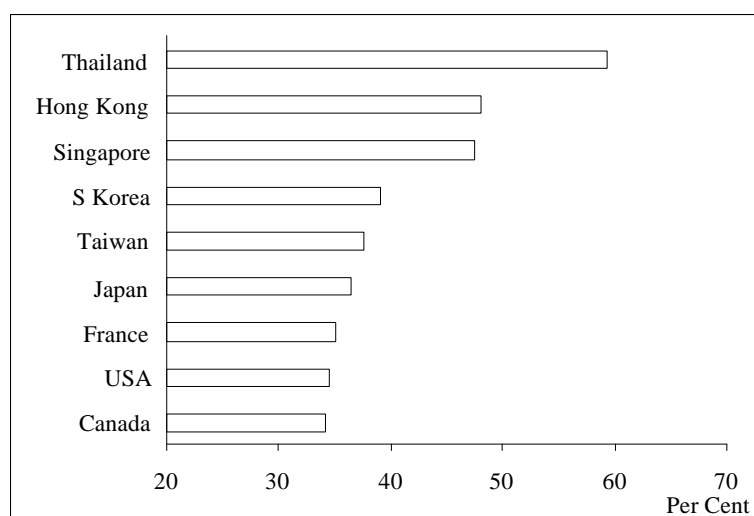
Chart 7 Share of Remuneration in GDP for Selected Economies



### Share of Profits

Singapore's profit share at about 48 per cent is comparable to Hong Kong, and, except for Thailand, is higher than all other countries compared (Chart 8). The high share of profits for Thailand is due to the very large proportion of self-employed farmers, since income of the self-employed are treated in the national accounts as their operating surplus. The relatively high profit share for Singapore is consistent with the observation that Singapore is a high-saving and high-investment economy.

Chart 8 Share of Profits in GDP for Selected Economies



### Profit-to-Remuneration Ratio

Singapore's low remuneration share and high profit share has resulted in the highest profit-to-remuneration ratio among the industrialised economies and the Asian NIEs. This suggests that Singapore has been able to remain competitive, and provides adequate returns to corporations operating in Singapore (Table 3).

Table 3 Profit-to-Remuneration Ratio

Economy	Profit-to-Remuneration Ratio
Singapore <sup>4</sup>	1.11
Taiwan <sup>3</sup>	0.70
S Korea <sup>3</sup>	0.82
Hong Kong <sup>1</sup>	1.05
Thailand <sup>2</sup>	2.07
United States <sup>4</sup>	0.59
Japan <sup>3</sup>	0.66
Canada <sup>3</sup>	0.65
France <sup>3</sup>	0.67

<sup>1</sup> Refers to data for 1994; <sup>2</sup> Refers to data for 1995; <sup>3</sup> Refers to data for 1996; <sup>4</sup> Refers to data for 1997

In the course of economic development, an economy's comparative advantage usually shifts from the production of lower value-added to capital- and technology-intensive products. This shift is generally reflected in the income structure of GDP (as well as the profit-to-remuneration ratio) as a country evolves from a developing economy to a NIE, and finally to an industrialised economy (Chart 9).

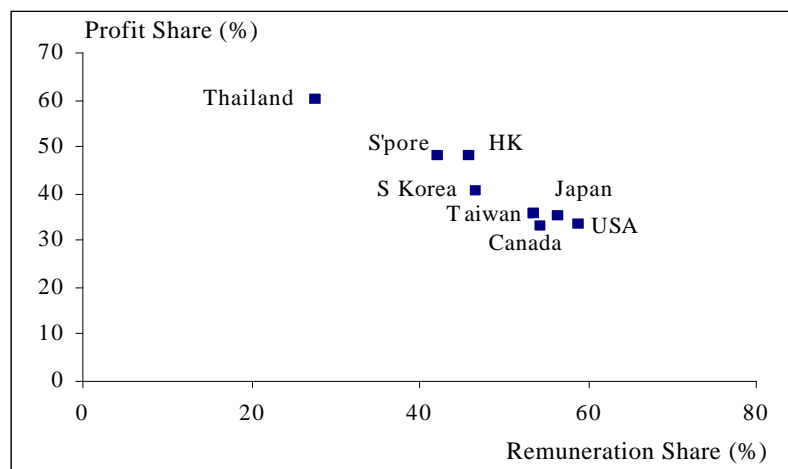


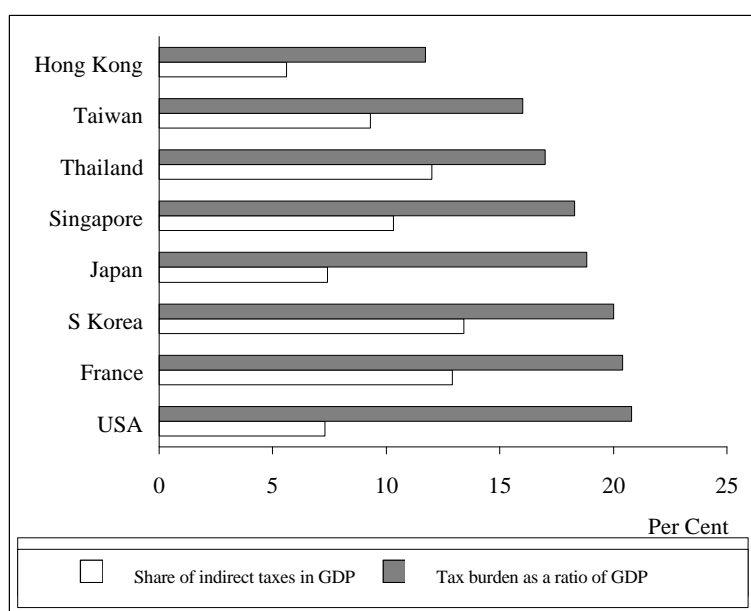
Chart 9 Share of Profits and Remuneration in GDP - Scatter Diagram

An examination of Chart 9 reveals that as economies become more developed and shift to higher value-added production, remuneration share tends to increase and consequently, profits share tends to decline. Thus, it is not surprising that Thailand has the highest ratio of 2.1 among all the selected economies, higher than the NIEs of around 1.0, and much higher than the industrial economies of around 0.6 (Table 3). However, while Singapore's remuneration and profits share are consistent with its status as an NIE, it has been able to remain competitive among the Asian NIEs.

### Share of Indirect Taxes

Chart 10 shows that among the four Asian NIEs, Singapore's share of indirect taxes at 10 per cent was the second highest, after Korea (13 per cent). Singapore's share exceeds that of Hong Kong (5.6 per cent), Taiwan (9.3 per cent) and industrialised economies such as the United States (7.3 per cent) and Japan (7.4 per cent).

Chart 10 Share of Indirect Taxes and Gross Tax Burden<sup>3</sup>



As explained above, Singapore's high share of indirect taxes arose from fiscal measures intended to achieve social and economic objectives such as the reduction of congestion on our roads and the over-dependence on foreign workers. This is compensated by relatively low direct taxes on income. Thus, Singapore's overall tax structure has remained more competitive than the industrialised economies. Gross tax burden as a ratio of GDP for Singapore at 18 per cent in 1997 was the 3rd lowest among the NIEs, after Hong Kong's 12 per cent and Taiwan's 16 per cent. When compared with the industrial economies, tax burden in Singapore was lower than the United States (21 per cent) and Japan (19 per cent). For these

<sup>3</sup> Sources: OECD Quarterly National Accounts, Financial Statistics of Japan, IMF's Government Finance Statistics Yearbook, Quarterly Bulletin Bank of Thailand, Taiwan Statistical Data Book, Hong Kong Monthly Digest of Statistics, US Statistical Abstract & Survey of Current Business.

economies, direct taxes on income as a share of GDP was significantly higher than that in Singapore.



## **CHAPTER 5**

### **TECHNICAL NOTES**

This chapter summarises the main sources and methods used in the estimation of GDP using the income approach. Descriptions are given for each component and the main techniques used in the compilation of the income-based estimates.

#### **General Principles**

The methodology underlying the compilation of GDP using the income approach is based on the concepts in the United Nations' System of National Accounts (SNA). Transactions are recorded on an accrual basis. The main income components include compensation of employees, gross operating surplus and taxes (less subsidies, if any) on production and on imports. In Singapore, estimates of gross operating surplus are distinguished by type of institutional units such as financial corporations, non-financial corporations, unincorporated enterprises and non-profit institutions. The income estimates are compiled at factor costs as well as current market prices. Estimates of GDP(I) at 1990 market prices are computed by using the implicit GDP deflator from the expenditure approach.

#### **Method of Compilation and Sources of Data**

##### ***Compensation of Employees***

Compensation of employees is defined as the total remuneration, in cash or in kind, payable by an enterprise to an employee for work done in the reference period. This includes wages and salaries, employers' contribution to Central Provident Fund (CPF) and pension funds, and benefits in kind. In line with the SNA, compensation of employees excludes incomes received by self-employed workers or own-account workers (which are classified as operating surplus). It also excludes any taxes (such as foreign worker's levy) payable by the employer. In addition wages and salaries are recorded before the deduction of employees' contribution to CPF.

In general, estimates of compensation to employees rely on two main sources: surveys and administrative records. Annual estimates are derived as the sum of quarterly estimates that are compiled separately for various industries. These estimates are revised when data from the main surveys become available about one to two years after the reference period. Wages and salaries are computed using data on average monthly earnings by industry obtained from the CPF Board. Monthly employment statistics is supplied by the Ministry of Manpower (MOM) which is compiled based on their administrative records as well as the number of active CPF contributors by industry from the CPF Board. The estimates of self-employed persons by industry and other employment and wage related indicators are obtained from the mid-year Labour Force Survey and other surveys conducted by MOM.

For the construction sector, quarterly wages and salaries data are based on Quarterly Construction Tradesmen Wages Survey conducted by the Construction Industry Development Board (CIDB). Wages and salaries of military personnel and civilian government employees are obtained from the government records.

These estimates are reviewed when the results from the annual surveys such as the Census of Industrial Production (CIP), Survey of Services, Survey of Commerce, Survey of Public Sector Accounts and Survey of Financial Institutions become available.

### ***Gross Operating Surplus (GOS)***

Gross operating surplus is defined as the value of the output (measured in terms of receipts from the sales of goods and services produced) less compensation of employees, intermediate consumption expenditure, and taxes on production and on imports. It does not include property incomes (such as interest, dividends, rent of land and royalties for patents/copyrights), transfers and capital gains and losses that do not constitute output of goods and services.

Annual estimates of gross operating surplus are based on annual surveys that provide data on corporate profits for most sectors except for agriculture and construction industries. For these two industries, the residual method by deducting

the sum of the other income components from the estimates of value added from the output approach is used.

For industrial and financial corporations, a number of annual surveys provide data on accounting profits and on various adjustment items such as property incomes, transfers and capital gains and losses. Annual estimates for the current year are computed based on the operating receipts and expenses collected from the Survey of Monthly Industrial Production for the manufacturing sector as well as quarterly business expectation surveys for the services and commerce sectors and other quarterly surveys on the financial institutions and insurance sectors.

For agriculture and construction industries, estimates of their gross operating surplus are derived by deducting from value added, the compensation of employees and taxes on production. Estimates are also made for own account workers such as remisiers, freelance insurance and real estate agents, hawkers and taxi drivers that are not covered by the surveys. Indicators such as the number of remisiers, commissions received and daily takings of taxi drivers are used.

For the financial institutions and merchant banks, gross output include the implicit bank service charge earned by the industry. This is approximated by the net interest income of the financial institutions. The implicit bank service charge is netted off at the overall economy level as intermediate expenses purchased by a 'notional industry'.

The gross operating surplus of unincorporated enterprises includes imputed rental for owner-occupied dwellings. This is the residue of output estimated from the annual assessed value of properties less estimates for maintenance of properties and property tax.

### ***Taxes on Production and on Imports***

Taxes on production and on imports are obtained from government administrative records.

## *Imputations*

Imputations are value estimates made for all outputs of goods and services that are not sold but disposed of in other ways. They are needed in order to be able to record in the accounts, productive activities whose outputs are not disposed of in monetary transactions but nevertheless supplied to other units or retained for own use. However, by convention the domestic and personal services produced and consumed by members of the same household are omitted.

One such estimate is the services of owner-occupied dwellings. Owner-occupiers are deemed to own household unincorporated businesses that produce housing services for their own consumption.

Another is the value for the implicit bank service charge for services provided by financial intermediaries such as banks. Financial intermediaries pay lower rates of interest to those who lend them money and charge higher rates of interest to those who borrow from them. They then earn the differentials in the rates of interest. The implicit bank service charge is then taken as services consumed by a notional industry and deducted at the overall industry level.

Imputed bank service charge is estimated as the difference between interest received and interest paid by financial intermediaries. Upon adding this implicit bank service charge to output, the financial intermediaries will have a positive operating surplus.

## CHAPTER 6

### GLOSSARY OF TECHNICAL TERMS

#### A

***Accrual basis of accounting.*** Transactions are recorded when expenditure is incurred (as opposed to the cash basis of accounting which records cash payments at the times these payments were made).

#### B

***Benefits in kind.*** Almost any good and service can be benefits in kind. The following criteria serve as a guide for identifying benefits in kind:

- i) The goods and services provided by the employer must be the type that the ordinary consumer will buy on the market, or
  - ii) The goods and services must increase the real income of the employee, that is, they must make the employee better off or from which the employee or the employee's household can derive some utility or satisfaction.
- Examples of benefits in kind are food, housing, medical and dental benefits, the provision of crèches or nurseries for the employees' children, and free transportation to and from work.

#### C

***Compensation of employees.*** This refers to the total remuneration, in cash or in kind, payable by an establishment to an employee for work done in the reference period. Compensation of employees comprise:

- a) Wages and salaries in cash;
- b) Employers' contribution to CPF or pension funds and insurance schemes; and
- c) Benefits in kind.

***Consumption of fixed capital.*** It is defined as the decline in the current value of the stock of fixed assets owned and used by the establishment or enterprise as a producer, as a result of physical deterioration, normal obsolescence or normal accidental damage during the reference period. It excludes the value of fixed assets destroyed by acts of war or exceptional events such as major natural disasters. In

order to be consistent with the other entries in the production account which are at current prices, consumption of fixed capital must be valued at the cost of current replacement of the asset and not based on historical costs as in business accounting.

## **D**

***Direct taxes.*** See taxes on income.

## **E**

***Employers' contribution to CPF or pension funds and insurance schemes.*** This refers to the amount contributed by employers towards their employees' Central Provident Funds (CPF)/pension fund, and casualty insurance, group life insurance or other similar insurance schemes.

## **F**

***Factor cost.*** Equivalent to a market price valuation less taxes on expenditure plus subsidies.

***Financial corporations.*** Financial corporations are enterprises (or institutional units) that are principally engaged in financial intermediation, or in auxiliary financial activities which are closely related to financial intermediation.

***Financial intermediation.*** Financial intermediation may be defined as a productive activity in which an institutional unit incurs liabilities on its own account for the purpose of acquiring financial assets by engaging in financial transactions on the market.

## **G**

***Gross domestic product (GDP).*** Domestic product measures total economic activity taking place in Singapore. Equals to the sum of all incomes (whether individual or corporate, etc.) earned in Singapore from the production of goods and services; also equals the total of final expenditures on the goods and services produced in Singapore less their import content; and further equals the sum of the value added by all activities which produce goods and services in Singapore. Termed “gross” when the aggregate is measured before providing for capital consumption and “net” after deduction of capital consumption. Measured at market prices or at factor cost

expressed in either current prices (to give value of activity) or constant prices (relating to a specific base year (currently 1990) to give volume of activity).

**General government.** General government refers to all organs of state, government ministries and statutory boards that are non-profit making and non-market producers. They produce mainly non-market services (possibly goods) for individual or collective consumption and redistribute income and wealth.

**Gross operating surplus (GOS).** GOS measures the gross operating surplus or deficit accruing to the owner(s) of an establishment as a result of engaging in the production of goods and services. It is a residual item defined as the value of the output (measured in terms of receipts from the sales of goods and services produced) less compensation of employees, less intermediate consumption expenditure, and taxes on production and on imports. A distinction is made between “gross” and “net” recording. Recording “gross” means without deducting consumption of fixed capital while recording “net” means after deducting consumption of fixed capital.

## H

**Households.** One of the five institutional sectors, representing households and individuals in their capacity as owners of unincorporated enterprises and as final consumers. In practice, it is not possible to separate the transactions of unincorporated enterprises from purely personal transactions of their proprietors.

## I

**Indirect taxes.** See taxes on production and on imports.

**Imputed rent.** In the case of owner-occupied dwellings, where the owners as “occupiers” are deemed to pay to themselves in their capacity as “landlords”, i.e. they are viewed as renting their houses or flats to themselves. These “payments” are known as imputed rental of owner occupied dwellings. The ratio of owner-occupied to rented dwellings can vary significantly between countries and even over short periods of time within a country, so that both international and intertemporal comparisons of the production and consumption of housing services could be distorted if no imputation was made for the value of own-account housing services.

***Intermediate consumption.*** Consists of the value of goods and services which are transformed or entirely consumed as inputs into production in the period of account. This refers to the value of all goods and services consumed as inputs by a process of production, excluding fixed assets whose consumption is recorded as consumption of fixed capital. The goods and services may be either transformed (for example, grain may be transformed into flour which in turn may be transformed into bread) or used up by the production process (for example, electricity). It also includes goods and services used as inputs into ancillary activities of the enterprise. Intermediate consumption however, excludes compensation of employees, payment of interest for loans, capital expenditure such as purchases of transport and machinery and equipment with a working life of more than one year and expenditure on major repairs to buildings and construction and machinery and equipment. Examples are rental of premises, PUB charges, stationery supplies and advertising charges.

***Institutional sectors.*** Institutional sectors comprise institutional units characterised by similarity in function, purpose, financial role and behaviour. They include non-financial corporations, financial corporations, general government, non-profit institutions serving households and the household sector.

***Institutional units.*** An economic entity that is capable, in its own right, of owning assets and incurring liabilities and engaging in economic activities and in transactions with other entities.

## **M**

***Market prices.*** The prices which purchasers pay for the goods and services they acquire or use.

## **N**

***Non-financial corporations.*** Non-financial corporations consist of institutional units that are in the production of goods and non-financial services.

***Non-profit institutions.*** They refer to all institutional units that are non-profit making and non-market producers.



## O

**Output.** Output is defined in the context of a production account. It consists of goods and services that are produced within an establishment and become available for use by their owner(s) in one or more of the following ways:

- a) They may be sold at economically significant prices;
- b) They may be bartered in exchange for other goods, services or assets, provided to their employees as benefits in kind, or used for other payments in kind;
- c) They may enter the producer's inventories prior to their eventual sale, barter or other use; incomplete outputs enter the producer's inventories as additions to work-in-progress;
- d) They may be supplied to another establishment belonging to the same enterprise for use as intermediate inputs in the latter's production;
- e) They may be retained by their owners for own final consumption or own gross fixed capital formation;
- f) They may be supplied free, or sold at prices that are not economically significant, to other institutional units.

The value of output is therefore equal to the value of total sales or other uses of goods and services produced as outputs plus the value of changes in the inventories of goods.

## R

**Rent.** Gross receipts from ownership of land and buildings less actual expenditure by owners on repairs, maintenance and insurance. An imputed rent is included for owner-occupied dwellings.

## S

**Sector.** See institutional sectors.

**Statistical discrepancy.** Explicit adjustments to compensate for deviation between the sum of expenditure or of income components and gross value added.

**Stock appreciation.** The part of the change in the value of stocks and work-in-progress during the year which arises from pure increases in the price at which stocks and work-in-progress are valued. Estimates of stock appreciation are related to estimates of the value of stocks, and are highly uncertain.

## **T**

***Taxes on income.*** Taxes related to the income and profit of individuals and companies. Also known as direct taxes on income.

***Taxes on production and on imports.*** These are compulsory payments levied by the government on the establishment or enterprise for the use of factors of production and for importing goods and services to be used in the production of goods and services. They include taxes on products and services. Examples of such taxes are import and excise duties, foreign workers' levy, business registration fees, stamp duties, and property tax. Generally known as indirect taxes.

## **U**

***Unincorporated enterprises.*** These are institutional units within the household sector as they refer to individuals as owners or partners of unincorporated enterprises such as sole proprietorships and partnerships.

## **V**

***Value added.*** Gross value added is defined as the value of output less intermediate consumption. Net value added is defined as the value of output less the values of both intermediate consumption and consumption of fixed capital.

## **W**

***Wages and salaries in cash.*** This refers to payments at regular weekly, monthly or other intervals. It includes piecework payments, commissions, gratuities, tips, overtime allowances, allowances for working away from home or in disagreeable or hazardous circumstances, expatriation allowances for working abroad, family or educational allowances, bonuses or other exceptional payments linked to the overall performance of the establishment which are made under incentive schemes. All these are recorded before the deduction of employees' contribution to CPF.

**TABLE A1 MAIN INCOME COMPONENTS OF GDP AT CURRENT MARKET PRICES, 1980 - 1988**

	1980	1981	1982	1983	1984	1985	1986	1987	1988
	<i>Millions of Singapore Dollars</i>								
Gross domestic product	25,090.7	29,339.4	32,669.9	36,732.8	40,047.9	38,923.5	39,263.9	43,569.3	51,641.8
Statistical discrepancy	-116.9	9.9	-197.8	-43.4	109.7	163.5	92.9	164.0	206.7
Compensation of employees	9,595.1	11,635.9	14,291.6	16,555.0	18,633.3	18,828.0	17,359.3	18,242.7	20,946.8
Gross operating surplus	13,793.7	15,520.9	16,096.6	17,207.2	17,808.7	16,627.9	19,124.6	22,135.9	26,647.8
Taxes on production and on imports	1,818.8	2,172.7	2,479.5	3,014.0	3,496.2	3,304.1	2,687.1	3,026.7	3,840.5
	<i>Percentage Composition</i>								
Gross domestic product	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Statistical discrepancy	-0.5	0.0	-0.6	-0.1	0.3	0.4	0.2	0.4	0.4
Compensation of employees	38.2	39.7	43.7	45.1	46.5	48.4	44.2	41.9	40.6
Gross operating surplus	55.0	52.9	49.3	46.8	44.5	42.7	48.7	50.8	51.6
Taxes on production and on imports	7.2	7.4	7.6	8.2	8.7	8.5	6.8	6.9	7.4

**TABLE A2 MAIN INCOME COMPONENTS OF GDP AT CURRENT MARKET PRICES, 1989 - 1997**

	1989	1990	1991	1992	1993	1994	1995	1996	1997p
	<i>Millions of Singapore Dollars</i>								
Gross domestic product	59,343.5	67,878.9	75,526.8	80,936.0	94,317.5	108,216.9	120,704.1	130,775.3	143,014.0
Statistical discrepancy	-72.3	0.0	488.2	-337.3	-986.9	-1,537.1	-719.5	-1,206.7	-677.0
Compensation of employees	24,559.4	28,609.6	32,543.1	35,813.1	40,009.8	45,712.4	50,661.1	56,104.2	61,067.3
Gross operating surplus	29,704.5	33,505.3	36,253.4	37,911.8	45,933.9	52,228.6	57,971.2	62,388.3	67,881.3
Taxes on production and on imports	5,151.9	5,764.0	6,242.1	7,548.4	9,360.7	11,813.0	12,791.3	13,489.5	14,742.4
	<i>Percentage Composition</i>								
Gross domestic product	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Statistical discrepancy	-0.1	0.0	0.6	-0.4	-1.0	-1.4	-0.6	-0.9	-0.5
Compensation of employees	41.4	42.1	43.1	44.2	42.4	42.2	42.0	42.9	42.7
Gross operating surplus	50.1	49.4	48.0	46.8	48.7	48.3	48.0	47.7	47.5
Taxes on production and on imports	8.7	8.5	8.3	9.3	9.9	10.9	10.6	10.3	10.3

**TABLE A3 DETAILED INCOME COMPONENTS OF GDP(I), 1980 - 1988**

	1980	1981	1982	1983	1984	1985	1986	1987	1988
	<i>Millions of Singapore Dollars</i>								
Compensation of employees	9,595.1	11,635.9	14,291.6	16,555.0	18,633.3	18,828.0	17,359.3	18,242.7	20,946.8
Wages & salaries in cash and kind	8,336.4	10,108.6	12,401.4	14,293.8	15,915.9	15,921.0	15,755.7	16,860.7	19,247.9
Employers' contributions to CPF and private pension/insurance funds	1,258.7	1,527.3	1,890.2	2,261.2	2,717.4	2,907.0	1,603.6	1,382.0	1,698.9
Gross operating surplus (GOS)	13,793.7	15,520.9	16,096.6	17,207.2	17,808.7	16,627.9	19,124.6	22,135.9	26,647.8
GOS of corporations	11,965.6	13,547.1	14,207.3	15,085.7	15,935.5	15,231.8	16,785.5	19,457.6	23,637.0
GOS of financial corporations	1,466.2	1,916.5	2,358.5	2,296.2	2,784.9	2,895.1	2,860.0	3,444.1	3,382.3
GOS of non-financial corporations	10,499.4	11,630.6	11,848.8	12,789.5	13,150.6	12,336.7	13,925.5	16,013.5	20,254.7
GOS of unincorporated enterprises	3,095.1	3,593.0	3,766.7	4,274.2	4,564.1	4,489.9	4,767.1	5,338.6	5,674.9
GOS of non-profit institutions	143.9	159.4	232.5	154.1	136.5	102.7	172.3	227.0	275.8
Less Imputed bank service charge	1,410.9	1,778.6	2,109.9	2,306.8	2,827.4	3,196.5	2,600.3	2,887.3	2,939.9
Equals GDP(I) at factor cost	23,388.8	27,156.8	30,388.2	33,762.2	36,442.0	35,455.9	36,483.9	40,378.6	47,594.6
Plus Taxes on production and on imports	1,818.8	2,172.7	2,479.5	3,014.0	3,496.2	3,304.1	2,687.1	3,026.7	3,840.5
Equals GDP(I) at current market prices	25,207.6	29,329.5	32,867.7	36,776.2	39,938.2	38,760.0	39,171.0	43,405.3	51,435.1
GDP(I) at 1990 market prices	33,745.1	36,799.9	39,552.0	42,614.4	45,958.8	45,174.8	46,301.4	50,707.1	56,584.3

**TABLE A4 DETAILED INCOME COMPONENTS OF GDP(I), 1989 - 1997**

	1989	1990	1991	1992	1993	1994	1995	1996	1997p
	<i>Millions of Singapore Dollars</i>								
Compensation of employees	24,559.4	28,609.6	32,543.1	35,813.1	40,009.8	45,712.4	50,661.1	56,104.2	61,067.3
Wages & salaries in cash and kind	22,174.1	25,554.2	28,883.4	31,639.3	35,264.3	40,101.5	44,192.3	48,959.7	53,316.7
Employers' contributions to CPF and private pension/insurance funds	2,385.3	3,055.4	3,659.7	4,173.8	4,745.5	5,610.9	6,468.8	7,144.5	7,750.6
Gross operating surplus (GOS)	29,704.5	33,505.3	36,253.4	37,911.8	45,933.9	52,228.6	57,971.2	62,388.3	67,881.3
GOS of corporations	25,843.8	30,069.1	32,957.5	34,021.0	41,501.5	49,077.0	54,549.6	59,003.3	64,810.1
GOS of financial corporations	3,793.4	4,468.6	4,775.0	5,812.6	7,517.5	9,737.2	9,366.8	10,063.6	10,800.1
GOS of non-financial corporations	22,050.4	25,600.5	28,182.5	28,208.4	33,984.0	39,339.8	45,182.8	48,939.7	54,010.0
GOS of unincorporated enterprises	6,445.3	7,074.6	7,917.9	8,760.7	9,720.2	10,606.8	11,183.8	11,893.7	12,748.4
GOS of non-profit institutions	344.7	390.8	393.4	414.5	578.8	593.8	680.2	800.0	862.8
Less Imputed bank service charge	2,929.3	4,029.2	5,015.4	5,284.4	5,866.6	8,049.0	8,442.4	9,308.7	10,540.0
Equals GDP(I) at factor cost	54,263.9	62,114.9	68,796.5	73,724.9	85,943.7	97,941.0	108,632.3	118,492.5	128,948.6
Plus Taxes on production and on imports	5,151.9	5,764.0	6,242.1	7,548.4	9,360.7	11,813.0	12,791.3	13,489.5	14,742.4
Equals GDP(I) at current market prices	59,415.8	67,878.9	75,038.6	81,273.3	95,304.4	109,754.0	121,423.6	131,982.0	143,691.0
GDP(I) at 1990 market prices	62,346.1	67,878.9	72,361.2	77,624.9	86,248.3	95,687.9	103,163.6	110,537.7	118,654.8

**TABLE A5 SHARE OF INCOME COMPONENTS IN GDP(I), 1980 - 1988**

[illegible]

**TABLE A6 SHARE OF INCOME COMPONENTS IN GDP(I), 1989 - 1997**

[illegible]



**TABLE A7 GDP(I) AT CURRENT FACTOR COST BY INDUSTRY, 1980 - 1988**

	1980	1981	1982	1983	1984	1985	1986	1987	1988
	<i>Millions of Singapore Dollars</i>								
Total	23,388.8	27,156.8	30,388.2	33,762.2	36,442.0	35,455.9	36,483.9	40,378.6	47,594.6
Manufacturing	7,053.8	8,357.4	8,129.0	8,510.7	9,278.1	8,994.4	10,442.0	11,797.7	14,722.4
Construction	1,553.5	2,088.8	3,007.3	3,945.5	4,590.1	3,813.4	3,030.6	2,803.6	2,727.7
Commerce	5,190.5	5,489.6	6,059.1	6,113.5	5,970.2	5,683.3	5,591.6	6,629.0	8,221.0
Transport and Communications	3,378.6	3,821.4	4,226.3	4,578.8	4,663.2	4,768.6	5,021.4	5,840.5	6,886.5
Financial and Business Services	4,403.2	5,604.3	6,802.2	8,004.1	9,500.9	9,679.9	9,046.8	10,151.7	11,168.4
Social, Community and Personal Services	2,301.3	2,689.2	3,247.0	3,792.1	4,100.5	4,605.3	4,639.6	4,889.0	5,490.5
Others	918.8	884.7	1,027.2	1,124.3	1,166.4	1,107.5	1,312.2	1,154.4	1,318.0
Less Imputed bank service charge	1,410.9	1,778.6	2,109.9	2,306.8	2,827.4	3,196.5	2,600.3	2,887.3	2,939.9

**TABLE A8 GDP(I) AT CURRENT FACTOR COST BY INDUSTRY, 1989 - 1997**

	1989	1990	1991	1992	1993	1994	1995	1996	1997p
	<i>Millions of Singapore Dollars</i>								
Total	54,263.9	62,114.9	68,796.5	73,724.9	85,943.7	97,941.0	108,632.3	118,492.5	128,948.6
Manufacturing	16,402.2	18,299.0	20,478.5	20,301.7	23,514.5	26,215.0	29,701.9	31,126.2	32,539.9
Construction	2,861.3	3,292.5	4,274.8	5,613.9	6,084.9	7,015.5	7,994.7	9,881.8	11,361.0
Commerce	9,754.4	12,025.2	12,987.2	13,626.1	16,123.8	17,934.8	19,765.1	21,439.8	23,264.0
Transport and Communications	7,884.9	8,606.8	9,524.6	9,771.9	10,956.2	12,658.9	14,041.1	14,596.0	15,539.8
Financial and Business Services	12,667.2	15,432.8	17,385.5	19,834.7	24,212.6	29,719.9	31,879.2	35,825.2	40,560.7
Social, Community and Personal Services	6,343.8	7,075.4	7,763.0	8,380.7	9,240.5	10,637.9	11,579.1	12,609.2	13,540.7
Others	1,279.4	1,412.4	1,398.3	1,480.3	1,677.8	1,808.0	2,113.6	2,323.0	2,682.5
Less Imputed bank service charge	2,929.3	4,029.2	5,015.4	5,284.4	5,866.6	8,049.0	8,442.4	9,308.7	10,540.0

**TABLE A9 SHARE OF GDP(I) AT CURRENT FACTOR COST BY INDUSTRY, 1980 - 1988**

	1980	1981	1982	1983	1984	1985	1986	1987	1988
	<i>Per Cent</i>								
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Manufacturing	30.2	30.8	26.8	25.2	25.5	25.4	28.6	29.2	30.9
Construction	6.6	7.7	9.9	11.7	12.6	10.8	8.3	6.9	5.7
Commerce	22.2	20.2	19.9	18.1	16.4	16.0	15.3	16.4	17.3
Transport and Communications	14.4	14.1	13.9	13.6	12.8	13.4	13.8	14.5	14.5
Financial and Business Services	18.8	20.6	22.4	23.7	26.1	27.3	24.8	25.1	23.5
Social, Community and Personal Services	9.8	9.9	10.7	11.2	11.3	13.0	12.7	12.1	11.5
Others	3.9	3.3	3.4	3.3	3.2	3.1	3.6	2.9	2.8
Less Imputed bank service charge	6.0	6.5	6.9	6.8	7.8	9.0	7.1	7.2	6.2

**TABLE A10 SHARE OF GDP(I) AT CURRENT FACTOR COST BY INDUSTRY, 1989 - 1997**

	1989	1990	1991	1992	1993	1994	1995	1996	1997p
	<i>Per Cent</i>								
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Manufacturing	30.2	29.5	29.8	27.5	27.4	26.8	27.3	26.3	25.2
Construction	5.3	5.3	6.2	7.6	7.1	7.2	7.4	8.3	8.8
Commerce	18.0	19.4	18.9	18.5	18.8	18.3	18.2	18.1	18.0
Transport and Communications	14.5	13.9	13.8	13.3	12.7	12.9	12.9	12.3	12.1
Financial and Business Services	23.3	24.8	25.3	26.9	28.2	30.3	29.3	30.2	31.5
Social, Community and Personal Services	11.7	11.4	11.3	11.4	10.8	10.9	10.7	10.6	10.5
Others	2.4	2.3	2.0	2.0	2.0	1.8	1.9	2.0	2.1
Less Imputed bank service charge	5.4	6.5	7.3	7.2	6.8	8.2	7.8	7.9	8.2

**TABLE A11 COMPENSATION OF EMPLOYEES BY INDUSTRY, 1980 - 1988**

	1980	1981	1982	1983	1984	1985	1986	1987	1988
	<i>Millions of Singapore Dollars</i>								
Total	9,595.1	11,635.9	14,291.6	16,555.0	18,633.3	18,828.0	17,359.3	18,242.7	20,946.8
Manufacturing	2,752.5	3,247.0	3,610.0	3,861.5	4,418.1	4,413.2	4,100.4	4,538.4	5,497.1
Construction	844.6	1,170.2	1,714.4	2,214.8	2,623.5	2,075.0	1,634.3	1,583.2	1,557.1
Commerce	1,487.4	1,933.3	2,445.8	2,957.3	3,134.4	3,323.8	3,059.8	3,233.0	3,793.2
Transport and Communications	1,181.8	1,307.4	1,559.8	1,768.7	1,774.4	1,845.6	1,816.8	1,964.0	2,176.7
Financial and Business Services	1,255.2	1,571.3	1,907.5	2,257.5	2,806.6	2,863.2	2,652.2	2,748.5	3,222.5
Social, Community and Personal Services	1,924.0	2,235.5	2,819.9	3,228.1	3,583.6	4,002.4	3,843.9	3,943.2	4,460.1
Others	149.6	171.2	234.2	267.1	292.7	304.8	251.9	232.4	240.1

**TABLE A12 COMPENSATION OF EMPLOYEES BY INDUSTRY, 1989 - 1997**

	1989	1990	1991	1992	1993	1994	1995	1996	1997p
	<i>Millions of Singapore Dollars</i>								
Total	24,559.4	28,609.6	32,543.1	35,813.1	40,009.8	45,712.4	50,661.1	56,104.2	61,067.3
Manufacturing	6,530.4	7,681.2	8,587.6	9,360.5	9,997.0	10,946.7	11,804.8	12,406.9	13,002.4
Construction	1,718.9	1,915.0	2,249.3	2,597.1	2,899.8	3,378.6	3,832.5	5,044.4	5,927.7
Commerce	4,525.9	5,564.7	6,428.0	7,386.3	8,411.8	9,417.4	10,464.8	11,443.1	12,363.6
Transport and Communications	2,613.0	2,931.5	3,368.4	3,431.8	3,812.1	4,400.1	4,890.9	5,428.5	5,817.6
Financial and Business Services	3,825.0	4,617.4	5,500.8	6,106.5	7,358.9	8,876.7	10,275.5	11,594.4	12,997.7
Social, Community and Personal Services	5,087.6	5,635.0	6,129.4	6,639.7	7,229.0	8,354.0	9,029.1	9,823.5	10,584.4
Others	258.6	264.8	279.6	291.2	301.2	338.9	363.5	363.4	373.9

**TABLE A13 SHARE OF COMPENSATION OF EMPLOYEES BY INDUSTRY, 1980-1988**

	1980	1981	1982	1983	1984	1985	1986	1987	1988
	<i>Per Cent</i>								
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Manufacturing	28.7	27.9	25.3	23.3	23.7	23.4	23.6	24.9	26.2
Construction	8.8	10.1	12.0	13.4	14.1	11.0	9.4	8.7	7.4
Commerce	15.5	16.6	17.1	17.9	16.8	17.7	17.6	17.7	18.1
Transport and Communications	12.3	11.2	10.9	10.7	9.5	9.8	10.5	10.8	10.4
Financial and Business Services	13.1	13.5	13.3	13.6	15.1	15.2	15.3	15.1	15.4
Social, Community and Personal Services	20.1	19.2	19.7	19.5	19.2	21.3	22.1	21.6	21.3
Others	1.6	1.5	1.6	1.6	1.6	1.6	1.5	1.3	1.1

**TABLE A14 SHARE OF COMPENSATION OF EMPLOYEES BY INDUSTRY, 1989-1997**

	1989	1990	1991	1992	1993	1994	1995	1996	1997p
	<i>Per Cent</i>								
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Manufacturing	26.6	26.8	26.4	26.1	25.0	23.9	23.3	22.1	21.3
Construction	7.0	6.7	6.9	7.3	7.2	7.4	7.6	9.0	9.7
Commerce	18.4	19.5	19.8	20.6	21.0	20.6	20.7	20.4	20.2
Transport and Communications	10.6	10.2	10.4	9.6	9.5	9.6	9.7	9.7	9.5
Financial and Business Services	15.6	16.1	16.9	17.1	18.4	19.4	20.3	20.7	21.3
Social, Community and Personal Services	20.7	19.7	18.8	18.5	18.1	18.3	17.8	17.5	17.3
Others	1.1	0.9	0.9	0.8	0.8	0.7	0.7	0.6	0.6



**TABLE A15 GROSS OPERATING SURPLUS<sup>1</sup> BY INDUSTRY, 1980 - 1988**

	1980	1981	1982	1983	1984	1985	1986	1987	1988
	<i>Millions of Singapore Dollars</i>								
Total	15,204.6	17,299.5	18,206.5	19,514.0	20,636.1	19,824.4	21,724.9	25,023.2	29,587.7
Manufacturing	4,301.3	5,110.4	4,519.0	4,649.2	4,860.0	4,581.2	6,341.6	7,259.3	9,225.3
Construction	708.9	918.6	1,292.9	1,730.7	1,966.6	1,738.4	1,396.3	1,220.4	1,170.6
Commerce	3,703.1	3,556.3	3,613.3	3,156.2	2,835.8	2,359.5	2,531.8	3,396.0	4,427.8
Transport and Communications	2,196.8	2,514.0	2,666.5	2,810.1	2,888.8	2,923.0	3,204.6	3,876.5	4,709.8
Financial and Business Services	3,148.0	4,033.0	4,894.7	5,746.6	6,694.3	6,816.7	6,394.6	7,403.2	7,945.9
Social, Community and Personal Services	377.3	453.7	427.1	564.0	516.9	602.9	795.7	945.8	1,030.4
Others	769.2	713.5	793.0	857.2	873.7	802.7	1,060.3	922.0	1,077.9

<sup>1</sup> Before deduction of imputed bank service charge

**TABLE A16 GROSS OPERATING SURPLUS<sup>1</sup> BY INDUSTRY, 1989 - 1997**

	1989	1990	1991	1992	1993	1994	1995	1996	1997p
	<i>Millions of Singapore Dollars</i>								
Total	32,633.8	37,534.5	41,268.8	43,196.2	51,800.5	60,277.6	66,413.6	71,697.0	78,421.3
Manufacturing	9,871.8	10,617.8	11,890.9	10,941.2	13,517.5	15,268.3	17,897.1	18,719.3	19,537.5
Construction	1,142.4	1,377.5	2,025.5	3,016.8	3,185.1	3,636.9	4,162.2	4,837.4	5,433.3
Commerce	5,228.5	6,460.5	6,559.2	6,239.8	7,712.0	8,517.4	9,300.3	9,996.7	10,900.4
Transport and Communications	5,271.9	5,675.3	6,156.2	6,340.1	7,144.1	8,258.8	9,150.2	9,167.5	9,722.2
Financial and Business Services	8,842.2	10,815.4	11,884.7	13,728.2	16,853.7	20,843.2	21,603.7	24,230.8	27,563.0
Social, Community and Personal Services	1,256.2	1,440.4	1,633.6	1,741.0	2,011.5	2,283.9	2,550.0	2,785.7	2,956.3
Others	1,020.8	1,147.6	1,118.7	1,189.1	1,376.6	1,469.1	1,750.1	1,959.6	2,308.6

<sup>1</sup> Before deduction of imputed bank service charge

**TABLE A17 SHARE OF GROSS OPERATING SURPLUS<sup>1</sup> BY INDUSTRY, 1980-1988**

	1980	1981	1982	1983	1984	1985	1986	1987	1988
	<i>Per Cent</i>								
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Manufacturing	28.3	29.5	24.8	23.8	23.6	23.1	29.2	29.0	31.2
Construction	4.7	5.3	7.1	8.9	9.5	8.8	6.4	4.9	4.0
Commerce	24.4	20.6	19.8	16.2	13.7	11.9	11.7	13.6	15.0
Transport and Communications	14.4	14.5	14.6	14.4	14.0	14.7	14.8	15.5	15.9
Financial and Business Services	20.7	23.3	26.9	29.4	32.4	34.4	29.4	29.6	26.9
Social, Community and Personal Services	2.5	2.6	2.3	2.9	2.5	3.0	3.7	3.8	3.5
Others	5.1	4.1	4.4	4.4	4.2	4.0	4.9	3.7	3.6

<sup>1</sup> Before deduction of imputed bank service charge

**TABLE A18 SHARE OF GROSS OPERATING SURPLUS<sup>1</sup> BY INDUSTRY, 1989-1997**

	1989	1990	1991	1992	1993	1994	1995	1996	1997p
	<i>Per Cent</i>								
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Manufacturing	30.3	28.3	28.8	25.3	26.1	25.3	26.9	26.1	24.9
Construction	3.5	3.7	4.9	7.0	6.1	6.0	6.3	6.7	6.9
Commerce	16.0	17.2	15.9	14.4	14.9	14.1	14.0	13.9	13.9
Transport and Communications	16.2	15.1	14.9	14.7	13.8	13.7	13.8	12.8	12.4
Financial and Business Services	27.1	28.8	28.8	31.8	32.5	34.6	32.5	33.8	35.1
Social, Community and Personal Services	3.8	3.8	4.0	4.0	3.9	3.8	3.8	3.9	3.8
Others	3.1	3.1	2.7	2.8	2.7	2.4	2.6	2.7	2.9

<sup>1</sup> Before deduction of imputed bank service charge