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*Estimates of  
Gross Domestic Product  
1966 to 1977*



**ESTIMATES**  
**OF**  
**GROSS DOMESTIC PRODUCT**  
**1966-1977**

**CENSUS AND STATISTICS DEPARTMENT**  
**HONG KONG**  
**1979**

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## INTRODUCTION

This booklet contains the latest estimates of gross domestic product made by the Census and Statistics Department. It is the seventh in the series. Data series cover the period 1966–77. For estimates for the years 1961–65 readers may refer to the 1977 or earlier issues of this publication.

**2** Gross domestic product is an aggregate measure of the total value of output produced within the domestic boundary of a country or territory in a specified period, normally a calendar year, before provision for the consumption of fixed capital.

**3** Gross domestic product can be considered from three aspects, viz. the 'income' approach as the sum of incomes, comprising mainly wages and profits, the 'expenditure' approach as the sum of expenditure on consumption, gross domestic capital formation and net exports to the rest of the world, or the 'production' approach as the sum of net output of various resident industries of the country or territory.

**4** The estimates of gross domestic product presented here have been constructed using the expenditure approach as in the previous booklets, but some amendments have been made to the original figures to improve upon them as more up-to-date data have become available. Estimates are available for the gross domestic product valued at market prices and at factor cost. Gross domestic product at market prices is valued at actual or imputed transaction prices and is inclusive of customs and excise duties and other indirect taxes levied but exclusive of government grants and subsidies. Gross domestic product at factor cost is valued at the cost of various factors of production only. Hence the former differs from the latter by the amount of indirect taxes less subsidies. Estimates are available both at current prices and at constant prices of 1966.

**5** The compilation of estimates of gross domestic product is a complicated undertaking which depends on a very large number of sources of data of varying reliability. It is an essential part of the task to keep under review the overall reliability of the estimates themselves when new sources of data enable a reassessment of the reliability of the old sources, and to incorporate the new data as appropriate to improve on the quality of the estimates.

**6** At present, work is being done on the compilation of commodity flow tables for 1973 and certain subsequent years. A commodity flow table shows the sources of supply of all commodities and services and how they are disposed of. By checking and reconciling data which are assembled from divergent sources in one coherent framework, more reliable estimates of output may be generated. Such work has become possible with data now available from censuses of industrial production and wholesale and retail trades, as well as from ad hoc exercises carried out particularly for the purpose.

**7** Results obtained so far indicate that the existing estimates may be underestimates to some extent but research is still being undertaken into this. However, the currently published estimates are still considered to be of value as indicating the order of magnitude of year to year changes through the application of a consistent set of methodologies and assumptions.

**8** Estimates of gross domestic product for 1970–76 using the income approach are presented in Appendix 1. Due to serious limitations in the data available to-date, estimation from the income side is not considered very satisfactory as an independent estimate and caution is necessary in using the data.

**9** The expenditure-based series of estimates at constant prices provide real *output* measures for the economy. However, when real *income* measures are required, adjustment for changes in the terms of trade becomes necessary. Such estimates and some description of the method of adjustment are contained in Appendix 2.

## THE ESTIMATES, 1966-1977

10 Estimates appearing in the following paragraphs and in Tables 1 to 8 relate to the years 1966 to 1977. Since the gross domestic product estimates from 1973 onwards include figures for increase in stocks, and are consequently not strictly comparable with those for the preceding years, the analyses that follow are set out on the basis of two series of estimates, the old series covering the period 1966 to 1973 and the new series the period 1973 to 1977. The figures for 1977 are provisional in the sense that not all information on which the estimates for preceding years are based is yet available for 1977.

### The gross domestic product

11 Estimates of the total and the per capita expenditure on the gross domestic product at current and constant market prices for 1966 to 1977 together with annual rates of growth are given below:—

#### EXPENDITURE ON THE GROSS DOMESTIC PRODUCT

	<i>At Current Market Prices</i>				<i>At Constant Market Prices of 1966</i>			
	<i>Total GDP</i>		<i>Per Capita GDP</i>		<i>Total GDP</i>		<i>Per Capita GDP</i>	
	<i>Amount</i> HK\$Mn	<i>Annual</i> <i>Growth</i> %	<i>Amount</i> HK\$	<i>Annual</i> <i>Growth</i> %	<i>Amount</i> HK\$Mn	<i>Annual</i> <i>Growth</i> %	<i>Amount</i> HK\$	<i>Annual</i> <i>Growth</i> %
1966	11,091	5.5	3,055	4.5	11,091	6.2	3,055	5.3
1967	12,411	11.9	3,334	9.1	12,080	8.9	3,245	6.2
1968	13,356	7.6	3,512	5.3	12,620	4.5	3,319	2.3
1969	15,791	18.2	4,087	16.4	14,385	14.0	3,723	12.2
1970	18,670	18.2	4,716	15.4	15,211	5.7	3,842	3.2
1971	20,976	12.4	5,185	9.9	15,704	3.2	3,882	1.0
1972	24,156	15.2	5,869	13.2	16,838	7.2	4,091	5.4
1973	30,623	26.8	7,269	23.9	19,150	13.7	4,546	11.1
@								
1973	30,736	—	7,296	—	19,229	—	4,565	—
1974	35,252	14.7	8,161	11.9	19,657	2.2	4,551	-0.3
1975	37,268	5.7	8,478	3.9	20,230	2.9	4,602	1.1
1976	47,226	26.7	10,627	25.3	23,608	16.7	5,313	15.4
1977*	54,836	16.1	12,148	14.3	26,415	11.9	5,852	10.1

\* provisional figures  
@ see paragraph 10

12 Over the period 1966-77, total gross domestic product at current market prices increased at an average rate of 15.6 per cent per annum, or 8.2 per cent in real terms. Per capita gross domestic product at current market prices increased at an average rate of 13.3 per cent per annum, passing HK\$10,000 in 1976. Average real growth of per capita gross domestic product over the same period was 6.0 per cent per annum. It should be noted, however, that these average percentages conceal a wide variation in growth rates in individual years: high growth rates in the years 1969, 1973 and 1976 and low growth rates in the years 1971, 1974 and 1975.

13 The following indexes of gross domestic product provide indicators of growth over the past 12 years:—

#### INDEX OF GROSS DOMESTIC PRODUCT (1966=100)

	1966	1967	1968	1969	1970	1971	1972	1973	1974†	1975†	1976†	1977†*
<i>Total GDP</i>												
at current market prices	100.0	111.9	120.4	142.4	168.3	189.1	217.8	276.1	316.7	334.8	424.2	492.6
at constant market prices	100.0	108.9	113.8	129.7	137.1	141.6	151.8	172.7	176.5	181.7	212.0	237.2
<i>Price index numbers</i> ( $\frac{\text{current price total GDP}}{\text{constant price total GDP}}$ )	100.0	102.7	105.8	109.8	122.7	133.6	143.5	159.9	179.4	184.3	200.1	207.7
<i>Per capita GDP</i>												
at current market prices	100.0	109.1	115.0	133.8	154.4	169.7	192.1	237.9	266.1	276.5	346.6	396.2
at constant market prices	100.0	106.2	108.6	121.9	125.8	127.1	133.9	148.8	148.3	150.0	173.2	190.8

\* provisional figures  
† including increase in stocks

**14** These figures indicate that total gross domestic product at current market prices increased nearly five-fold between 1966 and 1977, and more than two-fold at constant market prices. Prices were relatively stable up to 1969, increasing at an average rate of 3.2 per cent per annum; rose rapidly in subsequent years, by about 10.3 per cent per annum for the period 1969-74; levelled off in 1975; rose rapidly again in 1976; and moderately in 1977.

**15** Tables 1 and 2 on page 26 show the total and per capita gross domestic product figures in relation to the main components, in both current and constant price terms. The price indexes in Table 3 on page 27 are the result of dividing the current market price estimates by the corresponding estimates at 1966 prices.

#### Private consumption expenditure

**16** The share of private consumption expenditure in total gross domestic product at current market prices showed a gradual decline over the period 1966-77 from 82.9 per cent in 1966 to just over 70% near the end of the period. At constant market prices, this share fluctuated between 78.2 per cent and 86.8 per cent over the period.

### PRIVATE CONSUMPTION EXPENDITURE

	<i>At Current Market Prices</i>			<i>At Constant Market Prices of 1966</i>		
	<i>Amount HK\$Mn</i>	<i>Annual growth %</i>	<i>Share in total GDP %</i>	<i>Amount HK\$Mn</i>	<i>Annual growth %</i>	<i>Share in total GDP %</i>
1966	9,189	13.1	82.9	9,189	11.4	82.9
1967	9,825	6.9	79.2	9,447	2.8	78.2
1968	10,852	10.5	81.3	10,257	8.6	81.3
1969	12,189	12.3	77.2	11,287	10.0	78.5
1970	13,942	14.4	74.7	12,289	8.9	80.8
1971	15,947	14.4	76.0	13,631	10.9	86.8
1972	17,308	8.5	71.7	14,204	4.2	84.4
1973	22,844	32.0	74.6	16,346	15.1	85.4
@						
1973	22,844	32.0	74.3	16,346	15.1	85.0
1974	26,520	16.1	75.2	16,475	0.8	83.8
1975	28,505	7.5	76.5	17,062	3.6	84.3
1976	33,144	16.3	70.2	19,219	12.6	81.4
1977*	40,483	22.1	73.8	22,214	15.6	84.1

\* provisional figures

@ see paragraph 10

**17** Table 4 on page 27 shows the composition of private consumption expenditure at current market prices.

#### Government consumption expenditure

**18** Over the period 1966 to 1977, government consumption expenditure represented between 6 and 7 per cent of the gross domestic product at both current and constant market prices; such expenditure increased at a rate of 15.6 per cent per annum at current market prices and 8.0 per cent per annum at constant market prices. The growth was, however, at an uneven rate and was mainly influenced by the volume of purchases of goods and other services.

## GOVERNMENT CONSUMPTION EXPENDITURE

	<i>At Current Market Prices</i>			<i>At Constant Market Prices of 1966</i>		
	<i>Amount HK\$Mn</i>	<i>Annual growth %</i>	<i>Share in total GDP %</i>	<i>Amount HK\$Mn</i>	<i>Annual growth %</i>	<i>Share in total GDP %</i>
1966	766	16.6	6.9	766	12.5	6.9
1967	848	10.7	6.8	845	10.3	7.0
1968	921	8.6	6.9	881	4.3	7.0
1969	1,017	10.4	6.4	968	9.9	6.7
1970	1,190	17.0	6.4	1,023	5.7	6.7
1971	1,269	6.6	6.0	1,028	0.5	6.5
1972	1,581	24.6	6.5	1,101	7.1	6.5
1973	1,952	23.5	6.4	1,254	13.9	6.5
@						
1973	1,952	23.5	6.4	1,254	13.9	6.5
1974	2,493	27.7	7.1	1,385	10.4	7.0
1975	2,711	8.7	7.3	1,451	4.8	7.2
1976	3,120	15.1	6.6	1,570	8.2	6.7
1977*	3,756	20.4	6.8	1,779	13.3	6.7

\* provisional figures

@ see paragraph 10

19 Table 5 on page 28 gives government consumption expenditure at current market prices.

### Gross domestic capital formation

20 The share of gross domestic fixed capital formation in total gross domestic product at constant market prices was fairly stable except for the years 1968-69 when it fell to about 17.5 per cent. At current market prices, this ratio also moved in a broadly similar manner. The growth rate of gross domestic fixed capital formation at both current and constant market prices fluctuated considerably from year to year, being heavily affected by the activities of the building and construction sector.

## GROSS DOMESTIC FIXED CAPITAL FORMATION

	<i>At Current Market Prices</i>			<i>At Constant Market Prices of 1966</i>		
	<i>Amount HK\$Mn</i>	<i>Annual growth %</i>	<i>Share in total GDP %</i>	<i>Amount HK\$Mn</i>	<i>Annual growth %</i>	<i>Share in total GDP %</i>
1966	2,534	-14.9	22.8	2,534	-8.4	22.8
1967	2,136	-15.7	17.2	2,291	-9.6	19.0
1968	1,996	-6.6	14.9	2,215	-3.3	17.6
1969	2,438	22.1	15.4	2,507	13.2	17.4
1970	3,565	46.2	19.1	2,893	15.4	19.0
1971	4,768	33.7	22.7	3,465	19.8	22.1
1972	5,339	12.0	22.1	3,653	5.4	21.7
1973	6,637	24.3	21.7	4,195	14.8	21.9
@						
1973	6,637	24.3	21.6	4,195	14.8	21.8
1974	7,683	15.8	21.8	4,175	-0.5	21.2
1975	7,798	1.5	20.9	4,062	-2.7	20.1
1976	9,556	22.5	20.2	4,711	16.0	20.0
1977*	12,765	33.6	23.3	5,891	25.0	22.3

\* provisional figures

@ see paragraph 10

21 Tables 6 and 7 on pages 28 & 29 show gross domestic fixed capital formation by product classification and for the public and private sectors at current market prices.

22 An attempt has been made to obtain and present information on increase in stocks. Data are not available for 1972 or earlier, which causes a discontinuity in the series, as mentioned in paragraph 10 above.

### INCREASE IN STOCKS

	<i>At Current Market Prices</i>	<i>At Constant Market Prices of 1966</i>
	HK\$Mn	HK\$Mn
1973	113	79
1974	352	145
1975	138	130
1976	674	336
1977*	148	64

\* provisional figures

23 There are special problems associated with this series, and readers who wish to use it are particularly advised to make reference to the methodological notes in para. 79-81 on page 16-17.

### Exports and imports of goods and services

24 Throughout the period, total imports of goods exceeded total exports of goods, whereas exports of services are estimated to have been higher than the corresponding imports. The visible and invisible trade gaps are tabulated below. The series on net exports of services is subject to serious limitations and interested readers may refer to the methodological notes in para. 121-124 on pages 23 & 24. Plans are in hand to launch a survey of imports and exports of services in 1979 to improve on estimates in this area.

	<i>At Current Market Prices</i>	
	<i>Net import of goods</i>	<i>Net exports of services</i>
	HK\$Mn	HK\$Mn
1966	2,459	1,061
1967	1,587	1,189
1968	1,794	1,381
1969	1,605	1,752
1970	2,230	2,203
1971	2,931	1,923
1972	2,167	2,095
1973	2,785	1,975
1974	3,521	1,725
1975	3,086	1,202
1976	1,232	1,964
1977*	3,256	940

\* provisional figures

25 Table 8 on pages 30 & 31 shows the composition of exports and imports of goods and services at current market prices.

## METHODS AND SOURCES

26 This section describes the sources and methods used in arriving at the estimates at both current and constant market prices.

### PRIVATE CONSUMPTION EXPENDITURE AT CURRENT MARKET PRICES

27 Private consumption expenditure at current market prices refers to the value of final expenditure by households and private non-profit-making institutions on goods and services at current market prices.

28 In general, the commodity flow method has been used where appropriate. Trade statistics of retained imports were backed up and complemented by data from the Household Expenditure Surveys, from the 1971 Census of Manufacturing Establishments, from sample surveys on sales of business establishments conducted by the Census and Statistics Department, from administrative statistics and many other sources including informed guesses.

29 A household expenditure survey is usually a good source of information since data derived from it can be analysed in detail by types of commodities and by types of households. In Hong Kong, information under this head derives from an exercise conducted in 1963/64 for the construction of a consumer price index which covered only those urban households spending (at that time) between HK\$100 and HK\$2,000 a month, a similar exercise on a smaller scale between 1965 and 1973. A new survey was conducted in 1973/74 covering those urban households spending (at the time) between HK\$400 to HK\$3,000 a month, and the results were fed into the estimates.

30 The use of the commodity flow method in this exercise was principally dictated by the fact that, because a large proportion of the commodities included in private consumption expenditure is imported, adequate and detailed trade statistics are available. Commodities produced domestically for local consumption are mainly foodstuffs whose annual output, both in value and in quantity terms, is regularly made known by the Agriculture and Fisheries Department and other government departments concerned. For other domestically-produced consumer goods, some benchmark estimates were derived for 1970 from the results of the Census of Manufacturing Establishments conducted in 1971. Figures for other years were based on these benchmark estimates projected backwards and forwards by changes in population, consumer prices and the relative importance of the commodity in consumers' expenditure.

31 Under the commodity flow method, consumers' expenditure on any particular commodity is taken to be the retail value of that part of retained imports and domestically-produced commodities which was for private consumption. Generally, imported and domestically-produced commodities have been recorded at importers' and wholesalers' values respectively, and the retail value has then been arrived at by adding transport expenses and distributors' profit margins. The value of retained imports was derived by deducting from imports estimated re-exports. The margin between retail prices and import prices of imported goods varied considerably and, in general, a flat 30 per cent of the retained import value was added to imported goods. Domestically-produced goods were generally marked up by 15 per cent, although in certain cases, arising from information derived from the Census of Manufacturing Establishments (where information was at manufacturer's prices), the mark-up was 30 per cent.

32 Consumer goods and services have been classified into twelve sections; each of these has in turn been subdivided into a number of groups, resulting in a total of 83 groups overall. The sources and methods for estimating consumers' expenditure on each group are described below.

#### Food

33 This section comprises all food and non-alcoholic beverages bought by persons. Food used by farmers and fishermen for their own consumption, estimated by the Agriculture and Fisheries Department, has been treated as a household purchase. That consumed in catering establishments has also been included, but valued at retail market prices, not at the prices paid by customers.

34 Bread and cereals: Rice, other cereals and cereal preparations, bread, cakes and biscuits. Rice is a basic food and supply depends almost entirely on imports. The estimate of expenditure on imported rice has been based on the value of retained imports. Estimates of expenditure on other cereals and cereal preparations, bread, cakes and biscuits were calculated from the value of imports, and local production was estimated from the Census of Manufacturing Establishments.

**35 Meat and poultry:** Pork, beef, other meat and poultry. The great majority of swine and cattle slaughtered for meat are imported. The value of pork and beef derived from local sources was obtained from the Annual Reports of the Agriculture and Fisheries Department, and the estimate of expenditure on imports from trade statistics. Expenditure on mutton, offal, bacon, ham, canned meat, sausages etc. (of which local production is negligible) was also estimated from retained imports values. Expenditure on locally-bred poultry was estimated by multiplying the number of birds produced by their average retail price; the yearly production of poultry is given in the Agriculture and Fisheries Department's Annual Reports.

**36 Fish and sea products:** Salt water, fresh water and other fish; fresh and preserved sea products. Approximately 95 per cent of the salt water fish consumed is caught by the local fishing fleet; on the other hand, local production of fresh water fish is unimportant in relation to imports. Estimates of expenditure on local production of fish, including other fish (mainly salted fish) and sea products, are based on the Agriculture and Fisheries Department's annual publication entitled 'Fish and Fishery Products'. Trade statistics were the source from which expenditure on imported fish and sea products was estimated.

**37 Milk and eggs:** Fresh, condensed and dried milk, fresh eggs in shell and preserved eggs. Estimates for local fresh milk were obtained from the Annual Reports of the Agriculture and Fisheries Department. Of the fresh eggs consumed, only a negligible proportion is locally-produced. Expenditure on local fresh eggs was derived from information obtained from the Agriculture and Fisheries Department. Figures on imports were derived from trade statistics.

**38 Oils and fats:** Peanut oil, lard, butter, margarine and other edible fats. Local oil manufacturing establishments supply a considerable proportion of the peanut oil consumed in Hong Kong. However, this is mainly processed from imported oil and information is not available as to the value added by the local establishments in the course of processing the imported oil. Expenditure on peanut oil has therefore been based on data from the Household Expenditure Surveys. The estimate of expenditure on butter, margarine and other edible fats was derived from trade statistics.

**39 Vegetables and fruit:** Fresh and preserved vegetables and fruit, beans and peas. Expenditure on locally-grown fresh vegetables (about half of total consumption) was estimated on the basis of the quantity figures supplied by the Agriculture and Fisheries Department. These quantity figures were valued at wholesale prices by applying the average annual price of local fresh vegetables sold through the Vegetable Marketing Organization, with the addition of a percentage retail mark-up. The value of retained imports of fresh vegetables was calculated in a similar manner. Estimated expenditure on local production of fresh fruit was also derived from the Agriculture and Fisheries Department's Annual Reports. Adjustments to both the vegetable and fruit estimates were made to allow for local production of preserved vegetables and fruit; these adjustments were determined in the light also of the results of the Census of Manufacturing Establishments. Expenditure on preserved vegetables and fruit, peas and beans was obtained from trade statistics and the Census of Manufacturing Establishments.

**40 Sugar and confectionery:** Sugar, syrup, glucose, sugar confectionery and other sugar preparations. Local production of both sugar and confectionery was estimated from the Census of Manufacturing Establishments. Imports were obtained from trade statistics. A percentage deduction was made for sugar for industrial use.

**41 Non-alcoholic beverages:** Table waters, tea, coffee, fruit juices, ice cream, malted milk mixture, meat extracts and other soft drinks. Table waters mainly consisting of aerated waters were dutiable commodities before 1973, and the value of locally-produced table waters was based on the duty-paid quantity figures supplied by the Trade Industry and Customs Department; from 1973 onwards, it has been based on the 1972 estimate and changes in population, retail price and relative importance in household expenditure. (A benchmark estimate of expenditure on a duty-free beverage manufactured locally was made for 1967 from information supplied by the establishment concerned and consumption figures for other years were projected, assuming that its consumption growth pattern and all other table waters was the same for all the years). The value of retained imports of these items was taken from trade statistics.

**42 Other foods:** Sauces, canned foods, infant foods and other manufactured foods. Local production was estimated from the Census of Manufacturing Establishments. Imports were derived from trade statistics.

#### **Alcoholic beverages**

**43** This covers beer and liquors. Alcoholic beverages are dutiable commodities, and expenditure on both locally-brewed and imported products is based on duty-paid quantity statistics supplied by the Trade Industry and Customs Department. The local production value for 1966-77 was taken to be the product of duty-paid quantities and their average retail prices.

## **Tobacco**

**44** Tobacco is also dutiable and duty-paid quantity data were consequently also available from the Trade Industry and Customs Department. Consumers' expenditure on both locally-manufactured and imported cigarettes, cigars and cut tobacco was estimated from duty-paid quantities, which were valued at retail prices by applying the average retail prices of one or more popular brands in each category.

## **Clothing and other personal effects**

**45** Clothing: All kinds of ready-made clothing other than footwear, clothing materials and tailoring charges. Local production estimated from the Census of Manufacturing Establishments and the value of imports constituted the basis of the estimated expenditure on ready-made clothing. Tailoring charges and the purchases of materials by consumers were substantial; expenditures under these heads were based on the Household Expenditure Surveys, in the absence of other sources of information.

**46** Footwear: The Census of Manufacturing Establishments and trade statistics were the sources from which consumers' expenditure on footwear was calculated.

**47** Other personal effects: Watches, cameras, optical goods, travel and sports goods, stationery, jewellery and other personal effects. Consumption of local production of these items is insignificant compared with imports. Consumers' expenditure was based on the Census of Manufacturing Establishments and trade statistics. Genuine jewellery exported from Hong Kong is made chiefly from imported materials, and re-exports and a percentage of exports of genuine jewellery were deducted from imports to arrive at a retained import value.

## **Rent, rates, water and housing maintenance charges**

**48** Rent and rates: Expenditure on rent and rates for 1966-70 was made up as follows:—

- (i) Rents of Hong Kong Island, Kowloon and New Kowloon residential buildings (other than resettlement estates) were estimated from the rateable values of these buildings obtained from the Rating and Valuation Department. Rateable value is defined as the annual letting value of a tenement and is estimated on the assumption that the tenant pays the rates while the landlord pays the Crown rent and other incidental expenses. The rateable value statistics compiled by the Rating and Valuation Department, however, include together both non-residential and residential buildings and this total value had to be broken down. This was achieved by applying the ratio of the cost of new non-government buildings of these two types completed during the last twenty years to the total Rating and Valuation Department rateable value figure. Expenditure on rates was based on government collection of rates which also includes non-residential buildings; this was broken down in the same manner as the rateable value.
- (ii) The rent and rates estimate of residential buildings (other than resettlement estates) in the New Territories (which is only partly rated) was taken to be 13 per cent of the estimated rent and rates of the residential buildings in Hong Kong Island, Kowloon and New Kowloon. This was derived from rental particulars collected during the 1971 Population and Housing Census.
- (iii) The rent and rates of resettlement estates were obtained from the Annual Reports of the Accountant General.

**49** For 1971 and subsequent years, expenditure on rent for residential buildings (including public housing estates and the New Territories) was estimated by projecting forward the 1970 figure by changes in the component rent index of the consumer price index. Residential buildings newly completed and demolished during the period under review were also taken into account, on the basis of their rateable values. Expenditure on rates was derived from government collection of rates as for previous years.

**50** Water: For 1966-70, consumers' expenditure was calculated on the basis of the quantities consumed multiplied by the rates charged. The consumption data were supplied by the Waterworks Office of the Public Works Department. As from 1971 consumers' expenditure was taken to be equal to the amount of water bills issued to domestic consumers by the Waterworks Office.

**51** Insurance and other housing charges: Insurance covers mainly insurance against fire. Available insurance statistics are very limited and the Household Expenditure Surveys were the only source from which an estimate could be made without a special survey. Other housing charges comprised scavenging fees, maintenance costs, multi-storey building maintenance subscriptions and watchmen's fees, *etc* and the estimate for these was also based on the Household Expenditure Surveys.

## **Fuel and light**

**52** This covers kerosene, liquefied petroleum gas, coal gas, electricity, firewood and other fuel (*eg* charcoal, candles, matches *etc*). There is no domestic production of kerosene nor of liquefied petroleum gas and consumers'

expenditure was based on the value of retained imports. The value of coal gas for domestic consumption was estimated from information contained in the Annual Reports of the Hong Kong and China Gas Co. Ltd. and by multiplying the quantity consumed by the estimated average rate of charge imputed from the relevant component index of the consumer price index. Production statistics of electricity analysed by user were not available until 1970 and so pre-1970 consumption was assumed to be of the 1970 pattern. Consumers' expenditure on electricity was taken to be the sum of products of the estimated quantities distributed to domestic users by each company and its average charging price, but where such average price was not available, it had to be derived in the same manner as for the estimate of consumption of coal gas. The estimate of expenditure on other fuel (with charcoal the major item) was derived from the Census of Manufacturing Establishments and trade statistics.

#### **Furniture, furnishing and household equipment**

**53** This covers furniture, soft furnishings, glass, crockery, earthenware, hardware, iron-mongery, cutlery, radio sets, television receivers, sewing machines and other consumer durables. The Census of Manufacturing Establishments and trade statistics were the sources from which consumers' expenditure on these items was obtained.

#### **Household operation**

**54** This covers domestic servants, cleaning services and non-durable goods. Information regarding the number of persons engaged in domestic service was limited and the 1971 Population and Housing Census did not provide an estimate. It was assumed that two thirds of the households with a monthly income of HK\$2,000 (at that time) and above would employ an average of one domestic servant. Expenditure on domestic servants was calculated by multiplying together the estimated number of domestic servants and their average wage. Expenditure on cleaning services was calculated by assuming that one quarter of such households would clean windows and polish floors once a month and the average monthly charges were obtained from the records of the Consumer Price Index Section. The household data by income brackets were taken from the 1966 and 1971 Population Censuses and data for other years were obtained by interpolation. Estimates of expenditure on the other non-durable household goods were made from the Household Expenditure Survey data.

#### **Personal care and health expenses**

**55** Personal care: Soaps, detergents and toilet requisites, laundry and dry cleaning, hairdressing and shoe repairing. Expenditure on soaps, detergents and toilet requisites was obtained by applying a fixed mark-up to the value of retained imports, and the estimate of local production was derived from the Census of Manufacturing Establishments. The shoe repairing, laundry and dry cleaning estimates were based on the Household Expenditure Surveys. An estimate of expenditure on hairdressing was made for 1970 from information supplied by a barbers' association. Expenditure for the other years, except for 1974-77, was based on the benchmark estimate projected backwards taking into account changes in the population and in the rates of charges. For 1974-77, the expenditure was based on the results of sample surveys of receipts of barbers shops conducted by the Census and Statistics Department.

**56** Health expenses: Medicines, drugs and medical treatment. The value of retained imports and an estimate of local production obtained from the Census of Manufacturing Establishments formed the basis for calculating expenditure on medicines. Medical treatment covers payments for consultations, expenditure in hospitals, X-ray clinics and medical laboratories, *etc.* Information of this kind is limited and the Household Expenditure Surveys formed the basis of the estimates of expenditure.

#### **Transportation and Communication**

**57** Purchases of motor cars, cycles, other vehicles and maintenance of motor vehicles: Expenditure on new motor cars, cycles, and other vehicles was based on retained import values: Allowances were made for motor vehicles not for private use and for personal exports of used motor vehicles. Maintenance expenditure on motor vehicles was derived by multiplying the number of registered private motor cars and motor cycles by an estimated annual maintenance cost.

**58** Petrol and oil: The duty-paid quantity statistics of motor spirit supplied by the Trade Industry and Customs Department and its average retail price obtained from the Consumer Price Index Section formed the basis of the estimate of expenditure on petrol and oils. Additions were made for consumption by private vehicles of diesel oil and lubricating oil.

**59** Motor licences and insurance: The types of motor licences required in Hong Kong are vehicles licence, driving licence, provisional driving licence and driving test form. Expenditure on vehicle licences was based on the estimated number of private motor cars and cycles and their respective average annual licence fees, while that on driving licences, provisional driving licences and driving test forms was based on the numbers of such licences or forms issued during the year and the respective prescribed fees. For vehicle insurance, expenditure on third

party insurance was taken to be the product of the estimated number of private vehicles and average insurance charges, with an arbitrary percentage deducted for claims received by the insured; comprehensive insurance is not compulsory for car owners in Hong Kong, and consumer expenditure was based on the assumption that only an estimated percentage of private vehicle owners would purchase comprehensive insurance. An adjustment for claims was also made as in the case of third party insurance.

**60** Parking and driving instructors' fees, railway, bus, tram and ferry fares: Collections of parking fees by the government formed the basis of the estimate of expenditure on parking. A mark-up was added to allow for expenditure on non-government owned car parks. The estimate of driving instructors' fees was obtained on the basis of the number of new driving licences issued and the estimated average annual driving instructors' fees for each person. Expenditure on railway, bus, tram and ferry fares was derived from passenger receipts statistics supplied by the Transport Department and the public transport companies.

**61** Other transportation: Expenditure on taxis was based on the number of taxis and the estimated average annual revenue of each taxi. The annual revenue estimates for 1968 and 1970 were obtained from the Transport Department and those for 1974-77 from the results of sample surveys on revenue of taxi companies conducted by the Census and Statistics Department, while figures for other years were estimated. The 14-seater vans were legalized in 1969 and were given the present name—public light buses. The estimate was derived by multiplying together the number of public light buses, the estimated number of passenger trips and the average charge per trip. Other items included in the group were the Peak Tram (based on the number of passenger trips), Lion Rock Tunnel (based on revenue collected by government), Cross-harbour Tunnel (based on revenue collected), Macau ferries and hydrofoils (based on the number of passenger trips) and Pak Pai (unregistered taxis) with a residual item 'other miscellaneous modes of transport' (based on the Household Expenditure Surveys).

**62** Communication: This includes postages, telephone and telegram charges. Consumers' expenditure on postage and telegrams was taken to be a percentage of the total revenue from sales of postage stamps. This percentage was determined by relating the expenditure on these items as recorded in the 1973-74 Household Expenditure Survey to the total revenue from sales of postage stamps in the same period. Expenditure on telephone services was estimated from information provided by the Hong Kong Telephone Company Ltd on the number of domestic exchange lines, rental and installation charges.

#### **Recreation and entertainment**

**63** Newspapers, periodicals, books, television licences and set rentals, hotel accommodation and other recreational expenses, cinema charges, betting and other recreational goods: The value of retained imports together with estimates of local production constituted the basis of expenditure on newspapers, periodicals and books. Local production of newspapers for 1970 was derived from the estimates of daily circulation of newspapers supplied by the Information Services Department. Expenditure for years before 1970 was based on the 1970 benchmark estimate projected backwards taking into account changes in retail prices and in population. Expenditure on periodicals from 1966 to 1970 was calculated from the 1970 benchmark figure derived from the Census of Manufacturing Establishments, also taking into account changes in retail prices and in population. Estimates for both newspapers and periodicals for 1971 and 1972 were obtained by interpolation of the estimates for 1970 and 1973 which, together with those for 1974-77, were worked out from results of sample surveys of newspaper publishers conducted by the Census and Statistics Department. Local production of books was drawn from the Census of Manufacturing Establishments. Expenditure on television licences (which were required up to 1972) and set rentals was calculated on the basis of the number of television licences issued by the Post Office and the number of television sets, programme and audio subscribers of Rediffusion with average rates of charge. For tax purposes the Inland Revenue Department keeps records of the number of hotel rooms by grades, their average charges and the occupancy rates. Expenditure on hotel accommodation for 1967-77 was, therefore, calculated from these data. Such records were not, however, kept for years before 1967 and estimate for 1966 was based on the number of tourists coming to Hong Kong provided by the Hong Kong Tourist Association and the average room charges imputed from the relevant component index of the consumer price index. 'Other recreational expenses' include all expenses incurred in holiday-making. Expenditure on this by local residents was mainly estimated from the Household Expenditure Surveys while that by tourists was from information supplied by the Hong Kong Tourist Association. Except for 1973-77, estimates of expenditure on cinemas were obtained from cinema tax data. However, cinema tax was abolished from 1 April 1973; the estimate for 1973 was based on a statistical return furnished by a local theatre and those for 1974-77 were based on the results of postal surveys of box-office receipts of cinemas and theatres conducted by the Census and Statistics Department. Estimates of expenditure on betting were based on information supplied by the Royal Hong Kong Jockey Club.

#### **Miscellaneous services**

**64** Education and research: Education fees and related expenditure, *eg* examination fees, private tuition fees, *etc.* Statistics of collection of school fees and other school extras were available from the Education Department.

This information was supplemented by results from the Household Expenditure Surveys. Information on fees collected by universities was available in the University and Polytechnic Grants Committee's Annual Reports.

**65** Financial and other services: Life insurance, service charges in restaurants, cafes, *etc*, brokers' commission in the purchases and sales of shares, stamp duties, and other services. Expenditure on the first item was drawn from the Household Expenditure Surveys with adjustment for claims received by the insured. Expenditure on service charges in restaurants, cafes, *etc* for 1974 onwards were estimated from the results of sample surveys on revenue of restaurants, cafes, *etc* conducted by the Census and Statistics Department. Estimates for 1966-73 were drawn from the Household Expenditure Surveys, adjusted by the percentage difference between the estimate based on the Household Expenditure Survey and that based on the surveys of restaurants in 1974. Brokers' commission on purchases and sales of share was estimated on the basis of total turnover, adjusted by an estimated participation rate of private individuals in the stock market. The expenditure on stamp duties represents an estimate of such duties paid by private individuals. Funeral expenditure and expenditure of private non-profit-making bodies were the most important items in 'other services'. The former was calculated by multiplying the number of registered deaths and the estimated expenditure in each case; the latter was estimated as the difference between their total current expenditure and their income from sales of goods and services produced, less expenditure accounted for elsewhere. The data were extracted from records and Annual Reports of Education Department, Registry of Trade Unions, University and Polytechnic Grants Committee, Medical and Health Department, Social Welfare Department and Treasury, as well as from the income and expenditure accounts statements supplied by these organizations in response to postal surveys conducted in 1974-78.

#### **Expenditure by non-residents in Hong Kong and of residents abroad**

**66** Expenditure by non-residents in the domestic market is quite substantial, amounting to more than 10 per cent of total private consumption expenditure. Expenditure by the following five categories of non-residents was included in the calculation: ordinary tourists; military personnel and servicemen on rest and recreation; UK troops stationed in Hong Kong; consuls and trade commissioners, including their dependents and non-local staff; and ships' crews calling at Hong Kong.

**67** Included in the expenditure of residents abroad was that of students studying abroad, tourist expenditure of residents and expenditure by residents on passenger fares. Methods and sources for estimating these expenditures are given under the heading of imports and exports of goods and services.

### **GOVERNMENT CONSUMPTION EXPENDITURE AT CURRENT MARKET PRICES**

**68** General government consumption expenditure, for the purpose of calculating gross domestic product, relates to current expenditure on goods and services by government departments which are not engaged in trading activities. This expenditure is shown in Table 5.

**69** Government trading departments are distinguished from other government departments in that they are engaged in the production of goods and services principally for sale to the public. The criteria for distinguishing the trading activities of the government from its other activities are: (i) that the activity consists of the production of goods and services of a kind which might be conducted by a private business, and (ii) that sales, either to the public or to other government departments, account for the major part of their activities.

**70** The departments or sections of departments taken as being engaged in trading activities are: Kowloon - Canton Railway; Post Office; Housing Department (formerly Resettlement Department and Housing Division of the Urban Services Department); and certain sections of the Public Works Department, namely Waterworks Office, Quarries Operation section and the section dealing with works executed on private account.

**71** By convention, government consumption expenditure is classified into the following categories:—  
(i) Compensation of employees, comprising wages and salaries, pensions and expenditure on housing and quarters for its staff.  
(ii) Purchase of goods and other services. This includes operating costs of government schools, hospitals, policing and social services; maintenance expenses of buildings and works; and expenditure on construction works, machinery, plant and equipment for military purpose. From this total it is necessary to deduct the value of sales of goods and services to households and enterprises by these non-trading departments.

**72** Government consumption expenditure data up to 1972 were obtained from the Annual Reports of the Accountant General which give the actual expenditure of each department for financial years ending 31 March. The data were put on to a calendar year basis by assuming that expenditure by all departments was evenly spread throughout the whole financial year. Since 1973, quarterly figures have been available from the Treasury.

## GROSS DOMESTIC CAPITAL FORMATION AT CURRENT MARKET PRICES

73 Gross domestic capital formation consists of expenditure on fixed capital formation and the net increase in the value of stocks and work-in-progress. Table 6 shows expenditure on gross domestic fixed capital formation analysed by product classification, while Table 7 gives an analysis by private and public sectors.

### Fixed capital formation

74 Gross domestic fixed capital formation is defined as the gross value of investment in land, buildings and construction, plant, machinery and equipment. For the reasons given in the case of private consumption expenditure, the commodity flow approach has been generally used. An account of the sources and methods for calculating each of the component items of fixed assets is given below.

75 Land. Expenditure on land is defined as the net expenditure incurred in connection with the transfer of ownership of land and of existing buildings and has been calculated as the sum of stamp duty collected by government, and legal fees charged, based on the number of instruments registered in a year and their average cost.

76 Building and construction. This category was sub-divided into residential buildings, non-residential buildings, and other construction and works. Private sector investment in new buildings and construction was based on the Building Ordinance Office's monthly statistical returns on the cost of construction of newly completed buildings and construction for which occupation permits were issued. Although statistics on the total cost of construction of building works reported to the Rating and Valuation Department are also available; the consolidated cost in this case refers to building projects for which occupation permits were issued at different times in the past, and does not cover all the New Territories. However, it was found that the cost appearing in the BOO returns is, on the average, lower than that reported to the Rating and Valuation Department which defines the cost of construction as the sum of (a) total cost of site formation including retaining walls and roadways, and (b) total cost of construction including all fixtures, decorations, services and architect's fees. As this latter definition is closer to the national income concept, the cost shown in the BOO returns was adjusted by a variable factor, obtained by comparing the cost of construction of an annual sample of newly completed buildings reported respectively to the Building Ordinance Office and the Rating and Valuation Department. Investment in private construction such as the Cross Harbour Tunnel, the Tsing Yi Bridge *etc* which were not covered in the monthly statistical returns of the Building Ordinance Office was included in the estimates as well from information supplied by those companies concerned. Investment in the construction of the Mass Transit Railway was included in the public sector and data was supplied by the MTR Corporation. Investment in this category in the government sector was obtained from an analysis of the accounts of government departments.

77 In the analysis of government expenditure, expenditure on major improvements to buildings and construction was distinguished from that on minor repairs or maintenance. The former was treated as part of investment in buildings and construction, whereas the latter was regarded as current expenditure.

78 Plant, machinery and equipment. Investment in plant, machinery and equipment was mainly based on the value of retained imports of capital goods. From the Hong Kong Imports and Exports Classification List those items were selected which it was thought should be classified as capital goods. The values of the retained imports of these items were then taken wholly or in part, and a flat 30 per cent was added to this value to allow for dealers' profits, transport and assembly charges, installation and other expenses. Although Hong Kong depends heavily on imports for the supply of capital goods, domestically manufactured capital goods had also to be taken into account but no direct information was available. An estimate of domestically manufactured plant, machinery and equipment locally purchased was calculated for 1970 from the results of the Census of Manufacturing Establishments. This benchmark estimate was projected backwards and forwards on the basis of the number of employees engaged in the related establishments to provide estimates for other years. The public sector investment in plant, machinery and equipment was based on the account data of government departments, while private investment was taken to be the overall value, both imported and domestically produced, less the public sector figure.

### Stocks and work-in-progress

79 The estimates refer to the change, over an accounting period, in the value of stocks of materials and supplies, work-in-progress (except in construction where it is already included in fixed capital formation) and finished goods held by industries, stocks of intermediate goods held by wholesalers and retailers, and stocks of hydro-carbon oils (whether for consumer or intermediate use) held by importers. By virtue of the methods adopted for the estimation of private consumption expenditure and gross domestic fixed capital formation, the change in stocks of consumer goods and capital goods held by wholesalers and retailers have been included implicitly in the estimates of consumption of those items and are not included here.

**80** An attempt has been made to obtain information relating to changes in stocks. A sample of manufacturing establishments was selected and their book value of stocks as at the beginning and end of specified accounting periods were obtained, whilst the necessary benchmarks were provided by the 1973 Census of Industrial Production. Information on quantities of hydrocarbon oils kept in stock by oil companies were obtained from Trade Industry and Customs Department. Pending the availability of information on the levels of wholesalers' and retailers' stocks from a prospective Census of Wholesalers and Retailers, changes in their stocks of intermediate goods were still omitted from the estimates. However, it was believed that the levels of stocks held might be quite low and, correspondingly, the fluctuations in the levels not very significant.

**81** Apart from the availability of data, there is a particular difficulty associated with the estimation of increase in stocks because, by national accounting convention, it involves dividing the increase in book value of stocks into two parts, namely that attributable to changes in the physical quantities of component items and that attributable to changes over the period in the prices at which stocks are valued. To maintain consistency with the concept of valuation of production adopted for all transactions recorded in the national accounts, the latter part, known as 'stock appreciation', should be treated as a purely financial adjustment and should not be included. To estimate the increase in stocks at current prices, then, involves revaluing the opening and closing stock book values at the average current prices for the period by means of price indexes, and then taking the difference between these two levels.

### **IMPORTS AND EXPORTS OF GOODS AND SERVICES AT CURRENT MARKET PRICES**

**82** This comprises the value of goods and non-factor services purchased from and sold to the rest of the world, including consumption expenditure by residents abroad and by non-residents in Hong Kong. The various estimates are shown in Table 8 and the sources and methods are given below.

#### **Exports of goods and services**

**83** Merchandise. This covers the recorded total values, on fob basis, of domestic exports and re-exports of goods, excluding gold.

**84** Transportation, nes. Included in this estimate are expenditure on fuel oils and payment of port and airport charges in Hong Kong by foreign airline and shipping companies; other port and airport revenue received by the Hong Kong authorities concerned; and expenditure of foreign crews in Hong Kong. Expenditure on fuel oils was derived from quantity statistics of petroleum products released from bond for ship and aircraft stores, which were obtained from the monthly returns of the oil companies. Port and airport charges and other port and airport revenue were based on accounts of government departments, while expenditure of foreign crews was estimated from the number of ocean-going vessels entering Hong Kong waters, the estimated size of crew carried by each vessel and the estimated expenditure by each crew member.

**85** Travel. Expenditure in Hong Kong by foreign tourists and military personnel of the United States (up to 1972) are the major constituents. Surveys conducted by the Hong Kong Tourist Association provided the main source of data.

**86** Other. This is composed of exports of other services of the government and other services not elsewhere stated. Included in the first item is expenditure by UK troops and their dependents stationed in Hong Kong and that of foreign consuls and trade commissioners, including their non-local staff and dependents. Estimates of both these were based on the number of such persons staying in Hong Kong, obtained respectively from the 1971 Population and Housing Census and the Immigration Department. Included in the second item is expenditure on postal services which was taken to be the amount recovered by the government from other countries in connection with the conveyance of mails and parcels.

#### **Imports of goods and services**

**87** Merchandise. This covers the recorded total values, on a cif basis, of imports of goods, including a percentage of retained import of gold which is considered as non-monetary. An adjustment was made for the water imported from China; this was not included in trade statistics from which the total values of imports were derived.

**88** Transportation, nes. Expenditure by residents on passenger fares is the only item included in the estimate. Based on the statistics of residents returning from overseas travel supplied by the Hong Kong Tourist Association, and the estimated passenger fare, an estimate of expenditure on passenger fares was made for 1970 and subsequent years. It was assumed 20 percent of this estimate was incurred for business purposes and so only 80 percent was included in private consumption expenditure under expenditure of residents abroad. Figures for the previous years were estimated on the assumption that the annual growth rate before 1970 was 5 percent and that for 1970 was 10 percent.

**89** Travel. Included in this estimate is the expenditure of Hong Kong students and tourists abroad. This was estimated on the basis of the number of students leaving Hong Kong for study in the UK, USA, Canada and Australia during the past three years and their estimated annual expenditure per person on the one hand, and the number of residents returning from Macau, China and other countries on the other. The number of residents returning from overseas travel other than Macau and China was available from the Hong Kong Tourist Association for 1970 and subsequent years. Figures for other years were estimated by assuming that the annual growth rate before 1970 was 5 percent and that for 1970 was 10 percent.

**90** Other. This is divided into other services of the government and other services not elsewhere stated. The first mainly comprises expenditure abroad of overseas offices and miscellaneous expenditure abroad of the government. An estimate of expenditure abroad of overseas offices was obtained from accounts of government departments. The annual defence contribution to the UK is classified as miscellaneous expenditure abroad of the government. Payments by the government for postal services rendered to Hong Kong by other countries are included in the second item. The amount of such payments was based on accounts of government.

### CONSTANT PRICE ESTIMATES (BASE YEAR 1966)

**91** Constant price estimates were prepared by deflating current values either by a price index, or by revaluing at base year prices. The method used in respect of specific items is indicated in the tabulation below:

#### DEFLATION OF ESTIMATES OF GROSS DOMESTIC PRODUCT

<i>Component Item</i>	<i>Method of Deflation</i>
<b>I Private consumption expenditure</b>	
<i>a</i> Commodity and service expenditure (other than expenditure of private non-profit-making bodies and tourist expenditure)	Deflated by consumer price indexes at group level or revalued at base year prices
<i>b</i> Expenditure of private non-profit-making bodies	Deflated by the salary rate index for government employees
<i>c</i> Expenditure abroad by residents	Revalued on the basis of estimated per capita expenditure by residents abroad in 1966
<i>d</i> Expenditure by non-residents in Hong Kong	Deflated by a tourist price index compiled by the Hong Kong Tourist Association
<b>II Government consumption expenditure</b>	
<i>a</i> Compensation of employees	Deflated by a specially constructed salary rate index for government employees based on the mid-point salary of each grade in the civil service
<i>b</i> Purchases of goods and services	Deflated by a specially constructed price index of government purchases of goods and services calculated from government purchase records
<i>c</i> Sales by government to households and enterprises	Deflated by a specially constructed index of sales by government to households and enterprises
<b>III Capital formation</b>	
<i>a</i> Land	Expenditure on legal fees was revalued at base year prices; that on stamp duty was deflated by a specially constructed index of duty charge rate
<i>b</i> Building and construction	Deflated by a cost index of buildings and construction prepared by the Architectural Office, Public Works Department
<i>c</i> Plant, machinery and equipment	Deflated by an index of unit values of imported capital goods
<i>d</i> Increase in stocks	Deflated by a specially constructed price index of stocks

**IV Exports of goods and services***a* Merchandise

## (i) domestic export

For 1967, deflated by an overall index of unit values of exports based on some research work carried out by Dr M E Morkre of the University of Hong Kong; after 1967, deflated by an overall index of unit values of exports compiled by the Census and Statistics Department

## (ii) re-export

For 1967, deflated by an overall index of unit values of imports based on some research work carried out by Dr M E Morkre of the University of Hong Kong; after 1967, deflated by an overall index of unit values of imports compiled by the Census and Statistics Department

*b* Transportation, nes

## (i) fuel oils

Revalued at base year prices

## (ii) port and airport charges

Deflated by indexes of the respective charge rates

## (iii) expenditure of foreign crews in Hong Kong

Revalued at base year prices

*c* Travel

## (i) Expenditure of foreign tourists in Hong Kong

Deflated by a tourist price index compiled by the Hong Kong Tourist Association

## (ii) Expenditure of US military personnel in Hong Kong

Deflated by a tourist price index compiled by the Hong Kong Tourist Association

*d* Other

## (i) Expenditure of foreign consuls and trade commissioners in Hong Kong including their personnel

Revalued at base year prices

## (ii) Expenditure by UK troops stationed in Hong Kong

Revalued at base year prices

## (iii) Communications-post

Deflated by an index based on selected delivery charge rates

**V Imports of goods and services***a* Merchandise

For 1967, deflated by an overall index of unit values of imports based on some research work carried out by Dr M E Morkre of the University of Hong Kong; after 1967, deflated by an overall index of unit values of imports compiled by the Census and Statistics Department

*b* Transportation, nes

Revalued at base year prices

*c* Travel

## (i) Expenditure of Hong Kong residents abroad

Revalued at base year prices

## (ii) Expenditure of Hong Kong students abroad

Revalued at base year prices

*d* Other

## (i) Expenditure abroad of overseas offices

Deflated by a combined consumer price index of selected countries

## (ii) Miscellaneous expenditure abroad of the Hong Kong Government

Deflated by the general consumer price index of Hong Kong

## (iii) Communication-post

Deflated by an index based on selected delivery charge rates

## LIMITATIONS OF THE ESTIMATES

### AT CURRENT MARKET PRICES

92 The present estimates are essentially based on available statistics. These are relatively limited in the economic field in Hong Kong and consequently many rough estimates and guesses have had to be made. A general assessment of the limitations and reliability of the estimates is given in this section.

93 The commodity flow approach was the main one employed in making estimates of private consumption expenditure and expenditure on capital formation. Such an approach ideally requires a system of comprehensive commodity statistics showing the flow of each commodity through the economy to final user, but such a system has not yet been finalized in Hong Kong. One drawback to the commodity flow method where changes in stocks of consumer goods or capital goods held by wholesalers/retailers are included implicitly in the estimates for private consumption expenditure and expenditure on fixed assets is that, should the stock changes be significant, the figures for the latter estimates could be misleading. Imports play an important role in the supply of many commodities in Hong Kong, but the value of retained imports (*ie* in the general trade circumstances of Hong Kong, imports less re-exports), of each commodity is an understatement of expenditure since the values of re-exports in addition to the import value also include importers' profit and other transport storage expenses. No adjustment has been made to the retained import figures because the extent of the under-estimation was not established.

94 In order to value the retained imports at market prices, a flat 30 per cent was added to allow for distributors' margins. Similarly a flat 30 per cent was added to estimates of the value of locally produced commodities derived from the Census of Manufacturing Establishments, while 15 per cent was added to the value of locally produced commodities estimated from other sources. A very small investigatory survey was conducted in 1974 on distributors' margins for selected imported goods; the results, although limited, did not suggest that the 30 per cent margin should be changed. More reliable estimates will become available from the Census of Wholesale and Retail Trade which is being conducted at the time of writing of this report.

95 The Census of Manufacturing Establishments held in 1971 was one of the principal sources from which local production of many groups of consumer and capital goods were estimated. The Census only provided an estimate for the year 1970 and other years' estimates were derived by projecting the 1970 estimates backwards and forwards by taking account of changes in population, consumer prices and the relative importance of the commodities in consumers' expenditure. The output of an industry would be more closely associated with the number and size of the establishments engaged in the industry and its degree of mechanization, but such information and information on the change over the years in the proportion of manufactured goods for export and for local consumption is not generally available at present. The 1973 and 1976 Industrial Production Censuses conducted by the Census and Statistics Department provide valuable information for a major revision in the estimates, as was mentioned in paragraph 6 above.

#### **Private consumption expenditure**

96 Broadly speaking, the estimates of expenditure on goods are more reliable than those on services. This is because almost all the goods estimates have their basis in reasonably firm figures-values of imports and local production; the local production statistics of food were mostly worked out by government departments concerned, while those of other consumer goods were obtained from the Census of Manufacturing Establishments. On the other hand, many of the service estimates were derived from data sources such as the Household Expenditure Surveys which were less reliable for this purpose.

97 The estimate for rent and rates is the largest single group estimate, amounting to about 10 per cent of total consumer's expenditure in the domestic market. To check on the present estimate, two alternative estimates were worked out, one from the results of the 1971 Population and Housing Census, and the other from taking household rent as an aggregate on the estimated rent of all types of dwellings, as shown below.

98 Household rent estimated from the Population and Housing Census. In the Census, rent was defined as the amount paid periodically for the accommodation occupied by a household and referred to the month of January 1971. In addition to the rent proper, any payments for rates, water, electricity and communal cleaning service were included.

99 The estimated annual household rent was worked out as shown in the table below.

<i>Household rent per month</i> HK\$	<i>Mid-rent</i> HK\$	<i>No. of</i> <i>households</i>	<i>Estimated monthly</i> <i>household rent</i> HK\$
Rent free	—	205,755	—
50	25.0	238,812	5,970,300
50-99	74.5	134,023	9,984,714
100-199	149.5	124,564	18,622,318
200-399	299.5	78,779	23,594,311
400-599	499.5	44,608	22,281,696
600-799	699.5	8,962	6,268,919
800-999	899.5	3,537	3,181,532
1,000 and over	1,500.0	7,630	11,445,000
<b>Total</b>		<b>846,670</b>	<b>101,348,790</b>

100 The estimated annual household rent is, therefore, HK\$1,215.6 million (HK\$101.3 million × 12).

101 In addition an estimate was made for imputed rents of owner occupied premises. This was worked out at HK\$317.7 million in 1970. Therefore, total household rent was HK\$1,215.6 million plus HK\$317.7 million *ie* HK\$1,533.3 million.

102 Household rent as an aggregate of the estimated rent of all types of dwellings. Rent receivable in respect of resettlement estates, resettlement cottage areas, government low-cost housing estates, Hong Kong Housing Society estates and Hong Kong Housing Authority estates was available. What remained unknown and required to be estimated was the rent for private dwellings and government quarters. Private dwellings were classified into post-war and pre-war in accordance with whether or not they were built after or before World War II. The household rent for private post-war dwellings was estimated from information collected in the 1970 Rental Survey conducted by the Rating and Valuation Department as follows:

<i>Type of dwelling</i>	<i>No. of</i> <i>dwellings</i>	<i>Average</i> <i>effective area</i> sq. ft.	<i>Average rent</i> <i>including</i> <i>rates as in</i> <i>Dec. 1970</i> HK\$/sq. ft.	<i>Yearly rent</i> <i>including</i> <i>rates, of each</i> <i>dwelling</i> HK\$	<i>Total yearly rent,</i> <i>including rates</i> HK\$
Tenement floor	172,000	341.5	0.93	3,811	655,492,000
Small flat	59,100	453	1.11	6,034	356,609,400
Medium flat	13,700	802	1.35	12,992	177,990,400
Large flat	7,600	1,251	1.54	23,118	175,696,800
House	600	1,251	1.54	23,118	13,870,800
Workers' quarter	4,600	—	—	720	3,312,000
<b>Total</b>	<b>257,600</b>				<b>1,382,971,400</b>

103 Houses and workers' quarters were not included in the Survey; the former were treated the same as large flats, while the rent of the latter was taken arbitrarily to be HK\$60 a month.

104 For private pre-war dwellings, the monthly rent of each type of dwelling, because of lack of information, was assumed to be one-third of the corresponding post-war type. The calculation of the total annual rent of private pre-war dwellings is set out below:

<i>Type of dwelling</i>	<i>No. of dwellings</i>	<i>Annual rent, including</i> <i>rates of each dwelling</i> HK\$	<i>Total annual rent,</i> <i>including rates</i> HK\$
Tenement floor	24,500	1,270	31,115,000
Small flat	950	2,011	1,910,450
Medium flat	1,500	4,331	6,496,500
Large flat	950	7,706	7,320,700
House	500	7,706	3,853,000
<b>Total</b>	<b>28,400</b>		<b>50,695,650</b>

105 There were 11,000 units of government quarters in 1970 whose rent was taken to be the same as that of post-war small flats. Thus the estimated total rent of this type of dwelling was HK\$66.4 million.

106 The estimated total rent and rates in 1970 in respect of each type of dwelling, therefore, was:

<i>Type of dwelling</i>	<i>Estimated annual rent and rates in 1970</i> HK\$ Mn
Private dwelling	
Post-war	1,383.0
Pre-war	50.7
Resettlement estates	63.3
Resettlement cottage area	0.3
Government low-cost housing estates	23.1
Hong Kong Housing Society estates	21.0
Hong Kong Housing Authority estates	38.8
Government quarters	66.4
<b>Total</b>	<b>1,646.6</b>

107 The comparative estimates of total rent and rates derived from the three different methods are tabulated below. It can be seen that the estimates were in the region of HK\$1,500–HK\$1,700 million.

#### RENT AND RATES (HK\$ Mn) 1970

<i>Based on the 1971 Population and Housing Census</i>	<i>Based on the rateable value</i>	<i>Based on the estimated rent and rates of all types of dwellings</i>
1,533	1,546	1,647

108 The rateable values from which estimates for 1966–70 were derived have not been revised on an annual basis to reflect the current trend of letting values of buildings. However, the revised method for estimating the 1971–77 expenditure (see paragraph 49) takes care of this. But rent for residential buildings newly completed or demolished in the New Territories, other than in Tsuen Wan, has not been accounted for due to lack of data.

#### Government consumption expenditure

109 The estimate of government consumption expenditure is straight-forward, being based on the actual expenditure of each non-trading department as recorded in accounts of government departments. The conversion of the financial year figures to a calendar year basis for the estimates of 1966–72 by treating the expenditure of all departments as evenly spread throughout the financial year may have led to some distortion. No rent for buildings owned and used by the government was imputed.

#### Gross domestic capital formation

110 The coverage of the fixed assets estimates was probably quite good but the methods of estimation used had their drawbacks.

111 Land. The land estimate comprised the net expenditure incurred in connection with the transfer of ownership of land and the existing buildings.

112 Building and construction. The source of information was the Building Ordinance Office's monthly statistical returns on the cost of construction of newly completed buildings and construction work for which occupation permits were issued, supplemented by information obtained from the Rating and Valuation Department. The device used to obtain the value of investment in building and construction in the private sector in a specific period was to assign to each usable floor area group of buildings and construction an average period of time which was assumed to be required from the beginning to the completion of the work, as follows:—

<i>Usable floor area</i>	<i>Time required to complete</i>
Building under 30,000 sq. ft.	9 months
Building of 30,000 sq. ft. and over	15 months

The average time required to complete a building or construction was derived from an examination of buildings completed in the period 1970–73.

**113** The above method of averaging the investment on a monthly basis is far from perfect. Margins in respect of property developers' profits and miscellaneous expenses which should be added on to the cost to the contractor, which is the basis of the estimates, have not been taken into account.

**114** Squatter huts, village-type houses and similar own-account structures which should also be regarded as capital formation were not included, but to the extent that they are gradually giving way to for example public housing, new investment in these types of dwelling is presumably unimportant.

**115** Plant, machinery and equipment. Capital investment in imported plant, machinery and equipment was derived from reliable sources, but difficulty was experienced in estimating the capital formation in durable consumer goods, viz. motor cars, air-conditioners, refrigerators, *etc.*, which when purchased for private use are treated as consumer goods, but when purchased for commercial or other uses are treated as capital goods; an estimated percentage of durable consumer goods was taken as capital goods.

**116** Estimates of locally produced and locally purchased capital goods were not so reliable and it was thought that they may be under-estimated.

**117** It is possible that international transactions in ships contribute substantially to the wealth of Hong Kong but transactions abroad by residents are not known and, therefore, not taken into account.

**118** To estimate the increase in stocks with the adjustment for stock appreciation appropriately made, comprehensive information is needed on the stock valuation practices adopted in commercial accounting. Such information not being available, an assumption has to be made that the book values of stocks, when quoted, are based on cost or current realizable value, whichever is lower. And, in determining cost, the 'first in, first out' convention is assumed, *ie* items are charged to production or sale in the order in which they are acquired or produced so that the prices applicable to stocks at any one time are those of the most recent acquisitions. Although this practice is recognized as common, other practices might have been adopted. Nevertheless, errors arising from this assumption may not be too serious because alternative practices are likely to yield similar results, especially when the level of stocks at any time are equivalent to only one or two months' purchase/production.

**119** In revaluing book values of opening and closing stocks at average current prices for the period, one series of price indices of stocks at average current prices of the period, and another at 'end-of-period prices' (based on the lower of cost or realizable value) were compiled. Since there was no detailed information on the composition of stocks, a broad approximation had to be introduced. The price index of stocks was taken as the average of imported raw material unit value index (representing stocks of raw materials and supplies) and domestic export unit value index (representing stocks of finished goods) weighted by the level of stocks of the two respective categories as reported in the 1973 Census of Industrial Production. Work-in-progress lay in between raw materials and finished goods, and hence it was assumed that the weighted average index was able to represent its price movement.

**120** From the description above, it can be seen that the difficulties of making accurate estimates are great and significant assumptions and approximations have to be made at various stages in the estimation. The estimates therefore should be regarded as subject to a wider margin of error than other expenditure categories. Such difficulties are also encountered by most countries in the compilation of their estimates of this item.

#### **Imports and exports of goods and services**

**121** Estimates of imports and exports of services are the weakest of all the estimates and those for 'transportation, *nes*', 'travel' and 'other' are in particular seriously incomplete.

**122** Expenditure by foreign tourists and by US military personnel in Hong Kong (up to 1972) were the most important in the estimates of imports and exports of services. The Hong Kong Tourist Association carries out a half-yearly sample survey to obtain, among other things, an estimate of total expenditure and of some of the items of expenditure by tourists. There may well be some under-estimation.

**123** In the 1966 tourist study, a much larger sample was covered and special arrangements were made to interview US military personnel. In the half-yearly follow up surveys this was not possible and only a few US military personnel were interviewed in 1968, 1969 and 1970.

**124** Systems have not been developed in Hong Kong to record the great volume of business transacted by residents with the rest of the world. For this reason, a number of import and export items find no place in these estimates. Almost all the missing items would be included under non-factor services and it is generally felt that

exports of non-factor services, in the case of Hong Kong, always exceed imports. In order to make the estimates more complete, therefore, an arbitrary adjustment of 5 per cent of the calculated total exports of goods and services has been added to the calculated estimate of net exports of goods and services to account for the missing items. A list of the items for which no data was available and no sensible estimate could be made is given below:—

### ITEMS NOT INCLUDED IN THE IMPORTS AND EXPORTS OF GOODS AND SERVICES ESTIMATES

#### *Import*

##### **Transportation**

- 1 Time charter of ships and aircrafts
- 2 Expenditure abroad of domestic ships and aircraft
  - (a) Stores
  - (b) Fuel oil
  - (c) Port and airport charges
  - (d) Repairs, maintenance and servicing
- 3 Expenditure abroad of resident ship and aircraft crews
- 4 Other revenue of foreign airline and shipping companies

##### **Other**

###### **A Government**

- 1 Collections in HK by foreign consulates and trade commissions

###### **B Other services**

- 1 Non-merchandise insurance
  - (a) Premiums paid by residents to local offices or agents of foreign insurance companies
  - (b) Claims paid to foreign by domestic insurance companies
- 2 Miscellaneous companies expenditure
  - (a) Administrative expenditure abroad of domestic airline and shipping companies
  - (b) Administrative expenditure abroad of domestic insurance companies
  - (c) Administrative expenditure abroad of other domestic companies
  - (d) Miscellaneous expenditure abroad of resident companies
- 3 Film rental
- 4 Communications
  - (a) Telephone
  - (b) Telegraph and radio
- 5 Banking commission
- 6 Agency fees

#### *Export*

##### **Freight and insurance**

- 1 Freight and insurance on exports and imports

##### **Transportation**

- 1 Passenger fares
- 2 Time charter of ships and aircrafts
- 3 Expenditure in HK of foreign airline and shipping companies
  - (a) Stores
  - (b) Repairs, maintenance and servicing
- 4 Other international revenue of domestic airline and shipping companies

##### **Travel**

- 1 Expenditure of foreign students in HK

##### **Other**

###### **A Government**

- 1 Receipts of overseas offices

###### **B Other services**

- 1 Non-merchandise insurance
  - (a) Premiums collected by domestic insurance companies
  - (b) Claims paid to residents by local offices or agents of foreign insurance companies
- 2 Miscellaneous companies expenditure
  - (a) Local administrative expenditure of foreign shipping and airline companies
  - (b) Local administrative expenditure of foreign insurance companies
  - (c) Local administrative expenditure of other foreign companies
  - (d) Miscellaneous receipts from abroad by resident companies
- 3 Film rentals
- 4 Communications
  - (a) Telephone
  - (b) Telegraph and radio
- 5 Banking commission
- 6 Agency fees

## AT CONSTANT MARKET PRICES

**125** The accuracy of constant price estimates depends on the quality of the current price estimates and on that of the methods of deflation used. The paragraphs following point out the limitations and evaluate the general reliability of the methods of deflation used.

**126** In general a constant price estimate is most reliable if it is possible to revalue the quantity data at base year prices. Where this is not possible, a price index is normally used as a deflator. Where an aggregate has to be deflated, it is preferable to deflate the components separately by the corresponding price indexes rather than deflate the aggregate with an overall index. A drawback to unit price indexes is that it is difficult to allow for quality changes. Where no suitable index exists, it is necessary either to construct one or to use one already in existence that has some bearing on the data to be deflated or to impute on the basis of some correlative series. On the whole, many of the deflators used in the present set of estimates are far from ideal mainly because they were not originally designed for the purpose to which they have been put.

**127** Government consumption expenditure. All the deflators used were compiled specifically from government records related directly to the purposes to which they have been put. Consequently, the constant price estimates for these items are on the whole fairly reliable.

**128** Capital formation. With the exception of land, the deflators used were designed originally for other purposes. Expenditure on buildings and construction has been deflated by a cost index taking into consideration labour and material inputs only; also it is likely that the input composition of different types of building and construction would vary, so that ideally, more than one deflator would be required. The aggregate estimates of plant, machinery and equipment, whether imported or locally produced, have been deflated by a unit value index of imported capital goods covering the entire range of imported capital goods.

**129** Increase in stocks. As the detailed composition of stocks were unknown, the deflator was constructed based on unit value indexes of imports of raw material (representing raw materials and supplies) and domestic exports (representing finished goods on hand for sale). The deflator was therefore in error to the extent of the incorrectness in the weights adopted and the extent of how changes in the component indexes were different from the price movement of the actual or imputed stocks transactions. Hence there is likely to be a further addition to the wide margin of error which the current price estimates of stocks are subject to.

**130** Exports and imports of goods and services. The merchandise components have been deflated by indexes of unit values. Exports and imports of services were mostly re-valued at base year prices.

**TABLE 1—TOTAL EXPENDITURE ON THE GROSS DOMESTIC PRODUCT  
(AT CURRENT MARKET PRICES)**

<i>GDP components</i>	HK\$Mn.													
	1966	1967	1968	1969	1970	1971	1972	1973	@ ‡	1973	1974	1975	1976	1977*
1. Private consumption expenditure	9,189	9,825	10,852	12,189	13,942	15,947	17,308	22,844	‡	22,844	26,520	28,505	33,144	40,483
2. Government consumption expenditure	766	848	921	1,017	1,190	1,269	1,581	1,952	‡	1,952	2,493	2,711	3,120	3,756
3. Gross domestic fixed capital formation	2,534	2,136	1,996	2,438	3,565	4,768	5,339	6,637	‡	6,637	7,683	7,798	9,556	12,765
4. Increase in stocks	..	..	..	..	..	..	..	..	‡	+113	+352	+138	+674	+148
5. Exports of goods	7,652	8,882	10,704	13,331	15,405	17,356	19,621	26,264	‡	26,264	30,621	30,446	42,288	45,540
6. <i>Less</i> imports of goods	10,111	10,469	12,498	14,936	17,635	20,287	21,788	29,049	‡	29,049	34,142	33,532	43,520	48,796
7. Exports less imports of services	1,061	1,189	1,381	1,752	2,203	1,923	2,095	1,975	‡	1,975	1,725	1,202	1,964	940
Total expenditure on gross domestic product at current market prices	11,091	12,411	13,356	15,791	18,670	20,976	24,156	30,623	‡	30,736	35,252	37,268	47,226	54,836
8. <i>Less</i> indirect taxes less subsidies	776	822	878	979	1,092	1,260	1,587	2,114	‡	2,114	1,749	2,096	2,655	3,164
Total expenditure on gross domestic product at current factor cost	10,315	11,589	12,478	14,812	17,578	19,716	22,569	28,509	‡	28,622	33,503	35,172	44,571	51,672
9. Per capita GDP at current market prices (\$)	3,055	3,334	3,512	4,087	4,716	5,185	5,869	7,269	‡	7,296	8,161	8,478	10,627	12,148

\* provisional figures

.. not available or not included

@ see paragraph 10 of text

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**TABLE 2—TOTAL EXPENDITURE ON THE GROSS DOMESTIC PRODUCT  
(AT CONSTANT MARKET PRICES OF 1966)**

<i>GDP components</i>	HK\$Mn.													
	1966	1967	1968	1969	1970	1971	1972	1973	@ ‡	1973	1974	1975	1976	1977*
1. Private consumption expenditure	9,189	9,447	10,257	11,287	12,289	13,631	14,204	16,346	‡	16,346	16,475	17,062	19,219	22,214
2. Government consumption expenditure	766	845	881	968	1,023	1,028	1,101	1,254	‡	1,254	1,385	1,451	1,570	1,779
3. Gross domestic fixed capital formation	2,534	2,291	2,215	2,507	2,893	3,465	3,653	4,195	‡	4,195	4,175	4,062	4,711	5,891
4. Increase in stocks	..	..	..	..	..	..	..	..	‡	+79	+145	+130	+336	+64
5. Exports of goods	7,652	8,718	10,026	11,700	12,672	13,581	14,559	16,335	‡	16,335	14,799	15,665	20,050	21,127
6. <i>Less</i> imports of goods	10,111	10,366	11,994	13,530	15,389	17,385	18,038	19,816	‡	19,816	17,830	18,540	23,094	24,929
7. Exports less imports of services	1,061	1,145	1,235	1,453	1,723	1,384	1,359	836	‡	836	508	400	816	269
Total expenditure on gross domestic product at constant market prices	11,091	12,080	12,620	14,385	15,211	15,704	16,838	19,150	‡	19,229	19,657	20,230	23,608	26,415
8. Per capita GDP at constant market prices (\$)	3,055	3,245	3,319	3,723	3,842	3,882	4,091	4,546	‡	4,565	4,551	4,602	5,313	5,852

\* provisional figures

.. not available or not included

@ see paragraph 10 of text

TABLE 3—PRICE INDEX NUMBERS† OF GROSS DOMESTIC PRODUCT (1966=100)

<i>GDP components</i>	1966	1967	1968	1969	1970	1971	1972	1973 @‡	1973	1974	1975	1976	1977*
1. Private consumption expenditure	100	104	106	108	113	117	122	140 ‡	140	161	167	172	182
2. Government consumption expenditure	100	100	105	105	116	123	144	156 ‡	156	180	187	199	211
3. Gross domestic fixed capital formation	100	93	90	97	123	138	146	158 ‡	158	184	192	203	217
4. Increase in stocks	..	..	..	..	..	..	..	.. ‡	..	..	..	..	..
5. Exports of goods and services	100	102	107	114	122	128	135	161 ‡	161	205	194	209	215
6. Imports of goods and services	100	101	104	110	114	117	121	145 ‡	145	188	180	188	196
<b>Total expenditure on gross domestic product at market prices</b>	<b>100</b>	<b>103</b>	<b>106</b>	<b>110</b>	<b>123</b>	<b>134</b>	<b>143</b>	<b>160 ‡</b>	<b>160</b>	<b>179</b>	<b>184</b>	<b>200</b>	<b>208</b>

\* provisional figures

† arrived at by dividing the current market price estimates by the corresponding estimates at 1966 prices

.. not meaningful

@ see paragraph 10 of text

TABLE 4—COMPOSITION OF PRIVATE CONSUMPTION EXPENDITURE  
(AT CURRENT MARKET PRICES)

<i>Description</i>	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977*
	HK\$m.											
1. Food	3,105	3,467	3,587	4,030	4,621	5,113	5,653	7,308	8,915	8,696	9,482	10,419
2. Beverages	255	267	278	339	395	485	551	639	608	659	768	840
3. Tobacco	263	303	290	303	337	340	372	375	446	523	582	621
4. Clothing and other personal effects	1,258	1,317	1,613	1,933	2,244	2,526	2,308	2,754	2,710	2,443	3,163	4,472
5. Rent and water charges	1,277	1,399	1,532	1,607	1,707	1,808	1,967	2,385	2,995	3,505	3,900	4,396
6. Fuel and light	191	213	228	250	265	333	352	414	628	711	750	887
7. Furniture, furnishings and household equipment	647	594	794	897	1,126	1,177	1,175	1,556	1,732	1,700	2,312	2,819
8. Household operation	127	135	165	215	245	292	343	496	578	591	712	870
9. Personal care and health expenses:												
A. Personal care	201	207	233	268	292	327	374	452	563	572	643	735
B. Health expenses	470	511	491	505	632	723	749	1,092	1,192	1,655	2,056	3,096
10. Transport and communication	713	743	843	1,015	1,219	1,362	1,462	1,807	1,861	2,072	2,558	2,918
11. Recreation and entertainment	648	665	736	852	993	1,043	1,113	1,306	1,413	1,592	2,032	2,543
12. Miscellaneous services:												
A. Education and research	201	216	231	250	285	291	326	400	444	513	569	608
B. Financial and other services	570	608	765	891	1,083	1,263	1,786	2,685	2,876	3,297	3,957	4,703
<b>Consumption expenditure of goods and services in the domestic market</b>	<b>9,926</b>	<b>10,645</b>	<b>11,786</b>	<b>13,355</b>	<b>15,444</b>	<b>17,083</b>	<b>18,531</b>	<b>23,669</b>	<b>26,961</b>	<b>28,529</b>	<b>33,484</b>	<b>39,927</b>
13. Expenditure of residents abroad	532	534	587	650	752	909	1,236	1,684	2,290	2,852	3,436	4,514
14. <i>Less</i> expenditure of non-residents in the domestic market	1,269	1,354	1,521	1,816	2,254	2,045	2,459	2,509	2,731	2,876	3,776	3,958
<b>Consumption expenditure of households and private non-profit institutions</b>	<b>9,189</b>	<b>9,825</b>	<b>10,852</b>	<b>12,189</b>	<b>13,942</b>	<b>15,947</b>	<b>17,308</b>	<b>22,844</b>	<b>26,520</b>	<b>28,505</b>	<b>33,144</b>	<b>40,483</b>

\* provisional figures



**TABLE 7—GROSS DOMESTIC FIXED CAPITAL FORMATION BY PUBLIC AND PRIVATE SECTORS  
(AT CURRENT MARKET PRICES)**

Product classification	Economic sector	HK\$Mn.											
		1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977*
<b>I. Land</b>	Public	—	—	—	—	—	—	—	—	—	—	—	—
	Private	52	42	44	52	77	99	161	216	145	186	279	372
<b>II. Building and construction</b>	Public	479	383	325	298	346	528	627	964	1,492	1,515	1,815	2,815
	Private	966	648	479	529	965	1,395	1,638	1,891	2,242	2,164	2,548	3,489
A. Residential (i) Residential	Public	125	120	101	91	104	112	90	117	313	294	250	405
	Private	156	58	60	79	169	305	313	420	586	497	493	678
(ii) Combined residential and non-residential	Public	—	—	—	—	—	—	—	—	—	—	—	—
	Private	445	295	188	184	256	425	703	817	839	676	807	943
B. Non-residential	Public	66	54	55	61	62	108	101	96	124	70	96	110
	Private	361	289	228	223	416	531	523	632	800	967	1,202	1,807
C. Other construction and works	Public	288	209	169	146	180	308	436	751	1,055	1,151†	1,469†	2,300†
	Private	4	6	3	43	124	134	99	22	17	24	46	61
<b>III. Plant, machinery and equipment</b>	Public	40	30	28	27	37	41	59	93	122	88	80	108
	Private	997	1,033	1,120	1,532	2,140	2,705	2,854	3,473	3,682	3,845	4,834	5,981
A. Transport equipment	Public	9	6	6	7	9	12	19	16	33	20	16	30
	Private	231	225	253	298	434	494	511	621	561	878	771	1,296
B. Machinery and other plant and equipment	Public	31	24	22	20	28	29	40	77	89	68	64	78
	Private	766	808	867	1,234	1,706	2,211	2,343	2,852	3,121	2,967	4,063	4,685
<b>Gross domestic fixed capital formation</b>	Public	519	413	353	325	383	569	686	1,057	1,614	1,603	1,895	2,923
	Private	2,015	1,723	1,643	2,113	3,182	4,199	4,653	5,580	6,069	6,195	7,661	9,842
	Total	2,534	2,136	1,996	2,438	3,565	4,768	5,339	6,637	7,683	7,798	9,556	12,765

\* provisional figures

† including Mass Transit Railway

**TABLE 8—COMPOSITION OF IMPORTS AND EXPORTS OF GOODS AND SERVICES  
(AT CURRENT MARKET PRICES)**

	HK\$Mn.											
	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977*
<b>EXPORTS OF GOODS AND SERVICES</b>												
<b>I. Merchandise (fob)</b>	7,563	8,781	10,570	13,197	15,238	17,164	19,400	25,999	30,036	29,833	41,557	44,833
<b>II. Transportation nes</b>												
<i>Expenditure in HK of foreign airline and shipping companies</i>												
1. fuel oils	89	101	134	134	167	192	221	265	585	613	731	707
2. port and airport charges	18	22	27	32	41	53	57	64	73	85	104	107
Other port and airport revenue	7	8	9	13	21	23	24	33	43	55	57	60
Expenditure of foreign crews in HK	19	21	22	24	29	33	36	45	51	53	57	64
Sub-total	133	152	192	203	258	301	338	407	752	806	949	938
<b>III. Travel</b>												
Expenditure of foreign tourists in HK	702	787	1,001	1,354	1,820	1,650	2,106	2,203	2,387	2,575	3,463	3,640
Expenditure of service visitors in HK	451	443	393	329	288	242	189	112	120	72	76	64
Sub-total	1,153	1,230	1,394	1,683	2,108	1,892	2,295	2,315	2,507	2,647	3,539	3,704
<b>IV. Other</b>												
<i>Government nes</i>												
1. expenditure of foreign consuls and trade commissioners in HK, including their personnel	7	7	7	7	8	8	9	10	12	12	12	12
2. expenditure by UK troops stationed in HK	90	96	98	102	109	112	119	141	161	164	168	178
<i>Other services</i>												
1. Communications—post	5	5	4	6	6	6	4	7	6	10	8	7
Sub-total	102	108	109	115	123	126	132	158	179	186	188	197
<b>Total exports of goods and services</b>	8,951	10,271	12,265	15,198	17,727	19,483	22,165	28,879	33,474	33,472	46,233	49,672

TABLE 8—continued

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	HK\$Mn.	
											1976	1977*
<b>IMPORTS OF GOODS AND SERVICES</b>												
<b>I. Merchandise (cif)</b>	10,111	10,469	12,498	14,936	17,635	20,287	21,788	29,049	34,142	33,532	43,520	48,796
<b>II. Transportation nes</b>												
Passenger fares	250	263	276	290	319	383	529	706	934	1,206	1,438	1,862
<b>III. Travel</b>												
Expenditure of HK residents abroad	327	300	335	377	453	564	794	1,123	1,565	1,886	2,310	3,155
Expenditure of HK students abroad	48	60	73	91	106	118	130	156	206	271	310	334
Sub-total	375	360	408	468	559	682	924	1,279	1,771	2,157	2,620	3,489
<b>IV. Other</b>												
<i>Government nes</i>												
1. expenditure abroad of overseas offices	1	1	1	1	2	3	4	6	6	8	8	10
2. miscellaneous expenditure abroad of the HK Government	24	51	58	57	57	40	34	30	28	26	138	221
<i>Other services</i>												
1. Communications—post	36	39	50	59	68	70	66	63	63	101	89	94
Sub-total	61	91	109	117	127	113	104	99	97	135	235	325
<b>Total imports of goods and services</b>	10,797	11,183	13,291	15,811	18,640	21,465	23,345	31,133	36,944	37,030	47,813	54,472
<b>EXPORTS LESS IMPORTS OF GOODS AND SERVICES</b>	-1,846	-912	-1,026	-613	-913	-1,982	-1,180	-2,254	-3,470	-3,558	-1,580	-4,800
<i>add 5% of the calculated total exports of goods and services to account for those items not included in the above estimates</i>	448	514	613	760	886	974	1,108	1,444	1,674	1,674	2,312	2,484
<b>(ADJUSTED) EXPORTS LESS IMPORTS OF GOODS AND SERVICES</b>	-1,398	-398	-413	+147	-27	-1,008	-72	-810	-1,796	-1,884	+732	-2,316

\* provisional figures

## APPENDIX 1

### ESTIMATES OF GROSS DOMESTIC PRODUCT FOR

1970 TO 1976

### MADE USING THE INCOME APPROACH

#### Introduction

Alternative estimates to GDP may be made using the income approach. Sources of data for this approach include tax statistics, population censuses, and employment and earnings surveys. However, due to serious data limitations, estimates made from the income side are considered to be less satisfactory than the expenditure-based estimates.

2 Nevertheless, income-based estimates have been prepared and presented in order to provide some broad idea of the distribution of the GDP between compensation of employees and operating surplus, and between various industries.

#### The estimates

3 Table 1 below shows the updated income-based and expenditure-based estimates for the years 1970 to 1976. It should be noted that income accruing to partners and proprietors of unincorporated firms are included under operating surplus in the income-based estimates, whilst income accruing to the other self-employed are included under compensation of employees.

**TABLE 1 GROSS DOMESTIC PRODUCT AND EXPENDITURE: 1970-1976  
(AT CURRENT PRICES)**

	1970	1971	1972	1973	1974	1975	1976
	(HK\$ Mn)						
Compensation of employees	10,340	12,249	14,060	16,767	18,544	21,017	23,238
Operating surplus (gross of depreciation)	7,156	8,731	11,444	14,665	13,512	12,186	17,475
Indirect taxes less subsidies	1,092	1,260	1,587	2,114	1,749	2,096	2,655
<b>Gross Domestic Product (income-based estimate)</b>	<u>18,588</u>	<u>22,240</u>	<u>27,091</u>	<u>33,546</u>	<u>33,805</u>	<u>35,299</u>	<u>43,368</u>
Difference between income estimate and expenditure estimate	+82	-1,264	-2,935	-2,810	+1,447	+1,969	+3,858
<b>Gross domestic product (expenditure-based estimate)</b>	<u>18,670</u>	<u>20,976</u>	<u>24,156</u>	<u>30,736</u>	<u>35,252</u>	<u>37,268</u>	<u>47,226</u>
Private consumption expenditure	13,942	15,947	17,308	22,844	26,520	28,505	33,144
Government consumption expenditure	1,190	1,269	1,581	1,952	2,493	2,711	3,120
Gross domestic fixed capital formation	3,565	4,768	5,339	6,637	7,683	7,798	9,556
Increase in stocks	NA	NA	NA	+113	+352	+138	+674
Exports less imports of goods and services	-27	-1,008	-72	-810	-1,796	-1,884	+732
<b>Expenditure on the gross domestic product</b>	<u>18,670</u>	<u>20,976</u>	<u>24,156</u>	<u>30,736</u>	<u>35,252</u>	<u>37,268</u>	<u>47,226</u>

NA denotes not available

4 The differences between the estimates derived using the income approach and those using the expenditure approach are considerable. They do not seem to follow any systematic pattern: in 1971-73, the income estimates are higher than the expenditure estimates while in 1970, 1974, 1975 and 1976, the expenditure estimates are larger. Because of this and as the two sets of estimates are based on independent sources of data, each subject to errors in its own way, it is not possible to reconcile the differences. It is however considered that the income estimates are inherently less reliable and less stable due to more serious limitations in the data used. For example, the profits tax statistics based on which the operating surplus is estimated do not cover all establishments working in a year and the extent of under-coverage, apart from being unknown, may change from year to year. Except for 1971 and 1976, the size and composition of the working population is unknown, and the method used to estimate it is not likely to produce very precise results. The problem is particularly serious for the years 1974 and 1975. The wage statistics used are also limited in coverage and relatively crude, consequently the estimates of compensation of employees are subject to a margin of error.

5 Table 2 gives estimates of the contribution by economic sectors to the gross domestic product:—

**TABLE 2 GROSS DOMESTIC PRODUCT BY INDUSTRIAL ORIGIN: 1970-1976  
(AT CURRENT PRICES)**

ISIC major division	1970		1971		1972		1973		1974		1975		1976	
	HK\$ Mn.	%	HK\$ Mn.	%	HK\$ Mn.	%	HK\$ Mn.	%	HK\$ Mn.	%	HK\$ Mn.	%	HK\$ Mn.	%
1. Agriculture and fishing	377	2.2	407	1.9	443	1.7	530	1.7	538	1.7	533	1.6	645	1.6
2. Mining and quarrying	27	0.2	36	0.2	32	0.1	27	0.1	21	0.1	19	0.1	28	0.1
3. Manufacturing	5,448	31.1	6,150	29.3	7,094	27.8	8,626	27.5	8,164	25.5	8,913	26.8	11,165	27.4
4. Electricity, gas and water	334	1.9	369	1.8	425	1.7	476	1.5	571	1.8	583	1.8	716	1.8
5. Construction	572	3.3	762	3.6	1,011	4.0	1,300	4.1	1,488	4.6	1,446	4.4	1,683	4.1
6. Wholesale and retail trade, and restaurants and hotels	3,809	21.8	4,433	21.1	5,575	21.9	7,366	23.4	7,663	23.9	7,807	23.5	9,674	23.8
7. Transport, storage and communication	1,299	7.4	1,329	6.3	1,467	5.7	1,877	6.0	2,057	6.4	2,158	6.5	2,475	6.1
8. Financing, insurance, real estate and business services	2,561	14.6	3,743	17.9	5,397	21.2	6,166	19.6	5,785	18.0	5,851	17.6	7,668	18.8
9. Community, social and personal services	2,959	16.9	3,618	17.3	3,931	15.4	4,931	15.7	5,618	17.5	5,722	17.2	6,496	15.9
10. Activities not adequately defined	110	0.6	133	0.6	129	0.5	133	0.4	151	0.5	171	0.5	163	0.4
<b>All industries (gross domestic product at factor cost)</b>	<b>17,496</b>	<b>100.0</b>	<b>20,980</b>	<b>100.0</b>	<b>25,504</b>	<b>100.0</b>	<b>31,432</b>	<b>100.0</b>	<b>32,056</b>	<b>100.0</b>	<b>33,203</b>	<b>100.0</b>	<b>40,713</b>	<b>100.0</b>
Indirect Taxes less Subsidies	1,092		1,260		1,587		2,114		1,749		2,096		2,655	
Difference between income estimate and expenditure estimate	+82		-1,264		-2,935		-2,810		+1,447		+1,969		+3,858	
<b>Gross domestic product at Current Market Prices</b>	<b>18,670</b>		<b>20,976</b>		<b>24,156</b>		<b>30,736</b>		<b>35,252</b>		<b>37,268</b>		<b>47,226</b>	

6 Manufacturing is the most important sector, contributing about 26-31 per cent of the total. Wholesale and retail trade, and restaurants and hotels come next, accounting for 21-24 per cent. These estimates, however, are only a rough guide to the relative weight of the different activities, and great caution is required.

7 The tax statistics on which the estimate for operating surplus is based do not cover all establishments operating in a year; very small establishments, of which there are many in Hong Kong, are excluded. While this situation affects all sectors, it is particularly serious for some, such as manufacturing, and wholesale and retail trade, restaurants and hotel sectors.

8 Another point to note is that the contribution of the construction industry is estimated to be 3-5 per cent. This may be contrary to the common notion as to the importance of the construction industry in Hong Kong. An explanation is the fact that a distinction exists between construction activity on sites on the one hand and real estate dealing and development on the other. This distinction, which derives from records available to the Census and Statistics Department and which also accords with international practice, leads to a relatively low figure for the construction industry and a correspondingly high one for the financing, insurance, real estate and business service sector.

9 In national accounts, interest is regarded as a part of profits and as redistribution of income, in the same way as dividends on equity capital. For profits tax purposes, however, interest paid is treated as a deductible expense and includes interest received as a trading profit. To adjust the figures for national accounts purposes it is therefore necessary to reverse this treatment of interest. For manufacturing and trading concerns the result will, in most cases, be to increase their operating surplus, since they probably pay more interest on bank overdrafts, mortgages, etc than they receive on any surplus funds invested. For banks and other financial institutions the reverse is the case, and if interest were wholly eliminated they would generally be shown as making a loss since their receipts from fees and charges to customers would not be sufficient to cover their payments to employees and other expenses. To avoid this anomaly SNA\* provides that the operating surplus of financial institutions is to be shown including their receipts, less payments, of interest. To keep to the basic national accounts concepts however, this balance of interest received less payments is treated as a concealed charge for services rendered by the banks to their customers and should be deducted, in one sum, from the total of operating surplus without being apportioned between industries. It is not possible to make adjustment to each industry here. If adjustments were made, however, they would probably not have much effect.

10 Special care should be exercised in interpreting estimates for 1974 and 1975, for two reasons. Firstly, these were years of recession with high rates of unemployment. It is likely that the statistics on employment and earnings, being incomplete, might not have reflected the situation realistically, thus affecting the accuracy of the estimates for compensation of employees. Secondly, 1974-75 was a period of transition in the profits tax legislation when tax assessment changed from a 'preceding year' basis to a 'current year' basis. Interim administrative arrangements resulted in discontinuity in the statistical series and difficulties were encountered in adopting the profits statistics for GDP estimation process.

\* United Nations: 'A System of National Accounts'

### **Method of Estimation**

**11** The paragraphs which follow give a brief outline of the way compensation of employees and operating surplus have been calculated.

**12** Tables showing the distributions of the numbers of employees and the self-employed in 1971 and 1976 by sex, main industrial sector and main occupational group were available from the information on the Hong Kong Population Census 1971 and the Population By-Census 1976. These were used as benchmarks and estimates for intervening years were made by making additional reference to changes in the number of employees as revealed in employment surveys.

**13** The statistical information on wages and salaries, including bonuses, income in kind, subsidized housing and overtime, was obtained from a number of sources. The main ones were: wage surveys conducted by the Census and Statistics Department (by the Labour Department before 1973), the Hong Kong Productivity Centre, the Agriculture and Fisheries Department, and sundry official publications.

**14** For each category of employees, except those in the agriculture and fishing sector, the numbers employed were multiplied by the estimated average yearly income to give the total wage bill. The total wage and salary bill for each category was then added to give the total wage and salary bill for the economy as a whole. This wage and salary bill is referred to as compensation of employees in the tables. For the agriculture and fishing sector, the estimates of the compensation of employees and operating surplus were based on the total value of production in a year published in the Agriculture and Fisheries Department's Annual Reports, as well as a breakdown of total value of production by compensation of employees, operating surplus and intermediate inputs, also provided by that department. For 1974, additional estimates were made for the earnings of the working population displaced from regular employment as hawkers. They were included in the 'Wholesale and Retail Trade' Sector.

**15** The estimates of operating surplus (profits, interest, property income, *etc*) were based on latest available tax statistics provided by the Inland Revenue Department. For the years in question, profits tax figures are related to profits earned roughly a year earlier but interest and property tax to current income. In consequence a lag of one year was assumed when calculating profits from tax assessments, with no lag in the case of interest and property income.

**16** As depreciation allowance given for tax purposes is different from the concept of consumption of capital in national accounting, the tax statistics cannot be utilized. Thus no separate estimate on depreciation is made.

**17** In the expenditure estimates, government trading bodies were distinguished from other government departments because they resemble business enterprises engaged in the production of goods and services principally for sale to the public. The surplus of these government trading departments should be included in the income estimates. However they are not taxable and therefore they will not have been covered by the figures derived from profits tax. An appropriate consequential adjustment was made in the estimates.

## APPENDIX 2

### ADJUSTMENT FOR TERMS OF TRADE TO ESTIMATES OF GROSS DOMESTIC PRODUCT AT CONSTANT MARKET PRICES

1 The series of gross domestic product at constant prices presented in the main text provide measures of real *output*. However, if one is concerned with changing levels of real *income*, then there is a need to take into account relative movements in import and export prices, which result in a varying volume of overseas output being exchangeable for a given volume of domestic output. This is particularly important in economies where external trade plays an important role and over periods of time when there are divergent movements in import and export prices.

2 In the case of Hong Kong, one may consider that the purpose of exports, in a macroeconomic sense, is to buy imports. So, current values of exports may be revalued at the base year in terms of their import equivalent; and this can be achieved by deflating them by the import unit value index. This is precisely what is done in deriving a series of real income measures.

3 The adjustment that has to be applied to the real product series in producing the real income series is equal to  $(\frac{X}{P_m} - \frac{X}{P_x})$ , where X is the current value of exports,  $P_m$  the unit value index of imports and  $P_x$  the unit value index of exports. This is equal to  $\frac{X}{P_x} \left\{ \frac{P_x}{P_m} - 1 \right\}$ , ie 'deflated value of exports  $\times$  (Terms of trade - 1)', which may be used as a convenient computational form. In the event that export and import prices have risen to the same degree since the base year, the terms of trade equals 1 and no adjustment is required in converting the real product series to the real income series. Naturally, this seldom happens.

4 Below is a table showing the real income series set alongside the real product series. Annual growth rates of each series are also given.

	<i>At 1966 Prices</i>			<i>Growth rates over preceding year</i>	
	<i>Real Product measure HK\$ Mn</i>	<i>Terms of Trade Adjustment HK\$ Mn</i>	<i>Real Income measure HK\$ Mn</i>	<i>Real Product measure %</i>	<i>Real Income measure %</i>
1961	6,621	5	6,626	—	—
1962	7,297	45	7,342	+10.2	+10.8
1963	8,149	205	8,354	+11.7	+13.8
1964	8,826	165	8,991	+ 8.3	+ 7.6
1965	10,440	65	10,505	+18.3	+16.8
1966	11,091	0	11,091	+ 6.2	+ 5.6
1967	12,080	86	12,166	+ 8.9	+ 9.7
1968	12,620	277	12,897	+ 4.5	+ 6.0
1969	14,385	422	14,807	+14.0	+14.8
1970	15,211	875	16,086	+ 5.7	+ 8.6
1971	15,704	1,423	17,127	+ 3.2	+ 6.5
1972	16,838	1,841	18,679	+ 7.2	+ 9.1
1973	19,150	1,765	20,915	+13.7	+12.0
@					
1973	19,229	1,765	20,994	—	—
1974	19,657	1,310	20,967	+ 2.2	— 0.1
1975	20,230	1,262	21,492	+ 2.9	+ 2.5
1976	23,608	2,531	26,139	+16.7	+21.6
1977*	26,415	2,207	28,622	+11.9	+ 9.5

\* provisional figures  
@ see paragraph 10 of main text

**5** It should be borne in mind that the real income measure presented here is real gross domestic income. For most applications that one can think of, the preferred measure would be real national disposable income. However, estimates of net property income and net current transfers from abroad are required for this and these are not currently available. The measure presented here may therefore only be considered as an approximation to the preferred measure.

