Methodology for Deriving the Domestic Private Final Consumption Expenditure Series of Malaya, 1900-1939

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1. Introduction

This paper presents the methodology employed in constructing the private final consumption expenditure (PFCE) series of Malaya[1] for the period 1900–39. It provides details on how population estimates of different consumption standards [2] and their per capita consumption are arrived at. In addition, the paper describes the use of income elasticities of demand for the estimation of major objects of consumption, the construction of consumer price indices and the estimation of nominal and real household incomes and their movements over time. Finally, the paper explains how these variables are combined to arrive at the PFCE series for 1900 – 39.

At this juncture, it is perhaps appropriate to define PFCE. Private final consumption expenditure in the domestic market is the total value of the final

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[1] There was no such entity as Malaya (Federation of Malaya) in existence during this period. Malaya, for purposes of this paper, comprise the Straits Settlements territories of Penang, Malacca and Dindings; the Federated Malay States of Perak, Selangor, Negeri Sembilan and Pahang and finally the states of Johore, Kedah, Perlis, Kelantan and Trengganu which came to be known as the Unfederated Malay States.
[2] They comprise the Malay, Chinese and Indian labour standards, Asiatic and Eurasian clerical standards and the European standard.

consumption expenditure of all households and private non-profit making institutions on current goods and services less sales of similar goods and services. Private non-profit institutions are generally private organizations such as clubs, clan associations, religious organizations, trade unions, etc. However, the current estimates of private final consumption expenditure do not take into account the expenditure of these institutions as its magnitude is rather negligible and as there is a dearth of data for computation of it to be feasible.

The 1968 System of National Accounts (SNA) distinguishes between two concepts of private household final consumption expenditure, viz, PFCE in the domestic market by residents and non-residents as against the PFCE of residents in the domestic market. In practice, the PFCE in the domestic market of residents and non-residents is computed and then adjusted to arrive at the PFCE of resident households. Private final consumption expenditure by resident households is derived by adding to PFCE in the domestic market, the direct purchases resident households make abroad and deducting the purchases non-resident households make in the domestic market. In addition, the net value of gifts in kind sent abroad is taken into account. However, our estimates regard PFCE in the domestic market as equivalent to that of the PFCE by resident households, as it is assumed that the expenditure incurred by residents abroad is equal to the expenditure by non-residents in the domestic market[3].

[3] Official time series data released by the Department of Statistics Malaysia for the period 1960-1965 shows that the average expenditure incurred by residents abroad less expenditure in the domestic market of non-residents as a percentage of PFCE is less than 0.4%.

2. Past Estimates of Malaya's PFCE

Benham's *The National Income of Malaya, 1947-1949*, published in 1951 provides the earliest estimates of private final consumption expenditure using modern concepts of national income accounting. In 1955, the World Bank (IBRD) produced a report, *The Economic Development of Malaya*, which included PFCE estimates for years 1949-53. But Benham's estimates of PFCE for 1947–49 and the World Bank's estimates for 1949-53 were on a Pan-Malayan basis, which comprised the then Federation of Malaya (present-day Peninsular Malaysia) and the then Crown Colony of Singapore. No attempt was made in these studies to isolate the Malayan share from the Pan-Malayan series. The first official estimates of PFCE in current prices for Peninsular Malaysia (Malaya) for the period 1955-59 can only be found in Dorothy Walters' *Report on the National Accounts of the Federation of Malaya*.[4] Since then, PFCE in current and constant prices have been regularly computed by the Department of Statistics Malaysia (DOS).

3. Methodology

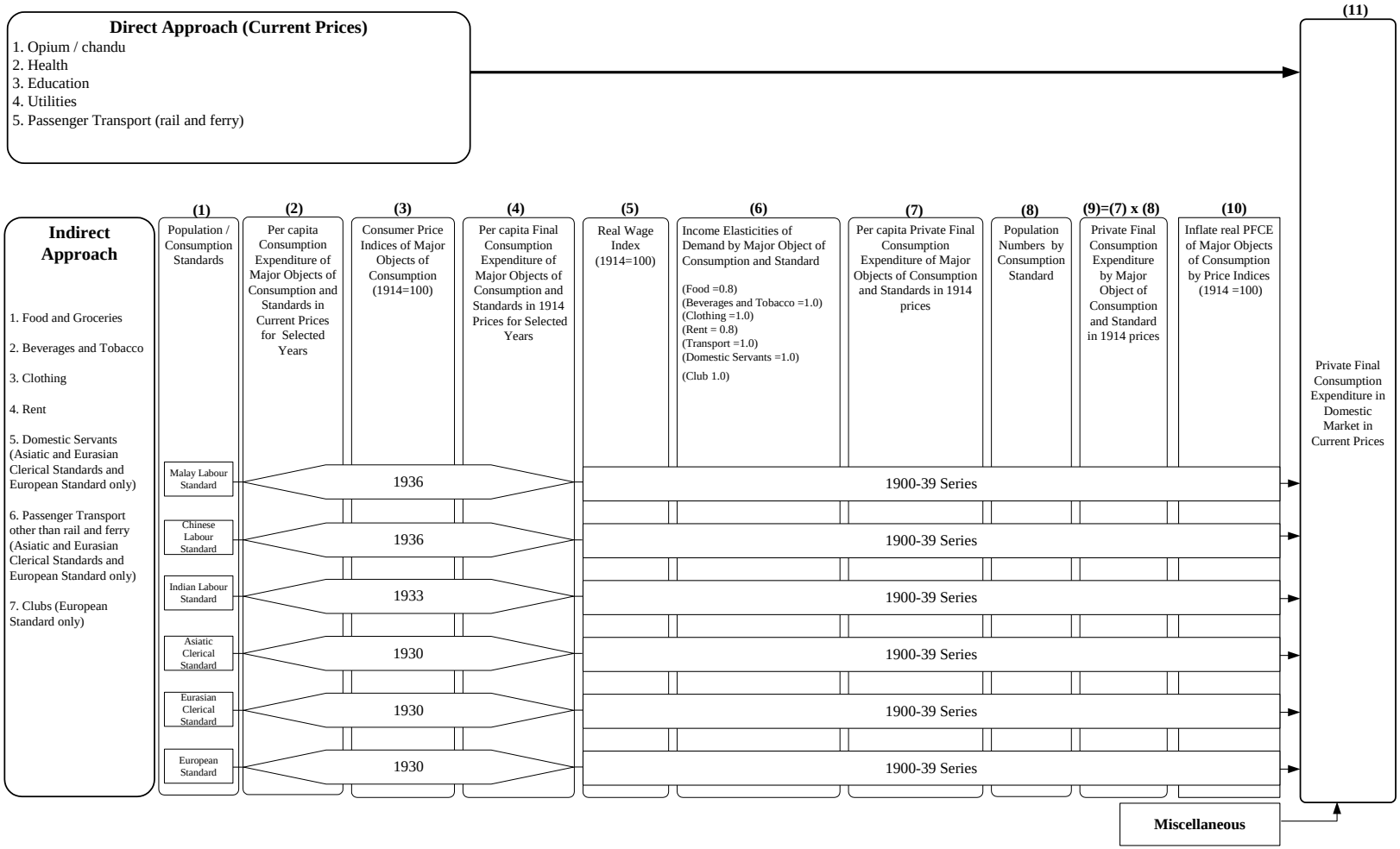
The absence of household expenditure surveys during the period under review and the paucity of data preclude the use of the commodity flow, retail valuation and retail sales methods (see **Appendix 1** for a brief description of these methods). Consequently, two approaches, dubbed as the direct approach and the indirect approach have been used in combination herein to construct the PFCE series in constant and current prices as illustrated in **Figure 1**. The direct approach was used wherever basic

[4] Dorothy Walters pioneered the construction of the national accounts of the Federation of Malaya.

data was generally available from official records. On the other hand, the indirect approach was employed in instances where data was virtually non-existent.

Data on private final consumption expenditure on opium/chandu, education, health, utilities and passenger transport (rail and ferry) was compiled for each year using the **direct approach**. Expenditure data on food and groceries, beverages and tobacco, clothing, rent, domestic servants, passenger transport (other than rail and ferry) , clubs, and other miscellaneous household expenditure was compiled using the **indirect approach**. Summing up the consumption expenditure from these two approaches gives us the total PFCE in both current and constant prices.

Figure 1: Flow Chart on the Construction of Private Final Consumption Expenditure in the Domestic Market-Malaya, 1900-39



Note: It is assumed that the expenditure incurred by residents abroad is equal to the expenditure by non-residents in the domestic market.

3.1. Direct Approach

Under the direct approach, the consumption expenditure on items mentioned above was estimated in the following manner:

a) Opium/Chandu

Household consumption of opium/chandu was estimated for each administrative unit separately, i.e. for Straits Settlements (excluding Singapore), Federated Malay States (FMS) and the Unfederated Malay States (UMS)[5]. The procedure adopted also varies somewhat with the administrative unit and can be summarized as follows:

	Estimation Procedure	Penang and Malacca	FMS	UMS
(i)	Quantity consumed by an adult Chinese male and the retail price			1900-10
(ii)	Quantity sold to consumers and retail price	1900–22	1900-22	1911-22
(iii)	Government gross revenue receipts from sales of opium/chandu to consumers and dealers with adjustments for trade and transport margins made for the latter	1923-25	1923-26	1923-26/ 1927[6]
(iv)	Government gross revenue receipts from sale of opium/chandu to consumers by the Government Monopoly Department	1926-39	1927-39	1927/1928-39[6]

b) Health

Total medical fees collected by government hospitals and government outdoor dispensaries was taken to represent the consumer expenditure on medical services.

[5] These administrative units constituted Malaya, the geographical entity of our interest.

[6] The estimation procedure varied among the constituent states of UMS depending on the year that the Government Monopoly Department was established in these states.

c) Education

Total school fees collected by government was taken to represent the private final consumption expenditure on education.

d) Utilities

Revenue collected from households by electricity and water boards was taken as the final consumption expenditure on utilities. For years for which such data was not available, estimates were made based on the pattern of revenue collected for states with similar levels of development in terms of the availability of electricity / water supply facilities.

e) Passenger transport (rail and ferry)

Expenditure on passenger transport (rail and ferry) was estimated based on the revenue collected by the Railway Department. The revenue collected in part could be ascribed to PFCE while a certain portion to expenditure incurred as part of intermediate inputs by industries and producers of government services. Due to the dearth of data that could identify the expenditure incurred by the various end-users of these services, apportioning to each of them was not possible. The total revenue collected was therefore assigned to PFCE since the bulk of the revenue collected would have been expenditure incurred by households for their own use.

A cursory examination of the above expenditures captured using the direct approach would indicate that they are not all-encompassing in coverage and therefore may be construed as not representing the actual total consumption expenditure incurred by

households. A case in point is the expenditure on private health care and education which is not included above. However, from local knowledge, it is known that these expenditures in pre-war Malaya were minimal given the general lack of such facilities then. Nevertheless, such expenditure though admittedly small has however been implicitly incorporated under the "Miscellaneous Items of Expenditure" component which is described in more detail on page 32 of this paper.

3.2. Indirect Approach

The indirect approach in this paper essentially involves estimating private final consumption expenditure on major consumption objects of each consumption standard. This approach requires as inputs information pertaining to population of each consumption standard, per capita consumption of each major object of consumption of each consumption standard, consumer price indices, real wage index and income elasticities of demand. The procedure shown in **Figure 1** earlier involved the following steps.

Step 1: Population and Consumption Standards

i) Estimating Population of Malaya for 1900-39

During this period, population census data was only available for 1901, 1911, 1921 and 1931. The geographical coverage, however, was not uniform across these censuses. The census for 1901 covered only the FMS and the SS while the census for 1911 covered FMS, SS and a part of UMS (excluding Trengganu and Kelantan). For 1921 and 1931, information was available with respect to all the territories constituting

Malaya. Within the SS category, figures in respect of the Settlement of Singapore[7] were consistently isolated from the total to ensure that the estimates related to Malaya and not British Malaya.

It was noted that population censuses were conducted either in the months of March or April. However, it has been assumed that the data pertain to January 1 of the corresponding year. It was felt that this procedure would largely neutralize the phenomenon of under-counting of the population in the census years. The data for mid-year (30 June) was then obtained by averaging the beginning-year population of two consecutive years.

An attempt was then made to derive inter-censal year figures from the census data. For each of the inter-censal years, information was generally available on births, deaths, arrivals and departures. In the first stage, the annual inter-censal population figures were computed by calculating the natural increase (i.e. excess of births over deaths). In cases where birth and death figures were not available, assumptions were made that in general, a crude birth rate of 36 and a crude death rate of 26 per thousand population prevailed. A review of a whole lot of evidence strongly suggested that these were the most acceptable figures.

The second stage took into consideration data related to net immigration into British Malaya. The difference between arrival and departure figures represents net immigration. The arrival and departure data available was as follows. With respect to the Chinese, arrival and departure information was available for the entry/exit points at Singapore, Penang and Malacca. For Indians, information on both arrivals and departures through the port of Penang was available. Thus, it was assumed that all

[7] Settlement of Singapore included Singapore, Labuan, Cocos-Keeling Islands and Christmas Island.

Indian arrivals and departures took place only via Penang. The first step was then to calculate the net immigration of the Chinese at the three ports of Singapore, Penang and Malacca. To this figure was added the figure of net immigration of the Indians at the port of Penang. The figures thus obtained pertains to total net immigration into British Malaya. The 1947 Population Census also provided some additional information on net immigration into British Malaya for the years 1931 to 1939. This information has also been factored into the estimates.

The figures of natural increase were then added to the net immigration figures to derive the total population of British Malaya for each of the inter-censal years. With a view to test the broad validity of the inter-censal population estimates thus derived, the census population figures were compared with those based on inter-censal population estimate for the same year. The difference between these two figures, usually termed as "error of closure", was considerable. For example, the 1921 inter-censal population estimate was far in excess of the 1921 census figure. Since the census figures must be given more credence than inter-censal estimates, the inter-censal figures were then adjusted to bring them in line with the census figures. There was strong evidence to suggest that the data on net immigration was extremely weak compared to the data on births and deaths.[8] It was therefore decided that the net immigration figures should be adjusted rather than the birth and death figures for all inter-censal years.

The next step was to isolate the population of the Settlement of Singapore from the total for British Malaya to obtain the population figures of Malaya for each of the years 1900–39. Fortunately, it was easy to do so because the population figures for the

[8] The arrival and departure figures were mere departmental records and not genuine migration statistics as has been alluded to in the 1947 Population Census Report.

Settlement of Singapore were available. By deducting the Singapore figures from the British Malayan figures, the population estimates of Malaya (residents and non-residents) were thus arrived at.

ii) Consumption Standards

It is generally accepted that significant differences exist in the consumption levels and expenditure patterns amongst different ethnic groups, between rural and urban areas and amongst households of different occupational / income groups. Consequently, in constructing the household final consumption expenditure series, an attempt was made to take these differences in population characteristics into account. To this end, Malaya's annual population figures were decomposed into six different consumption standards, namely the Malay labour standard, Chinese labour standard, Indian labour standard, Asiatic clerical standard,[9] Eurasian clerical standard and the European standard. Inclusion in a particular standard was determined primarily by ethnicity and also by occupation. For example, it was assumed that Eurasian manual workers followed the lifestyle of their Indian counterparts, that Europeans irrespective of occupation had a single consumption standard, that non-Europeans holding professional/managerial positions shared the lifestyle of the Europeans, that other Malayan manual workers adhered to the Malay, Chinese and Indian manual workers lifestyle. It was also assumed that Malay, Chinese and Indian clerical workers followed the lifestyle of Asiatic clerical workers. This classification scheme was then used alongside information provided in population censuses to establish the number of

[9] Asiatic clerical standard encompasses Malay, Chinese and Indian clerical standards.

persons belonging to each standard. Figures for inter-censal years were obtained by interpolation.

Altogether, four census years are involved that generally correspond with the availability of data on the total number employed by occupation and by ethnic group in the different administrative units of Malaya. Those years include 1901, 1911, 1921 and 1931. In this exercise, occupations were first classified into three, namely professional / managerial, clerical and the related, and manual. This classification scheme was then used alongside the information on ethnicity to establish the total number of persons employed according to the various consumption standards mentioned above.

The percentage breakdown of the total number of employed into the different consumption standards thus derived was then relied upon as a basis for estimating the total number of persons (residents and non-residents) of different consumption standards in Malaya. For example, if it is found that 2% of the total employed in 1931 belonged to the European consumption standard, then the total number of persons in Malaya that correspond with this standard is established as 2% of the total Malayan population during that year.

For intercensal years, the decomposition exercise was carried out based on approximations from census years as no breakdown figures on employment were available for those years. Hence, 1901 has been used as the reference year for the period 1900-10, 1911 for 1911-20, 1921 for 1921-30 and 1931 for 1931–39. However, data of 1901 and 1911 were not as complete as those of other census years. For 1901, data on the total employed by occupation and by ethnic group were only available in respect of the Federated Malay States. Thus it was assumed that the distribution of the total employed in Kedah and Perlis across the different consumption standards in 1901

corresponds with the 1911 distribution pattern whilst in the case of Penang, Malacca, Kelantan and Trengganu the 1901 distribution pattern was assumed to be the same as that of 1921. In the case of Johore, it was assumed that its 1901 distribution pattern was akin to that of Kedah and Perlis in 1911. As for 1911, data on the total number employed by occupational and ethnic dimensions was only available in respect of the Federated Malay States, Kedah and Perlis. Hence for Penang, Malacca, Kelantan and Trengganu, the 1911 distribution pattern was assumed to be similar to that of 1921 while for Johore the distribution was taken to be similar to that of Kedah and Perlis in 1911.

Appendix 2 lists out the six consumption standards based on the above-mentioned ethnicity-employment (occupational) data. Refinements were made on numerous occasions to the data obtained from source documents when it was felt that the number of persons of a specific ethnic group reported for a particular occupational category was incredibly large. For instance of the total Malay employed as accountants and bookkeepers, it would be deemed that not all of them were actually in the professional/managerial category and thus were adopting the European lifestyle. Instead, it would be assumed based on local knowledge that only a certain percentage of them actually fell in the professional/managerial category (European standard) while the rest were in the clerical category (Asiatic clerical standard).

Step 2: Estimating per capita consumption expenditure of major objects of consumption and standards in current prices for selected years

The second step involved the determination of the annual consumption expenditure of a "representative" individual of each of the six standards. The

methodology involved for estimating the per capita consumption expenditure on major objects of consumption of the various consumption standards may be described as follows:

a) The European Standard

From the 1930 Family Budget Survey of Singapore, it was established that a typical European standard household of 3 persons would incur a monthly expense of $649.10 as given in the table below:

Table 1: European Family Budget, 1930

Major Objects of Consumption	Straits $
Food	**157.00**
Market and Cold Storage	120.00
Groceries	30.00
Bakery	7.00
Beverages and Tobacco	**47.63**
Whisky, gin, vermouths, port, sherry, liquers, bitters and wine	36.03
Aerated waters	4.40
Tobacco	7.20
Servant	**170.00**
Boy, cook, tukang ayer, gardener, amah and syce	170.00
Transport	**53.47**
Petrol, tyres, insurance covering car, lubricating oil, repairs, etc.	53.47
Clothing	**80.00**
Man	25.00
Wife	40.00
Child in Malaya	15.00
Club	**61.00**
Entrance fees, subscriptions, expenses (caddies, etc)	61.00
Rent	**80.00**
Rent	80.00
Total	**649.10**

Source: Report of The Commission on The Temporary Allowances, Family Budget 1930, Singapore, p. 14-16 and p. 20-23.

The above figure ($649.10) excludes expenditure on consumption items (e.g. education and utilities) that has already been estimated via the direct approach. This

European budget also excludes consumption of a non-resident family member. Not included also is the miscellaneous expenditure which would be taken into account only at the final stages in the computation of PFCE of all standards.

For purposes of this exercise, the household expenditure pattern of the European standard in Malaya was assumed to be similar to that in Singapore. However, in addition, it was assumed that a Malayan European standard household would incur only 90% of the expenditure incurred by its Singapore's counterpart for all major items of consumption. The monthly and yearly per capita consumption of this household were subsequently derived.

b) The Eurasian / Asiatic Clerical Standards

It should be noted here that for the Eurasian and Asiatic clerical standards in Malaya, the procedure of deriving monthly and yearly per capita consumption expenditures was similar to that adopted for the European standard as described above. The source data was again obtained from the Family Budget Survey of 1930 for Singapore taking into account variations in household size.

c) The Indian Labour Standard

The consumption of an adult of this standard was obtained from the Indian Labourer's Specimen Monthly Budget, 1933 as contained in the Annual Report, Johore, 1933 which amounted to $4.525 per month as shown in Table 2. This expenditure does not include miscellaneous expenses incurred on items such as soap, kerosene oil, pots and pans, mats, pillows, etc.

The monthly and yearly weighted per capita consumption expenditure was then derived based on the assumption that an adult female would consume the same amount of food and clothing as the adult male while a child's consumption of these items would be two-thirds of that of an adult. It should be noted that the figure for food was revised upwards to account for own-account consumption e.g. consumption of home-grown poultry and livestock products, vegetables, etc.

Table 2: A Labourer's Specimen Monthly Budget (1933)

Items	Amount	Unit of Quantity	Price in cents per gantang, chupak or kati, etc.	Cost (Straits $)
Food				**3.855**
Rice	6	gantang	20	1.200
Salt	1.5	chupak	3	0.045
Chillies	0.5	kati	17	0.085
Coriander	0.75	chupak	6	0.045
Tamarind	1.5	kati	7	0.105
Dhal	1.5	chupak	12	0.180
Green peas	1	chupak	8	0.080
White beans	0.5	chupak	10	0.050
Onions	1	kati	6	0.060
Garlic	0.5	kati	8	0.040
Thalippu	0.5	chupak	24	0.120
Pepper	1.25	chupak	5	0.060
Turmeric	1.25	chupak	16	0.040
Curry masalai	-	-	-	0.040
Coconut oil	1	bottle	10	0.100
Salt fish	1	bottle	19	0.190
Mutton	1	kati	48	0.480
Vegetables	-	-	-	0.400
Potatoes	1	kati	5	0.050
Coffee	1	tin	12	0.120
Sugar	1	kati	4.5	0.045
Tin milk	1	tin	18	0.180
Gengelly oil	0.5	bottle	28	0.140
Tobacco				**0.420**
Betel nut & Tobacco	-	-	-	0.420
Clothing				**0.250**
Clothing	-	-	-	0.250
Per capita Adult Consumption				**4.525**

Source: Labourer's Specimen Monthly Budget 1933, Annual Report, Johore, 1933, p.27.

The per capita consumption of tobacco was based solely on the consumption made by an adult male. Data on rent for the Indian standard was not available for any one year during this period. Expenditure on rent was therefore estimated based on surrogate data. The cost-of-living index of the Eurasian Clerical standard, 1914-39 gave a weight of 8% for rentals for the base year in relation to all goods and services consumed. This was taken into account and an assumption was made that the rental expenditure for the Indian standard would account for about 5 % of all goods and services consumed. The treatment of miscellaneous items was similar to that of the European/Eurasian clerical/Asiatic clerical standards mentioned earlier.

d) The Malay and Chinese Labour Standards

(i) Food

The food consumption pattern of a full meat diet of a Malay and a Chinese adult was based on the 1936 diet scale of government hospitals. One might then ask whether this food diet provided in government hospitals was representative of the food consumed by an ordinary person in the street. In this regard, it was deemed that the food provided in government hospitals in pre-war Malaya would be one that would meet the minimum dietary requirements of a person. It was felt that the food normally consumed by a person outside the hospital environment would be more than the food provided in government hospitals. In view of this, the hospital food consumption data was adjusted upwards to reflect the normal intake of an adult. Subsequently, the monthly and yearly weighted per capita consumption for the Malay and Chinese standards were arrived at in a procedure similar to that as described for the Indian labour standard.

(ii) Tobacco, Clothing and Rent

No data was available for 1936 on the per capita consumption of tobacco, clothing and rent. Given this predicament, estimates for the various major objects of consumption in 1936 were made based on per capita consumption of such objects (except rent) in the year 1949 for which data was available. It was assumed that the proportion of expenditure, in nominal terms on these major objects of consumption in relation to food as observed in 1949 would remain unchanged in 1939. Based on this assumption, the consumption of food in 1939 was computed. However, the changes in real consumption due to changes in real income were not taken into account. Having determined the per capita consumption of food in 1939, the per capita consumption of tobacco and clothing for 1939 was computed based on the relationship of these major objects of consumption to food in 1949. The data for 1936 was then obtained by deflating each major object of consumption by the relevant price index to reflect price changes for the two years (1936 and 1939) using 1914 as the base year.

Data on rent was not available for the year 1949. It was noted that rent constituted 8% of the per capita expenditure of the Eurasian clerical standard in 1914. It was then posited that the percentage of expenditure on rent for the Malay and Chinese labour standards would certainly be less than the Eurasian clerical standard. An assumption was therefore made that the percentage would only be about 5% for the Malay labour standard and around 6% for the Chinese labour standard. As for the miscellaneous items of consumption, its treatment is similar to that of the European/Eurasian clerical/Asiatic clerical standards as described earlier.

I have so far described the manner in which annual per capita consumption expenditure of a "representative" individual in each of the six consumption standards

has been constructed for each major object of consumption in current prices for the selected years. The results of the above exercise are summarized in Table 3.

Table 3: Annual Per capita Private Final Consumption Expenditure in Current Prices for Selected years – Malaya

Major Object of Consumption	Consumption Standard					
	European Standard (1930)	Eurasian Clerical Standard (1930)	Asiatic Clerical Standard (1930)	Indian Labour Standard (1933)	Malay Labour Standard (1936)	Chinese Labour Standard (1936)
Food and Groceries	$565.20[1]	$143.53[1]	$133.70[1]	$50.76[2]	$51.80[5]	$52.53[5]
Beverages and Tobacco	$171.47[1]	$7.78[1]	$7.78[1]	$2.65[3]	$3.02[6]	$2.81[6]
Clothing	$288.00[1]	$28.08[1]	$28.08[1]	$2.74[4]	$8.51[7]	$8.23[7]
Rent	$288.00[1]	$64.80[1]	$64.80[1]	$3.22[8]	$3.13[8]	$4.03[8]
Domestic Servants	$612.00[1]	$21.60[1]	$21.60[1]	Not Applicable	Not Applicable	Not Applicable
Passenger Transport (other than rail and ferry)	$192.49[1]	$23.85[1]	$23.85[1]	Not Applicable	Not Applicable	Not Applicable
Clubs	$219.60[1]	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

Notes:

1. Assumed that households in Malaya consumed 90% of amount consumed by respective Singapore households. Per capita consumption was derived based on household size of each standard household.
2. Consumption per capita is assumed to be 20% more than that of Labourer's Specimen Monthly Budget, Johore, 1933. Male and female adults consumed the same amount whereas children consumed 2/3 of adult amount.
3. Based on Labourer's Specimen Monthly Budget, Johore, 1933.
4. Based on Labourer's Specimen Monthly Budget, Johore, 1933. Male and female adults consumed the same amount whereas children consumed 2/3 of adult amount.
5. Consumption per capita was assumed to be 20% more than the full meat diet scale of adults in government hospitals. Male and female adults consumed the same amount whereas children consumed 2/3 of adult amount.
6. Applied the ratio of beverages and tobacco to food in 1949 to 1939 and deflated to 1936.
7. Applied the ratio of clothing to food in 1949 to 1939 and deflated to 1936.
8. Computed as a percentage of expenditure on food, clothing, beverages and tobacco: Malay and Indian Labour (5%), Chinese Labour (6%).

Sources:

(i) Report of The Commission on The Temporary Allowances, Family Budget 1930, Singapore, p. 14-16 and p. 20-23.
(ii) Labourer's Specimen Monthly Budget 1933; Annual Report, Johore, 1933,p.27.
(iii) Diet Scales of Government Hospitals 1936, Proclamations, Order, Notices, Regulations, Declarations, Appointments, Forms and By-laws in force on 31st day of December 1935 – Cap 154, p.1705.
(iv) Annual Report Labour Department, Federation of Malaya, 1949, p. 89-90, Appendix V_B.

A couple of points need to be noted with regards to the figures on consumption expenditure presented in Table 3. Firstly, these figures do not include expenses incurred on miscellaneous items such as cutlery, tableware, household appliances, furniture, household utensils and the like as has been alluded to in the earlier pages. Expenditure on these items have, however, been incorporated as part of the "Miscellaneous Items of Expenditure" component which is elaborated on page 32 of this paper. Secondly, it will also be noted that the monthly budgets would not have incorporated the element of expenditure incurred during festivities. However, it was felt that this would have been somewhat compensated by the upward adjustments that have been made to the private consumption expenditure (see Table 3) which would cover expenses incurred on certain occasions or special events such as during births, marriages, deaths, new year celebrations and other religious festivities of the general population.

Step 3: Consumer Price Indices of Major Objects of Consumption, 1900-39

The construction of consumer price indices for Malaya for the period 1900-39 can conveniently be divided into two sub-periods, namely 1900-14 and 1914-39, predicated mainly on the availability of price indices of Singapore. For 1914-39 (except for the years 1915-17 and 1939), the price indices for Malaya were essentially based on the officially published annual cost-of-living indices of Singapore which were available for each major object of consumption, specifically for three consumption standards, namely the European, Eurasian and Asiatic Clerical standards. For Malaya, where a total of six consumption standards was defined, it was assumed that its European, Eurasian and Asiatic Clerical standards followed the price movements of the counterparts in Singapore. As for the remaining three standards, viz the Malay, Chinese

and Indian labour standards, it was assumed that they followed the price movements of Singapore's Asiatic Clerical standard. (See **Appendix 3**, page 58). The basic underlying assumption was that price movements in Malaya would be the same as in Singapore. It should be noted here that there was no overall consumer price index for Singapore for these years. Another point worth noting is that in the absence of consumer price indices for Singapore for the years 1915-17 and 1939, such indices for Malaya had to be estimated for these years (See **Appendix 3**, for details on the estimating procedures).

For 1900-14, since no price indices were available at all even in Singapore, an exercise was undertaken to construct for Malaya a fresh set of price indices for each major object of consumption and each consumption standard (See **Appendix 4**). It would be observed that the price index for any particular major object of consumption was the same for all the six consumption standards with the exception of rent and tobacco for the European standard (See **Appendix 4**, page 69).

Having arrived at the price indices for all major objects of consumption by consumption standard for the two periods (1914-39 and 1900-14), the next step involved the computation of a weighted overall consumer price index for the entire period 1900-39. One important point that should be noted at this juncture is that the per capita consumption in current prices for each major object of consumption in 1930 (European, Eurasian and Asiatic Clerical standards), 1933 (Indian labour standard) and 1936 (Malay and Chinese labour standards) was deflated by the respective price indices using the base year (1914=100). This implicitly implied that the quantity consumed per capita for each major object of consumption remained unchanged between 1914 and 1930 or 1933 or 1936 depending on the consumption standard. It is also important to

note here that the per capita consumption thus derived did not take into account income changes over time.

The general procedure used for computing the price indices by major object of consumption and consumption standard is outlined in **Appendix 5**. The results of the computation of the consumer price index for the period 1914-39 and 1900-14 are shown in **Appendix 6** and **Appendix 7** respectively. The consumer price indices of major objects of consumption thus derived for Malaya for the period 1900-39 are presented in Table 4 in the following page.

Table 4: Consumer Price Indices by Major Object of Consumption, Malaya, 1900-39 (1914=100)

	Major Object of Consumption							Overall CPI
	Food & Groceries	Tobacco	Clothing	Rent	Servants	Transport	Club	
1899	87.36	68.34	83.22	73.72	69.64	109.66	90.65	85.57
1900	95.85	72.87	80.34	75.18	75.00	107.87	99.22	91.77
1901	90.79	68.47	98.09	76.66	73.21	107.44	96.47	89.99
1902	95.99	77.99	107.27	78.17	82.14	107.23	97.88	95.57
1903	97.73	82.25	104.00	79.71	82.14	107.34	104.12	96.75
1904	95.92	77.67	116.83	81.28	78.57	107.23	95.26	96.52
1905	93.60	65.66	109.35	82.88	78.57	107.12	93.25	93.63
1906	89.73	69.21	102.77	84.52	82.14	107.23	87.34	90.46
1907	95.21	65.67	108.12	86.19	91.07	105.07	85.90	95.21
1908	96.46	61.56	108.09	87.89	91.07	104.64	86.75	96.01
1909	92.15	60.63	96.68	86.05	91.07	103.67	84.68	91.50
1910	91.12	70.28	99.22	85.55	91.07	103.24	88.82	91.44
1911	98.31	81.46	101.13	85.16	91.07	102.91	95.84	97.20
1912	107.78	84.29	102.70	85.87	91.07	103.02	100.17	104.22
1913	108.17	99.28	99.53	93.25	91.07	99.46	104.62	104.96
1914	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1915	104.15	96.87	138.32	101.59	103.82	101.83	91.31	107.35
1916	109.67	146.95	161.28	104.09	103.82	103.13	103.77	116.05
1917	118.00	129.11	144.02	104.62	113.09	108.64	113.88	120.12
1918	140.13	174.45	189.80	116.86	116.80	112.50	134.00	143.71
1919	189.06	201.25	229.60	127.17	116.80	122.90	147.40	184.61
1920	250.50	244.13	291.60	155.97	155.50	126.80	163.50	239.99
1921	167.78	239.32	237.20	161.86	155.50	122.80	176.70	175.90
1922	145.12	237.03	182.80	184.14	155.50	112.00	177.40	154.31
1923	145.00	200.98	163.60	212.91	155.50	94.80	169.20	151.22
1924	145.66	187.66	157.10	223.08	155.50	99.40	164.10	151.00
1925	150.94	186.01	158.10	232.88	155.50	105.30	164.20	155.40
1926	159.70	190.26	157.50	245.37	155.50	103.50	161.70	162.09
1927	154.81	182.73	155.40	267.02	155.50	94.20	159.50	158.72
1928	151.08	182.83	151.90	291.88	155.50	93.10	159.50	156.76
1929	149.12	179.98	141.00	293.90	155.50	89.70	155.30	153.94
1930	139.63	170.57	139.80	270.77	152.90	85.50	156.10	145.50
1931	103.46	173.54	134.52	233.00	138.00	96.20	160.50	117.68
1932	87.28	167.63	114.47	189.74	124.70	89.00	160.10	100.96
1933	79.84	150.58	110.35	166.42	115.80	85.40	158.40	93.00
1934	84.28	151.34	103.93	166.42	123.70	84.50	159.50	95.80
1935	94.13	140.19	103.67	166.42	127.40	82.40	157.70	102.35
1936	91.35	140.01	102.55	166.42	125.70	80.00	157.40	100.08
1937	101.58	140.01	108.55	168.86	130.00	81.40	157.70	108.32
1938	93.87	139.49	110.38	178.18	128.20	81.50	159.40	103.46
1939	92.52	150.61	119.99	193.56	128.20	82.18	152.87	104.62

It should be noted that in computing the overall consumer price index, the consumption of opium/chandu as well as the consumption expenditure on electricity, water and other miscellaneous items was not taken into account. These together accounted for less than 15% of the total private final consumption expenditure.

Step 4: Estimating the per capita final consumption expenditure of major objects of consumption and standards in 1914 prices for selected years

This step (Step 4 in Figure 1) is to obtain the annual per capita consumption of each major object of consumption for the different standards in 1914 prices in respect of selected years of which consumption expenditure of an individual in current prices was available. This was done by deflating the per capita consumption of the major objects of consumption in current prices as shown in Table 3 (page 19) with their respective consumer price indices as given in Table 4. The result of this exercise is provided in Table 5 below:

Table 5: Annual Per Capita Private Final Consumption Expenditure in Constant (1914) Prices for Selected Years – Malaya

Major Object of Consumption	Consumption Standard					
	European Standard (1930)	Eurasian Clerical Standard (1930)	Asiatic Clerical Standard (1930)	Indian Labour Standard (1933)	Malay Labour Standard (1936)	Chinese Labour Standard (1936)
Food and Groceries	$404.78	$102.79	$95.75	$63.58	$56.71	$57.50
Beverages and Tobacco	$100.52	$4.56	$4.56	$1.76	$2.16	$2.00
Clothing	$206.01	$20.09	$20.09	$2.48	$8.30	$8.02
Rent	$106.36	$23.93	$23.93	$1.93	$1.88	$2.42
Domestic Servants	$400.26	$14.13	$14.13	Not Applicable	Not Applicable	Not Applicable
Passenger Transport (other than rail and ferry)	$225.14	$27.89	$27.89	Not Applicable	Not Applicable	Not Applicable
Clubs	$140.68	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

Step 5: The Real Wage Index, 1900-39

It was noted that for the entire period 1900-39, no continuous wage series was available. However, for 1900-14 and 1914-39 it was generally possible to construct a continuous surrogate series of wage data for these sub-periods. In turn, the overlapping year of 1914 made it possible to link the two sub-period series. It was felt that these two sub-period series fairly reflected changes in household income over time. Household income would generally include wages and salaries received by employees in both cash and kind as well as the entrepreneurial income derived from self-employment, income receipts of unpaid family workers and other income. However, such data was not available and hence as a last resort, wage rate data series had to be relied upon.

The Wage Rate Series, 1900-14

(a) The Agriculture Sector

The wage index for this sector was based on two elements:

[i] Wage index of Chinese estate coolies and predial (field workers and gardeners); and

[ii] Wage index for "trades" (carpenters, joiners, blacksmiths and bricklayers).

The "trades" data were incorporated into the agriculture sector to represent the entrepreneurial income accruing to the agriculture sector, since it was perceived that their earnings would move in tandem with those in the "trades". Moreover, self-employed workers also played an equally important role as wage earners and our view was that a simple arithmetic average of the two elements mentioned above would provide a reasonable estimate of the movements of household income in the agriculture sector.

(b) The Non-agriculture Sector

For the non-agriculture sector, the wage movements of the "trades" (carpenters, joiners, blacksmiths and bricklayers) was used.

The Wage Rate Series, 1914-39

(a) The Agriculture Sector

The wage index for this sector was again based on two elements:

[i] Wage index of Indian adult male rubber tappers; and

[ii]Wage index of "trades" (carpenters, joiners, blacksmiths and bricklayers).

The inclusion of "trades" in the agriculture sector was necessary to take into account changes in the entrepreneurial income of the self-employed as in the construction of the 1900-14 series. The average nominal wage was derived by taking the simple arithmetic average of Indian adult male rubber tappers and those in "trades".

(b) The Non-agriculture Sector

Wage movements were solely based on the wage index of those in "trades" (carpenters, joiners, blacksmiths and bricklayers).

Weights for Computing Nominal Wage Index, 1900-39

The weighting of the nominal wage indices for agriculture and non-agriculture sectors for both periods (1900-14 and 1914-39) was based solely on the 1921 Population Census data on employment across sectors given the absence of such data for the base year, 1914. An analysis of such data from the 1931 Population Census also showed that the weights were relatively stable as shown below:

Sector	1921 Census	1931 Census
Agriculture	66.1%	67.2%
Non-agriculture	33.9%	32.8%

Given the above scenario, it was felt that the sectoral weights in 1914 would not have been very different from those of 1921 and were therefore adopted to compute the overall nominal wage index for 1900-39. Subsequently, the nominal wage index so derived was deflated by the overall consumer price index to arrive at the real wage index for the period 1900-39, the outcome of which is presented in Table 6.

Table 6: Weighted Nominal and Real Wage Indices, Malaya, 1900-39 (1914=100)

	Nominal Weighted Wage Indices for the Agriculture and Non-Agriculture Sectors (1914=100)	CPI (1914=100)	Weighted Real Wage Indices for the Agriculture and Non-Agriculture Sectors (1914=100)
	[1]	[2]	[3]=[1]/[2]*100
1899	74.82	85.57	87.43
1900	78.40	91.77	85.44
1901	78.40	89.99	87.12
1902	83.18	95.57	87.04
1903	83.18	96.75	85.98
1904	80.79	96.52	83.71
1905	80.79	93.63	86.29
1906	83.18	90.46	91.96
1907	89.16	95.21	93.65
1908	94.02	96.01	97.93
1909	94.02	91.50	102.76
1910	94.02	91.44	102.82
1911	94.02	97.20	96.73
1912	94.02	104.22	90.21
1913	98.80	104.96	94.14
1914	100.00	100.00	100.00
1915	100.00	107.35	93.15
1916	100.00	116.05	86.17
1917	114.24	120.12	95.11
1918	116.63	143.71	81.15
1919	122.61	184.61	66.41
1920	122.61	239.99	51.09
1921	126.20	175.90	71.74
1922	116.63	154.31	75.58
1923	116.63	151.22	77.13
1924	133.16	151.00	88.19
1925	133.16	155.40	85.68
1926	141.42	162.09	87.25
1927	141.42	158.72	89.10
1928	141.42	156.76	90.22
1929	157.94	153.94	102.60
1930	128.87	145.50	88.57
1931	93.51	117.68	79.46
1932	85.25	100.96	84.44
1933	90.21	93.00	96.99
1934	83.93	95.80	87.61
1935	101.77	102.35	99.44
1936	116.31	100.08	116.21
1937	130.85	108.32	120.80
1938	130.85	103.46	126.48
1939	130.85	104.62	125.08

Steps 6-11: Deriving Total Private Final Consumption Expenditure in Constant and Current Prices, 1900-39 (excluding miscellaneous expenditure)

The computation of PFCE in this exercise requires information on population by consumption standard, per capita consumption expenditure by major object of consumption and standard in current prices, consumer price indices by major object of consumption, per capita consumption expenditure by major object of consumption and standard in 1914 prices, real wage index and income elasticities of demand by major object of consumption and standards. These data requirements with the exception of income elasticities of demand of major objects of consumption and standards have already been dwelled upon in the preceding steps.

The following income elasticities of demand were then used to adjust our expenditure series to capture the effect of real income changes over time: 0.8 for food and groceries, 0.8 for rent and 1.0 for beverages and tobacco, clothing, passenger transport other than rail and ferry, domestic servants and clubs (see Step 6 in Figure 1). Perhaps it might be appropriate at this juncture to explain the basis for using an income elasticity of demand of 0.8 for food since this item of consumption expenditure represented the single most significant component. In this regard, reference is made of a study undertaken by J.B.D. Derkson and J.Tinbergen in 1938 which established that the income elasticity of demand on food was 0.7 for the Netherlands. Using this finding as a guide, it was argued that the elasticity of demand on food ought to be higher for pre-war Malaya given that its level of development was lower than that of the Netherlands.

By making use of the above assumed elasticities, we are now in a position to compute the constant per capita PFCE for the years 1900-39 taking the real annual per capita expenditure on major objects of consumption for different consumption standards

for selected years as our starting point. This computation therefore takes into account changes in real wages and income elasticities of demand (Step 7 in Figure 1).

For example, if for the selected year (t) the per capita expenditure on food (PCF) is $\$F_t$ and if the real wage index increases from 1 in year (t) to 1.3 in year t+1, the per capita expenditure on food in year t+1 is calculated as follows:

$$PCF_{t+1} = \$F_t + [\$F_t \times (1.3-1)/1] \times 0.8 = \$B$$

If the real wage index then increases to 1.5 in year t+2, per capita final expenditure in year t+2 is calculated as:

$$PCF_{t+2} = \$B + [\$B \times (1.5-1.3)/1.3] \times 0.8$$

The per capita consumption of each major object of consumption was then multiplied by the total population of each consumption standard (Step 8 in Figure 1). This provided us the total private final consumption expenditure on each major object of consumption of each consumption standard in constant prices for each year [Step 9 in Figure 1]. This was then inflated by the price indices of the major objects of consumption [Step 10 in Figure 1] to obtain the total PFCE in current prices (Step 11 in Figure 1). As an example, the calculation of private final consumption expenditure on food of the European standard is provided in Table 7 for ease of understanding.

Table 7: The Construction of Private Final Consumption Expenditure in the Domestic Market on Food for European Standard in Constant and Current Prices, Malaya, 1900-39

Year	Annual Per Capita Private Final Consumption Expenditure in Real Terms (1914 Prices) (Straits $)	Weighted Real Wage Indices of Agriculture and Non-agriculture Sectors (1914=100)	Changes in Real Wages (%)	Changes in Real Consumption (%)	Real Per Capita Private Final Consumption Expenditure based on Real Wages and Income Elasticities of Demand (1914 Prices) (Straits $)	European Population Standard (Numbers)	Total Real Private Final Consumption Expenditure on Food in the Domestic Market (1914 prices) (Straits $)	Food Price Indices	Total Private Final Consumption Expenditure on Food in the Domestic Market (Current Prices) (Straits $)
	[1]	[2]	[3]	[4]=[3]*0.8	[5]	[6]	[7]=[5]x[6]	[8]	[9]=[7]*[8]/100
1899		87.43			389.40	8,020	3,123,152	87.36	2,728,464
1900		85.44	-2.279	-1.823	382.30	8,356	3,194,503	95.85	3,061,844
1901		87.12	1.972	1.577	388.33	8,668	3,366,205	90.79	3,056,090
1902		87.04	-0.095	-0.076	388.04	8,975	3,482,520	95.99	3,342,905
1903		85.98	-1.212	-0.970	384.27	9,330	3,585,433	97.73	3,504,035
1904		83.71	-2.645	-2.116	376.14	9,702	3,649,375	95.92	3,500,567
1905		86.29	3.088	2.470	**385.43**	10,045	3,871,503	93.60	3,623,536
1906		91.96	6.566	5.253	**405.68**	10,357	4,201,637	89.73	3,769,966
1907		93.65	1.840	1.472	411.65	10,699	4,404,229	95.21	4,193,257
1908		97.93	4.574	3.659	426.71	10,988	4,688,893	96.46	4,523,131
1909		102.76	4.927	3.942	443.53	11,203	4,968,765	92.15	4,578,904
1910		102.82	0.061	0.049	443.75	11,507	5,106,083	91.12	4,652,560
1911		96.73	-5.921	-4.737	422.73	16,799	7,101,619	98.31	6,981,741
1912		90.21	-6.742	-5.393	399.93	20,144	8,056,001	107.78	8,682,412
1913		94.14	4.353	3.482	413.86	23,685	9,801,995	108.17	10,603,126
1914		100.00	6.225	4.980	434.47	27,103	11,775,254	100.00	11,775,254
1915		93.15	-6.851	-5.481	410.66	27,571	11,322,236	104.15	11,791,718
1916		86.17	-7.489	-5.991	386.05	28,154	10,868,909	109.67	11,920,370
1917		95.11	10.366	8.293	418.07	28,755	12,021,331	118.00	14,185,227
1918		81.15	-14.669	-11.735	369.01	28,816	10,633,243	140.13	14,900,315
1919		66.41	-18.164	-14.531	315.39	28,709	9,054,442	189.06	17,118,073
1920		51.09	-23.075	-18.460	257.17	28,936	7,441,468	250.50	18,641,056
1921		71.74	40.429	32.343	340.34	29,228	9,947,538	167.78	16,689,610
1922		75.58	5.347	4.278	354.90	29,461	10,455,812	145.12	15,173,327
1923		77.13	2.046	1.637	360.71	29,791	10,745,762	145.00	15,581,550
1924		88.19	14.339	11.471	402.09	30,387	12,218,165	145.66	17,797,360
1925		85.68	-2.837	-2.270	392.96	31,264	12,285,564	150.94	18,543,620
1926		87.25	1.827	1.462	398.70	32,709	13,041,296	159.70	20,827,041
1927		89.10	2.122	1.698	405.47	34,322	13,916,645	154.81	21,544,897
1928		90.22	1.250	1.000	409.53	35,388	14,492,612	151.08	21,894,738
1929		102.60	13.729	10.983	454.51	36,392	16,540,473	149.12	24,665,884
1930	**404.78**	88.57	-13.677	-10.941	404.78	37,456	15,161,559	139.63	21,170,289
1931		79.46	-10.280	-8.224	371.49	37,180	13,811,933	103.46	14,290,465
1932		84.44	6.256	5.005	390.09	36,223	14,129,914	87.28	12,333,101
1933		96.99	14.874	11.900	436.50	36,209	15,805,171	79.84	12,618,881
1934		87.61	-9.673	-7.739	402.72	37,252	15,002,241	84.28	12,643,995
1935		99.44	13.501	10.801	446.22	38,756	17,293,844	94.13	16,278,496
1936		116.21	16.868	13.494	506.44	40,263	20,390,470	91.35	18,627,443
1937		120.80	3.945	3.156	522.42	42,399	22,150,035	101.58	22,499,182
1938		126.48	4.700	3.760	542.06	44,290	24,007,730	93.87	22,536,865
1939		125.08	-1.107	-0.886	537.26	45,839	24,627,693	92.52	22,785,747

Example for calculating real per capita consumption on food for the European Standard for the year 1905

Percentage Change in Real Wage Index, 1906-1905 **6.566%**

Percentage Change in Real Consumption, 1906-1905 **5.253%**

$$\frac{C_{1906}}{C_{1905}} - 1 = 5.253\%$$

$$\frac{C_{1906}}{C_{1905}} = 5.253\% + 1$$

$$\frac{405.68}{C_{1905}} = 1.05253$$

$$C_{1905} = \frac{405.68}{1.05253}$$

$$C_{1905} = 385.43$$

Note: Income elasticity of demand for food has been assumed to be 0.8

A similar procedure was applied to compute private final consumption expenditure on tobacco, clothing, rent, domestic servants, passenger transport (other than rail and ferry) and clubs for each consumption standard in both constant and current prices using the appropriate income elasticities of demand. A summation of the major objects of consumption across consumption standards in constant and current prices gives us the total private final consumption expenditure in both constant and current prices respectively (See **Appendix 8**).

Estimating Miscellaneous Items of Expenditure

The expenditure on miscellaneous items was computed for each year based on the total private final consumption expenditure in current prices as derived via the indirect approach. The miscellaneous items would include amongst others, household equipment and operations such as furniture, curtains, cooking appliances, glassware, tableware, household utensils and other non-durables, e.g. matches, soap, candles, shoe polish, etc. It would also include cultural and other services such as personal care. Based on statistical evidence, the miscellaneous expenditure was taken to be 7% of the total private final consumption expenditure in current prices based on PFCE derived from the indirect approach. The miscellaneous expenditure in constant terms for each year was then derived by deflating the miscellaneous expenditure in nominal terms by the overall consumer price index.

4. Estimates of Total Private Final Consumption Expenditure

The overall private final consumption expenditure in the domestic market for each year in nominal and real terms was then derived by summing up the consumption

expenditure estimated based on the direct and indirect approaches (including the miscellaneous expenditure) as shown in Tables 8, 9 and 10.

Table 8: Private Final Consumption Expenditure by Major Object of Consumption in Current Prices in the Domestic Market, Malaya, 1900-39

(Straits $ Millions)

Year	Food	Beverages and Tobacco	Clothing	Rent	Domestic Servants	Transport	Clubs	Opium/ Chandu	Miscellaneous (*)	Total
1900	75.4	2.6	9.6	3.4	2.9	4.6	1.1	9.1	7.0	115.6
1901	75.2	2.5	12.3	3.7	3.0	4.9	1.2	9.2	7.2	119.2
1902	82.3	3.0	14.0	3.9	3.5	5.3	1.2	9.8	7.9	130.8
1903	86.2	3.3	13.9	4.1	3.6	5.9	1.3	9.4	8.2	135.9
1904	86.2	3.1	15.8	4.2	3.5	5.9	1.2	11.2	8.5	139.6
1905	89.2	2.8	15.8	4.5	3.7	6.3	1.3	12.4	8.8	144.8
1906	92.8	3.3	16.3	5.0	4.3	7.1	1.3	12.7	9.3	152.1
1907	103.2	3.2	18.1	5.4	5.0	7.6	1.4	12.5	10.3	166.7
1908	111.3	3.3	19.4	5.8	5.4	7.8	1.5	12.6	11.1	178.1
1909	112.7	3.4	18.6	6.1	5.7	8.1	1.5	12.3	11.2	179.6
1910	114.5	4.1	19.6	6.2	5.9	8.8	1.7	16.7	11.6	189.0
1911	127.3	5.2	20.5	7.0	8.0	11.4	2.5	18.9	13.1	213.8
1912	139.5	5.4	20.9	7.2	8.8	12.7	2.9	19.7	14.1	231.3
1913	152.5	7.3	22.6	8.8	10.6	14.4	3.7	21.8	15.7	257.4
1914	153.5	8.3	25.5	10.5	14.0	15.5	4.3	19.7	16.6	267.8
1915	153.7	7.6	33.4	10.2	13.8	14.9	3.7	21.1	17.0	275.5
1916	155.4	10.9	36.8	10.1	13.0	16.3	4.0	27.2	17.7	291.3
1917	184.9	10.8	37.0	11.2	16.0	18.3	4.9	31.5	20.4	335.0
1918	194.2	12.5	41.7	11.1	14.1	17.2	5.0	35.7	21.4	352.8
1919	223.1	11.8	41.2	10.3	11.5	17.3	4.5	35.0	23.0	377.5
1920	243.0	11.1	40.5	10.3	11.9	17.4	3.8	41.2	24.4	403.6
1921	219.7	15.4	45.9	14.4	16.8	18.0	5.9	26.4	24.5	387.0
1922	199.8	16.2	37.5	17.2	17.9	16.1	6.3	23.3	22.9	357.1
1923	205.2	14.1	34.7	20.4	18.4	15.3	6.2	26.6	23.6	364.4
1924	234.3	15.4	38.8	24.3	21.5	17.0	7.0	25.5	26.8	410.6
1925	244.2	15.3	39.1	25.5	21.5	18.7	7.0	29.1	28.2	428.5
1926	274.2	16.6	41.5	28.5	22.9	21.4	7.3	37.7	31.7	481.8
1927	283.7	17.1	43.8	33.1	24.5	21.4	7.7	37.2	33.6	502.2
1928	288.3	17.9	44.7	37.7	25.6	20.8	8.1	32.2	34.8	510.1
1929	324.8	20.6	48.6	43.4	29.9	22.4	9.2	31.0	39.2	568.9
1930	278.7	17.3	42.8	36.6	26.2	19.0	8.2	24.1	34.8	487.6
1931	184.2	15.3	35.6	25.3	19.7	14.1	7.5	15.1	25.7	342.6
1932	159.0	15.3	31.3	21.1	18.5	12.4	7.8	12.5	22.9	300.7
1933	162.7	15.8	34.7	20.7	19.7	12.8	8.8	12.4	23.4	310.8
1934	163.0	14.8	30.3	19.6	19.5	12.9	8.3	16.3	23.2	308.0
1935	209.9	16.2	35.7	22.6	23.8	14.7	9.7	15.9	28.6	376.9
1936	240.1	19.6	42.9	26.7	28.5	16.6	11.7	13.7	32.7	432.4
1937	290.0	21.4	49.7	29.4	32.2	19.2	12.8	14.2	38.1	507.1
1938	290.5	23.4	55.3	33.6	34.7	20.0	14.2	13.2	39.6	524.5
1939	293.7	25.8	61.5	37.5	35.6	20.4	13.9	11.9	41.0	541.4

Note: (*) Includes health, education, utilities, household equipment and operations, cultural and personal services and other goods and services, n.i.e.

Table 9: Percentage Distribution of Private Final Consumption Expenditure by Major Object of Consumption in Current Prices in the Domestic Market, Malaya,1900-39

(Percentage)

Year	Food	Beverages and Tobacco	Clothing	Rent	Domestic Servants	Transport	Clubs	Opium/ Chandu	Miscellaneous (*)	Total
1900	65.2	2.2	8.3	2.9	2.5	4.0	1.0	7.8	6.0	100.0
1901	63.1	2.1	10.4	3.1	2.5	4.1	1.0	7.7	6.0	100.0
1902	62.9	2.3	10.7	2.9	2.7	4.0	0.9	7.5	6.0	100.0
1903	63.4	2.4	10.2	3.0	2.7	4.4	1.0	6.9	6.1	100.0
1904	61.7	2.2	11.3	3.0	2.5	4.2	0.9	8.0	6.1	100.0
1905	61.6	1.9	10.9	3.1	2.6	4.4	0.9	8.5	6.1	100.0
1906	61.0	2.1	10.7	3.3	2.8	4.7	0.9	8.4	6.1	100.0
1907	61.9	1.9	10.8	3.2	3.0	4.6	0.8	7.5	6.2	100.0
1908	62.5	1.8	10.9	3.3	3.0	4.4	0.8	7.1	6.2	100.0
1909	62.8	1.9	10.3	3.4	3.2	4.5	0.9	6.8	6.2	100.0
1910	60.6	2.2	10.4	3.3	3.1	4.7	0.9	8.9	6.1	100.0
1911	59.6	2.4	9.6	3.3	3.8	5.3	1.2	8.8	6.1	100.0
1912	60.3	2.4	9.0	3.1	3.8	5.5	1.3	8.5	6.1	100.0
1913	59.3	2.8	8.8	3.4	4.1	5.6	1.4	8.5	6.1	100.0
1914	57.3	3.1	9.5	3.9	5.2	5.8	1.6	7.4	6.2	100.0
1915	55.8	2.8	12.1	3.7	5.0	5.4	1.4	7.7	6.2	100.0
1916	53.3	3.7	12.6	3.5	4.5	5.6	1.4	9.3	6.1	100.0
1917	55.2	3.2	11.1	3.3	4.8	5.5	1.5	9.4	6.1	100.0
1918	55.0	3.5	11.8	3.1	4.0	4.9	1.4	10.1	6.1	100.0
1919	59.1	3.1	10.9	2.7	3.0	4.6	1.2	9.3	6.1	100.0
1920	60.2	2.7	10.0	2.6	2.9	4.3	1.0	10.2	6.0	100.0
1921	56.8	4.0	11.9	3.7	4.3	4.7	1.5	6.8	6.3	100.0
1922	56.0	4.5	10.5	4.8	5.0	4.5	1.8	6.5	6.4	100.0
1923	56.3	3.9	9.5	5.6	5.1	4.2	1.7	7.3	6.5	100.0
1924	57.1	3.8	9.5	5.9	5.2	4.1	1.7	6.2	6.5	100.0
1925	57.0	3.6	9.1	6.0	5.0	4.4	1.6	6.8	6.6	100.0
1926	56.9	3.5	8.6	5.9	4.8	4.4	1.5	7.8	6.6	100.0
1927	56.5	3.4	8.7	6.6	4.9	4.3	1.5	7.4	6.7	100.0
1928	56.5	3.5	8.8	7.4	5.0	4.1	1.6	6.3	6.8	100.0
1929	57.1	3.6	8.5	7.6	5.3	3.9	1.6	5.4	6.9	100.0
1930	57.2	3.6	8.8	7.5	5.4	3.9	1.7	4.9	7.1	100.0
1931	53.8	4.5	10.4	7.4	5.8	4.1	2.2	4.4	7.5	100.0
1932	52.9	5.1	10.4	7.0	6.1	4.1	2.6	4.1	7.6	100.0
1933	52.3	5.1	11.2	6.6	6.3	4.1	2.8	4.0	7.5	100.0
1934	52.9	4.8	9.9	6.4	6.3	4.2	2.7	5.3	7.5	100.0
1935	55.7	4.3	9.5	6.0	6.3	3.9	2.6	4.2	7.6	100.0
1936	55.5	4.5	9.9	6.2	6.6	3.8	2.7	3.2	7.6	100.0
1937	57.2	4.2	9.8	5.8	6.4	3.8	2.5	2.8	7.5	100.0
1938	55.4	4.5	10.5	6.4	6.6	3.8	2.7	2.5	7.5	100.0
1939	54.3	4.8	11.4	6.9	6.6	3.8	2.6	2.2	7.6	100.0

Note: (*) Includes health, education, utilities, household equipment and operations, cultural and personal services and other goods and services, n.i.e.

Table 10: Private Final Consumption Expenditure by Major Object of Consumption in Constant Prices (1914=100) in the Domestic Market, Malaya, 1900-39

(Straits $ Millions)

Year	Food	Beverages and Tobacco	Clothing	Rent	Domestic Servants	Transport	Clubs	Opium/ Chandu	Miscellaneous (*)	Total
1900	78.6	3.5	11.9	4.5	3.9	4.2	1.1	9.9	7.6	125.3
1901	82.9	3.7	12.6	4.8	4.1	4.5	1.2	10.2	8.0	132.0
1902	85.7	3.9	13.0	4.9	4.3	4.9	1.2	10.2	8.3	136.5
1903	88.2	4.0	13.4	5.1	4.4	5.5	1.3	9.7	8.5	140.1
1904	89.8	4.0	13.5	5.2	4.4	5.5	1.3	11.6	8.9	144.2
1905	95.3	4.3	14.4	5.5	4.7	5.9	1.4	13.2	9.4	154.1
1906	103.4	4.7	15.9	6.0	5.2	6.6	1.5	14.1	10.3	167.7
1907	108.4	4.9	16.7	6.2	5.5	7.3	1.6	13.1	10.8	174.6
1908	115.4	5.3	17.9	6.6	5.9	7.4	1.7	13.1	11.6	185.0
1909	122.3	5.7	19.2	7.0	6.3	7.8	1.8	13.4	12.3	195.8
1910	125.7	5.8	19.7	7.2	6.5	8.5	1.9	18.3	12.6	206.3
1911	129.5	6.3	20.3	8.2	8.8	11.1	2.6	19.4	13.4	219.7
1912	129.5	6.5	20.3	8.4	9.7	12.3	2.9	18.9	13.6	222.0
1913	141.0	7.3	22.7	9.4	11.7	14.4	3.5	20.8	15.0	245.8
1914	153.5	8.3	25.5	10.5	14.0	15.5	4.3	19.7	16.6	267.8
1915	147.6	7.9	24.1	10.1	13.2	14.6	4.1	19.7	15.9	257.2
1916	141.7	7.4	22.8	9.7	12.5	15.8	3.9	23.4	15.3	252.4
1917	156.7	8.4	25.7	10.7	14.1	16.8	4.3	26.3	17.0	280.0
1918	138.6	7.2	22.0	9.5	12.1	15.3	3.7	24.9	14.9	248.0
1919	118.0	5.8	17.9	8.1	9.8	14.1	3.0	18.9	12.5	208.2
1920	97.0	4.5	13.9	6.6	7.6	13.7	2.3	17.2	10.2	173.0
1921	131.0	6.4	19.3	8.9	10.8	14.7	3.3	15.0	13.9	223.4
1922	137.7	6.8	20.5	9.3	11.5	14.4	3.5	15.1	14.8	233.7
1923	141.5	7.0	21.2	9.6	11.8	16.2	3.6	17.6	15.6	244.1
1924	160.9	8.2	24.7	10.9	13.8	17.1	4.3	16.9	17.8	274.5
1925	161.8	8.2	24.7	11.0	13.8	17.7	4.3	18.8	18.2	278.3
1926	171.7	8.7	26.3	11.6	14.7	20.6	4.5	23.3	19.6	301.1
1927	183.2	9.4	28.2	12.4	15.8	22.7	4.9	23.5	21.1	321.1
1928	190.8	9.8	29.4	12.9	16.5	22.3	5.1	20.5	22.2	329.6
1929	217.8	11.4	34.4	14.8	19.3	24.9	5.9	20.1	25.4	374.1
1930	199.6	10.2	30.6	13.5	17.1	22.2	5.3	16.5	23.9	338.9
1931	178.1	8.8	26.4	10.9	14.3	14.7	4.7	12.9	21.8	292.6
1932	182.2	9.1	27.4	11.1	14.8	14.0	4.9	12.3	22.6	298.4
1933	203.8	10.5	31.4	12.4	17.0	14.9	5.6	13.3	25.1	334.0
1934	193.4	9.8	29.2	11.8	15.8	15.2	5.2	17.0	24.3	321.6
1935	222.9	11.5	34.5	13.6	18.6	17.8	6.1	15.6	27.9	368.6
1936	262.9	14.0	41.9	16.0	22.6	20.7	7.4	13.7	32.7	431.9
1937	285.5	15.3	45.8	17.4	24.8	23.6	8.1	13.1	35.1	468.8
1938	309.5	16.8	50.1	18.9	27.1	24.5	8.9	12.8	38.3	506.8
1939	317.5	17.1	51.3	19.4	27.7	24.8	9.1	11.4	39.2	517.5

Note: (*) Includes health, education, utilities, household equipment and operations, cultural and personal services and other goods and services, n.i.e.

The growth rates of private final consumption expenditure and per capita private final consumption expenditure in the domestic market in both current and constant prices are given in Table 11.

Table 11: Growth Rate of Private Final Consumption Expenditure and Per Capita Private Final Consumption Expenditure in Current and Constant Prices (1914=100), Malaya, 1900-39

Year	PFCE				Per capita PFCE			
	Current Prices		Constant Prices (1914=100)		Current Prices		Constant Prices (1914=100)	
	Straits $ (millions)	Growth Rate (%)	Straits $ (millions)	Growth Rate (%)	Straits $	Growth Rate (%)	Straits $	Growth Rate (%)
1900	115.6		125.3		69.15		75.00	
1901	119.2	3.2	132.0	5.3	68.77	-0.6	76.15	1.5
1902	130.8	9.7	136.5	3.4	72.87	6.0	76.02	-0.2
1903	135.9	3.9	140.1	2.6	72.85	0.0	75.06	-1.3
1904	139.6	2.7	144.2	3.0	71.96	-1.2	74.32	-1.0
1905	144.8	3.7	154.1	6.9	72.09	0.2	76.72	3.2
1906	152.1	5.1	167.7	8.8	73.45	1.9	80.94	5.5
1907	166.7	9.6	174.6	4.1	77.90	6.1	81.58	0.8
1908	178.1	6.9	185.0	6.0	81.04	4.0	84.16	3.2
1909	179.6	0.8	195.8	5.8	80.16	-1.1	87.38	3.8
1910	189.0	5.3	206.3	5.4	82.14	2.5	89.64	2.6
1911	213.8	13.1	219.7	6.5	89.10	8.5	91.54	2.1
1912	231.3	8.1	222.0	1.0	91.84	3.1	88.15	-3.7
1913	257.4	11.3	245.8	10.8	97.80	6.5	93.41	6.0
1914	267.8	4.1	267.8	8.9	98.81	1.0	98.81	5.8
1915	275.5	2.9	257.2	-4.0	99.92	1.1	93.28	-5.6
1916	291.3	5.7	252.4	-1.8	103.48	3.6	89.66	-3.9
1917	335.0	15.0	280.0	10.9	116.51	12.6	97.36	8.6
1918	352.8	5.3	248.0	-11.4	122.44	5.1	86.05	-11.6
1919	377.5	7.0	208.2	-16.0	131.49	7.4	72.51	-15.7
1920	403.6	6.9	173.0	-16.9	139.46	6.1	59.80	-17.5
1921	387.0	-4.1	223.4	29.1	132.39	-5.1	76.42	27.8
1922	357.1	-7.7	233.7	4.6	121.20	-8.5	79.31	3.8
1923	364.4	2.1	244.1	4.5	122.33	0.9	81.94	3.3
1924	410.6	12.7	274.5	12.5	135.14	10.5	90.34	10.2
1925	428.5	4.3	278.3	1.4	137.06	1.4	89.03	-1.4
1926	481.8	12.4	301.1	8.2	147.30	7.5	92.05	3.4
1927	502.2	4.2	321.1	6.7	146.32	-0.7	93.57	1.6
1928	510.1	1.6	329.6	2.6	144.14	-1.5	93.13	-0.5
1929	568.9	11.5	374.1	13.5	156.33	8.5	102.79	10.4
1930	487.6	-14.3	338.9	-9.4	130.19	-16.7	90.48	-12.0
1931	342.6	-29.7	292.6	-13.7	92.15	-29.2	78.69	-13.0
1932	300.7	-12.2	298.4	2.0	83.01	-9.9	82.37	4.7
1933	310.8	3.4	334.0	11.9	85.85	3.4	92.25	12.0
1934	308.0	-0.9	321.6	-3.7	82.67	-3.7	86.34	-6.4
1935	376.9	22.4	368.6	14.6	97.26	17.7	95.11	10.1
1936	432.4	14.7	431.9	17.2	107.40	10.4	107.26	12.8
1937	507.1	17.3	468.8	8.6	119.61	11.4	110.58	3.1
1938	524.5	3.4	506.8	8.1	118.43	-1.0	114.42	3.5
1939	541.4	3.2	517.5	2.1	118.10	-0.3	112.90	-1.3

Figures 2 and 3 provide in a graphical form the private final consumption expenditure and per capita consumption expenditure in the domestic market in current and constant prices.

Figure 2: Private Final Consumption Expenditure in the Domestic Market in Current and Constant Prices (1914=100), Malaya, 1900-39

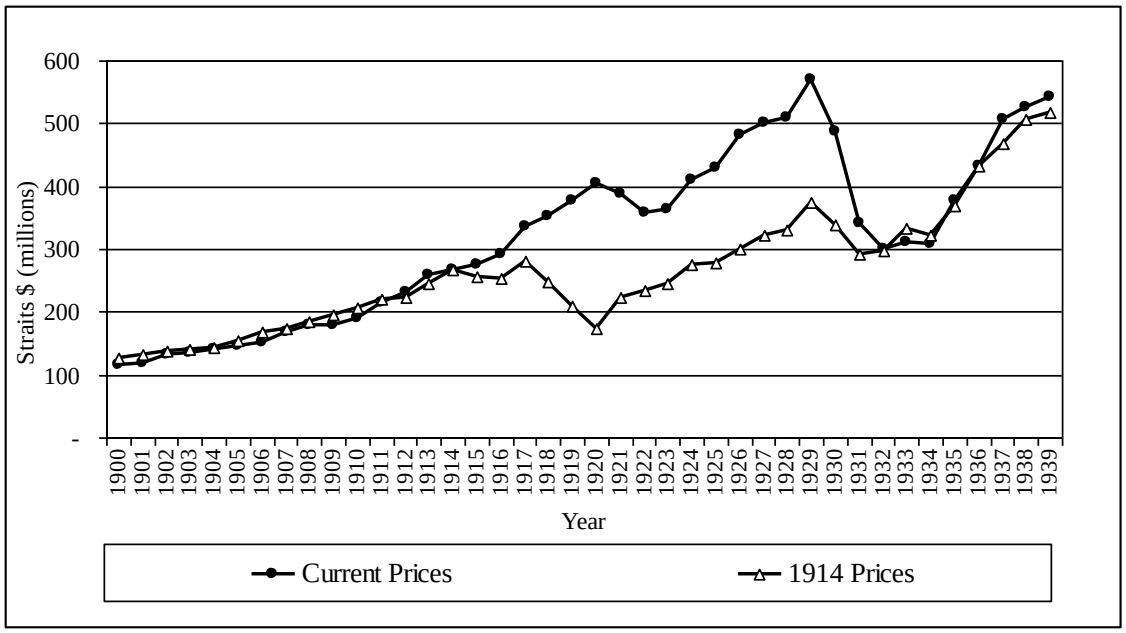
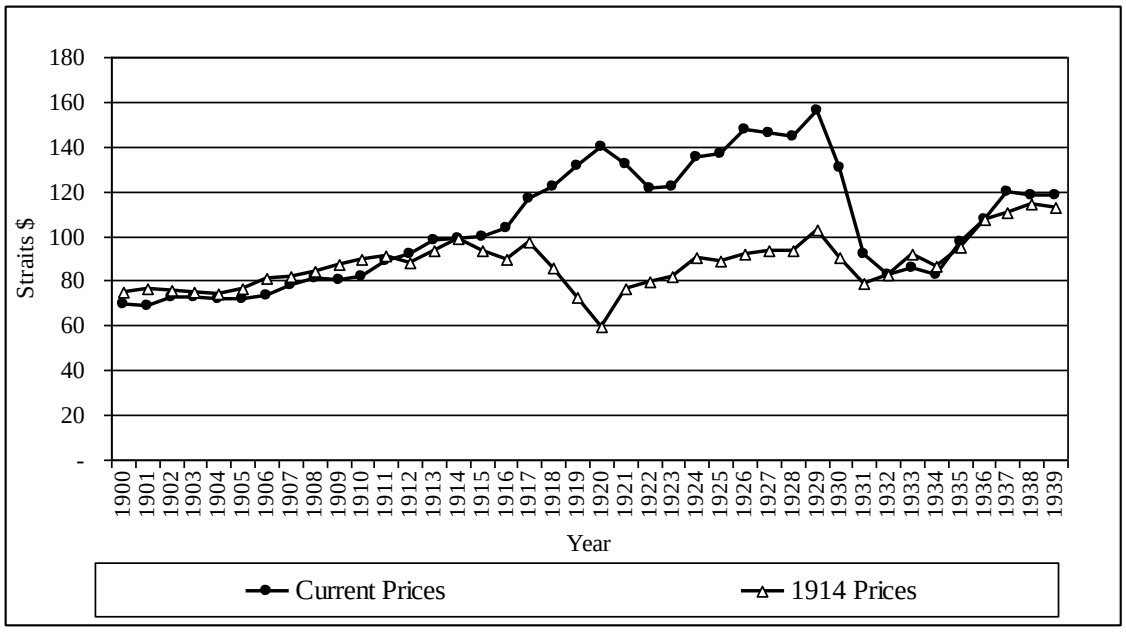


Figure 3: Per Capita Private Final Consumption Expenditure in the Domestic Market in Current and Constant Prices (1914=100), Malaya, 1900-39



5. Observations and Concluding Remarks

Private final consumption expenditure (PFCE) of resident households in the domestic market, which represents one of the major components of gross domestic product of Malaya, registered an average annual growth rate of 4.5% and 4.1% in current and constant terms respectively during the first four decades of the twentieth century (See Table 12 below). In nominal terms, the PFCE in the first half (1900-19) of the forty-year period under review recorded an average annual growth rate of 6.5% which was more than double the rate of 2.6% recorded in the second half (1920-39). In real terms the average annual growth rate was 3.0% in 1900-19 as against 5.2% in 1920-39.

An analysis of per capita PFCE of Malaya for each of the periods mentioned above reveals that the pattern of average annual growth rates, both in current and constant prices, was similar to that of total PFCE. There was practically no growth in real per capita PFCE during the first half (1900-19). However, the second half recorded an average annual growth of 2.7%.

Notwithstanding all this, the trend rate of growth of total real private final consumption expenditure increased from 4.1% in 1900-19 to 4.3% in 1920-39 and in per capita terms from 1% to 2%.

Table 12: Average annual and trend growth rates (%) of Total PFCE and Per Capita PFCE in Current and Constant terms, Malaya, 1900-39

Period	Average Annual Growth				Trend Growth			
	PFCE		Per Capita PFCE		PFCE		Per Capita PFCE	
	Current	Constant	Current	Constant	Current	Constant	Current	Constant
1900-39	4.5	4.1	1.7	1.4	3.7	3.0	1.4	0.7
1900-19	6.5	3.0	3.5	0.0	6.3	4.1	3.2	1.0
1920-39	2.6	5.2	0.1	2.7	0.6	4.3	-1.7	2.0

A closer examination of the annual growth rates of total and per capita private final consumption expenditure in nominal or in real terms reveals that there was greater volatility during the second half of the forty-year period. In particular, the standard deviation of the annual growth rate of total real private consumption expenditure rose from 49.9 in 1900-19 to 92.1 in 1920-39 and from 8.3 to 13.6 in per capita terms. The inter-temporal rise in standard deviation is however less spectacular in nominal terms. The standard deviation of total nominal private final consumption expenditure merely increased from 81.6 to 83.6 while in per capita terms from 18.7 to 22.8.

The higher volatility during the 1920-39 period merits a closer examination of the factors that possibly contributed to the exceptionally low or high annual growth rates seen in certain years. In particular, the focus of our attention in this respect will be on: (i) the year 1920 which witnessed high negative growth rates of real total PFCE and per capita PFCE though in nominal terms the rates recorded were positive, (ii) the Great Depression years (1930-32) in which the total PFCE and per capita PFCE, both in nominal and real terms, generally recorded negative growth rates running well into double digits and (iii) finally, the year 1937 which recorded extremely high growth rates in the total PFCE and per capita PFCE, particularly in current terms.

In the immediate post World War I year of 1920, although the total PFCE and per capita PFCE grew by about 6% in current terms, their growth rates in real terms was well into the negative territory recording the lowest rates during the forty-year period under review. This state of affairs could mainly be attributed to the sharp increase in the CPI by some 30 per cent in 1920, a follow-through from the increase of 29% recorded a year earlier. This increase in CPI was mainly fuelled by the sharp increases in the prices of nearly all major objects of consumption during this year. This sharp increase in CPI

in 1920 was not a phenomenon peculiar to Malaya but was consistent with the world-wide increase in prices experienced by most countries after the end of World War I.

The sharp decline in the growth rates of total PFCE and per capita PFCE (both in nominal and real terms) for Malaya during the Great Depression years of 1930-32 was only to be expected. During this period, the Malayan economy was in poor shape since one of the many results of the world-wide slump, then at its worst, was a catastrophic fall in the price of rubber, an industry in which one third of the working population was engaged. This combined with the then relatively low price ruling for tin, resulted in widespread unemployment and consequently led to considerable emigration of Chinese and Indians to their countries of origin. The population growth consequently registered its sharpest decline during the forty-year period, recording a negative growth of 2.6% in 1932. Nominal and real wages of those fortunate enough to be employed fell sharply, registering double digit negative growth rates especially in 1930 and 1931. A case in point is that of the Malayan Indian adult nominal minimum daily wage rate for rubber tappers which dropped from 50 cents in 1929 to 40 cents and 30 cents in 1930 and 1931, thus registering a drop of 20% and 25% respectively. [10]

The year 1937 presented a silver lining for the economy of Malaya. During this year, Malaya recorded one of the highest growth rates in total PFCE and per capita PFCE especially in nominal terms for the entire forty-year period under review. Malaya's population growth rate reached its zenith during this period in 1937, recording a figure of 5.2%. During this year there was an increase in the production of rubber, accompanied by increases in wage rates sparked off by increased demand for labour from the mining and planting industries especially rubber. An increase in demand for

[10] Srinivasa Sastri V.S.,(1937), p.3.

labour in rubber estates followed increased releases of rubber under the International Rubber Regulation Scheme. The average price of rubber in 1937 was 32 cents per pound with a minimum wage rate of 45 cents a day compared to 10 cents and 28 cents respectively in 1933. Consequently, net immigration of Chinese and Indians in 1937 was the highest for any one year in pre World War II Malaya.

The data on PFCE and per capita PFCE upon which the above observations and analysis are based has been derived using various surrogates in the absence of any household expenditure and income surveys, retail trade surveys as well as reliable data on production and import statistics by commodities during the period under review. Not withstanding this, the data on PFCE and per capita PFCE of Malaya derived using the various methodologies, assumptions and surrogate data, seems to be fairly reasonable when compared over time as well as with other selected countries.

The reasonableness of data derived for PFCE in terms of major objects of consumption for Malaya is demonstrated in **Appendix 9**. For example, the data on the percentage consumption expenditure on food, representing the biggest item, was congruent with the general expectation that the proportion of consumption expenditure on food decreases as income increases over time. The percentage of consumption expenditure on food in Malaya estimated at 65.2% in 1900 declined to 56.3% in 1923, 54.3% in 1939, 46.7% at the time of Independence in 1957 and further to 37.7 in 1970.

A comparison in terms of the percentage of consumption expenditure incurred on food, beverages and tobacco for Malaya and selected countries (Taiwan, Korea, Japan, Finland and UK) all displayed, in general, a downward trend over the period under review (See **Appendix 10**). In the case of total PFCE the sharp decline experienced by Malaya in 1921 and 1922 paralleled similar declines in Korea, Taiwan

and UK. During the Great Depression years of 1930 and 1931, all selected countries along with Malaya experienced negative growth in their PFCE. Malaya continued to display negative growth in PFCE in 1932 along with UK and Finland (See **Appendix 11**).

APPENDIX 1

Brief Notes on the Conventional Methods of Estimating Private Consumption Expenditure

1. Direct Method (Household Expenditure Survey)

In this method, the PFCE is estimated by inflating the data collected in a sample survey of household consumption expenditure covering all households, amongst others, by means of ratio estimates. The household data is compiled to provide a measure of the flow of goods and services purchased by households at purchasers' or market prices, not only according to the class of commodity but also the object of consumption. This method also provides classification of expenditure according to household characteristics, such as the level of household income and socio-economic status. However, the use of data from the household expenditure survey is subject to some limitations as given below:-

(i) The survey is based on a small sample of households and / or may refer to particular groups of the population only. Normally, the institutional population is not covered.

(ii) Biases in the data may arise because of non-response or because of difficulty in gathering reliable information about expenses on items purchased infrequently or socially disapproved. Respondents generally understate their expenditure on items such as alcoholic drinks, tobacco, gambling and other entertainment due to religious and cultural reasons. They are also reluctant to reveal how much they spend on socially unacceptable activities. This is certainly evident when we compare the consumption of these items recorded against relatively reliable production and import statistics.

(iii) The household surveys do not, in general, cover the rent of owner-occupied dwellings. In addition, the imputed service charge for casualty and life insurance cannot

be properly estimated by respondents. The national accountants using data from household surveys and other sources of data would impute the service charge for casualty and life insurance for households.

2. Commodity Flow Approach

The commodity flow approach would provide fairly reliable estimates of the PFCE of commodities by households. However, it can only be adopted if we have fairly good statistics on production, imports, exports, capital formation, intermediate consumption, stocks and other related statistics. The commodity flow table traces the use of a particular commodity by various end-users, e.g. household consumers, intermediate consumption by industries (agriculture, forestry, fishing, livestock, mining and quarrying, construction, wholesale, retail and catering trades and other services sector), producers of government services or other final demands. Based on the commodity flow table, it is relatively easy to construct an input-output table using the "make" and "absorption" matrices. This input-output table can then be used to determine the PFCE based on the movements of production of commodities, imports, etc. However, the coefficients of the input-output tables should be revised from time to time, at least once in 5-10 years. It should be recognized that the construction of a commodity flow table is rather tedious and time consuming. The commodity flow tables would be as good as the basic data used to construct it. A number of adjustments have to be made to the basic data to match the supply of and demand for goods and services. For example, production /output statistics may be based on basic or producer prices, import statistics are in basic prices while private final consumption are in market prices. In order to match supply of and demand for goods and services in value terms to

estimate PFCE, it is imperative that the supply and demand statistics should be adjusted to be in line with market prices. For example, if supply statistics are based on producer prices, then it should be converted to market prices by assigning the trade and transport margins to the producer prices to match the demand statistics in market prices.

3. Retail Valuation Method

This method is utilized when primary information on household consumption is available in terms of quantities. The household expenditure is then computed by multiplying the quantity consumed by the households by the retail prices paid by them. Quantity data of various commodities purchased by households may be based on official statistics of the supply of goods and services, changes in the commodity stocks, data from trade associations or data from household expenditure surveys.

The retail valuation method is normally used in estimating household purchases of non-durable goods such as food, beverages, clothing, fuel, electricity and specific durables such as automobiles, radio and television sets. The quantities of such items purchased by households could be obtained from government authorities in charge of taxation or registration which provide basic information on the users of such items.

One of the advantages of the retail valuation method as compared to the commodity flow approach is that purchases of goods may be valued at purchasers' prices. The available quantity may also be more reliable than the value data generated. On the other hand, the compilation of appropriate average retail prices to value the quantities of commodities that households consume or acquire may be difficult to obtain. Correct weights for geographical price differences, adjustments for variations in

quality, etc, are not available. In practice, only simple averages of the prices utilized in computing indices of retail or consumer prices are used.

4. Retail Sales Method

This method takes into account data on sales gathered from retailers and other outlets selling goods and services direct to household consumers. The results of the comprehensive but infrequent censuses of wholesale, retail, catering and services industries usually form the basis for the benchmark estimate by this method. Less comprehensive annual and more frequent inquires are used to extrapolate from the benchmark estimates. Retail purchases are made from retail outlets. In estimating household consumption expenditure from retail trade surveys it is essential that adjustments are made to eliminate retail purchases for uses other than household consumption. Retail purchases for other uses can often be identified based on the nature of the commodity concerned. A good example would be building and construction materials and office equipment that should be excluded though some of these items may be acquired for household final consumption. Purchases of cars, gasoline and a host of other commodities should be assigned between household use and other end-users. Issues of apportioning expenditure items between final consumption of households and the intermediate consumption or gross capital formation of industries arise in instances of goods utilized both by professional practitioners and other individual proprietors in production and by households. Such problems arise for example, in the case of motor-cars and outlays on rent, fuel, lighting, etc. and of dwellings used for both production and household purposes. The basis for dividing the expenditure in question among multiple end-users in this instance may be decided by the degree of utilization measured

in terms of kilometres run by the automobiles and the number of hours utilized for other items used for dual purposes.

Estimates of household final consumption should also take into account retail purchases of households made directly from wholesalers, manufacturers or the farmers. Independent estimates of imputed rent of owner-occupied dwellings, imputed service charges for casualty and life insurance, goods and services received as income in kind and commodities produced for own-account household consumption have to be provided for. Other services consumed are also to be incorporated into this approach to derive the total PFCE in the domestic market.

It must be noted that the retail sales method, like the direct method, measures the household consumption expenditure at the time of purchase and at prices actually paid by the household. However, difficulties are encountered in using the retail sales method for estimating household consumption expenditure as the retail sales and other outlets would not be able to provide even annual estimates on sales classified according to kind of commodity. As a result, annual estimates are derived by extrapolating from the benchmark estimates. The indicators used in the extrapolation process are normally constructed from relatively frequent inquiries on sales by retail outlets classified according to their "main kind of business". Indicators of this nature are only approximate measures of trends of given goods or services. The increasing tendency of retail outlets to become less specialized and to sell a wide range of commodities without maintaining separate records for each sales department makes these indicators a less reliable means of extrapolating from benchmark estimates for the various classes of commodities.

APPENDIX 2

Population by Consumption Standard, Malaya, 1900-39

Year	Population (Number)							Annual Population Growth Rate (%)	
	Malay Labour Standard	Chinese Labour Standard	Indian Labour Standard	Asiatic Clerical Standard	Eurasian Clerical Standard	European Standard	Total Population (mid-year)		
1899	882,246	553,409	112,286	46,518	1,604	8,020	1,604,083		1899
1900	919,156	576,562	116,984	48,465	1,671	8,356	1,671,193	4.1	1900
1901	953,521	598,118	121,357	50,277	1,734	8,668	1,733,674	3.7	1901
1902	987,221	619,257	125,646	52,053	1,795	8,975	1,794,947	3.5	1902
1903	1,026,347	643,800	130,626	54,116	1,866	9,330	1,866,086	3.9	1903
1904	1,067,235	669,447	135,830	56,272	1,940	9,702	1,940,427	3.9	1904
1905	1,104,901	693,074	140,624	58,258	2,009	10,045	2,008,910	3.5	1905
1906	1,139,275	714,636	144,999	60,071	2,071	10,357	2,071,408	3.1	1906
1907	1,176,885	738,228	149,785	62,054	2,140	10,699	2,139,791	3.2	1907
1908	1,208,727	758,201	153,838	63,733	2,198	10,988	2,197,685	2.7	1908
1909	1,232,299	772,988	156,838	64,976	2,241	11,203	2,240,544	1.9	1909
1910	1,265,735	793,961	161,094	66,739	2,301	11,507	2,301,337	2.7	1910
1911	1,327,159	671,979	287,991	93,597	2,400	16,799	2,399,927	4.2	1911
1912	1,389,906	705,025	302,153	98,200	2,518	20,144	2,517,945	4.8	1912
1913	1,450,021	736,853	315,794	102,633	2,632	23,685	2,631,618	4.4	1913
1914	1,490,652	758,878	325,233	105,701	2,710	27,103	2,710,277	2.9	1914
1915	1,516,413	771,992	330,854	107,527	2,757	27,571	2,757,115	1.7	1915
1916	1,548,470	788,312	337,848	109,801	2,815	28,154	2,815,400	2.1	1916
1917	1,581,505	805,130	345,056	112,143	2,875	28,755	2,875,463	2.1	1917
1918	1,584,877	806,847	345,791	112,382	2,882	28,816	2,881,595	0.2	1918
1919	1,579,001	803,855	344,509	111,966	2,871	28,709	2,870,910	-0.4	1919
1920	1,591,500	810,218	347,236	112,852	2,894	28,936	2,893,635	0.8	1920
1921	1,519,859	789,158	467,649	113,989	2,923	29,228	2,922,807	1.0	1921
1922	1,531,985	795,454	471,380	114,899	2,946	29,461	2,946,124	0.8	1922
1923	1,549,114	804,348	476,650	116,184	2,979	29,791	2,979,065	1.1	1923
1924	1,580,120	820,447	486,191	118,509	3,039	30,387	3,038,692	2.0	1924
1925	1,625,734	844,131	500,226	121,930	3,126	31,264	3,126,412	2.8	1925
1926	1,700,876	883,147	523,347	127,566	3,271	32,709	3,270,916	4.5	1926
1927	1,784,742	926,693	549,151	133,856	3,432	34,322	3,432,196	4.8	1927
1928	1,840,200	955,488	566,215	138,015	3,539	35,388	3,538,846	3.1	1928
1929	1,892,380	982,582	582,271	141,929	3,639	36,392	3,639,193	2.8	1929
1930	1,947,727	1,011,320	599,300	146,079	3,746	37,456	3,745,628	2.9	1930
1931	1,858,980	1,189,747	557,694	70,641	3,718	37,180	3,717,961	-0.7	1931
1932	1,811,129	1,159,122	543,339	68,823	3,622	36,223	3,622,257	-2.6	1932
1933	1,810,426	1,158,672	543,128	68,796	3,621	36,209	3,620,851	0.0	1933
1934	1,862,595	1,192,061	558,778	70,779	3,725	37,252	3,725,190	2.8	1934
1935	1,937,809	1,240,198	581,343	73,637	3,876	38,756	3,875,618	4.0	1935
1936	2,013,131	1,288,404	603,939	76,499	4,026	40,263	4,026,263	3.8	1936
1937	2,119,947	1,356,766	635,984	80,558	4,240	42,399	4,239,894	5.2	1937
1938	2,214,479	1,417,266	664,344	84,150	4,429	44,290	4,428,957	4.4	1938
1939	2,291,960	1,466,854	687,588	87,094	4,584	45,839	4,583,919	3.4	1939

APPENDIX 3

Estimates of Price Indices for Major Objects of Consumption and Consumption Standards, Malaya, 1915-17 and 1939.

Food Price Indices for Asiatic Clerical Standard[11] (1915-17 and 1939)

For this purpose, the full meat diet scale data in quantity terms of Malay and Chinese labour standards in 1936 and that of Indian labourer's specimen monthly budget (1933) were used. We then applied the relevant 1914 unit market price of every food item in these baskets. We were then able to establish the base year weights (1914) for each of the items in the baskets based on the weighted per capita consumption. A unit market price series for each expenditure item of each standard was then constructed for the years 1914-39. The unit market price series was then converted to an index with base year 1914=100 for each item of expenditure and for each standard. Using the weights of private final consumption expenditure in 1914 and the relevant price index of each labour standard we arrived at the weighted price index for each year for the period 1914-39 for the respective labour standards. The overall price index was then calculated taking into account the base weights (1914) of private final consumption expenditure on food of each of the labour standards. An examination of the price index thus derived showed that in 1918, the index stood at 142.43 as against Singapore's cost-of-living index of the Asiatic Clerical Standard of 140.40 for 1918 using 1914 as the base year. It was observed therefore that our estimates of price index in 1918 seemed to have been a slight overstatement (by 1.4%) compared to Singapore's price index. Based on this observation, it was felt that the over-estimation for the years 1915-17 would also be of the same magnitude and therefore applied an adjustment factor of 0.986 to bring it in

[11] To recapitulate, this applies to Malay, Chinese and Indian Labour Standards as well.

line with that of the Singapore's cost-of-living index of food. The price index for the year 1939 was derived by applying an independent estimate of the movement of the food prices from 1938 to 1939 to the known 1938 Singapore's price index of food upon which we have relied for the period 1914 and 1918-38.

Food Price Indices for European and Eurasian Clerical Standards (1915-1917 and 1939)

Data on the food price index for European and Eurasian Clerical standards are available for 1914 and 1918 through 1938. Hence in order to fill the 1915-17 and 1939 gaps in the data, it is postulated that some relationship existed between the food price index for European and Eurasian clerical standards and the food price index for Asiatic clerical standard of which data are generally available over the period 1914-39. The Ordinary Least Squares estimate of the relationship over the period 1918-38 is as follows:

$$\ln EPSF_t = 2.4317 + 0.54119 \ln ASF_t - 0.015457 T$$

(5.518) (6.617) (-4.319) $\bar{R}^2$=0.909

where ln = Natural Logarithm
EPSF = Food Price Index for European and Eurasian Clerical standards
ASF = Food Price Index for Asiatic clerical standard
T = Time trend

and figures in parentheses refer to the t-statistics

The above estimated equation could explain about 91% of the movements in the food price index for European and Eurasian Clerical standards and the estimated coefficients are all highly statistically significant. The 1915-17 and 1939 figures of the food price index for European and Eurasian Clerical standards are then derived by

substituting the figures of the index for the Asiatic clerical standard and the value of the time trend variable for the corresponding years in the equation and then taking the anti-logs of the so derived figures.

Tobacco Price Index for All Standards (1915-17 and 1939)

The price index of tobacco was based on the import unit value of tobacco. It was observed that the estimates were understated compared to Singapore's tobacco price index in 1918. Based on this observation, it was felt that the under-estimation was also true for the years 1915-17. To ensure this import unit value index was in line with Singapore's cost-of-living index for tobacco, the estimates were adjusted accordingly.

For the year 1939, the estimates were solely based on the price movement of imports of unmanufactured tobacco from 1938-39, the only relevant information that was available.

Tobacco and Beverages Price Index for European Standard (1915-17 and 1939)

The approach taken to determine the tobacco price index for European Standard was similar to that referred to above. It was noted that for the European Standard, there was no index solely for tobacco. Index was only available for tobacco and beverages combined for the years 1914 and 1918-38. Therefore, there was a need to compute a combined tobacco and beverages price index for the European Standard for the other years. The weights for expenditure on beverages (85%) and tobacco (15%) were based on the 1930 Family Budget for the European Standard in Singapore. The price index for beverages for 1914-18 was based on the simple arithmetic average of import unit values of brandy, gin, whisky and wine while for the years 1938 and 1939 on beer, ale, brandy

and whisky. The weighted index for tobacco and beverages was then computed. For the year 1918, the estimate based on the import unit value was an overstatement when compared to Singapore's cost-of-living index for tobacco and beverages. This over-estimation was then addressed by adjusting the 1915-17 figures accordingly. For the price increase from 1938 to 1939, the increase in the weighted (tobacco and beverages) import unit value price index was used.

Clothing Price Index for All Standards (1915-17 and 1939)

Detailed statistics on prices of clothing (c.i.f. values or market prices) were not available for these years. The only information available was the import unit values of "sarongs and selendangs" and "woolen cloth". Appropriate weights to each of these items could not be assigned as detailed information on the consumption of these clothing items by households was absent. Therefore, a simple arithmetic average of the two groups of commodities was taken to determine the price movement of clothing. The computation procedure for the price index of clothing for these years was similar to that used for deriving the price index of tobacco mentioned earlier.

Servant Price Index for Asiatic and Eurasian Clerical, and European Standards (1915-17 and 1939)

Data on the servant price index for the period 1915-17 and 1939 were rather weak. An attempt was made to establish whether there was a relationship between Singapore's cost-of-living index on servants and the nominal wage indices of non-agriculture sector ("trades") and agriculture sector (simple arithmetic average of Indian adult male rubber tappers and "trades"). It was noted that during 1920-29, the nominal

wage rate of non-agriculture workers and Singapore's cost-of-living index on servants remained rather stable though the levels differed. By and large, the nominal wage of non-agriculture workers appeared to move in the same direction as Singapore's cost-of-living index on servants in 1920-38. The correlation between Singapore's cost-of-living index on servants and the wage index in the non-agriculture sector for the period 1920-38 was 0.952 whereas that of agriculture was 0.487. Taking into account the stable relationship between the movements of non-agricultural workers' wage index and Singapore's cost-of-living index on servants, in particular 1920-29, it was felt that the ratio of the wage index of non-agriculture workers to the Singapore's cost-of-living index on servants in 1918 could be applied for the period 1915-17.

It was noted that the nominal wage rate indices of agriculture and non-agriculture workers in 1937 and 1938 remained relatively stable. The Singapore cost-of-living index on servants also remained relatively stable in 1937 and 1938. The wage indices in 1939 for agriculture and non-agricultural workers remained as in 1937 and 1938. Therefore, it was felt that the servants index would also remain the same in 1939 as in 1938.

Transport Price Index for European, Asiatic and Eurasian Clerical Standards (1915-17 and 1939)

In the absence of any reliable data pertaining to the transport price index during this period, it was felt that the United Kingdom (UK) travel and vehicle price index be used in general to reflect the changes in the transport index for Malaya. The rationale for using the UK index was that a large proportion of items of transport were imported

from UK, e.g. motor cars, parts and related items and these would in general reflect price changes in Malaya.

However, for 1917 and 1918 it was observed that there were notable increases in the UK travel and vehicles price index due mainly to World War I. It was felt that the war would not have affected Malaya to the same degree as the United Kingdom. Supporting evidence showed that for the year 1918, the Singapore transport index (1914=100) recorded an increase to only 112.5 compared to United Kingdom's 138.4. It was felt that adjustments ought to be made to the UK index to reflect actual price movements in Malaya. An adjustment factor of 1.23 based on the 1918 difference between the UK and the Singapore indices was then used to establish the index for Malaya for reference year 1917. However, for the years 1915 and 1916 the figures of United Kingdom were adopted for Malaya without any change. In the absence of any official price index for transport services in UK and Singapore for 1939, an estimate was made based on the movement of wholesale prices of petrol[12] in UK for this year.

Rent Price Index for Asiatic and Eurasian Clerical, and All Labour Standards (1915-17)

There were no comprehensive housing censuses prior to World War I. No data was available on the total number of dwellings by type e.g. bungalows, semi-detached, etc. Only scanty data was available on rental values of dwellings from 1908-19 in the urban areas of Singapore. However, information on the rental values ranging from Straits $25- Straits $60 per month for 26 housing units was available. Based on these data, it was assumed that the movements of the rental values of these types of units

[12] London Chamber of Commerce Journal.

would provide a fairly reliable picture of the movements in the price of rentals of dwellings of the Asiatic clerical and all labour standards in Malaya. The rental price index for dwellings from 1908-19 (1914=100) was then computed. Figures on the Asiatic rental price index of dwellings from the Singapore cost-of-living index were available for the years 1918 and 1919. A comparison was made between the Singapore rental price index and data computed using the 26 sample houses from the Bucknill Report for these years. The results are presented below.

	1918	1919
Bucknill Report	117.40	130.60
Singapore Cost-of-Living Indices (rental of dwellings)	120.00	130.00

The fact that the 1918 and 1919 rental indices from these two sources are close to each other, buttressed our confidence that the index computed from the 26 housing units would also provide a fairly reliable estimate of the rental price of dwellings for the period 1908-17. Consequently, it was decided that for the Asiatic clerical and all labour standards, the rental price index computed in this manner be used for Malaya.

Rent Price Index for European Standard (1915-17)

The Bucknill Report listed the rental price index of 23 units of dwellings of which rentals ranged from Straits $65 a month to Straits $ 170. It was noted that for the years 1918 and 1919 the estimates based on 23 dwelling units from the Bucknill Report far exceeded the Singapore cost-of-living index on rent. Hence, it was decided that an alternative approach was necessary to identify and compute the rental of dwelling index that would conform to the 1918 and 1919 Singapore's cost-of-living index. Data on

seven selected housing units provided a series in which the 1918 and 1919 data conformed to the 1918 and 1919 cost-of-living index on rentals of dwellings in Singapore. It was felt that this exercise would provide the most reliable estimates for the years 1908-17 for the European Standard.

Rent Price Indices for All Standards (1939)

The cost-of-living indices on rent for the various standards were not available for the year 1939. Therefore, surrogate data had to be used. It was felt that changes in the assessment values from 1938 to 1939 would provide a reliable estimate of changes in the rental prices from 1938 to 1939. The movement of prices of rentals in Kuala Lumpur was studied and it was noted that over a period of time the movements of these rentals were in tandem with those in Singapore although the levels differed. An adjustment factor was then applied to bring the price movements of rentals in Kuala Lumpur to be in line with those in Singapore. For the European Standard, the average assessment value of Group III houses (assessment values ranging from Straits $ 100-200 per month) was taken. For the Eurasian and Asiatic Clerical and all Labour Standards the average assessment value of Group I houses (assessment values ranging from Straits $ 1-49 per month) was adopted as the basis for obtaining these indices.

Clubbing Price Index for the European Standard (1915-17 and 1939)

The price index for expenditure on clubs was based on the simple arithmetic average of prices of food and tobacco and beverages consumed by the European Standard. The estimates of food and tobacco and beverages price indices have already been discussed earlier. Adjustment factors were applied to the 1915-17 estimated series

based on the observation made with regard to Singapore's cost-of-living index for 1918 compared to the derived estimates for the same year. The price index for the year 1939 was solely based on the simple arithmetic average of estimated price movements of food and tobacco and beverages from 1938 to 1939.

Summary of Price Indices of Major Objects of Consumption and Consumption Standards, 1914-1939

The results of the computation of price indices for major objects of consumption and consumption standards are given in the following page.

Price Indices by Consumption Standard and Major Object of Consumption, (1914=100) – Malaya, 1914-39

	Consumption Standard	Year																									
	Malay Labour Standard	1914	*1915*	*1916*	*1917*	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	*1939*
1	Food & Groceries	100.00	*101.87*	*107.66*	*116.34*	140.40	191.20	253.20	167.70	145.50	145.30	146.10	151.50	160.20	154.80	151.20	149.70	140.20	103.00	86.50	78.80	83.40	93.90	91.00	101.50	93.70	*92.83*
2	Tobacco	100.00	*105.44*	*165.69*	*131.26*	174.30	200.00	257.10	242.90	242.90	200.00	185.70	185.70	194.20	185.70	185.70	185.70	171.40	171.40	165.70	142.90	142.90	128.60	128.60	128.60	128.60	*144.68*
3	Clothing	100.00	*138.32*	*161.28*	*144.02*	189.80	229.60	291.60	237.20	182.80	163.60	157.10	158.10	157.50	155.40	151.90	141.00	139.80	133.20	110.00	106.90	99.50	99.70	98.30	105.80	108.10	*117.50*
4	Rent	100.00	*103.23*	*106.15*	*107.53*	120.00	130.00	150.00	154.00	181.00	217.00	230.00	242.00	257.00	284.00	312.00	314.50	289.70	247.40	200.40	175.60	175.60	175.60	175.60	177.70	188.90	*207.65*
	Chinese Labour Standard	1914	*1915*	*1916*	*1917*	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	*1939*
1	Food & Groceries	100.00	*101.87*	*107.66*	*116.34*	140.40	191.20	253.20	167.70	145.50	145.30	146.10	151.50	160.20	154.80	151.20	149.70	140.20	103.00	86.50	78.80	83.40	93.90	91.00	101.50	93.70	*92.83*
2	Tobacco	100.00	*105.44*	*165.69*	*131.26*	174.30	200.00	257.10	242.90	242.90	200.00	185.70	185.70	194.20	185.70	185.70	185.70	171.40	171.40	165.70	142.90	142.90	128.60	128.60	128.60	128.60	*144.68*
3	Clothing	100.00	*138.32*	*161.28*	*144.02*	189.80	229.60	291.60	237.20	182.80	163.60	157.10	158.10	157.50	155.40	151.90	141.00	139.80	133.20	110.00	106.90	99.50	99.70	98.30	105.80	108.10	*117.50*
4	Rent	100.00	*103.23*	*106.15*	*107.53*	120.00	130.00	150.00	154.00	181.00	217.00	230.00	242.00	257.00	284.00	312.00	314.50	289.70	247.40	200.40	175.60	175.60	175.60	175.60	177.70	188.90	*207.65*
	Indian Labour Standard	1914	*1915*	*1916*	*1917*	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	*1939*
1	Food & Groceries	100.00	*101.87*	*107.66*	*116.34*	140.40	191.20	253.20	167.70	145.50	145.30	146.10	151.50	160.20	154.80	151.20	149.70	140.20	103.00	86.50	78.80	83.40	93.90	91.00	101.50	93.70	*92.83*
2	Tobacco	100.00	*105.44*	*165.69*	*131.26*	174.30	200.00	257.10	242.90	242.90	200.00	185.70	185.70	194.20	185.70	185.70	185.70	171.40	171.40	165.70	142.90	142.90	128.60	128.60	128.60	128.60	*144.68*
3	Clothing	100.00	*138.32*	*161.28*	*144.02*	189.80	229.60	291.60	237.20	182.80	163.60	157.10	158.10	157.50	155.40	151.90	141.00	139.80	133.20	110.00	106.90	99.50	99.70	98.30	105.80	108.10	*117.50*
4	Rent	100.00	*103.23*	*106.15*	*107.53*	120.00	130.00	150.00	154.00	181.00	217.00	230.00	242.00	257.00	284.00	312.00	314.50	289.70	247.40	200.40	175.60	175.60	175.60	175.60	177.70	188.90	*207.65*
	Asiatic Clerical Standard	1914	*1915*	*1916*	*1917*	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	*1939*
1	Food & Groceries	100.00	*101.87*	*107.66*	*116.34*	140.40	191.20	253.20	167.70	145.50	145.30	146.10	151.50	160.20	154.80	151.20	149.70	140.20	103.00	86.50	78.80	83.40	93.90	91.00	101.50	93.70	*92.83*
2	Tobacco	100.00	*105.44*	*165.69*	*131.26*	174.30	200.00	257.10	242.90	242.90	200.00	185.70	185.70	194.20	185.70	185.70	185.70	171.40	171.40	165.70	142.90	142.90	128.60	128.60	128.60	128.60	*144.68*
3	Servant	100.00	*103.82*	*103.82*	*113.09*	116.80	116.80	155.50	155.50	155.50	155.50	155.50	155.50	155.50	155.50	155.50	155.50	152.90	138.00	124.70	115.80	123.70	127.40	125.70	130.00	128.20	*128.20*
4	Transport	100.00	*101.83*	*103.13*	*108.64*	112.50	122.90	126.80	122.80	112.00	94.80	99.40	105.30	103.50	94.20	93.10	89.70	85.50	96.20	89.00	85.40	84.50	82.40	80.00	81.40	81.50	*82.18*
5	Clothing	100.00	*138.32*	*161.28*	*144.02*	189.80	229.60	291.60	237.20	182.80	163.60	157.10	158.10	157.50	155.40	151.90	141.00	139.80	133.20	110.00	106.90	99.50	99.70	98.30	105.80	108.10	*117.50*
6	Rent	100.00	*103.23*	*106.15*	*107.53*	120.00	130.00	150.00	154.00	181.00	217.00	230.00	242.00	257.00	284.00	312.00	314.50	289.70	247.40	200.40	175.60	175.60	175.60	175.60	177.70	188.90	*207.65*
	Eurasian Clerical Standard	1914	*1915*	*1916*	*1917*	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	*1939*
1	Food & Groceries	100.00	*134.70*	*136.67*	*140.34*	136.50	160.30	214.30	168.80	140.00	141.00	139.80	143.40	153.00	155.00	149.40	141.40	132.00	109.70	97.80	93.80	96.10	97.20	96.10	102.60	96.20	*88.39*
2	Tobacco	100.00	*105.44*	*165.69*	*131.26*	174.30	200.00	257.10	242.90	242.90	200.00	185.70	185.70	194.20	185.70	185.70	185.70	171.40	171.40	165.70	142.90	142.90	128.60	128.60	128.60	128.60	*144.68*
3	Servant	100.00	*103.82*	*103.82*	*113.09*	116.80	116.80	155.50	155.50	155.50	155.50	155.50	155.50	155.50	155.50	155.50	155.50	152.90	138.00	124.70	115.80	123.70	127.40	125.70	130.00	128.20	*128.20*
4	Transport	100.00	*101.83*	*103.13*	*108.64*	112.50	122.90	126.80	122.80	112.00	94.80	99.40	105.30	103.50	94.20	93.10	89.70	85.50	96.20	89.00	85.40	84.50	82.40	80.00	81.40	81.50	*82.18*
5	Clothing	100.00	*138.32*	*161.28*	*144.02*	189.80	229.60	291.60	237.20	182.80	163.60	157.10	158.10	157.50	155.40	151.90	141.00	139.80	133.20	110.00	106.90	99.50	99.70	98.30	105.80	108.10	*117.50*
6	Rent	100.00	*103.23*	*106.15*	*107.53*	120.00	130.00	150.00	154.00	181.00	217.00	230.00	242.00	257.00	284.00	312.00	314.50	289.70	247.40	200.40	175.60	175.60	175.60	175.60	177.70	188.90	*207.65*
	European Standard	1914	*1915*	*1916*	*1917*	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	*1939*
1	Food & Groceries	100.00	*134.70*	*136.67*	*140.34*	136.50	160.30	214.30	168.80	140.00	141.00	139.80	143.40	153.00	155.00	149.40	141.40	132.00	109.70	97.80	93.80	96.10	97.20	96.10	102.60	96.20	*88.39*
2	Beverages and Tobacco	100.00	*77.42*	*104.40*	*124.22*	174.80	204.10	214.70	231.20	223.70	203.20	192.10	186.70	181.30	176.00	176.30	167.00	168.70	178.40	172.00	168.00	170.50	166.50	165.90	165.90	164.20	*164.07*
3	Servant	100.00	*103.82*	*103.82*	*113.09*	116.80	116.80	155.50	155.50	155.50	155.50	155.50	155.50	155.50	155.50	155.50	155.50	152.90	138.00	124.70	115.80	123.70	127.40	125.70	130.00	128.20	*128.20*
4	Transport	100.00	*101.83*	*103.13*	*108.64*	112.50	122.90	126.80	122.80	112.00	94.80	99.40	105.30	103.50	94.20	93.10	89.70	85.50	96.20	89.00	85.40	84.50	82.40	80.00	81.40	81.50	*82.18*
5	Clothing	100.00	*138.32*	*161.28*	*144.02*	189.80	229.60	291.60	237.20	182.80	163.60	157.10	158.10	157.50	155.40	151.90	141.00	139.80	139.80	132.30	124.10	121.60	119.50	119.50	119.50	119.50	*129.90*
6	Clubs	100.00	*91.31*	*103.77*	*113.88*	134.00	147.40	163.50	176.70	177.40	169.20	164.10	164.20	161.70	159.50	159.50	155.30	156.10	160.50	160.10	158.40	159.50	157.70	157.40	157.70	159.40	*152.87*
7	Rent	100.00	*98.02*	*99.61*	*98.27*	110.00	121.00	169.00	179.00	191.00	204.00	208.00	213.00	220.00	230.00	248.00	249.00	229.50	201.60	166.50	146.40	146.40	146.40	146.40	149.60	154.80	*162.83*

APPENDIX 4

Estimates of Price Indices for Major Objects of Consumption and Consumption Standards, Malaya, 1900-14

The Consumer Price Indices computed for this period have 1914 as the base year. For the period 1914-39, it was fortunate that cost-of-living indices for some standards were available though weights for the private final consumption expenditure for each of these standards in value terms for the year 1914 were not available. Given these limitations, certain methodologies were adopted to identify the weights for the various standards for private final consumption expenditure for the reference year 1914. The scenario for the period 1900-14 was even worse. Not a single price index of any of the major objects of consumption by standard was available. Neither were household surveys carried out during this period. Detailed price information of various objects of private final consumption expenditure were not available for those goods and services consumed, be they locally produced or imported. In the absence of a retail price series and the accompanying weights, some creative procedures had to be resorted to in order to construct the consumer price indices.

For the construction of the food price indices, various options based on the import unit values and market price indices of food were explored. Weights within food items were determined taking into account amongst others, (i) the weights as reported in the 1958 Household Expenditure Survey, (ii) the per capita private final consumption expenditure on food in 1949 in the domestic market of Malay, Chinese and Indian Labour Standards and, (iii) weights on food items based on the consumption of food per male adult for Malay (1936), Chinese (1936) and Indian (1933) Labour Standards.

Based on these data sources it was felt that the appropriate weights to be assigned to the various food items for the construction of the CPI are as follows:

Food Items	Weights for 1914
Rice	35.0%
Sugar	3.0%
Meat	11.0%
Fish-Fresh and Dried	13.0%
Eggs	1.0%
Vegetables	10.0%
Oil, Kachang	2.0%
Milk	3.0%
Wheat Flour	1.0%
Lard	0.2%
Other Food Items	20.8%

Details on the way the price indices were constructed for all major objects of consumption are described in detail in the ensuing pages.

Food Price Indices and Weights for Food Items (1900-14)

Two main approaches were taken to compute the consumer price index (CPI) on food. One was based on the "import unit value" while the other employed the "market prices" of food items in selected markets for both imported and locally produced goods. A comparative study was then made to determine which of these two approaches would most likely portray the actual price movement of food items at that material time. Data on CPI for food of United Kingdom and Singapore were also examined in this context. For both of these two approaches, simulations were done by varying the weights for rice and sugar and by excluding items within each major food category that displayed extreme prices.

The next procedure required weights for detail items within each major category of food consumption. Since such weights for the detail items were not available equal

weights were assigned to each detail item within each major category of food consumption thereby deriving only a simple arithmetic average of price indices of these items within each major category. With regard to "other food items" of which no price data was available, a number of options were experimented with to arrive at a reliable price series viz (i) rice price index, (ii) simple arithmetic average of all food items except rice, (iii) simple arithmetic average of all food items including rice and (iv) weighted average of price of all major food categories including and excluding rice.

In the "market price" approach, difficulties were encountered in establishing the market price movements of rice. Consequently, the import unit value of rice was used in this approach. In addition, the Singapore annual average market price of sugar was applied as it was felt that sugar price movements in Singapore would move in tandem with those of Malaya. This was because sugar prices were available for only selected markets in Malaya. In addition, voluminous amount of computations had to be done for every year as data was only available on a monthly basis. Moreover, for some years data for only a few months were available. As such it was felt that using the readily available annual average market price of sugar in Singapore would be a better option to capture price movements of sugar in Malaya.

Given all the options available from these two approaches and based on statistical and other surrogate evidence, it was felt that the best option that would reflect actual food price movements in Malaya would be the one based on the "market price" approach with the assumed weights as shown in the Table on page 60 with the price index for "other food items" assumed to be the weighted arithmetic average of prices of all major food categories (including rice). The details on the calculation of food indices are given in the next page.

Calculation of Food Price Indices Based on Market Prices, (1914=100) – Malaya, 1900-1914

[A] Computation of price indices for household expenditure on "Food" items

			1899	1900	1901	1902	1903	1904
Rice	Rice	per ton	**76.84**	**78.98**	**74.21**	**84.14**	**71.75**	**67.56**
Rice	**Rice**	**Price Indices 1914=100**	**92.65**	**95.23**	**89.48**	**101.46**	**86.51**	**81.46**

			1899	1900	1901	1902	1903	1904
Sugar	Sugar	per kati	0.10	0.10	0.10	0.10	0.10	0.10
Sugar	**Sugar**	**Price Indices 1914=100**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

			1899	1900	1901	1902	1903	1904
	Beef	per kati	0.32	0.26	0.29	0.31	0.30	0.30
	Beef, buffalo	per kati	0.24	0.27	0.28	0.27	0.28	0.25
Meat	Mutton	per kati	0.48	0.58	0.55	0.58	0.59	0.60
	Pork	per kati	0.35	0.37	0.35	0.35	0.31	0.35
	Chicken	each	0.35	0.30	0.36	0.39	0.42	0.42
	Beef	Price Indices (1914=100)	110.52	89.11	100.16	107.06	103.61	103.61
	Beef, buffalo	Price Indices (1914=100)	85.44	96.12	97.90	94.66	99.68	89.00
Meat	Mutton	Price Indices (1914=100)	116.65	139.01	132.10	140.88	141.55	144.45
	Pork	Price Indices (1914=100)	81.53	86.96	82.82	81.53	73.25	81.53
	Chicken	Price Indices (1914=100)	94.33	80.00	96.00	105.27	112.00	112.67
	Simple Arithmetic Average Price Indices (1914=100)		**97.69**	**98.24**	**101.80**	**105.88**	**106.02**	**106.25**

			1899	1900	1901	1902	1903	1904
Fish	Fish, Fresh	per kati	0.21	0.29	0.25	0.23	0.31	0.32
Fish	**Fish, Fresh**	**Price Indices 1914=100**	**68.95**	**92.58**	**81.52**	**73.26**	**98.83**	**101.83**

			1899	1900	1901	1902	1903	1904
Eggs	Ducks, salted	each	0.02	0.03	0.03	0.03	0.03	0.03
Eggs	**Ducks, salted**	**Price Indices 1914=100**	**76.00**	**96.00**	**90.63**	**96.00**	**93.09**	**96.00**

			1899	1900	1901	1902	1903	1904
	Chillies, dried	per kati	0.16	0.19	0.12	0.13	0.18	0.21
	Coconuts, fresh	each	0.06	0.06	0.06	0.07	0.07	0.07
	Cucumber	per kati	0.03	0.04	0.04	0.04	0.06	0.06
Vegetables	Onions	per kati	0.06	0.10	0.07	0.07	0.10	0.10
	Potatoes	per kati	0.06	0.06	0.07	0.08	0.08	0.08
	Pumpkin, white	per kati	0.03	0.03	0.03	0.04	0.04	0.04
	Radish, salted	per kati	0.07	0.09	0.08	0.07	0.09	0.09
	Chillies, dried	Price Indices 1914=100	60.59	75.44	48.47	50.31	68.58	80.52
	Coconuts, fresh	Price Indices 1914=100	117.86	123.21	133.93	158.93	150.00	155.54
	Cucumber	Price Indices 1914=100	61.53	80.54	85.76	83.90	141.36	124.36
Vegetables	Onions	Price Indices 1914=100	63.56	98.64	71.84	69.41	102.16	97.63
	Potatoes	Price Indices 1914=100	70.66	80.93	88.46	97.71	108.61	96.56
	Pumpkin, white	Price Indices 1914=100	55.56	66.67	74.44	80.39	89.90	86.67
	Radish, salted	Price Indices 1914=100	158.33	195.56	183.52	152.36	188.89	188.89
	Simple Arithmetic Average Price Indices (1914=100)		**84.01**	**103.00**	**98.06**	**99.00**	**121.36**	**118.59**

			1899	1900	1901	1902	1903	1904
Oil	Oil, Kachang	per kati	0.16	0.18	0.18	0.20	0.21	0.22
Oil	**Oil, Kachang**	**Price Indices 1914=100**	**86.49**	**96.22**	**95.60**	**109.34**	**113.02**	**116.76**

			1899	1900	1901	1902	1903	1904
Milk	Milk, condensed	per tin	0.23	0.27	0.24	0.24	0.27	0.24
	Milk, fresh	1 paun(1/2 pint)	0.13	0.15	0.13	0.13	0.20	0.22
Milk	Milk, condensed	Price Indices 1914=100	83.28	99.39	89.45	89.29	99.22	88.71
	Milk, fresh	Price Indices 1914=100	63.89	76.25	63.75	63.75	100.00	109.17
	Simple Arithmetic Average Price Indices (1914=100)		**73.59**	**87.82**	**76.60**	**76.52**	**99.61**	**98.94**

			1899	1900	1901	1902	1903	1904
Wheat Flour	Flour, Wheat, 1st Quality	per bag	2.29	2.17	2.01	2.38	3.09	3.42
Wheat Flour	**Flour, Wheat, 1st Quality**	**Price Indices 1914=100**	**76.89**	**72.77**	**67.72**	**79.90**	**103.90**	**115.03**

			1899	1900	1901	1902	1903	1904
Lard	Lard	per kati	0.23	0.24	0.23	0.25	0.32	0.32
Lard	**Lard**	**Price Indices 1914=100**	**92.86**	**96.73**	**95.74**	**101.11**	**129.87**	**130.61**

[B] Computation of price indices for "Other Food Items" (OFI) based on weights of household expenditure on food items other than OFI

			Weights for 1914	1899		1900		1901		1902		1903		1904	
				Price Index (1914=100)	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
	Rice	Price Indices 1914=100	0.4419	92.65	40.94	95.23	42.08	89.48	39.54	101.46	44.84	86.51	38.23	81.46	36.00
	Sugar	Price Indices 1914=100	0.0379	100.00	3.79	100.00	3.79	100.00	3.79	100.00	3.79	100.00	3.79	100.00	3.79
	Meat	Price Indices 1914=100	0.1389	97.69	13.57	98.24	13.64	101.80	14.14	105.88	14.71	106.02	14.72	106.25	14.76
	Fish-Fresh and Dried	Price Indices 1914=100	0.1641	68.95	11.32	92.58	15.20	81.52	13.38	73.26	12.03	98.83	16.22	101.83	16.71
Price Indices	Eggs	Price Indices 1914=100	0.0126	76.00	0.96	96.00	1.21	90.63	1.14	96.00	1.21	93.09	1.18	96.00	1.21
	Vegetables	Price Indices 1914=100	0.1263	84.01	10.61	103.00	13.00	98.06	12.38	99.00	12.50	121.36	15.32	118.59	14.97
	Oil, Kachang	Price Indices 1914=100	0.0253	86.49	2.18	96.22	2.43	95.60	2.41	109.34	2.76	113.02	2.85	116.76	2.95
	Milk	Price Indices 1914=100	0.0379	73.59	2.79	87.82	3.33	76.60	2.90	76.52	2.90	99.61	3.77	98.94	3.75
	Wheat Flour	Price Indices 1914=100	0.0126	76.89	0.97	72.77	0.92	67.72	0.86	79.90	1.01	103.90	1.31	115.03	1.45
	Lard	Price Indices 1914=100	0.0025	92.86	0.23	96.73	0.24	95.74	0.24	101.11	0.26	129.87	0.33	130.61	0.33
	Weighted Price Indices for OFI, 1914=100		1.0000		**87.36**		**95.85**		**90.79**		**95.99**		**97.73**		**95.92**

[C] Computation of Consumer Price Indices for Food

			Weights for 1914	1899		1900		1901		1902		1903		1904	
				Price Index (1914=100)	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
	Rice	Price Indices 1914=100	0.3500	92.65	32.43	95.23	33.33	89.48	31.32	101.46	35.51	86.51	30.28	81.46	28.51
	Sugar	Price Indices 1914=100	0.0300	100.00	3.00	100.00	3.00	100.00	3.00	100.00	3.00	100.00	3.00	100.00	3.00
	Meat	Price Indices 1914=100	0.1100	97.69	10.75	98.24	10.81	101.80	11.20	105.88	11.65	106.02	11.66	106.25	11.69
	Fish-Fresh and Dried	Price Indices 1914=100	0.1300	68.95	8.96	92.58	12.04	81.52	10.60	73.26	9.52	98.83	12.85	101.83	13.24
Weighted Price Indices	Eggs	Price Indices 1914=100	0.0100	76.00	0.76	96.00	0.96	90.63	0.91	96.00	0.96	93.09	0.93	96.00	0.96
	Vegetables	Price Indices 1914=100	0.1000	84.01	8.40	103.00	10.30	98.06	9.81	99.00	9.90	121.36	12.14	118.59	11.86
	Oil, Kachang	Price Indices 1914=100	0.0200	86.49	1.73	96.22	1.92	95.60	1.91	109.34	2.19	113.02	2.26	116.76	2.34
	Milk	Price Indices 1914=100	0.0300	73.59	2.21	87.82	2.63	76.60	2.30	76.52	2.30	99.61	2.99	98.94	2.97
	Wheat Flour	Price Indices 1914=100	0.0100	76.89	0.77	72.77	0.73	67.72	0.68	79.90	0.80	103.90	1.04	115.03	1.15
	Lard	Price Indices 1914=100	0.0020	92.86	0.19	96.73	0.19	95.74	0.19	101.11	0.20	129.87	0.26	130.61	0.26
	Other Food Items	Price Indices 1914=100	0.2080	87.36	18.17	95.85	19.94	90.79	18.88	95.99	19.97	97.73	20.33	95.92	19.95
	Consumer Price Indices for food, 1914=100		1.0000		**87.36**		**95.85**		**90.79**		**95.99**		**97.73**		**95.92**

Note: Rice is based on import prices of FMS and sugar based on market price of Singapore.

Calculation of Food Price Indices Based on Market Prices, (1914=100) – Malaya, 1900-1914 (Cont'd)

[A] Computation of price indices for household expenditure on "Food" items

			1905	1906	1907	1908	1909	1910
Rice	Rice	per ton	**76.10**	**73.25**	**80.75**	**81.09**	**77.49**	**76.70**
Rice	**Rice**	**Price Indices 1914=100**	**91.76**	**88.32**	**97.36**	**97.77**	**93.43**	**92.48**

			1905	1906	1907	1908	1909	1910
Sugar	Sugar	per kati	0.10	0.09	0.09	0.09	0.09	0.09
Sugar	**Sugar**	**Price Indices 1914=100**	**100.00**	**90.00**	**90.00**	**90.00**	**90.00**	**90.00**

			1905	1906	1907	1908	1909	1910
	Beef	per kati	0.30	0.30	0.28	0.30	0.28	0.29
	Beef, buffalo	per kati	0.22	0.27	0.26	0.28	0.26	0.26
Meat	Mutton	per kati	0.56	0.49	0.50	0.55	0.48	0.31
	Pork	per kati	0.38	0.35	0.39	0.36	0.38	0.38
	Chicken	each	0.43	0.37	0.36	0.35	0.35	0.35
	Beef	Price Indices (1914=100)	103.61	103.61	97.35	103.61	95.74	100.16
	Beef, buffalo	Price Indices (1914=100)	78.32	94.34	93.89	99.68	93.45	90.78
Meat	Mutton	Price Indices (1914=100)	134.58	117.97	120.29	132.97	114.84	75.93
	Pork	Price Indices (1914=100)	89.80	81.53	93.12	85.50	89.80	89.80
	Chicken	Price Indices (1914=100)	113.33	99.21	94.92	93.21	92.22	92.33
	Simple Arithmetic Average Price Indices (1914=100)		**103.93**	**99.33**	**99.91**	**102.99**	**97.21**	**89.80**

			1905	1906	1907	1908	1909	1910
Fish	Fish, Fresh	per kati	0.24	0.23	0.25	0.27	0.24	0.25
Fish	**Fish, Fresh**	**Price Indices 1914=100**	**77.78**	**75.51**	**79.03**	**86.51**	**76.34**	**79.44**

			1905	1906	1907	1908	1909	1910
Eggs	Ducks, salted	each	0.03	0.03	0.03	0.03	0.03	0.03
Eggs	**Ducks, salted**	**Price Indices 1914=100**	**96.00**	**96.00**	**96.00**	**96.00**	**90.67**	**80.00**

			1905	1906	1907	1908	1909	1910
	Chillies, dried	per kati	0.19	0.18	0.16	0.19	0.25	0.22
	Coconuts, fresh	each	0.07	0.06	0.07	0.07	0.07	0.06
	Cucumber	per kati	0.03	0.04	0.05	0.04	0.03	0.04
Vegetables	Onions	per kati	0.10	0.10	0.09	0.07	0.10	0.09
	Potatoes	per kati	0.07	0.06	0.07	0.07	0.07	0.07
	Pumpkin, white	per kati	0.02	0.03	0.04	0.04	0.03	0.04
	Radish, salted	per kati	0.09	0.09	0.08	0.08	0.08	0.08
	Chillies, dried	Price Indices 1914=100	74.46	68.40	60.59	75.87	97.72	85.75
	Coconuts, fresh	Price Indices 1914=100	148.81	130.03	141.96	139.29	139.29	131.25
	Cucumber	Price Indices 1914=100	77.06	88.98	100.68	96.61	76.13	97.18
Vegetables	Onions	Price Indices 1914=100	97.12	96.61	95.34	68.41	96.61	88.98
	Potatoes	Price Indices 1914=100	88.50	82.04	88.72	84.09	83.50	86.72
	Pumpkin, white	Price Indices 1914=100	44.44	62.12	79.17	80.81	75.93	95.14
	Radish, salted	Price Indices 1914=100	188.89	188.89	175.00	166.67	166.67	166.67
	Simple Arithmetic Average Price Indices (1914=100)		**102.76**	**102.44**	**105.92**	**101.68**	**105.12**	**107.38**

			1905	1906	1907	1908	1909	1910
Oil	Oil, Kachang	per kati	0.20	0.19	0.20	0.19	0.17	0.17
Oil	**Oil, Kachang**	**Price Indices 1914=100**	**109.73**	**102.70**	**109.80**	**102.70**	**91.89**	**92.91**

			1905	1906	1907	1908	1909	1910
Milk	Milk, condensed	per tin	0.21	0.19	0.21	0.21	0.21	0.18
	Milk, fresh	1 paun(1/2 pint)	0.23	0.20	0.20	0.20	0.20	0.20
Milk	Milk, condensed	Price Indices 1914=100	78.40	68.10	76.61	76.30	75.46	67.87
	Milk, fresh	Price Indices 1914=100	112.78	100.00	100.00	100.00	100.00	100.00
	Simple Arithmetic Average Price Indices (1914=100)		**95.59**	**84.05**	**88.31**	**88.15**	**87.73**	**83.93**

			1905	1906	1907	1908	1909	1910
Wheat Flour	Flour, Wheat, 1st Quality	per bag	2.82	2.23	2.28	2.55	2.55	2.34
Wheat Flour	**Flour, Wheat, 1st Quality**	**Price Indices 1914=100**	**94.91**	**74.79**	**76.68**	**85.71**	**85.71**	**78.49**

			1905	1906	1907	1908	1909	1910
Lard	Lard	per kati	0.27	0.22	0.25	0.27	0.27	0.24
Lard	**Lard**	**Price Indices 1914=100**	**110.20**	**89.80**	**100.26**	**110.20**	**110.20**	**96.68**

[B] Computation of price indices for "Other Food Items" (OFI) based on weights of household expenditure on food items other than OFI

			Weights for 1914	1905		1906		1907		1908		1909		1910	
				Price Index (1914=100)	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
	Rice	Price Indices 1914=100	0.4419	91.76	40.55	88.32	39.03	97.36	43.03	97.77	43.21	93.43	41.29	92.48	40.87
	Sugar	Price Indices 1914=100	0.0379	100.00	3.79	90.00	3.41	90.00	3.41	90.00	3.41	90.00	3.41	90.00	3.41
	Meat	Price Indices 1914=100	0.1389	103.93	14.43	99.33	13.80	99.91	13.88	102.99	14.30	97.21	13.50	89.80	12.47
	Fish-Fresh and Dried	Price Indices 1914=100	0.1641	77.78	12.77	75.51	12.39	79.03	12.97	86.51	14.20	76.34	12.53	79.44	13.04
Price Indices	Eggs	Price Indices 1914=100	0.0126	96.00	1.21	96.00	1.21	96.00	1.21	96.00	1.21	90.67	1.14	80.00	1.01
	Vegetables	Price Indices 1914=100	0.1263	102.76	12.97	102.44	12.93	105.92	13.37	101.68	12.84	105.12	13.27	107.38	13.56
	Oil, Kachang	Price Indices 1914=100	0.0253	109.73	2.77	102.70	2.59	109.80	2.77	102.70	2.59	91.89	2.32	92.91	2.35
	Milk	Price Indices 1914=100	0.0379	95.59	3.62	84.05	3.18	88.31	3.34	88.15	3.34	87.73	3.32	83.93	3.18
	Wheat Flour	Price Indices 1914=100	0.0126	94.91	1.20	74.79	0.94	76.68	0.97	85.71	1.08	85.71	1.08	78.49	0.99
	Lard	Price Indices 1914=100	0.0025	110.20	0.28	89.80	0.23	100.26	0.25	110.20	0.28	110.20	0.28	96.68	0.24
	Weighted Price Indices for OFI, 1914=100		1.0000		**93.60**		**89.73**		**95.21**		**96.46**		**92.15**		**91.12**

[C] Computation of Consumer Price Indices for Food

			Weights for 1914	1905		1906		1907		1908		1909		1910	
				Price Index (1914=100)	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
	Rice	Price Indices 1914=100	0.3500	91.76	32.12	88.32	30.91	97.36	34.08	97.77	34.22	93.43	32.70	92.48	32.37
	Sugar	Price Indices 1914=100	0.0300	100.00	3.00	90.00	2.70	90.00	2.70	90.00	2.70	90.00	2.70	90.00	2.70
	Meat	Price Indices 1914=100	0.1100	103.93	11.43	99.33	10.93	99.91	10.99	102.99	11.33	97.21	10.69	89.80	9.88
	Fish-Fresh and Dried	Price Indices 1914=100	0.1300	77.78	10.11	75.51	9.82	79.03	10.27	86.51	11.25	76.34	9.92	79.44	10.33
	Eggs	Price Indices 1914=100	0.0100	96.00	0.96	96.00	0.96	96.00	0.96	96.00	0.96	90.67	0.91	80.00	0.80
Weighted Price Indices	Vegetables	Price Indices 1914=100	0.1000	102.76	10.28	102.44	10.24	105.92	10.59	101.68	10.17	105.12	10.51	107.38	10.74
	Oil, Kachang	Price Indices 1914=100	0.0200	109.73	2.19	102.70	2.05	109.80	2.20	102.70	2.05	91.89	1.84	92.91	1.86
	Milk	Price Indices 1914=100	0.0300	95.59	2.87	84.05	2.52	88.31	2.65	88.15	2.64	87.73	2.63	83.93	2.52
	Wheat Flour	Price Indices 1914=100	0.0100	94.91	0.95	74.79	0.75	76.68	0.77	85.71	0.86	85.71	0.86	78.49	0.78
	Lard	Price Indices 1914=100	0.0020	110.20	0.22	89.80	0.18	100.26	0.20	110.20	0.22	110.20	0.22	96.68	0.19
	Other Food Items	Price Indices 1914=100	0.2080	93.60	19.47	89.73	18.66	95.21	19.80	96.46	20.06	92.15	19.17	91.12	18.95
	Consumer Price Indices for food, 1914=100		1.0000		**93.60**		**89.73**		**95.21**		**96.46**		**92.15**		**91.12**

Note: Rice is based on import prices of FMS and sugar based on market price of Singapore.

Calculation of Food Price Indices Based on Market Prices, (1914=100) – Malaya, 1900-1914 (Cont'd)

[A] Computation of price indices for household expenditure on "Food" items

			1911	1912	1913	1914
Rice	Rice	per ton	**86.26**	**104.09**	**94.37**	**82.94**
Rice	**Rice**	**Price Indices 1914=100**	**104.01**	**125.50**	**113.79**	**100.00**

			1911	1912	1913	1914
Sugar	Sugar	per kati	0.09	0.09	0.09	0.10
Sugar	**Sugar**	**Price Indices 1914=100**	**90.00**	**90.00**	**90.00**	**100.00**

			1911	1912	1913	1914
	Beef	per kati	0.31	0.30	0.31	0.29
	Beef, buffalo	per kati	0.27	0.28	0.28	0.28
Meat	Mutton	per kati	0.40	0.40	0.40	0.41
	Pork	per kati	0.38	0.40	0.40	0.42
	Chicken	each	0.38	0.38	0.38	0.38
	Beef	Price Indices (1914=100)	107.06	104.33	107.50	100.00
	Beef, buffalo	Price Indices (1914=100)	96.63	100.86	100.57	100.00
Meat	Mutton	Price Indices (1914=100)	96.70	96.70	96.70	100.00
	Pork	Price Indices (1914=100)	89.80	94.52	94.52	100.00
	Chicken	Price Indices (1914=100)	100.83	100.00	100.00	100.00
	Simple Arithmetic Average Price Indices (1914=100)		**98.20**	**99.28**	**99.86**	**100.00**

			1911	1912	1913	1914
Fish	Fish, Fresh	per kati	0.28	0.24	0.34	0.31
Fish	**Fish, Fresh**	**Price Indices 1914=100**	**89.86**	**76.75**	**109.53**	**100.00**

			1911	1912	1913	1914
Eggs	Ducks, salted	each	0.03	0.04	0.04	0.03
Eggs	**Ducks, salted**	**Price Indices 1914=100**	**80.00**	**120.00**	**121.45**	**100.00**

			1911	1912	1913	1914
	Chillies, dried	per kati	0.17	0.19	0.18	0.26
	Coconuts, fresh	each	0.06	0.09	0.08	0.05
	Cucumber	per kati	0.04	0.05	0.04	0.04
Vegetables	Onions	per kati	0.08	0.08	0.08	0.10
	Potatoes	per kati	0.07	0.07	0.08	0.08
	Pumpkin, white	per kati	0.04	0.04	0.04	0.05
	Radish, salted	per kati	0.08	0.08	0.08	0.05
	Chillies, dried	Price Indices 1914=100	66.21	73.45	69.56	100.00
	Coconuts, fresh	Price Indices 1914=100	120.54	182.14	170.45	100.00
	Cucumber	Price Indices 1914=100	93.84	101.92	98.11	100.00
Vegetables	Onions	Price Indices 1914=100	77.86	81.36	82.74	100.00
	Potatoes	Price Indices 1914=100	86.72	91.53	96.52	100.00
	Pumpkin, white	Price Indices 1914=100	91.67	77.78	91.92	100.00
	Radish, salted	Price Indices 1914=100	166.67	166.67	166.67	100.00
	Simple Arithmetic Average Price Indices (1914=100)		**100.50**	**110.69**	**110.85**	**100.00**

			1911	1912	1913	1914
Oil	Oil, Kachang	per kati	0.17	0.19	0.20	0.19
Oil	**Oil, Kachang**	**Price Indices 1914=100**	**94.26**	**104.95**	**105.41**	**100.00**

			1911	1912	1913	1914
Milk	Milk, condensed	per tin	0.20	0.18	0.19	0.27
	Milk, fresh	1 paun(1/2 pint)	0.20	0.20	0.20	0.20
Milk	Milk, condensed	Price Indices 1914=100	74.77	67.79	68.10	100.00
	Milk, fresh	Price Indices 1914=100	100.00	100.00	100.00	100.00
	Simple Arithmetic Average Price Indices (1914=100)		**87.38**	**83.90**	**84.05**	**100.00**

			1911	1912	1913	1914
Wheat Flour	Flour, Wheat, 1st Quality	per bag	2.14	2.23	2.25	2.98
Wheat Flour	**Flour, Wheat, 1st Quality**	**Price Indices 1914=100**	**71.95**	**74.83**	**75.77**	**100.00**

			1911	1912	1913	1914
Lard	Lard	per kati	0.25	0.25	0.29	0.25
Lard	**Lard**	**Price Indices 1914=100**	**100.26**	**100.51**	**118.37**	**100.00**

[B] Computation of price indices for "Other Food Items" (OFI) based on weights of household expenditure on food items other than OFI

			Weights for 1914	1911		1912		1913		1914	
				Price Index (1914=100)	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
	Rice	Price Indices 1914=100	0.4419	104.01	45.96	125.50	55.46	113.79	50.29	100.00	44.19
	Sugar	Price Indices 1914=100	0.0379	90.00	3.41	90.00	3.41	90.00	3.41	100.00	3.79
	Meat	Price Indices 1914=100	0.1389	98.20	13.64	99.28	13.79	99.86	13.87	100.00	13.89
	Fish-Fresh and Dried	Price Indices 1914=100	0.1641	89.86	14.75	76.75	12.60	109.53	17.98	100.00	16.41
Price Indices	Eggs	Price Indices 1914=100	0.0126	80.00	1.01	120.00	1.52	121.45	1.53	100.00	1.26
	Vegetables	Price Indices 1914=100	0.1263	100.50	12.69	110.69	13.98	110.85	14.00	100.00	12.63
	Oil, Kachang	Price Indices 1914=100	0.0253	94.26	2.38	104.95	2.65	105.41	2.66	100.00	2.53
	Milk	Price Indices 1914=100	0.0379	87.38	3.31	83.90	3.18	84.05	3.18	100.00	3.79
	Wheat Flour	Price Indices 1914=100	0.0126	71.95	0.91	74.83	0.94	75.77	0.96	100.00	1.26
	Lard	Price Indices 1914=100	0.0025	100.26	0.25	100.51	0.25	118.37	0.30	100.00	0.25
	Weighted Price Indices for OFI, 1914=100		1.0000		**98.31**		**107.78**		**108.17**		**100.00**

[C] Computation of Consumer Price Indices for Food

			Weights for 1914	1911		1912		1913		1914	
				Price Index (1914=100)	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
	Rice	Price Indices 1914=100	0.3500	104.01	36.40	125.50	43.93	113.79	39.83	100.00	35.00
	Sugar	Price Indices 1914=100	0.0300	90.00	2.70	90.00	2.70	90.00	2.70	100.00	3.00
	Meat	Price Indices 1914=100	0.1100	98.20	10.80	99.28	10.92	99.86	10.98	100.00	11.00
	Fish-Fresh and Dried	Price Indices 1914=100	0.1300	89.86	11.68	76.75	9.98	109.53	14.24	100.00	13.00
Weighted Price Indices	Eggs	Price Indices 1914=100	0.0100	80.00	0.80	120.00	1.20	121.45	1.21	100.00	1.00
	Vegetables	Price Indices 1914=100	0.1000	100.50	10.05	110.69	11.07	110.85	11.09	100.00	10.00
	Oil, Kachang	Price Indices 1914=100	0.0200	94.26	1.89	104.95	2.10	105.41	2.11	100.00	2.00
	Milk	Price Indices 1914=100	0.0300	87.38	2.62	83.90	2.52	84.05	2.52	100.00	3.00
	Wheat Flour	Price Indices 1914=100	0.0100	71.95	0.72	74.83	0.75	75.77	0.76	100.00	1.00
	Lard	Price Indices 1914=100	0.0020	100.26	0.20	100.51	0.20	118.37	0.24	100.00	0.20
	Other Food Items	Price Indices 1914=100	0.2080	98.31	20.45	107.78	22.42	108.17	22.50	100.00	20.80
	Consumer Price Indices for food, 1914=100		1.0000		**98.31**		**107.78**		**108.17**		**100.00**

Note: Rice is based on import prices of FMS and sugar based on market price of Singapore.

Tobacco Price Index (1900-14)

No official consumer price index for tobacco was available. The construction of the tobacco price index was therefore based on the import unit value. Import unit value data was available in the FMSCT[13] annual reports for the years 1903-14. However, the import unit value for the year 1903 was found to be incorrect. It was quite obvious that the quantity figure ought to have been 24,746 piculs and not 4,746 piculs. If the revised figure was to be used, then the import unit value for the year 1903 would have been 56.49 and this seems to be in line with the figure of 56.83 in 1904. This was supported by data on native tobacco (minimum or highest market prices) which showed that there were no price changes from 1903 to 1904. This evidence provides us the confidence that the unit value of 56.49 in 1903 and 56.83 in 1904 do in fact reflect the true price changes between the two years in question. For 1899-1902 period where no such data was available in the FMSCT annual reports, the price movement data for tobacco (Chinese) recorded for Pahang was taken to reflect the price movement for these years.

Alcoholic Drink Price Index for European Standard (1900-14)

The alcoholic drink price index took into account the price movements of four types of liquor, namely brandy, gin, whisky and wine. These indices were constructed for the years 1900-02 based on the import unit value available for individual FMS states. For the years 1903-14, the price index for each type of liquor mentioned above was constructed based on the import unit value of the consolidated FMS import trade data. Care was taken to ensure that the data series from 1900-02 was compatible with that of 1903-14. The overall price index was computed based on the 1914 weight of

[13] Federated Malay States, Reports on Customs and Trade

each type of liquor mentioned above. A study was also undertaken to determine the weight of each type of liquor for a number of years. The weight for each of the four alcoholic beverages in general did not differ across years. Such being the case, it was decided that the FMS 1914 weights of imported alcoholic drinks be used to represent the pattern of alcohol consumption of the European Standard.

Tobacco and Beverages Price Index for European Standard (1900-14)

It should be noted that the 1914-based consumer price index provides a consolidated price index for tobacco and beverages for the European Standard. Estimates of the consolidated price index of these two items were also made for 1915-17 and 1939 as described in **Appendix 3**. Since 1914 was used as the base year for the price index from 1900 to 1914, it is imperative that we should also provide a consolidated price index for tobacco and beverages for the European Standard. The weights for the expenditure on beverages (85%) and tobacco (15%) were then used for computing the price index for the years 1900-14.

Clothing Price Index (1900-14)

Price index on clothing was difficult to construct as the available statistics do not provide detailed information on prices per se on specific clothing such as shirts, trousers, sarongs, etc. The only information available was the import unit value of cotton piece goods in Penang and in FMS states individually or collectively. In addition, where some statistics on clothing were available, the unit of quantity was not additive. Finally, it was decided that the movement of the import unit value of cotton piece (plain) in Penang be used to reflect the price movement of clothing in Malaya as a

whole. However, such statistics were only available for 1900-12. For 1913-14, the estimates of price movements of clothing were based on the price change of cotton piece goods in FMS for the years 1912-14. Based on this time series, we were then able to construct a price index for clothing with 1914=100.

Servants Price Index for European, Asiatic and Eurasian Clerical Standards (1900-14)

It was noted that the wage index of non-agricultural workers seemed to move in the same direction as Singapore's cost-of-living index on servants from 1920-38. Taking into account this close relationship in the movements of these two indices, it was assumed that this relationship would hold good for the period 1900-13 and the servants price index was calculated accordingly.

Transport Price Index for European, Asiatic and Eurasian Clerical Standards (1900-14)

An initial attempt was made to estimate the transport price index based on information pertaining to transport and travelling allowances paid to all Straits Settlements civil servants. The transport price index derived from this source of information, however, yielded figures that fluctuated rather unusually over the period. These fluctuations were largely due to the fact that the figures not only included the cost of transport but also allowances for hotels and meals. In addition, the composition of the yearly transport and travelling allowances that was available on a consolidated basis could have varied from year to year and therefore the transport price index derived did not portray the "true" price changes of transport. Furthermore, the derived figures did not take into account any real changes in the allowances. Given this predicament and in

the absence of any reliable data, the only reasonable data source that could be used with some degree of confidence would be that of the UK. The rationale for using the UK index has been explained earlier in Appendix 3.

Rent Price Indices for All Standards (1900-14)

For the years 1900-07, no surrogate data was available to estimate the annual changes in rent of dwellings. Therefore, the average growth rate of rents for the Asiatic Clerical and European Standards for the period 1900-07 was estimated based on the average annual growth rate of rent for the period 1908-14 for these standards as described in pages 54-55. The Asiatic standard was then taken to represent the movement of rent for all labour standards. Owing to the weakness of the underlying data, the computation of these indices is inevitably subject to large errors.

Clubbing Price Index for European Standard (1900-14)

The price index for expenditure on clubs was based on the simple arithmetic average prices of food and tobacco and beverages consumed by those of the European Standard. A detailed description on the construction of the food and tobacco and beverages price indices was given earlier.

Summary of Price Indices of Major Objects of Consumption and Consumption Standards, 1900-14

The results of the computation of price indices for major objects of consumption and consumption standards are given in the following page.

Price Indices by Consumption Standard and Major Object of Consumption, (1914=100) -Malaya, 1900-14

	Year															
Malay Labour Standard	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914
Food	87.36	95.85	90.79	95.99	97.73	95.92	93.60	89.73	95.21	96.46	92.15	91.12	98.31	107.78	108.17	100.00
Tobacco	57.06	59.78	53.63	68.40	69.80	70.21	53.66	62.27	60.85	54.74	53.33	63.12	76.22	80.65	98.50	100.00
Clothing	83.22	80.34	98.09	107.27	104.00	116.83	109.35	102.77	108.12	108.09	96.68	99.22	101.13	102.70	99.53	100.00
Rent	71.14	72.69	74.28	75.90	77.56	79.25	80.98	82.74	84.55	86.39	85.66	84.93	85.66	86.39	96.23	100.00
Chinese Labour Standard	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914
Food	87.36	95.85	90.79	95.99	97.73	95.92	93.60	89.73	95.21	96.46	92.15	91.12	98.31	107.78	108.17	100.00
Tobacco	57.06	59.78	53.63	68.40	69.80	70.21	53.66	62.27	60.85	54.74	53.33	63.12	76.22	80.65	98.50	100.00
Clothing	83.22	80.34	98.09	107.27	104.00	116.83	109.35	102.77	108.12	108.09	96.68	99.22	101.13	102.70	99.53	100.00
Rent	71.14	72.69	74.28	75.90	77.56	79.25	80.98	82.74	84.55	86.39	85.66	84.93	85.66	86.39	96.23	100.00
Indian Labour Standard	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914
Food	87.36	95.85	90.79	95.99	97.73	95.92	93.60	89.73	95.21	96.46	92.15	91.12	98.31	107.78	108.17	100.00
Tobacco	57.06	59.78	53.63	68.40	69.80	70.21	53.66	62.27	60.85	54.74	53.33	63.12	76.22	80.65	98.50	100.00
Clothing	83.22	80.34	98.09	107.27	104.00	116.83	109.35	102.77	108.12	108.09	96.68	99.22	101.13	102.70	99.53	100.00
Rent	71.14	72.69	74.28	75.90	77.56	79.25	80.98	82.74	84.55	86.39	85.66	84.93	85.66	86.39	96.23	100.00
Asiatic Clerical Standard	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914
Food	87.36	95.85	90.79	95.99	97.73	95.92	93.60	89.73	95.21	96.46	92.15	91.12	98.31	107.78	108.17	100.00
Tobacco	57.06	59.78	53.63	68.40	69.80	70.21	53.66	62.27	60.85	54.74	53.33	63.12	76.22	80.65	98.50	100.00
Servants	69.64	75.00	73.21	82.14	82.14	78.57	78.57	82.14	91.07	91.07	91.07	91.07	91.07	91.07	91.07	100.00
Transport	109.66	107.87	107.44	107.23	107.34	107.23	107.12	107.23	105.07	104.64	103.67	103.24	102.91	103.02	99.46	100.00
Clothing	83.22	80.34	98.09	107.27	104.00	116.83	109.35	102.77	108.12	108.09	96.68	99.22	101.13	102.70	99.53	100.00
Rent	71.14	72.69	74.28	75.90	77.56	79.25	80.98	82.74	84.55	86.39	85.66	84.93	85.66	86.39	96.23	100.00
Eurasian Clerical Standard	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914
Food	87.36	95.85	90.79	95.99	97.73	95.92	93.60	89.73	95.21	96.46	92.15	91.12	98.31	107.78	108.17	100.00
Tobacco	57.06	59.78	53.63	68.40	69.80	70.21	53.66	62.27	60.85	54.74	53.33	63.12	76.22	80.65	98.50	100.00
Servants	69.64	75.00	73.21	82.14	82.14	78.57	78.57	82.14	91.07	91.07	91.07	91.07	91.07	91.07	91.07	100.00
Transport	109.66	107.87	107.44	107.23	107.34	107.23	107.12	107.23	105.07	104.64	103.67	103.24	102.91	103.02	99.46	100.00
Clothing	83.22	80.34	98.09	107.27	104.00	116.83	109.35	102.77	108.12	108.09	96.68	99.22	101.13	102.70	99.53	100.00
Rent	71.14	72.69	74.28	75.90	77.56	79.25	80.98	82.74	84.55	86.39	85.66	84.93	85.66	86.39	96.23	100.00
European Standard	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914
Food	87.36	95.85	90.79	95.99	97.73	95.92	93.60	89.73	95.21	96.46	92.15	91.12	98.31	107.78	108.17	100.00
Beverages & Tobacco	93.93	102.60	102.16	99.76	110.51	94.59	92.91	84.95	76.59	77.05	77.20	86.52	93.36	92.56	101.06	100.00
Servants	69.64	75.00	73.21	82.14	82.14	78.57	78.57	82.14	91.07	91.07	91.07	91.07	91.07	91.07	91.07	100.00
Transport	109.66	107.87	107.44	107.23	107.34	107.23	107.12	107.23	105.07	104.64	103.67	103.24	102.91	103.02	99.46	100.00
Clothing	83.22	80.34	98.09	107.27	104.00	116.83	109.35	102.77	108.12	108.09	96.68	99.22	101.13	102.70	99.53	100.00
Clubs	90.65	99.22	96.47	97.88	104.12	95.26	93.25	87.34	85.90	86.75	84.68	88.82	95.84	100.17	104.62	100.00
Rent	79.35	80.58	81.84	83.11	84.40	85.71	87.04	88.40	89.77	91.16	86.91	86.91	84.05	84.73	86.75	100.00

APPENDIX 5

Summary – General Method of Computing CPI for Malaya, 1900-39

[1] Estimate the private final consumption expenditure of each major object of consumption for each consumption standard for the base year (1914 = 100).

[2] Compute the base weights of private final consumption using the total private final consumption expenditure of each major object of consumption by each consumption standard. The weights of private final consumption of each consumption standard within a particular major object of consumption should add up to unity.

[3] Multiply the base weights of private final consumption of each consumption standard within a particular major object of consumption by the relevant price indices of each year.

[4] Derive the overall price index of each major object of consumption by adding up the weighted index of each standard. This would give you the overall price index for each major object of consumption for each year.

[5] Compute the weights of private final consumption expenditure in the base year of each major object of consumption (irrespective of standard) using the total private final consumption expenditure. These weights should add up to unity.

[6] Multiply the base weights so derived by the price indices of each major object of consumption for each year.

[7] Derive the overall price index by adding up the base weighted index for each major object of consumption for each year.

APPENDIX 6

Computation of Consumer Price Indices by Major Object of Consumption (1914=100)-Malaya, 1914-39

Food & Groceries	Weights	1914	1915		1916		1917		1918		1919		1920		1921		1922		1923		1924		1925		1926		1927	
		Price Index (1914=100)	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index
Malay Labour Standard	0.4945	100.00	101.87	50.38	107.66	53.24	116.34	57.53	140.40	69.43	191.20	94.55	253.20	125.22	167.70	82.93	145.50	71.95	145.30	71.86	146.10	72.25	151.50	74.92	160.20	79.22	154.80	76.55
Chinese Labour Standard	0.2553	100.00	101.87	26.01	107.66	27.48	116.34	29.70	140.40	35.84	191.20	48.81	253.20	64.64	167.70	42.81	145.50	37.14	145.30	37.09	146.10	37.30	151.50	38.68	160.20	40.90	154.80	39.52
Indian Labour Standard	0.1221	100.00	101.87	12.44	107.66	13.14	116.34	14.20	140.40	17.14	191.20	23.34	253.20	30.91	167.70	20.47	145.50	17.76	145.30	17.74	146.10	17.84	151.50	18.50	160.20	19.56	154.80	18.90
Asiatic Clerical Standard	0.0587	100.00	101.87	5.98	107.66	6.32	116.34	6.83	140.40	8.25	191.20	11.23	253.20	14.87	167.70	9.85	145.50	8.55	145.30	8.54	146.10	8.58	151.50	8.90	160.20	9.41	154.80	9.09
Eurasian Clerical Standard	0.0017	100.00	134.70	0.23	136.67	0.23	140.34	0.24	136.50	0.23	160.30	0.28	214.30	0.37	168.80	0.29	140.00	0.24	141.00	0.24	139.80	0.24	143.40	0.25	153.00	0.26	155.00	0.27
European Standard	0.0676	100.00	134.70	9.11	136.67	9.24	140.34	9.49	136.50	9.23	160.30	10.84	214.30	14.49	168.80	11.42	140.00	9.47	141.00	9.54	139.80	9.45	143.40	9.70	153.00	10.35	155.00	10.48
	1.0000	100.00		*104.15*		*109.67*		*118.00*		*140.13*		*189.06*		*250.50*		*167.78*		*145.12*		*145.00*		*145.66*		*150.94*		*159.70*		*154.81*

Tobacco	Weights	1914	1915		1916		1917		1918		1919		1920		1921		1922		1923		1924		1925		1926		1927	
		Price Index (1914=100)	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index
Malay Labour Standard	0.3888	100.00	105.44	41.00	165.69	64.43	131.26	51.04	174.30	67.77	200.00	77.77	257.10	99.97	242.90	94.45	242.90	94.45	200.00	77.77	185.70	72.21	185.70	72.21	194.20	75.51	185.70	72.21
Chinese Labour Standard	0.1838	100.00	105.44	19.38	165.69	30.46	131.26	24.13	174.30	32.04	200.00	36.76	257.10	47.26	242.90	44.65	242.90	44.65	200.00	36.76	185.70	34.13	185.70	34.13	194.20	35.70	185.70	34.13
Indian Labour Standard	0.0670	100.00	105.44	7.06	165.69	11.09	131.26	8.79	174.30	11.67	200.00	13.39	257.10	17.21	242.90	16.26	242.90	16.26	200.00	13.39	185.70	12.43	185.70	12.43	194.20	13.00	185.70	12.43
Asiatic Clerical Standard	0.0532	100.00	105.44	5.61	165.69	8.82	131.26	6.99	174.30	9.28	200.00	10.65	257.10	13.69	242.90	12.93	242.90	12.93	200.00	10.65	185.70	9.89	185.70	9.89	194.20	10.34	185.70	9.89
Eurasian Clerical Standard	0.0014	100.00	105.44	0.14	165.69	0.23	131.26	0.18	174.30	0.24	200.00	0.27	257.10	0.35	242.90	0.33	242.90	0.33	200.00	0.27	185.70	0.25	185.70	0.25	194.20	0.27	185.70	0.25
European Standard	0.3058	100.00	77.42	23.67	104.40	31.93	124.22	37.99	174.80	53.45	204.10	62.41	214.70	65.65	231.20	70.70	223.70	68.41	203.20	62.14	192.10	58.74	186.70	57.09	181.30	55.44	176.00	53.82
	1.0000	100.00		*96.87*		*146.95*		*129.11*		*174.45*		*201.25*		*244.13*		*239.32*		*237.03*		*200.98*		*187.66*		*186.01*		*190.26*		*182.73*

Clothing	Weights	1914	1915		1916		1917		1918		1919		1920		1921		1922		1923		1924		1925		1926		1927	
		Price Index (1914=100)	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index
Malay Labour Standard	0.4635	100.00	138.32	64.11	161.28	74.75	144.02	66.75	189.80	87.97	229.60	106.42	291.60	135.16	237.20	109.94	182.80	84.73	163.60	75.83	157.10	72.82	158.10	73.28	157.50	73.00	155.40	72.03
Chinese Labour Standard	0.2280	100.00	138.32	31.54	161.28	36.77	144.02	32.83	189.80	43.27	229.60	52.35	291.60	66.48	237.20	54.08	182.80	41.68	163.60	37.30	157.10	35.82	158.10	36.05	157.50	35.91	155.40	35.43
Indian Labour Standard	0.0299	100.00	138.32	4.14	161.28	4.83	144.02	4.31	189.80	5.68	229.60	6.87	291.60	8.73	237.20	7.10	182.80	5.47	163.60	4.90	157.10	4.70	158.10	4.73	157.50	4.71	155.40	4.65
Asiatic Clerical Standard	0.0762	100.00	138.32	10.54	161.28	12.29	144.02	10.98	189.80	14.46	229.60	17.50	291.60	22.22	237.20	18.08	182.80	13.93	163.60	12.47	157.10	11.97	158.10	12.05	157.50	12.00	155.40	11.84
Eurasian Clerical Standard	0.0020	100.00	138.32	0.27	161.28	0.32	144.02	0.28	189.80	0.37	229.60	0.45	291.60	0.57	237.20	0.46	182.80	0.36	163.60	0.32	157.10	0.31	158.10	0.31	157.50	0.31	155.40	0.30
European Standard	0.2004	100.00	138.32	27.72	161.28	32.32	144.02	28.86	189.80	38.04	229.60	46.02	291.60	58.44	237.20	47.54	182.80	36.64	163.60	32.79	157.10	31.49	158.10	31.69	157.50	31.57	155.40	31.15
	1.0000	100.00		*138.32*		*161.28*		*144.02*		*189.80*		*229.60*		*291.60*		*237.20*		*182.80*		*163.60*		*157.10*		*158.10*		*157.50*		*155.40*

Rent	Weights	1914	1915		1916		1917		1918		1919		1920		1921		1922		1923		1924		1925		1926		1927	
		Price Index (1914=100)	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index
Malay Labour Standard	0.2454	100.00	103.23	25.33	106.15	26.05	107.53	26.39	120.00	29.45	130.00	31.90	150.00	36.81	154.00	37.79	181.00	44.42	217.00	53.25	230.00	56.44	242.00	59.39	257.00	63.07	284.00	69.70
Chinese Labour Standard	0.1608	100.00	103.23	16.60	106.15	17.07	107.53	17.30	120.00	19.30	130.00	20.91	150.00	24.13	154.00	24.77	181.00	29.11	217.00	34.90	230.00	36.99	242.00	38.92	257.00	41.34	284.00	45.68
Indian Labour Standard	0.0551	100.00	103.23	5.69	106.15	5.85	107.53	5.93	120.00	6.61	130.00	7.17	150.00	8.27	154.00	8.49	181.00	9.98	217.00	11.96	230.00	12.68	242.00	13.34	257.00	14.17	284.00	15.65
Asiatic Clerical Standard	0.2186	100.00	103.23	22.56	106.15	23.20	107.53	23.51	120.00	26.23	130.00	28.42	150.00	32.79	154.00	33.66	181.00	39.56	217.00	47.43	230.00	50.27	242.00	52.90	257.00	56.18	284.00	62.08
Eurasian Clerical Standard	0.0056	100.00	103.23	0.58	106.15	0.59	107.53	0.60	120.00	0.67	130.00	0.73	150.00	0.84	154.00	0.86	181.00	1.01	217.00	1.22	230.00	1.29	242.00	1.36	257.00	1.44	284.00	1.59
European Standard	0.3144	100.00	98.02	30.82	99.61	31.32	98.27	30.90	110.00	34.59	121.00	38.05	169.00	53.14	179.00	56.28	191.00	60.06	204.00	64.15	208.00	65.40	213.00	66.98	220.00	69.18	230.00	72.32
	1.0000	100.00		*101.59*		*104.09*		*104.62*		*116.86*		*127.17*		*155.97*		*161.86*		*184.14*		*212.91*		*223.08*		*232.88*		*245.37*		*267.02*

Servants	Weights	1914	1915		1916		1917		1918		1919		1920		1921		1922		1923		1924		1925		1926		1927	
		Price Index (1914=100)	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index
Asiatic Clerical Standard	0.1206	100.00	103.82	12.52	103.82	12.52	113.09	13.64	116.80	14.09	116.80	14.09	155.50	18.76	155.50	18.76	155.50	18.76	155.50	18.76	155.50	18.76	155.50	18.76	155.50	18.76	155.50	18.76
Eurasian Clerical Standard	0.0031	100.00	103.82	0.32	103.82	0.32	113.09	0.35	116.80	0.36	116.80	0.36	155.50	0.48	155.50	0.48	155.50	0.48	155.50	0.48	155.50	0.48	155.50	0.48	155.50	0.48	155.50	0.48
European Standard	0.8763	100.00	103.82	90.98	103.82	90.98	113.09	99.10	116.80	102.35	116.80	102.35	155.50	136.26	155.50	136.26	155.50	136.26	155.50	136.26	155.50	136.26	155.50	136.26	155.50	136.26	155.50	136.26
	1.0000	100.00		*103.82*		*103.82*		*113.09*		*116.80*		*116.80*		*155.50*		*155.50*		*155.50*		*155.50*		*155.50*		*155.50*		*155.50*		*155.50*

Transport	Weights	1914	1915		1916		1917		1918		1919		1920		1921		1922		1923		1924		1925		1926		1927	
		Price Index (1914=100)	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index
Asiatic Clerical Standard	0.3231	100.00	101.83	32.90	103.13	33.32	108.64	35.10	112.50	36.34	122.90	39.70	126.80	40.96	122.80	39.67	112.00	36.18	94.80	30.63	99.40	32.11	105.30	34.02	103.50	33.44	94.20	30.43
Eurasian Clerical Standard	0.0083	100.00	101.83	0.84	103.13	0.85	108.64	0.90	112.50	0.93	122.90	1.02	126.80	1.05	122.80	1.02	112.00	0.93	94.80	0.79	99.40	0.82	105.30	0.87	103.50	0.86	94.20	0.78
European Standard	0.6687	100.00	101.83	68.09	103.13	68.96	108.64	72.64	112.50	75.22	122.90	82.18	126.80	84.79	122.80	82.11	112.00	74.89	94.80	63.39	99.40	66.46	105.30	70.41	103.50	69.21	94.20	62.99
	1.0000	100.00		*101.83*		*103.13*		*108.64*		*112.50*		*122.90*		*126.80*		*122.80*		*112.00*		*94.80*		*99.40*		*105.30*		*103.50*		*94.20*

Club	Weights	1914	1915		1916		1917		1918		1919		1920		1921		1922		1923		1924		1925		1926		1927	
		Price Index (1914=100)	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index
European Standard	1.0000	100.00	91.31	91.31	103.77	103.77	113.88	113.88	134.00	134.00	147.40	147.40	163.50	163.50	176.70	176.70	177.40	177.40	169.20	169.20	164.10	164.10	164.20	164.20	161.70	161.70	159.50	159.50
	1.0000	100.00		*91.31*		*103.77*		*113.88*		*134.00*		*147.40*		*163.50*		*176.70*		*177.40*		*169.20*		*164.10*		*164.20*		*161.70*		*159.50*

Major Object of Consumption	Weights	1914	1915		1916		1917		1918		1919		1920		1921		1922		1923		1924		1925		1926		1927	
		Price Index (1914=100)	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index	Price Index (1914=100)	Weighted Index
Food & Groceries	0.7015	100.00	104.15	73.06	109.67	76.94	118.00	82.78	140.13	98.31	189.06	132.63	250.50	175.74	167.78	117.70	145.12	101.81	145.00	101.73	145.66	102.19	150.94	105.89	159.70	112.04	154.81	108.61
Tobacco	0.0368	100.00	96.87	3.57	146.95	5.41	129.11	4.76	174.45	6.43	201.25	7.41	244.13	8.99	239.32	8.81	237.03	8.73	200.98	7.40	187.66	6.91	186.01	6.85	190.26	7.01	182.73	6.73
Clothing	0.1139	100.00	138.32	15.75	161.28	18.37	144.02	16.40	189.80	21.62	229.60	26.15	291.60	33.21	237.20	27.02	182.80	20.82	163.60	18.63	157.10	17.89	158.10	18.01	157.50	17.94	155.40	17.70
Rent	0.0442	100.00	101.59	4.49	104.09	4.60	104.62	4.63	116.86	5.17	127.17	5.62	155.97	6.90	161.86	7.16	184.14	8.14	212.91	9.42	223.08	9.87	232.88	10.30	245.37	10.85	267.02	11.81
Servant	0.0506	100.00	103.82	5.25	103.82	5.25	113.09	5.72	116.80	5.91	116.80	5.91	155.50	7.87	155.50	7.87	155.50	7.87	155.50	7.87	155.50	7.87	155.50	7.87	155.50	7.87	155.50	7.87
Transport	0.0373	100.00	101.83	3.80	103.13	3.85	108.64	4.05	112.50	4.20	122.90	4.59	126.80	4.73	122.80	4.58	112.00	4.18	94.80	3.54	99.40	3.71	105.30	3.93	103.50	3.86	94.20	3.51
Club	0.0156	100.00	91.31	1.42	103.77	1.62	113.88	1.78	134.00	2.09	147.40	2.30	163.50	2.55	176.70	2.75	177.40	2.77	169.20	2.64	164.10	2.56	164.20	2.56	161.70	2.52	159.50	2.49
CPI	**1.0000**	**100.00**		**107.35**		**116.05**		**120.12**		**143.71**		**184.61**		**239.99**		**175.90**		**154.31**		**151.22**		**151.00**		**155.40**		**162.09**		**158.72**

Computation of Consumer Price Indices by Major Object of Consumption (1914=100)-Malaya, 1914-39 (Cont'd)

Food & Groceries	Weights	1914 Price Index (1914=100)	1914 Weighted Index	1928 Price Index (1914=100)	1928 Weighted Index	1929 Price Index (1914=100)	1929 Weighted Index	1930 Price Index (1914=100)	1930 Weighted Index	1931 Price Index (1914=100)	1931 Weighted Index	1932 Price Index (1914=100)	1932 Weighted Index	1933 Price Index (1914=100)	1933 Weighted Index	1934 Price Index (1914=100)	1934 Weighted Index	1935 Price Index (1914=100)	1935 Weighted Index	1936 Price Index (1914=100)	1936 Weighted Index	1937 Price Index (1914=100)	1937 Weighted Index	1938 Price Index (1914=100)	1938 Weighted Index	1939 Price Index (1914=100)	1939 Weighted Index
Malay Labour Standard	0.4945	100.00	151.20	74.77	149.70	74.03	140.20	69.33	103.00	50.94	86.50	42.78	78.80	38.97	83.40	41.24	93.90	46.44	91.00	45.00	101.50	50.20	93.70	46.34	92.83	45.91
Chinese Labour Standard	0.2553	100.00	151.20	38.60	149.70	38.22	140.20	35.79	103.00	26.29	86.50	22.08	78.80	20.12	83.40	21.29	93.90	23.97	91.00	23.23	101.50	25.91	93.70	23.92	92.83	23.70
Indian Labour Standard	0.1221	100.00	151.20	18.46	149.70	18.28	140.20	17.12	103.00	12.58	86.50	10.56	78.80	9.62	83.40	10.18	93.90	11.46	91.00	11.11	101.50	12.39	93.70	11.44	92.83	11.33
Asiatic Clerical Standard	0.0587	100.00	151.20	8.88	149.70	8.79	140.20	8.24	103.00	6.05	86.50	5.08	78.80	4.63	83.40	4.90	93.90	5.52	91.00	5.35	101.50	5.96	93.70	5.50	92.83	5.45
Eurasian Clerical Standard	0.0017	100.00	149.40	0.26	141.40	0.24	132.00	0.23	109.70	0.19	97.80	0.17	93.80	0.16	96.10	0.17	97.20	0.17	96.10	0.17	102.60	0.18	96.20	0.17	88.39	0.15
European Standard	0.0676	100.00	149.40	10.10	141.40	9.56	132.00	8.93	109.70	7.42	97.80	6.61	93.80	6.34	96.10	6.50	97.20	6.57	96.10	6.50	102.60	6.94	96.20	6.51	88.39	5.98
	1.0000	100.00		***151.08***		***149.12***		***139.63***		***103.46***		***87.28***		***79.84***		***84.28***		***94.13***		***91.35***		***101.58***		***93.87***		***92.52***

Tobacco	Weights	1914 Price Index (1914=100)	1914 Weighted Index	1928 Price Index (1914=100)	1928 Weighted Index	1929 Price Index (1914=100)	1929 Weighted Index	1930 Price Index (1914=100)	1930 Weighted Index	1931 Price Index (1914=100)	1931 Weighted Index	1932 Price Index (1914=100)	1932 Weighted Index	1933 Price Index (1914=100)	1933 Weighted Index	1934 Price Index (1914=100)	1934 Weighted Index	1935 Price Index (1914=100)	1935 Weighted Index	1936 Price Index (1914=100)	1936 Weighted Index	1937 Price Index (1914=100)	1937 Weighted Index	1938 Price Index (1914=100)	1938 Weighted Index	1939 Price Index (1914=100)	1939 Weighted Index
Malay Labour Standard	0.3888	100.00	185.70	72.21	185.70	72.21	171.40	66.65	171.40	66.65	165.70	64.43	142.90	55.57	142.90	55.57	128.60	50.00	128.60	50.00	128.60	50.00	128.60	50.00	144.68	56.26
Chinese Labour Standard	0.1838	100.00	185.70	34.13	185.70	34.13	171.40	31.51	171.40	31.51	165.70	30.46	142.90	26.27	142.90	26.27	128.60	23.64	128.60	23.64	128.60	23.64	128.60	23.64	144.68	26.59
Indian Labour Standard	0.0670	100.00	185.70	12.43	185.70	12.43	171.40	11.48	171.40	11.48	165.70	11.09	142.90	9.57	142.90	9.57	128.60	8.61	128.60	8.61	128.60	8.61	128.60	8.61	144.68	9.69
Asiatic Clerical Standard	0.0532	100.00	185.70	9.89	185.70	9.89	171.40	9.12	171.40	9.12	165.70	8.82	142.90	7.61	142.90	7.61	128.60	6.85	128.60	6.85	128.60	6.85	128.60	6.85	144.68	7.70
Eurasian Clerical Standard	0.0014	100.00	185.70	0.25	185.70	0.25	171.40	0.23	171.40	0.23	165.70	0.23	142.90	0.20	142.90	0.20	128.60	0.18	128.60	0.18	128.60	0.18	128.60	0.18	144.68	0.20
European Standard	0.3058	100.00	176.30	53.91	167.00	51.07	168.70	51.59	178.40	54.55	172.00	52.60	168.00	51.37	170.50	52.14	166.50	50.92	165.90	50.73	165.90	50.73	164.20	50.21	164.07	50.17
	1.0000	100.00		***182.83***		***179.98***		***170.57***		***173.54***		***167.63***		***150.58***		***151.34***		***140.19***		***140.01***		***140.01***		***139.49***		***150.61***

Clothing	Weights	1914 Price Index (1914=100)	1914 Weighted Index	1928 Price Index (1914=100)	1928 Weighted Index	1929 Price Index (1914=100)	1929 Weighted Index	1930 Price Index (1914=100)	1930 Weighted Index	1931 Price Index (1914=100)	1931 Weighted Index	1932 Price Index (1914=100)	1932 Weighted Index	1933 Price Index (1914=100)	1933 Weighted Index	1934 Price Index (1914=100)	1934 Weighted Index	1935 Price Index (1914=100)	1935 Weighted Index	1936 Price Index (1914=100)	1936 Weighted Index	1937 Price Index (1914=100)	1937 Weighted Index	1938 Price Index (1914=100)	1938 Weighted Index	1939 Price Index (1914=100)	1939 Weighted Index
Malay Labour Standard	0.4635	100.00	151.90	70.41	141.00	65.35	139.80	64.80	133.20	61.74	110.00	50.98	106.90	49.55	99.50	46.12	99.70	46.21	98.30	45.56	105.80	49.04	108.10	50.10	117.50	54.46
Chinese Labour Standard	0.2280	100.00	151.90	34.63	141.00	32.15	139.80	31.87	133.20	30.37	110.00	25.08	106.90	24.37	99.50	22.69	99.70	22.73	98.30	22.41	105.80	24.12	108.10	24.65	117.50	26.79
Indian Labour Standard	0.0299	100.00	151.90	4.55	141.00	4.22	139.80	4.18	133.20	3.99	110.00	3.29	106.90	3.20	99.50	2.98	99.70	2.98	98.30	2.94	105.80	3.17	108.10	3.23	117.50	3.52
Asiatic Clerical Standard	0.0762	100.00	151.90	11.58	141.00	10.75	139.80	10.65	133.20	10.15	110.00	8.38	106.90	8.15	99.50	7.58	99.70	7.60	98.30	7.49	105.80	8.06	108.10	8.24	117.50	8.96
Eurasian Clerical Standard	0.0020	100.00	151.90	0.30	141.00	0.28	139.80	0.27	133.20	0.26	110.00	0.21	106.90	0.21	99.50	0.19	99.70	0.19	98.30	0.19	105.80	0.21	108.10	0.21	117.50	0.23
European Standard	0.2004	100.00	151.90	30.44	141.00	28.26	139.80	28.02	139.80	28.02	132.30	26.52	124.10	24.87	121.60	24.37	119.50	23.95	119.50	23.95	119.50	23.95	119.50	23.95	129.90	26.03
	1.0000	100.00		***151.90***		***141.00***		***139.80***		***134.52***		***114.47***		***110.35***		***103.93***		***103.67***		***102.55***		***108.55***		***110.38***		***119.99***

Rent	Weights	1914 Price Index (1914=100)	1914 Weighted Index	1928 Price Index (1914=100)	1928 Weighted Index	1929 Price Index (1914=100)	1929 Weighted Index	1930 Price Index (1914=100)	1930 Weighted Index	1931 Price Index (1914=100)	1931 Weighted Index	1932 Price Index (1914=100)	1932 Weighted Index	1933 Price Index (1914=100)	1933 Weighted Index	1934 Price Index (1914=100)	1934 Weighted Index	1935 Price Index (1914=100)	1935 Weighted Index	1936 Price Index (1914=100)	1936 Weighted Index	1937 Price Index (1914=100)	1937 Weighted Index	1938 Price Index (1914=100)	1938 Weighted Index	1939 Price Index (1914=100)	1939 Weighted Index
Malay Labour Standard	0.2454	100.00	312.00	76.57	314.50	77.18	289.70	71.10	247.40	60.71	200.40	49.18	175.60	43.09	175.60	43.09	175.60	43.09	175.60	43.09	177.70	43.61	188.90	46.36	207.65	50.96
Chinese Labour Standard	0.1608	100.00	312.00	50.18	314.50	50.58	289.70	46.60	247.40	39.79	200.40	32.23	175.60	28.24	175.60	28.24	175.60	28.24	175.60	28.24	177.70	28.58	188.90	30.38	207.65	33.40
Indian Labour Standard	0.0551	100.00	312.00	17.20	314.50	17.34	289.70	15.97	247.40	13.64	200.40	11.05	175.60	9.68	175.60	9.68	175.60	9.68	175.60	9.68	177.70	9.79	188.90	10.41	207.65	11.45
Asiatic Clerical Standard	0.2186	100.00	312.00	68.20	314.50	68.75	289.70	63.32	247.40	54.08	200.40	43.80	175.60	38.38	175.60	38.38	175.60	38.38	175.60	38.38	177.70	38.84	188.90	41.29	207.65	45.39
Eurasian Clerical Standard	0.0056	100.00	312.00	1.75	314.50	1.76	289.70	1.62	247.40	1.39	200.40	1.12	175.60	0.98	175.60	0.98	175.60	0.98	175.60	0.98	177.70	1.00	188.90	1.06	207.65	1.16
European Standard	0.3144	100.00	248.00	77.98	249.00	78.30	229.50	72.16	201.60	63.39	166.50	52.35	146.40	46.03	146.40	46.03	146.40	46.03	146.40	46.03	149.60	47.04	154.80	48.68	162.83	51.20
	1.0000	100.00		***291.88***		***293.90***		***270.77***		***233.00***		***189.74***		***166.42***		***166.42***		***166.42***		***166.42***		***168.86***		***178.18***		***193.56***

Servants	Weights	1914 Price Index (1914=100)	1914 Weighted Index	1928 Price Index (1914=100)	1928 Weighted Index	1929 Price Index (1914=100)	1929 Weighted Index	1930 Price Index (1914=100)	1930 Weighted Index	1931 Price Index (1914=100)	1931 Weighted Index	1932 Price Index (1914=100)	1932 Weighted Index	1933 Price Index (1914=100)	1933 Weighted Index	1934 Price Index (1914=100)	1934 Weighted Index	1935 Price Index (1914=100)	1935 Weighted Index	1936 Price Index (1914=100)	1936 Weighted Index	1937 Price Index (1914=100)	1937 Weighted Index	1938 Price Index (1914=100)	1938 Weighted Index	1939 Price Index (1914=100)	1939 Weighted Index
Asiatic Clerical Standard	0.1206	100.00	155.50	18.76	155.50	18.76	152.90	18.44	138.00	16.65	124.70	15.04	115.80	13.97	123.70	14.92	127.40	15.37	125.70	15.16	130.00	15.68	128.20	15.46	128.20	15.46
Eurasian Clerical Standard	0.0031	100.00	155.50	0.48	155.50	0.48	152.90	0.47	138.00	0.43	124.70	0.39	115.80	0.36	123.70	0.38	127.40	0.39	125.70	0.39	130.00	0.40	128.20	0.40	128.20	0.40
European Standard	0.8763	100.00	155.50	136.26	155.50	136.26	152.90	133.98	138.00	120.93	124.70	109.27	115.80	101.47	123.70	108.40	127.40	111.64	125.70	110.15	130.00	113.92	128.20	112.34	128.20	112.34
	1.0000	100.00		***155.50***		***155.50***		***152.90***		***138.00***		***124.70***		***115.80***		***123.70***		***127.40***		***125.70***		***130.00***		***128.20***		***128.20***

Transport	Weights	1914 Price Index (1914=100)	1914 Weighted Index	1928 Price Index (1914=100)	1928 Weighted Index	1929 Price Index (1914=100)	1929 Weighted Index	1930 Price Index (1914=100)	1930 Weighted Index	1931 Price Index (1914=100)	1931 Weighted Index	1932 Price Index (1914=100)	1932 Weighted Index	1933 Price Index (1914=100)	1933 Weighted Index	1934 Price Index (1914=100)	1934 Weighted Index	1935 Price Index (1914=100)	1935 Weighted Index	1936 Price Index (1914=100)	1936 Weighted Index	1937 Price Index (1914=100)	1937 Weighted Index	1938 Price Index (1914=100)	1938 Weighted Index	1939 Price Index (1914=100)	1939 Weighted Index
Asiatic Clerical Standard	0.3231	100.00	93.10	30.08	89.70	28.98	85.50	27.62	96.20	31.08	89.00	28.75	85.40	27.59	84.50	27.30	82.40	26.62	80.00	25.84	81.40	26.30	81.50	26.33	82.18	26.55
Eurasian Clerical Standard	0.0083	100.00	93.10	0.77	89.70	0.74	85.50	0.71	96.20	0.80	89.00	0.74	85.40	0.71	84.50	0.70	82.40	0.68	80.00	0.66	81.40	0.67	81.50	0.68	82.18	0.68
European Standard	0.6687	100.00	93.10	62.25	89.70	59.98	85.50	57.17	96.20	64.33	89.00	59.51	85.40	57.10	84.50	56.50	82.40	55.10	80.00	53.49	81.40	54.43	81.50	54.50	82.18	54.95
	1.0000	100.00		***93.10***		***89.70***		***85.50***		***96.20***		***89.00***		***85.40***		***84.50***		***82.40***		***80.00***		***81.40***		***81.50***		***82.18***

Club	Weights	1914 Price Index (1914=100)	1914 Weighted Index	1928 Price Index (1914=100)	1928 Weighted Index	1929 Price Index (1914=100)	1929 Weighted Index	1930 Price Index (1914=100)	1930 Weighted Index	1931 Price Index (1914=100)	1931 Weighted Index	1932 Price Index (1914=100)	1932 Weighted Index	1933 Price Index (1914=100)	1933 Weighted Index	1934 Price Index (1914=100)	1934 Weighted Index	1935 Price Index (1914=100)	1935 Weighted Index	1936 Price Index (1914=100)	1936 Weighted Index	1937 Price Index (1914=100)	1937 Weighted Index	1938 Price Index (1914=100)	1938 Weighted Index	1939 Price Index (1914=100)	1939 Weighted Index
European Standard	1.0000	100.00	159.50	159.50	155.30	155.30	156.10	156.10	160.50	160.50	160.10	160.10	158.40	158.40	159.50	159.50	157.70	157.70	157.40	157.40	157.70	157.70	159.40	159.40	152.87	152.87
	1.0000	100.00		***159.50***		***155.30***		***156.10***		***160.50***		***160.10***		***158.40***		***159.50***		***157.70***		***157.40***		***157.70***		***159.40***		***152.87***

Major Object of Consumption	Weights	1914 Price Index (1914=100)	1914 Weighted Index	1928 Price Index (1914=100)	1928 Weighted Index	1929 Price Index (1914=100)	1929 Weighted Index	1930 Price Index (1914=100)	1930 Weighted Index	1931 Price Index (1914=100)	1931 Weighted Index	1932 Price Index (1914=100)	1932 Weighted Index	1933 Price Index (1914=100)	1933 Weighted Index	1934 Price Index (1914=100)	1934 Weighted Index	1935 Price Index (1914=100)	1935 Weighted Index	1936 Price Index (1914=100)	1936 Weighted Index	1937 Price Index (1914=100)	1937 Weighted Index	1938 Price Index (1914=100)	1938 Weighted Index	1939 Price Index (1914=100)	1939 Weighted Index
Food & Groceries	0.7015	100.00	151.08	105.99	149.12	104.62	139.63	97.96	103.46	72.59	87.28	61.23	79.84	56.01	84.28	59.13	94.13	66.04	91.35	64.09	101.58	71.26	93.87	65.86	92.52	64.91
Tobacco	0.0368	100.00	182.83	6.73	179.98	6.63	170.57	6.28	173.54	6.39	167.63	6.17	150.58	5.55	151.34	5.57	140.19	5.16	140.01	5.16	140.01	5.16	139.49	5.14	150.61	5.55
Clothing	0.1139	100.00	151.90	17.30	141.00	16.06	139.80	15.92	134.52	15.32	114.47	13.04	110.35	12.57	103.93	11.84	103.67	11.81	102.55	11.68	108.55	12.36	110.38	12.57	119.99	13.67
Rent	0.0442	100.00	291.88	12.91	293.90	13.00	270.77	11.97	233.00	10.30	189.74	8.39	166.42	7.36	166.42	7.36	166.42	7.36	166.42	7.36	168.86	7.47	178.18	7.88	193.56	8.56
Servant	0.0506	100.00	155.50	7.87	155.50	7.87	152.90	7.74	138.00	6.98	124.70	6.31	115.80	5.86	123.70	6.26	127.40	6.45	125.70	6.36	130.00	6.58	128.20	6.49	128.20	6.49
Transport	0.0373	100.00	93.10	3.47	89.70	3.35	85.50	3.19	96.20	3.59	89.00	3.32	85.40	3.19	84.50	3.15	82.40	3.07	80.00	2.98	81.40	3.04	81.50	3.04	82.18	3.07
Club	0.0156	100.00	159.50	2.49	155.30	2.42	156.10	2.43	160.50	2.50	160.10	2.50	158.40	2.47	159.50	2.49	157.70	2.46	157.40	2.45	157.70	2.46	159.40	2.48	152.87	2.38
CPI	**1.0000**	**100.00**		**156.76**		**153.94**		**145.50**		**117.68**		**100.96**		**93.00**		**95.80**		**102.35**		**100.08**		**108.32**		**103.46**		**104.62**

APPENDIX 7

Computation of Consumer Price Indices by Major Object of Consumption (1914=100)-Malaya, 1900-14

		1914	1899		1900		1901		1902		1903	
Food & Groceries	*Weights*	*Price Index (1914=100)*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
Malay Labour Standard	0.4945	100.00	87.36	43.20	95.85	47.40	90.79	44.90	95.99	47.47	97.73	48.33
Chinese Labour Standard	0.2553	100.00	87.36	22.30	95.85	24.47	90.79	23.18	95.99	24.50	97.73	24.95
Indian Labour Standard	0.1221	100.00	87.36	10.67	95.85	11.70	90.79	11.08	95.99	11.72	97.73	11.93
Asiatic Clerical Standard	0.0587	100.00	87.36	5.13	95.85	5.63	90.79	5.33	95.99	5.64	97.73	5.74
Eurasian Clerical Standard	0.0017	100.00	*87.36*	0.15	*95.85*	0.16	*90.79*	0.16	*95.99*	0.16	*97.73*	0.17
European Standard	0.0676	100.00	87.36	5.91	95.85	6.48	90.79	6.14	95.99	6.49	97.73	6.61
	1.0000	100.00		***87.36***		***95.85***		***90.79***		***95.99***		***97.73***

		1914	1899		1900		1901		1902		1903	
Tobacco	*Weights*	*Price Index (1914=100)*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
Malay Labour Standard	0.3888	100.00	57.06	22.19	59.78	23.25	53.63	20.85	68.40	26.59	69.80	27.14
Chinese Labour Standard	0.1838	100.00	57.06	10.49	59.78	10.99	53.63	9.86	68.40	12.57	69.80	12.83
Indian Labour Standard	0.0670	100.00	57.06	3.82	59.78	4.00	53.63	3.59	68.40	4.58	69.80	4.67
Asiatic Clerical Standard	0.0532	100.00	57.06	3.04	59.78	3.18	53.63	2.85	68.40	3.64	69.80	3.72
Eurasian Clerical Standard	0.0014	100.00	*57.06*	0.08	*59.78*	0.08	*53.63*	0.07	*68.40*	0.09	*69.80*	0.10
European Standard	0.3058	100.00	93.93	28.72	102.60	31.37	102.16	31.24	99.76	30.51	110.51	33.79
	1.0000	100.00		***68.34***		***72.87***		***68.47***		***77.99***		***82.25***

		1914	1899		1900		1901		1902		1903	
Clothing	*Weights*	*Price Index (1914=100)*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
Malay Labour Standard	0.4635	100.00	83.22	38.57	80.34	37.24	98.09	45.46	107.27	49.72	104.00	48.20
Chinese Labour Standard	0.2280	100.00	83.22	18.97	80.34	18.32	98.09	22.36	107.27	24.46	104.00	23.71
Indian Labour Standard	0.0299	100.00	83.22	2.49	80.34	2.40	98.09	2.94	107.27	3.21	104.00	3.11
Asiatic Clerical Standard	0.0762	100.00	83.22	6.34	80.34	6.12	98.09	7.48	107.27	8.18	104.00	7.93
Eurasian Clerical Standard	0.0020	100.00	*83.22*	0.16	*80.34*	0.16	*98.09*	0.19	*107.27*	0.21	*104.00*	0.20
European Standard	0.2004	100.00	83.22	16.68	80.34	16.10	98.09	19.66	107.27	21.50	104.00	20.84
	1.0000	100.00		***83.22***		***80.34***		***98.09***		***107.27***		***104.00***

		1914	1899		1900		1901		1902		1903	
Rent	*Weights*	*Price Index (1914=100)*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
Malay Labour Standard	0.2454	100.00	71.14	17.46	72.69	17.84	74.28	18.23	75.90	18.63	77.56	19.03
Chinese Labour Standard	0.1608	100.00	71.14	11.44	72.69	11.69	74.28	11.95	75.90	12.21	77.56	12.47
Indian Labour Standard	0.0551	100.00	71.14	3.92	72.69	4.01	74.28	4.09	75.90	4.18	77.56	4.27
Asiatic Clerical Standard	0.2186	100.00	71.14	15.55	72.69	15.89	74.28	16.24	75.90	16.59	77.56	16.95
Eurasian Clerical Standard	0.0056	100.00	*71.14*	0.40	*72.69*	0.41	*74.28*	0.42	*75.90*	0.43	*77.56*	0.43
European Standard	0.3144	100.00	79.35	24.95	80.58	25.34	81.84	25.73	83.11	26.13	84.40	26.54
	1.0000	100.00		***73.72***		***75.18***		***76.66***		***78.17***		***79.71***

		1914	1899		1900		1901		1902		1903	
Servants	*Weights*	*Price Index (1914=100)*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
Asiatic Clerical Standard	0.1206	100.00	69.64	8.40	75.00	9.05	73.21	8.83	82.14	9.91	82.14	9.91
Eurasian Clerical Standard	0.0031	100.00	69.64	0.22	75.00	0.23	73.21	0.23	82.14	0.25	82.14	0.25
European Standard	0.8763	100.00	69.64	61.03	75.00	65.72	73.21	64.16	82.14	71.98	82.14	71.98
	1.0000	100.00		***69.64***		***75.00***		***73.21***		***82.14***		***82.14***

		1914	1899		1900		1901		1902		1903	
Transport	*Weights*	*Price Index (1914=100)*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
Asiatic Clerical Standard	0.3231	100.00	109.66	35.43	107.87	34.85	107.44	34.71	107.23	34.64	107.34	34.68
Eurasian Clerical Standard	0.0083	100.00	109.66	0.91	107.87	0.89	107.44	0.89	107.23	0.89	107.34	0.89
European Standard	0.6687	100.00	109.66	73.33	107.87	72.13	107.44	71.84	107.23	71.70	107.34	71.77
	1.0000	100.00		***109.66***		***107.87***		***107.44***		***107.23***		***107.34***

		1914	1899		1900		1901		1902		1903	
Club	*Weights*	*Price Index (1914=100)*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
European Standard	1.0000	100.00	90.65	90.65	99.22	99.22	96.47	96.47	97.88	97.88	104.12	104.12
	1.0000	100.00		***90.65***		***99.22***		***96.47***		***97.88***		***104.12***

Major Object of Consumption	*Weights*	1914	1899		1900		1901		1902		1903	
		Price Index (1914=100)	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
Food & Groceries	0.7015	100.00	87.36	61.29	95.85	67.24	90.79	63.69	95.99	67.34	97.73	68.56
Tobacco	0.0368	100.00	68.34	2.52	72.87	2.68	68.47	2.52	77.99	2.87	82.25	3.03
Clothing	0.1139	100.00	83.22	9.48	80.34	9.15	98.09	11.17	107.27	12.22	104.00	11.84
Rent	0.0442	100.00	73.72	3.26	75.18	3.32	76.66	3.39	78.17	3.46	79.71	3.52
Servant	0.0506	100.00	69.64	3.52	75.00	3.80	73.21	3.71	82.14	4.16	82.14	4.16
Transport	0.0373	100.00	109.66	4.09	107.87	4.02	107.44	4.01	107.23	4.00	107.34	4.00
Club	0.0156	100.00	90.65	1.41	99.22	1.55	96.47	1.50	97.88	1.53	104.12	1.62
CPI	**1.0000**	**100.00**		**85.57**		**91.77**		**89.99**		**95.57**		**96.75**

APPENDIX 7

Computation of Consumer Price Indices by Major Object of Consumption (1914=100)-Malaya, 1900-14 (Cont'd)

		1914	1904		1905		1906		1907		1908	
Food & Groceries	*Weights*	*Price Index (1914=100)*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
Malay Labour Standard	0.4945	100.00	95.92	47.44	93.60	46.29	89.73	44.37	95.21	47.08	96.46	47.70
Chinese Labour Standard	0.2553	100.00	95.92	24.49	93.60	23.89	89.73	22.91	95.21	24.31	96.46	24.63
Indian Labour Standard	0.1221	100.00	95.92	11.71	93.60	11.43	89.73	10.95	95.21	11.62	96.46	11.78
Asiatic Clerical Standard	0.0587	100.00	95.92	5.63	93.60	5.50	89.73	5.27	95.21	5.59	96.46	5.67
Eurasian Clerical Standard	0.0017	100.00	*95.92*	0.16	*93.60*	0.16	*89.73*	0.15	*95.21*	0.16	*96.46*	0.17
European Standard	0.0676	100.00	95.92	6.49	93.60	6.33	89.73	6.07	95.21	6.44	96.46	6.52
	1.0000	100.00		***95.92***		***93.60***		***89.73***		***95.21***		***96.46***

		1914	1904		1905		1906		1907		1908	
Tobacco	*Weights*	*Price Index (1914=100)*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
Malay Labour Standard	0.3888	100.00	70.21	27.30	53.66	20.86	62.27	24.21	60.85	23.66	54.74	21.29
Chinese Labour Standard	0.1838	100.00	70.21	12.91	53.66	9.86	62.27	11.45	60.85	11.19	54.74	10.06
Indian Labour Standard	0.0670	100.00	70.21	4.70	53.66	3.59	62.27	4.17	60.85	4.07	54.74	3.67
Asiatic Clerical Standard	0.0532	100.00	70.21	3.74	53.66	2.86	62.27	3.31	60.85	3.24	54.74	2.91
Eurasian Clerical Standard	0.0014	100.00	*70.21*	0.10	*53.66*	0.07	*62.27*	0.08	*60.85*	0.08	*54.74*	0.07
European Standard	0.3058	100.00	94.59	28.93	92.91	28.41	84.95	25.98	76.59	23.42	77.05	23.56
	1.0000	100.00		***77.67***		***65.66***		***69.21***		***65.67***		***61.56***

		1914	1904		1905		1906		1907		1908	
Clothing	*Weights*	*Price Index (1914=100)*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
Malay Labour Standard	0.4635	100.00	116.83	54.15	109.35	50.69	102.77	47.63	108.12	50.11	108.09	50.10
Chinese Labour Standard	0.2280	100.00	116.83	26.64	109.35	24.93	102.77	23.43	108.12	24.65	108.09	24.64
Indian Labour Standard	0.0299	100.00	116.83	3.50	109.35	3.27	102.77	3.08	108.12	3.24	108.09	3.23
Asiatic Clerical Standard	0.0762	100.00	116.83	8.90	109.35	8.33	102.77	7.83	108.12	8.24	108.09	8.24
Eurasian Clerical Standard	0.0020	100.00	*116.83*	0.23	*109.35*	0.21	*102.77*	0.20	*108.12*	0.21	*108.09*	0.21
European Standard	0.2004	100.00	116.83	23.42	109.35	21.92	102.77	20.60	108.12	21.67	108.09	21.66
	1.0000	100.00		***116.83***		***109.35***		***102.77***		***108.12***		***108.09***

		1914	1904		1905		1906		1907		1908	
Rent	*Weights*	*Price Index (1914=100)*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
Malay Labour Standard	0.2454	100.00	79.25	19.45	80.98	19.87	82.74	20.31	84.55	20.75	86.39	21.20
Chinese Labour Standard	0.1608	100.00	79.25	12.75	80.98	13.02	82.74	13.31	84.55	13.60	86.39	13.90
Indian Labour Standard	0.0551	100.00	79.25	4.37	80.98	4.46	82.74	4.56	84.55	4.66	86.39	4.76
Asiatic Clerical Standard	0.2186	100.00	79.25	17.32	80.98	17.70	82.74	18.09	84.55	18.48	86.39	18.88
Eurasian Clerical Standard	0.0056	100.00	*79.25*	0.44	*80.98*	0.45	*82.74*	0.46	*84.55*	0.47	*86.39*	0.48
European Standard	0.3144	100.00	85.71	26.95	87.04	27.37	88.40	27.80	89.77	28.23	91.16	28.67
	1.0000	100.00		***81.28***		***82.88***		***84.52***		***86.19***		***87.89***

		1914	1904		1905		1906		1907		1908	
Servants	*Weights*	*Price Index (1914=100)*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
Asiatic Clerical Standard	0.1206	100.00	78.57	9.48	78.57	9.48	82.14	9.91	91.07	10.98	91.07	10.98
Eurasian Clerical Standard	0.0031	100.00	78.57	0.24	78.57	0.24	82.14	0.25	91.07	0.28	91.07	0.28
European Standard	0.8763	100.00	78.57	68.85	78.57	68.85	82.14	71.98	91.07	79.80	91.07	79.80
	1.0000	100.00		***78.57***		***78.57***		***82.14***		***91.07***		***91.07***

		1914	1904		1905		1906		1907		1908	
Transport	*Weights*	*Price Index (1914=100)*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
Asiatic Clerical Standard	0.3231	100.00	107.23	34.64	107.12	34.61	107.23	34.64	105.07	33.94	104.64	33.80
Eurasian Clerical Standard	0.0083	100.00	107.23	0.89	107.12	0.89	107.23	0.89	105.07	0.87	104.64	0.87
European Standard	0.6687	100.00	107.23	71.70	107.12	71.63	107.23	71.70	105.07	70.26	104.64	69.97
	1.0000	100.00		***107.23***		***107.12***		***107.23***		***105.07***		***104.64***

		1914	1904		1905		1906		1907		1908	
Club	*Weights*	*Price Index (1914=100)*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
European Standard	1.0000	100.00	95.26	95.26	93.25	93.25	87.34	87.34	85.90	85.90	86.75	86.75
	1.0000	100.00		***95.26***		***93.25***		***87.34***		***85.90***		***86.75***

Major Object of Consumption	*Weights*	1914	1904		1905		1906		1907		1908	
		Price Index (1914=100)	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
Food & Groceries	0.7015	100.00	95.92	67.29	93.60	65.66	89.73	62.95	95.21	66.79	96.46	67.67
Tobacco	0.0368	100.00	77.67	2.86	65.66	2.42	69.21	2.55	65.67	2.42	61.56	2.27
Clothing	0.1139	100.00	116.83	13.31	109.35	12.45	102.77	11.70	108.12	12.31	108.09	12.31
Rent	0.0442	100.00	81.28	3.59	82.88	3.67	84.52	3.74	86.19	3.81	87.89	3.89
Servant	0.0506	100.00	78.57	3.98	78.57	3.98	82.14	4.16	91.07	4.61	91.07	4.61
Transport	0.0373	100.00	107.23	4.00	107.12	4.00	107.23	4.00	105.07	3.92	104.64	3.90
Club	0.0156	100.00	95.26	1.48	93.25	1.45	87.34	1.36	85.90	1.34	86.75	1.35
CPI	**1.0000**	**100.00**		**96.52**		**93.63**		**90.46**		**95.21**		**96.01**

APPENDIX 7

Computation of Consumer Price Indices by Major Object of Consumption (1914=100)-Malaya, 1900-14 (Cont'd)

		1914	1909		1910		1911		1912		1913	
Food & Groceries	*Weights*	*Price Index (1914=100)*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
Malay Labour Standard	0.4945	100.00	92.15	45.57	91.12	45.06	98.31	48.62	107.78	53.30	108.17	53.50
Chinese Labour Standard	0.2553	100.00	92.15	23.53	91.12	23.26	98.31	25.10	107.78	27.51	108.17	27.61
Indian Labour Standard	0.1221	100.00	92.15	11.25	91.12	11.12	98.31	12.00	107.78	13.16	108.17	13.21
Asiatic Clerical Standard	0.0587	100.00	92.15	5.41	91.12	5.35	98.31	5.78	107.78	6.33	108.17	6.35
Eurasian Clerical Standard	0.0017	100.00	*92.15*	0.16	*91.12*	0.16	*98.31*	0.17	*107.78*	0.19	*108.17*	0.19
European Standard	0.0676	100.00	92.15	6.23	91.12	6.16	98.31	6.65	107.78	7.29	108.17	7.32
	1.0000	100.00		***92.15***		***91.12***		***98.31***		***107.78***		***108.17***

		1914	1909		1910		1911		1912		1913	
Tobacco	*Weights*	*Price Index (1914=100)*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
Malay Labour Standard	0.3888	100.00	53.33	20.74	63.12	24.54	76.22	29.64	80.65	31.36	98.50	38.30
Chinese Labour Standard	0.1838	100.00	53.33	9.80	63.12	11.60	76.22	14.01	80.65	14.82	98.50	18.10
Indian Labour Standard	0.0670	100.00	53.33	3.57	63.12	4.23	76.22	5.10	80.65	5.40	98.50	6.59
Asiatic Clerical Standard	0.0532	100.00	53.33	2.84	63.12	3.36	76.22	4.06	80.65	4.29	98.50	5.24
Eurasian Clerical Standard	0.0014	100.00	*53.33*	0.07	*63.12*	0.09	*76.22*	0.10	*80.65*	0.11	*98.50*	0.13
European Standard	0.3058	100.00	77.20	23.61	86.52	26.46	93.36	28.55	92.56	28.31	101.06	30.91
	1.0000	100.00		***60.63***		***70.28***		***81.46***		***84.29***		***99.28***

		1914	1909		1910		1911		1912		1913	
Clothing	*Weights*	*Price Index (1914=100)*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
Malay Labour Standard	0.4635	100.00	96.68	44.81	99.22	45.99	101.13	46.87	102.70	47.60	99.53	46.13
Chinese Labour Standard	0.2280	100.00	96.68	22.04	99.22	22.62	101.13	23.06	102.70	23.42	99.53	22.69
Indian Labour Standard	0.0299	100.00	96.68	2.89	99.22	2.97	101.13	3.03	102.70	3.07	99.53	2.98
Asiatic Clerical Standard	0.0762	100.00	96.68	7.37	99.22	7.56	101.13	7.71	102.70	7.83	99.53	7.59
Eurasian Clerical Standard	0.0020	100.00	*96.68*	0.19	*99.22*	0.19	*101.13*	0.20	*102.70*	0.20	*99.53*	0.19
European Standard	0.2004	100.00	96.68	19.38	99.22	19.89	101.13	20.27	102.70	20.58	99.53	19.95
	1.0000	100.00		***96.68***		***99.22***		***101.13***		***102.70***		***99.53***

		1914	1909		1910		1911		1912		1913	
Rent	*Weights*	*Price Index (1914=100)*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
Malay Labour Standard	0.2454	100.00	85.66	21.02	84.93	20.84	85.66	21.02	86.39	21.20	96.23	23.62
Chinese Labour Standard	0.1608	100.00	85.66	13.78	84.93	13.66	85.66	13.78	86.39	13.90	96.23	15.48
Indian Labour Standard	0.0551	100.00	85.66	4.72	84.93	4.68	85.66	4.72	86.39	4.76	96.23	5.30
Asiatic Clerical Standard	0.2186	100.00	85.66	18.72	84.93	18.57	85.66	18.72	86.39	18.88	96.23	21.04
Eurasian Clerical Standard	0.0056	100.00	*85.66*	0.48	*84.93*	0.48	*85.66*	0.48	*86.39*	0.48	*96.23*	0.54
European Standard	0.3144	100.00	86.91	27.33	86.91	27.33	84.05	26.43	84.73	26.64	86.75	27.28
	1.0000	100.00		***86.05***		***85.55***		***85.16***		***85.87***		***93.25***

		1914	1909		1910		1911		1912		1913	
Servants	*Weights*	*Price Index (1914=100)*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
Asiatic Clerical Standard	0.1206	100.00	91.07	10.98	91.07	10.98	91.07	10.98	91.07	10.98	91.07	10.98
Eurasian Clerical Standard	0.0031	100.00	91.07	0.28	91.07	0.28	91.07	0.28	91.07	0.28	91.07	0.28
European Standard	0.8763	100.00	91.07	79.80	91.07	79.80	91.07	79.80	91.07	79.80	91.07	79.80
	1.0000	100.00		***91.07***		***91.07***		***91.07***		***91.07***		***91.07***

		1914	1909		1910		1911		1912		1913	
Transport	*Weights*	*Price Index (1914=100)*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
Asiatic Clerical Standard	0.3231	100.00	103.67	33.49	103.24	33.35	102.91	33.25	103.02	33.28	99.46	32.13
Eurasian Clerical Standard	0.0083	100.00	103.67	0.86	103.24	0.86	102.91	0.85	103.02	0.85	99.46	0.82
European Standard	0.6687	100.00	103.67	69.32	103.24	69.03	102.91	68.81	103.02	68.89	99.46	66.51
	1.0000	100.00		***103.67***		***103.24***		***102.91***		***103.02***		***99.46***

		1914	1909		1910		1911		1912		1913	
Club	*Weights*	*Price Index (1914=100)*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
European Standard	1.0000	100.00	84.68	84.68	88.82	88.82	95.84	95.84	100.17	100.17	104.62	104.62
	1.0000	100.00		***84.68***		***88.82***		***95.84***		***100.17***		***104.62***

Major Object of Consumption	*Weights*	1914	1909		1910		1911		1912		1913	
		Price Index (1914=100)	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*	*Price Index (1914=100)*	*Weighted Index*
Food & Groceries	0.7015	100.00	92.15	64.65	91.12	63.92	98.31	68.97	107.78	75.61	108.17	75.89
Tobacco	0.0368	100.00	60.63	2.23	70.28	2.59	81.46	3.00	84.29	3.10	99.28	3.66
Clothing	0.1139	100.00	96.68	11.01	99.22	11.30	101.13	11.52	102.70	11.70	99.53	11.34
Rent	0.0442	100.00	86.05	3.81	85.55	3.78	85.16	3.77	85.87	3.80	93.25	4.12
Servant	0.0506	100.00	91.07	4.61	91.07	4.61	91.07	4.61	91.07	4.61	91.07	4.61
Transport	0.0373	100.00	103.67	3.87	103.24	3.85	102.91	3.84	103.02	3.84	99.46	3.71
Club	0.0156	100.00	84.68	1.32	88.82	1.38	95.84	1.49	100.17	1.56	104.62	1.63
CPI	**1.0000**	**100.00**		**91.50**		**91.44**		**97.20**		**104.22**		**104.96**

APPENDIX 8

Total Private Final Consumption Expenditure by Major Object of Consumption and Standard in Constant Prices, Malaya,1900-39

(Straits $)

	Food							Beverages and Tobacco						
	Malay Labour Standard	Chinese Labour Standard	Indian Labour Standard	Asiatic Clerical Standard	Eurasian Clerical Standard	European Standard	Total	Malay Labour Standard	Chinese Labour Standard	Indian Labour Standard	Asiatic Clerical Standard	Eurasian Clerical Standard	European Standard	Total
1899	38,467,960	24,467,476	6,368,434	4,285,124	158,624	3,123,152	76,870,772	1,432,568	834,420	178,123	209,335	7,218	795,866	3,457,530
1900	39,346,794	25,026,457	6,513,926	4,383,022	162,248	3,194,503	78,626,951	1,458,495	849,521	181,347	213,123	7,349	810,270	3,520,105
1901	41,461,649	26,371,607	6,864,044	4,618,605	170,969	3,366,205	82,853,079	1,542,854	898,657	191,836	225,450	7,774	857,135	3,723,706
1902	42,894,307	27,282,846	7,101,223	4,778,195	176,877	3,482,520	85,715,968	1,595,861	929,532	198,427	233,196	8,041	886,584	3,851,640
1903	44,161,880	28,089,084	7,311,072	4,919,396	182,103	3,585,433	88,248,968	1,638,998	954,658	203,790	239,499	8,259	910,549	3,955,753
1904	44,949,466	28,590,026	7,441,458	5,007,129	185,351	3,649,375	89,822,806	1,659,212	966,431	206,304	242,453	8,360	921,778	4,004,539
1905	47,685,419	30,330,224	7,894,399	5,311,900	196,633	3,871,503	95,290,078	1,770,812	1,031,435	220,180	258,761	8,923	983,778	4,273,888
1906	51,751,692	32,916,570	8,567,578	5,764,861	213,400	4,201,637	103,415,738	1,945,792	1,133,354	241,937	284,330	9,804	1,080,989	4,696,206
1907	54,247,014	34,503,715	8,980,682	6,042,826	223,690	4,404,229	108,402,155	2,047,009	1,192,309	254,522	299,120	10,314	1,137,220	4,940,495
1908	57,753,230	36,733,837	9,561,142	6,433,400	238,148	4,688,893	115,408,650	2,198,547	1,280,575	273,364	321,264	11,078	1,221,407	5,306,234
1909	61,200,424	38,926,418	10,131,831	6,817,399	252,363	4,968,765	122,297,199	2,351,863	1,369,875	292,427	343,667	11,851	1,306,582	5,676,264
1910	62,891,770	40,002,196	10,411,836	7,005,805	259,337	5,106,083	125,677,027	2,417,155	1,407,906	300,545	353,208	12,180	1,342,855	5,833,848
1911	62,819,979	32,252,568	17,731,768	9,359,792	257,636	7,101,619	129,523,362	2,384,381	1,121,040	505,477	466,021	11,949	1,844,445	6,333,314
1912	62,241,768	32,013,598	17,600,388	9,290,442	255,727	8,056,001	129,457,924	2,328,765	1,096,876	494,581	455,976	11,692	2,062,500	6,450,389
1913	67,194,989	34,623,976	19,035,517	10,047,982	276,579	9,801,995	140,981,038	2,535,239	1,196,295	539,409	497,305	12,751	2,530,621	7,311,621
1914	72,518,079	37,434,776	20,580,835	10,863,685	299,031	11,775,254	153,471,660	2,768,527	1,308,750	590,116	544,053	13,950	3,076,121	8,301,516
1915	69,728,156	35,994,582	19,789,047	10,445,736	287,527	11,322,236	147,567,282	2,623,427	1,240,158	559,187	515,539	13,219	2,914,899	7,866,429
1916	66,936,338	34,553,409	18,996,721	10,027,503	276,015	10,868,909	141,658,895	2,478,264	1,171,536	528,246	487,012	12,487	2,753,609	7,431,155
1917	74,033,546	38,217,080	21,010,929	11,090,712	305,281	12,021,331	156,678,877	2,793,507	1,320,559	595,440	548,962	14,076	3,103,876	8,376,421
1918	65,484,983	33,804,201	18,584,822	9,810,081	270,030	10,633,243	138,587,359	2,388,814	1,129,251	509,179	469,434	12,037	2,654,220	7,162,936
1919	55,761,917	28,785,027	15,825,389	8,353,502	229,937	9,054,442	118,010,214	1,947,671	920,712	415,149	382,744	9,814	2,164,065	5,840,155
1920	45,828,391	23,657,212	13,006,226	6,865,394	188,975	7,441,468	96,987,668	1,510,115	713,868	321,883	296,758	7,609	1,677,895	4,528,128
1921	57,920,496	30,494,836	23,181,794	9,177,460	252,617	9,947,538	130,974,742	2,025,176	976,418	608,764	420,934	10,793	2,379,998	6,422,084
1922	60,879,967	32,052,982	24,366,277	9,646,385	265,524	10,455,812	137,666,948	2,150,483	1,036,834	646,431	446,980	11,461	2,527,260	6,819,449
1923	62,568,232	32,941,845	25,041,980	9,913,890	272,888	10,745,762	141,484,596	2,219,016	1,069,876	667,032	461,224	11,826	2,607,800	7,036,775
1924	71,141,439	37,455,593	28,473,275	11,272,308	310,279	12,218,165	160,871,061	2,587,979	1,247,768	777,942	537,914	13,793	3,041,408	8,206,803
1925	71,533,873	37,662,207	28,630,341	11,334,489	311,991	12,285,564	161,758,464	2,587,147	1,247,367	777,692	537,741	13,788	3,040,430	8,204,164
1926	75,934,197	39,978,955	30,391,503	12,031,717	331,182	13,041,296	171,708,851	2,756,184	1,328,866	828,504	572,875	14,689	3,239,083	8,740,201
1927	81,031,001	42,662,395	32,431,421	12,839,302	353,412	13,916,645	183,234,177	2,953,457	1,423,980	887,804	613,878	15,740	3,470,920	9,365,780
1928	84,384,620	44,428,058	33,773,656	13,370,680	368,038	14,492,612	190,817,665	3,083,307	1,486,585	926,837	640,868	16,433	3,623,520	9,777,549
1929	96,308,490	50,705,913	38,546,003	15,260,009	420,044	16,540,473	217,780,931	3,606,053	1,738,622	1,083,973	749,521	19,218	4,237,854	11,435,242
1930	88,279,628	46,478,759	35,332,574	13,987,841	385,026	15,161,559	199,625,387	3,203,908	1,544,732	963,089	665,935	17,075	3,765,252	10,159,991
1931	77,328,178	50,182,392	30,175,687	6,207,980	350,753	13,811,933	178,056,923	2,743,581	1,630,461	804,098	288,930	15,207	3,353,244	8,835,521
1932	79,108,440	51,337,700	30,870,397	6,350,901	358,828	14,129,914	182,156,180	2,840,191	1,687,875	832,413	299,104	15,742	3,471,321	9,146,646
1933	88,487,617	57,424,350	34,530,423	7,103,871	401,371	15,805,171	203,752,801	3,261,386	1,938,184	955,858	343,460	18,077	3,986,113	10,503,078
1934	83,992,296	54,507,095	32,776,219	6,742,982	380,980	15,002,241	193,401,814	3,030,786	1,801,142	888,273	319,175	16,799	3,704,270	9,760,446
1935	96,822,180	62,833,093	37,782,810	7,772,977	439,176	17,293,844	222,944,080	3,578,883	2,126,866	1,048,911	376,896	19,837	4,374,162	11,525,555
1936	114,159,101	74,083,949	44,548,177	9,164,802	517,814	20,390,470	262,864,313	4,345,146	2,582,243	1,273,490	457,592	24,084	5,310,699	13,993,254
1937	124,010,292	80,476,914	48,392,396	9,955,665	562,498	22,150,035	285,547,801	4,756,206	2,826,528	1,393,965	500,881	26,362	5,813,102	15,317,044
1938	134,410,874	87,226,408	52,451,003	10,790,634	609,674	24,007,730	309,496,323	5,201,805	3,091,340	1,524,562	547,808	28,832	6,357,720	16,752,068
1939	137,881,831	89,478,898	53,805,471	11,069,285	625,418	24,627,693	317,488,597	5,324,216	3,164,086	1,560,439	560,699	29,510	6,507,332	17,146,282

Total Private Final Consumption Expenditure by Major Object of Consumption and Standard in Current Prices, Malaya,1900-39

(Straits $)

	Food							Beverages and Tobacco						
	Malay Labour Standard	Chinese Labour Standard	Indian Labour Standard	Asiatic Clerical Standard	Eurasian Clerical Standard	European Standard	Total	Malay Labour Standard	Chinese Labour Standard	Indian Labour Standard	Asiatic Clerical Standard	Eurasian Clerical Standard	European Standard	Total
1899	33,606,576	21,375,401	5,563,624	3,743,592	138,578	2,728,464	67,156,235	978,975	570,218	121,724	143,053	4,933	543,871	2,362,774
1900	37,712,825	23,987,174	6,243,420	4,201,006	155,510	3,061,844	75,361,780	1,062,873	619,085	132,156	155,313	5,356	590,481	2,565,263
1901	37,641,957	23,942,098	6,231,688	4,193,112	155,218	3,056,090	75,220,163	1,056,354	615,288	131,345	154,360	5,323	586,859	2,549,529
1902	41,174,664	26,189,070	6,816,533	4,586,636	169,786	3,342,905	82,279,595	1,244,569	724,916	154,748	181,863	6,271	691,422	3,003,789
1903	43,159,309	27,451,400	7,145,094	4,807,715	177,969	3,504,035	86,245,523	1,348,013	785,169	167,610	196,979	6,792	748,891	3,253,454
1904	43,116,590	27,424,229	7,138,022	4,802,957	177,793	3,500,567	86,160,158	1,288,667	750,602	160,231	188,307	6,493	715,921	3,110,221
1905	44,631,205	28,387,597	7,388,769	4,971,676	184,039	3,623,536	89,186,822	1,162,766	677,269	144,576	169,910	5,859	645,977	2,806,357
1906	46,434,786	29,534,761	7,687,355	5,172,586	191,476	3,769,966	92,790,930	1,346,643	784,371	167,439	196,779	6,785	748,130	3,250,148
1907	51,648,469	32,850,915	8,550,489	5,753,362	212,975	4,193,257	103,209,466	1,344,176	782,934	167,133	196,418	6,773	746,760	3,244,194
1908	55,711,536	35,435,222	9,223,136	6,205,966	229,729	4,523,131	111,328,720	1,353,495	788,362	168,291	197,780	6,820	751,937	3,266,686
1909	56,398,495	35,872,161	9,336,863	6,282,489	232,562	4,578,904	112,701,474	1,425,997	830,592	177,306	208,374	7,185	792,215	3,441,669
1910	57,305,715	36,449,196	9,487,055	6,383,549	236,303	4,652,560	114,514,378	1,698,697	989,430	211,213	248,223	8,559	943,714	4,099,837
1911	61,759,549	31,708,130	17,432,448	9,201,795	253,287	6,981,741	127,336,948	1,942,312	913,197	411,761	379,620	9,734	1,502,482	5,159,105
1912	67,081,504	34,502,881	18,968,942	10,012,840	275,611	8,682,412	139,524,190	1,962,951	924,573	416,890	384,349	9,855	1,738,512	5,437,130
1913	72,686,926	37,453,839	20,591,315	10,869,217	299,184	10,603,126	152,503,606	2,517,011	1,187,693	535,531	493,729	12,660	2,512,426	7,259,051
1914	72,518,079	37,434,776	20,580,835	10,863,685	299,031	11,775,254	153,471,660	2,768,527	1,308,750	590,116	544,053	13,950	3,076,121	8,301,516
1915	72,619,470	37,487,116	20,609,610	10,878,874	299,450	11,791,718	153,686,236	2,541,339	1,201,353	541,690	499,407	12,805	2,823,691	7,620,286
1916	73,411,777	37,896,115	20,834,469	10,997,567	302,717	11,920,370	155,363,015	3,641,811	1,721,573	776,257	715,665	18,350	4,046,429	10,920,086
1917	87,359,931	45,096,334	24,792,994	13,087,092	360,232	14,185,227	184,881,809	3,606,663	1,704,958	768,766	708,758	18,173	4,007,377	10,814,696
1918	91,763,809	47,369,673	26,042,827	13,746,821	378,392	14,900,315	194,201,837	4,167,356	1,970,011	888,278	818,942	20,999	4,630,365	12,495,949
1919	105,421,904	54,420,159	29,919,033	15,792,894	434,712	17,118,073	223,106,775	3,919,762	1,852,967	835,503	770,286	19,751	4,355,262	11,753,532
1920	114,801,219	59,261,884	32,580,909	17,197,977	473,388	18,641,056	242,956,432	3,686,706	1,742,796	785,827	724,488	18,577	4,096,313	11,054,707
1921	97,176,855	51,163,102	38,893,553	15,397,600	423,831	16,689,610	219,744,551	4,846,694	2,336,785	1,456,908	1,007,389	25,830	5,695,864	15,369,471
1922	88,348,150	46,514,836	35,359,998	13,998,699	385,325	15,173,327	199,780,334	5,097,261	2,457,593	1,532,228	1,059,470	27,166	5,990,331	16,164,050
1923	90,725,067	47,766,270	36,311,323	14,375,319	395,692	15,581,550	205,155,222	4,459,746	2,150,222	1,340,592	926,962	23,768	5,241,120	14,142,409
1924	103,626,836	54,558,983	41,475,059	16,419,595	451,962	17,797,360	234,329,796	4,856,527	2,341,526	1,459,864	1,009,433	25,883	5,707,419	15,400,650
1925	107,972,003	56,846,691	43,214,146	17,108,084	470,913	18,543,620	244,155,457	4,812,243	2,320,175	1,446,552	1,000,229	25,647	5,655,376	15,260,221
1926	121,267,445	63,846,671	48,535,444	19,214,737	528,901	20,827,041	274,220,238	5,243,783	2,528,237	1,576,272	1,089,924	27,947	6,162,524	16,628,687
1927	125,447,228	66,047,305	50,208,338	19,877,020	547,131	21,544,897	283,671,920	5,396,963	2,602,092	1,622,318	1,121,763	28,763	6,342,543	17,114,441
1928	127,484,213	67,119,767	51,023,610	20,199,779	556,015	21,894,738	288,278,121	5,637,070	2,717,857	1,694,494	1,171,670	30,043	6,624,718	17,875,851
1929	143,619,476	75,614,898	57,481,503	22,756,399	626,388	24,665,884	324,764,548	6,490,230	3,129,199	1,950,952	1,349,000	34,590	7,627,357	20,581,327
1930	123,266,040	64,898,921	49,335,351	19,531,412	537,617	21,170,289	278,739,631	5,465,045	2,634,917	1,642,783	1,135,914	29,126	6,422,553	17,330,339
1931	80,007,310	51,921,024	31,221,162	6,423,063	362,905	14,290,465	184,225,929	4,761,227	2,829,512	1,395,436	501,410	26,390	5,819,239	15,333,216
1932	69,048,712	44,809,404	26,944,801	5,543,297	313,198	12,333,101	158,992,513	4,760,914	2,829,326	1,395,344	501,377	26,388	5,818,856	15,332,205
1933	70,648,696	45,847,719	27,569,161	5,671,745	320,455	12,618,881	162,676,658	4,910,851	2,918,431	1,439,288	517,167	27,219	6,002,111	15,815,067
1934	70,789,302	45,938,966	27,624,029	5,683,033	321,093	12,643,995	163,000,419	4,586,794	2,725,850	1,344,313	483,040	25,423	5,606,044	14,771,463
1935	91,137,600	59,144,065	35,564,523	7,316,614	413,391	16,278,496	209,854,689	5,017,228	2,981,649	1,470,466	528,370	27,809	6,132,127	16,157,649
1936	104,288,529	67,678,407	40,696,395	8,372,383	473,042	18,627,443	240,136,198	6,083,478	3,615,303	1,782,966	640,658	33,719	7,435,313	19,591,436
1937	125,965,044	81,745,457	49,155,197	10,112,594	571,365	22,499,182	290,048,839	6,658,988	3,957,317	1,951,638	701,265	36,909	8,138,709	21,444,826
1938	126,176,014	81,882,367	49,237,523	10,129,531	572,322	22,536,865	290,534,622	7,255,813	4,312,000	2,126,558	764,117	40,217	8,868,157	23,366,862
1939	127,569,418	82,786,622	49,781,270	10,241,395	578,642	22,785,747	293,743,093	8,018,564	4,765,290	2,350,107	844,444	44,444	9,800,403	25,823,252

APPENDIX 8

Total Private Final Consumption Expenditure by Major Object of Consumption and Standard in Constant Prices, Malaya,1900-39 (Cont'd)

(Straits $)

	Clothing							Rent						
	Malay Labour Standard	Chinese Labour Standard	Indian Labour Standard	Asiatic Clerical Standard	Eurasian Clerical Standard	European Standard	Total	Malay Labour Standard	Chinese Labour Standard	Indian Labour Standard	Asiatic Clerical Standard	Eurasian Clerical Standard	European Standard	Total
1899	5,510,948	3,340,079	251,315	922,335	31,805	1,631,007	11,687,488	1,274,626	1,029,313	193,755	1,070,965	36,930	820,663	4,426,252
1900	5,610,685	3,400,528	255,863	939,027	32,380	1,660,525	11,899,009	1,303,746	1,052,829	198,181	1,095,432	37,774	839,412	4,527,374
1901	5,935,205	3,597,213	270,662	993,340	34,253	1,756,570	12,587,243	1,373,821	1,109,418	208,833	1,154,311	39,804	884,529	4,770,716
1902	6,139,118	3,720,801	279,961	1,027,468	35,430	1,816,919	13,019,697	1,421,291	1,147,752	216,049	1,194,197	41,179	915,093	4,935,562
1903	6,305,063	3,821,376	287,529	1,055,241	36,388	1,866,032	13,371,629	1,463,292	1,181,669	222,434	1,229,487	42,396	942,135	5,081,413
1904	6,382,824	3,868,506	291,075	1,068,255	36,836	1,889,046	13,536,542	1,489,389	1,202,743	226,401	1,251,413	43,152	958,937	5,172,036
1905	6,812,139	4,128,705	310,653	1,140,107	39,314	2,016,105	14,447,022	1,580,044	1,275,951	240,181	1,327,583	45,779	1,017,305	5,486,843
1906	7,485,270	4,536,677	341,349	1,252,765	43,199	2,215,323	15,874,583	1,714,779	1,384,755	260,662	1,440,790	49,682	1,104,054	5,954,722
1907	7,874,641	4,772,667	359,106	1,317,932	45,446	2,330,561	16,700,352	1,797,460	1,451,524	273,231	1,510,261	52,078	1,157,288	6,241,842
1908	8,457,591	5,125,982	385,690	1,415,497	48,810	2,503,089	17,936,660	1,913,638	1,545,342	290,891	1,607,876	55,444	1,232,089	6,645,279
1909	9,047,382	5,483,443	412,586	1,514,207	52,214	2,677,642	19,187,473	2,027,860	1,637,581	308,253	1,703,847	58,753	1,305,630	7,041,925
1910	9,298,554	5,635,674	424,040	1,556,244	53,664	2,751,979	19,720,155	2,083,902	1,682,838	316,772	1,750,935	60,377	1,341,713	7,236,537
1911	9,172,475	4,487,386	713,180	2,053,303	52,649	3,779,913	20,258,905	2,081,523	1,356,822	539,476	2,339,258	59,981	1,866,075	8,243,135
1912	8,958,528	4,390,658	697,807	2,009,042	51,514	4,226,782	20,334,330	2,062,364	1,346,768	535,479	2,321,926	59,537	2,116,856	8,442,929
1913	9,752,813	4,788,619	761,055	2,191,139	56,183	5,186,127	22,735,936	2,226,488	1,456,583	579,141	2,511,255	64,391	2,575,646	9,413,505
1914	10,650,247	5,238,766	832,597	2,397,113	61,464	6,304,045	25,484,232	2,402,867	1,574,830	626,156	2,715,121	69,618	3,094,155	10,482,747
1915	10,092,062	4,964,199	788,960	2,271,479	58,243	5,973,647	24,148,590	2,310,424	1,514,243	602,067	2,610,664	66,940	2,975,116	10,079,454
1916	9,533,636	4,689,515	745,304	2,145,791	55,020	5,643,106	22,812,371	2,217,918	1,453,615	577,961	2,506,137	64,260	2,855,996	9,675,887
1917	10,746,344	5,286,035	840,109	2,418,742	62,019	6,360,926	25,714,175	2,453,082	1,607,740	639,242	2,771,861	71,073	3,158,815	10,701,813
1918	9,189,530	4,520,252	718,403	2,068,341	53,034	5,439,424	21,988,985	2,169,827	1,422,097	565,429	2,451,797	62,867	2,794,071	9,466,088
1919	7,492,497	3,685,496	585,736	1,686,380	43,241	4,434,924	17,928,274	1,847,656	1,210,947	481,476	2,087,760	53,532	2,379,213	8,060,584
1920	5,809,262	2,857,527	454,146	1,307,524	33,526	3,438,592	13,900,578	1,518,512	995,227	395,705	1,715,843	43,996	1,955,376	6,624,658
1921	7,790,649	3,908,481	858,908	1,854,649	47,555	4,877,448	19,337,691	1,919,180	1,282,876	705,289	2,293,689	58,813	2,613,890	8,873,736
1922	8,272,694	4,150,318	912,053	1,969,405	50,498	5,179,239	20,534,206	2,017,241	1,348,425	741,326	2,410,885	61,818	2,747,448	9,327,143
1923	8,536,333	4,282,582	941,119	2,032,168	52,107	5,344,293	21,188,601	2,073,182	1,385,818	761,883	2,477,742	63,532	2,823,637	9,585,795
1924	9,955,697	4,994,662	1,097,602	2,370,063	60,771	6,232,907	24,711,701	2,357,253	1,575,706	866,278	2,817,246	72,237	3,210,537	10,899,257
1925	9,952,495	4,993,055	1,097,249	2,369,301	60,751	6,230,902	24,703,754	2,370,256	1,584,398	871,057	2,832,787	72,636	3,228,247	10,959,380
1926	10,602,764	5,319,288	1,168,940	2,524,104	64,721	6,638,012	26,317,828	2,516,059	1,681,860	924,639	3,007,043	77,104	3,426,829	11,633,534
1927	11,361,655	5,700,015	1,252,606	2,704,767	69,353	7,113,127	28,201,523	2,684,941	1,794,749	986,702	3,208,879	82,279	3,656,843	12,414,392
1928	11,861,173	5,950,618	1,307,678	2,823,682	72,402	7,425,857	29,441,410	2,796,062	1,869,028	1,027,538	3,341,685	85,684	3,808,188	12,928,185
1929	13,872,125	6,959,490	1,529,382	3,302,412	84,677	8,684,843	34,432,929	3,191,156	2,133,129	1,172,733	3,813,878	97,792	4,346,299	14,754,987
1930	12,325,115	6,183,372	1,358,827	2,934,129	75,234	7,716,315	30,592,992	2,925,122	1,955,298	1,074,967	3,495,930	89,639	3,983,965	13,524,921
1931	10,554,284	6,526,536	1,134,505	1,273,032	67,002	6,871,967	26,427,326	2,562,249	2,111,105	918,073	1,551,538	81,660	3,629,328	10,853,951
1932	10,925,931	6,756,355	1,174,454	1,317,859	69,361	7,113,950	27,357,910	2,621,237	2,159,707	939,209	1,587,257	83,540	3,712,883	11,103,833
1933	12,546,229	7,758,311	1,348,624	1,513,295	79,647	8,168,936	31,415,042	2,932,014	2,415,764	1,050,562	1,775,444	93,444	4,153,086	12,420,314
1934	11,659,133	7,209,750	1,253,268	1,406,296	74,016	7,591,342	29,193,806	2,783,062	2,293,039	997,192	1,685,249	88,697	3,942,102	11,789,341
1935	13,767,607	8,513,584	1,479,913	1,660,615	87,401	8,964,184	34,473,304	3,208,177	2,643,303	1,149,514	1,942,671	102,246	4,544,261	13,590,172
1936	16,715,345	10,336,400	1,796,772	2,016,164	106,114	10,883,476	41,854,271	3,782,631	3,116,611	1,355,345	2,290,525	120,554	5,357,953	16,023,619
1937	18,296,650	11,314,244	1,966,750	2,206,897	116,152	11,913,075	45,813,769	4,109,048	3,385,554	1,472,302	2,488,183	130,957	5,820,310	17,406,354
1938	20,010,827	12,374,253	2,151,011	2,413,657	127,035	13,029,188	50,105,971	4,453,669	3,669,496	1,595,782	2,696,863	141,940	6,308,452	18,866,202
1939	20,481,727	12,665,447	2,201,629	2,470,456	130,024	13,335,794	51,285,078	4,568,678	3,764,255	1,636,991	2,766,506	145,606	6,471,358	19,353,393

Total Private Final Consumption Expenditure by Major Object of Consumption and Standard in Current Prices, Malaya,1900-39

(Straits $)

	Clothing							Rent						
	Malay Labour Standard	Chinese Labour Standard	Indian Labour Standard	Asiatic Clerical Standard	Eurasian Clerical Standard	European Standard	Total	Malay Labour Standard	Chinese Labour Standard	Indian Labour Standard	Asiatic Clerical Standard	Eurasian Clerical Standard	European Standard	Total
1899	4,586,301	2,779,668	209,148	767,582	26,468	1,357,351	9,726,520	939,702	758,848	142,843	789,556	27,226	605,024	3,263,199
1900	4,507,450	2,731,878	205,552	754,385	26,013	1,334,015	9,559,294	980,095	791,467	148,983	823,495	28,396	631,030	3,403,467
1901	5,821,647	3,528,387	265,484	974,335	33,598	1,722,961	12,346,411	1,053,117	850,436	160,083	884,849	30,512	678,046	3,657,043
1902	6,585,732	3,991,485	300,328	1,102,215	38,007	1,949,098	13,966,865	1,110,976	897,160	168,879	933,464	32,188	715,298	3,857,965
1903	6,557,005	3,974,074	299,018	1,097,407	37,842	1,940,596	13,905,941	1,166,357	941,882	177,297	979,996	33,793	750,955	4,050,279
1904	7,457,255	4,519,698	340,072	1,248,077	43,037	2,207,032	15,815,170	1,210,572	977,588	184,018	1,017,147	35,074	779,423	4,203,822
1905	7,449,328	4,514,893	339,710	1,246,750	42,991	2,204,686	15,798,358	1,309,598	1,057,555	199,071	1,100,349	37,943	843,180	4,547,696
1906	7,692,612	4,662,343	350,805	1,287,467	44,395	2,276,688	16,314,310	1,449,328	1,170,392	220,311	1,217,753	41,991	933,144	5,032,920
1907	8,514,088	5,160,224	388,266	1,424,952	49,136	2,519,810	18,056,477	1,549,213	1,251,054	235,495	1,301,679	44,885	997,455	5,379,781
1908	9,142,170	5,540,892	416,909	1,530,071	52,761	2,705,696	19,388,499	1,681,932	1,358,231	255,669	1,413,192	48,731	1,082,906	5,840,661
1909	8,747,198	5,301,507	398,897	1,463,967	50,482	2,588,801	18,550,852	1,745,064	1,409,212	265,266	1,466,237	50,560	1,123,553	6,059,893
1910	9,226,063	5,591,738	420,735	1,544,111	53,245	2,730,524	19,566,416	1,782,876	1,439,747	271,014	1,498,007	51,655	1,147,898	6,191,197
1911	9,275,702	4,537,887	721,206	2,076,410	53,241	3,822,452	20,486,898	1,772,527	1,155,405	459,392	1,992,002	51,077	1,589,061	7,019,464
1912	9,200,723	4,509,360	716,672	2,063,357	52,907	4,341,054	20,884,073	1,770,898	1,156,435	459,801	1,993,777	51,122	1,817,689	7,249,723
1913	9,706,906	4,766,079	757,472	2,180,825	55,919	5,161,715	22,628,916	2,076,237	1,358,288	540,059	2,341,786	60,046	2,401,832	8,778,248
1914	10,650,247	5,238,766	832,597	2,397,113	61,464	6,304,045	25,484,232	2,402,867	1,574,830	626,156	2,715,121	69,618	3,094,155	10,482,747
1915	13,959,225	6,866,424	1,091,280	3,141,884	80,561	8,262,680	33,402,055	2,347,201	1,538,347	611,651	2,652,221	68,006	3,022,474	10,239,899
1916	15,375,842	7,563,246	1,202,026	3,460,730	88,737	9,101,197	36,791,778	2,308,668	1,513,092	601,609	2,608,681	66,889	2,972,855	10,071,796
1917	15,476,451	7,612,735	1,209,891	3,483,375	89,317	9,160,749	37,032,519	2,566,456	1,682,045	668,786	2,899,967	74,358	3,304,806	11,196,418
1918	17,441,729	8,579,438	1,363,529	3,925,711	100,659	10,324,027	41,735,094	2,535,565	1,661,799	660,736	2,865,062	73,463	3,265,028	11,061,653
1919	17,202,774	8,461,899	1,344,849	3,871,929	99,280	10,182,587	41,163,317	2,349,665	1,539,961	612,293	2,655,005	68,077	3,025,646	10,250,647
1920	16,939,809	8,332,548	1,324,291	3,812,741	97,763	10,026,933	40,534,085	2,368,489	1,552,299	617,198	2,676,275	68,622	3,049,886	10,332,769
1921	18,479,420	9,270,918	2,037,330	4,399,229	112,801	11,569,306	45,869,003	3,106,405	2,076,477	1,141,588	3,712,588	95,195	4,230,869	14,363,121
1922	15,122,484	7,586,781	1,667,233	3,600,073	92,310	9,467,648	37,536,529	3,714,637	2,483,050	1,365,110	4,439,511	113,834	5,059,272	17,175,413
1923	13,965,440	7,006,305	1,539,670	3,324,626	85,247	8,743,264	34,664,552	4,414,058	2,950,577	1,622,143	5,275,416	135,267	6,011,871	20,409,333
1924	15,640,400	7,846,614	1,724,332	3,723,369	95,471	9,791,897	38,822,083	5,258,613	3,515,120	1,932,513	6,284,778	161,148	7,162,140	24,314,313
1925	15,734,895	7,894,021	1,734,750	3,745,864	96,048	9,851,057	39,056,635	5,519,880	3,689,764	2,028,527	6,597,029	169,155	7,517,981	25,522,337
1926	16,699,353	8,377,878	1,841,080	3,975,464	101,935	10,454,869	41,450,579	6,173,546	4,126,707	2,268,746	7,378,251	189,186	8,408,263	28,544,699
1927	17,656,012	8,857,823	1,946,550	4,203,207	107,775	11,053,799	43,825,166	7,169,333	4,792,341	2,634,693	8,568,355	219,701	9,764,508	33,148,932
1928	18,017,121	9,038,988	1,986,362	4,289,173	109,979	11,279,877	44,721,501	8,161,027	5,455,239	2,999,135	9,753,568	250,091	11,115,177	37,734,239
1929	19,559,697	9,812,881	2,156,429	4,656,400	119,395	12,245,629	48,550,430	9,378,939	6,269,353	3,446,711	11,209,143	287,414	12,773,952	43,365,512
1930	17,230,511	8,644,355	1,899,640	4,101,912	105,177	10,787,409	42,769,003	7,920,372	5,294,373	2,910,695	9,465,951	242,717	10,787,409	36,621,516
1931	14,197,918	8,779,679	1,526,168	1,712,518	90,133	9,244,363	35,550,778	5,970,003	4,918,845	2,139,096	3,615,061	190,266	8,456,282	25,289,554
1932	12,506,853	7,733,962	1,344,391	1,508,546	79,397	8,143,298	31,316,448	4,973,547	4,097,838	1,782,059	3,011,669	158,509	7,044,840	21,068,462
1933	13,844,423	8,561,085	1,488,170	1,669,880	87,888	9,014,199	34,665,646	4,879,408	4,020,274	1,748,328	2,954,664	155,509	6,911,495	20,669,678
1934	12,117,263	7,493,047	1,302,513	1,461,555	76,924	7,889,634	30,340,936	4,631,526	3,816,037	1,659,510	2,804,562	147,609	6,560,380	19,619,624
1935	14,272,656	8,825,895	1,534,202	1,721,533	90,607	9,293,025	35,737,918	5,338,995	4,398,940	1,913,001	3,232,961	170,156	7,562,483	22,616,535
1936	17,141,415	10,599,872	1,842,571	2,067,556	108,819	11,160,894	42,921,127	6,294,992	5,186,611	2,255,542	3,811,853	200,624	8,916,616	26,666,238
1937	19,860,246	12,281,137	2,134,825	2,395,494	126,079	12,931,143	49,728,924	6,938,711	5,716,989	2,486,192	4,201,650	221,139	9,828,420	29,393,101
1938	22,088,917	13,659,298	2,374,390	2,664,311	140,227	14,382,246	55,309,390	7,935,438	6,538,218	2,843,326	4,805,205	252,906	11,240,246	33,615,339
1939	24,575,678	15,197,056	2,641,698	2,964,258	156,014	16,001,394	61,536,097	8,842,931	7,285,926	3,168,488	5,354,726	281,828	12,525,676	37,459,575

APPENDIX 8

Total Private Final Consumption Expenditure by Major Object of Consumption and Standard in Constant Prices, Malaya,1900-39 (Cont'd)

(Straits $)

	Servants				Transport				Clubs		Total from Indirect Approach
	Asiatic Clerical Standard	Eurasian Clerical Standard	European Standard	Total	Asiatic Clerical Standard	Eurasian Clerical Standard	European Standard	Total	European Standard	Total	
1899	648,701	22,369	3,168,944	3,840,014	1,280,723	44,163	1,782,449	3,107,335	1,113,782	1,113,782	104,503,173
1900	660,442	22,774	3,226,296	3,909,511	1,303,902	44,962	1,814,708	3,163,572	1,133,939	1,133,939	106,780,460
1901	698,641	24,091	3,412,903	4,135,636	1,379,319	47,563	1,919,670	3,346,552	1,199,525	1,199,525	112,616,457
1902	722,644	24,919	3,530,159	4,277,722	1,426,708	49,197	1,985,623	3,461,528	1,240,737	1,240,737	116,502,854
1903	742,178	25,592	3,625,582	4,393,352	1,465,273	50,527	2,039,296	3,555,095	1,274,275	1,274,275	119,880,485
1904	751,331	25,908	3,670,296	4,447,535	1,483,344	51,150	2,064,447	3,598,941	1,289,991	1,289,991	121,872,390
1905	801,866	27,651	3,917,164	4,746,681	1,583,115	54,590	2,203,304	3,841,009	1,376,757	1,376,757	129,462,278
1906	881,102	30,383	4,304,232	5,215,717	1,739,548	59,984	2,421,020	4,220,552	1,512,799	1,512,799	140,890,317
1907	926,935	31,963	4,528,131	5,487,030	1,830,037	63,105	2,546,957	4,440,098	1,591,492	1,591,492	147,803,465
1908	995,555	34,329	4,863,343	5,893,228	1,965,512	67,776	2,735,505	4,768,794	1,709,308	1,709,308	157,668,153
1909	1,064,980	36,723	5,202,489	6,304,192	2,102,577	72,503	2,926,266	5,101,346	1,828,507	1,828,507	167,436,906
1910	1,094,546	37,743	5,346,920	6,479,209	2,160,949	74,515	3,007,505	5,242,969	1,879,270	1,879,270	172,069,015
1911	1,444,140	37,029	7,344,131	8,825,300	2,851,148	73,106	4,130,884	7,055,138	2,581,225	2,581,225	182,820,379
1912	1,413,011	36,231	8,212,369	9,661,611	2,789,690	71,531	4,619,246	7,480,466	2,886,383	2,886,383	184,714,034
1913	1,541,084	39,515	10,076,315	11,656,914	3,042,542	78,014	5,667,668	8,788,224	3,541,500	3,541,500	204,428,738
1914	1,685,951	43,230	12,248,359	13,977,539	3,328,552	85,347	6,889,386	10,303,286	4,304,903	4,304,903	226,325,884
1915	1,597,589	40,964	11,606,416	13,244,969	3,154,100	80,874	6,528,310	9,763,285	4,079,281	4,079,281	216,749,290
1916	1,509,189	38,697	10,964,196	12,512,083	2,979,574	76,399	6,167,078	9,223,051	3,853,562	3,853,562	207,167,004
1917	1,701,163	43,620	12,358,876	14,103,658	3,358,585	86,118	6,951,549	10,396,252	4,343,746	4,343,746	230,314,943
1918	1,454,717	37,300	10,568,456	12,060,474	2,872,030	73,642	5,944,484	8,890,156	3,714,472	3,714,472	201,870,470
1919	1,186,074	30,412	8,616,777	9,833,263	2,341,651	60,042	4,846,715	7,248,409	3,028,519	3,028,519	169,949,417
1920	919,615	23,580	6,680,965	7,624,160	1,815,585	46,553	3,757,871	5,620,009	2,348,144	2,348,144	137,633,345
1921	1,304,422	33,447	9,476,571	10,814,440	2,575,305	66,033	5,330,327	7,971,665	3,330,709	3,330,709	187,725,068
1922	1,385,133	35,516	10,062,932	11,483,581	2,734,651	70,119	5,660,140	8,464,910	3,536,796	3,536,796	197,833,034
1923	1,429,275	36,648	10,383,623	11,849,546	2,821,800	72,354	5,840,520	8,734,675	3,649,509	3,649,509	203,529,497
1924	1,666,926	42,742	12,110,143	13,819,810	3,290,991	84,384	6,811,643	10,187,018	4,256,325	4,256,325	232,951,976
1925	1,666,389	42,728	12,106,248	13,815,366	3,289,932	84,357	6,809,453	10,183,742	4,254,956	4,254,956	233,879,826
1926	1,775,267	45,520	12,897,236	14,718,023	3,504,887	89,869	7,254,363	10,849,119	4,532,963	4,532,963	248,500,519
1927	1,902,331	48,778	13,820,354	15,771,463	3,755,749	96,301	7,773,593	11,625,644	4,857,409	4,857,409	265,470,387
1928	1,985,968	50,922	14,427,970	16,464,859	3,920,871	100,535	8,115,361	12,136,768	5,070,966	5,070,966	276,637,401
1929	2,322,670	59,556	16,874,099	19,256,325	4,585,619	117,580	9,491,246	14,194,445	5,930,702	5,930,702	317,785,561
1930	2,063,648	52,914	14,992,311	17,108,872	4,074,234	104,468	8,432,789	12,611,490	5,269,314	5,269,314	288,892,969
1931	895,356	47,124	13,351,797	14,294,277	1,767,690	93,036	7,510,042	9,370,768	4,692,726	4,692,726	252,531,493
1932	926,884	48,783	13,821,953	14,797,620	1,829,935	96,312	7,774,492	9,700,740	4,857,971	4,857,971	259,120,899
1933	1,064,339	56,018	15,871,725	16,992,082	2,101,312	110,595	8,927,436	11,139,343	5,578,400	5,578,400	291,801,060
1934	989,084	52,057	14,749,497	15,790,638	1,952,736	102,776	8,296,212	10,351,724	5,183,973	5,183,973	275,471,741
1935	1,167,953	61,471	17,416,841	18,646,265	2,305,875	121,362	9,796,524	12,223,761	6,121,458	6,121,458	319,524,595
1936	1,418,019	74,633	21,145,904	22,638,556	2,799,578	147,346	11,894,026	14,840,951	7,432,104	7,432,104	379,647,069
1937	1,552,167	81,693	23,146,350	24,780,210	3,064,424	161,285	13,019,225	16,244,935	8,135,196	8,135,196	413,245,309
1938	1,697,586	89,347	25,314,885	27,101,818	3,351,524	176,396	14,238,971	17,766,891	8,897,366	8,897,366	448,986,639
1939	1,737,534	91,449	25,910,602	27,739,586	3,430,393	180,547	14,574,046	18,184,986	9,106,741	9,106,741	460,304,663

Total Private Final Consumption Expenditure by Major Object of Consumption and Standard in Current Prices, Malaya,1900-39

(Straits $)

	Servants				Transport				Clubs		Total from Indirect Approach
	Asiatic Clerical Standard	Eurasian Clerical Standard	European Standard	Total	Asiatic Clerical Standard	Eurasian Clerical Standard	European Standard	Total	European Standard	Total	
1899	451,774	15,578	2,206,943	2,674,296	1,404,475	48,430	1,954,681	3,407,586	1,009,599	1,009,599	89,600,210
1900	495,331	17,080	2,419,722	2,932,133	1,406,582	48,503	1,957,614	3,412,699	1,125,112	1,125,112	98,359,748
1901	511,505	17,638	2,498,733	3,027,876	1,481,987	51,103	2,062,558	3,595,648	1,157,236	1,157,236	101,553,907
1902	593,601	20,469	2,899,773	3,513,843	1,529,825	52,753	2,129,137	3,711,714	1,214,384	1,214,384	111,548,156
1903	609,646	21,022	2,978,156	3,608,825	1,572,758	54,233	2,188,889	3,815,879	1,326,745	1,326,745	116,206,645
1904	590,332	20,356	2,883,804	3,494,492	1,590,554	54,847	2,213,657	3,859,058	1,228,825	1,228,825	117,871,745
1905	630,038	21,725	3,077,771	3,729,535	1,695,829	58,477	2,360,173	4,114,479	1,283,892	1,283,892	121,467,138
1906	723,762	24,957	3,535,619	4,284,339	1,865,276	64,320	2,596,002	4,525,598	1,321,258	1,321,258	127,519,502
1907	844,173	29,109	4,123,834	4,997,116	1,922,822	66,304	2,676,091	4,665,217	1,367,063	1,367,063	140,919,314
1908	906,666	31,264	4,429,116	5,367,047	2,056,685	70,920	2,862,395	4,990,000	1,482,909	1,482,909	151,664,523
1909	969,893	33,445	4,737,981	5,741,318	2,179,694	75,162	3,033,594	5,288,450	1,548,321	1,548,321	153,331,977
1910	996,819	34,373	4,869,516	5,900,708	2,230,882	76,927	3,104,835	5,412,644	1,669,165	1,669,165	157,354,346
1911	1,315,199	33,723	6,688,405	8,037,327	2,934,191	75,236	4,251,201	7,260,628	2,473,790	2,473,790	177,774,159
1912	1,286,849	32,996	7,479,122	8,798,967	2,873,952	73,691	4,758,770	7,706,413	2,891,267	2,891,267	192,491,763
1913	1,403,487	35,987	9,176,644	10,616,118	3,026,132	77,593	5,637,098	8,740,823	3,705,079	3,705,079	214,231,840
1914	1,685,951	43,230	12,248,359	13,977,539	3,328,552	85,347	6,889,386	10,303,286	4,304,903	4,304,903	226,325,884
1915	1,658,652	42,530	12,050,039	13,751,221	3,211,820	82,354	6,647,778	9,941,953	3,724,712	3,724,712	232,366,363
1916	1,566,874	40,176	11,383,272	12,990,323	3,072,835	78,791	6,360,107	9,511,733	3,998,823	3,998,823	239,647,553
1917	1,923,880	49,330	13,976,908	15,950,118	3,648,767	93,558	7,552,163	11,294,488	4,946,569	4,946,569	276,116,618
1918	1,699,109	43,567	12,343,957	14,086,633	3,231,033	82,847	6,687,545	10,001,425	4,977,392	4,977,392	288,559,984
1919	1,385,334	35,521	10,064,395	11,485,251	2,877,889	73,792	5,956,613	8,908,294	4,464,037	4,464,037	311,131,854
1920	1,430,002	36,667	10,388,901	11,855,570	2,302,162	59,030	4,764,980	7,126,172	3,839,215	3,839,215	327,698,949
1921	2,028,376	52,010	14,736,068	16,816,455	3,162,474	81,089	6,545,642	9,789,205	5,885,363	5,885,363	327,837,169
1922	2,153,882	55,228	15,647,859	17,856,969	3,062,809	78,534	6,339,357	9,480,700	6,274,276	6,274,276	304,268,271
1923	2,222,523	56,988	16,146,534	18,426,044	2,675,067	68,591	5,536,813	8,280,472	6,174,969	6,174,969	307,253,000
1924	2,592,069	66,463	18,831,272	21,489,805	3,271,245	83,878	6,770,774	10,125,896	6,984,629	6,984,629	351,467,172
1925	2,591,236	66,442	18,825,216	21,482,894	3,464,299	88,828	7,170,354	10,723,481	6,986,638	6,986,638	363,187,662
1926	2,760,540	70,783	20,055,203	22,886,525	3,627,558	93,014	7,508,266	11,228,838	7,329,801	7,329,801	402,289,368
1927	2,958,125	75,849	21,490,651	24,524,625	3,537,916	90,716	7,322,725	10,951,356	7,747,567	7,747,567	420,984,008
1928	3,088,180	79,184	22,435,493	25,602,857	3,650,331	93,598	7,555,401	11,299,331	8,088,191	8,088,191	433,600,091
1929	3,611,752	92,609	26,239,224	29,943,585	4,113,300	105,469	8,513,648	12,732,417	9,210,380	9,210,380	489,148,200
1930	3,155,317	80,906	22,923,243	26,159,466	3,483,470	89,320	7,210,034	10,782,824	8,225,399	8,225,399	420,628,178
1931	1,235,591	65,031	18,425,480	19,726,102	1,700,518	89,501	7,224,660	9,014,679	7,531,825	7,531,825	296,672,083
1932	1,155,824	60,833	17,235,975	18,452,632	1,628,643	85,718	6,919,298	8,633,659	7,777,611	7,777,611	261,573,528
1933	1,232,505	64,869	18,379,457	19,676,831	1,794,520	94,448	7,624,031	9,512,999	8,836,185	8,836,185	271,853,063
1934	1,223,497	64,395	18,245,127	19,533,019	1,650,062	86,845	7,010,299	8,747,206	8,268,436	8,268,436	264,281,102
1935	1,487,972	78,314	22,189,056	23,755,342	1,900,041	100,002	8,072,336	10,072,379	9,653,540	9,653,540	327,848,051
1936	1,782,450	93,813	26,580,402	28,456,665	2,239,663	117,877	9,515,221	11,872,761	11,698,131	11,698,131	381,342,557
1937	2,017,817	106,201	30,090,255	32,214,273	2,494,441	131,286	10,597,649	13,223,377	12,829,204	12,829,204	448,882,542
1938	2,176,306	114,542	32,453,683	34,744,531	2,731,492	143,763	11,604,761	14,480,016	14,182,401	14,182,401	466,233,160
1939	2,227,519	117,238	33,217,392	35,562,149	2,819,039	148,370	11,976,703	14,944,112	13,921,468	13,921,468	482,989,747

APPENDIX 9

Percentage Composition of Private Final Consumption Expenditure by Major Object of Consumption in Current Prices, Malaya (Selected Years)

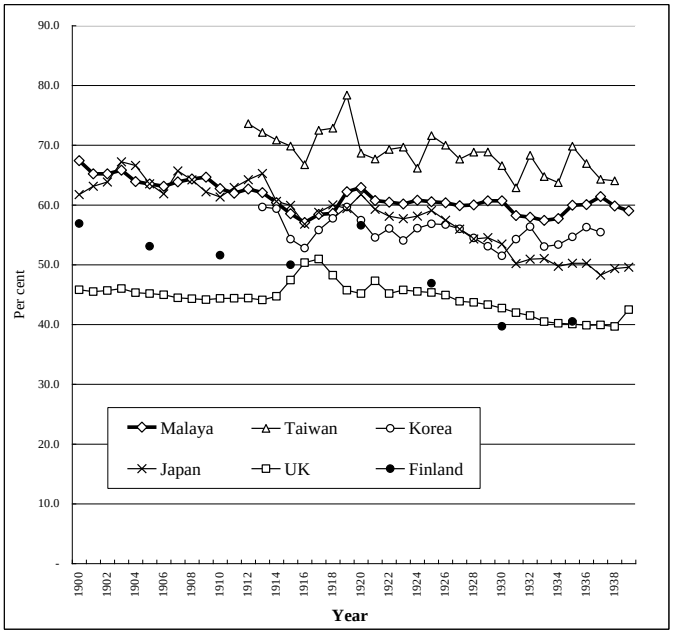
Major Object of Consumption	1900	1923	1939	1957+	1970++
Food	65.2	56.3	54.3	46.7	37.7
Beverages	10.1(2.2)	11.2(3.9)	7.0(4.8)	4.3	2.6
Tobacco				6.0	5.0
Clothing and footwear	8.3	9.5	11.4	7.8	5.5
Gross rents, fuel and power	2.9*	6.0*	7.9*	10.5	13.6
Transport and communication	4.0	4.2	3.8	6.9	13.5
Other expenditure	9.6 [17.4]	12.8 [20.1]	15.6 [17.8]	17.8	22.1
TOTAL	100.0	100.0	100.0	100.0	100.0

* Excludes fuel
( ) Excludes opium / chandu
[ ] Includes opium / chandu
\+ Source: National Accounts of the States of Malaya, 1955-1961, Department of Statistics, Kuala Lumpur, p.27.
++ Source: National Accounts of Peninsular Malaysia, 1960-1971, Department of Statistics, Kuala Lumpur, p.69.

APPENDIX 10

Share (%) of Food, Beverages and Tobacco Consumption in Total Private Final Consumption Expenditure, Malaya and Selected Countries (Current Prices), 1900-39

Year	Country					
	Malaya	Taiwan	Korea	Japan	UK	Finland
1900	**67.4**			61.7	45.8	56.9
1901	**65.2**			63.1	45.5	
1902	**65.2**			63.8	45.7	
1903	**65.8**			67.2	46.0	
1904	**63.9**			66.6	45.3	
1905	**63.5**			63.5	45.2	53.1
1906	**63.1**			61.9	45.0	
1907	**63.9**			65.7	44.5	
1908	**64.3**			64.2	44.3	
1909	**64.7**			62.2	44.2	
1910	**62.7**			61.3	44.4	51.6
1911	**62.0**			62.9	44.4	
1912	**62.7**	73.6		64.2	44.4	
1913	**62.1**	72.1	59.7	65.3	44.1	
1914	**60.4**	70.9	59.4	60.6	44.7	
1915	**58.5**	69.9	54.3	59.9	47.4	50.0
1916	**57.1**	66.7	52.8	56.8	50.4	
1917	**58.4**	72.5	55.8	58.8	51.0	
1918	**58.6**	72.9	57.8	60.0	48.2	
1919	**62.2**	78.4	59.7	59.4	45.7	
1920	**62.9**	68.7	57.5	61.8	45.2	56.6
1921	**60.8**	67.7	54.6	59.3	47.3	
1922	**60.5**	69.3	56.1	58.1	45.2	
1923	**60.2**	69.7	54.1	57.7	45.8	
1924	**60.8**	66.1	56.1	58.1	45.5	
1925	**60.5**	71.6	56.9	59.1	45.4	46.9
1926	**60.4**	70.0	56.7	57.5	44.9	
1927	**59.9**	67.7	56.0	56.0	43.9	
1928	**60.0**	68.8	54.5	54.3	43.7	
1929	**60.7**	68.9	53.1	54.5	43.3	
1930	**60.7**	66.6	51.5	53.5	42.7	39.7
1931	**58.2**	62.9	54.3	50.2	42.0	
1932	**58.0**	68.3	56.4	50.9	41.5	
1933	**57.4**	64.8	53.0	51.0	40.5	
1934	**57.7**	63.7	53.4	49.7	40.2	
1935	**60.0**	69.8	54.7	50.3	40.1	40.5
1936	**60.1**	66.9	56.3	50.2	39.9	
1937	**61.4**	64.3	55.5	48.3	39.9	
1938	**59.8**	64.0		49.4	39.7	
1939	**59.0**			49.6	42.5	



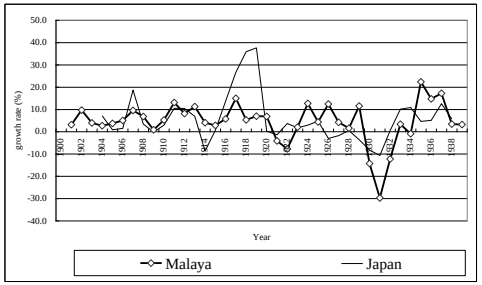
Sources: Feinstein, C.H. (1972); Ohkawa, K., M. Shinohara and M. Umemura (eds.) (1974); Mizoguchi, T and M. Umemura (eds.) (1988); Hjerppe, Riitta (1996).

APPENDIX 11

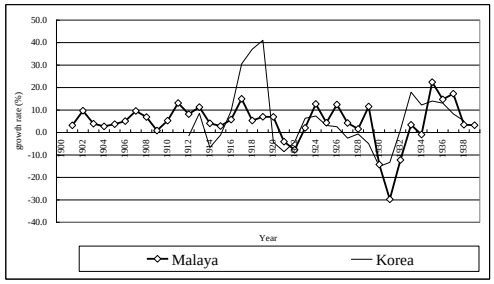
Growth Rates (%) of Private Final Consumption Expenditure (Current Prices), Malaya and Selected Countries, 1900-39

	Malaya	Japan	Korea	Taiwan	UK	Finland
1900					4.8	10.4
1901	3.2				2.4	-6.3
1902	9.7				0.5	-0.7
1903	3.9				0.8	7.3
1904	2.7	7.2		-4.0	1.2	2.4
1905	3.7	0.8		8.9	1.0	2.7
1906	5.1	1.5		12.3	1.7	8.6
1907	9.6	18.7		3.6	2.5	9.9
1908	6.9	3.4		4.5	0.1	3.1
1909	0.8	-0.1		14.2	1.0	1.3
1910	5.3	3.0		2.9	2.5	3.2
1911	13.1	10.5		6.7	3.1	5.7
1912	8.1	10.4	-1.6	2.4	3.6	7.0
1913	11.3	6.9	8.5	8.4	3.1	4.7
1914	4.1	-8.7	-6.7	-8.8	0.2	-2.8
1915	2.9	0.6	-1.2	-6.2	13.9	22.4
1916	5.7	13.7	9.6	11.5	7.9	38.2
1917	15.0	26.7	30.5	23.5	14.3	60.5
1918	5.3	35.9	37.0	24.8	18.9	16.4
1919	7.0	37.7	41.0	27.8	23.1	45.1
1920	6.9	0.2	-4.3	5.7	10.2	34.6
1921	-4.1	-1.4	-8.5	-13.5	-15.1	18.2
1922	-7.7	3.7	-4.3	-7.5	-11.6	7.9
1923	2.1	1.8	6.3	-3.0	-3.3	3.9
1924	12.7	2.9	7.3	10.4	1.6	4.0
1925	4.3	4.7	3.2	23.7	2.6	6.6
1926	12.4	-3.0	2.6	0.2	-1.2	5.6
1927	4.2	-1.8	-2.5	-7.3	1.4	4.8
1928	1.6	0.6	-0.7	10.2	1.3	12.8
1929	11.5	-3.6	-5.0	2.9	1.1	-4.7
1930	-14.3	-8.2	-15.1	-10.5	-1.3	-13.8
1931	-29.7	-10.6	-13.3	-22.9	-3.3	-15.0
1932	-12.2	0.5	1.1	20.2	-3.3	-3.2
1933	3.4	10.1	18.0	1.3	0.4	3.8
1934	-0.9	10.9	12.2	7.8	2.8	10.5
1935	22.4	4.6	14.0	18.6	3.4	7.7
1936	14.7	5.1	13.0	8.2	3.6	8.8
1937	17.3	12.6	8.3	5.0	5.0	16.9
1938	3.4	5.7	5.2	16.3	2.4	6.0
1939	3.2				3.3	-0.7
1900-1939	4.5	5.8	5.7	5.7	2.7	8.8
1900-1913	6.4	6.2	3.5	6.0	2.0	4.2
1914-1918	6.6	13.6	13.9	9.0	11.1	26.9
1919-1922	3.3	12.2	9.4	6.6	6.0	32.6
1923-1930	4.3	-0.8	-0.5	3.3	0.3	2.4
1931-1933	-12.9	0.0	1.9	-0.5	-2.1	-4.8
1934-1939	10.0	7.8	10.5	11.2	3.4	8.2

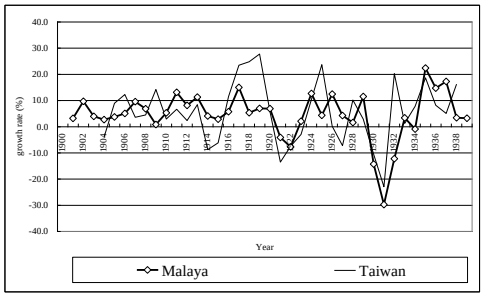
[A] Malaya and Japan



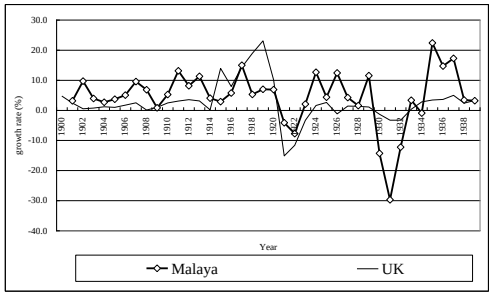
[B] Malaya and Korea



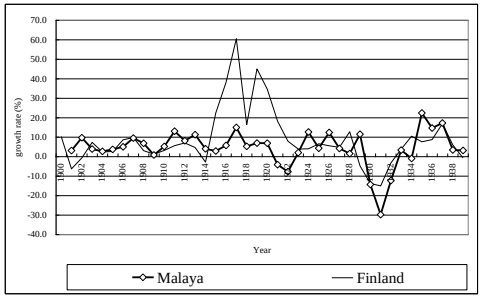
[C] Malaya and Taiwan



[D] Malaya and UK



[E] Malaya and Finland



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