13. **Chemicals (Group VIII.)**—Four articles are included in this group, the price-index for which shews that after a rise in 1872 and 1873 the maximum (1454) was reached in the latter year. Prices then began to fall, and, with the exception of recoveries in 1880, 1890 and 1896, continued to decline until 1909, when the minimum (815) was reached. Prices recovered again in 1910 and 1911, but fell in 1912. This is the only one of the eight groups which shews a fall in prices for 1912 (see graph on page 49).

The table on page 53 shews that in spite of the fall which occurred in 1912, the average price level for 1911-12 was higher than in either of the three preceding quinquennial periods.

IV.—IMPORT AND EXPORT INDEX NUMBERS.

1. **General.** —Retail and wholesale prices having been dealt with in Sections II. and III. respectively of this Report, the question of import and export values now remains to be investigated. The data upon which the index-numbers given in this part of the Report are based have generally been computed by dividing the total *value* of the imports or exports, as the case may be, in any particular year of each commodity included in the investigation, by the total *quantity* imported or exported in the same year. The data thus obtained are, therefore, of the nature of average values rather than prices. They refer to all grades or qualities included in the imports and exports and not to any special grade or quality, as in the case of retail and wholesale prices.

The average import values have generally been taken for those commodities which are either wholly or mainly imported into Australia, such as tea, cotton and kerosene; while for commodities which are largely produced in Australia, such as wheat, meat, butter and hides, export values have generally been taken. In regard, however, to coal, the imports and exports of which are comparatively small in relation to the local consumption, the average value at the pit's mouth has been taken, while for raw sugar, a commodity which is largely produced in Australia, the average import values have been selected in view of the incomplete nature of the returns available as to the value of the local production.

2. **Scope of Investigation.**—The values have been computed from the import and export values for the whole Commonwealth, as obtained from the Trade and Customs returns. These returns were first compiled and published as a whole for all the States on a uniform basis in the year 1903. In order to furnish the index-numbers for the whole of the Commonwealth period (since 1901) special investigations were made to secure the values based on the imports and exports for the whole Commonwealth for the two years (1901 and 1902) immediately preceding the year for which the classified returns were first available. In a few cases where the returns for the several States could not be satisfactorily co-ordinated for these years, values based on the trade of Victoria alone have been taken.

Owing to the difficulty in securing reliable data for the whole Commonwealth, and to the large amount of work involved, the investigation has not for the present been pursued for years prior to 1901.

3. Commodities Included.—Broadly speaking, the list and classification of commodities adopted in the computation of the British Board of Trade index-number have been followed in the present investigation. The forty-four commodities have been classified into six groups, as follow:—

I.	*Metals and Coal.*	Number of Commodities		5
II.	*Textiles.*	„	„	4
III.	*Agricultural Produce.*	„	„	7
IV.	*Meat, Dairy Produce, etc.*	„	„	7
V.	*Groceries, etc.*	„	„	14
VI.	*Miscellaneous.*	„	„	17

The commodities included in each group are specified in the tabular statement given below.

4. Mass-Units and Sources of Information.—The method adopted in the computation of the index-numbers in this investigation is the same as used in regard to the retail and wholesale price index-numbers, viz., the "aggregate expenditure" method.

The subjoined tabular statement shews the commodities included in each group, the "mass-units" (representing the relative usage of each commodity, and thus constituting what has been called the "regimen"), the units of measurement and the source from which the data have been obtained. In regard to the last item where the word "Imports" or "Exports" is shewn, it is to be understood that the average values have been computed from the Trade and Customs returns for the whole Commonwealth except in the few instances referred to in paragraph 2 hereof.

Commonwealth Import and Export Index-Numbers, List of Commodities included, Mass-Units, Units of Measurement, and Sources of Information.

Commodity.	Mass-Unit. (0,000 omitted.)	Unit of Measurement.	Sources of Information.
GROUP I.—METALS AND COAL (5 COMMODITIES).			
Coal	600	ton	Value (at pit's mouth) of Commonwealth Production.
Iron, pig	28	,,	Imports.
Copper, ingots ..	9	,,	Exports.
Tin, ingots	¼	,,	,,
Lead, pig	1¼	,,	,,
GROUP II.—TEXTILES (4 COMMODITIES).			
Cotton, raw	24,000	lb.	Imports.
Wool	12,200	,,	Exports.
Jute, raw	40	cwt	Imports.
Flax and Hemp ..	36	,,	,,

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Commodity.	Mass–Unit. (0,000 omitted.)	Unit of Measurement.	Sources of Information.
GROUP III.—AGRICULTURAL PRODUCE, ETC. (7 COMMODITIES).			
Wheat	2,800	bushel (60 lbs.)	Exports.
Barley	250	bushel (50 lbs.)	,,
Oats	1,300	bushel (40 lbs.)	,,
Maize	1,000	bushel (56 lbs.)	,,
Hops	120	lb.	Imports.
Rice	2	ton	,,
Potatoes	40	,,	Exports.
GROUP IV.—MEAT, DAIRY PRODUCE, ETC. (7 COMMODITIES).			
Beef	39,000	lb.	Exports.
Mutton	33,000	,,	,,
Bacon	4,000	,,	,,
Butter	9,500	,,	,,
Cheese	1,500	,,	,,
Eggs	1,800	dozen	,,
Fish (tinned)	2,400	lb.	Imports.
GROUP V.—GROCERIES, ETC. (7 COMMODITIES).			
Sugar, raw	22	ton	Imports
Tea	3,000	lb.	,,
Coffee	200	,,	,,
Cocoa	100	,,	,,
Rum	30	gallons	,,
Wine	450	,,	Exports.
Tobacco	1,300	lb.	Imports.
GROUP VI.—MISCELLANEOUS (14 COMMODITIES).			
Linseed	1	cental	Imports
Olive Oil	4	gallon	,,
Cocoanut Oil	150	,,	,,
Kerosene	1,700	,,	,,
Slates	$\frac{1}{2}$	1,000	,,
Timber	620	100 sup. ft.	,,
Hides	120	each	Exports.
Tallow	35	cwt.	,,
Salt	7	ton	Imports.
Carbonate of Soda	7	cwt.	,,
Caustic Soda	$\frac{3}{4}$	,,	,,
Saltpetre	1	,,	,,
Sulphur	5	,,	,,
Nitrate of Soda	4	,,	,,

5. Index-Numbers and Graphs. —The index-numbers for each group and the weighted averages for the three groups relating to food and groceries (Groups III., IV. and V.) and for all groups combined are shewn in the following table. As before, the index-numbers have been computed with the relative expenditure in 1911 as base (= 1000), that is to say the figures for the earlier years represent the amount, which would have to be expended in each year specified, in order to purchase the several relative quantities (indicated by the mass-units) of each commodity, which quantities would in 1911 have cost 1000 units.

Commonwealth Import and Export Values.   Index–Numbers for each Group, for Groups III., IV. and V., and all Groups combined.

YEAR.	I. Metals and Coal.	II. Textiles.	III. Agricul- tural Produce.	IV. Meat, Dairy Produce, etc.	V. Grocer- ries, etc.	III., IV. and V. Food and Groce- ries.*	VI. Miscel- laneous.	All Groups. *
1901 ..	1,046	730	884	978	994	949	979	911
1902 ..	1,015	828	1,011	1,010	969	1,005	934	959
1903 ..	931	885	863	993	956	943	842	918
1904 ..	888	935	707	915	908	843	877	870
1905 ..	867	915	950	888	902	912	899	907
1906 ..	962	947	951	888	889	910	906	921
1907 ..	1,017	987	823	929	1,005	905	937	935
1908 ..	981	882	1,148	1,004	1,002	1,053	902	993
1909 ..	958	879	1,081	914	937	974	970	952
1910 ..	980	1,013	1,033	940	970	976	1,017	989
1911 ..	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**

* Weighted Average.

(i.) *Reversibility of Index-Numbers.*—In view of the importance of the matter attention may again be drawn to the fact that index-numbers computed by the aggregate expenditure method adopted in this Report are strictly *reversible*.   Thus, if it be desired to take any other year as base (= 1000) the arithmetical calculations can readily be made (see pp. 35 and 48 hereinbefore).

(ii.) *Graphs.*—The relative values of the above index-numbers may be more readily seen by reference to the following graphs.

COMMONWEALTH IMPORT AND EXPORT PRICES, 1901 TO 1911.
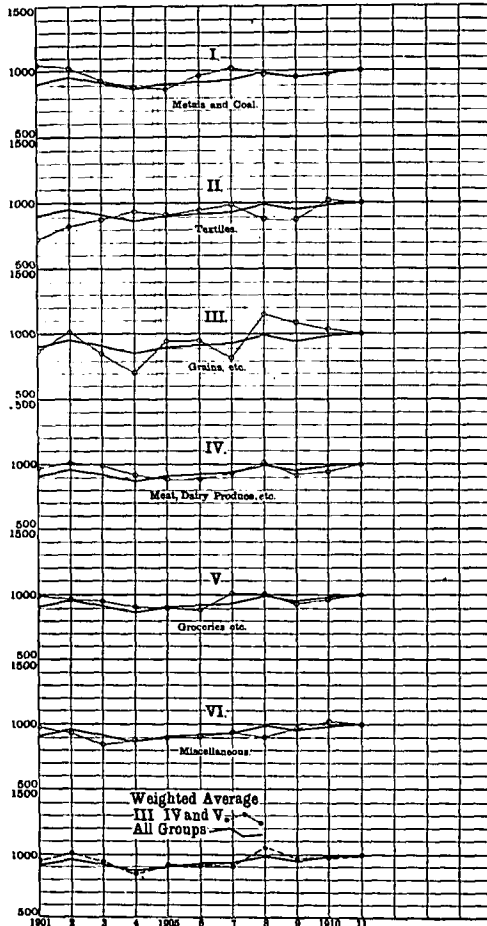
6. General Results of Investigation.—Reference to the graph given on page 69 shews that the index-number for all groups combined, after rising in 1902, declined in the next two years, reaching its minimum in 1904. During the following four years it steadily rose, and in 1908 the price level was nearly as high as in 1911. In 1909 prices fell, but rose again during the next two years, the maximum being reached in 1911. It should be observed that the high prices in 1902 and 1908 are almost entirely due to the droughts which occurred in these years, and which consequently increased prices in Groups III. (Agricultural Produce) and IV. (Meat, etc.). This is clearly shewn in the graphs.

The average price level for the five years, 1901 to 1905, is 913, and for the next five years (1905 to 1910) is 954, as compared with 1000 in the base year (1911). Reversing these numbers and taking successively the average for each period as base (= 1000) it is found that compared with the first period the index-number in 1911 is 1095 and with the second period is 1044. In other words, prices in 1911 were 9.5 per cent. higher than the average level during 1901 to 1905, and 4.4 per cent. higher than during 1906 to 1910. The following table gives similar information in regard to each group. That is to say, the first horizontal line gives the index-numbers for 1911 compared with the average prices during 1901 to 1905 as base (= 1000), and the second line shews the corresponding index-numbers with average prices in 1905 to 1910 as base :—

Commonwealth Import and Export Index–Numbers for 1911, compared with each preceding Quinquennium as Base (= 1,000).

INDEX–NUMBERS FOR 1911 FOR—

BASES PERIOD. (Prices = 1,000.)	I. Metals and Coal.	II. Textiles.	III. Agricul- tural Produce. &c.	IV. Meat, . Dairy Produce, &c.	V. Groceries, &c.	III., IV., and V* combined, Food and Groceries.	VI. Miscel- laneous.	All Groups com- bined.
1901–5 ..	1,052	1,164	1,132	1,045	1,057	1,075	1,103	1,095
1906–10 ..	1,042	1,062	993	1,069	1,041	1,038	1,056	1,044

* Weighted Average.

The above table shews that in every case, except Group III. (1906-10), the price-level was higher in 1911 than the average for either of the preceding quinquennial periods. Thus for all groups combined it may be seen that the index-number in 1911, taking the first period as base, was 1095, a rise of 9.5 per cent., and taking the second period as base, was 1044, or 4.4 per cent. higher.

Compared with the average for the years 1901-5 the increase in 1911 was most marked in Group II. (Textiles), followed by Groups III. (Agricultural Produce), VI. (Miscellaneous), V. (Groceries), I. (Metals and Coal), and IV. (Meat, etc.) in the order named. Compared with the next five years the increase in 1911 was greatest in Group IV. (Meat, etc.) and least in Group III. (Agricultural Produce).