

## SECTION XXXIII.

### LABOUR AND INDUSTRIAL STATISTICS.

#### § 1. Introductory.

1. **General.**—In Year Book No. 7 (pages 992-3), a résumé was given of the functions and scope of the Labour and Industrial Branch of the Commonwealth Bureau of Census and Statistics. Owing to limitations of space, this information is not repeated in the present issue of the Year Book.

#### § 2. Fluctuations in Employment and Unemployment.

1. **General.**—The particulars shewn in the following tables are based upon information furnished by the secretaries of trade unions in the several States of the Commonwealth. It will be seen from the tables that the membership of unions regularly reporting has exceeded 300,000 since 1918. Unemployment particulars are not collected from those unions whose members have permanency of employment, such as railway and tramway employees, and public servants, or from unions whose members are casually employed (wharf labourers, etc.). Very few of the unions pay unemployment benefit, but the majority of the larger organizations have permanent secretaries and organizers who are closely in touch with the members and with the state of trade within their particular industries. In many cases unemployment registers are kept, and provision is also made in the rules for members out of work to pay reduced subscriptions. Taking these facts, and also the large membership of the numerous unions from which regular quarterly returns are being received, into consideration, it will be realized that percentage unemployment results based on trade union information may be taken to shew the general trend of unemployment existing in the several States. The tables do not furnish a complete register of unemployment, but for the purpose of making comparisons and shewing tendencies over a period of years, the percentages returned as unemployed, though not exact, are the most satisfactory available. The investigation for past years was limited to a record of the numbers unemployed at the end of each year. The results are subject to certain limitations, inasmuch as they do not take into account variations in employment and unemployment throughout the year due to seasonal activity and other causes. For the above reasons it is not safe to conclude that the actual percentage returned as unemployed in past years by trade unions at the end of each year is equal to the average percentage unemployed during the year. It may be mentioned that, in order to overcome the difficulties alluded to in regard to seasonal fluctuations, returns as to numbers unemployed have been collected from trade unions for each quarter since the beginning of the year 1913.

2. **Number Unemployed in Various Industries, 1891 to 1920.**—The following table shews for each of the years specified :—(a) The number of unions for which returns as to unemployment are available; (b) the number of members of such unions; (c) the number of members unemployed, and (d) the percentage of members unemployed on the total number of members of those unions for which returns are available.

**UNEMPLOYMENT.—NUMBER OF UNIONS AND MEMBERS REPORTING AND  
NUMBER AND PERCENTAGE UNEMPLOYED, 1891 TO 1920 (4th QUARTER).**

Particulars.	Unions.	Membership.	Unemployed.	
			Number.	Percentage.
1891 .. .. .	25	6,445	599	9.3
1896 .. .. .	25	4,227	457	10.8
1901 .. .. .	39	8,710	574	6.6
1906 .. .. .	47	11,299	753	6.7
1907 .. .. .	51	13,179	757	5.7
1908 .. .. .	68	18,685	1,117	6.0
1909 .. .. .	84	21,122	1,223	5.8
1910 .. .. .	109	32,995	1,857	5.6
1911 .. .. .	160	67,961	3,171	4.7
1912 .. .. .	464	224,023	12,441	5.5
1913 .. .. .	465	251,207	13,430	5.3
1914 .. .. .	439	250,716	27,610	11.0
1915 .. .. .	465	273,149	18,489	6.8
1916 .. .. .	470	292,051	19,562	6.7
1917 .. .. .	459	296,937	21,989	7.4
1918 .. .. .	475	308,850	16,919	5.5
1919 .. .. .	459	317,413	16,637	5.2
1920, 1st Quarter .. .. .	461	329,127	18,396	5.6
2nd    " .. .. .	449	343,144	21,186	6.2
3rd    " .. .. .	426	344,582	21,375	6.2
4th    " .. .. .	450	351,013	27,463	7.8

NOTE.—For years prior to 1920 the figures refer to the end of the year only; similar figures for each of the four quarters of the years since 1912 will be found in the Labour and Industrial Reports. The quarterly figures shew the number of persons who were out of work for three days or more during a specified week in each quarter; they do not include persons out of work through strikes or lockouts.

The figures shew that the percentage of unemployment in the fourth quarter of 1920 (7.8 per cent.) was higher than in the same period of any other year since 1914, which closed with a proportion of unemployment of 11.0 per cent.

3. Unemployment in Different Industries, 1920.—The following table shews the percentages unemployed in several of the fourteen industrial groups. It may be observed that for those industries in which employment is either unusually stable or, on the other hand, exceptionally casual, information as to unemployment cannot ordinarily be obtained from trade unions. Hence, certain industries such as railways, shipping, agricultural, pastoral, etc., and domestic, hotels, etc., are insufficiently represented in the returns. Particulars are not, therefore, shewn separately for these groups, such returns as are available being included in the last group, "Other and Miscellaneous."

**UNEMPLOYMENT IN DIFFERENT INDUSTRIES AT THE END OF YEAR 1920.**

Industrial Group.	Number Reporting.		Unemployed.	
	Unions.	Members.	Number.	Percentage.
I. Wood, Furniture, etc. ..	17	17,232	756	4.4
II. Engineering, Metal Works, etc. ..	60	44,058	1,894	4.3
III. Food, Drink, Tobacco, etc. ..	60	35,882	7,255	20.2
IV. Clothing, Hats, Boots, etc. ..	26	36,549	2,650	7.3
V. Books, Printing, etc. ..	27	13,425	344	2.6
VI. Other Manufacturing ..	71	32,307	3,237	10.0
VII. Building ..	52	33,125	704	2.1
VIII. Mining, Quarrying, etc. ..	21	28,504	1,717	6.0
X. Other Land Transport ..	13	10,988	401	3.6
IX., XI., XII., XIII., and XIV., Other and Miscellaneous ..	103	98,943	8,505	8.6
All Groups .. .. .	450	351,013	27,463	7.8

4. **Unemployment in each State, 1920.**—Any deductions which can be drawn from the data collected as to the relative degree of unemployment in the several States are subject to certain qualifications (in addition to those already stated on page 998), inasmuch as the industries included in the trade union returns are not uniform for each State. In comparing the results for the individual States, it must therefore be borne in mind that, to some extent at least, comparisons are being drawn between different industries and not only between different States. Nevertheless, since the industrial occupations of the people vary considerably in the several States, all comparisons between the States based on comprehensive data as to unemployment must, to some extent, suffer from the defect indicated.

#### UNEMPLOYMENT IN DIFFERENT STATES AT THE END OF YEAR, 1920.

State.	Number Reporting.		Unemployed.	
	Unions.	Members.	Number.	Percentage.
New South Wales .. .. .	127	144,700	10,049	6.9
Victoria .. .. .	99	105,786	7,739	7.3
Queensland .. .. .	57	42,724	6,982	16.3
South Australia .. .. .	56	23,498	1,202	5.1
Western Australia .. .. .	68	25,505	1,229	4.8
Tasmania .. .. .	43	8,800	262	3.0
Commonwealth .. .. .	450	351,013	27,463	7.8

### § 3. Current Rates of Wage in Different Occupations and States.

1. **Minimum Rates of Wage.**—The collection of material respecting the current rates of wage payable in different callings and in occupations in various industries carried on in each State of the Commonwealth was first undertaken by the Commonwealth Bureau of Census and Statistics in the early part of the year 1913. The particulars acquired were obtained primarily from awards, determinations and agreements under Commonwealth and State Acts, and therefore shew the minimum rates prescribed. In cases where no award, determination, or agreement is in force, particulars are given, where possible, of the ruling union or predominant rate as furnished by employers or secretaries of Trade Unions.

An extensive tabular presentation of the minimum rates of wage for adult male and female workers in the main occupations in the capital city of each State will be found in the Labour Report, No. 11. Space will not permit of the inclusion of the detailed tables in this volume.

2. **Weighted Average Nominal Weekly Rate of Wage Payable to Adult Male Workers in each State, 31st December, 1920.**—The following table shews the weighted average nominal weekly rate of wage payable to adult male workers for a full week's work in each State and the Commonwealth. Taking the average for the whole Commonwealth as the base (=1,000), index-numbers for each State are also shewn. The number of occupations upon which these results are based amounts in the aggregate to no fewer than 3,948.

#### WEIGHTED AVERAGE NOMINAL WEEKLY RATE OF WAGE PAYABLE TO ADULT MALE WORKERS FOR A FULL WEEK'S WORK, AND WAGE INDEX-NUMBERS IN EACH STATE AND COMMONWEALTH, 31st DECEMBER, 1920.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
Number of Occupations included .. .. .	874	909	627	567	489	482	3,948
Weighted Average Weekly Rate of Wage .. .. .	94s. 0d.	86s. 1d.	91s. 6d.	82s. 8d.	89s. 9d.	85s. 9d.	89s. 10d. (a)
Index-Numbers .. .. .	1,047	958	1,018	920	999	955	1,000 (a)

(a) Weighted average.

The results shew that the weighted average nominal weekly rate of wage was highest in New South Wales, followed in the order named by Queensland, Western Australia, Victoria, Tasmania, and South Australia.

3. **Weighted Average Nominal Weekly Rate of Wage Payable to Adult Male Workers in each Industrial Group, 31st December, 1920.**—The following table gives similar particulars in regard to the several industrial groups and to the weighted average for all groups combined. In computing the index-numbers the weighted average for all groups is taken as base (=1,000).

**WEIGHTED AVERAGE NOMINAL WEEKLY RATE OF WAGE PAYABLE TO ADULT MALE WORKERS FOR A FULL WEEK'S WORK, AND WAGE INDEX-NUMBERS IN EACH INDUSTRIAL GROUP, 31st DECEMBER, 1920.**

Industrial Group.	No. of Rates Included.	Weighted Average Weekly Wage (for Full Week's Work).	Index Numbers.
		<i>s. d.</i>	
I. Wood, Furniture, etc. .. ..	270	95 1	1,058
II. Engineering, Metal Works, etc. ..	636	92 5	1,029
III. Food, Drink, etc. .. ..	576	89 3	994
IV. Clothing, Boots, etc. .. ..	124	86 5	963
V. Books, Printing, etc. .. ..	205	99 6	1,108
VI. Other Manufacturing .. ..	875	88 11	990
VII. Building .. ..	190	95 7	1,064
VIII. Mining .. ..	161	103 10	1,156
IX. Rail and Tram Services .. ..	224	93 1	1,037
X. Other Land Transport .. ..	70	87 3	971
XI. Shipping, etc. .. ..	198	88 0(b)	980
XII. Pastoral, Agricultural, etc. ..	72	87 1(c)	969
XIII. Domestic, Hotels, etc. .. ..	114	80 6(d)	896
XIV. Miscellaneous .. ..	233	84 11	945
All Groups .. ..	3,948	89 10	1,000(a)

(a) Weighted average. (b) Including the value of victualling and accommodation where supplied. (c) Including the value of board and lodging, where supplied. (d) Including the value of board and lodging, where supplied, as follows:—In Sydney 11s. to 23s. (according to class of establishment); in Melbourne 20s.; in Brisbane 17s.; in Adelaide 16s. (Restaurants) and 15s. (Hotels and Clubs); in Perth 22s.; and in Hobart 15s. per week.

From the above table it may be seen that the highest weighted average wage was that paid in Group VIII. (Mining), 103s. 10d. per week, or approximately 16 per cent. above the weighted average for all groups. The rates of wage range from 103s. 10d. per week down to 80s. 6d. per week, in Group XIII. (Hotels, etc.), which is approximately 10 per cent. below the average of all groups.

4. **Weighted Average Nominal Weekly Rate of Wage Payable to Adult Female Workers in each State, 31st December, 1920.**—The following table shews the weighted average nominal weekly rate of wage payable to adult female workers for a full week's work in each State and the Commonwealth. Taking the average for the whole Commonwealth as the base (=1,000), index-numbers for each State are also shewn:—

**WEIGHTED AVERAGE NOMINAL WEEKLY RATE OF WAGE PAYABLE TO ADULT FEMALE WORKERS FOR A FULL WEEK'S WORK, AND WAGE INDEX-NUMBERS IN EACH STATE AND COMMONWEALTH, 31st DECEMBER, 1920.**

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
Number of Occupations included .. ..	85	87	37	47	24	28	308
Weighted Average Weekly Rate of Wage .. ..	46s. 0d.	43s. 1d.	44s. 11d.	40s. 7d.	52s. 11d.	41s. 10d.	44s. 6d.(a)
Index-Numbers .. ..	1,035	969	1,009	913	1,189	940	1,000(a)

(a) Weighted average.

It will be seen that the weighted average nominal weekly rate of wage for adult female workers was highest in Western Australia, followed in the order named by New South Wales, Queensland, Victoria, Tasmania, and South Australia.

5. **Weighted Average Nominal Weekly Rates of Wage Payable to Adult Female Workers in Industrial Groups, 31st December, 1920.**—The following table gives separate particulars regarding the weighted average nominal weekly rates of wage of females in the chief industrial groups in which they are employed, and also shows the weighted average for all groups combined. Index-numbers based on the average for the Commonwealth as the base (=1,000) are also given :—

**WEIGHTED AVERAGE NOMINAL WEEKLY RATES OF WAGE PAYABLE TO ADULT FEMALE WORKERS FOR A FULL WEEK'S WORK, AND WAGE INDEX-NUMBERS IN INDUSTRIAL GROUPS, 31st DECEMBER, 1920.**

Industrial Group.	No. of Rates Included.	Weighted Average Weekly Wage (for Full Week's Work).	Index-Numbers.
		s. d.	
III. Food, Drink, etc. . . . .	35	41 10	940
IV. Clothing, Boots, etc. . . . .	114	43 5	976
I., II., V., VI., All Other Manufacturing combined . . . . .	84	44 0	989
XIII. Domestic, Hotels, etc. . . . .	57	46 3(a)	1,039
XIV. Shop Assistants, Clerks, etc. . . . .	18	46 2	1,038
All Groups . . . . .	308	44 6	1,000(b)

(a) See footnote (d) on preceding page.

(b) Weighted average.

6. **Relative Hours of Labour and Hourly Rates of Wage, 1914 to 1920.**—The rates of wage referred to in the preceding paragraphs of this section relate to the minimum rates payable for a full week's work. It should be observed, however, that the number of hours which constitutes a full week's work differs in many instances, not only as between various trades and occupations in each individual State, but also as between the same trades and occupations in the several States. In order to secure what may be for some purposes a more adequate standard of comparison, it is desirable to reduce the comparison to a common basis, viz., the rate of wage per hour. Particulars are given in the following table, classified according to States, for male and female occupations separately, at the end of the year 1914, and from 1916-20. These particulars relate to (a) the weighted average nominal weekly wage, (b) the weighted average number of working hours constituting a full week's work, and (c) the weighted average hourly wage. It should be observed that the weighted average weekly wage relates to all industrial groups combined, and includes the value of board and lodging, where supplied, in land occupations, and the value of victualling in marine occupations\*; whereas the number of working hours and the hourly wage relate to all industrial groups other than Groups XI. (Shipping), and XII. (Agricultural, Pastoral, etc.). Owing to the fact that many of the occupations included in these two groups are of a casual or seasonal nature, and that the hours of labour in these occupations are not generally regulated either by awards or determinations of industrial tribunals or otherwise, the necessary data for the computation of the average number of working hours are not available.

The general effect of reducing the rates of wage to a common basis (i.e., per hour) is to decrease the amount of the difference shewn when comparing the weekly wage in the several States.

\* See footnote to table on page 1001.

**WEIGHTED AVERAGE NOMINAL WEEKLY AND HOURLY RATES OF WAGE  
PAYABLE TO ADULT WORKERS, AND WEEKLY HOURS OF LABOUR, 31st  
DECEMBER, 1914 TO 1920.**

Date.	Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'wth.
<b>MALE WORKERS.</b>								
31st Dec., 1914	Weekly Wage(a)	s. d. 56 2	s. d. 54 7	s. d. 53 5	s. d. 54 5	s. d. 62 10	s. d. 52 8	s. d. 55 7
	Working Hours(b)	.. 49.35	48.66	48.64	48.59	48.18	48.62	48.87
	Hourly Wage(b)	.. 1/2	1/12	1/12	1/12	1/4	1/1	1/2
31st Dec., 1916	Weekly Wage(a)	s. d. 61 11	s. d. 58 10	s. d. 60 4	s. d. 59 0	s. d. 65 2	s. d. 57 0	s. d. 60 8
	Working Hours(b)	.. 48.51	48.22	48.27	48.14	48.11	48.55	48.33
	Hourly Wage(b)	.. 1/3	1/3	1/3	1/3	1/4	1/2	1/3
31st Dec., 1917	Weekly Wage(a)	s. d. 64 5	s. d. 63 0	s. d. 65 3	s. d. 63 1	s. d. 68 11	s. d. 59 7	s. d. 64 2
	Working Hours(b)	.. 48.41	48.14	47.19	47.82	48.10	48.48	48.10
	Hourly Wage(b)	.. 1/3	1/4	1/5	1/4	1/5	1/3	1/4
31st Dec., 1918	Weekly Wage(a)	s. d. 65 11	s. d. 65 6	s. d. 69 6	s. d. 65 6	s. d. 70 4	s. d. 61 2	s. d. 66 5
	Working Hours(b)	.. 48.16	47.98	46.90	47.77	47.69	48.39	47.88
	Hourly Wage(b)	.. 1/4	1/4	1/6	1/4	1/6	1/3	1/5
31st Dec., 1919	Weekly Wage(a)	s. d. 76 9	s. d. 72 0	s. d. 78 7	s. d. 70 5	s. d. 77 8	s. d. 69 0	s. d. 74 11
	Working Hours(b)	.. 47.77	47.36	46.19	47.58	47.60	47.89	47.41
	Hourly Wage(b)	.. 1/7	1/6	1/9	1/5	1/7	1/5	1/7
31st Dec., 1920	Weekly Wage(a)	s. d. 94 0	s. d. 86 1	s. d. 91 6	s. d. 82 8	s. d. 89 9	s. d. 85 9	s. d. 89 10
	Working Hours(b)	.. 47.51	47.19	45.63	47.29	46.53	47.33	47.07
	Hourly Wage(b)	.. 2/-	1/10	2/0	1/8	1/11	1/10	1/11

**FEMALE WORKERS.**

31st Dec., 1914	Weekly Wage	s. d. 26 10	s. d. 27 9	s. d. 27 1	s. d. 24 1	s. d. 37 4	s. d. 25 10	s. d. 27 5
	Working Hours	.. 49.34	48.54	49.82	49.33	49.44	50.76	49.11
	Hourly Wage	.. -6	-6	-6	-5	-9	-6	-6
31st Dec., 1916	Weekly Wage	s. d. 28 7	s. d. 28 5	s. d. 27 3	s. d. 24 10	s. d. 38 10	s. d. 28 3	s. d. 28 5
	Working Hours	.. 49.44	48.36	49.85	49.02	49.08	49.83	49.02
	Hourly Wage	.. -7	-7	-6	-6	-9	-6	-7
31st Dec., 1917	Weekly Wage	s. d. 30 5	s. d. 30 4	s. d. 30 5	s. d. 27 9	s. d. 38 10	s. d. 28 5	s. d. 30 5
	Working Hours	.. 48.98	48.32	48.99	48.73	48.78	49.83	48.71
	Hourly Wage	.. -7	-7	-7	-6	-9	-6	-7
31st Dec., 1918	Weekly Wage	s. d. 31 10	s. d. 31 3	s. d. 32 10	s. d. 29 5	s. d. 38 10	s. d. 28 9	s. d. 31 9
	Working Hours	.. 48.35	48.32	48.37	48.73	48.78	49.83	48.42
	Hourly Wage	.. -8	-7	-8	-7	-9	-7	-7
31st Dec., 1919	Weekly Wage	s. d. 40 0	s. d. 34 5	s. d. 38 4	s. d. 33 3	s. d. 43 7	s. d. 33 0	s. d. 37 1
	Working Hours	.. 47.53	47.63	46.76	47.67	48.12	49.28	47.54
	Hourly Wage	.. -10	-8	-9	-8	-11	-8	-9
31st Dec., 1920	Weekly Wage	s. d. 46 0	s. d. 43 1	s. d. 44 11	s. d. 40 7	s. d. 52 11	s. d. 41 10	s. d. 44 6
	Working Hours	.. 46.83	46.23	46.09	46.51	46.20	47.86	46.47
	Hourly Wage	.. -11	-11	-11	-10	1/1	-10	-11

(a) Weighted average weekly wage in all industrial groups combined. (b) Weighted average working hours per week, and computed hourly rates of wage for all industrial groups excepting Groups XI. (Shipping, etc.), and XII. (Agricultural, Pastoral, etc.). Working hours have not been generally regulated by industrial tribunals for occupations classified in industrial groups XI. and XII.

From the foregoing table it may be seen that there has been a diminution in each of the States in the number of working hours constituting a full week's work for male and female occupations. The effect of these changes on the hourly rate of wage as compared with the general increase in the weekly wage is readily seen from the comparative index-numbers given in the following table. In each instance (male and female occupations separately) the basis taken is the weighted average for the Commonwealth at the 30th April, 1914, as base (=1,000).

## RELATIVE INDEX-NUMBERS FOR WEEKLY AND HOURLY WEIGHTED AVERAGE WAGE, 30th APRIL, 1914, 31st DECEMBER, 1914 TO 1920.

NOTE.—Weighted Average for the Commonwealth at 30th April, 1914, as base (=1,000).

Date.	Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	C'wlth.
MALE WORKERS.								
30th April, 1914 ..	{ Weekly Wage ..	1,011	984	955	986	1,128	952	1,000
	{ Hourly Wage ..	998	980	963	991	1,170	933	1,000
31st Dec., 1914 ..	{ Weekly Wage ..	1,019	990	969	988	1,140	956	1,008
	{ Hourly Wage ..	1,010	990	985	993	1,173	936	1,009
31st Dec., 1916 ..	{ Weekly Wage ..	1,123	1,067	1,095	1,071	1,182	1,034	1,100
	{ Hourly Wage ..	1,127	1,074	1,097	1,075	1,206	1,011	1,105
31st Dec., 1917 ..	{ Weekly Wage ..	1,168	1,143	1,183	1,144	1,250	1,081	1,164
	{ Hourly Wage ..	1,162	1,138	1,209	1,145	1,252	1,079	1,164
31st Dec., 1918 ..	{ Weekly Wage ..	1,196	1,189	1,261	1,188	1,276	1,110	1,205
	{ Hourly Wage ..	1,196	1,192	1,297	1,176	1,282	1,120	1,210
31st Dec., 1919 ..	{ Weekly Wage ..	1,393	1,306	1,426	1,277	1,409	1,251	1,359
	{ Hourly Wage ..	1,405	1,322	1,512	1,262	1,408	1,259	1,378
31st Dec., 1920 ..	{ Weekly Wage ..	1,706	1,561	1,659	1,500	1,628	1,556	1,629
	{ Hourly Wage ..	1,725	1,570	1,753	1,492	1,666	1,567	1,655

## FEMALE WORKERS.

30th April, 1914 ..	{ Weekly Wage ..	984	1,006	989	885	1,373	950	1,000
	{ Hourly Wage ..	980	1,021	976	881	1,366	920	1,000
31st Dec., 1914 ..	{ Weekly Wage ..	987	1,022	996	885	1,373	950	1,008
	{ Hourly Wage ..	983	1,035	983	881	1,364	920	1,009
31st Dec., 1916 ..	{ Weekly Wage ..	1,050	1,047	1,004	915	1,429	1,041	1,047
	{ Hourly Wage ..	1,044	1,063	991	916	1,431	1,027	1,048
31st Dec., 1917 ..	{ Weekly Wage ..	1,119	1,116	1,120	1,020	1,430	1,045	1,121
	{ Hourly Wage ..	1,122	1,134	1,122	1,027	1,440	1,029	1,130
31st Dec., 1918 ..	{ Weekly Wage ..	1,173	1,151	1,208	1,084	1,430	1,059	1,168
	{ Hourly Wage ..	1,191	1,169	1,226	1,092	1,426	1,044	1,185
31st Dec., 1919 ..	{ Weekly Wage ..	1,474	1,268	1,412	1,225	1,605	1,215	1,365
	{ Hourly Wage ..	1,523	1,307	1,483	1,262	1,639	1,211	1,410
31st Dec., 1920 ..	{ Weekly Wage ..	1,695	1,586	1,652	1,495	1,947	1,540	1,637
	{ Hourly Wage ..	1,777	1,685	1,761	1,578	2,069	1,580	1,730

## § 4. Variations in Nominal and Effective Wages.

1. Variations in Wage Index-Numbers in Various Industries, 1901 to 1920.—The total number of different occupations for which particulars as to wages are available back to 1901 is 652. In 1913 the number of occupations was increased to 3,948. These wages relate generally to award rates, but in a few cases, more especially for the earlier years, when there were no award rates fixed, predominant or most frequent rates have been taken. The occupations have been distributed over the fourteen industrial groups

already specified, and index-numbers computed for each group for the whole Commonwealth. The wages refer generally to the capital town of each State, but in industries such as mining and agriculture, the rates in the more important centres have been taken.

The following table shews wage index-numbers for the whole Commonwealth in each of the fourteen industrial groups during the years specified. Rates of wage for females are not included. The index-numbers are "weighted" according to the number of persons engaged in different industrial groups in each State and the Commonwealth (see Report No. 11, page 76). In the tables of index-numbers given in this Section, the weighted average wage in 1911 for all States or industries, as the case may be, is taken as base (= 1,000). The result is that the index-numbers are comparable in all respects, that is to say, they shew not only the variations in wages from year to year in each State or industrial group, but they also furnish comparisons as to the relative wages in each State or industry, either in any particular year, or as between one year and another, and one State or industry and another.

**VARIATIONS IN NOMINAL WAGE INDEX-NUMBERS IN DIFFERENT INDUSTRIES IN THE COMMONWEALTH, 1901 TO 1920. (WEIGHTED AVERAGE FOR ALL GROUPS IN 1911 = 1,000.)**

Particulars.	Number of Occupations included.		1901.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	1901 to 1912.	1913 to 1920.											
I. Wood, Furniture, etc. . .	27	270	1,019	1,125	1,144	(b)	1,161	1,174	1,245	1,238	1,345	1,479	1,855
II. Engineering, Metal Works, etc. . .	101	636	945	1,064	1,104	1,113	1,127	1,174	1,211	1,268	1,340	1,512	1,803
III. Food, Drink, etc. . .	34	576	871	991	1,038	1,074	1,085	1,127	1,194	1,241	1,238	1,473	1,742
IV. Clothing, Hats, Boots, etc. . .	13	124	708	981	990	1,019	1,034	1,037	1,104	1,163	1,198	1,433	1,687
V. Books, Printing, etc. . .	25	205	996	1,149	1,188	1,234	1,246	1,259	1,328	1,376	1,446	1,576	1,941
VI. Other Manufacturing . .	102	875	907	1,013	1,037	1,076	1,093	1,125	1,203	1,245	1,239	1,470	1,738
VII. Building . .	67	190	1,050	1,213	1,245	1,270	1,276	1,285	1,359	1,413	1,449	1,554	1,865
VIII. Mining, Quarries, etc. . .	71	161	1,067	1,194	1,216	1,270	1,272	1,299	1,420	1,528	1,532	1,724	2,026
IX. Rail and Tram Services . .	68	224	1,021	1,113	1,164	1,165	1,165	1,187	1,236	1,286	1,345	1,532	1,816
X. Other Land Transport . .	9	70	795	910	993	996	1,026	1,041	1,128	1,210	1,237	1,431	1,702
XI. Shipping, etc. . .	74	198	751	871	942	953	972	1,026	1,153	1,194	1,257	1,518	1,716
XII. Agriculture, Pastoral, etc. . .	8	72	627	839	944	965	965	969	1,073	1,192	1,231	1,370	1,690
XIII. Domestic, Hotels, etc. . .	17	114	598	887	894	918	935	948	995	1,052	1,104	1,338	1,571
XIV. Miscellaneous . .	36	233	759	929	1,015	1,045	1,054	1,065	1,137	1,185	1,234	1,389	1,656
All Groups (a) . .	652	3,948	848	1,000	1,051	1,076	1,085	1,102	1,184	1,252	1,296	1,462	1,752

NOTE.—The figures in the above table are comparable both horizontally and vertically.

(a) Weighted average: see graph on page 1031 hereof. (b) The decrease in this group is due to a reduction in the award rates in the furniture trade resulting from an appeal made by employers.

It may be seen that the index-numbers increased during the whole period under review from 848 in 1901 to 1,000 in 1911, 1,051 in 1912, and 1,752 in 1920.

2. Variations in Wage Index-Numbers in Different States, 1901 to 1920.—The following table shews the progress in rates of wage for all industries in each State, the weighted average wage for the Commonwealth in 1911 being taken as the base (=1,000). These results are based generally upon rates of wage prevailing in the capital town of each State, but in certain industries, such as mining, rates are necessarily taken for places other than the capital towns.



### VARIATIONS IN NOMINAL WAGE INDEX-NUMBERS IN DIFFERENT STATES, 1901 TO 1920.

(WEIGHTED AVERAGE WAGE FOR COMMONWEALTH IN 1911=1,000.)

States.	Number of Occupations included.		1901.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	1901 to 1912.	1913 to 1920.												
New South Wales	158	874	858	968	1,003	1,058	1,088	1,096	1,124	1,208	1,257	1,286	1,498	1,835
Victoria	150	909	796	924	985	1,038	1,058	1,065	1,078	1,148	1,229	1,278	1,404	1,679
Queensland	87	627	901	960	997	1,010	1,027	1,045	1,060	1,177	1,273	1,356	1,534	1,785
South Australia	134	567	819	951	1,015	1,048	1,061	1,062	1,067	1,151	1,231	1,278	1,373	1,613
Western Australia	69	489	1,052	1,116	1,152	1,191	1,214	1,226	1,236	1,272	1,345	1,372	1,516	1,751
Tasmania	54	482	719	772	799	934	1,025	1,028	1,039	1,112	1,163	1,193	1,346	1,674
Commonwealth(a)	652	3,948	848	955	1,000	1,051	1,076	1,085	1,102	1,184	1,252	1,296	1,462	1,752

(a) Weighted average.

NOTE.—The figures in the above table are comparable both horizontally and vertically.

The significance of the above figures since 1906 can be better appreciated by reference to the graph on page 1031, which shews not only variations in wages in each State from year to year, but also the difference in wage level as between the several States. From this graph it is clearly seen that, excluding Western Australia, the difference between nominal wages in the several States has decreased very considerably since 1906. This difference is shewn at any point by the vertical distance between the graphs. Wages in Queensland and New South Wales have increased since 1914 at a higher rate than in any other State, and the general level in these States is now higher than in any other State. The graphs for Victoria and South Australia lie very close together throughout the period. In Tasmania the first determination under the Wages Boards Acts 1910 and 1911 came into force in 1911. Since then wages in that State have increased rapidly, and their general level is now near the average for the Commonwealth.

3. Variations in Effective Wages.—In order to obtain an accurate measure of the progress in the material welfare of wage-earners, regard must be had to the purchasing-power of wages, and the index-numbers based merely upon nominal rates of wage must consequently be subject to some modification, inasmuch as they take no account of variations in the purchasing-power of money. In computing these effective wage index-numbers, the nominal wage index-numbers given in sub-section 2 hereof have been divided by the purchasing-power-of-money index-numbers in Section IV., paragraph 5 of Labour Report No. 11, p. 30. The resulting index-numbers shew for each State and for the Commonwealth for the years specified the variations in *effective* wages.

The following table shews the effective wage index-numbers for each State for each of the years indicated from 1901 to 1920 :—

### VARIATION IN EFFECTIVE WAGES IN EACH STATE AND COMMONWEALTH, 1901 TO 1920.(a)

Particulars.	1901.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
New South Wales	961	973	973	922	924	909	850	867	893	902	948	994
Victoria	915	981	1,037	981	1,007	964	844	877	850	947	948	939
Queensland	1,172	1,095	1,090	1,032	1,060	1,045	812	991	1,078	1,083	1,064	1,085
South Australia	948	943	957	906	947	929	847	896	989	957	935	919
Western Australia	1,024	1,091	1,023	1,032	1,076	1,073	1,011	1,005	1,079	1,107	1,068	1,083
Tasmania	827	812	838	896	976	943	843	870	894	880	900	911
Commonwealth	964	985	1,000	955	975	952	862	894	950	952	968	982

(a) As to the effect in abnormal periods, see Labour Report No. 6, pp. 20-2, Section IV., par. 3.

The figures in the preceding table from the year 1907 onwards are shown in the graph on page 1032. A comparison between this graph and the preceding one shows that the difference between nominal and effective wages is very marked. In the first place, the whole nature of the graphs is entirely different. Instead of having a series of lines shewing a practically continuous and rapid upward trend, the effective wages shew (except for Tasmania) a series of fluctuating points, in which no very marked tendency is immediately discernible. It will be seen that, generally speaking, the years 1907, 1909, 1910, 1911, 1913, 1916, 1917, 1918 and 1919 were marked by increases in effective wages, but that in each of the years 1908, 1912, 1914 and 1915, there were rapid decreases. In 1920 effective wages decreased in Victoria and South Australia, and increased in the remaining States. In each of these years in which effective wages declined there was a rapid increase in cost of food and groceries, which was not, immediately, compensated by increased wages. Since 1911 the effect of prices on nominal wages has caused serious fluctuations in the effective wage, e.g., the effective wage index-number for the Commonwealth for the year 1915 (862) was 13.8 per cent. below that of 1911. From 1915 to 1920 the effective wage index-number rose by 13.9 per cent. to 982, which, however, still leaves the average effective wage for the Commonwealth lower than in 1911 by 1.8 per cent. In the next table index-numbers are given for nominal wages and for the purchasing-power of money, together with the effective wage index-number derived therefrom.

One important feature common to both graphs (nominal and effective wages) is the manner in which the graphs for the individual States have, on the whole, approached more closely together. With the adoption of rates of wage fixed according to the relative purchasing-power of money, it appears probable that this tendency will continue in the future.

4. Variations in Effective Wages and Standard of Comfort, 1901 to 1920.—In the preceding paragraph particulars are given as to variations in effective wages in each State, due allowance having been made for variations in purchasing-power of money, though not for unemployment. Attention has also been drawn to the limitations to which they are subject in abnormal times.

For years prior to 1913 the data available as to unemployment are so meagre that comparative results allowing for variations both in purchasing-power of money and in unemployment cannot be accurately computed for the several States. In the subjoined table, however, the percentage of unemployment for the whole Commonwealth at the end of the years specified has been used in order to obtain results shewing the variations in unemployment upon effective wages. Column I. shews the nominal rate of wage index-numbers, and Column II. the relative percentages unemployed. Applying these percentages to the numbers shewn in Column I., and deducting the results from each corresponding index-number, so as to allow for relative loss of time, the figures in Column III. are obtained. These figures are then re-computed with the year 1911 as base, and are shewn in Column IV. In Column V. the purchasing-power-of-money index-numbers are shewn, and in Columns VI. and VII. the effective wage index-numbers are given, firstly, for full work, and, secondly, allowing for lost time. These are obtained by dividing the figures in Columns I. and IV., respectively, by the corresponding figures in Column V. The resulting index-numbers shew for the Commonwealth, for the years specified, the variations in *effective* wages, or in what may be called the "standard of comfort."\*

A comparison between the figures in Columns I. and VI. shews the relation between the nominal rates of wage and the purchasing efficiency of these rates. The figures in Column VII. shew variations in *effective* wages after allowing not only for variations in purchasing-power of money, but also for the relative extent of unemployment.

\* This expression must not be confused with "standard of living." A change in the standard of living necessarily involves a change in regimen (see Labour Report No. 1), that is, a change in the nature or in the relative quantity of commodities purchased, or both. A change in the "standard of comfort" merely implies a variation in effective wages, which variation may, or may not, result in, or be accompanied by, a change in the "standard of living."

**UNEMPLOYMENT, PURCHASING-POWER-OF-MONEY AND NOMINAL AND  
EFFECTIVE WAGE-INDEX NUMBERS, 1901 TO 1920. (a)**

Year.	I. Nominal Wage Index- Numbers.	II. Percentage Unem- ployed.	Rates of Wage Index- Numbers, allowing for Lost Time.		V. Purchas- ing-power- of-money Index- Numbers.	Effective Wage Index-Numbers.	
			III. Actual.	IV. Re-com- puted. (1911 = 1,000).		VI. Full Work.	VII. Allowing for Unemploy- ment.
1901 ..	848	6.6	793	832	880	964	945
1906 ..	866	6.7	808	848	902	960	940
1907 ..	893	5.7	842	884	897	996	986
1908 ..	900	6.0	846	888	951	946	934
1909 ..	923	5.8	870	913	948	974	963
1910 ..	955	5.6	901	945	970	985	974
1911 ..	1,000	4.7	953	1,000	1,000	1,000	1,000
1912 ..	1,051	5.5	993	1,042	1,101	955	946
1913 ..	1,076	5.3	1,021	1,071	1,104	975	970
1914 ..	1,085	11.0	966	1,014	1,140	952	889
1915 ..	1,102	6.8	1,027	1,078	1,278	862	844
1916 ..	1,184	6.7	1,105	1,159	1,324	894	875
1917 ..	1,252	7.4	1,159	1,216	1,318	950	923
1918 ..	1,296	5.5	1,225	1,285	1,362	952	943
1919 ..	1,462	5.2	1,386	1,454	1,510	968	963
1920 ..	1,752	7.8	1,615	1,695	1,785	982	950

(a) As to the effect in abnormal periods, see Section IV., par. 3, of Labour Report No. 6.

During the period 1901-20, while the nominal wage index-number rose from 848 to 1,752, an increase of 106.7 per cent., prices rose from 880 to 1,785 or by 102.8 per cent., the net result therefore being that effective full time wages rose by only 0.5 per cent. Compared with 1911, effective wages shew a fall of 1.8 per cent., although nominal wages increased by 75.2 per cent.

### § 5. Changes in Rates of Wage.

1. *General.*—The collection of information regarding changes in rates of wage throughout the Commonwealth dates from the 1st January, 1913.

(i) *Definition of a Change in Rate of Wage.* For the purpose of these statistics a change in rate of wage is defined as a change in the weekly rates of remuneration of a certain class of employees, apart from any change in the nature of the work performed or apart from any revision of rates due to increased length of service or experience. It is obvious that under this definition certain classes of changes are excluded, such, for example, as (a) changes in rates of pay due to promotion, progressive increments, or, on the other hand, to reduction in pay or grade to inefficient workers, and (b) changes in average earnings in an occupation due to a change in the proportions which higher paid classes of workers bear to lower paid classes. Bonuses to employees have not been taken into account in the tabulations. Each single change recorded relates to a change in the rates of wage effected in a specific industry or calling, and includes any and all changes to workers in that industry, irrespective of the different number of separate occupations

or trades affected. Further, it should be observed that in some instances a change may relate to the employees of a single employer or to those of a number of employers, according to the instrument or method operating to bring about the change.

(ii) *Sources of Information.* Primary information merely as to the fact that a change in rate of wage has occurred is obtained through the following channels:— (a) the Industrial Registrar or Chief Inspector of Factories in each State; (b) Reports from Labour Agents and Correspondents; (c) Quarterly reports from Secretaries of Trade Unions; (d) Returns relating to industrial disputes which resulted in changes in rates of wage; (e) Reports in newspapers, labour and trade reviews, and other publications.

(iii) *Collection of Particulars concerning Changes.* On the occurrence of a change in rate of wage, forms\* (prescribed under the Census and Statistics Act 1905) are issued to employers and employers' associations (if any) and to the secretaries of the trade unions, the members of which are affected by the change. The particulars which have to be inserted in these forms furnish information regarding the occupations of the workers affected, the number of workers in each occupation, the rates of wage paid before and after the change, the locality affected, and the date on which the change took effect. Information must also be furnished regarding employers and employers' associations concerned (if any), and the method by which the change was effected.

When the forms are returned from the various persons who are required to complete them, the returns are checked and compared with each other and with copies of awards, determinations, and agreements. In all cases when the information furnished on the forms is incomplete or unsatisfactory, further inquiries are made, and the figures checked by reference to census results, industrial statistics, factory reports, etc.

## 2. Comparative Summary of Changes in Rates of Wage in each State, 1913–1920.—

The following table gives particulars of changes which occurred in each State of the Commonwealth during the years specified. As regards the number of persons affected, the particulars given refer to the total number of persons ordinarily engaged in the various industries. The results as to the amount of increase in wages are computed for a full week's work for all persons ordinarily engaged in the several industries and occupations affected, and in cases of changes in existing minimum rates under awards or determinations of industrial tribunals, it has ordinarily been assumed (in the absence of any definite information to the contrary) that the whole of the employees in each occupation received the minimum rates of wage before and after the change.

It should be clearly understood that the figures given in the third division of the following table (amount of increase per week) do not relate to the increase each week, but only to the increase in a single week on the assumption that the full number of persons ordinarily engaged in the particular trade or occupation affected by the change were employed during that week. It is obvious, therefore, that the aggregate effect per annum cannot be obtained without making due allowance for unemployment and for occupations in which employment is seasonal or intermittent. It is also obvious that since unemployment and activity in all branches of industry may vary from year to year, and in many branches from season to season also, no accurate estimate of the actual effect of the changes in the total amount of wages received or paid per annum can be made until the determining factors have been investigated. These factors are (a) the amount of unemployment, and (b) the period of employment in seasonal industries.

It should be observed that changes brought about by awards and agreements under the Commonwealth Conciliation and Arbitration Act, the Arbitration (Public Service) Act, and the Industrial Peace Act 1920 are necessarily included hereunder as changes in each State to which such awards and agreements apply. The average increase per head per week is computed to the nearest penny.

\* Since these forms are issued under the authority of the Census and Statistics Act 1905, it is compulsory for prescribed persons to furnish the information required.

## CHANGES IN RATES OF WAGE.—NUMBER AND EFFECT OF CHANGES IN EACH STATE AND TERRITORY, 1913 TO 1920.

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	(a) All States.	C'wealth.
No. of Changes	1913	149	81	41	26	12	..	..	320
	1914	155	69	50	18	42	19	..	384
	1916	381	168	134	98	42	37	4	870
	1917	201	106	142	78	55	38	16	637
	1918	229	201	236	113	63	46	4	896
	1919	457	218	216	136	112	128	13	1,284
	1920	734	354	300	231	209	154	7	1,999
No. of Persons Affected	1913	89,618	49,254	16,645	4,574	3,036	3,005	..	166,132
	1914	56,469	29,876	20,198	5,624	8,399	4,262	..	125,218
	1916	242,721	119,878	72,079	40,925	5,848	7,232	258	492,487
	1917	101,158	68,272	72,643	20,209	12,997	5,288	1,143	292,910
	1918	146,899	110,027	74,174	16,239	9,871	3,631	624	361,581
	1919	280,051	125,693	116,627	35,377	26,673	16,108	1,287	603,891
	1920	454,610	258,211	145,464	76,605	55,489	28,317	703	1,027,286
Total Net Amount of Increase per Week	1913	21,789	9,880	3,702	1,279	428	635	..	37,713
	1914	13,558	6,688	5,128	1,941	2,423	804	..	30,685
	1916	56,875	30,566	40,451	9,030	1,440	1,980	88	142,923
	1917	28,896	15,129	20,083	6,070	3,407	1,987	635	81,007
	1918	32,194	25,514	19,699	3,885	2,133	1,323	273	85,200
	1919	137,642	43,930	43,718	11,989	10,249	7,350	618	256,445
	1920	228,186	119,706	69,748	30,316	25,195	14,593	684	494,708
Average Increase per Head per Week	1913	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
	1914	4 10	4 0	4 5	5 7	2 10	4 3	..	4 11
	1916	4 8	5 1	11 3	4 10	4 11	5 6	6 10	5 10
	1917	5 9	4 5	5 6	6 0	5 3	7 6	11 1	8 9
	1918	4 5	4 8	5 4	4 9	4 4	7 3	8 9	7 9
	1919	9 10	7 0	7 6	6 9	7 8	9 2	9 7	8 6
	1920	10 0	9 3	9 7	7 11	9 1	10 4	19 6	15 11

(a) Changes recorded in this column are common to all States, as the particulars relating to the number of workpeople affected and the net amount of increase per week in each State were not ascertainable.

In point of number of changes in each State, New South Wales was first, Victoria second, and Queensland third, in each of the years 1913 to 1916. During the year 1917 the number of changes in Queensland exceeded the number recorded in Victoria, while during the year 1918 the number of changes in Queensland was greater than the number recorded as having taken place in New South Wales. It will be seen from the table that the number of changes in rates of wage recorded during the year 1920 is higher in each State than during any previous year. The relative position of the States in regard to the numbers of changes effected, and also in regard to the numbers of workers affected in each year is, of course, largely due to the magnitude of the different industries and callings in which changes took place.

The number of workpeople who were affected by changes in rates of wage during the year 1920 was 1,027,286, and the total net amount of increase per week was £494,708, representing 9s. 8d. per head per week. These figures are greater than in any other year for which records are available, and indicate a widespread attempt to restore wages to their previous relation to the cost of living, i.e., to regain the accustomed effective wage.

The table shews the net results of all changes made in the rates of wage, and includes a few instances in which the weekly wage was reduced. In 1920 eleven decreases were recorded. Six occurred in New South Wales, four in Western Australia, and one in Tasmania. The total number of workpeople affected by these changes was 2,845, and the amount of decrease per week was £728. Of these eleven decreases, three were caused by reduction in the weekly rate of wage owing to the number of working hours per week being reduced without a corresponding increase in the hourly rate of wage; five were due to lower rates for unskilled workers and employees at certain ages being inserted in awards which previously specified flat rates; while the other decreases were caused by awards shewing lower rates of wage than the ruling or predominant rates which were being paid prior to the awards or determinations coming into force. Therefore, of the 1,999 changes made in 1920, 1,988, or 99.45 per cent. gave increased rates of pay to 1,024,441 persons, representing 99.72 per cent. of the 1,027,286 persons affected by all changes during the year.

3. Number and Magnitude of Changes in Rates of Wage in the Commonwealth Classified according to Industrial Groups, 1913 to 1920.—*Total Workpeople (Male and Female) affected by Changes.* In the following table particulars are given of the number of changes, the number of persons (males and females) affected, and the total amount of increase per week, classified according to Industrial Groups throughout the Commonwealth during the years 1913 and 1917 to 1920:—

CHANGES IN RATES OF WAGE IN THE COMMONWEALTH ACCORDING TO INDUSTRIAL GROUPS, 1913 AND 1917 TO 1920.

Particulars.	Industrial Group.							
	I. Wood, Furniture, Timber, etc.	II. Engineering, Metal Works, etc.	III. Food, Drink, Tobacco, etc.	IV. Clothing, Hats, Boots, etc.	V. Books, Printing, etc.	VI. Other Manufacturing.	VII. Building.	VIII. Mines, Quarries, etc.
1913.								
Number of Changes ..	10	20	45	15	11	55	21	17
Number of Persons affected ..	7,975	6,594	17,423	11,727	4,602	17,110	19,237	6,112
Amount of increase per week £	1,569	1,607	4,255	2,062	1,126	3,480	5,696	1,210
1917.								
Number of Changes ..	14	60	66	21	31	53	38	28
Number of Persons affected ..	10,495	16,994	30,515	25,652	6,386	12,585	11,426	25,022
Amount of increase per week £	2,568	3,394	2,015	6,104	1,981	4,046	3,477	12,544
1918.								
Number of Changes ..	61	42	93	26	24	78	30	25
Number of Persons affected ..	14,651	31,804	32,411	23,215	8,707	15,160	17,419	14,285
Amount of increase per week £	4,343	10,565	9,025	5,252	1,804	3,944	5,420	2,988
1919.								
Number of Changes ..	39	89	156	31	41	138	42	29
Number of Persons affected ..	13,616	44,133	72,603	26,905	9,335	50,530	19,053	34,601
Amount of increase per week £	4,890	20,381	23,551	11,308	4,449	17,829	8,941	17,434
1920.								
Number of Changes ..	68	123	241	56	83	245	82	61
Number of Persons affected ..	44,732	74,853	81,876	55,345	19,757	71,671	61,552	47,865
Amount of increase per week £	19,015	29,145	41,383	21,271	11,088	31,126	41,059	30,385

Particulars.	Industrial Group—continued.						
	IX. Rail and Tram Services.	X. Other Land Transport.	XI. Shipping, etc.	XII. Pastoral, Agricultural, etc.	XIII. Domestic, Hotels, etc.	XIV. Miscellaneous.	ALL GROUPS (a)
1913.							
Number of Changes ..	16	12	19	3	9	59	312
Number of Persons affected ..	20,046	7,335	1,839	828	6,481	38,818	166,182
Amount of increase per week £	3,210	2,324	543	436	1,922	8,264	27,718
1917.							
Number of Changes ..	50	19	25	10	15	144	574
Number of Persons affected ..	37,264	10,261	12,613	3,440	15,359	74,898	292,910
Amount of increase per week £	12,711	3,054	5,629	1,096	3,720	18,668	81,007
1918.							
Number of Changes ..	38	25	38	6	23	270	779
Number of Persons affected ..	59,625	12,782	1,990	1,717	9,230	118,585	361,581
Amount of increase per week £	10,320	2,185	719	350	2,167	26,178	85,260
1919.							
Number of Changes ..	74	37	59	11	49	373	1,168
Number of Persons affected ..	114,365	20,871	34,294	9,030	25,799	128,856	603,891
Amount of increase per week £	56,872	8,701	18,168	5,739	7,620	50,562	256,445
1920.							
Number of Changes ..	82	52	76	19	55	481	1,724
Number of Persons affected ..	136,854	28,532	16,842	26,580	34,285	326,542	1,027,286
Amount of increase per week £	54,959	11,605	11,871	20,701	12,258	158,842	494,708

(a) In this table an Industrial Award or Agreement under the Commonwealth Conciliation and Arbitration Act, the Arbitration (Public Service) Act, the Industrial Peace Act, or an Order of the War Precautions Coal Board is counted as one change only, although such Award, Agreement or Order may be operative in more than one State.

4. Changes in Rates of Wage in Male and Female Occupations—Number and Effect of Changes in each State, 1913–1920.—Included in the changes in rates of wage recorded in the tables on page 1011 are those which in the whole or part thereof affected female occupations. Particulars in respect to these changes in so far as they relate to the numbers of male and female workers affected, etc., are set out hereunder:—

**CHANGES IN RATES OF WAGE.—MALE AND FEMALE OCCUPATIONS.—EFFECT OF CHANGES IN EACH STATE AND TERRITORY, 1913 TO 1920.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	N. Terr.	All States. <sup>a</sup>	C'wealth.
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**NUMBER OF MALE EMPLOYEES AFFECTED.**

1913	83,470	44,692	16,095	3,616	3,036	1,525	..	..	152,434
1914	48,773	25,644	19,628	5,624	7,616	4,232	..	390	111,907
1916	225,806	99,667	68,125	39,586	5,669	6,885	249	3,546	449,533
1917	82,601	48,136	63,066	16,844	12,788	4,759	1,143	11,000	240,337
1918	128,728	91,857	59,909	12,889	8,452	3,487	624	616	306,562
1919	253,077	106,389	99,167	32,162	24,185	13,906	1,287	2,025	532,198
1920	385,118	202,972	126,306	66,824	48,088	24,213	703	7,812	862,036

**NET AMOUNT OF INCREASE PER WEEK TO MALE EMPLOYEES.**

	£	£	£	£	£	£	£	£	£
1913	20,682	9,317	3,647	1,127	428	512	..	..	35,713
1914	12,158	6,146	5,055	1,941	2,157	797	..	143	28,397
1916	53,395	26,877	39,874	9,774	1,414	1,937	82	1,593	134,946
1917	25,773	11,080	17,106	5,244	3,329	1,878	635	4,800	69,845
1918	29,410	22,574	16,186	3,311	1,889	1,284	273	239	75,166
1919	132,237	38,115	38,200	10,690	9,560	6,560	618	920	236,900
1920	207,403	98,778	63,432	27,498	22,157	13,105	684	6,192	439,249

**AVERAGE INCREASE PER HEAD PER WEEK TO MALE EMPLOYEES.**

	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1913	4 11	4 2	4 6	6 3	2 10	6 9	..	..	4 8
1914	5 0	4 10	5 2	6 11	5 8	3 9	..	7 4	5 1
1916	4 9	5 5	11 8	4 11	5 0	5 8	6 7	9 0	6 0
1917	6 3	5 7	5 5	6 3	5 2	7 11	11 1	8 9	5 10
1918	4 7	4 11	5 5	5 2	4 6	7 4	8 9	7 9	4 11
1919	10 5	7 2	7 8	6 8	7 11	9 5	9 7	9 1	8 11
1920	10 9	9 9	10 1	8 3	9 3	10 10	19 6	15 10	10 2

**NUMBER OF FEMALE EMPLOYEES AFFECTED.**

1913	6,148	4,562	550	958	..	1,480	..	..	13,698
1914	7,696	4,232	570	..	783	30	..	..	13,311
1916	16,915	20,211	3,954	1,339	179	347	9	..	42,954
1917	18,557	20,136	9,777	3,365	209	529	..	..	52,573
1918	17,671	18,170	14,265	3,350	1,419	144	..	..	55,019
1919	26,954	19,304	17,460	3,215	2,488	2,202	..	70	71,693
1920	69,492	55,239	19,158	9,781	7,401	4,104	..	75	165,250

**NET AMOUNT OF INCREASE PER WEEK TO FEMALE EMPLOYEES.**

	£	£	£	£	£	£	£	£	£
1913	1,107	563	55	152	..	123	..	..	2,000
1914	1,400	542	73	..	266	7	..	..	2,288
1916	3,480	3,689	577	156	26	43	6	..	7,977
1917	3,123	4,049	2,977	826	78	109	..	..	11,162
1918	2,784	2,940	3,513	574	244	39	..	..	10,094
1919	5,405	5,815	5,518	1,299	689	790	..	29	19,545
1920	20,783	20,928	6,316	2,818	3,038	1,488	..	88	55,459

NOTE.—For continuation of Table see next page.

(a) Changes recorded in this column are common to all States, as the particulars relating to the number of workpeople affected and the net amount of increase per week in each State were not ascertainable.

CHANGES IN RATES OF WAGE.—MALE AND FEMALE OCCUPATIONS.—  
EFFECT OF CHANGES IN EACH STATE AND TERRITORY, 1913 TO  
1920—*continued.*

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	N. Terr.	All States. <sup>a</sup>	C'wealth.
AVERAGE INCREASE PER HEAD PER WEEK TO FEMALE EMPLOYEES.									
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1913	3 7	2 6	2 0	3 2	..	1 8	..	..	2 11
1914	3 8	2 7	2 7	..	6 9	4 8	..	..	3 5
1915	4 5	3 4	2 10	5 5	4 8	2 8	..	..	4 1
1916	4 1	3 8	2 11	2 4	2 11	2 6	13 4	..	3 9
1917	3 4	4 0	6 1	4 11	7 6	4 1	..	..	4 3
1918	3 2	3 3	4 11	3 5	3 5	5 5	..	..	3 8
1919	4 0	6 0	6 4	8 1	5 6	7 2	..	8 3	5 5
1920	6 0	7 7	6 7	5 9	8 3	7 3	..	23 6	6 9

(a) See footnote on previous page.

5. Methods by which Changes were Effected.—(i) *Changes in Rates of Wage and Methods by which Effected—Commonwealth, 1919 and 1920.* In the following table particulars are given for the Commonwealth of the number of changes in rates of wage, the number of workpeople affected, and the total net amount of increase to the weekly wage distribution brought about either without, or after, stoppage of work, during the years 1919 and 1920 respectively, as a result of the application of one or other of the methods set out in the tables:—

CHANGES IN RATES OF WAGE.—METHODS BY WHICH EFFECTED,  
1919 AND 1920.

Methods by which Changes were Effected.	Without Stoppage of Work.			After Stoppage of Work.			All Changes.		
	No. of Changes.	No. of Work-people Affected.	Total Net Amount of Increase per Week.	No. of Changes.	No. of Work-people Affected.	Total Net Amount of Increase per Week.	No. of Changes.	No. of Work-people Affected.	Total Net Amount of Increase per Week.
1919.									
By voluntary action of employers	36	10,285	£ 4,373	..	..	£ ..	36	10,285	£ 4,373
By direct negotiations ..	202	77,096	25,796	36	7,439	3,141	238	84,535	28,937
By negotiations, Intervention or assistance of third party(a) ..	18	35,716	20,553	11	9,333	3,680	29	45,049	24,233
By award of Court under Commonwealth Act(a) ..	38	67,166	29,108	4	575	476	42	67,741	29,584
By agreement registered under Commonwealth Act(a) ..	140	27,084	9,969	1	160	48	141	27,244	10,017
By award or determination under State Acts ..	580	336,805	148,087	2	820	545	582	337,625	148,632
By agreement registered under State Acts ..	98	31,232	10,574	2	180	95	100	31,412	10,669
Total(a) ..	1,112	585,384	248,460	56	18,507	7,985	1,168	603,891	256,445
1920.									
By voluntary action of employers	28	15,193	4,597	..	..	..	28	15,193	4,597
By direct negotiations ..	260	159,941	79,683	73	10,032	5,786	333	169,973	85,469
By negotiations, Intervention or assistance of third party(a) ..	12	60,785	36,251	11	3,906	2,190	23	64,691	38,441
By award of Court under Commonwealth Act(a) ..	63	75,020	24,812	1	28	5b	64	75,048	24,807
By agreement registered under Commonwealth Act(a) ..	162	29,533	11,540	1	200	68	163	29,733	11,608
By award or determination under State Acts ..	971	645,927	314,244	7	2,156	1,484	978	648,083	315,728
By agreement registered under State Acts ..	133	27,300	13,899	2	265	159	135	27,565	14,058
Total(a) ..	1,629	1,010,699	485,026	95	16,587	9,682	1,724	1,027,286	494,708

(a) In this section of the table an Award or Agreement under the Commonwealth Conciliation and Arbitration Act, the Arbitration (Public Service) Act, the Industrial Peace Act, or an Order of the War Precautions Coal Board is counted as one change only, although such Award, Agreement, or Order may be operative in more than one State. (b) Decrease.



The total number of changes recorded during the year 1920 was 1,724, of which 978 or nearly 57 per cent. of the total number were brought about by award or determination under State Industrial Acts. The number of workpeople who were affected by these changes was 648,083, and the total amount of increase per week in wages was £315,728. Of these 978 changes, 478 occurred in New South Wales, 115 in Victoria, 218 in Queensland, 82 in South Australia, 33 in Western Australia, and 52 in Tasmania. The number of changes in rates of wage which were recorded as having been made by awards or variations of awards under the provisions of the Commonwealth Conciliation and Arbitration Act was 64, as compared with 42 during the previous year. Direct negotiations between representatives of employers and employees brought about 333 changes in rates of wage during the year. A large number of industrial agreements were filed under the provisions of the Commonwealth and State Acts during the twelve months under review. Ninety-five changes in rates of wage were arranged after stoppages of work. The number of workpeople affected by these changes was 16,587.

(ii) *Changes in Rates of Wage and Methods by which Effected—Commonwealth, 1913–1920.* Comparative particulars are contained in the following table of the total number and effect of all changes in rates of wage brought about throughout the Commonwealth during the years indicated, as a result of the application of one or other of the specified methods :—

**CHANGES IN RATES OF WAGE, CLASSIFIED ACCORDING TO METHODS BY WHICH EFFECTED—COMMONWEALTH, 1913 AND 1917 TO 1920.**

Particulars.	By Voluntary Action of Employers.	By Direct Negotiations.	By Negotiations, Intervention or Assistance of Third Party.	By Award of Court under C'wealth Act.	By Agreement Registered under C'wealth Act.	By Award or Determination under State Act.	By Agreement Registered under State Act.	TOTAL. (a)
<b>1913.</b>								
Number of Changes ..	2	30	4	3	24	213	36	312
Number of Workpeople affected ..	12,011	4,336	101	4,487	3,387	136,702	5,108	166,132
Amount of Increase per week £	1,543	1,120	20	1,679	831	31,328	1,192	37,713
<b>1917.</b>								
Number of Changes ..	24	75	14	35	28	310	88	574
Number of Workpeople affected ..	9,531	15,827	19,500	20,759	16,443	198,723	12,127	292,910
Amount of Increase per week £	3,097	5,429	10,996	7,654	5,579	44,477	3,775	81,007
<b>1918.</b>								
Number of Changes ..	14	132	3	39	142	354	95	779
Number of Workpeople affected ..	12,916	43,428	591	20,502	6,764	270,777	6,803	381,581
Amount of Increase per week £	2,396	9,473	334	4,481	1,683	64,642	2,251	85,260
<b>1919.</b>								
Number of Changes ..	36	238	29	42	141	582	100	1,168
Number of Workpeople affected ..	10,285	84,535	45,049	67,741	27,244	337,625	31,412	603,891
Amount of Increase per week £	4,373	28,937	24,233	29,584	10,017	148,632	10,669	256,445
<b>1920.</b>								
Number of Changes ..	28	333	23	64	163	978	135	1,724
Number of Workpeople affected ..	15,193	169,973	64,691	75,048	26,733	648,083	27,565	1,027,286
Amount of Increase per week £	4,597	85,469	38,441	24,807	11,608	315,728	14,058	494,708

(a) See footnote to table on page 1013.

It will be seen from the foregoing table that the greatest number of changes throughout the period under review was effected through the instrumentalities of the State Acts, though in relation to the total business the activities of the State organizations shew a decline from 80 per cent. of all changes in 1913 to 65 per cent. in 1920, while the changes made under the Commonwealth Acts have increased from 8.7 per cent. to 13.2 per cent. It is interesting to observe the very marked extent to which "direct negotiation" between parties has been resorted to in the later years. In 1913, only 30 changes, or less than 10 per cent. of the total, affecting only 2.6 per cent. of all persons concerned in the changes of that year, were brought about by direct negotiations, whereas in 1920, 333 changes (19 per cent.), affecting 169,973 persons, or 16 per cent. of the whole, resulted from this agency. It must be mentioned that, so far as possible, the effect of awards or agreements is recorded in the figures for the year in which such awards or agreements are made and filed. In certain cases, however, the awards or agreements are made retrospective as to the date on which the increased rate of wage has to be paid, while in others the particulars as to the number of workpeople affected and the effect of the change are difficult to ascertain.

## § 6. Industrial Disputes.

1. General.—Information with regard to the collection of particulars and methods of tabulation of industrial disputes involving stoppage of work has appeared in previous issues of the Year Book, and is also given in the Annual Reports of the Labour and Industrial Branch of this Bureau.

In the following tabulations particulars are included only with respect to the industrial disputes which commenced during any calendar year.\* This course requires the elimination of such data as relate to disputes which commenced during an earlier period, but which remained unsettled during some portion of the succeeding year. On the other hand it necessitates the inclusion of the number of working days and wages lost during the following year in connexion with disputes commenced during the calendar year to which the statistics relate.

2. Comparative Summary of Disputes (involving Stoppage of Work), 1913 to 1920.—The systematic collection of information as to industrial disputes (causing a stoppage of work) throughout the Commonwealth was first undertaken as from the 1st January, 1913, and particulars concerning disputes occurring during the year 1913 were published in Labour Report No. 5. The following table gives particulars of the number of industrial disputes which began in various years from 1913 to 1920, together with the number of workpeople involved, the number of working days lost, and the total estimated loss in wages in each State and Territory comprising the Commonwealth:—

## INDUSTRIAL DISPUTES IN EACH STATE AND TERRITORY.—COMPARATIVE PARTICULARS FOR 1913 AND 1917 TO 1920.

State or Territory.	Year.	No. of Disputes.	Establishments Involved in Disputes.	No. of Workpeople Involved.			No. of Working Days Lost.	Total Estimated Loss in Wages.
				Directly.	Indirectly.	Total.		
								£
New South Wales	1913	134	466	25,647	14,364	40,011	468,957	216,368
	1917	296	918	118,515	15,508	134,023	3,308,869	1,929,405
	1918	138	182	24,417	8,624	33,041	181,639	112,894
	1919	267	678	64,956	35,040	99,996	4,324,686	2,856,259
	1920	349	650	68,033	22,349	90,382	587,156	432,988
Victoria	1913	29	63	4,151	2,026	6,177	85,212	35,744
	1917	52	636	15,976	2,114	18,090	760,410	378,946
	1918	33	190	4,235	1,513	5,748	165,020	99,346
	1919	62	372	15,169	7,437	22,606	733,333	392,796
	1920	53	809	15,274	24,534	39,808	783,286	465,244
Queensland	1913	17	20	1,781	225	2,006	55,288	28,374
	1917	39	202	12,074	971	13,045	317,699	178,125
	1918	84	696	8,803	1,875	10,678	183,883	131,142
	1919	69	295	9,078	6,336	15,414	586,661	327,537
	1920	55	71	3,775	2,033	5,808	68,298	44,943
South Australia	1913	9	13	272	16	288	2,412	1,029
	1917	24	44	3,958	146	4,104	57,446	30,306
	1918	17	25	1,576	429	2,005	18,276	10,515
	1919	32	75	4,437	3,409	7,846	238,378	127,303
	1920	40	126	4,732	1,067	5,799	222,402	140,326
Western Australia	1913	9	324	967	..	967	6,772	3,515
	1917	23	128	2,401	547	2,948	102,078	53,004
	1918	22	56	3,368	1,435	4,803	31,145	17,792
	1919	20	157	5,516	4,460	9,976	359,987	213,867
	1920	45	434	9,095	2,918	12,013	146,640	108,055
Tasmania	1913	8	30	444	20	464	987	434
	1917	8	11	1,062	623	1,685	52,541	24,502
	1918	1	1	42	..	42	462	250
	1919	5	127	1,098	588	1,686	63,271	32,738
	1920	12	14	1,610	146	1,756	54,283	32,160
Fed. Cap. Territory	1913	1	1	100	100	200	1,400	600
	1917 to 1920	..	..	..	..	..	..	..
	1913	1	4	131	39	170	2,500	1,675
	1917	2	2	75	..	75	615	520
	1918	3	4	112	10	122	428	395
Northern Territory	1919	5	9	46	21	67	1,910	1,436
	1920	..	..	..	..	..	..	..
Commonwealth	1913	208	921	33,493	16,790	50,283	623,528	287,739
	1917	444	1,941	154,061	19,909	173,970	4,599,658	2,594,808
	1918	298	1,154	42,553	13,886	56,439	580,853	372,334
	1919	460	1,713	100,300	57,291	157,591	6,308,226	3,051,936
	1920	554	2,104	102,519	53,047	155,566	1,872,065	1,223,716

\* Any tabulations as to causes, duration, etc., based on disputes which were in existence in any given year, and not on those which commenced in that year, would inevitably result in confusion, seeing that particulars relating to the same dispute would probably occur in two successive years.

It may be seen from the foregoing table that industrial disputes throughout the Commonwealth were most frequent during the year 1920. The number of workpeople involved in disputes during 1916 and 1917 increased to an enormous extent, while the losses in working days and wages were considerably in excess of such losses during any previous yearly period. The figures for 1917 are swollen by the effects of the dispute at the Government Railway Workshops in New South Wales in connexion with the introduction of the "card system." The dislocation of industry due to this dispute is the most extensive which has been recorded by the Bureau since the systematic collection of particulars was undertaken at the beginning of the year 1913. After careful consideration of the data it was ascertained that 79 disputes throughout the various States were directly associated with the action of the employees at the Government Railway Workshops. The originating dispute, which commenced on the 2nd August, 1917, when the employees at the workshops ceased work as a protest against the introduction of a time-card system, rapidly extended to other industries throughout the Commonwealth. Railway employees in other branches of the service, coal and metalliferous miners, seamen, waterside workers, and others left work, mostly in sympathy with the railway men, while other workers, including carters, storemen, and artificial manure makers, refused to handle "black" goods and coal. Of the 79 disputes, which were the outcome of the original stoppage, 52 occurred in New South Wales; 18 in Victoria; 3 in South Australia; and 2 in each of the remaining States. The total number of workpeople involved in these dislocations was 97,507, the loss in working days was 3,982,250, with a consequent estimated loss in wages of £2,233,000. In addition a large number of employees in various industries, though not directly connected with the dispute, were thrown out of work by the restrictions placed upon the use of coal, gas and electricity.

The figures for 1914 and 1916 were inflated by disputes in the coal mining industry. In the earlier year, there was a protracted dispute in New South Wales through the refusal of the miners to work the afternoon shift. The estimated loss incurred was 523,000 working days, representing £259,000 in wages. In 1916 the coal mining employees in New South Wales, Victoria, Queensland, and Tasmania ceased work over the question of the "eight hours bank to bank." The loss on this occasion was 409,000 working days, equivalent to £240,850 in wages.

Three serious dislocations occurred during the year 1919. The stoppage of work at Broken Hill, in which metalliferous miners and others were involved, was the most prolonged dispute which has been recorded by this Bureau. The mines closed down during May, 1919, and work was not resumed until November, 1920. Over 7,000 workpeople at Broken Hill were thrown out of work, and it is estimated that the loss in wages to workpeople at the mines at Broken Hill and at the smelters, Port Pirie, exceeded £2,500,000. Seamen and marine engineers were also involved in protracted disputes, which caused heavy losses of working days and wages during the year. Detailed particulars of these important disputes have been published in Labour Reports, Nos. 10 and 11.

In regard to extensive dislocations of industry which occurred prior to the institution of systematic inquiries by the Bureau, efforts were made to obtain statistical data relating to the shearers' disputes in 1890, 1891 and 1894, and also concerning the number of workpeople involved and the losses caused by the maritime dispute in the early part of 1891, but precise information was not obtainable.

The proportion of disputes in each State expressed as a percentage on the total for the Commonwealth is as follows :—

#### PROPORTION PER CENT. OF DISPUTES IN THE LARGER STATES, 1914 TO 1920.

State.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
New South Wales ..	70	76	66	69	46	58	63
Victoria .. ..	13	11	11	12	11	13	10
Queensland .. ..	5	5	13	9	28	15	10
Other States and Territories	12	8	10	10	15	14	17
Commonwealth ..	100	100	100	100	100	100	100

Although the number of disputes in 1919 was less than that in 1916, and the number of workpeople involved was less than in either of the years 1916 and 1917, yet, measured by the loss of time and wages, the disruption to industry which occurred during 1919

was the most serious which the Commonwealth has experienced since records of such matters were instituted in 1913. Prior to 1919 the most serious loss in wages was incurred in 1917, when it amounted to £2,594,808, a sum outstanding in its magnitude as compared with other years. In 1919, however, this amount was exceeded by £1,357,128, the estimated loss in wages being £3,951,936, representing 6,308,226 working days. During the year 1920 particulars concerning 554 dislocations of work were recorded. This number is considerably higher than that for any previous year. The losses in working days (1,872,065) and in wages (£1,223,716) were, however, lower than those caused by disputes during 1917 and 1919. The more important of the disputes which contributed to the losses during 1920 were the dislocations of work in which were involved marine stewards on inter-State vessels; factory engine-drivers and firemen, Melbourne; gas workers, Melbourne; brown-coal miners, Morwell; ironstone quarrymen and others, Iron Knob and Whyalla, and State civil servants, Western Australia.

It is, of course, obvious that the mere number of disputes cannot by itself be accepted as a proper basis of comparison, nor does the number of workpeople afford a satisfactory basis. A better idea as to the significance and effect of industrial disputes may be obtained from the number of working days lost and the estimated loss in wages.

The position which New South Wales occupies in comparison with the other States is almost entirely due to the prevalence of disputes in connexion with coal mining. Apart from these stoppages the number of disputes in all other industries, whilst still in excess of that for each of the other States, does not compare unfavourably when the number of workpeople in each State is taken into consideration.

**3. Number and Magnitude of Industrial Disputes in the Commonwealth, Classified according to Industrial Groups.—Comparative Particulars for 1919 and 1920.**—The following table gives particulars of disputes in the Commonwealth during the years 1919 and 1920, classified according to industrial groups. The system of classification selected is similar to that adopted in connexion with labour organisations, unemployment, rates of wage, etc. (see Report No. 11, Labour and Industrial Branch, page 9).

**INDUSTRIAL DISPUTES IN THE COMMONWEALTH, CLASSIFIED ACCORDING TO INDUSTRIAL GROUPS, 1919 AND 1920.**

Industrial Group.	No. of Disputes.		No. of Work-people Involved in Disputes.		No. of Working Days Lost.		Total Estimated Loss in Wages.	
	1919.	1920.	1919.	1920.	1919.	1920.	1919.	1920.
I. Wood, Furniture, Timber, etc. . . . .	7	13	134	914	1,036	9,654	£ 631	£ 6,167
II. Engineering, Metal Works, etc. . . . .	15	14	1,846	7,312	18,147	73,108	10,726	44,702
III. Food, Drink, etc. . . . .	39	24	12,080	3,170	198,920	24,734	124,422	15,207
IV. Clothing, Hats, Boots, etc. . . . .	2	2	399	271	6,365	6,088	2,705	3,405
V. Books, Printing, etc. . . . .	..	5	..	2,083	..	114,785	..	64,810
VI. Other Manufacturing . . . . .	31	31	5,091	7,342	57,095	109,709	29,477	65,965
VII. Building . . . . .	12	17	2,810	6,527	127,729	99,599	76,118	67,501
VIII. Mines, Quarries, etc. . . . .	231	316	86,607	81,043	3,373,574	495,981	2,364,075	407,515
IX. Rail and Tramway Services . . . . .	21	18	2,989	1,345	57,419	9,884	33,573	7,231
X. Other Land Transport . . . . .	5	1	683	2	17,009	10	8,763	6
XI. Shipping, Wharf Labour . . . . .	41	56	32,714	13,696	2,271,030	373,329	1,182,933	225,572
XII. Pastoral, Agricultural, etc. . . . .	24	11	6,257	369	49,770	3,157	34,497	2,824
XIII. Domestic, Hotel, etc. . . . .	5	6	287	556	1,018	4,419	396	1,449
XIV. Miscellaneous . . . . .	27	40	5,694	30,936	129,114	547,608	83,620	311,362
Commonwealth, All Groups . . . . .	460	554	157,591	155,566	6,308,226	1,872,065	3,951,936	1,223,716

Attention has frequently been drawn to the preponderating influence exercised by disputes in the coal-mining industry in New South Wales on the total number of industrial disputes. In making any comparison as to the number of disputes in this industrial class in each State, it should be observed that while the number of workers engaged in the mining industry is very much larger in New South Wales than in any of the other States, nevertheless the total number of disputes recorded in that State is considerably greater than in any other State. Of the 3,167 disputes recorded in the Commonwealth for the eight years 1913-20, 1,615 or 51.0 per cent. were connected with the industries included in Group VIII., Mines, Quarries, &c.

**4. Duration of Industrial Disputes in the Commonwealth, 1920.**—In the following table particulars are given with respect to the number of disputes, workpeople directly and indirectly involved, working days lost, and estimated amount of loss in

wages respectively, consequent on the cessations of work which were recorded for the Commonwealth during the year 1920, classified under the adopted limits of duration :—

### DURATION OF INDUSTRIAL DISPUTES IN THE COMMONWEALTH, 1920.

Limits of Duration.	No. of Disputes.	No. of Workpeople Involved.			Number of Working Days Lost.	Total Estimated Loss in Wages.
		Directly.	Indirectly.	Total.		
						£
1 day and less .. .. .	226	40,603	10,225	50,828	49,862	49,610
2 days and more than 1 day	62	11,443	2,965	14,408	27,114	23,705
3 days and more than 2 days	43	7,286	1,687	8,973	26,739	23,056
Over 3 days and less than 1 week (6 days) .. . . .	58	10,228	1,819	12,047	52,601	41,572
1 week and less than 2 weeks	66	10,359	3,100	13,459	107,364	77,022
2 weeks and less than 4 weeks	43	9,549	22,030	31,579	412,219	243,031
4 weeks and less than 8 weeks	24	6,027	10,839	16,866	539,639	332,125
8 weeks and over .. . .	32	7,024	382	7,406	656,527	433,595
Total .. . . .	554	102,519	53,047	155,566	1,872,065	1,223,716

NOTE.—Similar figures for the years 1913 to 1919 will be found in previous issues of the Year Book and in the Labour Reports.

5. Industrial Disputes, Classified as to Causes, Commonwealth, 1914-1920.—The following table shews the number of disputes, number of workpeople involved, and the total number of working days lost in disputes which commenced during the years 1914 to 1920, classified according to principal cause :—

### CAUSES OF INDUSTRIAL DISPUTES IN THE COMMONWEALTH, 1914 TO 1920.

Causes of Disputes.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
NUMBER OF DISPUTES.							
1. Wages—							
(a) For increase .. . . .	50	73	125	53	54	99	94
(b) Against decrease .. .	3	10	7	1	4	2	
(c) Other wage questions	67	46	96	69	69	100	106
2. Hours of Labour—							
(a) For reduction .. . . .	1	3	16	2	1	4	16
(b) Other disputes re hours	13	6	5	8	11	5	9
3. Trades Unionism—							
(a) Against employment of non-unionists .. .	13	19	14	26	7	19	20
(b) Other union questions	11	16	8	32	19	29	27
4. Employment of particular Classes or Persons .. . .	83	76	83	90	92	118	135
5. Working Conditions .. .	72	76	90	81	34	54	106
6. Sympathetic .. . . .	3	6	20	57	1	6	2
7. Other Causes .. . . .	21	27	44	25	6	24	39
Total .. . . .	337	358	508	444	298	460	554

### NUMBER OF WORKPEOPLE INVOLVED.

1. Wages—							
(a) For increase .. . . .	7,362	18,783	30,193	7,135	7,095	58,532	41,748
(b) Against decrease .. .	534	1,113	1,051	21	57	667	
(c) Other wage questions	15,243	11,990	23,507	18,894	12,737	26,222	21,139
2. Hours of Labour—							
(a) For reduction .. . . .	220	896	24,481	1,004	26	578	20,758
(b) Other disputes re hours	3,237	2,643	579	2,576	4,214	961	2,137
3. Trades Unionism—							
(a) Against employment of non-unionists .. .	5,807	3,873	1,178	6,182	710	9,001	2,752
(b) Other union questions	1,593	3,739	1,167	17,320	6,673	17,509	7,534
4. Employment of particular Classes or Persons .. . .	14,863	13,844	15,910	15,445	14,576	21,488	26,163
5. Working Conditions .. .	17,053	16,114	20,516	19,021	7,757	11,682	21,204
6. Sympathetic .. . . .	675	950	4,191	76,076	200	3,080	1,397
7. Other Causes .. . . .	4,462	7,347	47,910	10,206	2,394	7,971	10,734
Total .. . . .	71,049	81,292	170,683	173,970	56,439	157,591	155,566

**CAUSES OF INDUSTRIAL DISPUTES IN THE COMMONWEALTH,  
1914 TO 1920—continued.**

Causes of Disputes.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
<b>NUMBER OF WORKING DAYS LOST.</b>							
1. Wages—							
(a) For increase ..	99,451	190,645	592,625	56,083	198,323	5,403,581	793,935
(b) Against decrease ..	32,965	12,555	6,192	42	316	10,013	
(c) Other wage questions	169,847	133,606	143,248	225,080	97,561	96,118	101,219
2. Hours of Labour—							
(a) For reduction ..	9,240	836	583,052	78,016	312	10,372	534,458
(b) Other disputes re hours	16,855	23,374	1,598	62,560	20,551	15,760	37,486
3. Trades Unionism—							
(a) Against employment of non-unionists ..	92,720	31,145	48,881	87,600	21,894	279,804	24,900
(b) Other union questions	6,968	7,434	10,276	572,949	24,341	329,205	21,999
4. Employment of particular Classes or Persons ..	64,367	77,862	70,452	47,297	113,466	87,225	129,215
5. Working Conditions ..	584,289	82,322	81,511	211,971	93,468	32,029	128,967
6. Sympathetic ..	2,125	6,004	75,447	3,239,798	7,200	21,050	72,940
7. Other Causes ..	11,568	17,442	65,648	18,262	3,421	23,069	26,946
Total ..	1,090,395	583,225	1,678,930	4,599,658	580,853	6,308,226	1,872,065

It will be observed from the above table that the main causes of industrial disputes are "Wage" questions, "Working Conditions," and "Employment of Particular Classes or Persons." In each of the seven years, 1914-1920, the number of dislocations concerning wages exceeded those caused by any other question, having varied between a minimum proportion of 28 per cent. in 1917 and a maximum of 45 per cent. in 1916. The proportion attributed to this cause in 1920 was 36 per cent. The majority of the disputes classified under the heading, "Employment of Particular Classes or Persons," are stoppages of work for the purpose of protesting against the dismissal of certain employees, who, in the opinion of their fellow-workers, have been unfairly treated or victimised. This class of dispute occurs very frequently in the coal mining industry. The number of disputes over "Trade Union" questions and "Hours of Labour" has represented a fairly uniform proportion of the total number of disputes during the years under review. "Sympathetic" disputes were numerous during the years 1916 and 1917. The figures for the latter year were abnormal in comparison with the other periods. It may be mentioned, however, that the disputes which arose during that year in connection with the "time-card system" dispute were responsible for the increase in the number.

**6. Results of Industrial Disputes, Commonwealth, 1913-20.**—The following table shews the number of disputes, number of workpeople involved, and the number of working days lost in disputes throughout the Commonwealth during the eight years 1913-20, classified according to results:—

**INDUSTRIAL DISPUTES CLASSIFIED ACCORDING TO RESULTS,  
COMMONWEALTH, 1913 TO 1920.**

Year.	No. of Disputes.				Number of Workpeople Involved in Disputes.				Total Number of Working Days Lost by Disputes.			
	In Favour of Workpeople.	In Favour of Employer.	Compromise.	Indefinite.	In Favour of Workpeople.	In favour of Employer.	Compromise.	Indefinite.	In Favour of Workpeople.	In Favour of Employer.	Compromise.	Indefinite.
1913	67	64	66	11	10,914	12,211	24,826	2,332	59,823	104,654	433,014	26,037
1914	118	98	110	11	21,224	18,242	30,396	1,187	129,995	119,819	829,265	11,316
1915	190	78	68	22	44,140	15,327	14,860	6,965	245,625	155,659	151,544	30,397
1916	223	178	84	23	70,588	36,670	23,296	40,129	886,010	253,084	476,302	63,534
1917	147	188	100	9	24,331	119,589	22,310	7,740	103,267	4,201,981	285,103	9,307
1918	92	100	93	13	13,780	15,998	23,739	2,922	101,207	177,223	280,045	22,378
1919	154	157	140	9	54,810	43,140	55,445	4,196	2,398,252	406,361	3,483,571	20,042
1920	183	199	168	4	30,399	61,947	62,811	409	180,345	911,156	777,175	3,389

It will be seen from the above table that, during the years 1913, 1914, 1915, and 1916 the disputes resulting in favour of workpeople exceeded those resulting in favour of employers. During 1917, 1918, 1919, and 1920, however, the position was reversed. A considerable number of disputes in each year resulted in a compromise, while certain disputes resulted in such a manner that they could not be definitely classed as in favour of either party.

7. Methods of Settlement of Industrial Disputes, Commonwealth, 1914-20.—The following tables shew the number of disputes, number of workpeople involved, and number of working days lost in industrial disputes during the seven years 1914-20, classified for the Commonwealth according to the adopted schedule of methods of settlement :—

### METHODS OF SETTLEMENT OF INDUSTRIAL DISPUTES, COMMONWEALTH, 1914 TO 1920.

Methods of Settlement.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
NUMBER OF DISPUTES.							
Negotiations—							
Direct between employers and employees or their representatives ..	247	254	319	234	171	291	380
By intervention or assistance of distinctive third party—not under Commonwealth or State Industrial Act ..	11	29	34	38	21	35	25
Under State Industrial Acts—							
By intervention, assistance, or compulsory conference ..	7	3	9	12	20	33	33
By reference to Board or Court ..	17	5	10	13	14	5	8
Under Commonwealth Conciliation and Arbitration Act—							
By intervention, assistance, or compulsory conference ..	5	2	6	3	8	9	8
By Filling Places of Workpeople on Strike or Locked Out ..	16	9	18	36	26	22	22
By Closing-down Establishment Permanently ..	4	1	6	4	8	7	4
By other Methods ..	30	55	106	104	30	58	74
Total ..	337	358	508	444	298	460	554

### NUMBER OF WORKPEOPLE INVOLVED.

Negotiations—							
Direct between employers and employees or their representatives ..	48,204	54,242	68,841	49,512	34,680	76,070	101,404
By intervention or assistance of distinctive third party—not under Commonwealth or State Industrial Act ..	8,054	6,170	32,043	23,338	4,155	47,849	6,278
Under State Industrial Acts—							
By intervention, assistance, or compulsory conference ..	770	1,515	2,117	6,295	2,958	6,926	9,312
By reference to Board or Court ..	7,308	815	2,291	2,779	3,392	1,380	1,711
Under Commonwealth Conciliation and Arbitration Act—							
By intervention, assistance, or compulsory conference ..	205	2,919	1,110	1,490	3,042	1,997	766
By Filling Places of Workpeople on Strike or Locked Out ..	629	205	413	17,780	1,933	2,202	2,141
By Closing-down Establishment Permanently ..	86	200	150	434	538	401	182
By other Methods ..	5,793	15,226	63,718	72,342	5,741	20,766	33,772
Total ..	71,049	81,292	170,683	173,970	56,439	157,591	155,566

**METHODS OF SETTLEMENT OF INDUSTRIAL DISPUTES,  
COMMONWEALTH, 1914 TO 1920—continued.**

Methods of Settlement.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
<b>NUMBER OF WORKING DAYS LOST.</b>							
<b>Negotiations—</b>							
Direct between employers and employees or their representatives	803,799	384,425	563,828	551,484	222,846	632,269	827,085
By intervention or assistance of distinctive third party—not under Commonwealth or State Industrial Act	128,231	56,126	812,763	863,896	37,444	5,379,655	217,916
<b>Under State Industrial Act—</b>							
By intervention, assistance, or compulsory conference	4,256	20,537	31,696	159,799	57,559	94,557	69,436
By reference to Board or Court	120,685	15,418	48,022	48,352	151,472	8,460	19,236
<b>Under Commonwealth Conciliation and Arbitration Act—</b>							
By intervention, assistance, or compulsory conference	1,421	26,383	20,697	33,396	23,289	74,018	34,205
By Filling Places of Workpeople on Strike or Locked Out	4,402	1,533	9,060	908,596	35,298	46,029	160,562
By Closing-down Establishment Permanently	3,646	19,600	2,776	11,392	4,270	5,737	12,919
By other Methods	23,955	58,703	190,088	2,022,743	48,675	67,501	529,806
<b>Total</b>	<b>1,090,395</b>	<b>583,225</b>	<b>1,678,930</b>	<b>4,599,658</b>	<b>580,853</b>	<b>6,308,226</b>	<b>1,872,065</b>

In the above tables the methods of settlement of all disputes recorded during the past seven years are set out in comparative form. In all years it will be observed that direct negotiations between the employers and employees settled the majority of the disputes. The proportion of disputes so settled ranges between a minimum of 53 per cent. in 1917 and a maximum of 73 per cent. in 1914; in 1920 the proportion was 69 per cent. The numbers of dislocations which have been settled by compulsory conferences or the intervention and assistance of officials under State or Commonwealth Arbitration Acts have not varied greatly during the period under review. In connexion with the comparatively large numbers of disputes which are classified as having been settled "By other methods," it must be mentioned that a large number of stoppages of work occur each year, principally at the collieries, without any cause for such stoppages being brought officially under the notice of the employers or their representatives. Such stoppages usually last for one day, and work is resumed without any negotiations for a settlement of the trouble which caused the stoppage.

**8. Industrial Disputes, Commonwealth.—Number and Magnitude during Calendar Years 1913 to 1920.**—In the following table particulars are given of the number of industrial disputes, the number of workpeople involved, and the losses in working days and wages caused by disputes during each calendar year 1913 to 1920, classified according to industrial groups :—

**INDUSTRIAL DISPUTES, COMMONWEALTH. — NUMBER AND MAGNITUDE  
ACCORDING TO INDUSTRIAL GROUPS DURING EACH CALENDAR YEAR  
1913-1920.**

Calendar Year.	Manu- facturing. (Groups I. to VI.).	Building. (Group VII.).	Mining. (Group VIII.).	Transport, Land and Sea. (Groups IX. to XI.).	Miscel- laneous. (Groups XII. to XIV.).	ALL GROUPS.
<b>NUMBER OF DISPUTES.</b>						
1913 ..	37	10	103	36	22	208
1914 ..	61	16	186	40	34	337
1915 ..	67	8	204	54	25	358
1916 ..	99	15	240	85	69	508
1917 ..	104	6	200	77	57	444
1918 ..	77	11	135	31	44	298
1919 ..	94	12	231	67	56	460
1920 ..	89	17	316	75	57	554
1913 to 1920 ..	628	95	1,615	465	364	3,167



**INDUSTRIAL DISPUTES, COMMONWEALTH.—NUMBER AND MAGNITUDE  
ACCORDING TO INDUSTRIAL GROUPS DURING EACH CALENDAR  
YEAR 1913-1920—continued.**

Calendar Year.	Manu- facturing. (Groups I. to VI.).	Building. (Group VII.).	Mining. (Group VIII.).	Transport, Land and Sea. (Groups IX. to XI.).	Miscel- laneous. (Groups XII. to XIV.).	ALL GROUPS.
<b>NUMBER OF WORKPEOPLE INVOLVED.</b>						
1913 .. ..	5,175	232	33,537	9,049	2,290	50,283
1914 .. ..	13,017	4,321	48,785	3,256	1,670	71,049
1915 .. ..	15,180	301	54,315	8,550	2,946	81,292
1916 .. ..	15,482	751	95,512	9,366	49,572	170,683
1917 .. ..	32,058	403	69,519	60,975	11,015	173,970
1918 .. ..	10,472	685	35,149	6,507	3,626	56,439
1919 .. ..	19,550	2,810	86,607	36,386	12,238	157,591
1920 .. ..	21,092	6,527	81,043	15,043	31,861	155,566
1913 to 1920 ..	132,026	16,030	504,467	149,132	115,218	916,873

<b>NUMBER OF WORKING DAYS LOST.</b>						
1913 .. ..	61,384	2,303	389,854	121,034	47,960	622,535
1914 .. ..	195,838	140,881	582,967	56,186	17,281	993,153
1915 .. ..	128,719	801	460,801	59,286	33,353	682,960
1916 .. ..	339,530	23,913	961,775	104,217	215,318	1,644,753
1917 .. ..	845,557	8,084	1,317,600	2,374,474	143,601	4,689,316
1918 .. ..	217,425	3,602	215,573	38,922	64,071	539,593
1919 .. ..	272,405	124,003	1,826,694	1,898,900	181,736	4,303,738
1920 .. ..	367,296	103,373	1,944,038	626,826	545,734	3,587,267
1913 to 1920 ..	2,428,154	406,960	7,699,302	5,279,845	1,249,054	17,063,315

<b>ESTIMATED LOSS IN WAGES.</b>						
	£	£	£	£	£	£
1913 .. ..	26,703	1,171	182,724	61,005	16,498	288,101
1914 .. ..	96,461	72,735	293,722	30,178	7,379	500,475
1915 .. ..	58,519	462	244,943	32,408	13,810	350,142
1916 .. ..	177,361	13,107	587,163	51,532	115,635	944,798
1917 .. ..	467,292	4,592	937,308	1,158,079	74,464	2,641,735
1918 .. ..	131,811	2,235	146,676	21,298	43,114	345,134
1919 .. ..	167,502	73,643	1,280,265	977,494	119,924	2,618,828
1920 .. ..	215,057	70,006	1,418,193	357,786	309,345	2,370,387
1913 to 1920 ..	1,340,706	237,951	5,090,994	2,689,780	700,169	10,059,600

### § 7. Retail Prices, House Rents, and Cost of Living.

1. **Introduction.**—In Labour Report No. 1, issued in December, 1912, the results of certain investigations into the subjects of Prices, Price-Indexes and Cost of Living in past years were published, and some account was given of the methods employed for the collection of the data and of the technique adopted in the computation of the results. A detailed examination of the theory upon which the calculation of the index-numbers is based was given, but being necessarily too technical for the ordinary reader, was relegated to Appendixes. In Reports Nos. 2, 5, 6, 7, 8, 9, 10, and 11, results of further investigations were included, and in Labour Bulletins Nos. 1 to 18, and in Quarterly Summaries of Statistics, Nos. 70 to 84, information was incorporated regarding variations in retail and wholesale prices, house-rent, and purchasing-power of money up to the end of 1920.

It must here suffice to state that the method adopted for the computation of the index-numbers is what may very properly be called the "aggregate expenditure" method. The first process is, of course, to work out the average price of each commodity included, and numbers (called "mass-units") representing the *relative* extent to which each commodity was on the average used or consumed are then computed. The price in any year of each commodity multiplied by its corresponding "mass-unit" represents, therefore, the relative total expenditure on that commodity in that year *on the basis of the adopted regimen*. It follows, therefore, that by taking for any year the sum of the price of each commodity multiplied by its corresponding "mass-unit," a figure is obtained which represents the relative aggregate or total expenditure of the community in that year on all the commodities, etc., included. By computing these aggregate expenditures for a series of years and taking the expenditure in any selected year as "base," that is, making the expenditure in that year equal to 1,000 units, the relative expenditure in any other year, that is to say, the "index-numbers," are readily ascertained. Numerical examples of the technique and methods adopted for the computation of index-numbers were given in Report No. 2 (pp. 44 and 45), and in Report No. 9 Appendixes I to IV., pp. 174 to 229.

**2. Scope of Investigation.**—It was pointed out in Report No. 1 that, in any investigation into the question of change in cost of living of a community, a careful distinction must be drawn between two things, viz. :—

- (a) Variations in the *purchasing-power* of money, and
- (b) Variations in the *standard of living*.

In Report No. 2, attention was drawn to the fact that the second element (b) can be limited, at any rate to some extent, by the exercise of self denial and thrift, and that such limitation is at the disposal of each individual; the former (a) is not subject to this possibility. Thus, from this aspect, social economics are concerned *primarily* with an accurate estimation of variations in the purchasing-power of money and only secondarily with the question of the general standard of living which has been reached. The first desideratum demands the selection of a suitable list of commodities, the quantities of each being taken in due proportion to their relative average consumption. The quantities in this list being kept constant, the cost of the whole group must then be ascertained. In this way a comparison may be made of the cost in different areas or districts at the same time, as well as the variation in any one place from time to time. This is the "aggregate expenditure" method explained above.

As explained in Report No. 1, special steps were taken to conduct the investigation back as far as 1901 for the capital towns only. The collection of current monthly returns as to prices and of quarterly returns of house rents commenced in 30 of the more important towns of the Commonwealth in January, 1912.

**3. Commodities and Requirements Included.**—The 47 items of expenditure included are divided into four groups, viz. :—(i) groceries and bread, (ii) dairy produce, (iii) meat, and (iv) house rent. These items cover about 60 per cent. of the total expenditure of a normal family. There are very cogent reasons for the restriction of the enquiries to the items mentioned. If the comparisons made are to be satisfactory, no confusion must arise between changes in the standard of living and changes arising from a variation of the purchasing-power of money. In order to avoid such confusion the items selected are such as are sensibly identical and identifiable in the various localities. The most important group of expenditure which is not included is clothing, the cost of which amounts to about 13 per cent. of the total expenditure. In Report No. 11 (page 26), a tabular statement was given furnishing particulars of the commodities and items included, the units of measurement for which prices are collected, and the mass-units shewing the relative extent to which each item is used or consumed. As the result, however, of a recommendation made by the Royal Commission on the Basic Wage, the Government has authorised the Bureau to extend its investigations to cover the whole of the ordinary expenditure of a household, and steps are being taken to give effect to the recommendation made. It is proposed, at an early date, to publish index numbers shewing

variations in the cost of clothing, fuel, and light, and other principal items of miscellaneous expenditure.

4. *Variations in the Purchasing-Power of Money in each Metropolitan Town, 1901 to 1920.*—In Labour Reports and Bulletins, and in recent issues of the Quarterly Summaries of Statistics, index-numbers were given for each of the four groups, and for all groups combined for each capital town since 1901, the expenditure in 1911 being taken in each case as base (=1,000). In this section summarised results only are given, firstly, for food and groceries; secondly, for house rent; and thirdly, for all groups combined—the weighted average expenditure for all capital towns in 1911 being taken in each case as base (=1,000). The index-numbers in each table are fully comparable with each other, that is to say, they shew not only the variations from year to year in each capital town, but also the relative cost as between the towns.

(i) *Food and Groceries.* The index-numbers thus computed for the three groups comprising groceries and food are shewn in the following table:—

**RETAIL PRICES IN METROPOLITAN TOWNS, INDEX-NUMBERS FOR GROCERIES AND FOOD (GROUPS I., II., AND III.), 1901 TO 1920.**

Town.	1901.	1906.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
Sydney ..	917	964	989	1,124	1,131	1,156	1,396	1,520	1,540	1,549	1,783	2,148
Melbourne ..	965	945	935	1,082	1,024	1,091	1,411	1,462	1,412	1,466	1,620	2,056
Brisbane ..	965	959	1,013	1,102	1,042	1,078	1,373	1,428	1,406	1,495	1,762	2,052
Adelaide ..	1,029	982	1,020	1,154	1,110	1,215	1,487	1,532	1,445	1,554	1,719	2,132
Perth ..	1,184	1,237	1,346	1,345	1,267	1,302	1,483	1,542	1,505	1,486	1,772	2,050
Hobart ..	1,011	1,047	1,058	1,190	1,164	1,212	1,445	1,523	1,544	1,635	1,748	2,162
Weighted Average(a) ..	972	980	1,000	1,129	1,095	1,144	1,416	1,495	1,472	1,514	1,718	2,101

(a) For all capital towns.

The above figures are directly comparable in every respect; thus it will be seen that the same quantity of food and groceries, which cost £1,000 in the capital towns considered as a whole in 1911, would have cost £917 in Sydney in 1901, £1,346 in Perth in 1911, or £2,056 in Melbourne in 1920.

The weighted average retail price index-numbers for the six capital cities shew that the upward tendency of prices was temporarily arrested on two occasions since 1911—first in 1913, and, again, in 1917. The prices for Sydney shew a rise in every year since 1911; in 1917 Sydney and Hobart constituted exceptions to the decline experienced in all the other capitals; while in 1918 the figures for Perth only shewed a decline. In 1919 and 1920 increases were experienced in all the cities concerned. Comparing the results for 1920 with those for 1911 it will be seen that the extent by which prices increased, varied from 120 per cent. in Melbourne to 52 per cent. in Perth. It will be noticed, however, that prices were abnormally high in Perth in 1911.

(ii) *House Rent.* In the following table, index-numbers are given computed for the weighted average house rent in each of the capital towns from 1901 to 1920, taking the average rent for the six capital towns in 1911 as the base (=1,000). The average rent has been obtained for each town separately by multiplying the average predominant rent for each class of house (i.e., houses having less than 4 rooms, 4 rooms, 5 rooms, 6 rooms, 7 rooms, and over 7 rooms) by a number ("weight") representing the relative number of houses of that class in the particular town. The sum of the products thus obtained, divided by the sum of the weights, gives the weighted average for all houses. The number of houses in each class for each town was obtained from the results of the 1911 census. It should be observed, therefore, that these index-numbers are based on the weighted average rents for all houses, and that they do not refer to any particular class of houses. The actual predominant rents for each class were given in appendixes to

Reports Nos. 1, 2, 5, 6, 7, 8, 9, 10, and 11, and an examination of these figures shews that for some classes of houses the increase has been greater, and in some less, than the general increase indicated in the following table.

**HOUSE RENTS IN METROPOLITAN TOWNS.—INDEX-NUMBERS SHEWING  
WEIGHTED AVERAGE RENTS (GROUP IV.), 1901 TO 1920.**

Town.	1901.	1906.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
Sydney ..	858	891	1,090	1,183	1,246	1,279	1,220	1,212	1,215	1,252	1,289	1,415
Melbourne ..	733	782	970	1,016	1,089	1,126	1,085	1,089	1,124	1,180	1,283	1,405
Brisbane ..	488	524	767	804	863	882	859	847	859	905	983	1,061
Adelaide ..	629	761	1,112	1,160	1,125	1,040	932	930	959	1,022	1,108	1,216
Perth ..	801	716	810	880	928	914	848	869	874	885	916	996
Hobart ..	667	686	805	829	887	914	928	928	951	956	1,134	1,373
Weighted Average(a) ..	751	793	1,000	1,063	1,118	1,135	1,081	1,081	1,098	1,143	1,215	1,333

(a) For all capital towns.

NOTE.—The above figures are directly comparable in every respect.

The figures given in the above table shew that from 1901 to 1914 house rents increased in all the capital cities, though varying in degree, from 14 per cent. in Perth to 81 per cent. in Brisbane, where, however, rents were very low in 1901. The weighted average index-number, which is, of course, largely dominated by the experience of the more populous cities of Sydney (with an increase of 49 per cent.) and Melbourne (54 per cent.) increased from 751 in 1901 to 1,135 in 1914, or by 51 per cent. This increase in the weighted average represents the accumulated results of increments of varying amount, in each of the years 1901–1914, without exception. These annual increments to rents were experienced in all the capital cities except Adelaide and Perth. Since 1916 rents have advanced in all the capital cities. The rent index-numbers for Perth for the years 1904–10 consistently followed a direction opposite to that taken by the same indices relating to the other cities, inasmuch as, instead of moving upward, they declined during each year, the aggregate result being a fall from 802 in 1903 to 667 in 1909, and, although they rose in 1910 to 696, they were even then below the level of 1903. This period of falling rents in Perth—in such striking contrast to the experience of all the other capital cities—was contemporaneous with a diminution almost to vanishing point of net immigration, which for many years had been considerable. A further factor in the arrest of the growth of population consisted in the reduction of public expenditure following upon the completion of large public works, while, at the same time, there was a falling-off in speculative ventures in gold-mining. Moreover, during this period there was a marked movement by residents of Perth to land settlement in the southern districts of the State.

A further striking feature in the movements of rents, as shewn by the weighted average index-numbers given in the foregoing table, is the decline registered in the years 1915–1917. This fall was probably, in some measure, due to the circumstance that wives and other dependents of soldiers, for social reasons, gave up their separate establishments and shared houses or apartments, thus reducing the demand for house accommodation. The Government regulations forbidding the increase of rents of houses tenanted by soldiers' dependents would, also, have a restraining influence on any tendency for rents to rise. It will be seen that in 1918 rents were again at the 1914 level, and that in both of the years 1919 and 1920 fairly substantial increases occurred.

(iii) *Food, Groceries, and House Rent combined.* The weighted averages for all four groups are of importance, as indicating the general results of this investigation so far as the purchasing-power of money is concerned. The following table shews:

index-numbers for groceries, food, and house rent for each metropolitan town, the weighted average cost for the six capital towns in 1911 being taken as base (=1000):—

**PURCHASING-POWER OF MONEY IN METROPOLITAN TOWNS.—PRICE INDEX-NUMBERS<sup>(a)</sup> SHEWING WEIGHTED AVERAGE RESULTS FOR ALL GROUPS (GROCERIES, DAIRY PRODUCE, MEAT, AND HOUSE RENT), 1901 TO 1920.**

Town.	1901.	1906.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
Sydney ..	893	934	1,031	1,148	1,178	1,206	1,323	1,394	1,406	1,427	1,580	1,847
Melbourne ..	870	878	950	1,055	1,051	1,105	1,277	1,309	1,294	1,349	1,481	1,788
Brisbane ..	769	780	915	979	969	997	1,162	1,188	1,181	1,252	1,442	1,645
Adelaide ..	864	891	1,058	1,157	1,121	1,143	1,259	1,285	1,245	1,335	1,468	1,756
Perth ..	1,027	1,024	1,126	1,154	1,128	1,143	1,222	1,266	1,246	1,239	1,420	1,617
Hobart ..	869	899	954	1,042	1,050	1,090	1,233	1,278	1,301	1,356	1,496	1,837
Weighted Average <sup>(b)</sup> ..	880	902	1,000	1,101	1,104	1,140	1,278	1,324	1,318	1,362	1,510	1,785

(a) As the price index-number increases, the purchasing-power of money diminishes.

(b) For all capital towns.

NOTE.—The above figures are directly comparable in every respect.

From this table, which presents the index-numbers for the combined results from food and groceries and rents, it will be seen that, on the basis of the weighted average for the six capital cities, the decline (alluded to in (i) of this sub-section) in the prices of food and groceries during 1913 was more than counterbalanced by the rise in house rents. This, however, was not the case with regard to Melbourne, Brisbane, or Perth, for each of which the combined index shews a decline. Adelaide, alone, shewed a decrease in house rents in 1913, consequently the decline in the combined index-number for that city was the most marked. In 1917 the fall in the prices of food and groceries was sufficient to outweigh the increase in house rents and so effect a slight decrease in the combined index-number. As in 1913, the net effect in Sydney and in Hobart did not conform to the experience indicated by the weighted average. In 1918 the upward movement was experienced in all the cities except Perth, while in 1919 and 1920 it was general throughout.

The abnormal movements of the prices of food and groceries, and of house rents, during the war years present features of particular interest. It will be seen that, on the basis of the weighted averages, prices of food and groceries rose in 1915 by about 24 per cent. over 1914, and continued on a somewhat higher level, whereas the weighted average for house rents fell in 1915 by 4.8 per cent., and remained below the 1913 level until 1918. The combination of house rents with prices of food and groceries has had the effect of very materially modifying the index of prices, or, in other words, the purchasing-power of money, as compared with the similar index based on food and groceries only. In 1918, 1919, and 1920 there were increases in both prices of food and groceries and house rents, the combined results for 1920 being an increase of 18.2 per cent. over 1919, 56.6 per cent. over 1914, and 78.5 per cent. over 1911. The increase in the purchasing-power of money index-number between 1920 and 1914 has varied between the capital cities from 41 per cent. in Perth to 69 per cent. in Hobart, while between 1920 and 1911 it has varied between 44 per cent. in Perth and 93 per cent. in Hobart.

5. Variation in Purchasing-Power of Money, 1901 to 1920.—The tables in paragraph 4 give the relative cost in the six capital towns of food, groceries, and house rent from 1901 to 1920 in the form of index-numbers. The figures have been converted into a monetary basis in the next table, and shew the sums which would have to be paid in each town and in each year in order to purchase such relative quantities (indicated by the mass-units) of the several commodities, and to pay such sums for house rent as would in the aggregate cost £1, according to the weighted average prices and rents in the six capital towns in 1911.

## CHANGES IN PURCHASING-POWER OF MONEY (FOOD, GROCERIES, AND HOUSE RENT), 1901-20.

Year.	Sydney.	Melbourne.	Brisbane.	Adelaide.	Perth.	Hobart.	Weighted Average of 6 Capital Towns.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1901 .. ..	17 10	17 5	15 5	17 3	20 6	17 5	17 7
1906 .. ..	18 8	17 7	15 7	17 10	20 5	18 0	18 0
1911 .. ..	20 7	19 0	18 4	21 2	22 6	19 1	20 0a
1913 .. ..	23 7	21 0	19 5	22 5	22 6	21 1	22 1
1914 .. ..	24 1	22 1	19 11	22 10	22 10	21 10	22 10
1915 .. ..	26 6	25 6	23 3	25 2	24 5	24 8	25 7
1916 .. ..	27 10	26 2	23 9	25 8	25 4	25 7	26 6
1917 .. ..	28 1	25 11	23 7	24 11	24 11	26 0	26 4
1918 .. ..	28 6	27 0	25 1	26 8	24 9	27 1	27 3
1919 .. ..	31 7	29 7	28 10	29 4	28 5	29 11	30 2
1920 .. ..	36 11	35 9	32 11	35 1	32 4	36 9	35 8

(a) Basis of Table.

(i) *Groceries and Food only.* The following table has been computed in the same manner as that indicated above, but relates to *groceries and food* (46 items) *only*. The average expenditure for the six capital towns in 1911 has again been taken as the basis of the table (=20 shillings) and the figures are, of course, comparable throughout.

## CHANGES IN PURCHASING-POWER OF MONEY.—GROCERIES AND FOOD, 1901-20.

Year.	Sydney.	Melbourne.	Brisbane.	Adelaide.	Perth.	Hobart.	Weighted Average of 6 Capital Towns.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1901 .. ..	18 4	19 4	19 4	20 7	23 8	20 3	19 4
1906 .. ..	19 3	18 11	19 2	19 8	24 9	20 11	19 7
1911 .. ..	19 9	18 8	20 4	20 5	26 11	21 2	20 0a
1913 .. ..	22 8	20 6	20 10	22 5	25 4	23 3	21 11
1914 .. ..	23 1	21 10	21 7	24 4	26 0	24 3	22 11
1915 .. ..	27 11	28 3	27 6	29 9	29 8	28 11	28 4
1916 .. ..	30 5	29 3	28 6	30 8	30 10	30 5	29 11
1917 .. ..	30 10	28 3	28 2	28 11	30 1	30 11	29 5
1918 .. ..	31 0	29 4	29 11	31 1	29 9	32 8	30 3
1919 .. ..	35 8	32 5	35 3	34 5	35 5	35 0	34 4
1920 .. ..	43 0	41 1	41 1	42 8	41 0	43 3	42 0

(a) Basis of Table.

(ii) *House Rent only.* The following table gives similar particulars for *house rent only*, the average for the six capital towns in 1911 being again taken as the basis of the table (=20 shillings) :—

## CHANGES IN PURCHASING-POWER OF MONEY.—HOUSE RENT, 1901-20.

Year.	Sydney.	Melbourne.	Brisbane.	Adelaide.	Perth.	Hobart.	Weighted Average of 6 Capital Towns.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1901 .. ..	17 3	14 8	9 9	12 7	16 0	13 4	15 1
1906 .. ..	17 11	15 8	10 6	15 3	14 4	13 9	15 11
1911 .. ..	21 10	19 5	15 4	22 3	16 3	16 1	20 0a
1913 .. ..	24 11	21 10	17 3	22 6	18 7	17 10	22 4
1914 .. ..	25 7	22 6	17 8	20 10	18 3	18 3	22 8
1915 .. ..	24 5	21 8	17 2	18 8	17 0	18 7	21 7
1916 .. ..	24 3	21 9	17 0	18 7	17 4	18 7	21 7
1917 .. ..	24 3	22 6	17 5	19 2	17 5	19 0	22 0
1918 .. ..	25 0	23 7	18 1	20 5	17 8	19 1	22 10
1919 .. ..	25 9	25 8	19 8	22 2	18 4	22 8	24 4
1920 .. ..	28 4	28 1	21 3	24 4	19 11	27 5	26 8

(a) Basis of Table.

6. *Relative Cost of Food, Groceries, and House Rent in Different Towns, 1920.*—The index-numbers given in the preceding paragraphs shew *changes in the cost of food, groceries, and house rent separately for each capital town during the years 1901 to 1920.* The figures given in the table below shew *the relative cost of food and groceries, and of house rent in 1920 in the thirty towns* for which particulars are now collected. The weighted aggregate expenditure for the six capital towns for the year 1911 has been taken as base and made equal to 1,000, hence the columns are comparable both horizontally and vertically.

**INDEX-NUMBERS, SHEWING RELATIVE COST IN THIRTY TOWNS, OF FOOD AND GROCERIES AND HOUSE RENT COMPARED WITH WEIGHTED AVERAGE EXPENDITURE THEREON IN THE SIX CAPITAL TOWNS IN 1911 AS BASE (=1,000), YEAR 1920.**

Town.	Groceries and Food.	HOUSE RENT.				GROCERIES, FOOD AND RENT, INCLUDING HOUSES HAVING—			
		Four-roomed Houses only.	Five-roomed Houses only.	Six-roomed Houses only.	All Houses Weight'd Average.	Four Rooms.	Five Rooms.	Six Rooms.	All Houses Weight'd Average.
NEW SOUTH WALES—									
Sydney ..	1,266	465	543	639	581	1,731	1,809	1,905	1,847
Newcastle ..	1,264	363	515	652	502	1,627	1,779	1,916	1,766
Broken Hill(a) ..	1,412	281	352	438	300	1,693	1,764	1,850	1,712
Goulburn ..	1,287	330	429	634	549	1,617	1,716	1,921	1,836
Bathurst ..	1,245	243	330	426	370	1,488	1,575	1,671	1,615
Weighted Average ..	1,271	444	529	630	560	1,715	1,800	1,901	1,831
VICTORIA—									
Melbourne ..	1,211	409	530	660	577	1,620	1,741	1,871	1,788
Ballarat ..	1,225	188	275	370	333	1,413	1,500	1,595	1,558
Bendigo ..	1,183	230	318	430	352	1,413	1,501	1,613	1,535
Geelong ..	1,175	312	418	511	448	1,487	1,593	1,686	1,623
Warrnambool ..	1,199	323	427	520	441	1,522	1,626	1,719	1,640
Weighted Average ..	1,209	376	492	616	538	1,585	1,701	1,825	1,747
QUEENSLAND—									
Brisbane ..	1,209	285	374	480	436	1,494	1,583	1,689	1,645
Toowoomba ..	1,178	245	324	405	398	1,423	1,502	1,583	1,576
Rockhampton ..	1,217	217	272	365	340	1,434	1,489	1,582	1,557
Charters Towers ..	1,256	241	306	366	301	1,497	1,562	1,622	1,557
Warwick ..	1,205	208	299	393	363	1,413	1,504	1,598	1,568
Weighted Average ..	1,210	269	351	449	409	1,479	1,561	1,659	1,619
SOUTH AUSTRALIA—									
Adelaide ..	1,256	368	488	626	500	1,624	1,744	1,882	1,756
Moonta, etc. ..	1,231	252	330	438	340	1,483	1,561	1,669	1,571
Port Pirie(a) ..	1,235	350	420	457	395	1,585	1,655	1,692	1,630
Mt. Gambier ..	1,164	221	282	369	304	1,385	1,446	1,533	1,468
Peterborough ..	1,232	289	376	444	375	1,521	1,608	1,676	1,607
Weighted Average ..	1,250	356	460	597	478	1,606	1,719	1,847	1,728
WESTERN AUSTRALIA—									
Perth, etc. ..	1,208	346	438	528	409	1,554	1,646	1,736	1,617
Kalgoorlie, etc. ..	1,356	360	438	502	350	1,716	1,794	1,858	1,706
Mid. Junction, etc. ..	1,219	246	323	402	309	1,465	1,542	1,621	1,528
Bunbury ..	1,210	273	329	355	255	1,483	1,539	1,565	1,465
Geraldton ..	1,220	379	464	583	401	1,599	1,684	1,803	1,621
Weighted Average ..	1,239	343	431	514	388	1,582	1,670	1,753	1,627
TASMANIA—									
Hobart ..	1,273	448	538	618	564	1,721	1,811	1,891	1,837
Launceston ..	1,242	310	441	513	450	1,552	1,683	1,755	1,692
Zeehan ..	1,339	164	221	262	154	1,503	1,560	1,601	1,493
Beaconsfield ..	1,219	61	88	97	81	1,280	1,307	1,316	1,300
Queenstown ..	1,266	263	336	362	255	1,529	1,602	1,628	1,521
Weighted Average ..	1,264	363	461	531	470	1,627	1,725	1,795	1,734
Commonwealth									
Weighted Average, 30 Towns ..	1,239	385	484	593	514	1,624	1,723	1,832	1,753

(a) See remarks on page 49 of Labour Report No. 11, with reference to house rents.

A table shewing the retail price index-numbers (food and groceries) for each of the thirty towns for various months in the year since July, 1914, appeared in previous issues, but consideration of space precludes its repetition in the present issue. This table is, however, given in Labour Report No. 11, issued by this Bureau.

## § 8. Investigation into Purchasing-Power of Money in 150 Towns in Commonwealth.

1. **Introduction.**—In the earlier investigations with regard to the variations in the purchasing-power of money, inquiries were restricted to the 30 towns mentioned in the preceding table. To provide a wider field of observation, investigations were extended in November, 1913, to 100 towns, and in November, 1915, to 150 towns. The index-numbers for these 150 towns are computed from the retail prices ruling in November of each year.

2. **Map shewing the relative Purchasing-Power of Money in various Localities.**—The index-numbers for each of the 150 towns referred to in the preceding paragraph are tabulated on the inset on page 1033, and are accompanied by a map of Australia. The position of any town may be located on the map by the reference numbers printed on the left-hand margin of the table. The weighted average cost for the 100 towns in 1913 has been taken as the base, and the index-numbers are comparable throughout. Separate index-numbers are given for food, groceries, and rent of five-roomed houses (Column headed "A"), and for food and groceries only (Column headed "B").

## § 9. Wholesale Prices.

1. **General.**—The results of an investigation into wholesale prices in Melbourne from 1871 to the end of September, 1912, were given in some detail in Report No. 1 of the Labour and Industrial Branch. Summarized results for later years are included in later Reports of the same Branch.

The index-numbers up to the year 1911 are based on the prices of eighty commodities, but since that year the number has been increased to ninety-two.\* The methods followed for the computation of the wholesale price index-numbers are the same as those adopted in regard to retail prices. The commodities included, the units of measurement for which the prices are taken, and the mass-units, indicating the relative extent to which each commodity is used or consumed, are shewn in a tabular statement in Report No. 11 (page 68).

2. **Index-Numbers and Graphs.**—Index-numbers have been computed for each group of commodities, as well as for all groups together. The index-numbers for the several groups, and for all groups together, are shewn in the following table.

(i) **Table of Index-Numbers.** The index-numbers have in each case been computed with the prices in the year 1911 as base. They shew, for each of the years specified, the expenditure necessary, if distributed in purchasing the relative quantities (indicated by the mass-units) of the several commodities concerned, to purchase what would have cost £1,000 in 1911. Thus, in the last column it may be seen that the cost of the relative quantities of the various commodities was 1,229 in 1871, and 974 in 1901, as compared with 1,000 in 1911, 1,934 in 1918, 2,055 in 1919, and 2,480 in 1920. In other words, prices were lower in 1911 than in either 1871, 1914, 1918, or 1920, and the purchasing-power of money in 1911 was, accordingly, greater. Again, prices were lower in 1901 than in 1911, and the purchasing-power of money in the former year was, therefore, greater.

\* In the computation of the index-numbers for years prior to 1911, the aggregate expenditure on 80 commodities in 1911 is taken as base (= 1,000), while for later years the aggregate expenditure on 92 commodities is taken.



MELBOURNE WHOLESALE PRICES, INDEX-NUMBERS, 1861 TO 1920,  
COMPUTED TO YEAR 1911 AS BASE.

Year.	I. Metals and Coal.	II. Jute, Leather, etc.	III. Agri- cultural Produce, etc.	IV. Dairy Produce.	V. Gro- ceries.	VI. Meat.	VII. Building Mate- rials.	VIII. Chem- icals.	All com- modities together.
1861 ..	1,438	1,881	1,583	1,008	1,963	..	1,070	2,030	1,538
1871 ..	1,096	1,257	1,236	864	1,586	..	1,044	1,409	1,229
1881 ..	1,178	1,115	1,012	935	1,421	..	1,091	1,587	1,121
1891 ..	895	847	1,024	995	1,032	888	780	1,194	945
1901 ..	1,061	774	928	1,029	1,048	1,345	841	917	974
1902 ..	1,007	756	1,193	1,215	945	1,447	837	881	1,051
1903 ..	923	834	1,209	1,059	936	1,443	875	921	1,049
1904 ..	821	885	754	876	916	1,427	845	875	890
1905 ..	772	850	894	980	942	1,209	801	859	910
1906 ..	882	978	916	972	923	1,110	896	864	948
1907 ..	1,037	1,017	973	1,020	948	1,294	968	961	1,021
1908 ..	1,033	901	1,312	1,198	968	1,335	935	891	1,115
1909 ..	1,014	907	1,000	1,119	978	1,088	911	815	993
1910 ..	1,004	1,052	969	1,100	999	1,008	996	898	1,003
1911 ..	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1912 ..	1,021	991	1,370	1,206	1,052	1,357	1,057	978	1,170
1913 ..	1,046	1,070	1,097	1,054	1,024	1,252	1,128	995	1,088
1914 ..	1,099	1,082	1,207	1,137	1,021	1,507	1,081	1,253	1,149
1915 ..	1,284	1,017	2,162	1,530	1,133	2,435	1,275	1,528	1,604
1916 ..	1,695	1,423	1,208	1,485	1,322	2,515	1,491	1,760	1,504
1917 ..	2,129	2,008	1,157	1,423	1,343	2,403	1,884	2,171	1,662
1918 ..	2,416	2,360	1,444	1,454	1,422	2,385	2,686	3,225	1,934
1919 ..	2,125	2,363	1,985	1,651	1,516	2,343	2,851	2,898	2,055
1920 ..	2,298	2,624	2,439	2,209	1,918	3,279	3,226	2,825	2,480

NOTE.—The figures given in this table are comparable in the vertical columns, but are not directly comparable horizontally. The index-numbers are reversible.

(ii) *Graphs.* The index-numbers are shewn for each group and for all groups combined in the graphs on page 1034. The heavy line, repeated on each graph, represents the index-numbers for the weighted average for all groups, and is shewn so that comparison may be made between the price levels for all commodities and those for the commodities comprised in each group separately. The index-numbers for the individual groups are represented by the light lines. The broken lines at the commencement of each graph shew the index-numbers for the separate years 1861 and 1866, the continuous records commencing with the year 1871. The actual index-numbers for the whole period were given in Report No. 1.

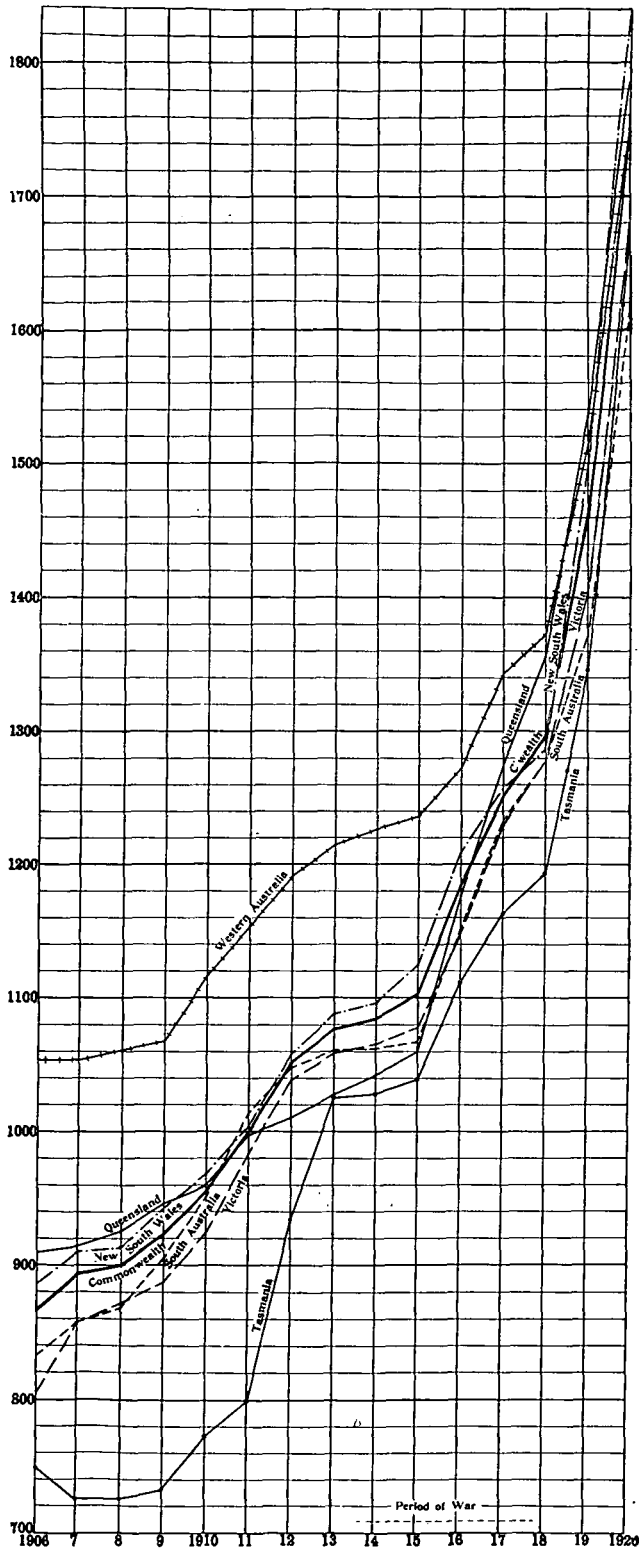
3. *Seasonal Fluctuations and Tables of Prices.*—Information as to seasonal fluctuations in wholesale prices was given in Report No. 2 (page 64), and tables of prices of each commodity were given in Appendixes to the Reports of the Labour and Industrial Branch of this Bureau.

4. *Fluctuations in Wholesale Prices, July, 1914, to July, 1921.*—Since the outbreak of war, prices of many commodities have increased considerably. This is shewn in the following table in which the index-numbers are given for each group for the month of July, 1920, taking July, 1914, the last month before the outbreak of war, as base (=1,000) for each group:—

MELBOURNE WHOLESALE PRICES.—VARIATIONS BETWEEN JULY, 1914,  
AND JULY, 1920, AND JULY, 1921.

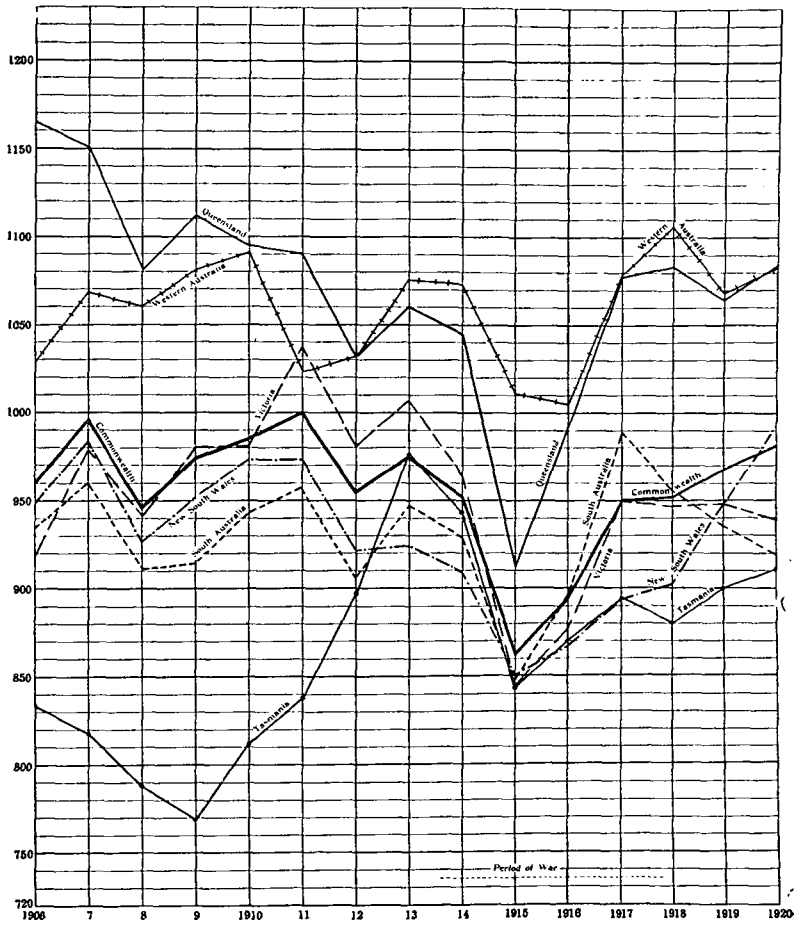
Particulars.	I. Metals and Coal.	II. Jute, Leather, etc.	III. Agri- cultural Produce, etc.	IV. Dairy Produce.	V. Gro- ceries.	VI. Meat.	VII. Building Mate- rials.	VIII. Chem- icals.	All Groups.
July, 1914	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
July, 1920	2,109	2,518	2,438	1,884	1,928	2,609	3,069	2,834	2,671
July, 1921	1,945	1,107	1,579	1,655	1,881	1,191	2,377	2,198	1,589

## NOMINAL WAGE INDEX-NUMBERS IN EACH STATE AND COMMONWEALTH, 1906 TO 1920



(See page 1006.)

EFFECTIVE WAGE INDEX-NUMBERS IN EACH STATE AND COMMONWEALTH,  
1906 TO 1920.

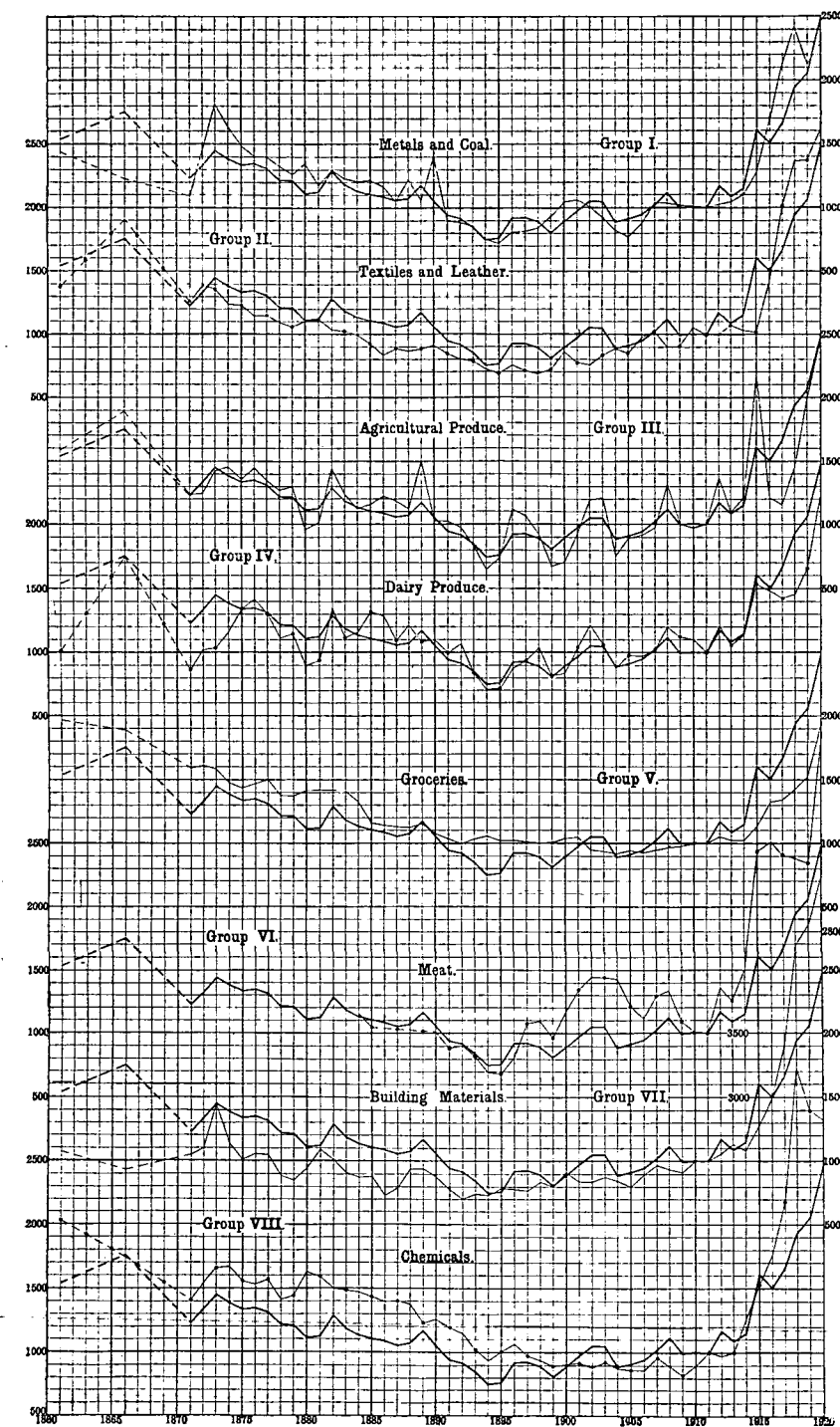


(See page 1006.)

## REFERENCE TO NUMBERS ON MAP.

	1913.		1914.		1915.		1918.		1919.		1920.		1915.		1918.		1919.		1920.	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
1 SYDNEY .....	1,109	634	1,124	651	1,321	861	1,372	896	1,586	1,096	1,796	1,251	1,110	922	1,046	874	1,147	994	1,486	1,279
2 Newcastle .....	960	637	978	648	1,228	847	1,279	907	1,568	1,096	1,811	1,290	1,174	868	1,261	888	1,455	1,027	1,759	1,253
3 Broken Hill .....	1,116	768	849	773	1,192	1,013	1,298	954	1,526	1,185	1,800	1,458	1,137	873	1,150	879	1,339	1,065	1,612	1,277
4 Goulburn .....	974	629	1,035	667	1,271	854	1,287	903	1,467	1,079	1,738	1,306	1,148	920	1,171	956	1,380	1,156	1,537	1,333
5 Bathurst .....	892	583	909	608	1,102	825	1,112	858	1,314	1,020	1,638	1,306	1,135	841	1,247	909	1,497	1,124	1,712	1,291
6 Armidale .....	875	601	948	618	1,148	843	1,263	899	1,441	1,094	1,699	1,268	1,165	834	1,171	929	1,428	1,097	1,608	1,225
7 Cobar .....	987	661	881	742	1,096	807	1,189	923	1,338	1,191	1,476	1,348	1,078	854	1,135	905	1,349	1,119	1,601	1,314
8 Cooma .....	881	638	975	662	1,221	862	1,195	898	1,451	1,136	1,718	1,365	1,131	886	1,215	908	1,421	1,064	1,692	1,290
9 Coolamundra .....	977	632	990	653	1,280	892	1,190	904	1,480	1,045	1,828	1,204	1,125	847	1,268	908	1,488	1,112	1,741	1,323
10 Deniliquin .....	836	607	943	675	1,199	824	1,190	904	1,480	1,045	1,828	1,204	1,125	847	1,268	908	1,488	1,112	1,741	1,323
11 Grifton .....	919	632	922	654	1,181	913	1,254	935	1,398	1,086	1,640	1,300	1,131	886	1,215	908	1,421	1,064	1,692	1,290
12 Hay .....	918	638	989	740	1,006	1,200	889	1,406	1,068	1,295	1,599	1,339	1,101	859	1,246	895	1,392	1,041	1,587	1,187
13 Lismore .....	931	695	1,042	723	1,213	860	1,353	938	1,535	1,120	1,894	1,250	1,131	886	1,215	908	1,421	1,064	1,692	1,290
14 Lithgow .....	915	628	938	625	1,227	894	1,263	912	1,459	1,090	1,876	1,275	1,125	870	1,271	888	1,456	1,112	1,741	1,294
15 Moree .....	981	681	1,041	696	1,256	937	1,406	960	1,599	1,190	1,832	1,384	1,131	886	1,215	908	1,421	1,064	1,692	1,290
16 Mudgee .....	824	569	895	640	1,131	863	1,175	888	1,430	1,099	1,666	1,271	1,125	847	1,268	908	1,488	1,112	1,741	1,323
17 Quambayan .....	1,052	650	980	635	1,213	906	1,194	914	1,421	1,105	1,857	1,340	1,125	847	1,268	908	1,488	1,112	1,741	1,323
18 Tamworth .....	902	599	1,066	649	1,231	874	1,247	911	1,469	1,122	1,848	1,235	1,125	847	1,268	908	1,488	1,112	1,741	1,323
19 Wagga Wagga .....	967	584	949	670	1,172	834	1,315	875	1,464	1,018	1,828	1,204	1,125	847	1,268	908	1,488	1,112	1,741	1,323
20 Yass .....	943	637	1,040	676	1,251	842	1,239	911	1,492	1,153	1,810	1,321	1,125	847	1,268	908	1,488	1,112	1,741	1,323
21 West Wyalong .....	956	631	952	669	1,130	890	1,278	935	1,474	1,123	1,872	1,322	1,125	847	1,268	908	1,488	1,112	1,741	1,323
22 MELBOURNE .....	884	568	1,019	628	1,240	852	1,304	861	1,472	995	1,780	1,246	1,125	847	1,268	908	1,488	1,112	1,741	1,323
23 Ballarat .....	787	566	845	636	1,084	874	1,051	842	1,203	979	1,547	1,265	1,125	847	1,268	908	1,488	1,112	1,741	1,323
24 Bendigo .....	815	573	873	641	1,088	843	1,090	826	1,207	935	1,527	1,207	1,125	847	1,268	908	1,488	1,112	1,741	1,323
25 Geelong .....	872	579	943	639	1,145	849	1,122	821	1,340	984	1,601	1,200	1,125	847	1,268	908	1,488	1,112	1,741	1,323
26 Warrnambool .....	865	581	914	620	1,152	868	1,172	863	1,353	972	1,711	1,281	1,125	847	1,268	908	1,488	1,112	1,741	1,323
27 Ararat .....	833	577	915	641	1,179	895	1,180	879	1,302	1,021	1,707	1,313	1,125	847	1,268	908	1,488	1,112	1,741	1,323
28 Bairnsdale .....	796	579	838	615	1,155	903	1,136	876	1,320	1,052	1,674	1,281	1,125	847	1,268	908	1,488	1,112	1,741	1,323
29 Camperdown .....	898	572	915	625	1,101	818	1,148	864	1,383	1,075	1,598	1,219	1,125	847	1,268	908	1,488	1,112	1,741	1,323
30 Castlemaine .....	778	547	813	637	1,137	862	1,138	864	1,383	1,075	1,598	1,219	1,125	847	1,268	908	1,488	1,112	1,741	1,323
31 Creswick .....	730	577	808	636	1,056	883	1,055	858	1,145	1,018	1,401	1,270	1,125	847	1,268	908	1,488	1,112	1,741	1,323
32 Daylesford .....	779	590	817	638	1,073	885	1,080	853	1,222	1,026	1,534	1,291	1,125	847	1,268	908	1,488	1,112	1,741	1,323
33 Echuca .....	811	607	857	672	1,041	876	1,069	862	1,208	985	1,624	1,305	1,125	847	1,268	908	1,488	1,112	1,741	1,323
34 Hamilton .....	871	594	926	636	1,275	924	1,180	860	1,314	970	1,645	1,252	1,125	847	1,268	908	1,488	1,112	1,741	1,323
35 Horsham .....	849	534	988	670	1,202	921	1,189	890	1,366	1,016	1,727	1,312	1,125	847	1,268	908	1,488	1,112	1,741	1,323
36 Koroit .....	839	596	892	625	1,162	907	1,103	835	1,244	964	1,583	1,238	1,125	847	1,268	908	1,488	1,112	1,741	1,323
37 Kyneton .....	766	562	790	611	1,114	887	1,098	849	1,285	951	1,581	1,259	1,125	847	1,268	908	1,488	1,112	1,741	1,323
38 Maryborough .....	745	573	808	625	1,029	844	1,040	855	1,205	988	1,523	1,260	1,125	847	1,268	908	1,488	1,112	1,741	1,323
39 Mildura .....	872	608	1,053	696	1,272	939	1,353	896	1,353	1,064	1,536	1,230	1,125	847	1,268	908	1,488	1,112	1,741	1,323
40 Nhill .....	897	593	905	656	1,191	887	1,170	889	1,361	989	1,583	1,230	1,125	847	1,268	908	1,488	1,112	1,741	1,323
41 Portland .....	796	592	904	624	1,220	928	1,170	872	1,336	1,024	1,549	1,239	1,125	847	1,268	908	1,488	1,112	1,741	1,323
42 Sale .....	784	551	874	634	1,070	824	1,085	836	1,259	970	1,600	1,237	1,125	847	1,268	908	1,488	1,112	1,741	1,323
43 Swan Hill .....	975	618	1,000	649	1,279	874	1,238	858	1,423	993	1,708	1,229	1,125	847	1,268	908	1,488	1,112	1,741	1,323
44 Walhalla .....	790	687	808	693	1,025	897	1,082	880	1,126	1,037	1,427	1,225	1,125	847	1,268	908	1,488	1,112	1,741	1,323
45 Wangaratta .....	825	589	985	662	1,173	876	1,185	843	1,323	1,021	1,724	1,343	1,125	847	1,268	908	1,488	1,112	1,741	1,323
46 Warracknabeal .....	810	555	877	647	1,082	814	1,082	804	1,266	955	1,561	1,211	1,125	847	1,268	908	1,488	1,112	1,741	1,323
47 BRISBANE .....	878	583	919	627	1,166	878	1,205	901	1,441	1,091	1,510	1,140	1,125	847	1,268	908	1,488	1,112	1,741	1,323
48 Toowoomba .....	840	603	898	646	1,119	894	1,192	931	1,350	1,073	1,413	1,149	1,125	847	1,268	908	1,488	1,112	1,741	1,323
49 Rockhampton .....	861	617	920	648	1,178	894	1,192	931	1,350	1,073	1,413	1,149	1,125	847	1,268	908	1,488	1,112	1,741	1,323
50 Charters Towers .....	907	658	997	672	1,188	942	1,301	1,015	1,472	1,177	1,512	1,216	1,125	847	1,268	908	1,488	1,112	1,741	1,323
51 Mackay .....	822	590	883	635	1,077	863	1,175	922	1,355	1,084	1,454	1,161	1,125	847	1,268	908	1,488	1,112	1,741	1,323
52 Bandaberg .....	851	621	893	650	1,128	873	1,245	965	1,346	1,091	1,461	1,174	1,125	847	1,268	908	1,488	1,112	1,741	1,323
53 Cairns .....	1,067	704	1,140	809	1,248	913	1,420	1,044	1,680	1,214	1,789	1,343	1,125	847	1,268	908	1,488	1,112	1,741	1,323
54 Charleville .....	1,089	704	1,041	722	1,396	1,001	1,428	1,031	1,663	1,195	1,761	1,247	1,125	847	1,268	908	1,488	1,112	1,741	1,323
55 Chillagoe .....	1,153	834	1,052	892	1,319	1,000	1,166	1,064	1,344	1,216	1,401	1,273	1,125	847	1,268	908	1,488	1,112	1,741	1,323
56 Cooktown .....	937	745	1,003	799	1,125	959	1,150	1,018	1,364	1,220	1,535	1,386	1,125	847	1,268	908	1,488	1,112	1,741	1,323
57 Cunnamulla .....	992	724	1,047	779	1,321	1,065	1,239	959	1,434	1,141	1,552	1,233	1,125	847	1,268	908	1,488	1,112	1,741	1,323
58 Goondiwindi .....	955	639	968	680	1,190	935	1,198	917	1,387	1,093	1,518	1,192	1,125	847	1,268	908	1,488	1,112	1,741	1,323
59 Gympie .....	791	600	819	676	1,058	890	1,123	917	1,387	1,093	1,518	1,192	1,125	847	1,268	908	1,488	1,112	1,741	1,323
60 Hughenden .....	1,145	756	1,26																	

## MELBOURNE WHOLESALE PRICE INDEX-NUMBERS, 1861 TO 1920.



EXPLANATORY NOTE.—The scale for each of the graphs for groups 1, 3, 5, and 7 is shown by the figures on the right of the diagram, that for the graphs for groups 2, 4, 6 and 8, on the left of the diagram, the line marked 1000 showing the base line (for the year 1911) in each case. The heavy line in each graph represents the index-numbers for all groups combined, the light line (dotted thus, in the case of the even groups) indicating in each instance the index-numbers for the separate group. (See page 1030.)

It will be seen that, on the basis of the weighted average for all the groups of commodities included in the computation, prices in 1920 were 167 per cent. higher than in 1914. During 1921, however, prices fell and in July, 1921, were 58.9 per cent. higher than in July, 1914.

## § 10. Control of Trade and Prices.

1. **General.**—Shortly after the outbreak of war, a conference of Federal and State Ministers met to discuss the financial position and other matters, and it was decided that for the purpose of controlling the prices of foodstuffs, each State should introduce *uniform* legislation, since it was obvious that this was necessary in view of all the circumstances. Particulars of the various Acts passed by the State Governments were given in Labour Bulletin No. 6, September, 1914, pages 132-147. The same publication shews that there was great diversity in regard to the operations of the various authorities created in the different States.

As a further outcome of this conference, in addition to the various State Boards and Commissions, a Federal Royal Commission, consisting of the Hon. Alfred Deakin (chairman), the Hon. Dugald Thomson, formerly Minister for Home Affairs, and Mr. G. H. Knibbs, C.M.G., Commonwealth Statistician, was appointed to collect information and report upon such matters as the supply of foodstuffs and other necessities required by and available for Australia during the war and cognate matters. This Commission ceased to exercise its functions after the 30th October, 1914.

2. **Federal Control of Prices.**—In March, 1916, the Federal Government created a Prices Adjustment Board with authority to fix the prices of flour, bread, bran, and pollard. The Board fixed the prices of flour, bran, and pollard in every milling centre in Australia. Prices of bread were fixed in upwards of 1,000 separate towns, after investigations had been made as to the cost of manufacture, distribution, etc. An important judgment of the High Court, as to the powers of Government to fix prices, was obtained as the result of the conviction of a Melbourne suburban baker, by the local magistrate, for selling bread at a higher rate than that fixed by the Prices Adjustment Board. This conviction was appealed against, but the High Court, by a majority decision, affirmed that in matters affecting the safety of Australia the Government, under the War Precautions Act, had plenary powers, and that the decision as to what is necessary rests with the Executive and not with the judicial authority. After this judgment, the scope of the investigations and activities of the Prices Adjustment Board were considerably enlarged, and an exhaustive list of commodities was declared to be "necessary commodities." Later, a Commissioner was appointed in each State to make investigations, and to make recommendations to the Minister as to the necessity for fixing maximum selling prices of various commodities.

Shortly after the appointment of these Commissioners, the members of the Prices Adjustment Board resigned in a body, and the control of prices was placed in the hands of a Minister acting upon the recommendations of State Commissioners. The Commissioner for Victoria acted also as Chief Prices Commissioner. Prices were fixed, by regulations under the War Precautions Act, for a large number of commodities. In May, 1919, the Commonwealth Government released from the control of the Prices Commissioners many articles, trade in which had been regulated during the war.

In July, 1919, control ceased of all but a few commodities, the more important of which were butter, cheese, and flour. In August, 1920, the Commonwealth organization for the fixing of prices was abolished. Prices, however, of necessary commodities were not permitted to remain uncontrolled except in Tasmania. In New South Wales, Queensland, and South Australia price fixing was resumed under the authority of Acts already in existence, while in Victoria and Western Australia necessary legislation was passed to enable the Governments of these States to deal with the subject.

The following statement shews the Acts which have been passed, and the Bills introduced by the Governments of the various States for the purpose of controlling prices :—

*New South Wales.*—In New South Wales, control of prices was resumed in July, 1919, under authority of the "Necessary Commodities Control Act, 1914." In January, 1920, this Act was superseded by the "Necessary Commodities Control Act, 1919," and in December, 1920, by the "Profiteering Prevention Act, 1920," which is still in force.

*Victoria.*—In Victoria, an Act entitled the "Necessary Commodities Control Act, 1919," was passed. Under authority of this Act a "Fair Profits Commission," consisting of three members, was appointed for the purpose of regulating prices of necessary commodities in Victoria. This Act was repealed in 1920 and the Commission disbanded, thus bringing to an end all State control of prices.

*Queensland.*—Queensland resumed control of prices in December, 1919, under authority of "The Control of Trade Act, 1914." In March, 1920, this Act was superseded by "The Profiteering Prevention Act, 1920," under which a "Commissioner of Prices" was appointed to control prices in Queensland.

*South Australia.*—State control was resumed in August, 1919, under authority of the "Prices Regulation Act, 1914." In November, 1919, this Act was superseded by the "Prices Regulation Act, 1919," under which a "Prices Regulation Commission," consisting of three members, was appointed to control prices in South Australia. This Act was repealed in September, 1921, and consequently all control of prices ceased.

*Western Australia.*—In Western Australia, State control of prices was not resumed until December, 1919, when an Act, entitled "The Prices Regulation Act, 1919," was passed. Under this Act three Commissioners were appointed for the control of prices in Western Australia. In 1920 the "Prices Regulation Act, and Continuance Act, 1920" was passed, and is still in force.

*Tasmania.*—In Tasmania, a "Necessary Commodities Control Bill, 1919," was introduced, but was not passed.

**3. Control of House Rents.**—No attempt was made by the Commonwealth Government to control rents generally, but War Precautions Regulations afforded special protection to persons connected with the Defence Forces against increases in rent. During the war the Inter-State Commission conducted an investigation into Housing Accommodation and Rents. Fair Rents Courts are in operation in New South Wales, under the "Fair Rents Act, 1915," and in Queensland under "The Fair Rents Act, 1920." Recently a "Fair Rents Bill" was introduced in Tasmania, but at the time of writing had not become law. In the other States no legislative regulation of house rents is in force.