

MANUFACTURING INDUSTRIES IN THE COMMONWEALTH.

SECTION I.—GENERAL.

I. Introduction. — The results given in this report are those obtained from a special investigation made in the month of November, 1912, the more immediate object of which was to ascertain the distribution of wages paid to employees, both male and female, in manufacturing industries throughout the Commonwealth. The information thus acquired has furnished the requisite data for various analyses of a novel and interesting character. Statistics regarding the number of manufacturing establishments, the number of persons employed therein, their production, capital invested, and so forth, are collected annually. As the results are published each year it is not intended to deal directly in this report with the matters which come within the immediate scope of these annual statistics, but to confine attention to the results of the special investigation, and to certain questions arising out of the combination of the two fields of statistics.

It will be seen later that this report is restricted mainly to furnishing results in tabular form. The analysis of these results and the formulation of the laws expressing the relation between various phenomena (e.g., between rates of wages, net output, capital invested, etc.), have been left over for the present, and will form the subject of a later report.

By the courtesy of the respective State Government Statisticians the forms used for the purposes of the special inquiry were distributed and collected in each State at the same time as the ordinary annual manufacturing schedules for the year 1912. The particulars asked for on these forms were required under the authority of the Commonwealth Census and Statistics Act 1905, and comprised the following matters:—

- (i.) The total number of workpeople of each sex employed and the total amount paid in wages to such workpeople, during the week ended the 30th November, 1912.
- (ii.) The number of persons of each sex employed (during the week referred to) at each weekly rate of wage
- (iii.) Particulars of short time or overtime during the year 1912.
- (iv.) Excess or deficiency of workpeople available at the beginning of the year 1913.

The particulars given in regard to items (i.) and (ii.) were to be exclusive of working proprietors, managers, overseers, accountants and clerks, but inclusive of outworkers, if any, and directions were given on the forms to the effect that if any particular establishment was specially or abnormally busy or slack during the week ended the 30th November, 1912, a week during the year which was not so affected should be substituted. In this way it was sought to obtain the particulars as to wages for a normal or average week. This enabled returns for a normal week to be collected for establishments which were either especially busy or temporarily slack or closed down owing to seasonal or other conditions, and thus allowed for the fullest information to be collected regarding rates of wages in each of the classified industries. As regards the classified weekly rates of wages paid to individual workpeople, in case of persons employed at piece rates, the average weekly earnings of an ordinary worker were to be specified.

* See "Official Year Book of the Commonwealth," Nos. 1 to 6, and "Production Bulletin" No. 7.

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2. Classification of Industries.—Forms were distributed to all establishments in the Commonwealth coming within the statistical definition of a factory, viz., "any factory, workshop, or mill where four or more persons are employed or power is used." This statistical definition is common to each State. In order that the results obtained might be comparable with the annual manufacturing statistics, the forms received were classified in nineteen main categories, nearly all of which were in turn subdivided into sub-classes. Where two or more industries are carried on by one proprietor in one building, each industry is, when possible, treated as a separate establishment. The statement given below shows the classification adopted; it must be understood, however, that this classification does not pretend to be exhaustive, but merely serves as a guide for the collection and presentation of statistics in the several States on a definite and uniform basis:—

Classification of Manufacturing Industries.

<p>CLASS I.—TREATING RAW MATERIALS, ETC.</p> <ol style="list-style-type: none"> 1 Boiling-down, Tallow Refining, etc. 2 Tanneries 3 Woolscouring and Feltmongering 4 Chaff-cutting, etc. 5 Bark Mills 6 Citrus, Sausage Casings 	<ol style="list-style-type: none"> 4 Meat Preserving and Refrigerating 5 Biscuits 6 Confectionery 7 Cornflour, Oatmeal, etc. 8 Flour Mills 9 Jam, Fruit Canning, Pickles, etc. 10 Sugar Mills 11 Sugar Refining 12 Aerated Waters, Cordials, etc. 13 Breweries 14 Condiments, Coffee, Spices, etc. 15 Distilleries 16 Malting 17 Tobacco, Cigars, etc. 18 Salt 	<p>CLASS XII.—SHIP AND BOAT BUILDING AND REPAIRING.</p> <ol style="list-style-type: none"> 1 Docks and Slips 2 Ship and Boat Building and Repairing
<p>CLASS II.—OILS AND FAT, ETC.</p> <ol style="list-style-type: none"> 1 Oil and Grease 2 Soap and Candles 	<p>CLASS VII.—CLOTHING AND TEXTILE FABRICS.</p> <ol style="list-style-type: none"> 1 Woollen and Tweed Mills 2 Boots and Shoes 3 Clothing (Tailoring and Stoop) 4 Dressmaking and Millinery 5 Dryworks and Cleaning 6 Furriers 7 Hats and Caps 8 Waterproof and Outskins 9 Hosiery 10 Rope and Cordage 11 Tents and Tarpaulins 12 Corsets, etc. 	<p>CLASS XIII.—FURNITURE, BEDDING, ETC.</p> <ol style="list-style-type: none"> 1 Bedding, Ploek, and Upholstery 2 Billiard Tables, Furniture and Cabinet Making 3 Picture Frames 4 Venetian Blinds
<p>CLASS III.—STONE, CLAY, GLASS, ETC.</p> <ol style="list-style-type: none"> 1 Bricks, Tiles, Pottery and Earthenware 2 Glass (including Bottles) 3 Glass (Ornamental) 4 Lime, Plaster, Cement and Asphalt 5 Marble, Slate, etc. 6 Modelling, etc. 7 Minor Articles (n.e.i.) 	<p>CLASS VIII.—BOOKS, PAPER, PRINTING, ETC.</p> <ol style="list-style-type: none"> 1 Books, Printing, etc. 2 Paper-making, Paper Boxes, Bags, etc. 3 Photo-engraving 4 Die Staking, etc. 	<p>CLASS XIV.—DRUGS AND CHEMICALS, ETC.</p> <ol style="list-style-type: none"> 1 Chemicals, Drugs, and Medicines 2 Fertilisers 3 Paints, Varnishes, and By-products 4 Essential Oils 5 Blacking, Blue, etc.
<p>CLASS IV.—WORKING IN WOOD.</p> <ol style="list-style-type: none"> 1 Cooperage 2 Boxes, Cases, Saw Mills, etc. 3 Wood-turning, etc. 4 Other Industries 	<p>CLASS IX.—MUSICAL INSTRUMENTS, ETC.</p> <ol style="list-style-type: none"> 1 Musical Instruments and Sewing Machines 	<p>CLASS XV.—SURGICAL AND OTHER SCIENTIFIC INSTRUMENTS.</p> <ol style="list-style-type: none"> 1 Surgical, Optical, and other Scientific Instruments.
<p>CLASS V.—METAL WORKS, MACHINERY, ETC.</p> <ol style="list-style-type: none"> 1 Agricultural Implements 2 Brass and Copper 3 Cutlery 4 Engineering, Ironworks, and Foundries 5 Galvanised Iron-working and Tinsmithing 6 Lead Mills and Shot Works 7 Cyaniding 8 Smelting 9 Railway and Tramway Workshops 10 Stoves and Ovens 11 Wireworking 	<p>CLASS X.—ARMS AND EXPLOSIVES.</p> <ol style="list-style-type: none"> 1 Arms and Explosives 	<p>CLASS XVI.—TIMEPIECES, JEWELLERY, AND PLATED WARE.</p> <ol style="list-style-type: none"> 1 Electroplating 2 Manufacturing Jewellery, etc.
<p>CLASS VI.—FOOD AND DRINK, ETC.</p> <ol style="list-style-type: none"> 1 Bacon Curing 2 Butter, Cheese and Condensed Milk 3 Butterine and Margarine 	<p>CLASS XI.—VEHICLES, SADDLERY, HARNESS, ETC.</p> <ol style="list-style-type: none"> 1 Coach- and Wagon Building, Spokes, etc. 2 Cycles and Motors 3 Perambulators 4 Saddlery, Harness, etc. 	<p>CLASS XVII.—HEAT, LIGHT, AND POWER.</p> <ol style="list-style-type: none"> 1 Electric Apparatus 2 Electric Light and Power 3 Gas and Coke Works 4 Lamps and Fittings, etc. 5 Hydraulic Power 6 Other Industries
		<p>CLASS XVIII.—LEATHERWARE (N.E.I.).</p> <ol style="list-style-type: none"> 1 Leather Belting, Fancy Leather, Portmanteaux and Bags
		<p>CLASS XIX.—MINOR WARES (N.E.I.).</p> <ol style="list-style-type: none"> 1 Basket and Wickerware, Matting, etc. 2 Brooms and Brushware 3 Rubber Goods 4 Umbrellas 5 Other Industries

3. Scope of Investigation.— The total number of manufacturing establishments in the Commonwealth in 1912 was 14,878, and of that number special returns as to wages were collected from no fewer than 14,285, viz., 96 per cent. The figures in the following table shew that the results obtained from the investigation are thoroughly representative of the whole of the manufacturing activity of the Commonwealth:—

Total Number of Manufacturing Establishments and Employees, and Number included in Wages Investigation, 1912.

PARTICULARS.	ESTABLISHMENTS.	EMPLOYEES.		
		Male.	Female.	Total.
Total in Commonwealth .. No.	14,878	213,532	78,797	292,329
Included in Wages Investigation {	14,285	209,128	74,369	283,497
Per cent. }	96.0	97.9	94.4	97.0

In the first line of the above table the number of managers, overseers, accountants and clerks engaged in manufacturing industries has been subtracted from the Commonwealth total, so that the figures may be comparable with those relating to the wages inquiry. It is seen, therefore, that the investigation covered no less than 96 per cent. of the total number of manufacturing establishments (within the meaning of the statistical definition) and 97 per cent. of the total employees therein. The distribution of the number and percentage of employees included in each State is shewn in the following table:—

Manufacturing Industries, Number and Percentage of Employees included in Investigation in each State, 1912.

Particulars.	N.S.W.		Vic.		Q'land.		S.A.		W.A.		Tas.		C'wealth.	
	No.	Per Cent.	No.	Per Cent.	No.	Per Cent.	No.	Per Cent.	No.	Per Cent.	No.	Per Cent.	No.	Per Cent.
Males	70,044	37.8	64,523	30.8	25,044	12.4	19,788	9.5	13,302	6.4	6,527	3.1	209,128	100.0
Females	24,359	32.3	34,178	46.0	6,899	0.3	5,137	6.9	2,429	3.2	1,367	1.8	74,369	100.0
TOTAL	103,403	36.5	98,701	34.3	32,943	11.5	24,925	8.8	15,731	5.6	7,894	2.8	283,497	100.0

The above distribution as between the several States of persons included in the wages returns corresponds closely with the distribution of all employees in the respective States. The results of the investigation are, therefore, not only based on data relating to a large majority of the total employees, but are also representative of each State and of all the different branches of manufacturing industries in the Commonwealth. The number and percentage of persons covered by the inquiry classified in the nineteen main industrial groups are as follows:—

Manufacturing Industries, Number of Persons included in Wages-Inquiry, and Percentage on Average Number Employed during 1912.

CLASS OF INDUSTRY.	MALE EMPLOYEES.*			FEMALE EMPLOYEES.*		
	In-cluded in Investi-gation.	Average Number Em-ployed.	Per Cent.	In-cluded in Investi-gation.	Average Number Em-ployed.	Per Cent.
I.—Treating Raw Materials, etc. . .	7,587	8,081	93.9	85	88	96.6
II.—Oils and Fat, etc. . .	1,698	1,541	110.2	251	236	106.4
III.—Stone, Clay, Glass, etc. . .	11,800	11,478	102.9	08	68	100.0
IV.—Working in Wood . . .	26,489	26,554	99.8	41	22	186.4
V.—Metal Works, Machinery, etc. . .	60,786	60,714	100.1	443	309	143.4
VI.—Food and Drink, etc. . .	31,504	32,716	96.3	7,367	7,940	92.8
VII.—Clothing and Textile Fabrics . .	17,427	18,387	94.8	56,762	60,391	94.0
VIII.—Books, Paper, Printing, etc. . .	13,760	15,479	88.9	5,352	5,668	94.4
IX.—Musical Instruments, etc. . .	514	521	98.7	40	41	97.6
X.—Arms and Explosives . . .	478	364	131.3	490	472	103.8
XI.—Vehicles, Harness, Saddlery, etc. .	11,288	11,018	102.0	187	173	108.1
XII.—Ship and Boat Building . . .	3,141	3,510	89.5	1	1	100.0
XIII.—Furniture, Bedding, etc. . .	8,222	8,473	97.0	667	742	89.9
XIV.—Drugs and Chemicals . . .	2,288	2,766	83.1	1,084	1,019	106.4
XV.—Surgical and other Instruments . .	162	162	100.0	10	23	82.6
XVI.—Timepieces, Jewellery, etc. . .	1,703	1,820	93.6	147	159	92.4
XVII.—Heat, Light and Power . . .	7,581	7,901	108.3	143	350	40.0
XVIII.—Leatherware, n.e.i. . .	653	766	85.2	269	317	85.0
XIX.—Minor Wares, n.e.i. . .	2,078	2,181	95.3	954	779	122.5
TOTAL	209,128	213,532	97.9	74,369	78,707	94.4

* The number of employees are exclusive of managers, overseers, accountants and clerks.

It will be seen that in some cases the number included in the present inquiry is actually greater than the average number employed during the year. This apparent anomaly is, of course, due mainly to the fact that owing to seasonal or some special variations in the activity of industry the number employed in November in these industries was in excess of the average number employed during the whole year.

The three largest classes in respect to the number of males employed are Class V. (Metal Works, Machinery, etc.), 60,714; Class VI. (Food, Drink and Tobacco), 32,716; and Class IV. (Working in Wood), 26,554. These three classes together account for 119,984, or 56 per cent. of the total number of male employees. The next in order of precedence are Classes VII. (Clothing and Textile Fabrics), 18,387; VIII. (Books, Paper, Printing, etc.), 15,479; III. (Stone, Clay, Glass, etc.), 11,478; and XI. (Vehicles, Harness, Saddlery, etc.), 11,018; making a total of 56,362, or 26.4 per cent. of the total number employed. The above seven classes therefore account for no less than 82.4 per cent. of the total average number employed in the whole nineteen classes. Similarly, as regards female employees, three classes account for 94.4 per cent. of the total number; these three classes are:—VII. (Clothing and Textile Fabrics), 60,391; VI. (Food, Drink and Tobacco), 7,940; and VIII. (Books, Paper, Printing, etc.), 5,668, making a total of 73,999.

SECTION II.—DISTRIBUTION OF WAGES.

1. **General.**—For the purpose of tabulating the number of persons employed at various rates of wages sixteen wage-groups have been adopted. The lowest group in order of amount of wages is for persons receiving less than 10s. per week; the next group includes persons receiving as much as 10s., but less than 15s. per week; while the following thirteen groups proceed by gradations of 5s. to the group in-