

TABLE I.
COMPARISON OF OUTPUT PER WORKER IN MAIN GROUPS OF
INDUSTRY, 1935-39.

(Source: Comparative Productivity in British and American Industry, by
 Dr. L. Rostas of the National Institute of Economic and Social
 Research, London.)

INDUSTRY.	OUTPUT.	
	U.K.	U.S.A.
Average for 33 Industries	100	211 - 224
U.S. lead in productivity above the average in—		
Packing materials (glass containers, tin cans)	100	415 - 423
Durable mass-produced consumption goods (motor cars, wireless sets)	100	310 - 312
Machinery	100	280
Seed crushing, rayon, soap, matches, paper ..	100	224 - 225
U.S. lead in productivity below the average in—		
Manufactured foods	100	191 - 195
Iron and steel	100	173 - 174
Clothing	100	160 - 164
Textiles	100	155 - 160
Building materials	100	113 - 125

TABLE II.
COMPARISON OF OUTPUT PER WORKER IN THE U.K. AND U.S.
NATIONAL ECONOMIES, 1935-39.

(Source: Comparative Productivity in British and American Industry, by
 Dr. L. Rostas of the National Institute of Economic and Social
 Research, London.)

INDUSTRY.	OUTPUT.	
	U.K.	U.S.A.
Manufacturing	100	215
Mining	100	415
Fuel	100	423
Iron ore	100	206
Other mining	100	392
Public Utilities and Communications	100	233
Electricity	100	193
Manufactured gas	100	168
Post, telephones, telegrams	100	270
Building and Construction	100	115
Agriculture and Fisheries	100	103
Agriculture	100	104
Fisheries	100	79
Transport—		
(a) Allowing for distances	100	270 - 300
(b) Not allowing for distances	100	100 - 110
Railways —		
(a) Ton miles	100	400
(b) Passengers and freight	100	82
Road haulage	100	100
Distribution	100	150
Finance, etc.	100	170
Total Services and Government	100	170



NOTES ON TABLES I AND II.

The tables on page 15 comprise part of the results of a monumental study on comparative productivity in British and American industry, recently completed by Dr. L. Rostas, of the National Institute of Economic and Social Research, London.

Dr. Rostas' investigations have achieved world-wide acclaim in economic and industrial circles, and the results of his researches have been widely publicised in recent years. Using pre-war censuses of production for the United States and the United Kingdom, Dr. Rostas relates quantitative data on the production of comparable commodities or groups of commodities with the total number of employees required to produce them. Dr. Rostas is aware of the defects of his treatment; for example, it does not allow for quality differences. But, as he points out, the productivity comparisons are essentially crude estimates with a fairly wide margin of error. Used with full knowledge of their limitations, the figures give some idea of the general picture of comparative productivity in the U.S.A. and the U.K.

The 33 industries included in the comparison in Table I cover about half of the value of net output of manufacturing industry in the United Kingdom, and two-fifths of the value of net output in the U.S.A., consumption goods industries being better represented than capital goods industries.

It will be observed that relative output per worker is highest in U.S.A. in mass production industries where the scope of automatic machines is great. The superiority is not nearly so marked in iron and steel, clothing, textiles and building materials where presumably labour is relatively more important.

Table II attempts to measure comparative productivity not only in manufacturing, but in other industries such as communications, transport and services. Whilst the United States would appear to have a marked advantage over the United Kingdom in mining, public utilities and communications and in services like distribution and finance, relative efficiency is much closer to parity in building and construction, agriculture, and fisheries and transport.

These conclusions are undoubtedly disquieting for the future economic position of the United Kingdom, but there are now strong signs that the problem of increased productivity has become one of major concern in Britain. The main statistical investigations into comparative Australian productivity, those of Mr. Colin Clark, suggest that output per manhour in Australia is fairly close to British performance.

The measurement of productivity and of international comparisons of productive efficiency is still in its infancy. Its further development will contribute much to a better understanding of the issues upon which, in the last analysis, our standard of living depends. Australia would do well to devote more time to the study and measurement of productivity.

PRODUCTIVITY IN AUSTRALIAN MANUFACTURING

Because of the absence of adequate quantitative statistics of Australian manufacturing production, it is very difficult to measure statistically the trend of productive efficiency since 1938-9. The following table indicates the change in the value of production between 1938-9 and 1946-7 over the five main groups of manufacturing industry. These groups account for about 70% of the total value of production for all manufacturing.

	TOTAL VALUE OF PRODUCTION.			VALUE OF PRODUCTION PER PERSON ENGAGED.			% IN-CREASE IN PRICES
	1938-9.	1946-7.	% In-crease.	1938-9.	1946-7.	% in-crease.	1938-9 to 1946-7.
	£m.	£m.	%	£	£	%	%
Industrial Metals, Machines, Implements, Conveyances	62	146	135	351	486	38	29
Food, Drink and Tobacco	42	69	64	496	636	28	34
Clothing	17	37	118	192	345	80	84
Textiles, etc. . .	11	27	145	237	450	90	135
Chemicals, etc. . .	12	24	50	629	784	25	39
	144	303					
Total Production	203	411	102	360	511	42	41

(Source: Quarterly Summary of Australian Statistics, June, 1948; Factory Statistics, 1946-7, and Production Bulletin, 1938-9.)

The table shows that when the value of production per person is considered in relation to the increase in prices, there has been little if any improvement in the quantity of production per person in the items listed above.

The price indices shown in the last column on the right are not entirely satisfactory, but are the best available for the purpose. The indices used are wholesale prices for metals and coal; foodstuffs and tobacco; textiles and chemicals and all items as published in the Commonwealth Statistician's New Melbourne Wholesale Prices Index. The index for clothing is taken from the "C" Series index of retail prices. All the indices used are published in the Monthly Review of Business Statistics.

The metals and coal index probably understates the full rise for heavy industry since for example pig iron has risen 50%, steel 40% and export prices of base metals, 265% over the same period. The textiles price index does not allow for the effect of subsidies and overstates the rise in prices for our purpose.



AUSTRALIAN PRODUCTION

TABLE III.

AUSTRALIAN PRODUCTION STATISTICS

(Source: Monthly Bulletin of Australian Production Statistics—December, 1948; Manufacturing Industry Statistics, 1946-7; Secondary Industries Production Bulletin, 1938-39.)

Item.	Unit.	1938-9.	1946-7.	1947-8.
Food, Drink and Tobacco—				
Factory Butter	'000 tons	195	139	157
Cheese	" "	29.0	42.2	41.2
Processed Milk Products	" "	29.7	78.4	88.4
Canned Apricots, etc. ..	" "	56.2	55.2	61.8
Jam	" "	37.9	71.5	88.1
Refined Sugar	" "	339	422	449
Wheaten Flour	mill. sht. tons	1.37	1.49	1.54
Biscuits	'000 tons	32.9	39.6	42.6
Beer	mill. gals.	90	128	126
Tobacco, etc.	mill. lbs.	23.0	28.7	29.2
Ice Cream	mill. gals.	4.3	11.6	12.7
Canned Meat	'000 tons	14.4	51.2	49.5
All Meat	" "	966	885	942
Building Materials—				
Bricks	Million	721	497	583
Terra Cotta Tiles ..	"	39.7	37.4	41.2
Cement Building Sheets	mill. sq. yds.	9.5	19.3	18.8
Portland Cement	'000 tons	868	882	988
Fibrous Plaster Sheets	mill. sq. yds.	7.6	9.0	11.5
Sawn Native Timber ..	mill. sup. ft.	717	1,050	1,099
Paint	mill. gals.	2.17	3.12	*
Chemicals and Allied Products—				
Soap	mill. cwt.	1.19	1.48	1.58
Refined Glycerine ..	'000 cwt.	44.4	46.7	48.1
Superphosphate	mill. tons	1.20	1.17	1.19
Refined Metals—				
Gold	mill. fine oz.	1.61	0.92	0.90
Copper	'000 tons	17.5	21.9	15.5
Lead	'000 tons	233	170	174
Zinc	'000 tons	69.8	70.3	74.4
Iron and Steel—				
Pig Iron	mill. tons	1.10	1.14	1.23
Blooms and Billets ..	mill. tons	1.12	1.25	1.17
Ingot Steel	mill. tons	1.17	1.31	1.28

Item.	Unit.	1938-9.	1946-7.	1947-8.
Power, Fuel and Light—				
Black Coal	mill. tons	12.2	14.0	14.7
Brown Coal	mill. tons	3.66	5.88	6.42
Briquettes	'000 tons	400	490	545
Gas (N.S.W.)	'000 mill. cub. ft.	10.9	16.7	18.1
Electricity Generated ..	'000 mill. k.w.h.	4.69	7.53	8.35
Rubber Goods—				
Pneumatic Tyres ..	million	2.20	2.83	3.12
Tubes	million	1.83	2.33	2.68
Machinery, etc.—				
Domestic Refrigerators	'000	29.5	68.5	112.7
Cooking Stoves—Solid				
Fuel	'000	54.5	40.4	54.7
Cooking Stoves—Gas ..	'000	46.7	27.8	41.8
Cooking Stoves—Elec- tric	'000	8.8	10.7	21.4
Motor Bodies Made ..	'000	79.4	52.8	*
Car Chassis Assembled	'000	60.8	20.6	*
Ploughs	'000	10.7	11.0	*
Harvesters, etc.	'000	2.57	2.32	*
Tractors Assembled ..	'000	1.50	1.82	*
Wireless Sets As- sembled	'000	164	248	*
Textiles—				
Scoured Wool	mill. lbs.	39.7	38.0	*
Woollen and Worsted				
Yarn	mill. lbs.	32.5	50.6	*
Woollen, Tweed and				
Worsted Cloth ..	mill. sq. yds.	25.6	32.7	*
Cotton Yarn	mill. lbs.	11.7	26.6	*
Cotton Tweeds	mill. sq. yds.	3.55	1.87	*
Clothing—				
Corsets	'000 doz.	172	115	138
Boots and Shoes	mill. pair	13.97	15.67	*
Men's and Boys' Shirts	'000 doz.	689	700	*
Ladies' Underwear ..	" "	442	329	*
Knitted Underwear ..	mill. doz.	2.05	2.16	*
Knitted Stockings and				
Socks—				
Women's	mill. doz. pair	2.14	1.45	*
Men's	mill. doz. pair	1.13	1.28	*
Leather—				
Sole and belting	mill. lbs.	26.3	37.4	*
Dressed and upper hides	mill. sq. ft.	16.9	38.6	*

*Denotes that figures are not yet available.

AUSTRALIAN PRODUCTION (continued)

TABLE IV.

PRIMARY PRODUCTION—AUSTRALIA

(Source: Production Bulletin—Primary Industries, 1938-9;
Summary of Crop Statistics, 1947-8;
Quarterly Summary of Australian Statistics, June, 1948;
Summary of Dairying Industry, 1947-8.)

Item.	Unit.	Average 3 years ended 1938-9.	Average 3 years ended 1947-8.
Wheat	mill. bus	165	160
Oats	” ”	16	27
Maize	” ”	7	6
Barley	” ”	10	13
Hay	mill. tons	3.4	3.0
Sugar Cane	” ”	5.5	4.4
Dried Grapes ...	'000 tons	80	73
Wool	mill. lbs.	996	980
Milk	mill. gals.	1,142	1,108
Fresh Meat	'000 tons	976	877

