

P R O D U C T I V I T Y O F T H E U . S . A .

THE most significant and the most spectacular fact in world economics since 1939 is the astonishing increase in the productivity of the United States. Money national income has nearly trebled. The physical output of goods and services is today 76% above the average for the three years immediately preceding the war and 52% above the 1939 level.

This phenomenal improvement in the production position of the United States affords a vivid and disturbing contrast with the situation in the United Kingdom and Australia. In both these countries national income in money terms is roughly 60% higher today than in 1939, but after reasonable allowance has been made for the fall in the purchasing power of money, physical output is only slightly above the pre-war output. The war, which impoverished practically all other belligerent countries, vastly strengthened the economic position of the U.S.A. In 1947, U.S. production constituted over 50% of the known industrial production of the world, compared with 30% before the war.

The United States is the most productive and, in the material things of life, the richest nation in the world's history. The war could not have been won without the productive machine of the United States, which poured out an awe-inspiring stream of munitions, guns, ships, planes, tanks, and of all the complex paraphernalia of modern armed combat. But the most astonishing fact was that this feat of production was achieved with comparatively little sacrifice of the normal standards of consumption of the American people. The United States was, in effect, able to superimpose on the normal production of peacetime goods and services the gigantic output of war materials and supplies which contributed so largely to the eventual overthrow of the dictatorship powers. By contrast, the standards

of consumption of both the English and Australian peoples were very drastically cut down as a result of the concentration of resources on war production.

Since the end of the war the United States has achieved a much more rapid advancement in production than either Australia or Britain. And just as in the war the democratic world was dependent in a unique sense upon the productive capacity of the United States for the ultimate destruction of the dictatorships, so in the post-war period the war-battered democracies are leaning heavily on American resources for short-term relief and for the long-term work of industrial and economic recovery.

Paradoxically, the United States economy is one of the most abused and criticised of any country; it is the fashion of economists to call it the most unstable and unpredictable in the world. That may or may not be so. But the cardinal fact remains that without the aid of the productive power of the country in which free enterprise receives its fullest and most uninhibited expression, the war could not have been won, post-war recovery would have been indefinitely delayed, and Communist Russia would by this time no doubt have brought all Europe within its grip. The peoples throughout the democratic world sleep more soundly in their beds in the knowledge of the massive industrial potential of the U.S.A.

In the modern world economic power gives political and military supremacy. Today the U.S.A. dominates the shaping of international economic and political policy basically because of its industrial strength and because its capacity in the production of material things is so superior to other nations.

Two questions can, therefore, be profitably asked. What are the essential economic factors which make the United States the world's most efficient productive mechanism?

Why has United States production improved to a much greater extent than that of Britain and Australia since 1939?

These questions can be conveniently examined under four heads—natural resources, labour, productive capacity, and the economic and political background—comprising the main factors which determine industrial productivity.

PRODUCTIVITY OF THE U.S.A. (continued)

NATURAL RESOURCES AND RAW MATERIALS

The United States is fortunate in the possession of rich and varied natural resources; approximately of the same size as Australia, the area under crop is fourteen, and the area covered by forests twenty-four, times greater. In addition to the production of basic staple crops, such as cotton and wheat, the United States produces a major proportion of the world's supply of minerals—about one-third of all iron ore, one-quarter of copper and zinc ores, and about one-fifth of all lead ores mined.

The following table shows comparative pre-war outputs of coal, petroleum and basic metals.

PERCENTAGE OF WORLD OUTPUT—PRE-WAR.

Mineral.	U.S.A.	U.S.S.R.	U.K.	Aust.	All Other Countries.
Coal	25	9	16	1	49
Pig Iron	30	15	8	1	46
Steel	36	13	10	1	40
Copper	31	5	—	1	63
Lead	25	3	—	16	56
Zinc	28	4	3	4	61
Petroleum	61	10	—	—	29

Source: Commonwealth Year Book 1945-6, Economic Almanac, U.S.A., 1944, Minerals Year Book 1940, Oil Forum, January, 1948.

Mineral production in 1947 relative to 1937 is as follows:—
(1937 = 100).

	U.S.A.	Rest of World.	World.*
Coal	133	81	102
Fuel and Energy, including Petroleum ..	142	61	95
Pig Iron	147	65	101
Steel	103	96	99
Copper	108	72	82
Lead	144	72	96
Zinc	138	100	118

* U.S.S.R. figures not available.

Source: Survey by U.N. Department of Economic Affairs.

The United States, however, is obliged to import all her tin, natural nitrates and graphite, and much of her bauxite, nickel and certain other strategic minerals. She is also a large-scale importer of rubber and wool.

The self-sufficiency of the U.S.A. in raw materials and food-stuffs contrasts strongly with the British economy, which is substantially dependent on imports. An abundant supply of

basic power and fuel resources, such as coal and petroleum, is of vital importance to a highly-industrialised economy, and in this respect the United States is more advantageously situated than the United Kingdom or Australia, where petroleum is virtually non-existent and coal output inadequate. In 1938 the U.S.A. consumed 147 million tons of petroleum compared with 11 million tons in the United Kingdom, and in 1947, 254 million tons compared with 16 million tons for the United Kingdom.

Available statistics indicate that during the war the output of essential industrial metals and minerals was rapidly expanded in the United States, whereas in the U.K. and Australia little, if any, improvement was accomplished. It has been estimated that the U.S.A. today produces 40% of the world's black coal and nearly 60% of the world's steel. The following table shows the changes in the production of black coal, pig iron and steel since 1939.

Production. (million long tons)	U.S.A.		U.K.		Australia.	
	1939.	1947.	1939.	1947.	1939.	1947.
Black Coal	398	602	231	196	13.5	14.8
Pig Iron	32	53	8.1	7.8	1.2	1.2
Ingot Steel	48	75	13.5	12.7	1.2	1.2

Source: Commonwealth Statistician Iron Age. U.S. Bituminous Coal Institute. U.N. Monthly Bulletin of Statistics.

It is apparent that the immense output of war supplies in the United States was achieved by the fullest exploitation of basic resources of coal, iron and oil. Between 1939 and 1947 the United States production of coal increased by over 50%, while British production fell by about 15%. Australian output of black coal increased by approximately 10%.

The decline in coal output in the United Kingdom, contrasted with the vast increase in the United States, epitomises the change that has taken place in the relative position of the two economies since before the war. The figures of steel production reveal a situation very unfavourable to Australia and Britain. Whilst American output increased by 52%, British and Australian outputs were roughly the same as before the war—the latter largely because of inadequate and sporadic coal production. "The British Economic Survey for 1948" describes



PRODUCTIVITY OF THE U.S.A. (continued)

the shortage of steel as the major obstacle to the recovery of the British economy — apart from the scarcity of dollars. Despite valiant attempts at a solution, it is difficult to see how Britain is to regain her pre-war eminence in the heavy industries. The prices of base metals have also for the present turned alarmingly against Britain.

LABOUR

The great increase in the effective labour force of the U.S.A. since 1939 provides one of the basic reasons for the immense expansion of American production. The following table clearly brings out the advantage which has accrued to the United States in the utilisation of its labour force as compared with the United Kingdom.

LABOUR FORCE (Millions)

	1939.			1947.		
	Aust.	U.K.	U.S.A.	Aust.	U.K.	U.S.A.
Agricultural, etc.	0.5	0.9	10	0.5	1.1	8
Non-Agricultural	2.2	17.1	36	2.7	17.7	50
Total Effective	2.7	18.0	46	3.2	18.8	58
Unemployed	0.3	1.3	9	—	0.4	2
Armed Forces	—	0.5	—	0.1	1.2	1
Total	3.0	19.8	55	3.3	20.4	61

Source: Commonwealth Statistician, Economic Report of the President (1948), Ministry of Labour U.K.

Since 1939 the effective labour force of the United States has increased by 26% compared with 4% for the United Kingdom and 18% for Australia. This has been made possible mainly by the absorption into industry of people previously unemployed — unemployment in the United States has been reduced from 16% to 3%. It is clear that the large margin of unemployed resources of labour and capital which existed in the United States before the war has played a big part in the great increase in production since that time. The advantage of the United States over Britain is all the more significant when it is realised that British industry relies to a greater extent on manpower than the United States, where mass production based upon large-scale equipment and mechanical aids to labour is more widespread. The proportion of women to men

in the total labour force has increased in all countries since 1939, and is roughly the same for all countries (about 75% males and 25% females):

Whereas the tendency in Australia and Britain is toward some reduction of hours of work, in the United States average hours have increased from 38 in 1939 to 40 in 1948. In the U.K. the standard working week has been reduced from 48 hours to 44 or 45 in most important industries, although this has been offset to some extent by the greater overtime now being worked. But on balance there seems to be little doubt that the hours worked in the U.K. are now less than before the war. The introduction in Australia of a standard 40-hour week almost certainly means that, even when allowance is made for overtime, the average working week is substantially shorter than in 1939.

Apart from the duration of working time, industrial observers are generally agreed that labour in the United States works more intensely than in Australia or the United Kingdom. By and large, there is a different mental approach to work, a desire to get on with the job and complete it as speedily as possible. The tempo of work is apparently more rapid in America. It has been frequently stated that British and other European workers when transplanted to the American environment become imbued with a different mental attitude, fit in with the faster swing of American work, and unconsciously apply themselves more vigorously than in their native land.

CAPITAL EQUIPMENT AND INDUSTRIAL RESEARCH

The extent and efficiency of capital equipment is in the modern age unquestionably the predominant factor in determining the standard of productivity. It is here that American industry has a very pronounced advantage over all other countries.

The well-known statistician, Mr. Colin Clark, has calculated that even by 1913, capital equipment per head in the United States was 44% greater than in Britain; the disparity would, of course, be much wider now.

OVER 

PRODUCTIVITY OF THE U.S.A. (continued)

According to estimates made by Dr. Fabricant, of the United States Bureau of Economic Research, the U.S. real national income trebled in the 40 years preceding World War II, although employment only increased by about one-third. Manhour output just about doubled. The vast improvement in the range and quality of the mechanical aids to production, accompanied by a parallel increase in horsepower per worker, was obviously the decisive factor in this achievement. Official government data shows that horsepower in the U.S.A. in 1939 was $6\frac{1}{2}$ units per worker as compared with about 3 units in Australia and United Kingdom, and, as a natural corollary, U.S.A. easily leads in output per man-hour. Before the war, Mr. Colin Clark estimated real production per head in secondary industry in international units of purchasing power as follows:—

Country.	Date.	Productivity.
U.S.A.	1925-35	2380
Great Britain	1924-36	975
Australia	1924-33	925

Source: Colin Clark—"Conditions of Economic Progress."

It will be observed that, according to Mr. Clark's figures, productivity per worker in the U.S.A. is more than double that in the United Kingdom or Australia. Mr. Clark's conclusions have been supported by investigations—which aroused world-wide interest—made by Dr. Rostas, of the National Institute of Economic Research in Britain. Dr. Rostas calculated comparative outputs per operative over a wide range of industries. In practically every instance the United States held a marked superiority over Britain.

Examples are given in the following table:—

	United Kingdom 1935.	United States 1937.
Iron and Steel	100	249
Engineering	100	254
Textiles	100	200
Food and Drink	100	156
All Manufacturing	100	225

Source: The Economic Journal—April, 1943.

British commissions of enquiry have also been very alive to the inferiority of manhour output in Britain to the U.S.A. The U.K. Technical Committee on Coal Mining notes that the U.S. output of coal per man-shift was more than four times that of Great Britain. Although much of this arises from the fact that the British mines are older and more difficult to work, the Committee concluded that the absence of modern mechanical equipment was a serious drawback. In comparative European mines, where mechanisation has proceeded further, output per man-shift was higher than in the U.K. Again, the British Textile Mission to the United States in 1944 reported on the superior mechanisation of the U.S. cotton industry which enabled the U.S. worker to produce 2-3 times that of his British counterpart. Other factors such as technical management, layout of plant, better labour conditions, also contributed towards the higher U.S. output. The U.K. Boot and Shoe Working Party Report noted that output per manhour in U.S.A. was twice that of the British industry.

Manhour output is, of course, not the only factor to be considered in assessing productive efficiency. Partly because of the more limited home market, mass production is not nearly so widely developed in Britain as in the United States. Britain has excelled in the production of unstandardised high quality products for export—fine quality textiles, cutlery, the more complex types of engineering equipment and machinery. The comparative advantages of mass production in the matter of sheer output are well illustrated in the motor car industry. Last year the number of cars produced in the United States in one month equalled the total British output for the whole year. Nevertheless, because of their special qualities, certain makes of British cars are finding a growing market in the U.S.A.

The war brought about an immense expansion in the productive capacity of the United States. Large numbers of huge mass production plants, planned on the most modern lines, were erected. America derived great advantage from the fact that she did not enter the war until over two years after its commencement and was, therefore, able to proceed with the development of her war-production in a calmer atmosphere, and with more of an eye to the future than the hard-pressed

OVER 

PRODUCTIVITY OF THE U.S.A. (continued)

people of Britain, who were compelled to improvise in every possible way. British development of war capacity had to proceed regardless of cost and the effect on industries catering for civilian needs, and with speed in erection as the first and overriding requirement.*

Britain was in the war from the first day to the last—as she was in the first World War, which took an incalculable toll of her people. Work over six years from 1939 to 1945 was carried on under terrific nervous and mental tensions caused by large-scale bombing attacks and the constant threat of more to come. The flow of production was interrupted and disorganised by the destruction wrought by the German “blitz” on homes, offices and factories. America was fortunate to escape all this; the advantage was all her way.

Lewis C. Ord, a British industrial consultant, in a book, “Secrets of Industry,” which created much comment, stated in 1944:

“More has been accomplished in the expansion, re-organisation and re-equipment of American industry since 1938 than was accomplished in the previous fifteen years. More will be done in the next few years.” And that . . . “American capital expenditure on industry from 1938 to date has been estimated at some £4,000m. as against Britain’s £650m.”

RESEARCH

American expenditure on pure and applied research is on a greater scale than in Britain, even when all allowances are made for the different size of the two countries. This fact was giving concern to many sections of informed British opinion during the war when plans for post-war reconstruction were being discussed. The figures suggested that expenditure on research in the United States before the war was

* The British White Paper, “Capital Investment in 1948,” states: “The nation deliberately diverted to war production manpower and materials which would normally have been invested in the maintenance, repair and extension of capital equipment such as railway tracks, locomotives, rolling stock and equipment, electricity stations and gas works, roads, schools, houses, factories and public buildings. Whereas before the war the United Kingdom was devoting (at pre-war prices) about £300 million a year to additions to the nation’s capital equipment, during the war not only did this accumulation cease, but our capital stock was run down by an average of £300 million a year by under-maintenance.”

roughly ten times that of Great Britain. There has been considerable improvement in the latter country since the pre-war years, but the magnitude of industrial research still compares unfavourably with the United States. While Britain probably has no rivals in the quality of its research—many of the outstanding discoveries of the war emerged from British laboratories—in America research is on a much vaster and more highly-organised basis and much more advanced in its technological adaptation to the needs of industry.

THE ECONOMIC AND POLITICAL BACKGROUND

The economic and political institutions and background of a country exert a decisive influence on its industrial development and the level of productivity it achieves. Nations comparatively poor in resources, and unsuited for the mass production of standardised articles, have yet attained to a high standard of living because of their social institutions and the character of their peoples.

In this respect the United States has clear advantages over most of the other nations of the world. In the first place there is no fundamental divergence of opinion as to the basic structure of the economy. Both great political parties, however much they differ in degree, firmly believe in and are wedded to the support of the free enterprise system. In the industrial sphere, whereas the labour unions in Britain and Australia favour the cause of socialism, in America the great national unions, such as the American Federation of Labour and the Congress of Industrial Organisations, strongly support the free enterprise way of life and resolutely oppose socialism.

In 1947, Mr. Philip Murray, the President of the C.I.O., said: "The best way to preserve the American system of democracy and free enterprise is to make that system work better than it ever has before." This might have been a sentence from one of the publications of the Committee of Economic Development representing an influential section of American employer opinion, or even from a policy pronouncement by the more conservative National Association of Manufacturers.

This unhesitating acceptance of free enterprise as the central feature of the American system by the major industrial and



PRODUCTIVITY OF THE U.S.A. (continued)

political groupings contrasts with the position both in Britain and Australia, where a bitter struggle is being waged over the fundamental character of their economies. In both countries the Labour Parties are antagonistic to private enterprise and desire to replace it by a planned economy, involving a great enlargement of Government ownership and State direction of private business. The remarkable similarity between the broad professions of faith of the leaders of labour and capital in the United States must confound Australians accustomed by long experience to the apparently inevitable, and often bad-tempered, disagreement on almost every substantial aspect of national affairs.

Whatever the respective merits of private enterprise or socialism, this conflict over the essential nature of the economic system, while it continues, must inevitably be detrimental to the attainment of the highest standards of productivity and of life.

While taxation in the United States has increased appreciably since 1939, it is probably true to say that there is no other country in the world where the encouragement to individual enterprise is greater and where there are more attractive prizes for the successful. Before the war 25% of the British national income was absorbed in taxation, compared with 18% in the United States and 17% in Australia. Latest estimates indicate that at present one-third of the national income of Australia and the United Kingdom are absorbed by taxation compared with one-quarter in U.S.A. Company and personal income tax rates are heavier in Australia and the U.K., especially on companies and the upper income groups which provide the savings for investment. Money and real wages are, of course, much higher in the United States, and there is considerable scope in American industry for obtaining lucrative earnings through piece-work systems. Latest statistics show the average weekly earnings of the factory-worker to be about \$52 a week. Converted at the official rate of exchange this would be roughly £16 a week in Australian money. Even when all allowances are made for the abnormally high prices at present ruling in the United States for many types of consumer goods, for conditions of work, and perhaps for the greater long-term security of the Australian worker, the difference is striking.

Competition is probably much more actively encouraged and protected by Governments in the United States, by such measures as the Sherman Act, than in Great Britain where between the two world-wars there was a strong tendency on the part of some businessmen to restrict and eliminate competition by means of associations and trade agreements.

Mr. Wason (Chairman of the Board of Directors, U.S. National Association of Manufacturers) is reported in the "New York Times" of July 20, 1947, as having declared that:

"The economic decline of Great Britain began with the disappearance of competition. British businessmen tried to guarantee their profits against business losses and failures, and establish security for themselves through monopolies and cartels. The absence of competition made it unnecessary to mechanise and modernise industrial plant and equipment. New products, new methods, and new companies were kept out. Wages and production were kept down, prices were kept up, and the standard of living fell. Meanwhile, British labour kept pace with British industry in the imposition of feather-bedding and exclusive restrictions on production, in an effort to establish its security."

These remarks probably suffer from over-emphasis and are not altogether fair to Britain. Nevertheless, there is more than a small grain of truth in them.

It is undeniable that America possesses great and fortuitous advantages over other countries in its endowment of rich and varied resources, in its massive population which provides unrivalled possibilities for the large-scale economies of standardisation, specialisation and mass production, and up till recently, in its distance and freedom from the contentions, feuds and insecurities of the old world. Notwithstanding these advantages, however, the United States has important lessons to teach the peoples of the world in the economics of industrial efficiency and high standards of living. And one stands out clearly—that whatever its drawbacks, whatever its defects, the system of free enterprise is manifestly superior to other methods of economic organisation in the basic matter of industrial production upon which material standards of living, in the last analysis, depend. It is under free enterprise, and

OVER 

PRODUCTIVITY OF THE U.S.A. (continued)

because of free enterprise, that the United States has grown to be the richest and the most powerful nation in history and is today supreme in the economic councils of the world.

POSTSCRIPT

This article must not be taken as a criticism of Britain. There are more important things in life than economics, and Britain is still, in many ways, the spiritual, moral, and political leader of the world. If, during this century, Britain has lost ground industrially, relative to the United States, that is largely because of forces outside her own control. The two World Wars not only destroyed the economic and financial structure which Britain had built up over centuries by toil, adventure and enterprise, but took a tragic and irreplaceable toll of the cream of British youth.

Western civilisation owes an incalculable debt to Britain. It is one of the greatest ironies in history that the people, who saved the world in 1940, should, as a "reward," be reduced to their present desperate straits. If there is such a thing as gratitude left in the world, then no effort and no sacrifice should be considered too great to assist in restoring Britain to that state of material prosperity in which she can continue to exert her wise and beneficent influence for the benefit of the human race. We should all bear in mind that what a great American, Emerson, said a hundred years ago, is just as true today: "The stability of England is the security of the modern world."

