RECENT CHANGES IN PRODUCTION

Supplement to
WORLD ECONOMIC REPORT, 1950-51

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Prefatory Note

This volume on "Recent Changes in Production" was prepared by the Secretariat of the United Nations as part of a survey of the world economic situation. It complements the analyses of major national economic changes and changes in international trade and payments presented in the World Economic Report, 1950-51.

The report was prepared by the Division of Economic Stability and Development in the Department of Economic Affairs, with assistance from the Statistical Office of the United Nations, which collected most of the basic statistical data.

Explanation of Symbols

The following symbols have been used throughout the text and tables:

Two dots (..) indicate that data are not available

A dash (-) indicates that the amount is nil or negligible

A blank in a table indicates that the item is not applicable

A minus sign (-) indicates a deficit or decrease

A full stop (.) is used to indicate decimals

A comma (,) is used to distinguish thousands and millions

A slash (/) indicates a crop year or fiscal year, e.g., 1950/51

Use of a hyphen (-) between dates representing years, e.g., 1934-38, normally signifies an annual average for the calendar years involved, including the beginning and end years. "To" between the years indicates the full period, e.g., 1947 to 1949 means 1947 to 1949, inclusive.

References to "tons" indicate metric tons, and to "dollars" United States dollars, unless otherwise stated.

Details and percentages in tables do not necessarily add to totals, because of rounding.

Information regarding rates of exchange may be found in issues of the United Nations Monthly Bulletin of Statistics.

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I N T R O D U C T I O N

Industrial production throughout the world turned upward in 1950 and continued to rise in 1951, though the rate of expansion, which was sharply accelerated in the second half of 1950, tended to diminish in 1951. World production of food also rose in both 1950 and 1951, but the increases in total supplies were moderate in comparison with the expansion of industrial output. Food production, as well as per capita food supplies made available by production and net imports, remained below the average pre-war level in Europe (outside the USSR) and in the populous areas of Asia and the Far East.

Total industrial output increased by 15 per cent between 1949 and 1950 and by 12 per cent between 1950 and 1951, raising the index shown in table 1 to 74 per cent above the 1937 level. The greater part of the 1950 expansion in industrial output was achieved in the second half of the year, and the greater part of the 1951 expansion in the first half of the year. In the United States, production in the first half of 1950 recovered rapidly from the 1949 recession; in the second half of the year the rate of acceleration was above the world average and output in the last quarter was one-fourth higher than in the corresponding period of 1949. The rate of expansion remained high in the first half of 1951, though it fell off markedly in the second half. In western Europe, where total industrial output has been rising throughout the post-war period, the rate of increase fell progressively between the latter part of 1948 and the first half of 1950. In the second half of 1950, however, the expansion of production was again accelerated, and the rate of increase in the last quarter of 1950 was maintained during the first half of 1951, although, as in the United States, it declined noticeably in the second half of the year. In Japan, though industrial output had risen rapidly, by 1950 it had reached only two-thirds of the 1937 level. After mid-1950, largely as a result of sharply increased exports and

Table 1. Indices of World Mining and Manufacturing Production, 1947 to 1951

Period	World total	World excluding United States	World excluding USSR	World excluding USSR and United States	Europe	Western Europe
1937 = 100:						
1947	118	91	116	82	77	79
1948	131	108	126	96	90	92
1949	135	123	127	107	104	105
1950	155	143	144	121	118	117
1951	174	162	160	136	132	128
Corresponding period of preceding year = 100:						
1948	111	119	108	116	118	117
1949	103	114	101	112	115	114
1950	115	116	113	113	114	112
1951	112	113	111	112	112	110
1950:						
First quarter	106	113	103	110	111	108
Second quarter	112	113	111	110	111	108
Third quarter	119	117	118	114	115	112
Fourth quarter	121	119	121	117	117	115
1951:						
First quarter	118	116	118	116	115	114
Second quarter	116	116	116	116	116	115
Third quarter	109	112	108	111	110	109
Fourth quarter	106	109	104	106	106	104

Source: Statistical Office of the United Nations.

of demands arising from the conflict in Korea,[1/] and later, from the accumulation of inventories, the rate of expansion was steadily accelerated. The increase in output over corresponding periods of the preceding year rose from about 20 per cent in the third quarter of 1950 to more than 50 per cent in the second quarter of 1951. Although the rate of increase in production did not advance after mid-1951, the level of output was 45 per cent higher in the third quarter of 1951 than in the corresponding period of 1950. The Union of Soviet Socialist Republics and the eastern European countries reported increases that were relatively steady and above the world average.

Available indices showing the levels of industrial output in various countries relative to a pre-war year and to corresponding periods in preceding years are presented in table 2.

Since the early post-war period, the output of metallurgical and engineering industries in industrialized countries has been higher - relative to pre-war - and has expanded faster than the output of consumer goods from light industries. By the end of the war, the United States had greatly expanded its capacity for producing capital equipment.

This capacity served not only in the rapid reconversion and expansion of the United States economy but also in economic rehabilitation, reconstruction and expansion in other areas of the world. In Europe and in the Soviet Union, production of steel and engineering goods during the post-war period moved ahead much faster than the output of light industries. Although the demand for capital goods declined in the United States in 1949, and began to recede in some of the countries of western Europe in 1949 and the first half of 1950, emphasis on the products of heavy industry re-emerged in the upswing of industrial production after the middle of 1950.

1/ In the year ending 30 June 1951, payments on procurement of goods in Japan by the United Nations High Command, well over $200 million, were about one-fifth as large as total exports. The dollar value of exports was double that of the preceding year, an increase of almost $600 million. Approximately half the increase in exports went to the countries of Asia and the Far East, almost one-sixth to the United States and the remainder to various countries in Latin America, Africa, the Middle East and western Europe.

Table 2. Indices of Mining and Manufacturing Production in Selected Countries, 1948 to 1951

Country	1937 = 100				Corresponding period of preceding year = 100											
					Year			1950 quarters				1951 quarters				
	1948	1949	1950	1951	1949	1950	1951	First	Second	Third	Fourth	First	Second	Third	Fourth
Austria	90	121	144	162	134	119	112	132	119	113	115	111	117	115	109
Belgium	96	96	98	113	100	102	115	94	95	104	115	118	120	116	105
Denmark	129	138	153	154	107	111	101	110	115	111	111	109	101	99	94
Finland a/	137	146	149	176	107	102	118	107	106	98	95	110	118	126	119
France	100	110	111	125	110	101	112	97	96	101	108	114	116	112	109
Saar	73	90	96	116	123	107	121	107	99	107	114	122	132	120	..
Germany:															
Western	51	78	100	121	153	128	121	119	123	133	138	136	131	114	108
West Berlin b/	28c/	19c/	28c/	39c/d/	68	147	163d/	128	147	171	173	165	160	138	..
Greece	72	85	108	125	118	127	116	118	123	133	135	129	122	109	104
Ireland	128	146	162	167d/	114	111	105d/	113	114	111	104	103	106	103	..
Italy	92	100	114	128	109	114	112	114	111	110	116	119	115	113	..
Luxembourg	100	95	100	122	95	105	122	81	93	117	143	129	127	122	113
Netherlands	110	123	135	141	112	110	104	110	108	114	108	113	112	95	98
Norway e/	125	132	141	148	106	107	106	107	106	108	107	106	106	108	102
Portugal b/ f/	118c/	112c/	122c/	116c/g/	95	109	..	100	103	126	109	105	..	..	..
Spain a/	100h/	96h/	104h/	..	96	108	..	113	110	114	100	..	..	..	..
Sweden	150	156	161	167	104	103	104	103	104	103	105	104	104	104	103
United Kingdom	110	118	130	133	107	110	103	109	109	109	110	104	106	103	99
Bulgaria a/ b/	190	247	304	356	130	123	117	122	123	114	..	125	115	115	..
Czechoslovakia a/	109	126	146	167	116	116	115	114	115	118	115	113	113	111	..
Germany, eastern a/ b/	65	77	97	117	118	126	121	..	..	..	..	122	125	122	..
Hungary a/ b/	107c/	153c/	207c/	..	143	135	134d/	147	134	136	..	133	135	125	..
Poland a/	146i/	177i/	232i/	288i/	121	131	124	134	131	130	129	127	..	..	..
Romania a/ b/	83c/	117c/	160c/	..	141	137	..	..	..	..	..	..	..	..	..
USSR a/ b/	171j/	204j/	251j/	291j/	120	123	116	122	121	124	..	118	116	115	..
Canada	169	171	184	195	101	108	106	103	106	109	113	114	111	104	97
United States	170	156	177	195	92	113	110	97	112	122	125	121	115	105	101
Argentina	178	171	176	173d/	96	103	102d/	103	99	106	104	99	105	..	..
Chile e/	143	140	136	148d/	98	97	111d/	93	97	96	102	110	111	124	..
Guatemala k/	1101/	1141/	1161/	113d/1/	104	102	100d/	..	..	104	110	103	96	96	..
Mexico	128	137	153	161d/	107	112	109d/	115	109	114	108	105	112	..	..
India	114	111	110	122	97	99	111	98	96	101	102	107	112	114	111
Japan	40	53	66	92	132	125	139	115	117	121	138	146	151	145	125

Source: Statistical Office of the United Nations.

a/ Including electricity and manufactured gas.

b/ Data supplied by the secretariat of the Economic Commission for Europe.

c/ 1938 = 100.

d/ First six months only.

e/ Including manufactured gas.

f/ Including electricity.

g/ First quarter only.

h/ 1948 = 100

i/ 1937 production in pre-war territory = 100.

j/ The USSR index measures production in terms of values calculated at 1926-27 prices but for new commodities, not produced in the base period, values have in most instances been calculated at the prices of the year in which they were first introduced into the index. This feature of the index is likely to have made for some overstatement of the actual increases in production. The technical aspects of the problems involved in the calculation of the index are discussed in Y. Joffe, Planning of Industrial Production (Moscow, 1948) and more recently by B. Miroshnichenko, "Planning Industrial Production" in Planowoe Khoziajstvo, No. 3, 1951; P. Moskin, "On Calculating the Index of the Physical Volume of the National Product", Vestnik Statistiki, No. 2, 1951, and in United Nations Economic Survey of Europe in 1951 (Geneva, 1952). In 1952 a new index, based on wholesale prices in January 1952, was adopted, and it was announced that in future new goods would be taken into the index at the 1952 prices of comparable goods already in the index.

k/ Including electricity but excluding mining.

l/ 1946 = 100.

The outbreak of hostilities in Korea was followed by the announcement of greatly increased armament programmes, first and to the largest extent in the United States, but also in Europe. The resultant increase in production was accompanied by rapidly rising prices and by considerable anticipatory and speculative buying that continued into the early months of 1951, far exceeding the amount required for immediate orders for armaments and involving not merely the raw materials and other components of armament production, but also consumer goods as well as all manner of producer goods. Renewed expansion of private investment engendered a large-scale increase in the demand for capital goods and the supplies needed for their production. Consumers' purchases of durable and semi-durable goods also increased sharply in most countries. There was a widespread attempt to replenish and augment inventories, and, in the course of meeting immediate demands and preparing for increased orders, producers began to accumulate larger stocks of both goods in process and finished goods. The direct expansion of output on account of armament orders was thus a relatively minor factor in the rapid growth of total industrial output when compared with the combined effects of the increased demand for new facilities, personal consumption goods and inventory accumulation.

Personal consumption goods thus shared in the rapid expansion of total industrial production in 1950. Anticipatory buying of such goods, however, had run its course by the early months of 1951. In the United States sales of both durable and semi-durable goods then began to drop, while in countries of western Europe, also, sales of such semi-durable goods as textiles and apparel levelled off or declined. The effects of this decline were only partly reflected in the slowing down of the rate of increase in total industrial production in the first two quarters of 1951; they began to be felt more strongly after the middle of the year, particularly in the United States.

Notwithstanding a large expansion in the demand for raw materials, production of which constitutes the bulk of the industrial output of many under-developed countries, industrial production in such countries in 1950 and 1951 apparently expanded much less than in industrialized countries. The few comprehensive indices of industrial production which are available

indicate that in the first half of 1950 output in several of these under-developed countries was lower than in the period immediately preceding and, in general, improved relatively little in the second half of the year. Increases in output were apparently more substantial and more widespread in the first half of 1951, though the rates of expansion were small by comparison with those achieved in industrialized countries during the same period.

During the earlier post-war years, the expansion of total industrial output in the under-developed areas had also been less than in the industrialized countries. Mineral production, on the other hand, has been increasing more rapidly in the under-developed areas than in the industrialized countries. It is not clear, however, whether the latter trend will continue in view of the large-scale expansion in raw material output, particularly of metallic minerals and primary metals, under way in the United States, and in view of the concern manifested by many under-developed countries as to the stability of the long-run demand for their raw material exports.

Chapter 1

I N D U S T R Y

United States

During the first half of 1950, industrial production in the United States recovered rapidly from the 1949 recession, and by mid-year most manufactures had regained the 1948 average rate of output. Immediately thereafter the demands generated by expectation of vastly increased government expenditures on armaments spurred the acceleration of output to new heights in practically every industry.

Indices of industrial production are presented in table 3. The mining index, which in the second quarter of 1950 still lagged about 7 per cent behind the 1948 average, rose 8 per cent in the third quarter in response to increased stockpiling purchases by the Government and to greater producers' demands. With slight interruptions, mining output continued to rise. The large gains in the output of both durable and non-durable manufactures in the second half of 1950 reflect both the response to a buying rush for consumer goods and the expansion of investment in productive facilities and business inventories while output on defence orders necessarily increased relatively little. During the first half of 1951 the rise in production outstripped sales of all types of goods and, though demands for the expansion of plant and equipment and for enlarged military output continued to increase, sales, first of durable, and then of non-durable, consumer goods levelled off and then receded.[1/]

As a result, business inventories, which had been increased by producers and dealers in all lines of manufacture in 1950, particularly in the second half of the year, continued to rise during the first half of 1951 (table 4). Dealers succeeded in reducing inventories somewhat in the third

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1/ This development reflects higher tax levels and a decrease in the proportion of consumer disposable income spent, described in World Economic Report, 1950-51, chapter 1, "Economically Developed Private Enterprise Economies".

Table 3. Indices of Industrial Production in the United States, 1948 to 1951

(1935-39 = 100)

Item	Year				1950 quarters				1951 quarters			
	1948	1949	1950	1951a/	First	Second	Third	Fourth	First	Second	Third	Fourth
Total	192	176	200	219	184	195	206	216	221	222	216	218
Mining	155	135	148	164	131	145	156	161	160	165	163	169
Manufacturing	198	183	209	227	193	204	215	226	232	233	225	227
Durable goods	225	202	237	273	209	230	245	263	272	276	268	277
Non-durable goods	177	168	187	194	180	182	190	196	200	198	191	187
Iron and steel	208	188	239	259	203	226	236	251	257	263	255	262
Machinery	277	234	270	336	236	257	277	312	328	337	331	348
Lumber	134	119	147	151	138	148	147	156	158	156	134	154
Automobiles and parts	198	207	241	238	198	240	267	260	258	247	222	218
Furniture and fixtures	168	152	183	193	172	176	187	197	193	174	164	174
Chemical products	254	241	262	298	247	256	267	280	289	299	305	298
Food products	159	163	166	165	162	164	168	163	167	167	166	159
Textiles and products	170	147	182	175	177	174	182	195	192	187	164	155
Leather and products	111	106	111	101	113	105	115	111	118	101	95	89

Source: United States Federal Reserve Board, Federal Reserve Bulletin (Washington, D.C.); quarterly data are seasonally adjusted.

a/ Preliminary.

Table 4. Selected Indicators of Industrial Activity in the United States, 1948 to 1951
(Millions of United States dollars)

Item	Year				1950 quarters				1951 quarters			
	1948	1949	1950	1951a/	First	Second	Third	Fourth	First	Second	Third	Fourth
Business inventories (end of period):												
Total...	55,647	50,921	60,434	70,092	51,126	52,828	55,146	60,434	65,240	69,442	69,965	70,092
Durable goods.....	26,313	23,578	28,617	36,286	23,499	24,709	25,210	28,617	31,247	34,047	35,024	36,286
Non-durable goods.....	29,333	27,344	31,817	34,407	27,627	28,117	29,936	31,817	33,993	35,396	34,941	34,407
Retailers.....	15,828	14,502	17,793	18,093	14,909	15,574	16,599	17,793	19,743	20,282	18,761	18,093
Wholesalers.....	8,085	7,729	9,388	10,000	7,785	8,131	8,775	9,388	9,940	10,151	10,072	10,000
Manufacturers.....	31,734	28,690	33,253	41,999	28,432	29,123	30,123	33,253	35,557	39,009	41,132	41,999
Purchased materials b/....	13,157	11,145	14,293	16,636	10,859	10,863	12,095	14,293	15,282	16,010	15,836	16,636
Goods in process b/.....	7,476	6,711	8,110	11,003	6,910	7,118	7,551	8,110	9,147	9,823	10,561	11,003
Finished goods b/.....	11,149	10,910	10,908	14,394	10,956	11,161	10,082	10,908	11,542	13,252	14,227	14,394
New construction:												
Total...	21,572	22,584	27,902	29,863	5,115	6,850	8,361	7,576	6,261	7,709	8,467	7,406
Private, total.....	16,665	16,181	20,789	20,823	3,877	5,064	6,201	5,647	4,718	5,357	5,730	5,018
Residential (non-farm)....	8,580	8,267	12,600	10,915	2,211	3,095	3,913	3,381	2,991	2,779	2,876	2,669
Non-residential c/.....	3,621	3,228	3,777	4,907	758	828	1,011	1,180	1,162	1,314	1,375	1,056
Expenditure on new plant and equipment:												
Total...	20,032	18,021	17,832	23,126d/	3,619	4,183	4,512	5,517	4,863	5,913	5,844	6,506d/
Manufacturing.....	9,134	7,149	7,491	11,141d/	1,444	1,714	1,859	2,474	2,154	2,802	2,841	3,345d/
Mining.....	802	738	684	806d/	146	160	180	198	183	203	199	221d/
Railways.....	1,319	1,350	1,136	1,564d/	232	298	285	320	303	412	377	472d/
Other transportation.....	700	525	437	517d/	79	90	123	145	125	136	120	136d/
Electric and gas utilities..	2,683	3,140	3,167	3,654d/	653	758	821	935	753	893	933	1,075d/
Commercial and miscellaneous	5,394	5,119	4,917	5,443d/	1,065	1,163	1,244	1,445	1,345	1,467	1,374	1,257d/

Source: Department of Commerce, Survey of Current Business (Washington, D.C.); quarterly data are seasonally adjusted, except manufacturers' inventories of purchased materials, goods in process and finished goods.

a/ Preliminary.

b/ Book value in hands of manufacturers.

c/ Except farm and public utility.

d/ Data for the fourth quarter of 1951 are based on anticipated capital expenditures.

quarter of 1951, and by the end of the quarter there were indications that manufacturers' inventories were tending to level off as production of consumer goods was more sharply curtailed. Compared with the 1949 post-war peak, total business inventories were almost one-fourth higher in value, and manufacturers' inventories were more than one-third higher - durables 43 per cent and non-durables 15 per cent. The most rapid rise in manufacturers' inventories after mid-1950 occurred in purchased materials and goods in process. The inventory increases thus reflected involuntary accumulations only in part; in large measure the durable goods inventories were evidence of the increase in deliveries of finished goods required for the expansion of plant and equipment and for the armament programme.2/

Among non-durable products, declining sales of basic consumer goods were followed by reduced production in 1951. The output of textiles, already above the 1948 average level in the first half of 1950, rose to a peak at the end of the year, declined gradually in the first half of 1951 and fell sharply, below the lowest level of the preceding year, in the third quarter. Production of leather goods in the second half of 1950 exceeded the 1948 average and advanced further in the first quarter of 1951, but dropped rapidly thereafter. Processing of food, which had not declined during the recession of 1949, remained at a rate somewhat higher than the 1950 average during the first half of 1951 and fell only a little below in the second half.

Production of motor vehicles, by far the largest item among consumer durable goods, began to decline in the last quarter of 1950, following a record annual rate of output of 6.2 million passenger cars in the first half-year and a further increase to an annual rate of 7.6 million cars in the third quarter. Motorcar output was reduced progressively in 1951, to an annual rate of 4.3 million in the fourth quarter. After the

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2/ In so far as these increases in inventory were carried over from 1950 and early 1951, they also represented a capacity to maintain production of durable goods for personal consumption above the levels dictated by subsequent allocations of controlled materials.

middle of 1951 motorcar production was limited by curtailment of supplies of steel and other metals within the Controlled Materials Plan, under which the Defense Production Administration allocated successively reduced proportions of the quantities of these metals used in the base period (the first half of 1950). Inventories, however, remained ample, with early delivery of cars purchased at the beginning of 1952.

In the case of other types of metal goods for consumer use, such as radio and television sets, refrigerators, washing machines and vacuum cleaners, metal supplies were also limited by allocations, but production was first affected by a decline in consumer demand while inventories of finished goods remained high. The output of electric refrigerators was at a record level in the first half of 1950 and though relatively little reduced in the first quarter of 1951, had declined 60 per cent by the third quarter and was even lower in the fourth quarter. Production of vacuum cleaners and washing machines began to decline in the first quarter of 1951 and, in the second half of the year output was little more than three-fourths that of the first half of 1950. The production of furniture and fixtures, little affected by limitations on the use of metals, declined steadily in the first half of 1951, but levelled off and recovered slightly in the second half.

Output of goods in demand for the expansion of industrial plant and equipment or for armaments, on the other hand, moved steadily upward. Steel production rose to a post-war record annual rate of 90 million tons in the second half of 1950, 95 million tons in the first half of 1951 and 97 million tons in the fourth quarter, and the industry operated at well over 100 per cent of nominal rated capacity during most of the year. Although domestic supplies were augmented by net imports from Europe, a system of allocating steel supplies to users was established in mid-1951, and progressively reduced allotments were made for civilian products in succeeding quarters.[3/] Production of industrial machinery rose steadily in 1950 and 1951, though total output dropped temporarily in the third

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3/ Early in 1952 there were signs that certain types of steel were no longer in short supply, and in March the first quarter allocations to manufacturers of consumer durable goods of certain carbon and chrome steels were increased by 10 per cent.

quarter of 1951 as a result of a sharp decline in the production of consumer electrical equipment and appliances. New orders for both electrical and industrial machinery continued to outrun production in 1951, and unfilled orders were still rising at the end of the year.[4/] In the field of rail transport equipment, orders for steam locomotives continued at the very low level of one-fifth, or less of the 1948 average, but orders for diesel and other locomotives, much more important in volume, rose rapidly, surpassing the 1948 average before the end of 1950. Production of railway freight cars also rose rapidly from low levels, almost regaining the 1948 average in the second quarter of 1951 and, after a temporary decline, reaching a new high level in the fourth quarter. Output of commercial automotive vehicles recovered to the 1948 average level during 1950 and expanded rapidly in the first half of 1951, to a total of more than 400,000 vehicles in the second quarter, after which production began to decline. Although the year's total exceeded 1950 production by a substantial margin, output in the fourth quarter of 1951 - fewer than 300,000 vehicles - was below the corresponding period of 1950. Production of lumber and its products (other than furniture) rose to a new post-war high in the first quarter of 1951 and declined thereafter, reflecting the fall in residential construction. On the other hand, production of chemicals - including producer goods and armaments as well as personal consumption goods - continued to advance steadily, owing largely to a rapid expansion in industrial chemicals.

The role of production for armaments in the output of various industries cannot be ascertained directly, but its significance is indicated in general by the fact that expenditure on defence production, reported at about $2,000 million per month at the end of 1951, was three times as large as at the beginning of the year, with production of armaments alone at 70 per cent of the total. This total represents an annual rate about equal to the record

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4/ New orders began to decline in the second quarter of 1951 in the industries producing primary metals and fabricated metal products, but unfilled orders were little changed in the third quarter and declined slightly in the fourth. These industries, however, were affected by allocations and controls, especially by the Controlled Materials Plan, which began to operate in the third quarter.

outlays on new plant and equipment in 1951.

Although the growth of armament output was an important economic determinant in 1951, more significant for United States production in the long run was the expansion of plant capacity. Total new construction expanded sharply in 1950 and continued to increase in 1951 in relation to the corresponding periods of the preceding year. Residential construction, the major component of the total - and primarily dependent on governmental mortgage finance policy - was appreciably lower in 1951. Non-residential construction, on the other hand, particularly for industries and public utilities continued to rise in 1951.

Business expenditures on equipment as well as new plant began to fall off in 1949, and the total was further reduced in 1950. The 1950 reduction was, however, fully accounted for by a decline in commercial and miscellaneous outlays, while expenditures on manufacturing facilities increased. By the middle of 1950, investment in new plant facilities had begun to increase rapidly in manufacturing, railways and utilities, while investment in mining facilities began to rise soon afterward. Total expenditures in 1951 - more than $23,000 million - were one-sixth higher than in the previous peak year, 1948. The largest increase was in manufacturing, for which outlays exceeded $11,000 million, about $2,000 million higher than in 1948 and about $3,700 million more than in 1950.

During the six-year period from 1946 to 1951, gross outlays on new plant and equipment by manufacturing corporations (which accounted for 96 per cent of the total for manufacturing) amounted to about $48,000 million, compared with an estimated gross book value of capital assets in place at the beginning of the period of about $52,500 million. In terms of 1945 dollars, gross capital assets at the end of 1945 were valued at about $62,000 million, and post-war expenditures on plant and equipment at about $35,000 million. Further, if gross retirements are taken into account, the value of plant and equipment installed since 1945 is estimated at approximately two-fifths of the total at the end of 1951. This implies an expansion of fixed capital

of manufacturing corporations of close to 40 per cent since 1945.[5]

Large expenditures on new plant and equipment have been made in all branches of manufacturing. Between 1946 and 1951 expenditures by corporations producing non-durable goods approximated the book value of fixed assets at the end of 1945 - about $29,000 million. A similar relationship is to be found in the various durable goods industries, with the notable exception of primary metals and metal fabricating corporations; these were greatly expanded during the war, and from 1946 to 1951 expenditures on additions amounted to about one-third less than the book value of corporate capital assets at the end of 1945.

Table 5 which shows post-war expenditures for new plant and equipment by manufacturing industries, reveals a marked shift in 1951 outlays towards industries manufacturing steel and other metals. Expenditures in 1951 were much larger than those of the preceding year in every branch, and reached a post-war record in each of the durable goods industries, as well as in the textile, paper, chemical and rubber product branches of the non-durable goods industries. By the middle of 1951, however, outlays began to taper off in consumer goods industries, reflecting both a lapse in consumer demand and government policy in allocating materials. Expenditures in the metal fabricating, petroleum, chemical and rubber industries, on the other hand, continued to rise, and new high levels were attained in these industries in the fourth quarter of 1951. By the end of November the shift in the composition of expenditures was supported by about $11,400 million in "certificates of necessity" authorizing rapid tax amortization,[6] of which about $5,000 million had been authorized for steel and primary metal mining and fabricating, $2,200 million for transportation (mostly railway) and

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5/ See United States Department of Commerce, Survey of Current Business, December 1951. A survey prepared by the McGraw-Hill Publishing Company, Business Plans for New Plants and Equipment, 1952-1955, based on physical capacity reports by companies, estimates the expansion of manufacturing capacity between the beginning of 1946 and the end of 1951 at somewhat more than 40 per cent.

6/ These enabled varying proportions of total capital cost to be written off at the rate of 20 per cent per annum.

Table 5. Expenditures of Manufacturing Corporations in the United States on New Plant and Equipment, 1946 to 1951

Industry	Millions of dollars			Per cent distribution		
	1946 to 1950	1951[a]	Total[a]	1946 to 1950	1951	Total
Total manufacturing	39,267	11,141	50,408	100.0	100.0	100.0
Durable goods industries	15,730	5,213	20,943	40.0	46.8	41.6
Primary iron and steel	3,105	1,310	4,415	7.9	11.8	8.8
Primary non-ferrous metals	749	312	1,061	1.9	2.8	2.1
Fabricated metal products	1,690	430	2,120	4.3	3.9	4.2
Electrical machinery and equipment	1,336	355	1,691	3.4	3.2	3.4
Machinery, except electrical	2,351	638	2,989	6.0	5.7	5.9
Motor vehicles and equipment	2,427	797	3,224	6.2	7.2	6.4
Transportation equipment, excluding motor vehicles	479	227	706	1.2	2.0	1.4
Stone, clay and glass products	1,297	380	1,677	3.3	3.4	3.3
Professional and scientific instruments	325	92	417	.8	.8	.8
Other durable goods industries b/	1,971	672	2,643	5.0	6.0	5.3
Non-durable goods industries	23,536	5,928	29,464	60.0	53.2	58.4
Food and kindred products	3,052	631	3,683	7.8	5.6	7.3
Beverages	1,252	299	1,551	3.2	2.7	3.1
Tobacco manufactures	195	54	249	.5	.5	.5
Textile mill products	2,391	676	3,067	6.1	6.1	6.1
Paper and allied products	1,611	494	2,105	4.1	4.4	4.2
Chemicals and allied products	4,242	1,266	5,508	10.8	11.4	10.9
Petroleum and coal products	8,299	2,040	10,339	21.2	18.3	20.5
Rubber products	567	187	754	1.4	1.7	1.5
Other non-durable goods industries c/	1,927	281	2,208	4.9	2.5	4.3

Source: United States Department of Commerce, Office of Business Economics; Securities and Exchange Commission.

a/ Data for fourth quarter of 1951 based on anticipated expenditures reported during late October and November.

b/ Including lumber products, furniture and fixtures, ordnance and miscellaneous manufactures.

c/ Including apparel and related products, leather and leather products, and printing and publishing.

about $2,000 million for petroleum and chemicals.

Western Europe

Industrial production in western European countries as a whole has increased fairly regularly throughout the post-war period. By 1947 and 1948, the most urgent requirements for economic rehabilitation and for pent-up demands for personal consumption goods had been met. The continuance of balance of payments difficulties directed government policy increasingly towards the promotion of exports, as against the satisfaction of domestic demand, which in some countries, such as Belgium and Italy, was in fact temporarily reduced in 1948. The expansion of external markets, however, was insufficient either to overcome balance of payments problems or to sustain the rates of industrial expansion of the earlier post-war years. Percentage increases in the aggregate industrial production of the western European countries were successively lower in 1948, 1949 and the first half of 1950, and in some countries production actually declined.

During this period total industrial production in the United Kingdom and the Scandinavian countries advanced steadily. In western Germany, output increased rapidly after the currency reform of 1948, as limitations imposed by occupation authorities were successively relaxed and removed. Belgium and Italy, however, suffered setbacks, particularly in textile production in 1948. Total production in Italy, though still below the pre-war level, showed little gain in 1948 and 1949. In Belgium, beginning in the second half of 1949, and in France and Luxembourg in the first half of 1950, total production fell below the levels of the preceding year, with output of steel and engineering goods markedly off.

In the second half of 1950 there was a general upswing in activity. The extent to which production rose may be measured by the fact that, while total industrial output in western Europe in the second half of 1949 was barely one per cent higher than in the first half, the increase between the first and second half of 1950 was fully 5 per cent. Acceleration continued for about a year, increases over the corresponding period of

the preceding year rising from 8 per cent in the first half to more than 13 per cent in the second half of 1950, and to 14 per cent in the first half of 1951. In the third quarter of 1951, the increase dropped to 9 per cent and in the fourth quarter, to 4 per cent.

All major producers shared in the rising rate of expansion after mid-1950. By far the largest gains were recorded in western Germany. The output of Belgium-Luxembourg, France and the Saar, starting from a reduced level, increased rapidly in the second half of 1950 and again in the first half of 1951, as did that of Italy, though in lesser degree. The rate of increase in the United Kingdom was accelerated in the second half of 1950, but it fell off sharply in 1951, while that of the Scandinavian countries remained fairly steady - Danish output in the second half of 1951 actually fell below that of the corresponding period of 1950. Indeed, in the second half of 1951, the rate of increase over the corresponding period of the preceding year dropped significantly in practically all the countries of western Europe, and output actually fell in the Netherlands as well as in Denmark.

Although light industries contributed to the expansion of production in 1950 and the first half of 1951, the output of heavy industries, notably steel and metal-working, was the decisive factor in accelerating the rate of increase in the second half of 1950 and in sustaining it in the first half of 1951. Table 6 shows production trends for steel, engineering and textile goods in western European countries, by comparison both with the pre-war base and with the corresponding period of the preceding year. The relative post-war expansion of heavy industries may be contrasted with the lower levels of the textile indices: in all countries producing significant quantities of engineering goods, the output of these products expanded to a greater extent than that of textiles. This is also true of crude steel production, except in Germany, where output was restricted

Table 6. Indices of Crude Steel, Engineering and Textile Production in Certain Western European Countries, 1948 to 1951

Product and country	1937 = 100 a/				Corresponding period of preceding year = 100										
	1948	1949	1950	1951	1949	1950	1951	1950 quarters				1951 quarters			
								First	Second	Third	Fourth	First	Second	Third	Fourt
Crude steel:															
Austria.....	99	127	144	157	129	113	109	120	118	100	115	103	109	121	103
Belgium.....	101	99	97	130	98	98	134	78	86	103	134	136	144	144	114
Denmark.....	103	127	204	256b/	127	160	135b/	141	154	149	196	129	142	143	..
France.....	91	116	109	124	127	95	114	88	93	93	106	120	114	115	107
Saar.....	53	75	81	111	143	108	137	103	88	112	131	140	165	132	119
Germany, western....	31	51	68	75	165	132	110	133	124	133	141	106	120	108	112
Italy.....	101	98	113	145	97	115	128	124	104	118	116	119	137	125	133
Luxembourg...	98	90	98	122	93	108	125	76	92	127	159	139	136	122	111
Netherlands..	100	128	147	166	128	114	113	119	111	110	110	107	123	113	109
Norway.....	105	110	116	124	105	105	107	140	133	132	132	95	105	111	115
Spain.....	376	434	492	486	115	114	99	127	110	123	94	96	104	94	105
Sweden.....	114	124	130	136	109	105	105	113	105	106	105	94	112	102	111
United Kingdom....	115	120	125	121	105	105	97	105	104	104	105	98	98	94	94
Engineering products:															
Austria.....	98	152	188	222	155	124	118	135	127	117	117	114	121	124	115
Belgium c/...	126	122	115	134b/	97	94	119b/	86	85	93	115	117	122	126	..
Denmark.....	132	140	156	163	106	111	104	108	112	112	113	110	108	104	98
France.....	101	118	110	124	117	93	113	94	88	89	100	112	114	116	112
Germany, western....	43	70	100	132	163	143	132	121	137	151	156	158	144	124	112
West Berlin c/	21	18	24	36b/	86	133	175b/	111	140	156	165	170	181	148	..
Ireland.....	157	184	214	232b/	117	116	106b/	125	128	111	103	100	112	112	..
Italy d/.....	106	117	126	132	110	108	105	113	112	103	102	108	105	107	100
Luxembourg...	..	154	140	135	..	91	96	96	91	87	90	91	95	98	102
Netherlands e/	120	139	154	166	116	111	108	108	105	117	113	120	119	93	101
Norway.....	179	169	171	176	94	101	103	99	101	101	104	100	105	107	100
Sweden c/ e/.	164	168	171	185b/	102	102	104b/	108	100	100	104	103	105	103	..
Switzerland c/	139	117	121	..	84	103	..	..	..	..	..	..	..	..	..
United Kingdom....	128	139	154	159	109	111	103	111	109	110	113	104	107	104	99
Textiles:															
Austria.....	51	77	94	110	151	122	117	147	122	115	113	109	117	124	118
Belgium f/...	93	96	114	117	103	119	103	115	105	122	134	119	127	89	81
Denmark.....	131	148	177	157	113	120	89	121	127	122	110	105	88	79	81
France f/....	97	96	104	110	99	108	106	104	104	108	114	108	109	107	100
Germany, western g/l	47	81	105	120	172	130	114	148	126	124	128	125	124	108	100
Ireland.....	138	150	174	190b/	109	116	109b/	111	129	122	106	105	113	98	..
Italy h/.....	95	98	103	108	103	105	105	102	93	103	119	119	116	102	88
Luxembourg...	..	85	100	187	..	118	87	109	116	123	122	113	105	72	62
Netherlands..	100	116	130	129	116	112	99	119	110	111	107	107	110	93	89
Norway.....	105	112	120	133	107	107	111	108	106	107	108	109	116	113	103
Spain.....	100	81	90	..	81	111	..	110	111	123	101	..	..	..	..
Sweden f/ g/.	146	149	149	151	102	100	101	98	98	100	105	107	107	103	91
United Kingdom g/.	80	86	94	94	107	109	100	111	111	108	108	100	107	100	89

Source: Statistical Office of the United Nations.

a/ Except as follows: Steel: Denmark and Netherlands 1948 = 100; western Germany 1938 = 100; engineering products: Belgium, west Berlin, Sweden and Switzerland 1938 = 100, Luxembourg 1937-38 = 100; textiles: Luxembourg 1937-38 = 100, Spain 1948 = 100.

b/ First half of year.

c/ Data supplied by secretariat of the Economic Commission for Europe.

d/ Excluding armament production.

e/ Including basic metal industries.

f/ Including synthetic fibres.

g/ Including ready-made clothing.

h/ Including shoes.

by occupation policy.7/

The 1937 volume of textile production in western Europe, in fact, had not been restored by 1949, production having expanded above the pre-war level only in some of the smaller countries, notably the Scandinavian nations. Lagging behind pre-war output were the more important producers - France, western Germany, Italy and the United Kingdom. The proportion of textile output exported by western Europe as a whole was much smaller than in 1937, and domestic supplies were somewhat larger than pre-war in total volume though smaller per person.

In the first half of 1950, when production of steel and a number of engineering products dropped back in some countries, the output of textiles continued to expand in all countries except Italy and Sweden - generally at a rapid rate. The indications are, however, that business inventories were accumulating rapidly, since, in general, neither retail sales nor net exports of textiles kept pace with the rise in production; in some countries they changed very little. Further expansion of output in the second half of 1950 was accompanied by a corresponding rise in retail sales and exports, and production continued to expand until the second quarter of 1951 - rapidly in most countries. Thus, in the first half of 1951 textile production almost regained the 1937 level in the United Kingdom and surpassed it by over 15 per cent in France and Italy, by over 20 per cent in western Germany and by much larger margins in most of the smaller countries. The buying wave, however, was shortlived. Retail sales began to level off or turn downward by the end of the first quarter of 1951, falling below the corresponding period of 1950 in a number of countries

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7/ Between 1948 and 1951, the index of textile production (1937 = 100) was higher than the indices of engineering and chemical production only in Denmark and Greece, and higher than the index of steel production only in Germany, Norway and Sweden. In Norway, where crude steel output was under 100,000 tons in 1951, finishing capacity was increased greatly during the year by the construction of a 500,000-ton all-electric rolling mill. Finishing capacity was also increased markedly in the Netherlands, where pre-war crude steel output was under 60,000 tons a year. Denmark, which made no crude steel before the war, produced more than 150,000 tons in 1950.

by the third quarter. Sales in the first half of 1951 in western European countries as a whole were below those in the preceding half-year, and there was renewed accumulation of stocks. In the third quarter of 1951, output declined abruptly (except in Austria); the percentage increase over the preceding year was smaller in France and Norway and was sharply reduced in western Germany and Italy, while the volume of production was at the level of the third quarter of 1950 in the United Kingdom, and well below it in Denmark and the Benelux countries.

The sequence was similar in the leather and shoe industry, though the 1950 rates of expansion were generally not so high as in the case of textiles, and curtailment of output began earlier in 1951. Thus, the percentage increase in the second quarter of 1951 over the corresponding period of 1950 fell in all countries except Austria - most sharply in Belgium, France, western Germany and the Netherlands. Production was reduced below the level of the corresponding period of 1950 - throughout the first half of 1951 in the United Kingdom, by the second quarter in Italy and in the third quarter in Denmark, France, western Germany, the Netherlands and Sweden.

The demand for durable consumer goods did not turn downward in 1951 so consistently as in the case of soft goods, though it seems to have slackened in some countries. As shown in table 7, production of passenger cars continued to expand rapidly in 1950 and the first half of 1951, except in the United Kingdom, where steel supply was restricted and output declined. In western Germany, though exports took the greater part of the expanded output in the second half of 1950 and again in the first half of 1951, there was a considerable increase in the supply for the domestic market. In the United Kingdom, supplies for the home market increased by more than 10 per cent between the first and the second half of 1950 though production declined somewhat; reduced domestic supplies and a further decline in exports shared the sharper curtailment of output in the first half of 1951. The expanded output of the second half of 1950 remained as an addition to domestic supplies in both France and

Table 7. Production, Exports and Imports of Motor Vehicles by Major European Producers, 1949 to 1951

(Number of vehicles)

Country and period	Passenger cars				Commercial vehicles			
	Production	Imports	Exports	Domestic supply	Production	Imports	Exports	Domestic supply
France:								
1949[a]	93,840	670	39,000	55,510	48,300	100	10,010	38,390
1950 First half	122,790	1,250	44,950	79,090	45,310	130	10,490	34,950
1950 Second half	134,490	2,900	44,710	92,680	54,040	420	13,380	41,080
1951 First half	158,280	4,050	51,240	111,090	64,530	490	13,840	51,180
Germany, western:								
1949[a]	52,020	2,630	6,960	47,690	28,800	110	680	28,230
1950 First half	92,440	1,460	26,420	67,480	35,050	3,160	8,630	29,580
1950 Second half	123,600	3,950	41,060	86,490	50,450	3,560	12,050	41,960
1951 First half	135,210	3,960	47,770	91,400	51,440	970	16,100	36,310
Italy:								
1949[a]	38,760	40	8,290	30,510	4,380	80	1,820	2,640
1950 First half	53,600	110	9,170	44,540	6,510	140	1,540	5,110
1950 Second half	61,380	160	9,450	52,090	6,890	170	1,020	6,040
1951 First half	72,330	370	12,350	60,350	8,320	90	1,090	7,320
United Kingdom:								
1949[a]	206,160	710	128,970	77,900	108,180	1,750	46,490	63,440
1950 First half	262,500	50	203,630	58,920	134,030	2,230	72,660	63,600
1950 Second half	260,010	210	194,680	65,540	127,120	1,960	71,900	57,180
1951 First half	244,510	40	185,920	58,630	133,980	2,340	70,380	65,940

Source: Statistical Office of the United Nations and national foreign trade statistics. Data for vehicles include chassis, except in respect of imports of the United Kingdom, and both imports and exports of France. The effect of this exclusion is a slight understatement of domestic supply in the United Kingdom and a rather more substantial overstatement of domestic supply in France. In general, chassis tended to constitute an increasing proportion of the vehicles entering foreign trade.

a/ Semi-annual average.

Italy, since exports changed only slightly; though exports rose appreciably in both countries in the first half of 1951,[8/] most of the increase in output was added to domestic supplies. French imports, though small, also tended to increase.

The output of other consumers' metal products was sharply expanded in France from mid-1950 to mid-1951, generally more for the domestic market than for export. In western Germany, on the other hand, the indications are that production of such goods increased relatively little in 1951, notwithstanding a marked expansion of exports, and by the third quarter of 1951 the additions to domestic supplies were well below the level of the corresponding period in 1950.[9/]

Steel production rose sharply in the second half of 1950 in anticipation of large-scale rearmament requirements and as a result of larger demands for private investment in plant and equipment and a remarkable increase in export demands. In Belgium-Luxembourg and in France and the Saar, where output was lower in the first half of 1950 than in the corresponding period of 1949, recovery in the second half enabled production to outstrip the average for 1949 by a wide margin, and the gain in the first half of 1951 was even larger. This expanded total was exceeded slightly in the first half of 1951 in spite of a temporary setback in production. Italian output increased by more than 10 per cent in the second half of 1950 and by an additional 20 per cent in the first half of 1951. Only in the United Kingdom did production of steel decline in the second half of 1950. Output recovered somewhat in

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8/ In Italy, however, there was a sharp drop in demand and in production in the second half of 1951.

9/ In the majority of western European countries there was a marked rise in 1951 in import prices relative to export prices. In some countries there was a shift in income towards profits, while many countries increased taxes or reduced subsidies. These were the major factors exerting a limiting influence on consumer demand in 1951. See World Economic Report, 1950-51, chapter 1, "Economically Developed Private Enterprise Economies".

the first half of 1951, but persistent shortage of scrap resulted in a drop (of 2 per cent) below production in the first half of 1950 and a further decline in the second half of 1951, by about 9 per cent (or more than 500,000 tons) below the corresponding period of 1950[10/] despite the opening of a new steel works and strip mill at Margam in mid-1951.

Total output of crude steel in western European countries advanced by more than 1.5 million metric tons in the second half of 1950, compared with the preceding half-year, and by a further 1.8 million tons in the first half of 1951, when aggregate output reached an annual rate of some 57 million tons. Increased net exports, however, more than matched the production gains of the second half of 1950, so that domestic supplies of steel in western European countries as a whole were at about the

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10/ United Kingdom imports of scrap, largely from western Germany, which had averaged about 175,000 long tons per month in 1949, declined suddenly, to 98,000 in the last quarter of 1950, and to 42,000 long tons in the second quarter of 1951. Attempts to offset the decline in scrap imports by increasing imports of high-grade ore were hindered by the shortage of shipping, which at the turn of the year was heavily committed to the importation of coal from the United States; iron ore imports, which had averaged 724,000 long tons per month in 1949, dropped to 626,000 in the last quarter of 1950 and to 544,000 long tons in the first quarter of 1951. Production of low-grade domestic ores was stepped up, as was domestic scrap collection, but scrap stocks declined steadily, from 907,000 long tons at the end of July 1950 to 296,000 long tons at the end of October 1951.

Tight scrap supplies also affected steel production on the continent, though not so seriously, putting an added strain on coke supplies at a time when coal had re-emerged as western Europe's prime raw material deficiency. The dip in steel output in the first quarter of 1951 in France and western Germany is attributed to shortage of coke. Early in 1951 a trade of United States coal for German steel was arranged, and production began to rise again, approaching an annual rate of 15 million tons before the end of the year - nearly the estimated capacity of the restored steel plants in western Germany.

1949 level throughout 1950. All the net exporters of steel - Austria, Belgium, France, western Germany and the United Kingdom - increased their net exports in the second half of 1950. Belgium and Germany also expanded domestic supplies, but in France, as well as in the United Kingdom and in several smaller net steel-importing countries, domestic supplies declined. In the first half of 1951, net exports were expanded by a further half million tons, but the aggregate steel supplies of western Europe were augmented by more than two-thirds of the gross expansion of output. Belgium accounted for the bulk of the net increase in exports, its domestic supplies falling to the same level as in the first half of 1950, while Austria tripled its exports, reducing domestic supplies drastically. France also increased its exports, but domestic supplies rose more substantially though the volume was still nearly a million tons below the half-yearly average of 1949. Western Germany maintained exports and domestic supplies at about the same level as in the second half of 1950 while the United Kingdom reduced exports and increased home supplies, though not to the levels of 1949 and early 1950. Italy and several smaller countries also increased domestic supplies. After mid-1950, western European exports to the United States increased from less than 10 per cent to 20 per cent or more of the total oversea exports of steel, about half the total increase during the year ended 30 June 1951 being accounted for by greater exports to the United States. All the major steel-exporting countries more than doubled the value of their steel exports to the United States. France and western Germany increased theirs about seven times; Belgium supplied more than one-fourth of the total.

The reduced steel output of the United Kingdom retarded production in several branches of the engineering industry in addition to restricting exports of steel mill products. The 1951 decline in motorcar output was caused not by market weaknesses but by a deficiency in steel plate, and towards the end of the year deficiencies in the supply of structural shapes also appeared. Exports declined in every category of iron and steel product with the exception of wrought tubes,

the decreases ranging from 4 per cent of the 1950 level in the case of tinned plates to 38 per cent in the case of rods and bars. Many light engineering works dependent upon particular types or shapes of carbon or alloy steel began working short time as early as the first quarter of 1951. By the end of the year, attempts were being made to augment steel supplies by increasing imports from the United States.[11] In February 1952, the allocation scheme for distributing domestic supplies, which had been discontinued in May 1950, was reimposed.

There are no signs that production in any of the continental countries was retarded for lack of steel, but demand was strong throughout 1951, and domestic markets as well as exports could probably have absorbed additional steel supplies. Prices continued to rise until the latter part of 1951, and more attractive offers resulted in an increased share of exports in total supplies.[12] Crude steel capacity, estimated at 62 million tons per annum for all countries in the Organization for European Economic Co-operation, provided a margin of several million tons over actual 1951 output. A good deal of this capacity, however, can be fully utilized only with adequate supplies of scrap. Scrap utilization in the production of steel has been much higher during post-war years than before the war, and the reduction of scrap supplies was the principal limitation on western European steel

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11/ Resulting early in 1952 in an agreement to exchange tin and aluminium for 1.5 million tons of steel.

12/ Several countries imposed or tightened export controls in order to protect domestic steel supplies. In Belgium, where there was pressure for remedial action because of the country's persistent creditor position in the European Payments Union, steel exports were made subject to licence early in 1951. In France, export restrictions on steel and metal products were introduced in April 1951. In western Germany, in October 1951, the Federal Trade Co-ordination Office was authorized to control purchases and deliveries in order to ensure completion of the Economic Ministry's programmes, and in November export licensing was introduced. The United Kingdom reduced export allocations in July 1951.

output in 1951. Since it is anticipated that with continued high levels of steel production the ratio of scrap consumption to steel output will necessarily come closer to pre-war figures, a substantial increase over 1951 rates of utilization of existing steel capacity can hardly be expected for extended periods of time. However, additional capacity is scheduled to be brought into operation in 1952 in France and the United Kingdom.13/

Although steel production recovered faster than engineering output in Belgium-Luxembourg and France after the middle of 1950, in the other western European countries producing significant quantities, notably western Germany and the United Kingdom, total engineering production advanced steadily, and generally more rapidly, than the output of steel. The rise in the production of motor vehicles exerted a strong upward influence on the engineering production index after 1948, when the output of passenger cars began its rapid expansion. The effect of motor vehicle output on the engineering production index of the four countries with significant automotive output is shown in table 8. France, western Germany and the United Kingdom account for well over three-fourths of western European engineering production - with Italy, for more than 80 per cent.

Production of vehicles during 1950 showed a marked increase over the preceding year in all the major producing countries, surpassing by a wide margin the advance in other engineering products. In 1951, production of other engineering goods fared better by comparison with vehicles. Production of consumer goods other than motorcars contributed more than the average in France, and less than the average in western Germany, to the 1951 rise in the output of engineering goods. In Italy, a continued increase in motor vehicle output during the first three quarters of 1951 again contrasted with the almost unchanged output of other engineering goods.

13/ In western Germany, output in 1951 was approximately at the capacity restored and authorized for use. Reconstruction of additional capacity would have required further relaxation of restrictions.

Table 8. Indices of Motor Vehicle and Other Engineering Production in Certain Western European Countries, 1949 to 1951

(Corresponding period of preceding year = 100)

Country and Item	Year		1950 quarters				1951 quarters		
	1949	1950	First	Second	Third	Fourth	First	Second	Third
France:									
Total engineering...	117	93	94	88	89	100	112	114	116
Motor vehicles[a/]	119	121	102	118	130	133	145	121	113
Other engineering products..	116	87	91	82	82	92	105	113	116
Germany, western:									
Total engineering...	163	143	121	137	151	156	158	144	124
Motor vehicles[a/]	237	171	148	178	179	175	168	125	100
Other engineering products..	152	136	116	126	145	152	155	152	132
Italy:									
Total engineering...	110	108	113		103	102	108	105	107
Motor vehicles.....	142	142	158		128	123	135	126	128
Other engineering products..	106	102	105		99	98	100	96	102
United Kingdom:									
Total engineering...	109	111	111	109	110	113	104	107	104
Vehicles[b/]	125	115	121	114	113	114	99	101	96
Other engineering products..	103	107	108	106	105	110	106	110	110

Source: France: Institut National de la Statistique et des Etudes Economiques, Bulletin de la Statistique Générale de la France, Supplement, January - March 1948; western Germany: Statistisches Bundesamt, Wirtschaft und Statistik, December 1949; Italy: Statistical Office of the United Nations; United Kingdom: Central Statistical Office, Interim Index of Industrial Production, 1949. Official percentage weights for the vehicle component of the engineering indices are 17.4 for France, 13.7 for western Germany, 11.3 per cent for Italy and 29.9 per cent for the United Kingdom.

a/ These indices would be somewhat higher if they measured motor-car production only. Bicycles are included in the index for western Germany, and road tractors in the French index.

b/ This index includes railway transport and aircraft as well as motor vehicles. The figures for motor vehicles alone would be higher than those shown until the fourth quarter of 1950 and lower thereafter. Because motor vehicle production has substantially lower weighting than the total vehicle production component in the engineering index, the percentage figures for engineering products exclusive of motor vehicles would differ little from those shown for engineering exclusive of vehicles.

Although the influence of armament production on the engineering index cannot be assessed, it no doubt contributed to the rise of output in western Europe in 1951, notably in the United Kingdom, where its impact was reflected in the curtailed production of motor vehicles. Armament demands, in addition to increased competition in external markets, especially from German products, may also have had an influence in reducing the proportion of output exported by the engineering industries of the United Kingdom, the mainstay of its post-war expansion of exports. On the continent, however, production of machinery and equipment for export was more important than armaments and domestic investment in sustaining or expanding the output of the capital goods branches of the engineering industry. In western Germany, though the supplies of capital equipment for domestic markets expanded rapidly in 1950 and the first half of 1951, the proportion produced for export increased, especially in 1951. In Belgium, some branches of metal manufacturing expanded while others contracted their output; in practically all, however, the proportion produced for export increased in the second half of 1950 and the first half of 1951. In France during this period, most capital goods industries provided increased domestic supplies, though in most categories the proportion of output exported also increased. In Italy, where the aggregate level of production changed only slightly, the trends in production and exports among the various branches of the engineering industry were not uniform.

Capacity for additional output was available in western European countries in practically every major branch of industry producing machinery and capital equipment. There was substantial open capacity in all branches of the engineering industry in Italy and in the railway equipment industry in practically all the producing countries, while capacity in other branches was generally available in one or more countries. Production of railway freight cars, which began to decline in 1948 and 1949 in all countries of western Europe except western Germany, generally continued to fall during 1951, and even in western Germany, 1951

output was about one-fourth that of 1950. Output of locomotives continued to rise in western Germany and was sustained at a somewhat higher level in France and the United Kingdom in 1951, though not by domestic demand. By the first half of 1951, production of rolling-stock in Italy and railway equipment in Belgium had declined to less than one-fourth of the 1948 level.

Among the major producting countries, only western Germany recorded expansion of output in the first half of 1951 in all the classifications of machinery and capital equipment (other than railway equipment) for which production data are available. Thus, in the United Kingdom, where electric power was rationed and power generating capacity was reported 15 per cent below peak demand even after the largest post-war addition to capacity had been brought into service in 1950, output of power generating equipment declined in the second half of 1950 and again in the first half of 1951.[14/] Though exports also declined, they accounted in the latter period for practically the entire output of hydraulic turbines and almost half that of steam turbo-generators. Production of mining machinery dropped in 1951, both for the domestic market and, more sharply, for export. After mid-1950, the output of civil engineering materials and of tractors fell substantially in France, and supplies for the domestic market dropped more than one-fifth. Although exports of internal combustion engines tripled and there was a marked expansion in the exports of steam engine and turbines, production of these items declined in the second half of 1950 and was only slightly higher in the first half of 1951 than in the first half of 1950. In Belgium, production fell after mid-1950 in a number of classifications, including mechanical handling equipment, textile machinery and equipment, and machine tools, and only in the last two classifications did output in the first half of 1951 reach a level above the corresponding period of 1950. Despite this recovery, however, the rate of production was less than half that of 1949, and supplies for the domestic market were almost one-fourth below the corresponding period of 1950.

14/ In spite of a decline in the production of equipment, the amount of additional generating capacity brought into commission in 1951 reached the new record level of more than 1.1 million kilowatts.

As a result of the increase in the volume of goods shipped and the diversion of ships to long hauls to Japan and Korea after mid-1950, existing shipping facilities were under considerable strain, and freight rates rose markedly. Between mid-1950 and the end of 1951, the volume of new ships under construction in the world (not including the USSR) increased by almost a million gross registered tons, more than three-quarters of the increase being accounted for by western Europe, as is shown in table 9.[15/] The increase in the United Kingdom was about 272,000 gross registered tons, but by far the greatest expansion took place in western Germany, where restrictions on shipbuilding had been removed.

Eastern Europe and the Union of Soviet Socialist Republics

By 1950, industrial production in the Soviet Union, Poland, Hungary, Romania and Bulgaria had risen much higher - relative to pre-war levels - than either the world or the European average. In Czechoslovakia, though the index of output was below the world average, it was well above the average for Europe as a whole (exclusive of the USSR). Industry expanded rapidly in 1949 and 1950 in all these countries, and also in eastern Germany where, however, total output in 1950 was still somewhat below the pre-war level. Available information for 1951 indicates a general slackening in the rate of expansion, but increases in output continued at rates at least as high as in western European countries and the world as a whole (see tables 1 and 2).[16/]

15/ Construction of tankers also increased in the first half of 1951, but not so much as total ship construction. Deficiencies in petroleum supplies in South East Asia and Oceania after the middle of 1951 were attributed to the shortage of tankers.

16/ Aggregate industrial production in 1951 exceeded planned objectives in the Soviet Union, Poland, eastern Germany, Hungary and Bulgaria and was within a fraction of one per cent of the plan for Czechoslovakia. In all these countries except the Soviet Union, the targets for 1951 had been raised substantially above those originally set. For a discussion of revisions of planned targets and of the fulfilment of the USSR plan for the five years ending 31 December 1950, see World Economic Report, 1950-51, chapter 2, "Centrally Planned Economies".

Table 9. World Shipbuilding, 1949 to 1951
(Thousands of gross registered tons)

Country and status	1949		1950		1951	
	First half	Second half	First half	Second half	First half	Second half
World total:						
Commenced.....	1,598.3	1,593.9	1,787.2	1,692.8	2,046.7	2,043.3
Under construction	4,446.1	4,394.8	4,549.9	4,819.0	5,331.0	5,494.1
Belgium:						
Commenced.....	23.3	26.6	49.0	29.6	30.8	32.1
Under construction..	72.1	65.9	87.7	89.3	81.7	86.6
Denmark:						
Commenced.....	49.7	56.8	43.1	74.4	42.1	57.3
Under construction..	119.9	132.1	121.9	133.0	116.0	108.7
France:						
Commenced.....	72.3	76.0	141.7	69.7	66.6	125.8
Under construction..	398.5	422.0	491.2	457.0	439.0	472.6
Germany, western:						
Commenced.....	a/	a/	a/	97.1	280.1	230.6
Under construction..				198.0	388.0	429.5
Italy:						
Commenced.....	95.9	14.4	52.7	103.2	53.2	52.1
Under construction..	217.4	214.4	241.4	314.0	311.0	275.5
Netherlands:						
Commenced.....	129.5	115.5	99.4	99.9	121.1	154.1
Under construction..	286.3	301.5	307.7	307.0	295.0	321.2
Norway:						
Commenced.....	29.5	21.2	73.3	26.6	27.7	52.8
Under construction..	91.8	82.8	117.3	123.6	122.3	139.0
Spain:						
Commenced.....	24.9	19.5	4.8	14.5	6.2	7.2
Under construction..	102.5	109.3	102.2	106.0	108.0	90.3
Sweden:						
Commenced.....	136.9	205.4	183.1	189.2	181.2	212.6
Under construction..	227.1	297.3	301.9	305.0	316.0	312.4
United Kingdom:						
Commenced.....	561.6	650.6	640.8	777.2	699.4	784.9
Under construction..	2,043.0	1,994.1	1,937.2	2,045.0	2,114.0	2,209.0
Western Europe:						
Commenced.....	1,123.6	1,186.0	1,287.9	1,481.4	1,510.6	1,709.5
Under construction	3,558.6	3,619.4	3,708.5	4,077.9	4,291.0	4,444.8
Japan:						
Commenced.....	87.2	48.5	302.8	38.8	349.9	20.7
Under construction..	116.7	120.4	372.1	231.0	521.0	294.8
United States:						
Commenced.....	354.2	315.2	108.8	126.9	105.9	263.2
Under construction..	594.7	512.8	326.0	340.0	334.0	562.5

Source: Lloyd's Register Shipbuilding Returns (London). Figures for ships under construction refer to end of period.

a/ Shipbuilding in western Germany was limited under the occupation statute to small coast-wise vessels of under 1,500 gross registered tons. Figures for second half of 1950 may not be complete.

The tendency for heavy industries to expand more than light industries noted above with respect to the United States and western European countries, has been much more pronounced in the case of the Soviet Union and the eastern European countries. Apart from the Soviet Union, Czechoslovakia and, to a lesser extent, Poland and eastern Germany have well established and diversified metallurgical, engineering and basic chemical industries. Other eastern European countries are developing and expanding such industries.

In the eastern European countries, steel production in the first half of 1951 was at an annual rate of 9.3 million metric tons, compared with 6.4 million in 1938. Poland's pre-war steel industry, which produced almost 1.5 million tons a year, was augmented after the war by steel capacity in acquired territory. Output in the first half of 1951 in the territory held after the war, at an annual rate exceeding 2.7 million tons, compares with 1.9 million tons in this area in 1938. Czechoslovakia expanded its post-war output in greater degree, from slightly under 1.9 million tons in 1938 to an annual rate of 3.25 million tons in the first half of 1951.17/ In both countries, the rate of production in the first half of 1951 was about 8 per cent above the 1950 average. In eastern Germany, steel production increased more than three-fifths in 1950, compared with 1949, and by a further one-third over the 1950 average in the first half of 1951, though the annual rate of output was still below the pre-war level. Output of more than one million tons in Hungary in 1950 compares with 0.65 million in 1938, while production of 0.56 million tons in Romania in 1950 was twice the pre-war level.

Eastern European levels of production relative to 1938 were much higher for engineering products than for textiles, as table 10 indicates with respect to Czechoslovakia, Hungary and Poland. Textile output in Hungary did not regain the pre-war level until 1949; in Czechoslovakia, a large exporter of textiles as as well as shoes before the war, textile production was still more than 10 per cent below the pre-war level in 1950;

17/ Czechoslovak steel production in 1951 is reported to have been short of the year's planned target.

Table 10. Indices of Industrial, Engineering and Textile Production in Certain Eastern European Countries, 1948 to 1951

(1938 = 100)

Country and item	1948	1949	1950	1951 a/
Czechoslovakia: b/				
Industrial production.....	108	126	146	158
Engineering.....	120	131	156	180 c/
Textiles d/.....	77	81	89	..
Hungary:				
Industrial production.....	107	153	206	256
Engineering.....	147	212	301	..
Textiles.....	88	111	..	..
Poland: e/				
Industrial production.....	143	174	228	279
Engineering.....	193	240	298	..
Textiles.....	114	133	153	166 f/

Source: United Nations, Economic Survey of Europe in 1951 (Geneva, 1952).

a/ Nine months only.

b/ 1937 = 100.

c/ First quarter only.

d/ Including ready-made clothing.

e/ Post-war production compared with 1938 production in pre-war area.

f/ First half only.

in Poland, on the other hand, there had been a gain of more than 50 per cent over pre-war textile production by 1950. Engineering production in 1950, however, was about three times as large as before the war in Hungary and Poland, while in Czechoslovakia it was more than 50 per cent higher in 1950, and 80 per cent higher in the first three-quarters of 1951. The relative changes in 1950 and 1951 in the output of leather and shoes, as well as of textiles and engineering products, are shown in table 11 for eastern Germany in addition to Czechoslovakia, Hungary and Poland. Although expansion in the output of some of these consumer goods was accelerated in 1951, the relative increase in engineering production generally continued to be higher.

In Czechoslovakia, the greatest relative increase in 1950 was recorded in heavy and general engineering production, but in the first half of 1951, the advance in motor vehicle and aircraft production was larger. In eastern Germany, the greatest relative increase was shown by the steel metallurgy index in 1950, and by the output of precision and optical instruments in the first half of 1951. In 1950, in Hungary and Poland, the highest percentage increase occurred in the output of motor lorries (including motor buses in Hungary), while production of railway rolling-stock rose only slightly. In both countries, the production of tractors - and of electric switch apparatus and metal-working and wood-working machines in Poland, and lathes, diesel engines and electric rotating and sewing machines in Hungary - also expanded more than the average.

While aggregate indices are not available for the less developed engineering and textile industries of Bulgaria and Romania, reports on the output of specific products show that increases in the production of various types of equipment were generally very much larger than the expansion of textile goods in 1950 and, in the case of Romania, were also greater than the increase in footwear. Romania reported a 90 per cent increase in the production of hemp and flax textiles, and increases ranging between 25 and 40 per cent in cotton and woollen textiles and footwear. Expansion of the output of transformers and electric bulbs was somewhat less, but production of tractors, electric rotating

Table 11. Selected Indices of Industrial Production in Certain Eastern European Countries, 1950 and 1951

(Corresponding period of preceding year = 100)

Country and item	Year 1950	1951 quarters First	Second	Third
Czechoslovakia:				
Steel metallurgy.....	109 a/	109 a/	111 a/	107
All engineering branches..	122	122	120	108 b/
Heavy engineering.....	127	122	120	104 b/
Motor vehicles and aircraft.....	112	132	130	109 b/
Mechanical engineering..	120	109	103	99 b/
General engineering.....	127	126	126	119 b/
Textiles.....	109	..	..	..
Leather and shoes.....	99	..	..	..
Germany, eastern: b/				
Steel metallurgy.....	165	164	158	153
All engineering branches..	139	136	136	123
Mechanical engineering..	138	142	134	123
Electrical goods and apparatus.....	143	104	128	110
Precision and optical instruments.....	129	172	181	168
Textiles.....	144	121	126	119
Leather and shoes.....	139	122	131	..
Hungary:				
Steel metallurgy.....	120	118	116	120
Engineering.....	142	147	149	149
Textiles.....	116	113	130	110
Leather and shoes.....	147	145	138	120
Poland:				
Steel metallurgy.....	109	108	111	108
Heavy industry c/.....	124	119	121	117
Textiles.....	108	109	118	105
Leather and shoes.....	102	..	117	144

Source: United Nations, Economic Survey of Europe in 1951.

a/ All metallurgy, but non-ferrous metals were of minor importance.

b/ Estimates, based on relation between percentage increases foreseen in the plans and announced percentages of over- or under-fulfilment, on assumption that plans announced for yearly or half-yearly periods implied a constant rate of increase in production throughout the constituent quarters.

c/ Production under the Ministry for Heavy Industry, including metallurgy.

machines, internal combusion engines, cement mixers and machine tools increased much more, the last two fourfold and ninefold, respectively. In Bulgaria, production of various types of textiles increased by 20 to 40 per cent and of footwear, by 300 per cent. Among the engineering goods produced in Bulgaria, there was hardly any increase in the output of food processing machinery, but the output of electric motors, power equipment, internal combustion engines, electric bulbs and various types of agricultural equipment rose substantially, the last mentioned to two or three times the 1949 level. In addition to these increases in production in 1950 and 1951 in the eastern European countries as a whole, domestic supplies of machinery and equipment were supplemented by net imports from the Soviet Union.

Table 12 shows percentage increases over the preceding year in 1950 and 1951 output in the Soviet Union of products for which a 1951 index is available. The 1951 increases in the output of food processing industries, ranging from less than 10 per cent to more than 40 per cent, were generally smaller than those of 1950. Expansion in the output of textile products in 1951, ranging from about one-tenth to one-third of the previous year's output, was, on the other hand, generally larger than in 1950. The 1951 increases in the output of the durable consumer goods listed were considerably higher than the average increase in industrial production and, in several cases, much greater than the 1950 increases. The expansion in the output of fuel and power and of basic metals, however, was somewhat less than in total industrial production. The highest rates of increase were generally recorded for capital goods, though output of agricultural machinery and equipment in 1951 increased by only about the same percentage as the industrial average, following a very much larger expansion in 1950. Total engineering production increased 21 per cent in 1951, compared with a 16 per cent increase for all industry.

As in the case of other countries, production for armament purposes is not separable in the total industrial production index of the Soviet Union. Expenditures under the direct defence budget in 1951 were about 15 per cent higher than in 1950;[18] the total was somewhat more than

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18/ In current prices; prices were lower in 1951 than in 1950.

Table 12. Selected Indices of Industrial Production in the Union of Soviet Socialist Republics, 1950 and 1951

(Preceding year = 100)

Item	1950	1951
Total industrial production	123	116
Fuel and power:		
Electric power	116	114
Coal	111	108
Oil	113	112
Natural gas	107	108
Petrol (gasoline)	117	120
Kerosene	108	103
Diesel fuel	158	145
Non-ferrous metals:		
Copper	110	114
Lead	124	125
Zinc	117	115
Iron and steel:		
Pig-iron	117	114
Steel	117	115
Rolled metal	116	115
Iron piping	116	114
Engineering products:		
Steam turbines	190	110
Large hydro-turbines	..	245
Turbo-generators	..	211
Hydro-generators	..	193
Heavy electrical machinery	..	137
Electric motors	120	124
Heavy and special machinery	..	111
Excavators	128	105
Ball-bearings	135	130
Agricultural machinery	..	115
Tractor-drawn sowers	185	115
Tractor-drawn cultivators	169	117
Grain combines	159	115
Electric locomotives	124	111
Motor buses	113	134
Motorcycles	134	102
Bicycles	131	178
Chemical equipment	..	138
Calculating machines	116	201
Sewing machines	122	133
Watches	127	127
Cameras	156	137
Radios	122	116
Gramophones	108	124
Building materials:		
Cement	126	119
Bricks	124	120
Roofing felt	118	113
Roofing slate	121	127
Lumber, dressed a/	105	117
Prefabricated houses	119	116
Chemicals:		
Calcined soda	117	109
Caustic soda	115	108
Dyes	109	115
Mineral fertilizers	119	107
Insecticides and pesticides	..	185
Synthetic rubber	118	120
Textiles and footwear:		
Cotton fibre	116	133
Cotton fabrics	108	122
Linen fabrics	125	111
Silk fabrics	123	134
Woollen fabrics	103	113
Hosiery	126	126
Leather footwear	124	117
Rubber footwear	118	111
Food products:		
Meat	135	112
Sausages	140	117
Vegetable oils	114	112
Butter	107	106
Condensed milk	..	144
Cheese	128	120
Sugar	123	118
Confectionery	123	116
Alcohol	106	111
Beer	133	116
Champagne	138	121
Wine	177	124
Tea	122	131
Canned goods	133	118
Miscellaneous goods:		
Pianos	..	121
Paper	120	112
Electric bulbs	128	120
Matches	..	106
Cigarettes	116	113

Source: Pravda, 26 January 1951 and 29 January 1952.

a/ Haulage.

three-fourths as large as the figure for gross investment in the national economy. The direct defence budget includes troop pay and subsistence, while construction of military installations and armament factories forms part of gross investment. The figures, therefore, do not indicate the magnitudes of total expenditure or production for defence purposes, in comparison with investment in non-military facilities. The volume of government investment in the construction of plant and equipment was 12 per cent higher in 1951 than in 1950. The increase was about the same - 12 per cent - in the coal and oil industries and in machinery manufacture; investment rose 20 per cent in the metallurgical industries and 40 per cent in power stations, while the increase in machine and tractor stations and government farms was 6 per cent and in transport, 3 per cent. Investment in the building material industry increased by 35 per cent in 1951, and the supplies of machinery and equipment available to the construction industry were also much larger than in 1950.

Table 13 shows the output of certain products for which quantitative data are available for both pre-war and recent years. In interpreting the figures it should be borne in mind that between 1937 and 1940 there was a marked shift in USSR production to meet military needs. Fuel and power output increased considerably, and textile and shoe production also expanded. Iron and steel output, on the other hand, changed only slightly between 1937 and 1940, and part of it was diverted from civilian to military requirements; output of several types of machinery and equipment remained constant or was reduced. In comparison with these pre-war data, the increased output in the period from 1949 to 1951 reflects a substantial post-war expansion in productive capacity.[19]

19/ In regard to supply - as distinguished from output - the figures probably understate the increase in respect of consumer goods and overstate the increase in respect of producer goods. In the case of consumer goods, pre-war supplies were reduced by withdrawals for stockpile while post-war supplies have been augmented by net imports from eastern European countries. Conversely, post-war supplies of capital goods have been reduced by increased net exports, both to eastern European countries and to the mainland of China.

Table 13. Production of Selected Industrial Goods in the Union of Soviet Socialist Republics

1937, 1940 and 1949 to 1951

(Millions of specified unit)

Commodity and unit	1937	1940	1949	1950	1951
Coal and lignite (metric ton).....	128	166	234	260	281
Crude petroleum (metric ton).....	29	31	34	38	42
Electric power (kilowatt-hour) a/.....	36	48	78	90	103
Pig-iron (metric ton).....	14.5	15.0	16.6	19.4	22.1
Crude steel (metric ton).....	17.7	18.3	23.3	27.3	31.4
Rolled steel products (metric ton)....	13	13	18	21	24
Steel mill equipment (metric ton) b/..	32	28	120	134	..
Copper (metric ton) b/.....	98	161	235	255	291
Tractors (15 horse-power) b/.....	79	..	150 c/	180 c/	137 c/
Harvesting combines b/.....	22	13	29	46	54
Mineral fertilizers (metric ton) b/...	..	2,608	4,285	5,100	5,457
Synthetic dyes (metric ton) b/.....	35 d/	35	48 e/	52	..
Cement (metric ton).....	5.5	5.8	8.1	10.2	12.2
Slate (sheet).....	187	205	370	440	..
Window glass (square metre).....	60 d/	44	80	84	..
Industrial timber (cubic metre) f/....	111	119	154	162	..
Paper (metric ton) b/.....	831	812	995	1,194	..
Cotton fabrics (metre).....	3,442	3,886	3,532	3,815	4,654
Woollen fabrics (metre).....	105	120	162	167	189
Silk fabrics (metre).....	58	70	102	125	168
Leather shoes (pair).....	164	205	165	205	240

Source: United Nations, Economic Survey of Europe in 1951; Pravda, 29 January 1952.

a/ In thousand millions of specified unit.

b/ In thousands of specified unit.

c/ Tractors delivered to agriculture.

d/ 1938.

e/ Estimated.

f/ Haulage.

By 1951, production of textiles and shoes had been expanded above peak pre-war output. Production of cotton fabrics was one-fifth higher than in 1950, and the increase in the output of woollen and silk fabrics was even greater - though their weight in total textile production remained small. Production of leather was one-fourth larger in 1951 than in 1940. Fuel and power output increased by very much larger proportions, as did the production of metals and metal products. The largest expansions over pre-war levels were in the production of machinery and equipment. The total output of the engineering industry in 1951 was more than two and three-quarters times the 1940 level.[20]

Under-developed Areas

Among the under-developed areas of Asia and the Far East, the Middle East, Africa and Latin America, comprehensive data on industrial production are available for relatively few countries. In some part, the paucity of such data reflects inadequacies of statistical reporting, but in much larger measure it may be attributed to the fact that in many countries in these areas such industrial activities as exist are limited mainly to mining; manufacturing frequently represents handicraft and home industry rather than factory production. Available data, however, are adequate to indicate that industrial production in these areas, in contrast with industrialized countries, has made little progress during the post-war years and in a number of under-developed countries has, in fact, suffered intermittent setbacks.

As a result of war-time expansion of industry in the areas outside the sphere of combat, many under-developed countries emerged in 1946 with industrial production substantially higher than before. In the early post-war years, some war-induced production of raw materials was discontinued or curtailed, and the re-emergence of competing exports from industrialized countries resulted in reduced output of some manufactures, notably textiles,

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20/ Production for defence establishments as well as the civilian economy is included in the total in both pre-war and post-war years.

for domestic or newly won export markets. Although the trend varied among different countries, in the aggregate the level of industrial production in the under-developed areas changed very little. In contrast to this relative stagnation, the output of Australia, Canada and the United States, all similarly well above pre-war levels, continued to gain; that of the Soviet Union and of the industrialized countries of western Europe recovered quickly to pre-war levels and several of them far exceeded it. In Asia and the Far East, industrial output was less than pre-war in the war-combat areas and was relatively little above 1937 volume; in India it remained lower than the 1941 and subsequent war-time levels. In many of the other under-developed countries, however, industrial production in 1948 was at or above the world average, relative to 1937, and on the whole, the index of total industrial production in under-developed areas was probably about as high as the world average. By 1950 and 1951, however, it was clear that industrial output in the under-developed countries had not risen as much above pre-war levels as had the world average.

Over-all industrial production indices for five relatively under-developed countries for which indices were available at least up to the end of 1950 are included in table 2, above. In only one of these countries, Argentina, was the index (on a 1937 base) higher than the world average of 156 in 1950.[21] In Argentina, manufacturing as well as total industrial output declined in 1949, and though there was a moderate recovery in the second half of 1950, output for the year was below the 1948 level. In Chile and India, a decline in manufacturing as well as in total industrial production, which began in 1949, continued during the first half of 1950 in India and during the first three quarters in Chile. In Mexico industrial production was almost as high as the world average, relative to 1937, and continued to advance. In none of these countries did output increase in 1950 over the preceding year by as much as the world average of 15 per cent. The average increase of 16 to 17 per cent in world manufacturing, between the first half of 1950 and the corresponding period of 1951, was

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21/ The index for Guatemala is on a 1946 base and therefore provides no comparison with pre-war levels.

equalled only by Chile, and then only as a consequence of the relatively large weighting assigned to the steel output of its new steel mill at Huachipato. Exclusive of this additional steel production, total manufacturing and industrial output in Chile were at about the same level in the two periods.

Among countries which are not included in table 2, the indications are that industrial production in Turkey in 1950 was higher than the world average, relative to 1937, though as a result of declines in manufacturing it fell below the 1949 level. In the Union of South Africa, industrial production was almost up to the world average (relative to 1937) though, largely because of the lag in gold-mining, the rate of advance was low, while power and transport capacities were showing signs of strain. In Pakistan, almost wholly agrarian in 1948, the development of consumer industries had begun, and a significant volume of textile output was obtained in 1951. On the other hand, industrial production remained below pre-war levels in Burma, Indonesia and the Philippines. In Brazil, after notable war-time advances - including the establishment of a steel plant with a 1946 output of 343,000 tons - industrial production failed to expand in the early post-war period, increased substantially in 1948 and slowly thereafter, though no further progress was recorded in the first half of 1951. Although the industrial base remained very narrow, manufacturing output increased over pre-war levels in both the Belgian Congo and Southern Rhodesia, providing the mines with some of their basic requirements and consumers with certain prepared foodstuffs and textiles. Available information suggests that industrial production in other countries of Asia and the Far East, the Middle East, Africa and Latin America has not advanced as rapidly as in the industrialized countries as a whole.

Although the increase in total industrial output in under-developed areas did not keep pace with advances in industrialized countries or the world as a whole, mining production - generally a major and in some cases the preponderant component of total industrial output - increased at a faster rate than in industrialized countries, as

table 14 indicates.[22] In 1950, mineral output was below that of 1937 in western Europe and had not regained the 1948 level in the United States. In Latin America and Africa, on the other hand, mine output continued to increase, and the 1950 index for these areas was well above the indices for the world and for the United States and western Europe. Notwithstanding the lag in mineral production in Asia and the Far East, the combined index for the under-developed areas was probably almost twice the 1937 level, largely because of a fourfold increase in petroleum output in the Middle East.

Two statistical factors account for the fact that the increase in mining production was greater, relative to pre-war, while the rise in total industrial production was less in the under-developed areas than in the industrialized countries. First, rapid post-war expansion in petroleum output raised total mineral production in under-developed areas substantially; and, second, production of other minerals expanded less than manufacturing. The under-developed countries which provided most of the post-war increase in petroleum output were Venezuela and the countries of the Middle East, which have relatively little other industry. In the countries producing other minerals, mining is generally a large, and in some cases the largest, industrial component. In contrast, mining is generally a small component in the total industrial production of economically developed countries. The rate of expansion of total industrial production in under-developed areas may therefore lag behind that in industrialized countries even though output of minerals increases faster in the former and though manufacturing production increases more rapidly than mineral production in both under-developed and industrialized countries.

This difference between the trends in mining and in total industrial production in under-developed and industrialized countries is significant, since it reflects the persistent dependence of under-developed areas on raw materials for export and their lack of an industrial base for diversifying their economies and producing more goods to meet essential domestic needs.

22/ See footnote to table 14 for qualifications relating to the indices.

Table 14. Indices of Mining Production,[a/] by Area, 1949 and 1950

(1937 = 100)

Area	1949	1950
World total[b/]	123	135
Africa, excluding Egypt	138	153
Asia and the Middle East:[c/] Petroleum	324	398
Europe, western	91	94
Latin America	165	182
United States	125	137

Source: Statistical Office of the United Nations. The index for Asia and the Middle East covers only petroleum and tin output in all countries, plus total mineral production in Japan and coal production in India. Since the output of the excluded minerals is low, in relation to pre-war levels, their omission tends to raise the index. On the other hand, limitations of product coverage elsewhere are likely to have the reverse effect, since the omissions are more likely to represent recent mining developments and minerals with newly discovered and rapidly expanding uses. In particular, there is evidence that the limited coverage of the Federal Reserve Board index, which was used for the United States, results in a downward bias. The world index is believed to understate production relative to 1937.

a/ Excluding gold and silver.

b/ Preliminary.

c/ Excluding China, India, Japan and the Soviet Union; including Egypt.

Among the under-developed countries with significant manufacturing production, manufacturing output during the post-war period, has generally been higher, relative to pre-war, than mining. In 1950, it was considerably higher in Chile, Mexico, Turkey and the Union of South Africa, and a little higher in Argentina. In India it was slightly lower.

Relatively few of the under-developed countries have as yet established the basic facilities required to diversify industrial production. Many countries producing minerals have no significant manufacturing industries. China and India in Asia; Argentina, Brazil, Chile and Mexico in Latin America; and Turkey and the Union of South Africa, have a foundation for steel production and fabrication and for basic chemical production. Egypt and Israel, and Colombia and Peru, have a basis for chemical production, and Southern Rhodesia for steel; Colombia and Peru have also made some progress in establishing a steel industry. Cement production has become widespread, but small-scale food processing and production of beverages and textiles remain the most common manufacturing activities of under-developed areas.

Available data on production of various textiles in under-developed countries are shown in table 15. Comparison of the figures for 1937 and the post-war years indicates that there was a substantial expansion in Latin America and the Middle East. Cotton textile output increased twofold, or more, in most of these countries. Rayon production generally increased in even larger proportion in the few countries that had a rayon textile industry before the war, and by 1948 most of the countries shown in the table produced rayon. In Asia and the Far East, however, there was no development of the rayon industry, and as late as 1950 even the total cotton textile output was below the 1937 level. After 1948 there was some recovery in the Philippines, but production had not regained pre-war levels by 1951. Pakistan showed the most marked progress, the newly established textile industry producing a significant quantity of cotton goods in 1951.

In general, the post-war period has been marked by serious reverses in textile production in under-developed areas. Although total rayon output has continued to rise, there were setbacks in 1950 in some countries,

while production of cotton textiles, of major importance in the output of the under-developed countries, declined in 1949 or in 1950 in most of the countries of Latin America, and in Egypt and Lebanon in the Middle East, as well as in Asia and the Far East.

The post-war pressure of competing exports from industrialized countries exerted a deterrent influence on cotton textile production in under-developed countries in spite of import controls in many. In the case of the few countries which began to export on a significant scale during the war, notably Brazil and Mexico, the impact of competition was especially severe. In general, however, post-war setbacks in cotton textile production in under-developed areas arose from the fact that domestic demand did not keep pace with expanded levels of domestic output. Imports of cotton textiles in under-developed areas, with the probable exception of dependent territories, had not regained the pre-war level by 1950. In India, production after 1949 was at or below the pre-war level, yet the country became a large net exporter, and in 1950 and 1951 total as well as per capita domestic cotton textile supplies were much less than before the war. During the post-war period, total supplies arising from domestic production and net trade have been below the pre-war level in many countries, and per capita supplies have been lower in many more.

The fact that textile manufacturing has been established in so many under-developed countries, giving them a total post-war output significantly above the pre-war level, is evidence of the relative ease with which the textile industry can be developed. Compared with heavy industry, textiles require relatively little capital, labour is more easily trained and local availability of raw materials is less essential to economic production (as is evidenced by the textile industries of most industrialized countries) though indigenous cotton supplies may provide the necessary raw materials for textile production in under-developed countries. Most of the under-developed cotton-growing countries that began or expanded textile manufacturing significantly during the war and post-war periods, retain more of their cotton output for domestic processing, exporting relatively less as raw cotton. Thus, Argentina, Brazil, Egypt, Mexico, Peru and

Table 15. Textile Production in Under-developed Countries
1937 and 1948 to 1951

(Thousands of specified unit)

Country, item and unit	1937	1948	1949	1950	1951[a/]
Latin America					
Argentina:					
Cotton yarn (metric ton)	25.7	70.0	70.0	76.7	83.9
Rayon yarn and fibre (metric ton)	0.8	4.8	6.5	7.0	7.3
Bolivia:					
Cotton fabric (metre) b/	5.8	12.7	10.8	7.2	..
Brazil:					
Cotton fabric (metre) b/	964.0	1,120.0	1,136.0	1,138.0	..
Rayon yarn c/ and fibre (metric ton)	3.5	12.9	16.0	19.9	..
Chile:					
Cotton fabric d/ (metre) b/	12.8	24.2	26.6	23.5	26.1
Rayon yarn and fibre (metric ton)	-	1.6	2.1	2.0	..
Colombia:					
Cotton yarn (metric ton)	0.1e/	2.1	1.3	1.6	..
Cotton fabric (metre) b/	73.5e/	166.3	164.4	160.2	..
Wool fabric (metre) b/	1.4e/	2.6	2.6	3.5	..
Rayon yarn and fibre (metric ton)	-	1.2	1.3	1.7	..
Rayon fabric (metre) b/	7.0e/	11.4	11.9	11.8	..
Cuba:					
Rayon yarn and fibre (metric ton)	-	0.2	3.4	7.6	..
Ecuador:					
Cotton fabric (metre) b/	2.8	12.6	12.8	12.7	..
Wool fabric (metre)	50	300	500	300	..
Mexico:					
Cotton yarn (metric ton)	7.3	5.9	5.2	6.5	4.6
Cotton fabric (metric ton)	38.5	47.3	41.9	44.3	36.2
Rayon yarn and fibre (metric ton)	-	4.6	9.8	9.8	..
Peru:					
Rayon yarn and fibre (metric ton)	-	0.3	0.6	0.7	..
Venezuela:					
Cotton yarn (metric ton)	-	0.03	0.3	0.2	0.1
Cotton fabric (metre) b/	3.0f/	20.9	13.8	9.2	11.2
Rayon fabric (metre) b/	0.2e/	3.3	6.4	12.5	9.9
Middle East					
Egypt:					
Cotton yarn g/ (metric ton)	17.6	33.2	33.7	31.7	32.2
Cotton fabric (square metre) b/	64.7	155.7	151.7	157.8	173.8
Wool fabric (metric ton)	-	0.88	1.41	1.21	1.18
Rayon fibre and yarn (metric ton)	-	0.02	1.0	3.2	4.4

Table 15, continued

Country, item and unit	1937	1948	1949	1950	1951[a]
Lebanon:					
Cotton yarn (metric ton)	1.4[e]	6.0	5.0	2.0	2.2
Rayon fabric (metre)	-	500	450	750	..
Syria:					
Cotton yarn (metric ton)	0.6	2.4	3.7	4.7	..
Cotton fabric (metre) [b]	1.0	14.0	21.4	.. [h]	..
Turkey:					
Cotton yarn (metric ton)	16.1	29.4	29.7	30.2	28.4
Cotton fabric (metric ton)	15.0	19.9	21.4	22.5	..
Wool yarn (metric ton)	3.2	7.5	7.9	7.5	6.6
Wool fabric (metric ton)	3.1	6.4	6.2	4.4	..
Rayon yarn and fibre (metric ton)	-	0.29	0.30	0.28	..
Asia and the Far East					
Ceylon:					
Cotton yarn (metric ton)	0.9	0.7	0.8	0.7	..
Cotton fabric (metre) [b]	6.0[f]	7.0	7.4	6.9	..
India:					
Cotton yarn (metric ton)	526.5	669.1	585.8	534.3	570.4
Cotton fabric (metre) [b]	3,735.0	4,005.0	3,519.0	3,379.0	3,702.0
Philippines [i]					
Cotton yarn (metric ton)	1.90[j]	0.01	0.02	0.03	0.04
Cotton fabric (yard) [b]	11.4[j]	7.3	4.3	9.6	10.8

Source: Statistical Office of the United Nations and national statistics.

a/ First six months at annual rate.
b/ In millions of specified unit.
c/ Data for rayon yarn relate to Sao Paulo only.
d/ Coverage incomplete; figures represent 53 per cent of production in 1948.
e/ 1940.
f/ 1938.
g/ Output of principal producers.
h/ More than 22 million metres.
i/ Production of National Development Company.
j/ 1941.

Turkey all kept much more of their raw cotton output for domestic use in 1950 and 1951 than before the war. Of these, Brazil, Egypt and Peru actually reduced their exports of raw cotton. The total amount of cotton retained for domestic processing by India and Pakistan was also increased, and their combined exports reduced. Production of cotton has been increased solely for export in relatively few under-developed countries - primarily in the dependent territories of Africa.

Although imports of cotton textiles by under-developed countries have been below pre-war levels throughout the post-war period, imports of all textiles and clothing were higher than pre-war in 1949 in all the under-developed areas. As exports of the industrialized countries to these areas indicate, their imports declined in 1950, falling below the pre-war level in Latin America and in Asia and the Far East, except in the dependent territories. In the first half of 1951, imports probably continued below the pre-war level in Latin America, though not in Asia and the Far East.

In general, substantial continuing increase in the consumption of textiles in under-developed countries is likely to be associated with expanded domestic production rather than greater imports; textile imports are more likely to continue to fluctuate in accordance with the foreign exchange position of the countries concerned. Temporary increases may recur, but substantial and sustained expansion of imports is unlikely if there is economic development and, in the long run, even less likely if there is no economic development.

Chapter 2

F O O D

The world harvest of food crops (not including those of the USSR) was 3 per cent higher in 1950/51 than in the preceding year, regaining the level of 1948/49. Meat production increased 5 per cent in 1950, while the fish catch rose about 10 per cent. Food output in the Soviet Union also rose, reaching a new post-war high.

Notwithstanding these increases, world food output per person did not reach pre-war levels. Per capita production outside the Soviet Union in 1950/51 was 4 per cent below the 1934-38 average in the case of food crops and 7 per cent below the pre-war average in the case of meat, while the fish catch was only one per cent above. This over-all comparison with pre-war food supplies reflects the chronic deficiencies which have persisted in a number of countries, particularly in the populous areas of Asia and the Far East. Since these countries did not provide effective demand for a large-scale expansion of imports, however, international markets were not materially affected in 1950 or 1951 by the inadequacy of supplies of any of the important food products.

Although the United States grain harvest in the autumn of 1951 fell below that of the previous year, the decline was more than offset by abundant Canadian crops. In eastern Europe, the 1951 autumn harvests of both bread and feed grains showed substantial increases over 1950. In the Soviet Union, however, although the wheat harvest was larger, the total 1951 autumn harvest of grains was smaller than in the previous year. Declines in the wheat harvest in Argentina, Australia, western Europe and the United States were more than counterbalanced by a large increase in Canada and smaller increases in eastern Europe, Spain and Turkey. In the Middle East countries, exclusive of Turkey, the wheat harvest generally was only slightly larger or in some actually was less.

At the end of 1951, the outlook for the world's 1951/52 harvests indicated little improvement over the preceding crop. Aggregate output of

bread grains in 1951/52 was expected to rise by about 2 per cent compared with 1950/51, mainly as a result of a larger wheat harvest, though rye output was expected to fall off. The coarse grain harvest was estimated to be 3 per cent higher, all crops sharing in the increase. Since a reduction in the wheat supplies of Argentina and Australia was expected, it seemed likely that an increase in western European imports from dollar sources would be necessary to prevent a decline in bread grain supplies.[1/] The output of feed grains in western Europe, on the other hand, was expected to be higher. Only a slight improvement in the wheat harvest in Asia and the Far East was foreseen. The 1951/52 world output of rice and of food crops other than grains and potatoes was expected to rise above the 1950/51 level, with advances ranging from impressive gains in edible fats and oils to a relatively slight increase in rice. An increased rice harvest was in prospect in China, while in India even the low crop level of 1950/51 was not expected. Indications were that the potato crop, particularly in Europe, would again be reduced, falling below the 1934-38 average. While earlier reports suggested that the supply of meat and dairy products would increase moderately in 1951/52, the outlook at the end of 1951 was uncertain.

World production of bread grains in 1950/51 was 4 per cent higher than in the preceding year, and 10 per cent above pre-war, as shown in table 16. The increase was due mainly to larger wheat crops; rye production is limited principally to Europe and, though still below the pre-war level, it declined in 1950/51. Re-introduction of acreage limitations in the United States resulted in a smaller wheat crop, and the Australian harvest declined by one-sixth in 1950/51. This loss, however, was more than offset by higher output elsewhere, particularly in Canada and Europe.

Augmenting the supply of bread grains, the world potato crop in 1950/51 was 12 per cent above 1949/50, though short of the 1948/49 harvest. Most of

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1/ In western Europe, western Germany, Portugal and Spain were the only countries in which the 1951/52 wheat output showed prospects of an increase. In all other countries in the region, particularly in France and Italy, output was expected to decline.

Table 16. World[a/] Harvest of Selected Foods

1934-38, 1949/50 and 1950/51

(Millions of metric tons)

Crop	1934-38	1949/50	1950/51
Wheat	128.6	139.3	146.0
Rye	21.0	19.8	19.3
Total bread grains	149.6	159.1	165.3
Barley	41.0	42.5	46.4
Oats	45.0	47.3	50.1
Maize	110.2	138.1	133.4
Total coarse grains	196.2	227.9	229.9
Potatoes	159.4	145.9	163.5
Rice	149.3	151.0	153.8
Sugar	26.4	31.0	34.3
Vegetable fats and oils[b/]	21.0	21.1	21.3

Source: Food and Agriculture Organization of the United Nations, Food and Agricultural Statistics.

a/ Excluding the Soviet Union.

b/ In oil equivalents; including some inedible oils.

the increase was accounted for by substantially larger crops in France and Germany. Fodder output was slightly higher despite the drop in world maize production. Larger Canadian and United States harvests accounted for almost all the net increase in the world output of barley and oats. The 1950/51 maize harvest was smaller in Africa, Asia, Europe and the United States, but was larger in Latin America, with the result that the net loss in world supplies was little more than the decline in United States production. Sugar output rose, reaching a new post-war high, mainly as a result of increases in European sugar-beet production.

World production of rice increased slightly in 1950/51, and total supplies exceeded pre-war levels. In Asia and the Far East, where rice serves as the basic food element, output remained below pre-war, however, though it constituted more than 90 per cent of the world total, local deficits have normally been met by extensive intra-regional trade, but output in two of the most important exporting countries in the Far East, Burma and Indo-China, was substantially below the pre-war level, with the result that exports were cut sharply, and shipments to the world's leading rice importing countries, India and Japan, were adversely affected. The effect in India was particularly grave since the decline in imports in 1950 to less than one-fifth the pre-war volume coincided with serious crop failures in various parts of the country. Japan, on the other hand, maintained rice production in 1950/51 and increased total imports substantially over the preceding year.

The production of edible and non-edible vegetable fats and oils rose slightly in 1950 and exceeded the 1934-48 average by 1 1/2 per cent. Total reported meat output increased 5 per cent during 1950, surpassing the 1934-38 level by about 6 per cent. The most striking gain occurred in Europe, where output rose more than 15 per cent; there were increases in practically all countries and an especially large one in Germany. Latin American production was only slightly higher, largely because drought-induced slaughtering in Argentina was offset by a decline in demand due to a sharp fall in export trade. United States output of meat rose slightly in 1950 while Canadian and Australian slaughtering declined.

At the end of 1951, prospective meat supplies appeared somewhat larger in the aggregate, since world livestock numbers were above the pre-war total, despite a continued lag in most of Asia. The livestock population in Latin America was well above the pre-war level, but the decline in the number of sheep in North America and Europe was not fully offset by increases elsewhere. The number of cattle and hogs in the United States was more than one-fourth above pre-war; though the number of hogs had not regained pre-war levels in Europe, the number of cattle was slightly above the 1938/39 total for the first time in post-war years.

On the other hand, the trend in the average yield of food crops was not favourable. Compared with pre-war years, significant gains have been registered by Canada and the United States, but in Europe yields per hectare generally have remained lower than in pre-war years, while, except in the case of potatoes, Latin American output per hectare has not changed materially. In Asia, for the most part, yields have been less satisfactory than even the low pre-war figures - the decline being particularly serious in the case of rice - and no significant improvements have been made in food crop yields in Africa, which remain among the lowest in the world.

Compared with the preceding year, 1950/51 food crops were larger in all regions except Oceania. Although world production of food crops exceeded the pre-war level by 9 per cent, per capita supplies were almost 4 per cent lower. The increase in world output, compared with pre-war years, was accounted for principally by a 50 per cent rise in Canadian and United States harvests and, to a lesser extent, by an expansion of one-fifth in Latin American production. In Europe and in Asia and the Far East, on the other hand, food harvests in 1951 did not reach the average of 1934-38. While total European production was lower than pre-war, output of food crops in western Europe was at least up to the pre-war level in the aggregate, though not on a per capita basis. In eastern Europe, a large net exporter before the war, output remained below the 1934-38 average.

If the shift of food resulting from international trade is taken into account, relative supplies in the different regions are similar to those of pre-war years. As may be seen in table 17, the largest increases over

Table 17. Indices of Production and Supplies of Food Crops,[a] by Area, 1948/49 to 1950/51

(1934-38 = 100)

Region	1948/49		1949/50		1950/51		Population, 1950 (1936 = 100)
	Production	Supply	Production	Supply	Production	Supply	
World (excluding USSR).....	109	109	106	106	109	109	113
Asia and the Far East.....	98	105	95	102	98	104	111
Australia and New Zealand...	110	122	120	152	108	105	119
Canada and United States.	161	140	150	133	151	133	119
Europe,[b] (excluding USSR).	92	93	91	92	95	97	107
Latin America...	114	132	109	132	120	145	131

Source: Food and Agriculture Organization of the United Nations, Food and Agricultural Statistics.

a/ Including wheat, rye, barley, oats, maize, rice, potatoes, sugar and fats and oils. Available supplies consist of production plus imports minus exports; no account is taken of changes in stocks.

b/ Information from official national sources suggests that production in eastern Europe was higher in the post-war years than is implied in these indices.

pre-war have occurred in the food crops of Canada, the United States and Latin America. Net exports of Canada and the United States were substantially increased during the post-war period, but the rise in exports was less than that in production, and per capita domestic supplies in 1950/51 were 12 per cent above the pre-war average. The relative increase in food crop production in Latin America has been surpassed by a more rapid increase in population, so that per capita output during 1950/51 was actually 8 per cent below the pre-war level. Exports declined, however, and with the retention of a larger proportion of the annual harvest within the region, supplies of food crops per person were more than 10 per cent greater in 1950/51 than in 1934-38. The main impact of the decline in per capita supplies in Australia and New Zealand in 1950/51 was absorbed by withdrawals from stocks, and the normal heavy exports from these countries were maintained without any lowering of domestic consumption levels.

In Europe, supplies per person in 1950/51 were below the pre-war average by almost 10 per cent. In Asia and the Far East, the decline was almost as large; this region, a food surplus area before the war, has been a net importer since the war, retaining more of the reduced food output while increasing the import of wheat. Statistics for countries of Africa and the Middle East are scant, but aggregate per capita supplies in the few countries for which data are available were apparently slightly higher in 1950/51 than in pre-war years. The limited information available for other countries in these areas suggests that the increases in their per capita supplies were as slight as those in the reporting countries and may, in some cases, have been less.

Available world supplies of food in 1950/51 increased slightly compared with 1949/50, but there was little change in regional disparities in the quantity and composition of food consumed. Supplies in Australia and New Zealand in 1950/51 represented an average calorie value of 3,300 per person, while in Canada and the United States the average calorie value was 3,220; in both regions supplies were higher than they had been before the war. Food supplies in Latin America increased over pre-war levels by a wider margin, rising to 2,475 calories per person. This average, however,

Table 18. Estimated Daily Energy and Protein Content of Per Capita Food Supplies in Selected Countries

Pre-war and 1948/49 to 1950/51

Region and country	Calories				Total proteins (grammes)				Animal proteins (grammes)			
	Pre-war	1948/49	1949/50	1950/51	Pre-war	1948/49	1949/50	1950/51	Pre-war	1948/49	1949/50	1950/51
Africa:												
Union of South Africa	2,300	2,570	2,580	2,580	68	70	71	70	23	25	26	25
Asia and the Far East												
Ceylon	2,190	1,920	2,010	2,050	55	43	44	44	16	11	11	11
China	2,230[a]	2,170	2,020	2,222	71[a]	66	62	68	6[a]	5	5	5
India	1,970[a]	1,620	1,700	1,598	56[a]	42	43	41	8[a]	6	6	6
Indochina	1,860	1,460	1,560	1,560	45	35	37	37	8	5	5	5
Indonesia	2,040	1,760	1,880	1,936	46	41	42	43	5	5	5	5
Japan	2,180	2,050	2,100	2,142	64	50	53	54	10	8	8	9
Philippines	1,920	1,980	1,970	2,049	45	45	45	48	11	10	10	10
Europe:												
Austria	2,990	2,640	2,610	2,690	85	76	76	77	39	25	30	32
Belgium-Luxembourg	2,820	2,730	2,890	2,910	84	81	85	85	34	36	41	40
Denmark	3,410	3,060	3,180	3,300	91	102	103	100	57	57	59	58
Finland	3,000	3,070	3,020	..	95	99	96	..	44	44	51	..
France	2,830	2,690	2,680	2,700	93	98	91	91	39	39	41	41
Germany:												
Eastern	2,960	2,410	2,460	..	83	68	72	..	40	14	14	..
Western	2,960	2,530	2,690	2,800	83	81	79	78	40	27	33	35
Greece	2,600	2,470	2,490	2,510	84	74	77	79	23	14	19	19
Ireland	3,390	3,350	3,450	3,460	99	98	96	97	48	49	47	49
Italy	2,510	2,350	2,370	2,440	82	75	75	78	20	19	20	21
Netherlands	2,920	2,880	2,970	3,020	87	83	81	81	44	40	39	39
Norway	3,220	2,970	3,140	3,180	91	101	102	104	51	52	56	58
Sweden	3,120	3,070	3,200	3,160	95	95	94	92	59	59	60	59
Switzerland	3,110	3,100	3,190	3,300	95	94	98	101	54	50	52	53
United Kingdom	3,120	3,040	3,090	3,080	83	89	91	90	46	43	46	46

Table 18 (continued)

Region and Country	Calories				Total proteins (grammes)				Animal proteins (grammes)			
	Pre-war	1948/49	1949/50	1950/51	Pre-war	1948/49	1949/50	1950/51	Pre-war	1948/49	1949/50	1950/51
Latin America:												
Argentina.....	2,730	3,190	3,170	3,138	98	102	103	102	62	66	67	66
Brazil.....	2,150	2,340	2,440	2,489	68	63	65	67	32	25	25	26
Chile.....	2,240	2,470	2,340	2,434	69	75	70	74	21	23	22	23
Colombia.....	1,860	2,280	2,330	2,237	47	56	57	59	20	26	26	26
Cuba.....	2,610	2,730	2,820	2,933	62	67	68	69	23	25	25	25
Mexico.....	..	2,050	2,050	2,091	..	56	56	57	..	16	16	16
Peru.....	1,870	2,230	2,280	2,257	56	63	64	63	14	13	13	13
Uruguay.....	2,380	2,580	2,620	2,646	90	94	94	95	61	62	62	63
Venezuela.....	2,030		2,210	2,254	56	..	63	66	18	..	28	28
Middle East:												
Egypt.....	2,450	2,460	2,360	2,431	74	72	70	71	9	10	10	10
Turkey.....	2,560	2,500	2,340	2,504	78	80	74	80	12	18	17	18
North America:												
Canada.....	3,070	3,060	3,130	3,193	85	92	93	94	48	56	56	57
United States.....	3,150	3,130	3,170	3,233	89	90	91	92	50	60	60	61
Oceania:												
Australia.....	3,300	3,210	3,210	3,274	103	97	98	98	67	66	67	68
New Zealand.....	3,260	3,150	3,400	3,400	96	94	101	101	64	63	66	66

Source: Food and Agriculture Organization of the United Nations, Food and Agricultural Statistics.

a/ Including Pakistan.

was below the average of 2,805 calories in Europe, though per capita supplies in many countries of Europe remain below the pre-war figures. In Asia and the Far East, supplies represented an average of only 1,950 calories per person in 1950/51 - below the pre-war average in practically every country - and less than 1,600 calories in India and Indo-China. Similarly, the quality of diet, as reflected in per capita protein supplies, improved in the high consumption countries, Canada, New Zealand and the United States, and also in most of Latin America, but among the countries of western Europe, the changes were varied, and relative to pre-war averages, per capita supplies were more often lower than higher (see table 18). Per capita protein supplies, as well as total food supplies, declined in Asia and the Far East; total proteins averaged 54 grammes per day, compared with 69 grammes in Latin America, 86 in Europe, 92 in the United States and Canada, and 99 in Australia and New Zealand.

Chapter 3

FUEL AND POWER

After a fall in demand in 1949, notably in the United States which accounts for 42 per cent of the total, world output of the various sources of energy recovered rapidly in 1950 - as table 19 shows. In the first half of 1950 the combined index for coal, petroleum, natural gas and hydro-electric power was at a new peak. With the accelerated increase in output thereafter, 1950 production was 10 per cent above that of 1949; and in the first half of 1951 output rose to 12 per cent above the corresponding period in 1950.

Production of electric power, both hydro and thermal, has been increasing steadily, reflecting the growing use of electricity for lighting and for many household purposes as well as for industrial power. By the first half of 1950, electric power was being produced at more than double the 1937 rate. Electric power facilities had been expanded substantially above the pre-war level in all areas of the world. In the under-developed areas, however, output remained very small, as indicated by the production figures in table 20 for Africa, Asia and Latin America. The rate of growth of electric power production in these areas after 1948 was less than in North America and in Europe, not for lack of demand but because of inadequate capacity.

The increase in total use of all fuels and power in 1950 and the first half of 1951 was also less in the under-developed countries than in industrialized countries. During this period, total output increased in all areas of the world, as shown in table 21. Apart from Oceania,[1/] however, the increases were smallest in Asia and the Far East and in Africa. Moreover, most of the increases in these areas were accounted for by Japan and the Union of South Africa. In Latin America and the Middle East, the expansion of total output was substantial both in 1950 and in the first half

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1/ Output in Australia and New Zealand, combined, declined in the first half of 1951, as a result of a decline in Australian coal production.

Table 19. Indices of World Fuel and Power Production, by Major Sources, 1948 to 1951

(1937 = 100)

Source of energy	1948	1949	1950	1951	1950 First half	1950 Second half	1951 First half	1951 Second half
World total:								
Coal (and coal equivalent of lignite).....	110	105	114	..	..	..	..	..
Petroleum, crude a/.....	164	163	182	..	..	..	..	..
Natural gas.....	222	234	270	..	..	..	..	..
Hydroelectric power.....	159	168	187	..	..	..	..	..
Total, above sources of energy b/.....	130	127	140	..	..	..	..	..
Total electric power	178	189	212	..	..	..	..	..
Total excluding USSR:								
Coal (and coal equivalent of lignite).....	106	98	106	111	102	109	110	111
Petroleum, crude a/.....	173	171	191	216	177	204	213	219
Natural gas.....	218	230	265	..	279	252	330	..
Hydroelectric power c/...	160	171	187	..	188	186	206	..
Total, above sources of energy b/.....	129	124	137	..	132	141	148	..
Total electric power c/	178	188	210	233	201	217	229	237

Source: Based on data from the Statistical Office of the United Nations.

a/ Including natural gasoline.

b/ Based on kilowatt-hour equivalents of coal, petroleum and natural gas.

c/ Not including China.

Table 20. Production of Electricity, by Area and Type
1937 and 1948 to 1951

(Thousand millions of kilowatt-hours)

Area	1937	1948	1949	1950	1951
World total	449	799	850	951	1,058
Canada and the United States...	178	385	397	444	499
Europe a/	172	249	266	299	336
Western Europe.....	143	210	222	250	280
USSR.....	36	66	78	90	104
Africa.....	6	12	12	14	16
Asia a/ b/	42	56	63	68	64
Latin America.....	10	19	21	22	24
Oceania.....	5	12	13	14	15
Hydroelectricity.....	184	293	309	344	..
Thermal electricity.....	265	506	541	607	..

Source: Statistical Office of the United Nations, and United Nations, Economic Survey of Europe in 1951.

a/ Not including the Soviet Union.

b/ Estimated.

Table 21. Indices of Fuel and Power Production, by Area, 1948 to 1951

(1937 = 100)

Area	1948	1949	1950	1951 First half
Canada and the United States...	150	128	144	160
Europe a/	93	99	104	111
Western Europe.....	85	91	95	101
USSR.....	146	166	185	..
Africa.....	159	169	178	179
Asia and the Far East.....	88	102	110	115
Australia and New Zealand.....	136	134	149	140
Latin America.....	211	218	243	264
Middle East.....	337	412	503	560

Source: Based on data from the Statistical Office of the United Nations.

a/ Not including the Soviet Union.

of 1951, but almost all of it was accounted for by the increased production of petroleum and petroleum products for export. In the internal use of fuel and power, the increase in these areas did not compare favourably with that in the industrialized countries.

The proportion of total heat and motive power obtained from petroleum fuels and hydro-electricity has tended to increase considerably, the former in post-war years and the latter during the inter-war period as well. In the United States, the greatest increase was registered in the use of natural gas, which accounted for 10 per cent of gross energy consumption in 1929 and no less than 25 per cent in 1949. Of the energy consumed in Europe (excluding the USSR) in 1949, about 13 per cent came from hydro-electricity and 8 per cent from petroleum fuels, compared with 10 per cent and 3 per cent, respectively, twenty years earlier. Hydro-electric sources provided the bulk of the power used in a number of European countries, but, in almost every country in Europe, it was the use of petroleum fuels which had expanded most, compared with pre-war.

Although coal remains the world's major source of energy, accounting for 57 per cent of the total supply in 1950 compared with 70 per cent in 1937, it is thus being increasingly displaced by oil in transport, in space heating and as an industrial fuel. Reductions in the demand for energy have therefore tended to affect the production of coal more adversely than that of fuels whose use is expanding. This is illustrated by the marked decline in coal production and the accumulation of surplus inventories of coal in the United States in the first half of 1949 and in certain countries of Europe somewhat later, while world petroleum output changed very little, and world output of electric power continued to expand. In further contrast to petroleum, 93 per cent of the 1950 world supply of coal was produced in the industrialized countries, and relatively small proportions were exported. Moreover, as the use of petroleum has grown, coal exports and consumption in ships' bunkers have tended to decrease. Nevertheless, trade in coal is still important in distributing supplies among the countries of Europe and, more particularly, the supplies of coking coal needed for steel production. With industrial demand sharply increased, the problem of adequate coal supplies

again emerged in Europe towards the end of 1950. As in the early post-war years, when the rehabilitation of European coal-mining was under way, large-scale, costly imports from the United States were again required, while the adequacy of coke and coking coal supplies became a matter for concern, particularly in countries whose metallurgical industries depend upon imports. After the middle of 1951, as a result of the closing of the Abadan refinery and the cessation of exports from Iran, shortages of petroleum products occurred in some Far Eastern countries, and supplies of aviation gasoline and heavy fuel oils became tight in western Europe, while in some ports there were occasional difficulties in obtaining bunker oil.

Coal

World production of coal and lignite amounted to more than 1,600 million tons[2/] in 1950, more than 8 per cent above the preceding year (see table 22), compared with an increase in consumption of little more than 5 per cent. In western Europe, where output increased relatively little, the year's total almost equalled inland consumption. In the first half of 1951, however, demands of industry, which began rising in the second half of 1950, resulted in sizable withdrawals from stocks, notwithstanding a 5 per cent increase in output and imports of 7.5 million tons from the United States. The inventory position improved somewhat in western Europe in the latter part of 1951 with a continued rise in coal output. Coal stocks in the United States remained large throughout 1951 - higher than in 1948, although production was lower - and at the end of the year it appeared that, barring transport or payment difficulties, such imports as might be needed by western European countries in 1952 would be available.

Towards the end of 1950, the rise in demand from western European metallurgical industries created tight situations in the supply of coking coals and coke. On the continent, western European coke output in the first half of 1951 was about 20 per cent above the corresponding period of 1950, while steel production rose by about 22 per cent. Although Belgium reduced

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2/ Coal equivalent.

Table 22. Production of Coal, [a] by Area
1937 and 1948 to 1951

(Millions of metric tons)

Area	1937	1948	1949	1950	1951	1950 First half	1950 Second half	1951 First half	1951 Second half
World total.....	1,399	1,550	1,479	1,605	1,691	..	..	..	..
World total, excluding USSR	1,270.9	1,342.8	1,245.1	1,345.1	1,406.7	651.3	693.8	698.7	708.0
Africa.....	17.1	27.0	28.7	30.1	30.3	14.6	15.5	15.1	15.2
Asia[b].....	115.7	92.5	106.2	114.5	122.0	56.9	57.6	59.1	62.9
Canada and the United States	462.6	609.1	449.8	518.4	536.5	240.5	277.9	265.4	271.1
Europe[c].....	653.8	584.6	630.8	650.1	684.5	323.7	326.4	343.8	340.7
Eastern Europe.....	115.2	153.2	162.2	172.7	182.9	85.0	87.7	92.1	90.8
Western Europe.....	538.6	431.4	468.6	477.4	501.6	238.7	238.7	251.7	249.9
Latin America.....	4.5	6.2	6.4	6.3	6.5	3.1	3.2	3.0	3.5
Middle East[d].....	2.4	4.5	4.8	4.9	5.1	2.5	2.4	2.7	2.4
Oceania.....	14.8	18.9	18.4	20.8	21.8	10.0	10.8	9.6	12.2
USSR[e].....	128	207	234	260	284	..	..	..	..

Source: Statistical Office of the United Nations, and United Nations, Economic Survey of Europe in 1951.

a/ Including coal equivalent of brown coal and lignite.

b/ Excluding the Middle East and the Soviet Union.

c/ Excluding the Soviet Union.

d/ Turkey only; very small amounts are produced in Iran and Afghanistan.

e/ Coal and lignite.

shipments of coke to other western European countries, western Germany, the largest source of supply, increased its shipments by a much greater amount. However, imports from Poland, small in 1950, were sharply reduced, and imports from the United Kingdom, which accounted for one-sixth of total continental imports in 1950, fell off to scarcely one-third of the 1950 average. Compared with the year 1950, therefore, total imports of coke by the continental countries of western Europe in the first half of 1951 were at a somewhat reduced rate. In the United Kingdom, coke manufacture was 3 per cent higher in the first half of 1951 than in the corresponding period of 1950, while steel production declined by 2 per cent, difficulties in obtaining adequate supplies of scrap and high-grade ore having increased the rate of coke consumption per ton of steel.

Petroleum

Since pre-war years, output of crude petroleum has increased at an average annual rate of 5 to 6 per cent, supported by the growing use, throughout the world, of petrol (gasoline) in motor vehicles and aircraft and of other fuel oils in agricultural machinery, marine and rail transport, and industry. Production in the first half of 1951 was at more than double the 1937 rate, and 20 per cent above that of the corresponding period of 1950. As may be seen from table 23, the recovery of production in the first half of 1950 from the slightly reduced level of 1949 was relatively slow, but expansion of output in the second half-year was rapid, reflecting the large-scale military requirements which, after the middle of 1950, augmented the long-term upward trend in demand. As a result, production in the year 1950 was 12 per cent above 1949, and the annual rate of output in the first half of 1951 was 12 per cent above that of 1950.

In 1950 about 40 per cent of the world's supply of petroleum, not including that of the Soviet Union, was provided by countries of Latin America and the Middle East. The bulk of the output was produced for export, about 90 per cent of the oil produced in the Middle East being exported outside the region, not only to western Europe, but also to the Far East and Oceania, as crude oil or refined oil products, or as bunker fuel. In the

Table 23. World Production of Crude Petroleum, by Area

1937 and 1948 to 1951

(Millions of metric tons)

Area	1937	1948	1949	1950	1951	1950 First half	1950 Second half	1951 First half	1951 Second half
World total.....	285.2	470.6	468.6	524.3	594.1	..	..	..	..
World total, excluding USSR	256.2	441.2	435.1	486.5	551.8	225.9	260.5	272.1	279.7
Asia and the Far East [a].....	9.7	7.6	10.2	11.6	15.6	5.5	6.1	6.9	8.7
Canada and the United States	178.0	278.3	255.1	273.9	313.6	126.6	147.2	152.7	160.9
Europe [a].....	8.3	7.1	8.2	10.2	12.6	4.8	5.4	6.0	6.6
Western Europe.....	0.6	2.2	2.8	3.5	4.3	1.7	1.9	2.0	2.3
Latin America.....	44.4	90.5	90.6	102.3	114.7	48.0	54.3	56.1	58.6
Middle East.....	15.8	51.7	71.0	88.5	95.3	41.0	47.5	50.4	44.9
USSR.....	29.0	29.4	33.5	37.8	42.3	..	..	..	..

Source: Statistical Office of the United Nations, and United Nations, Economic Survey of Europe in 1951.

a/ Not including the Soviet Union.

middle of 1951, exports from Iran stopped; these had amounted, in 1950, to 6.6 million tons of crude oil and about 21 million tons of fuel products, exported or loaded in ship bunkers - a total crude oil equivalent of about 30 million tons. By the third quarter of 1951, this crude oil equivalent was almost made up by increased output elsewhere. Saudi Arabia and Kuwait alone, the two largest producers in the Middle East after Iran, increased crude production by more than 3.3 million tons over the second quarter. Adding the increase of output in the United States, which had been importing crude oil from the Middle East as well as from Latin America, and in Venezuela, by far the largest Latin American producer and exporter, a total increase of about 6 million tons was provided during this quarter, while smaller producers in the Middle East, Latin America and the Far East also increased production. There is no reason to doubt that crude oil production can be expanded further to meet all refinery demands.

Loss of the petroleum products exported from the Abadan refinery in Iran was also substantially offset by increased output elsewhere, principally in Europe and in the United States, whose oversea shipments increased considerably in 1951. Without the Abadan refinery, however, world refinery capacity was barely able to meet the growing demand for certain oil products, particularly aviation gasoline, which requires special refining. United States supply is under strict export control; western Europe could not fully replace the large Abadan output of aviation gasoline, and shortages resulted. The proportions of gasoline, other oil products and residual heavy fuel oil that are obtained from the refining of a given quantity of crude petroleum depend, to a considerable extent, on the relative demand for the products, and with demand for the lighter fractions high and rising, the supply of heavy fuel oils is reported to have become tight in the Eastern Hemisphere.

Although estimates of total refining capacity vary, in 1950 average capacity operating outside the Soviet Union may be placed at between 550 and 575 million tons, and the total throughput of crude petroleum at about 90 per cent of capacity. Additional capacity which came into operation during 1951 raised the average by about 30 million tons. In order to refine

the available output of crude petroleum - an annual rate of 544 million tons in the first half of 1951 - refineries would have had to operate at well over 90 per cent of capacity, or, in the absence of Abadan's 25 million tons, at about 95 per cent of capacity, which was probably very near the practical limit of utilization. Since the Abadan capacity was available for the first half of the year, a 5 to 6 per cent increase in the output of petroleum products in 1951 was apparently feasible, but there was little, if any, margin for further expansion. With the additions scheduled to come into operation during 1952, average refining capacity is expected to increase by a further 35 to 40 million tons, raising the total by about 6 per cent. It thus appears that, notwithstanding the large expansions, the industry will continue to be hard pressed to meet the normal rise in demand for petroleum products.

Total consumption of refinery products outside the Soviet Union increased by more than 45 million tons in 1950, a rise of 14 per cent over 1949. Most of the increase, 29 million tons, was accounted for by the United States, but within the countries of western Europe the rate of expansion - 18 per cent - was actually greater. Regional data on consumption and supply in 1950 are shown in table 24. It will be seen that, although the bulk of refinery production is in the industrialized areas of North America and Europe, output exceeded consumption only in the Middle East and Latin America; the surplus in these two areas counterbalanced deficits in all other areas. Since western Europe has little crude oil, its refinery operations are supported mainly by imports. The United States also imports substantial quantities of crude petroleum, and since the autumn of 1949 has been a net importer of refined petroleum products. Its increase in consumption in 1950 outstripped the expansion of production by more than 9 million tons, accounting for much of the deficit shown for North America.

In 1950 the consumption of refined petroleum products in European countries (excluding the USSR) exceeded the output of their refineries by more than 16 million tons, and since the countries of eastern Europe are estimated to have produced almost 1.5 million tons more than they consumed, the deficit in western Europe was about 17.5 million tons. Most of this

Table 24. Supplies of Petroleum Products,[a] by Area, 1937 and 1950

(Millions of metric tons)

Area	1937 Supply surplus or deficit (-)[b]	1950 Refinery production	1950 Inland consumption	1950 Total consumption[c]	1950 Supply surplus or deficit (-)[b]
Latin America.....	+ 15.2	71.7	30.5	40.5	+ 31.2
Middle East.....	+ 6.3	39.9	8.0	16.1	+ 23.8
North America [d]..	- 0.2	262.5	269.2	279.5	- 17.0
Europe [e].....	- 17.0	40.3	49.9	56.6	- 16.3
Western Europe..	..	34.0	44.9	51.5	- 17.5
Africa [f].....	- 3.7	0.7	5.0	8.5	- 7.8
Australia and New Zealand.....	- 2.7	0.6	6.0	7.0	- 6.4
Asia [g].....	- 0.8	10.2	10.7	11.8	- 1.6
Total of above	- 2.9	425.9	379.3	420.0	+ 5.9

Source: Statistical Office of the United Nations.

[a] Fuels only, excluding lubricants, asphalt, waxes, etc.
[b] Regional production less the sum of inland consumption and bunker consumption. The 1937 data for consumption include a small quantity of synthetic products.
[c] Inland (other than shipping use) plus bunker consumption.
[d] Including natural gasoline. Area comprises chiefly Canada and the United States; Mexico is included in Latin America.
[e] Excluding the Soviet Union.
[f] Excluding Egypt.
[g] Excluding the Soviet Union and the Middle East.

deficit was met by imports from the Middle East, the Abadan refinery in Iran shipping 10 million tons of products to Europe. In the United Kingdom, additions to refining capacity during 1951 (including the Fawley refinery, which came into operation late in the year) were about equal to that country's share in Abadan exports, and further additions in 1952 will make the increase in refining capacity much greater than the 1950 level of imports from Abadan. Similar expansion on the continent, particularly in Belgium, France, western Germany and Italy, was expected to increase average refinery capacity in western Europe as a whole by almost 12 million tons in 1951; as the construction programme was accelerated, the increase may have been greater. A further expansion of about 15 million tons scheduled for 1952 not only should offset completely the loss of imports from Abadan but should permit a substantial reduction in imports of refined products from other sources as well as an increase in consumption and gross exports.

In Latin America, average refining capacity in 1951 was more than 5 million tons greater than in 1950 and is scheduled to expand by a further 2 million tons in 1952. Much of the expansion will probably serve increased domestic or regional consumption, but the expansion in Venezuela, estimated at about 2 million tons in each of the years 1951 and 1952, should provide substantial exports to other areas.

In 1950, about 3 million tons of Abadan's refined products were shipped to Asia and the Far East: two million to India and the remainder mainly to Burma, Ceylon and Pakistan. Shipments to Africa totalled about 1.5 million tons, and to Australia and New Zealand about 650,000 tons. Most of these countries are wholly dependent on imports. There were no significant additions to capacity in the Far East in 1951 and only a small expansion is scheduled in Indonesia in 1952. India has contracted for two new refineries and is expected to arrange for a third, but these cannot come into production before 1953 or be fully operative before 1954. A new refinery being established in the Union of South Africa is not scheduled for completion until 1953 or 1954, and a large coal hydrogenation project now under construction will not begin to produce until 1954 or later. Two new refineries are being built in Australia but will not be in operation until 1954 and 1956.

Chapter 4

RAW MATERIALS[1/]

Responding to increased demand and higher prices, world output of practically all raw materials rose to a post-war peak in 1950 and continued to expand in 1951, as shown in table 25. An important exception is cotton, United States production of which was substantially reduced in 1950 in accordance with government policy, following a 1949 post-war high in both United States and world output, which coincided with a sharp reduction in world demand and the first large post-war accumulation of stocks in the United States. In 1951, however, the United States again had a large cotton crop, and world production reached a new post-war high. The 1950 output of most of the other commodities listed in the table was above both pre-war and earlier post-war levels.

Among the quantitatively important non-ferrous metals, primary production of zinc and copper exceeded the pre-war level in 1950, lead production recovered almost to the pre-war level, and only tin production was much lower. Technological changes - some of them stimulated by the war - and the development of substitute materials, notably aluminium, as well as economies of use, have all tended to hold down the demand for these and some of the other non-ferrous metals. In addition, part of the demand is met by secondary production from scrap, and, since such secondary production has been at a somewhat higher level in the post-war period than before the war, this, too, has held back the demand for newly mined ores and the smelter production of primary metals. As a consequence, in 1948 it was possible to achieve over-all industrial production fully one-third higher than pre-war, and an even greater increase in heavy industry output, although primary smelter production of copper, lead and tin was less than the pre-war level, and zinc output was only 4 per cent higher. By 1951, primary (smelter)

1/ For a review of inter-governmental consultations and action on particular commodities, see also United Nations, Review of International Commodity Problems, 1951.

Table 25. World Production of Selected Raw Materials 1937, Peak War Year and 1948 to 1950

(Thousands of metric tons)

Commodity a/	Annual production				
	1937	War peak	1948	1949	1950
Metals:					
Copper, ore	2,190	2,550 b/	2,100	2,000	2,250
Copper, primary	2,230	2,620 c/	2,120	2,070	2,290
Zinc, ore	1,755	2,100 c/	1,625	1,675	1,850
Zinc, primary	1,550	1,760 b/	1,610	1,730	1,860
Lead, ore	1,635	1,700 d/	1,300	1,400	1,500
Lead, primary	1,610	1,650 d/	1,300	1,460	1,600
Tin in concentrates	210	250 e/	154	164	170
Tin	205	230 d/	160	171	175
Bauxite	2,700	13,100 b/	7,500	7,700	7,500
Aluminium	450	1,880 b/	1,120	1,130	1,300
Antimony ore	42	50 b/	41	35	38
Cadmium (metal) f/	2,979	4,589 g/	4,282	4,539	5,015
Chrome ore (Cr_2O_3)	489	600 c/	670	730	800
Cobalt f/	3,200	4,700 h/	6,100	5,900	7,100
Manganese ore	1,510	1,375 c/	1,095	1,420	1,509 i/
Molybdenum ore	15	31 b/	13	11	14
Nickel ore	112	152 b/	123	121	119
Tungsten ore (WO_3)	12	30 b/	11	9 i/	10 i/
Other minerals and chemicals:					
Pyrites	4,215	3,500 c/	3,400	3,850	4,200
Sulphur, native	3,425	4,000 c/	5,250	5,150	5,670
Sulphuric acid (100%)	14,600	15,500 b/	20,100	21,200	23,600
Nitrogen	2,549 j/	..	3,311 k/	3,605 l/	3,966 m/
Phosphoric acid (P_2O_5)	3,411 j/	..	5,130 k/	5,455 l/	5,634 m/
Potash	2,800 j/	..	3,257 k/	3,835 l/	4,312 m/
Rubber:					
Natural	1,226	1,623 e/	1,549	1,514	1,885
Synthetic	3	915 e/	541	447	543
Fibres:					
Cotton	6,432 n/	..	6,320 k/	6,845 l/	6,001 m/
Rayon	827	..	1,113	1,225	1,585
Wool (clean basis)	934 o/	..	976 k/	997 l/	1,036 m/
Hemp	250 o/	..	250	260	200
Jute	1,880 o/	..	1,390	1,420	1,560
Other hard fibres	534 o/	..	500	480	530
Forest products:					
Lumber p/	200,000	..	193,000	197,000	224,500
Newsprint	7,850	..	7,120	7,490	8,150
Wood-pulp	25,000	..	25,870	26,130	30,360

Commodity a/	Semi-annual production					
	1949		1950		1951	
	First half	Second half	First half	Second half	First half	Second half g/
Copper, primary	1,070	1,000	1,110	1,180	1,200	1,208
Zinc, primary	870	860	910	950	980	960
Lead, primary	730	730	780	820	800	734
Tin	85	87	87	88	86	81
Aluminium	590	550	610	690	740	820
Rubber, natural	712	802	841	1,044	988	905
Rubber, synthetic	239	208	230	313	430	494
Sulphur	2,575	2,575	2,778	2,892	2,834	..
Rayon r/	595	630	751	834	901	..
Wood-pulp r/	12,934	13,196	14,694	15,666	16,751	..

Source: Statistical Office of the United Nations; for cadmium, 1950 yearbook of the American Bureau of Metal Statistics; for cobalt, yearbook of the United States Bureau of Mines; for cotton, Commonwealth Economic Committee and the International Cotton Advisory Committee; for wool, Wool Intelligence; for fertilizers, flax, forest products, hard fibres, hemp and jute, the Food and Agriculture Organization of the United Nations. Except for cotton and wool, data do not include the Soviet Union and also exclude the following: for antimony, Korea and Spain; for copper, Spain; for lead, China, Poland and Portugal; for pyrites, China, eastern Europe and a few minor producers; for sulphuric acid, Algeria and Argentina, and, for post-war years, eastern Germany; for tungsten, China; for zinc, China, Poland and South West Africa. Data for newsprint and wood-pulp based on countries reporting to FAO.

a/ For mineral ores, metal content; for metals, smelter production.
b/ 1943.
c/ 1942.
d/ 1940.
e/ 1941.
f/ Tons.
g/ 1944.
h/ 1945.
i/ Based on output of major producers.
j/ 1938.
k/ 1948/49.
l/ 1949/50.
m/ 1950/51.
n/ 1938/39.
o/ 1934-38.
p/ Thousands of cubic metres of sawnwood; including hard and soft woods. Figure for 1950 estimated from data covering 64 per cent of total.
q/ Preliminary.
r/ Semi-annual totals based upon actual reports for countries accounting for 83 per cent of rayon production and 88 per cent of wood-pulp production.

production of zinc exceeded the war-time peak, copper production, though still somewhat short of the war-time peak, exceeded the pre-war level, while lead production, having dropped back to 1949 rates in the second half of the year, was still slightly below war-time and pre-war levels. In the case of tin, economies in plating make it unlikely that the demand will recover to the pre-war level in the immediate future.

The United States is the largest single producer of many raw materials. Its 1950 cotton crop, even though less than the ten-year average, accounted for more than 40 per cent of the world's supply (not including that of the USSR), while it also produced more than 40 per cent of the sawn lumber and wood-pulp, and 33 per cent of the rayon. Among the minerals, the United States accounted for more than 90 per cent of world production of natural sulphur and molybdenum; of cadmium, 81 per cent; aluminium, 50 per cent; copper ores, 37 per cent; zinc ores, 31 per cent; lead ores, 26 per cent; tungsten, 20 per cent; and antimony, 6 per cent. In general, United States production has accounted for a larger proportion of the total output of raw materials throughout the post-war period than in pre-war years. Its production increased in 1950 and 1951, and further expansion is under way. Nevertheless, except for cotton, sawn softwood, sulphur and molybdenum, industrial processing of raw materials for domestic and export markets generally requires more than the supplies produced internally; the country relies entirely or largely on imports for its supply of tin, natural rubber and wool. United States demand for imports of raw materials is thus an important factor and, in many cases, a decisive factor in world markets.2/

The course of demand for raw materials between 1949 and 1951 is reflected in the indices of prices in table 26. In 1949 there was a decline in the consumption of raw materials and a liquidation of stocks in the United States. Even before the end of the year, however, there were signs of recovery in United States demand, although in January 1950 prices of all raw materials were still at or below the average 1949 level. Increased

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2/ For a discussion of the importance of United States imports in world markets, see World Economic Report, 1950-51, chapter 4, "General Impact on World Trade of the Raw Material Boom".

United States demand was the principal market factor in the price recovery recorded in the first half of 1950. In the second half of the year, however, there was a compounding of factors tending to expand demand, and the result was an upsurge that brought the prices of practically all raw materials to record post-war levels. Not all the expansion in market demand, and in fact hardly any of it initially, stemmed from immediate requirements for increased use.

The occasion for this price boom in raw material markets was the war scare and the rearmament drive following the outbreak of hostilities in Korea. Market demand for materials originating largely in the Far East, notably rubber and tin, and also for wool, increased very greatly, and prices soared. More generally, the unfolding of the defence plans of the United States and then of the United Kingdom and other members of the North Atlantic Treaty Organization gave rise to anticipatory buying of both producer and consumer goods in many parts of the world, particularly in the United States and western Europe. In this development, purchases of raw materials for inventory far outstripped all others. Traders and producers did not wait for rearmament orders. Expectations of such orders and of increased consumer demand resulted in purchases to increase inventories, and rising prices as well as expanding production induced further inventory accumulation in anticipation of still higher prices. At the same time purchases for strategic stockpiles continued to increase, accentuating the rising trend in prices and straining necessarily limited current supplies. United States expenditures for stockpiling, which had declined substantially in the first half of 1950, rose to the new high figure of $256 million in the second half, and to $396 million in the first half of 1951. New contract commitments were almost four times as high in the first half of 1951 as in the preceding half-year.

These factors dominated the market until the end of the first quarter of 1951. Then the free market quotations of most raw materials levelled off, some (notably wool, tin and rubber) turning down immediately, others (notably cotton and jute, lead and zinc) turning down somewhat later, indicating that the speculative influences had run their course or overshot

Table 26. Indices of Average Wholesale Prices of Selected Commodities, [a] 1949 to 1951

(1948 = 100)

Commodity and specification	1949	1950	1951	1950 quarters				1951 quarters			
				First	Second	Third	Fourth	First	Second	Third	Fourth
Copper:											
Electrolytic, New York.	87	96	110	83	91	102	110	110	110	110	110
Electrolytic, London...	100	134	166	114	129	143	151	151	169	173	169
Wire bars, Italy.....	95	115	221	94	97	116	154	216	216	214	237 b/
Zinc:											
Prime western, New York	90	103	132	75	93	115	128	128	128	129	143
G.O.B., London.....	110	151	216	109	134	169	189	189	200	238	238
Lead:											
Pig, New York.....	85	73	97	64	63	74	92	94	94	94	105
Soft foreign, London...	108	110	170	98	95	111	139	142	167	187	182
Sheets, Netherlands....	95	96	163	79	74	106	126	168	161	158	165
Tin:											
Grade A, New York.....	100	96	129	76	78	98	133	168	136	105	104
Standard, London.....	110	135	195	109	108	135	189	243	201	163	176
Refined, Belgium c/....	100	109	148	83	87	110	155	186	150	123	134 d/
Aluminium:											
Virgin ingot, New York.	108	112	120	108	109	111	120	120	120	120	120
Antimony:											
Laredo.....	106	79	119	78	70	76	91	114	120	120	120 b/
Cadmium:											
Bars, New York.....	109	119	139	109	111	120	135	139	139	139	139
Cobalt:											
United States.....	109	109	132	109	109	109	109	127	127	127	145
Nickel:											
Electrolytic, US.....	114	128	154	114	123	137	138	144	150	161	161 b/
Tungsten:											
Ore, New York.....	85	101	251	75	74	99	155	266	248	246	246
Ore, Empire 65%, UK e/.	..	100	315	54	64	108	175	334	307	309	312 b/
Sulphur:											
Crude, US.....	100	105	117	100	100	100	120	117	117	117	117 b/
Sulphuric acid:											
United States.....	109	116	129	109	114	114	127	129	129	129	129
United Kingdom.....	96	104	134	94	105	105	113	113	135	136	153

Table 26, continued

Commodity and specification	1949	1950	1951	1950 quarters First	Second	Third	Fourth	1951 quarters First	Second	Third	Fourth
Rubber:											
Natural RSS, New York..	80	187	277	87	125	222	313	332	302	236	236
Synthetic GRS, US.....	100	103	134	100	100	100	111	132	132	132	141 d/
No. 1 RSS, UK.....	92	254	..	123	177	308	423	500	385	354	331
Abaca:											
Manila fibres, New York	100	95	114	96	89	93	99	123	121	112	100 b/
Cotton:											
Middling, US.....	93	107	123	94	98	114	123	132	134	108	119
American middling, Liverpool.....	108	154	197	133	137	160	187	206	224	174	185
Jute:											
United Kingdom.....	105	119	..	119	121	115	118	173	237	..	..
Pakistan c/.....	100	76	129	78	82	75	70	106	179	118	113 b/
Rayon:											
Viscose staple fibre,US	99	100	111	97	97	101	106	111	111	111	111 b/
Wool:											
Greasy, Boston f/.....	99	133	192	101	111	141	179	269	219	145	135
Scoured, London.....	111	199	267	142	164	216 b/	279	420	291	177	181 b/
Wood-pulp:											
Canadian, US.....	95	94	107	90	90	95	101	107	107	107	107
Imported, UK.....	84	89	178	76	85	89	107	121	168	209	215 b/
Newsprint:											
New York.....	102	103	113	102	102	102	106	108	108	118	118

Source: United Nations, Monthly Bulletin of Statistics; United States Bureau of Labor Statistics, Average Wholesale Prices and Index Numbers of Individual Commodities. For some yearly figures: Yearbook of the American Bureau of Metal Statistics and Commodity Yearbook. Prices in the United Kingdom for non-ferrous metals are based on Ministry of Supply quotations. Figures for cobalt taken from Iron Age, for cadmium and tungsten (New York) from American Metal Market and for tungsten (United Kingdom) from Records and Statistics, Supplement to the Economist.

a/ In comparing early 1950 with average 1949 price quotations in the United Kingdom and other European countries, it is necessary to take account of the fact that the prices of a number of commodities were adjusted upward in national currency after the devaluations of September 1949.
b/ Two months' average.
c/ 1949 = 100.
d/ One month's average.
e/ 1950 = 100.
f/ August to December 1948 = 100.

their mark. The data on prices in the United States contained in table 26, showing a levelling off in quotations by the first quarter of 1951, reflect the price controls introduced in January 1951 and the inauguration of centralized buying of rubber and tin.[3/] On the free market several prices continued to weaken, but by the end of the year the prices of most raw materials had become relatively stable.

Purchases for inventory purposes continued to support demand. United States stockpiling also continued, although it was reduced or even temporarily suspended for some items for which the supply situation remained especially stringent. The United Kingdom, which had reduced its inventories very considerably during 1950, had to replenish them in 1951. It also began to build up a strategic stockpile, expenditure on which in the fiscal year 1951/52 substantially exceeded the budgeted figure of about $400 million. Demand throughout 1951 thus continued to include inventory accumulation and stockpiling, though it approached more closely actual immediate requirements for increased processing than in the second half of 1950.[4/]

Although the price increases of 1950 and early 1951 promoted increased production of raw materials, the combination of demands inevitably caused a real stringency in supplies, with government, traders and processors of various countries competing for contracts and deliveries. This resulted in justifiable concern about the adequacy of supplies for armament and civilian

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3/ The Reconstruction Finance Corporation was given exclusive authority in December 1950 to purchase rubber and in March 1951 to purchase tin. The price of rubber continued to rise until February 1951 but the price of tin declined rapidly, from $1.83 to $1.03 per pound. The policy of centralized buying was undoubtedly important in eliminating speculation and consequently in giving effect to the United States price policy. An order issued in February 1952 brought to an end the agency's exclusive purchasing authority in respect of rubber, restoring the market to traders over the period of a few months.

4/ Cf. table 4, which shows the rise in United States manufacturers' inventories of goods in process.

production, as well as about the inflationary consequences, in both the United States[5/] and western Europe.

This concern, particularly on the part of western European countries, was the main motivation for the establishment of the International Materials Conference early in 1951, with the function of studying the supply and use of given materials and, if the situation warranted, recommending allocations and methods of conservation. In addition to a central group, the following seven commodity committees were established between the end of February and the end of April 1951, in the sequence indicated: copper, lead and zinc; sulphur; cotton and cotton linters; tungsten and molybdenum; manganese, nickel and cobalt; wool; pulp and paper. The countries participating in the International Materials Conference at the end of 1951 are shown in table 27. Of the materials coming under the terms of reference of these seven groups, allocations by the end of 1951 had been recommended for the following: copper, zinc, sulphur, nickel, cobalt, tungsten and molybdenum.[6/]

5/ In general, United States policy was designed to hold the price line on imports as well as on domestic supplies. Because of their inability to import raw materials at the controlled prices, United States producers are reported to have increased their imports of fabricated metals from Europe, despite the fact that European producers were paying more for the raw materials. Notwithstanding this general price policy, however, certain increases in raw material prices were authorized in order to reduce the losses of importers due to higher world market prices, and the production and import of materials in particularly tight supply were encouraged by the offer of premium prices and long-term contracts. At the same time, consideration of supply stringencies and market conditions again became a criterion in stockpiling policy. This was reflected in the selective reductions in stockpile purchasing referred to above.

6/ During the year several emergency allocations were recommended for newsprint, and a technical report was issued on the "utilization of manganese, nickel, cobalt, tungsten and molybdenum". Normal trade arrangements were respected and, except in the case of tungsten, where upper and lower limits were agreed upon, no recommendations concerning prices were made.

Table 27. International Materials Conference: Committee Membership

Country a/	Central group	Copper-Zinc-Lead	Cotton-Cotton Linters	Manganese-Nickel-Cobalt	Pulp-Paper	Sulphur	Tungsten-Molybdenum	Wool
Argentina								x
Australia	x	x			x	x	x	x
Austria					x			
Belgium		x	x	x	x	x		x
Bolivia							x	
Brazil	x		x	x	x	x	x	
Canada	x	x	x	x	x	x	x	
Chile		x					x	
Cuba				x				
France	x	x	x	x	x	x	x	x
Germany, western		x	x	x	x	x	x	x
India	x		x	x		x		
Italy	x	x	x		x	x		x
Japan			x		x		x	
Mexico		x	x			x		
Netherlands					x			
New Zealand						x		x
Norway		x		x	x	x		
Peru		x	x					
Portugal							x	
Spain							x	
Sweden					x	x	x	
Switzerland						x		
Turkey			x					
Union of South Africa				x		x		x
United Kingdom	x	x	x	x	x	x	x	x
United States	x	x	x	x	x	x	x	x
Uruguay								x
Organization of American States	x							
Organisation for European Economic Co-operation	x							
Total	10	12	13	11	14	16	13	11

a/ Countries of organization represented total thirty.

National measures restricting inventories or use of various raw materials were also put into effect. In the United States certain controls had been introduced before the end of 1950 and were subsequently modified from time to time, by extending them to additional materials or by making the limitations more restrictive. In the United Kingdom similar restriction had continued, though in relaxed form, since the war; in the course of 1951 they were selectively tightened.

Of the national controls in effect at the end of the year, control or prohibition of exports was the most common, serving to protect for home use the country's supplies of the materials affected. Inventory limitations were the next most common type. In the United States, some of these were designed merely to accord priority to stockpiling requirements; others, limiting the stocks held by industrial consumers, tended to improve the distribution of available supplies in relation to production requirements rather than to limit consumption. A variety of other controls, however, were directly designed to limit the consumption of particular materials: regulations requiring the substitution of less scarce materials, or placing a limit on the use of a given material in civilian goods, or allocating the supply of the material in accordance with some schedule of priority of use. Perhaps the most comprehensive of such measures was the United States Controlled Materials Plan, established in the second half of 1951, for allocating total supplies among users, at first for steel, copper and aluminium, and subsequently for zinc, lead, tin, tungsten and molybdenum. Inherent in such a total allocation plan is the limitation of consumption for lesser priorities by the reduction or denial of allocations to such uses. A similar allocation system had been in operation in the United Kingdom for most of the metals during the post-war period, and, in the course of 1951, some specific restrictions or prohibitions of uses were added. Similar restrictions were introduced in some other European countries.

When such restrictions are sufficiently severe and widespread, they obviously bring civilian supplies below the capacity of consumers to buy, as was the case during the Second World War. Reduced demand for civilian

goods, rather than controls, appears, however, to have been the deciding factor in the 1951 decrease in consumption, particularly in the United States, although the restrictive regulations undoubtedly conserved significant supplies of the more critical materials by shifting demand and use to substitutes. In general, the effect of the various national controls, centralized purchasing and international allocation recommendations on the supply and price of the materials concerned has tended to offset the pressure from armament and stockpiling demands.7/

Summary of Supply Situation

The available statistics show that, with few exceptions, rising production of raw materials in 1950 provided supplies approximately in balance with or exceeding consumption, although consumption of most materials had increased relatively much more sharply than their production. In 1951, raw material production continued to expand and, in general, appears to have outstripped consumption, even in the case of materials for which 1950 output had been less than consumption. Furthermore, the 1951 volume of consumption of some of the major materials was either about the same as in 1950 or actually somewhat smaller. The important commodities in which consumption exceeded output in 1950 were cotton, wool, sawn lumber and pulp-wood.

Following the reaccumulation of inventories, cotton acreage in the United States was reduced in 1950, and world output of cotton was far below

7/ Among the commodities included in table 25, all the non-ferrous metals - but none of the other minerals - were on the United States stockpile list in 1951, as were natural rubber, extra long-staple cotton, and the cordage fibres, abaca and sisal. Wool had been added to the list towards the end of 1950, but its stockpiling was suspended early in 1951. Among the stockpile items, wool and cotton were not affected by any of the national restrictions, and the cordage fibres were affected only by regulations to assure delivery of stockpile quotas. Among the metals, all except manganese and chromite came under some national restrictions. Natural rubber was also subject to restrictions as to use, which were relaxed at the end of April 1952. By the end of 1951, only those raw materials that were stockpiled had come under any national controls.

the level of the preceding year. Consumption of cotton in the year July 1950 to June 1951 increased substantially, exceeding the pre-war level for the first time and reducing stocks to a post-war low. Fears of a shortage were overcome, however, by the record post-war crop of 1951/52, along with a forecast of reduced consumption.

Although wool production has been rising since 1947/48, consumption remained consistently higher than production until 1951, when a drop in consumption permitted inventories to be replenished for the first time since the end of the war. While there has been a continuous decline in wool consumption since the beginning of 1951, wool production is expected to rise again in 1951/52.

Production of sawn lumber and pulp-wood, outside the Soviet Union, rose sharply in 1950. The increase in lumber supplies supported a large expansion of construction in the United States; in a number of European countries residential construction was also expanded, while in others it was well maintained. Lumber inventories were drawn down in the United States, and also in western Europe, particularly in the United Kingdom. Output continued to expand in 1951, and inventories were replenished in Europe as well as in the United States.

The increased output of wood-pulp permitted a large expansion of consumption in 1950 and again in 1951, particularly in the United States. Inventories were reduced in 1950 in the United Kingdom and in the United States, but in 1951 supply exceeded consumption in the latter country and also in Europe.

Production of natural rubber increased rapidly in 1950, to more than one and one-half times the pre-war level. With production of synthetic rubber added, the total supply was almost twice the pre-war level. During the post-war years, production of natural rubber has exceeded consumption, providing the margin for large withdrawals to stockpiles. Output of natural rubber continued to increase in 1951, notwithstanding a decline in consumption and an exceptionally large increase in the output of synthetic rubber. Demand for natural rubber to support the high levels of output attained in 1950 and 1951 is thus dependent upon sustained stockpiling.

Demand for the non-ferrous metals was most directly affected by armament production as well as by stockpiling activities. Although each non-ferrous metal has certain unique or preferred uses, many uses are served by two or more metals. Relative costs and availability of the substitutes thus affect the demand for each, and short-run shifts in demand may differ from the long-range trend.

The situation in 1951 among the various non-ferrous metals ranged from one of tight supply (as in the case of copper and, for most of the year, zinc) where resumption of substantial stockpiling would have given rise to shortages for processing, to one of much more ample supply (as in the case of cadmium). For tin, as for rubber, the demand for sustained production remains dependent, on continued large-scale stockpiling. At the end of the year, lead was in relatively easy supply, while aluminium, in heavy and increasing demand for the expanding aircraft programmes, continued to be available as a substitute for copper in some uses. Among the minor metals used in producing heat-resistant steel or in plating, production was expanding generally, and, in some cases, it exceeded the war-time peak. Tungsten supplies were very short indeed, and the production of high-speed cutting tools would probably have been seriously limited had it not been for increased supplies of molybdenum. Nickel remained scarce.

Although commercial stocks of these metals in the United States and western Europe had been seriously drawn down by the latter part of 1950, when increased consumption and increased stockpiling outstripped rising production, the pressure on supplies was considerably relieved in 1951. Notwithstanding increased demands for armament production greater output and reduced consumption[8/] combined to ease the supply situation generally, while curtailment of stockpiling was an important factor in the case of materials in tight supply for processing requirements. As a result,

8/ Consumption estimates are generally based upon deliveries from the refining industry to consumers and therefore include net changes in inventories of purchased raw materials and goods in process held by the consuming industries. In the United States, in particular, inventories of goods in process expanded sharply in both 1950 and 1951. These increases represent expanded "pipelines" for increasing the output of finished products without increasing the rate of flow, that is, the "consumption", of raw materials.

inventories available to industry began to rise during 1951 in the United States, the United Kingdom and various countries of western Europe.

Production of all the materials in tight supply and also of a number of others is being expanded, notably in the United States, where tax amortization privileges, government purchase contracts, direct loans,[9/] loan guarantees and grants for exploration have provided effective inducements to expansion. By means of purchase contracts, Export-Import Bank loans, and Economic Cooperation Administration aid, the United States is also promoting expansion of raw material production in countries producing for export. A number of European and British Commonwealth countries have also undertaken expansions both at home and in their oversea territories, although the domestic expansion in European countries is likely in general to yield only relatively small quantities. Additional capacity for increasing supplies of these raw materials is therefore assured, and the drive for expansion continues.

The inducements provided by the United States Government have been effective more immediately and to a much larger extent in expanding domestic supplies than in expanding other countries' supplies for export, although purchase contracts have also been placed for the latter. To some extent this may reflect the effectiveness of the tax amortization provisions which apply to domestic investment. Development of capacity and of production is, nevertheless, also under way in a number of other countries, more especially in Africa, where it is being promoted by the metropolitan countries concerned, assisted in a number of cases by the Economic Cooperation Administration.

The efforts to expand production of raw materials are in line with the purpose of maintaining or, in so far as feasible, increasing civilian supplies

9/ Up to the end of 1951, United States government loans for defence production totalled $2,877 million, 24 per cent for aluminium expansion, 19 per cent for rubber, 9 per cent for copper, 31 per cent for machine tools and 17 per cent for other production facilities.

in the industrialized countries, while assuring fulfilment of armament goals. From the point of view of countries concerned with arrangements for expanding their production for export, however, the long-term market prospects are a serious limiting consideration and the risks involved are not easily overcome. The countries engaged in supplying minerals and metals for export are, generally, the under-developed countries whose domestic use of these materials is negligible. However optimistically their prospects may be viewed for increasing the use of the minerals in home industries in the immediately foreseeable future, it is unlikely that they can raise their total domestic use to a substantial proportion of their current output. Their economic interest in expanding production of the materials lies, therefore, not in increasing the supplies as such, but in increasing their means of financing imports of goods useful for improving domestic living standards or developing domestic industries. The striking expansion under way in the United States for a number of the raw materials foreshadows a further increase in the proportion of United States output to the total output. Stockpiling, necessarily temporary in character, has been providing substantial support of the demand for many of these materials. Though distinguishable from the involuntary accumulation of stocks in the pre-war period, in the longer run it nevertheless represents a supply which may reappear on the market. Nor does rearmament provide assurance of continued increase in demand. The hazards of a decline both in the volume of demand and in prices are not easily set aside for the materials in question, since they have been notoriously subject to wide fluctuations in the past. Moreover, the impact of a decline in demand is usually not evenly distributed, but often bears harshly on particular sources of supply[10/] imports usually being more severely reduced than domestic output.

10/ Thus, in 1949, although total production of copper declined relatively little, Chilean production of copper was hard hit, and production in the Belgian Congo also declined appreciably, while copper output in Northern Rhodesia increased substantially. In the case of tin, output actually increased, as a result of the marked advance in restoring production in Malaya, while production declined substantially in Bolivia and a number of the smaller producing countries, and to a lesser extent in Indonesia.

From the standpoint of under-developed countries, therefore, certain basic economic pre-conditions appear to be desirable for the expansion of raw material supplies, namely, the availability of essential goods in exchange for raw materials, and reasonable assurance against a serious fall in demand or a decline in the terms of trade over a relatively long period.

Non-Ferrous Metals

The rearmament programmes have had their greatest and most direct impact on the demand for metals. In the United States, where rearmament demands have been largest, all the metals listed in table 25, and a number of others, are stockpiled. Before the end of 1950, all the major non-ferrous metals - copper, zinc, lead, tin and aluminium - as well as some of the others had been placed under government orders limiting inventories or use or both. During 1951, many of these orders were extended and made more severe, and after the middle of the year, all the major non-ferrous metals as well as steel were included in a more comprehensive Controlled Materials Plan (CMP).

Copper

World production of copper ore and of primary copper rose above the pre-war level for the first time in 1950, increasing by 11 per cent or more over 1949. The United States increased its output of primary metal by 17 per cent over 1949, accounting for 135,000 tons of the 220,000 increase in world supplies. Northern Rhodesia and the Belgian Congo - now more important producers of copper than before the war - together with Germany and Canada, whose 1950 output of primary copper also exceeded the pre-war level, contributed the remaining significant increases over 1949. While Chile is still the second largest producer, providing about one-sixth of the total, its output remained below the pre-war level and did not increase in 1950, despite a very substantial rise in the second half of the year.

At the beginning of 1950, copper inventories were large, and producers in the United States were trying to reduce their stocks, yet, notwithstanding increased output, supplies became exceedingly tight during the scramble for metals in the second half of the year. As may be seen in table 28, total

Table 28. World[a] Supply and Consumption of Selected Non-ferrous Metals, 1950 and 1951

(Thousands of metric tons)

	1950			1951, first half		
	Supply [b]	Consumption [c]	Apparent decrease (-) or increase in stocks	Supply [b]	Consumption [c]	Apparent decrease (-) or increase in stocks
Copper:						
World total.....	2,537	2,539	- 2	1,308	1,275	33
United States.....	1,391	1,248	143	631	609	22
Other countries.....	1,146	1,291	-145	677	666	11
Zinc:						
World total.....	1,820	1,850	- 30	951	899	52
United States.....	960	920	40	454	431	23
Other countries.....	860	930	- 70	497	468	29
Lead:						
World total.....	1,674	1,560	114	786	776	10
United States.....	920	790	130	322	354	- 32
Other countries.....	754	770	- 16	464	422	42
Tin:						
World total.....	175	155	20	85	71	14
United States.....	115	75	40	36	30	6
Other countries.....	60	80	- 20	49	41	8

Source: For copper, lead and zinc, 1950 data from Economic Cooperation Administration, Non-ferrous Metals Branch, World Production and Consumption Data on Aluminum, Copper, Lead and Zinc, 1948, 1949 and 1950 (Washington, D.C., March 1951); estimates for 1951 on basis of data from American Bureau of Metal Statistics, British Bureau of Non-ferrous Metal Statistics and United States Bureau of Mines; for tin, data from International Tin Study Group and United States census.

a/ Not including the Soviet Union, eastern Europe and China.

b/ Total production. The figure for the United States comprises production plus net imports; for "other countries" it comprises residual production. World supply figures differ from production figures in table 25 in two ways: (1) the exclusion of eastern Europe as well as the Soviet Union; and (2) the compiling of production figures on a basis designed to be comparable with the consumption figures for each country, thereby including certain amounts of production from scrap or secondary production in some countries. The latter is most important in the case of the copper figures for the United States.

c/ Generally on the basis of deliveries to consuming industries; the figures therefore include net changes in consumers' inventories of purchased materials and goods in process.

new supplies produced in 1950 were approximately in balance with consumption, reported on the basis of deliveries to consumers. United States consumption increased by one-third over 1949, but supplies increased faster and exceeded consumption by more than 140,000 metric tons. Transfers to the government stockpile, reported as larger in 1950 than in 1949 when there was a surplus of commercial supplies, must have been considerably more than 140,000 tons, since United States producers' stocks - at smelters and refineries - were drastically reduced, by about 60,000 tons. Consumers' stocks of refined copper were reduced almost as much.

Elsewhere, new supplies of copper actually declined in 1950 and fell behind rising consumption by more than 140,000 metric tons. This is primarily a measure of the stringency in western European countries,[11] where inventories of refined copper were sharply reduced, causing concern not only over rising prices but over the adequacy of supplies for essential production.

With armament demands increasing, copper remained in tight supply in 1951, occasioning progressive limitations on civilian use in the United States, the United Kingdom and countries of western Europe. Each of the major sources - the Belgian Congo, Canada, Chile, Northern Rhodesia and the United States[12] - produced more copper in 1951 than in 1950. The aggregate increase, however, was only 5 per cent, compared with the 10 per cent increase in 1950, and it would appear that substantial advances can no longer be achieved without expanding facilities. In Chile, for example, the surface deposits of oxide ores are being depleted, the deeper oxide ores are of poor quality, and a sustained substantial increase in output,

11/ Western European countries rely on secondary production for a large proportion of their supplies of copper and other non-ferrous metals. Most of the countries produce some secondary copper from scrap, and a number of them produce substantial quantities, notably the United Kingdom and Belgium, which receive the primary copper output of Northern Rhodesia and the Belgian Congo for fabrication and, as a consequence of the processing obtain large quantities of scrap for secondary production of refined copper.

12/ In the summer of 1951, output of primary copper was reduced by a strike for higher pay in the smelters and refineries. Releases from stockpile to consumers totalling about 50,000 metric tons of refined copper, were authorized during the second half of the year.

though feasible, would probably involve a considerable shift to sulphide ores, which would require the installation of special plant for treatment.

While total supplies of copper increased somewhat in the first half of 1951, total consumption was barely changed compared with the average 1950 rate. Consumption in the United States was actually slightly less in 1951 than in 1950, reflecting primarily the reduced output of consumer durables following the decline in demand, although the total output of metal products was increasing as a result of increased armament production. As inventories in process of production by consuming industries had risen sharply in the second half of 1950, new deliveries of primary metal could fall much more than the output of end products.[13/] Moreover, the curtailment of stockpiling substantially relieved pressure on supplies. Refinery stocks in the United States increased in the first half of 1951, and by the end of October exceeded the level at the beginning of 1948. There was also a net addition to inventories outside the United States, with stocks replenished in the United Kingdom and countries of continential Europe.

Substantial increase in the copper supply is expected in 1952 and 1953 from continuing expansion of capacity, particularly in the United States, where government purchase contracts and tax amortization privileges authorized up to the end of the third quarter of 1951 were expected to result in new facilities yielding an annual addition of more than 125,000 metric tons of

13/ Limitations on inventories and on civilian use of copper were in effect during the first half of 1951, and contributed in some part to the decline in consumption. In the fourth quarter of 1951, use of copper in consumer durables in the United States was limited to 54 per cent of the 1950 level. In the United Kingdom, it was similarly limited to certain percentages of the high level in the first half of 1950, from 85 per cent downward, in accordance with a classification by essential use. Towards the end of the year, the members of the Organization for European Economic Co-operation adopted a uniform list of 200 articles for which use of copper (or copper alloys containing 46 per cent or more of copper) was prohibited, subject, however, to exceptions in case of hardship or production for export.

copper. United States supplies were further ensured by an agreement for Chilean copper, guaranteeing 27.5 cents per pound, three cents above the United States controlled price, and providing for the export to the United States of 80 per cent of the total output of the large mines. The price premium was set with the object of inducing an expansion of output. The United Kingdom has reported expansions, principally in Northern Rhodesia, expected to raise annual output by 75,000 tons by 1953. In the Belgian Congo a further increase of 10,000 tons is being promoted, and in Turkey a new smelter is expected to raise output by 10,000 tons by 1953. New copper ore deposits are also being developed in Canada.

Zinc

Output of primary zinc exceeded pre-war levels by 1948, increased considerably in 1949, when demand declined somewhat, and in 1950 exceeded the war peak. Ore output increased by more than 10 per cent in 1950 over 1949, and metal output by 8 per cent. The expansion of production continued in 1951, though at a slower rate, largely because of a decline in the output of Mexican ores following a new high attained in 1950.

Zinc mining is more widespread than copper mining among industrialized countries. Secondary production - from scrap and waste - also provides substantial quantities of zinc in industrialized countries. The United States, which accounts for more than 40 per cent of world output of primary zinc (not including that of the USSR) is also the largest importer. Among the under-developed countries, the Belgian Congo, Mexico and Peru supply significant amounts of ore, while Mexico, and to a lesser extent Northern Rhodesia, provide primary zinc. Practically all the principal producing countries shared in the 1950 expansion of zinc output, though the increase was particularly striking in western Germany and Japan.

Production of primary zinc outstripped consumption in 1948, and again in 1949 by the very substantial margin of about 200,000 metric tons, resulting in corresponding inventory accumulation at metallurgical works. Inventories of consuming industries also increased, notably in the United States. In 1950, however, the expanded output fell short of consumption, as indicated in table 28. The United States, accounting for

almost two-thirds of the 1950 rise in consumption, increased output and net imports sufficiently to provide a net addition to stocks. There were, however, substantial and increased withdrawals for stockpile, and during 1950 inventories at metallurgical works were reduced by more than 70,000 metric tons - to less than 10,000 tons - while total commercial inventories fell by an even larger amount. Zinc thus remained in tight supply in the United States. Elsewhere, the drain on inventories, about 70,000 tons, was considerably larger than the accumulation in 1949, so that zinc supply was also tight in a number of European countries. In the United Kingdom, although production and consumption of secondary zinc increased in 1950, and consumption of primary zinc was reduced, stocks of primary zinc declined.

Output of zinc in the first half of 1951 was above the average 1950 rate by rather more than 4 per cent, about half the increase going into United States supplies. Consumption was reduced by more than 25,000 tons from the 1950 semi-annual average, as a result of a decline in United States consumption by over 30,000 tons.[14/] Since transfers to stockpile were reduced from the high 1950 level, the new supply was adequate to replenish commercial stocks somewhat. In the first half of 1951, there was a small increase in stocks at metallurgical works in the United States, and further additions were made during the summer. United Kingdom stocks continued to decline in the first half of 1951 but began to rise again in the summer months.

14/ As in the case of copper, the reduction reflects principally the decline in the demand for and the production of consumer durables. The United States moved progressively from allocation of a minimum percentage of refinery deliveries to defence orders, to a 70 per cent limitation on use of high-grade zinc in non-defence consumption, inventory limitations, additional restrictions on end uses, and finally total allocations under the Controlled Materials Plan. In the United Kingdom, civilian industry after October 1950 was limited, on the average, to 80 per cent of the zinc consumption during the first nine months of 1950, while in November 1951 its use was prohibited in a number of hardware items.

Expansion programmes under way are expected to augment the supply of zinc substantially in the next two years. Purchase contracts and tax amortization authorizations granted in the United States up to the end of the third quarter of 1951 were expected to result in new capacity which will provide an additional 90,000 tons of zinc per year, 12 per cent of the 1950 level of output. European countries have reported that they are able to add another 60,000 tons to the supplies under their control. The largest contributions are expected from western Germany, Italy and the Belgian Congo, where a new zinc refinery is scheduled to come into production in 1953. Smaller but significant additions are expected in France, Greece and Sweden. The United Kingdom is expanding ore production in Northern Rhodesia but the additional capacity for refining is not scheduled to be in operation before the end of 1953.

Lead

Secondary production plays a larger role in providing lead supplies than it does in the case of the other major non-ferrous metals, and, in the post-war period, the proportion of the total so produced has increased. Moreover, the demand for primary lead in post-war years has been held back more than that for copper or zinc, apparently by the availability of substitutes, particularly for pigments.

Output of primary lead, outside the Union of Soviet Socialist Republics, first approached the pre-war level in 1950 and continued at about the same rate in the first half of 1951, but dropped by about 9 per cent to the 1949 level in the second half of the year. The United States stockpile gained from the excess of production over consumption during 1948 and 1949 - in the latter year the surplus was no less than 325,000 tons - and although the lead stockpile objective was increased on several occasions it was achieved each time. In 1950 commercial inventories indicated a substantial surplus in the United States, and an ample supply in other countries. Although consumption increased sharply in 1950, the output of lead exceeded it by more than 100,000 tons. Transfers to the United States stockpile, apparently less than in 1949, were nevertheless large enough to result in reduced commercial inventories. Elsewhere there was also a small net

reduction in inventories, accounted for chiefly by the United Kingdom.

In the first half of 1951, demand for lead declined considerably in the United States, and as a result world demand was somewhat lower. United States supplies fell off even more sharply, reduced domestic output as well as reduced imports contributing to the decline. Although world supplies were about 6 per cent lower than the 1950 semi-annual average and consumption outside the United States about 10 per cent higher, inventories outside the United States were increased. In the United States and United Kingdom, however, inventories continued to decline, falling to a low level in the latter country before increasing again in the summer. In the fourth quarter, the United States authorized the release to consumers of about 27,000 metric tons of refined lead from its stockpile; domestic production in the second half of 1951 was at only three-fourths of the 1950 rate and imports had declined greatly as a consequence of the gap between the controlled internal price and the higher prices paid for lead by other countries.

The lead supplies of the industrial countries are, for the most part, provided by the smelting of their own ores and their secondary production from scrap. The United States is the largest producer, accounting in 1950 for more than one-fourth of the total output of ore outside the Soviet Union, and almost one-third of the primary metal production. The countries of western Europe contributed almost 10 per cent of the ore and more than one-fifth of the primary metal. Canada and Australia together provided about one-fourth of the total ore and a lesser proportion of the primary metal, while under-developed countries in Latin America and Africa contributed about three-eights of the ore and one-fifth of the metal, somewhat larger proportions than before the war. Among the under-developed countries Mexico provided the largest amount in the form of primary metal, while Peru and Yugoslavia provided significant quantities of ores and metal.

Lead was among the materials placed under total allocation in the United States during the third quarter of 1951. Otherwise, however, it was subject only to inventory limitations and not to restrictions as to use. Since lead has been in relatively easy supply, increased production has not been promoted to the same extent as in the case of copper and zinc. It is

one of the few items in the United States military stockpile in which goals have regularly been reached. Nevertheless, purchase contracts and tax amortization privileges have been authorized in the United States, and the resultant facilities are expected to yield an additional 32,000 metric tons of lead per year. A number of European countries have indicated ability to expand output by several thousand tons, and western Germany by substantially more. The United Kingdom has also reported measures to develop production from a new deposit in Nigeria, to yield about 15,000 tons a year after 1953.

Tin

Tin production has not regained the 1937 level and, as already noted, technological developments have seriously reduced demand. In 1950, when ore production reached a post-war peak, Malaya and Indonesia, accounting for more than half the world total, produced less than the high 1937 output, though more than in succeeding pre-war years. Bolivia, the next largest producer, provided more than its pre-war output, and the Belgian Congo contributed almost two-thirds more than in 1937. Nigeria, Thailand and a number of smaller producers, however, contributed much less than before the war.

Tin metal output also reached its post-war peak in 1950. The expansion in Malaya, the only large producer of ore that also produces the primary metal, was offset by a decline in the United States and the United Kingdom, the next largest producers. In 1951, the production of ore and metal declined to below the 1949 level.

Since 1947, annual output of tin has exceeded consumption by between 10 and 40 per cent, and in spite of substantial withdrawals for stockpiling, commercial stocks exceeded 100,000 tons at the beginning of 1951, about 65,000 tons being in the hands of the Reconstruction Finance Corporation and consumers in the United States. Even the reduced production in the first half of 1951 was running further ahead of consumption than in 1950 since consumption had been sharply curtailed in the United States and had only slightly increased elsewhere. In the second half of the year, production

was still in surplus though it had declined rather more than consumption.

Although United States stockpiling continued until November 1951, tin imports, which had risen steadily from less than 5,000 tons a month in 1947 to more than 9,000 tons a month in 1950, dropped back below the 5,000-ton level in 1951 and to less than 3,000 tons in the last two months of the year.

Aluminium and bauxite

In marked contrast to those of other non-ferrous metals, post-war production and use of aluminium have been very much larger than pre-war. In 1950, world output of primary aluminium (not including that of the USSR) reached a post-war record of almost 1.3 million metric tons, more than twice the pre-war level, though substantially below the war-time peak. The United States, though responsible for most of the increase and producing fully half the 1950 output, has also been a net importer of aluminium, and with net imports exceeding 234,000 tons, absorbed over two-thirds of the amount produced in 1950. Canada, accounting for 28 per cent of the 1950 production, is by far the major source of aluminium exports, retaining only about 15 per cent of its output. Production of primary aluminium in western Europe was less than 20 per cent of the world total in 1950, and, though rising, was below the pre-war level; larger secondary output, however, raised total domestic supplies above the pre-war level.

The large war-time expansion of aluminium capacity in the United States and in Canada was occasioned by the demands of the Allied military aircraft programmes. Post-war demand was necessarily lower, but was maintained well above pre-war and has been rising by reason of the increasing production of both civilian and military aircraft and the expanded use of aluminium in a variety of civilian goods, particularly in the United States. With the advent of large-scale rearmament, military aircraft demand has again assumed first place. Civilian uses of aluminium remain substantially above pre-war levels, but both the United States and the United Kingdom, the two countries most directly affected by armament demand for aluminium, have

imposed restrictions on civilian consumption. Aluminium, however, continues to be substituted for other metals in the uses permitted.15/

The United States has been more concerned about immediate deliveries than about long-range import plans, placing its reliance upon expansion of domestic capacity - already well under way - to meet long-range requirements. At the end of 1950 operating capacity was rated at about 750,000 metric tons per year, and plans had been announced for an additional 678,000 tons (including the reactivation of war-built plants regarded as sub-economic). This would allow for a considerable increase in consumption over the 731,000 metric tons of primary metal (820,000 tons gross) recorded in 1950. Nevertheless, plans for the expansion of the aircraft industry had grown to such an extent that by the third quarter of 1951 it was being suggested that a further increase in capacity (of 250,000 tons) was likely to be authorized. The target specified by the Director of Defense Mobilization in his second report, in July 1951, was "nearly one and a half million tons a year ... roughly double the capacity at the beginning of the defence programme". The industry was granted top priority for structural steel and by the third quarter of 1952 United States output is expected "to be adequate for both defence and civilian requirements". Meantime, the stockpiling programme for aluminium has been curtailed.

British domestic refining capacity is only 30,000 metric tons, whereas consumption has been running at 250,000 tons to 300,000 tons. In 1949 gross production (including secondary) was about 107,000 tons, but with the post-war supplies of aluminium scrap steadily diminishing, output has tended to decline. In December 1950 restrictions were introduced to limit consumption, and at the same time a contract was concluded with Canadian producers, assuring the delivery in 1951 of 220,000 tons and of a somewhat

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15/ Representatives of the United States copper industry have opposed government promotion of aluminium as a substitute for copper in wire cable and other products, claiming that, as a result of the expansion of copper supply under way, copper is likely to be more plentiful than aluminium by 1954.

larger volume in subsequent years.[16/] Another source of aluminium available to the United Kingdom is Norway, which has been supplying about 15,000 tons a year, an amount that is not likely to increase until 1954, when a new 40,000-ton refinery is scheduled to come into operation.

The major aluminium-producing countries, the United States and Canada, and also the United Kingdom, depend upon external sources of supply for most or all of their bauxite requirements. World output of bauxite in 1950, at about 7.5 million metric tons, was twice the pre-war level, but little more than half the war-time peak. The very large increases in output contributed by under-developed countries, particularly Surinam, British Guiana and Indonesia, raised their total output to almost two-thirds of the world total (not including the USSR) compared to one-fourth before the war. The United States accounted for the remainder of the increase over pre-war. Bauxite is stockpiled in the United States, but is not subject to any controls. World supply is large and capable of fairly rapid expansion, the latest deposits to be exploited being in Jamaica and Sarawak.

Other metals

All of the other metals included in table 25 are stockpiled in the United States. In March 1951 a committee of the International Materials Conference was established to consider allocations for manganese, nickel and cobalt, and another for tungsten and molybdenum. Each of these metals has specific preferred uses, but substitution is possible for various uses among the metals in each group and between these metals and others, some of which are not included in the table.

Manganese is used in practically all steel, the proportion being varied to give greater strength, hardness, toughness or ductility. Demand is enhanced by military requirements for high manganese steels. Since 1948,

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16/ In January 1952, part of this supply was bartered with the United States for steel. The United Kingdom agreement with Canada involved the purchase during the years 1951 to 1953 of aluminium previously offered to the United States, plus the financing of a new 100,000-ton plant in British Columbia designed to begin producing in 1954 and capable of fairly rapid expansion.

production outside the Soviet Union has been expanding rapidly; in 1949, it exceeded the war peak and in 1950 it regained the pre-war level of 1937. The expansion of output has been largest in India and the Union of South Africa, but other important producers, the Gold Coast, Brazil and French Morocco, have also contributed. Reduction of exports from the Union of Soviet Socialist Republics affected the United States in particular, but the loss has been more than offset by United States imports from other sources. No international allocation recommendations have been made for manganese, nor is it nationally restricted as to inventories or use.

In several countries, nickel is subject to limitations on inventory and to restrictions as to use, as is cobalt, though not to the same extent. Columbite and tantalite, two lesser alloys used in heat-resistant steel, are stockpiled in the United States and are subject to the same restrictions as cobalt. Neither chromium nor cadmium, on the other hand, is allocated internationally or restricted as to use.

Nickel and cobalt have many properties in common and are used for the production of heat-resistant steel, which is in heavy demand for jet aircraft in the United States and the United Kingdom. Cobalt is also used for production of magnetic steel, for which there is expanding demand in the electronics field. Chromium, like nickel, is used in heat-resistant steel and for plating, and cadmium has come into increasing use for plating.

Outside the Soviet Union about 95 per cent of world supply of nickel was provided by Canada in 1950. More than 90 per cent of nickel deliveries were consumed in Canada, the United Kingdom and the United States. Almost all the rest of the nickel supply is produced in New Caledonia. Total output has changed little since 1948; in 1950 it was somewhat higher than pre-war though well below the war-time peak. Canadian deliveries increased sharply in 1950, however, and Canadian production, at 112,000 metric tons in 1950, is expected to have increased by 5 per cent in 1951 and to 150,000 tons by 1953. The only other large source for augmenting nickel supply is Cuba, where production recommenced early in 1952, to add about 10 per cent to the world supply. The New Caledonia mines are expected to increase output considerably during 1952, regaining the peak war-time rate of 10,000 tons a year. Slight

increases are being provided by the United States and Norway also.

The production and use of cobalt have been expanding rapidly during the post-war period, supported largely by the expansion of mining in Africa, aided recently by the Economic Cooperation Administration. Total output in 1950, at 7,100 metric tons, was 20 per cent higher than in 1949, more than double the pre-war total, and very much larger than the war peak. An increasing proportion has been provided by the Belgian Congo, which accounted for three-fourths of total production in 1950. The United States, producing less than 5 per cent of the total, consumed about 25 per cent in the early post-war years, and in 1950 more than 40 per cent, of the total. Two new mines are expected to increase the small United States output sixfold in 1952. Western Europe has very little cobalt of its own but is a net exporter as a consequence of the supply provided by the Belgian Congo; its exports are expected to increase as a result of the considerable expansion of production planned in the Belgian Congo. Smaller increases are expected in the output of Northern Rhodesia and French Morocco.

Production of chromium surpassed the war peak in 1948 and has since been increasing; the output of 800,000 metric tons in 1950 was one-third higher than the war peak. The increases were contributed by the major producers, Southern Rhodesia, Turkey and the Union of South Africa, with some increase also from Yugoslavia in 1950. The indications are that production in the first half of 1951 was about the same as in the second half of 1950, higher than the average rate in 1950. An Economic Cooperation Administration loan to improve transport in Southern Rhodesia is designed to facilitate further increase in production there.

World production of cadmium has been climbing and, at more than 5,000 metric tons in 1950, was above the war peak and two-thirds above pre-war. Unlike the other metals with which it may be grouped as substitutes, cadmium is produced almost entirely in industrialized countries, since it is a by-product of zinc smelting. As a result of technological improvements, the amount of cadmium recovered has been increasing faster than the amount of zinc smelted. United States production has been aided further by an increase in the cadmium content of the zinc ores smelted. In 1950, the United States accounted for 80 per cent of the total cadmium output, compared with less than half of the zinc. Production of cadmium, however, has also been

increasing in a number of countries in Europe and in Canada, which exports about three-fourths of its supply. Most of the Australian output, well above war-time levels though not increasing, is also exported.

Antimony is used in pigments, in which it may be a substitute for zinc or lead. It is itself being displaced by other substitutes, and post-war production has been below pre-war levels. Notwithstanding the loss of the amount formerly exported from China, production in a number of countries remained below earlier levels. Though Bolivia's output was somewhat less in 1950 - 8,800 metric tons - than in 1949, it continued to be the largest producer. However, the output of the Union of South Africa, a new source of supply in the post-war period, rose to 8,300 metric tons in 1950, almost double that of the preceding year. Antimony is subject to neither international allocation nor restrictions on inventories or use.

Although vanadium is used extensively in producing tool steel, it too, is subject neither to international allocation nor to restrictions as to use. Tungsten and molybdenum likewise are of especial importance in producing high-speed cutting tools. The use of molybdenum was established before the Second World War, and substantially expanded during the war when, as now, tungsten supplies from the China mainland were not available to the United States and to western Europe. China is by far the largest producer of tungsten; in 1948, its output of ore was more than 70 per cent of the total output recorded in table 25 (which does not include China). The output of other countries has remained somewhat below the pre-war level and less than half the war peak. The second largest producer, the United States, has maintained production at about 2,300 metric tons, and Portugal in 1950 increased its output to almost the same level. There is no single large source of tungsten supplies outside the mainland of China. Accordingly, in view of the marked shortage, every promising source even of relatively small additional quantities is being explored. The output of tungsten in the United States is expected to be increased by the exploitation of deposits in Montana, and the production of additional supplies is being promoted by the United States, by means of purchase contracts and by Export-Import Bank loans or Economic Cooperation Administration aid in Argentina, Bolivia, Peru, Portugal,

Spain and Thailand. France and the United Kingdom also expect to increase output at home and in their oversea territories. The Mawchi mine in Burma is expected to resume production.

Output of molybdenum, which had declined after 1947, rose to a new post-war high in 1950, exceeding 14,000 metric tons. United States production in 1950, accounting for over 90 per cent of the world total, was more than one-fourth higher than in 1949. Output in that country has exceeded consumption throughout the post-war period, while net exports were increasing and war-time stocks were being gradually reduced. By the end of 1950, producers' stocks in the United States had been reduced to little more than 4,000 tons, apparently as a result of large withdrawals for stockpiling. In the first half of 1951, production increased further, by 18 per cent over the average 1950 rate, and exports were reduced somewhat, production balancing with higher domestic consumption and lower net exports. Government supported development to expand output by an additional 4,000 tons per year - about one-fourth of the 1951 production rate - is designed to provide increased domestic supplies and continued exports. Chile, the only other supplier of significant quantities of molybdenum, also increased output in 1951.

Both tungsten and molybdenum are internationally allocated by a committee of the International Materials Conference and nationally restricted as to use. They are the only two minor metals allocated under the United States Controlled Materials Plan. The allocation and restriction on uses of molybdenum result from the shortage of tungsten. The expansion of supplies of both tungsten and molybdenum was reflected in the somewhat larger IMC allocations recommended for the first quarter of 1952 compared with those of the third quarter of 1951.

Non-Metallic Minerals

Sulphur

World production of sulphuric acid and of the materials for its manufacture, sulphur and pyrites, has been expanding to new high levels in recent years. In 1950, the output of both sulphuric acid and the raw materials for its

manufacture in countries outside the Soviet Union, eastern Europe and China, increased 11 per cent over the preceding year, reaching a level about two-thirds higher than in 1937. A further, though smaller, increase was indicated for 1951.

The increase in United States output over pre-war overshadows all others. All important producers of sulphuric acid - Australia, Canada, Japan, the United States and various countries of Europe - increased their output in 1950 and, with the sole exception of the United Kingdom, also in the first half of 1951. Only in western Germany was production still below the pre-war level.

Almost all the sulphuric acid manufactured by the continental countries of western Europe is produced from local pyrites. Italy's supply of native sulphur is considerable in proportion to its output of pyrites, and Japan, which has become the world's largest producer of pyrites, also produces native sulphur. United States output of native sulphur, however, at 5,276,000 metric tons in 1950, accounted for more than 90 per cent of the supply. United States supplies of sulphur far outrun domestic consumption, and exports, which had been increasing in the post-war years, exceeded 1.5 million tons in 1950. Because of the demands of the rearmament programme, however, exports in the first half of 1951 fell to an annual rate not much more than 1.2 million tons.

The sulphuric acid industry of the United Kingdom, unlike that of the rest of Europe, is largely dependent on the use of native sulphur, not pyrites. Before the war, more than half of its sulphuric acid output had been manufactured from pyrites, but during the war it became necessary to expand plant facilities for processing native sulphur available from the United States. The shift to native sulphur has apparently continued, production of sulphuric acid from pyrites providing only one-sixth of the United Kingdom total in 1950, little more than half the pre-war volume. Accordingly, the United Kingdom is dependent on United States supplies of native sulphur, and when its imports of sulphur declined sharply in the second half of 1950, a rationing system was instituted, effective in January 1951. The main result was to reduce output of superphosphate fertilizer; production in the rayon industry and other consuming industries was not adversely affected as was at one time feared. During the first six months of 1951, United Kingdom imports of sulphur from the United

States were more than 240,000 tons, compared with a semi-annual average of 213,000 tons in 1950, allowing stocks to be replenished. Import allocations for the United Kingdom totalled 206,000 tons in the second half of 1951 and 188,000 tons in the first half of 1952.

United States exports to a number of other countries were reduced in the first half of 1951, total exports declining by about 20 per cent. The result of this decline was a restriction of sulphuric acid and fertilizer production in Argentina, Brazil, India and New Zealand.[17] The import allocations recommended by the International Materials Conference for the second half of 1951 provided for a substantial increase in supplies to Brazil and India, though far from sufficient to raise the year's total imports to the 1950 level. Recommended allocations for the first half of 1952 showed a further increase.

United States commitments to maintain exports to recipients of IMC allotments resulted in an order limiting domestic use of sulphur, effective 1 November 1951. Under this order the use of sulphur was limited to 90 per cent of the 1950 rate for consumers of sulphuric acid,[18] other than specified essential users. Because of exemptions, and the possibility of conservation and substitution, it is expected that production of end products will not be reduced below the 1950 level.

Large-scale expansion of sulphur mining is planned or under way in the United States. Though some projects yielded increased supplies in 1951, most of the new development is scheduled to come into production in 1952 and 1953, and the resulting increases in output may be partly offset by depletion of older mines. On a much smaller scale, recovery of sulphur from oilfields, waste refinery gases, and copper wastes, is being increased in the United States as well as in the United Kingdom and Canada. In 1952 Mexico expects

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17/ Curtailment of rayon and insecticide production as a result of sulphur shortages has been reported from Brazil. India's imports of sulphur from all sources declined from a monthly average of 4,800 tons in 1950 to little more than 3,000 per month in the first half of 1951, when sulphuric acid output fell below the 1949 production rate and 11 per cent below the 1950 rate.

18/ Carbon bisulphide, important for the production of rayon and of cellulose film, was included in the original order but was exempted in a modifying order issued in December.

to recover 40,000 tons of sulphur from oil refinery operations, and some small expansions of sulphur mining are under way in Latin American countries.

Inorganic fertilizer materials

Production of commercial fertilizers of all categories, phosphates, nitrogen and potash, has been rapidly expanded in post-war years so that, whereas demand ran ahead of supplies in the early post-war period, output exceeded consumption in the years 1949/50 and 1950/51.[19/] Total production in the latter year at 13.9 million tons (not including that of the USSR and China) was almost 8 per cent above the preceding year's and 60 per cent above the pre-war level. As may be seen from table 29, Europe, the United States, Japan, Canada, Australia and New Zealand account for 96 per cent of the output and 93 per cent of the consumption of these fertilizers. Although the under-developed countries of Asia and the Far East, Africa and Latin America have doubled their consumption since before the war, they accounted in 1950/51 for little more than 400,000 of the almost 5 million ton increase in consumption over pre-war and for only 41,000 of the 1.2 million ton increase over 1949/50. Their production in 1950/51 was only 17 per cent above pre-war, providing about three-fifths of the amount they consumed.

According to estimates by the Food and Agriculture Organization of the United Nations, the total supply of these fertilizers will increase again in the year 1951/52, but the gain is likely to be small, expansion in production of nitrogen and potash being offset by reduced supplies of phosphates. United States output of phosphate fertilizers is expected to drop, and smaller United States exports of sulphur are likely to reduce the fertilizer supplies of countries relying largely on this type of fertilizer and dependent upon imported sulphur for its production. The phosphate supplies of Brazil, India, New Zealand and the United Kingdom, already adversely affected, are expected by the Food and Agriculture Organization to be further reduced in the year 1951/52. Australia and New Zealand depend upon imported sulphur for their production of phosphates, which comprise almost all the commercial fertilizers used in these countries. A number of smaller

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19/ July to June.

Table 29. Production and Consumption of Commercial Fertilizers, by Region 1938, 1949/50 and 1950/51

(Thousands of metric tons)

Region	1938		1949/50 a/		1950/51 a/	
	Production	Consumption	Production	Consumption	Production	Consumption
World total b/....	8,764	8,782	12,896	12,494	13,912	13,691
Europe.....	6,262	5,782	7,084	6,413	7,847	6,932
Western Europe.....	4,221	4,047	5,611	5,181	6,140	5,569
United States and Canada	1,223	1,445	4,236	4,024	4,312	4,504
United States.....	1,148	1,378	3,977	3,824	4,052	4,304
Asia.....	698	945	644	1,026	763	1,125
Japan.....	562	689	613	656	717	801
Australia and New Zealand	239	358	478	505	480	517
Latin America.....	282	68	342	226	381	281
Africa.....	55	184	112	300	128	332

Source: Food and Agriculture Organization of the United Nations, Yearbook of Food and Agricultural Statistics, 1950 and World Report on Production and Consumption of Fertilizers, 15 August 1951.

a/ Crop years, July to June.

b/ Not including the Soviet Union and China.

consumers of phosphates are also expected to have reduced supplies, but these reductions may be partly offset by increased production of organic fertilizers.

Rubber

Consumption of rubber has risen to more than double the pre-war level, increasing in 1950 by more than one-fifth over 1949. Nevertheless, production continued to outrun consumption, and large quantities of natural rubber were carried over into stocks, as table 30 shows. Throughout the post-war years, the supply of natural rubber has been supplemented by a large output of synthetic rubber in the United States, which increased in 1950 and again in 1951, when the year's total equalled the 1944 high. Since the restoration of production in Malaya and Indonesia, moreover, world output of natural rubber has been well above the pre-war level. In 1950 production increased by one-fourth over 1949, exceeding by 50 per cent the pre-war level, and in the first half of 1951 a new all-time high was attained.

Production in Malaya and in Indonesia, about equal in volume in 1950, accounted for almost three-quarters of the total natural rubber output. While Malaya recorded an increase, expansion of Indonesian output by almost 60 per cent in 1950 over 1949 contributed the greater part of the year's advance. Other producers of significant quantities of natural rubber also contributed to the 1950 expansion. Output continued to expand rapidly in Indonesia in the first half of 1951, but this rise was partly offset by declines of more than 10 per cent in Malaya, more than 30 per cent in Indo-China and substantial proportions in Ceylon and Sarawak. The relatively small output of Africa and Brazil continued to expand in 1950 and 1951.

United States consumption and net changes in inventories, including the government stockpile, absorbed almost half the total output of natural rubber in 1950. Allowing for its production of 90 per cent[20] of the total synthetic rubber output (not including that of the USSR) the United States received well

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20/ Canada produced the remaining 10 per cent.

Table 30. World Production and Consumption of Rubber, 1948 to 1951

(Thousands of metric tons)

Item	1948	1949	1950	1951		
				First half	Second half	Total
Crude rubber:						
Production a/	1,549	1,514	1,885	988	904	1,89
Consumption	1,445	1,461	1,732	810	709	1,51
Stocks, increase or decrease (-)	104	53	153	178	195	37
Synthetic rubber:						
Production a/	541	447	543	430	493	92
Consumption	488	457	589	401	427	82
Stocks, increase or decrease (-)	53	- 10	- 46	29	66	9
Total:						
Production a/	2,090	1,961	2,428	1,418	1,397	2,81
Consumption	1,933	1,918	2,321	1,211	1,136	2,34
Stocks, increase or decrease (-)	157	43	107	207	261	46
United States:						
Supplies of crude rubber	740	665	808	375	369	74
Consumption	637	584	732	244	218	46
Stocks, increase or decrease (-)	103	81	76	131	151	28
Rest of world:						
Supplies of crude rubber a/	809	849	1,077	613	535	1,14
Consumption b/	808	877	1,000	566	491	1,05
Stocks, increase or decrease (-)	- 1	- 28	77	47	44	91

Source: International Rubber Study Group, Rubber Statistical Bulletin.

a/ Not including USSR production.

b/ Including exports to the Soviet Union, the mainland of China and eastern Europe.

over half the world supplies of natural and synthetic rubber.

The annual excess of world production of natural rubber over consumption in recent years has been absorbed primarily by transfers to government stocks. In 1950, the excess increased to almost 150,000 metric tons, but total inventories, other than government stocks, increased by only 30,000 tons. In the first half of 1951, with the large increase in synthetic rubber output to 430,000 metric tons, consumption of natural rubber declined and the gap increased strikingly, to 178,000 tons for the half-year. In the second half of 1951 there was a further reduction in consumption in the United States, as well as a reduction in the rest of the world so that, notwithstanding a decline in production by almost 10 per cent compared with the first half, the excess of production over consumption increased to 195,000 tons. Increased United States stockpiling took up most of the gap in 1950, and again in 1951, though in the latter year about one-sixth was taken into the government stocks of the United Kingdom and France. Inventories available to industry have changed relatively little in recent years and, at the end of 1951, stood at 800,000 tons.

Further increases in the supply of synthetic rubber are projected, with expansion of capacity under way in the United States and Canada, and production recommencing in western Germany.

Fibres

Total world production of the major fibres used principally for apparel declined in 1950 because of the smaller cotton crop in the United States, although the output of wool and synthetic fibres continued to increase. With production of wool and synthetic fibres further expanded in 1951 and the cotton crop at a new post-war peak, the total supply of apparel fibres was at an all-time high. The expansion of synthetic fibre output - particularly striking in 1950 and again in 1951 - is reflected in the increasing proportion of rayon in the total production of apparel fibres shown in table 31. The proportion of cotton to the total has declined correspondingly, the proportion of wool production having changed relatively little. The growth of synthetic fibre supplies has had a restraining influence on the demand for the natural

Table 31. World Production of Apparel Fibres[a/] 1934-38 and 1948 to 1951

(Thousands of metric tons)

Fibre	1934-38		1948 or 1948/49		1949 or 1949/50		1950 or 1950/51		1951 or 1951/52	
	Quantity	Per cent	Quantity	Per cent	Quantity	Per cent	Quantity	Per cent	Quantity	Per cen
Cotton.....	6,433[b/]	80	6,320	75	6,845	75	6,001	70	7,200	7
Wool[c/].....	934	12	976	12	997	11	1,036	12	1,061	1
Rayon[d/]....	632	8	1,113	13	1,225	14	1,585	18	1,795[e/]	1
Total....	7,998	100	8,408	100	9,069	100	8,622	100	10,061	10

Source: Textile Economics Bureau, Rayon Organon; Commonwealth Economic Committee, Wool Intelligence; International Cotton Advisory Committee, Monthly Review and Quarterly Statistical Bulletin.

a/ Cotton crop year beginning 1 August, wool year beginning 1 July, rayon on calendar year basis.

b/ 1938/39.

c/ Clean basis.

d/ Not including the Soviet Union.

e/ Preliminary.

fibres; synthetics have supplanted cotton to a significant extent and are used increasingly for mixture with both wool and cotton. Consumption of wool has also been held down in recent years by increasing mixture with other fibres. By 1950 re-used wool, synthetic fibres, cotton, silk and hair combined accounted for fully one-third of the total weight of the "woollen" textile output of the major producing countries. In 1951 the consumption of wool declined sharply, while the quantity of other fibres mixed with wool continued to increase, accounting for 40 per cent of the total weight of "woollen" textiles.

Cotton

World cotton output in the crop year 1950/51 fell 12 per cent below that of the preceding year. The large United States crop of 1949 and the carry-over of substantial additions to inventories brought about curtailed planting, and the cotton harvest declined from 16 million bales in 1949 to less than 10 million in 1950. Elsewhere, however, production of cotton increased by 15 per cent. Only Egypt, among the major producers other than the United States, failed to increase cotton output in the crop year 1950/51. The expansion in the Soviet Union and the area of China controlled by the Central People's Government was very substantial. Large increases were recorded by Turkey and the Anglo-Egyptian Sudan, and by the smaller producers in the Middle East. The output of all these Middle Eastern countries, including Turkey, which in volume amounted to little more than half the Egyptian crop in the previous year, rose to more than two-thirds in 1950/51. Brazil, too, showed a considerable increase, but the total output of Latin American countries and that of the smaller producers in Africa was little changed.

There was a very sharp increase in the consumption of cotton in both the United States and the rest of the world during the crop year 1950/51, as may be seen from table 32. The total surpassed the pre-war level for the first time and exceeded the crop by a considerable margin. In the United States, which normally produces enough cotton to provide very large exports as well as domestic requirements, the year's consumption exceeded production. Although the United States continued to export cotton, stocks declined outside the United States as well as in that country. Total world stocks fell below

Table 32. World Production and Consumption of Cotton
1948/49 to 1951/52

(Millions of bales)

Crop year[a]	Total			United States			Rest of the world		
	Production	Consumption	Stocks[b]	Production	Consumption	Stocks[b]	Production	Consumption	Stocks[b]
1948/49....	28.9	28.8	14.7	14.6	7.9	3.1	14.3	20.9	11.6
1949/50....	31.3	29.5	14.8	16.0	8.8	5.3	15.3	20.7	9.5
1950/51....	27.5	33.2	16.6	9.9	10.8	6.9	17.6	22.3	9.7
1951/52[c]..	34.1	..	10.9	15.2	..	2.2	18.9	..	8.7

Source: International Cotton Advisory Committee, Monthly Review, August 1951 and Quarterly Statistical Bulletin, March 1951 and June 1951.

a/ Beginning 1 August.

b/ Stocks at the beginning of the crop year.

c/ Preliminary.

11 million bales, while United States stocks were reduced by 4.7 million bales to the low level of 2.2 million bales.

Production in the crop year 1951/52 has overcome the drain on stocks. Estimated at over 34 million bales, the new world crop is almost one million bales higher than the preceding year's consumption. At the end of 1951 indications were that consumption in the crop year 1951/52 would be below that of the previous year, the new crop therefore being ample. The year's increase in supply is accounted for by United States production, which was restored almost to the 1949/50 level, and by greater output in the Soviet Union and the mainland of China. The aggregate for the rest of the world differs little from the previous year's output.

Wool

Production of wool has been increasing steadily, though slowly, during the post-war years. The expansion of output was widely distributed among major producers in the crop year ending 30 June 1951, as well as in the production estimated for the 1951/52 crop year. Output remained below the pre-war level only in the United Kingdom and the United States, both much more important as wool markets than as wool producers. The United States output, less than 60 per cent of pre-war in 1950/51, has been declining because of increasing slaughter of sheep for meat.

Although world output of wool in post-war years has been above pre-war levels, consumption exceeded production by a large margin until the crop year 1950/51. As may be seen from table 33, reduction of stocks contributed more to the total consumed than did the annual increase in output, while the large carry-over of stocks accumulated by the Joint Organization (of the United Kingdom, Australia, New Zealand and the Union of South Africa) was being liquidated. By the end of 1950 the stocks accumulated during the war were practically exhausted, and trade stocks were at a low level. During 1951, however, demand for wool dropped sharply both in the United States - which accounts for one-fourth of the total wool consumed - and in the rest of the world. Thus, for the first time in post-war years wool consumption was lower than production, and stocks increased. Estimates for the crop year 1951/52 indicate a further expansion of production, while no rise in wool consumption

Table 33. World Production and Consumption of Wool, 1948/49 to 1951/52

(Thousands of metric tons; clean basis)

Crop year a/	Production	Consumption	Stocks b/		
			Supply c/	Trade	Total
1948/49.....	976	1,105 d/	321	485	806
1949/50.....	997	1,202 e/	232	445	677
1950/51.....	1,036	957 f/	65	406	472
1951/52 g/.....	1,061	..	..	..	551

Source: Commonwealth Economic Committee, Wool Intelligence, June 1951 Supplement and August 1951 issue: Wool Bureau, World Wool Digest (New York), 6 February 1952; United States Department of Agriculture, Foreign Agriculture Circular, 1 January 1951.

a/ Beginning 1 July.

b/ At beginning of crop year.

c/ Stocks held by the Joint Organization and by the Governments of the United States and the United Kingdom.

d/ Calendar year 1949.

e/ Calendar year 1950.

f/ Provisional; calendar year 1951.

g/ Preliminary.

is foreseen.

Hard fibres

Fibres such as jute and hemp, sisal and abaca, are used principally in agriculture and industry as rope or binding or packaging materials. Supplies of these fibres outside the Union of Soviet Socialist Republics, though they generally rose in 1950 to a total higher than in any previous post-war year, were still considerably below the pre-war level. Paper and cotton have made substantial inroads into the use of jute for packaging and steel wire is being used in place of hard fibres for rope and binding materials. Changes in harvesting techniques and the bulk handling of grain in storage and loading have also reduced the use of jute and binding materials.

India increased its jute crop by roughly 10 per cent in 1950, following a 50 per cent increase in 1949, and both India and Pakistan increased sowings of jute in 1951. Expanded domestic supplies, however, did not fully offset the loss of imports from Pakistan after India devalued its currency in 1949. As a result, while much of Pakistan's raw jute was exported to the United States and western European countries, India's jute manufactures, at a reduced level in 1949, declined further in 1950 and again in the early months of 1951 even though demand improved. Following the trade agreement between India and Pakistan in February 1951, however, increased raw jute imports aided the recovery of jute manufacturing in India to the average 1949 rate by the middle of 1951. Three jute mills are being constructed in Pakistan, and by the end of 1951, 50 or 60 looms were in operation, with a further 150 scheduled to be in use by mid-1952.

About 80 per cent of the hemp crop is grown in Europe, western and eastern Europe generally producing approximately equal amounts. Output was restored to the pre-war level in 1948 and exceeded it in 1949. A decline in 1950 is accounted for primarily by the sharp drought-induced decrease in Yugoslavia's output. Aggregate production of other hard fibres - sisal, henequen and abaca - exceeded pre-war levels for the first time in 1950, sisal accounting for more than half the aggregate volume of these fibres and the other two fibres about equal proportions of the remainder. Production of henequen, exclusively a Latin American and chiefly a Mexican product, remained

above pre-war levels in 1950 despite crop failures in Mexico. Africa's output of sisal has been expanding, providing two-thirds of the world total in 1950, most of its from Tanganyika. Post-war production has been negligible in Asia, but Latin American production, insignificant before the war, has increased and by 1950 provided somewhat more sisal than did Asia before the war. Total output in 1950 was 10 per cent higher than in 1949 and more than one-fourth higher than pre-war. Practically all the abaca was supplied by the Philippines before the war. Though production increased over 1949/50 by more than half in 1950/51, and accounted for almost 90 per cent of world supplies, Philippine output was still far below the pre-war volume. Production of abaca in Latin America, introduced during the war on a relatively small scale, has been declining. Sisal and abaca are stockpiled by the United States, but none of the hard fibres is subject to allocation or restriction as to inventories or use. High prices induced more plantings in 1951, and the 1952 supply of hard fibres is therefore expected to exceed the pre-war level by a substantial margin.

Forest Products

Large prime forest reserves are now limited to northern Europe, the Union of Soviet Socialist Republics, Latin America and central Africa. Neither of the latter two areas, however, as yet produces or consumes much of the world's timber or wood-pulp. The commercially significant consuming area deficient in domestic supplies of wood comprises the western European countries, other than Norway and Sweden. Exports from the latter countries and from Finland, the Soviet Union and Canada serve the other western European countries and particularly the United Kingdom. During the early post-war years no exports were available from the Soviet Union; the United States, however, provided large quantities of lumber to western Europe until 1949, when the supply became adequate to the demand. The United States itself is a large importer of wood-pulp.

Sawn softwood

Output of softwood lumber (not including that of the USSR) at 177 million

cubic metres in 1950 was 9 per cent larger than in 1949 as a result of a 10 per cent increase in the United States and a 14 per cent increase in Canada. In the United States an upswing in residential and other construction raised consumption above the expanded level of production plus net imports. In the rest of the world, consumption of lumber also exceeded current supplies and stocks were drawn on. In Europe, the United Kingdom maintained the 1949 level of housing construction, while continental countries - notably Belgium, Italy and western Germany - expanded residential construction. Production of lumber in 1950 was just about maintained at the 1949 level in western Europe, and imports from outside the area declined by 15 per cent. As a result western European stocks of lumber were reduced by 23 per cent during the year 1950.

In the first half of 1951, production continued to rise in the United States, in Canada and in Europe. In the United States, consumption declined, however, and although net imports also declined, reducing supplies below the average level of 1950, inventories were restored to the level of early 1950. The rate of consumption rose slightly in Europe but, with supplies considerably expanded, the 1950 loss in inventories was largely made up. Western European supplies were improved through increased imports, primarily from Canada and the Soviet Union, and stocks were replenished, particularly in the United Kingdom, where they had fallen to low levels.

Wood-pulp

Output of wood-pulp (not including that of the USSR) at more than 30 million tons in 1950 was about one-sixth greater than in 1949, permitting expanded production of synthetic fibres and paper, including newsprint. United States output increased by 22 per cent to 13.5 million tons, and Canadian output by 8 per cent to 7.5 million tons, together accounting for over two-thirds of the total. Consumption in the United States expanded even faster than production, and, though imports from the Scandinavian countries as well as from Canada increased, inventories declined. Consumption in the rest of the world was little more than in 1949, but supplies were reduced by 1.3 million tons, that is, by about 8 per cent, 1950 imports into Europe being only about half the 1949 level. Stocks were reduced in most continental countries of

western Europe, and by 123,000 tons in the United Kingdom. In the exporting countries, Norway and Sweden, stocks had increased substantially in 1949 and were little changed by the end of 1950.

In the first half of 1951, supplies of wood-pulp were again greatly expanded, by 16 per cent over the corresponding period of 1950 in the United States and by 13 per cent in Canada. Exports of the Scandinavian countries increased somewhat. There was a marked increase in consumption in the United States and also in the rest of the world, but supplies in both cases were greater than consumption, leaving small additions to inventories. Stocks in the United Kingdom, which continued to decline until the end of April, had been restored to the early 1950 level by the end of September.

Production of newsprint increased in 1950 to more than 8 million tons, or almost 9 per cent above 1949, and continued to rise in 1951, the United States reporting an increase of 13 per cent over the first half of 1950 and Canada 6 per cent. With United States consumption expanded to about two-thirds of the world[21/] total, and with world output just above the pre-war level, however, newsprint supplies continue to be tight in a number of countries. The pulp-paper committee of the International Materials Conference made no formal recommendations for newsprint allocations, but during 1951 arranged for the emergency distribution to a number of countries of some 27,500 tons, mostly through the diversion of United States imports.

21/ Not including the Union of Soviet Socialist Republics.

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