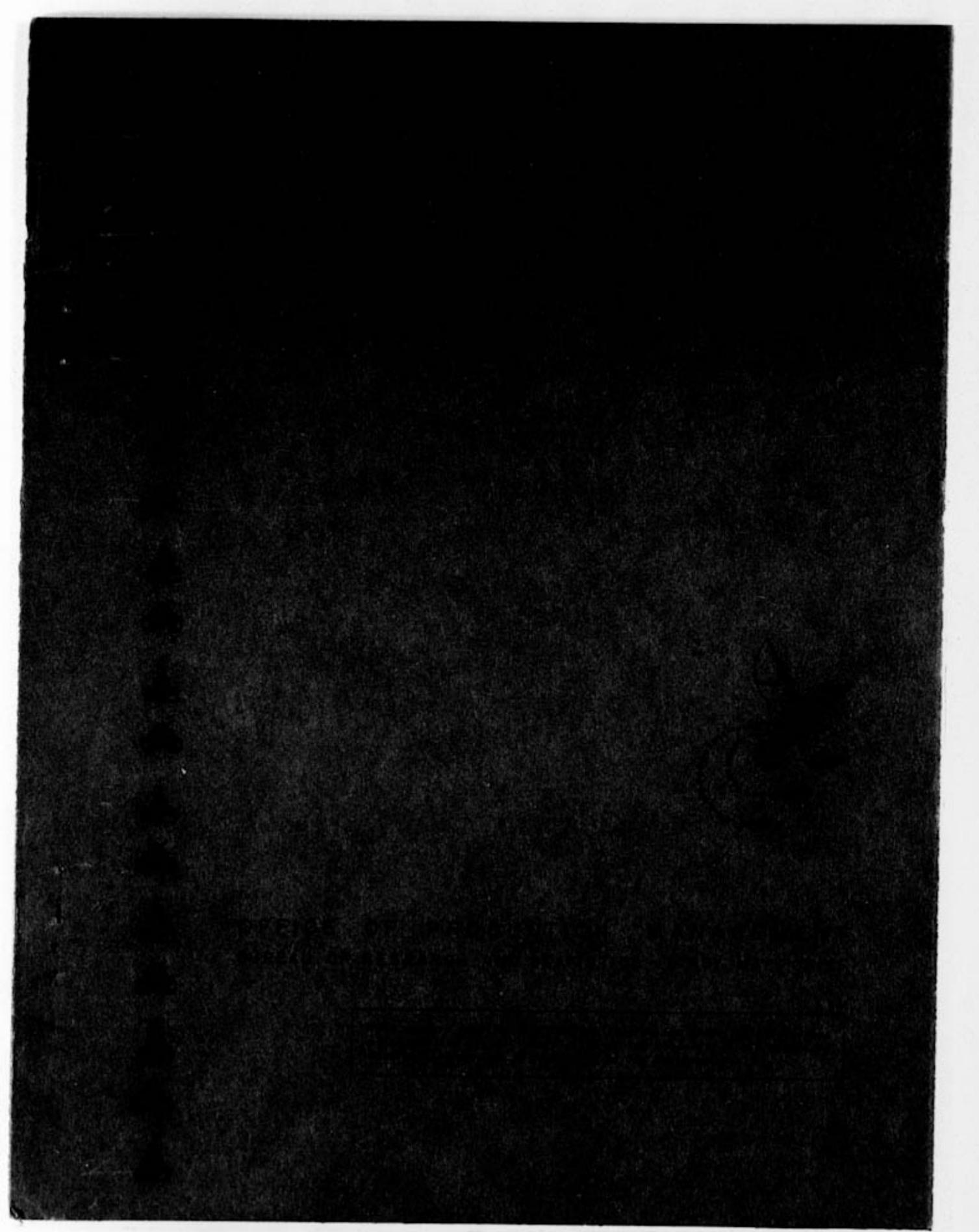


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Defense Progress: Sep. 1941
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DEFENSE PROGRESS



BUREAU OF RESEARCH AND
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|---|-------------|
| ● MACHINE TOOL DELIVERIES IN JULY WERE \$6 million below the 1941 peak reached in June. Deliveries for the last five months of 1941 must average \$9 million more than in July if the 1941 goal of \$800 million is to be met. Moreover, unfilled orders are still increasing at a rapid rate. There seems little likelihood that the machine tool stringency will be relieved for many months to come. | 2 |
| ● THE UNITED STATES, THE BRITISH EMPIRE, the Dutch East Indies, and their trading spheres are in a position to hamstring the Japanese military machine by a strict application of economic sanctions. In the recent past Japan has depended upon those powers for more than four-fifths of her total imports of 30 war effort materials and equipment. | 5 |
| ● DEFENSE PROGRESS SERIES | 8 |

MACHINE TOOL DELIVERIES

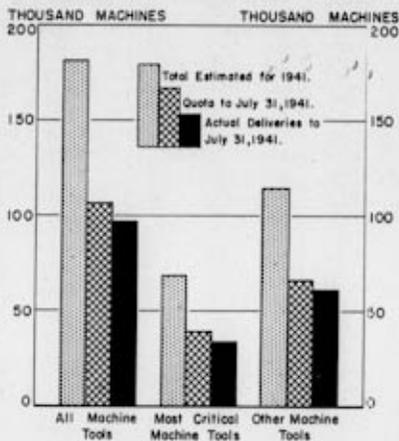
Machine tool deliveries in July were valued at \$63 million, a decline of \$6 million from the June peak of \$69 million. Since deliveries are already behind schedule, the July decline puts an additional burden upon the remaining months of the year if actual deliveries for the whole of 1941 are to equal estimated scheduled deliveries.

For 1941 deliveries to reach the Office of Production Management estimate of \$800 million, or the manufacturers' estimate of 182 thousand machines, monthly deliveries for the rest of the year must average \$72 million. The value of average monthly deliveries for the first seven months of 1941 was \$63 million. This means that for the last five months of 1941 the average value of deliveries must be \$3 million more than in the peak month of June.

Actual deliveries of machines through July were further behind the manufacturers' estimate of unit deliveries than these dollar values indicate. The estimate calls for an average of 15,127 machine tools per month; in July they totaled 13,731. For the seven months of 1941 through July 31, deliveries were 9,789 units behind the quota assigned for that period. To make up for this deficiency 17,085 units per month will be required for the last five months of the year if the estimated total of 181,542 units for 12 months is to be reached. These data are shown in Chart 1 and the accompanying table.

It is of greater significance that production in the first seven

CHART 1—ACTUAL AND ESTIMATED MACHINE TOOL DELIVERIES
1941



months has not met the schedules for the most critical machine tools. The manufacturers' estimate for the 20 most critical machines calls for production of 5,681 per month. In July 5,042 were delivered and the cumulative deficit for the year through July 31 was 5,748, or more than one month's quota. It will be necessary to produce 6,831 machines per month, or almost 2,000 more per month than were produced in July, if the 1941 quota is to be met. The machines on this critical list are those most needed for defense production and the deficiency in their production is therefore of particular importance to the fulfillment of schedules for the production of planes, tanks, and other defense necessities.

VALUE AND NUMBER OF MACHINE TOOLS ON UNFILLED ORDERS
AND DELIVERIES IN THE UNITED STATES, 1941

	ALL MACHINE TOOLS					
	TOTAL VALUE	VALUE RETAINED IN U. S.	VALUE OF EXPORTS	TOTAL	MOST CRITICAL TYPES	OTHER TYPES
	(THOUSAND DOLLARS)			(NUMBER)		
UNFILLED ORDERS - JULY 1, 1941	529,290	N.A.	N.A.	84,470	43,045	41,425
AUG. 1, 1941	577,231	N.A.	N.A.	85,611	44,325	41,286
DELIVERIES - MARCH 1941	60,850	42,903	17,947	N.A.	4,862	N.A.
APRIL	65,002	45,980	19,022	N.A.	5,099	N.A.
MAY	66,200	51,811	14,389	14,633	5,193	9,440
JUNE	69,070	57,836	11,234	14,808	5,225	9,583
JULY	63,019	N.A.	N.A.	13,731	4,827	8,904
AVERAGE MONTHLY DELIVERIES - MARCH 1 - JULY 31, 1941	64,830	N.A.	N.A.	N.A.	5,042	N.A.
EST. MONTHLY AVERAGE 1941	66,700	N.A.	N.A.	15,127	5,681	9,446
AHEAD OR BEHIND 1941 ESTIMATE TO JULY 31, 1941	- 25,000	N.A.	N.A.	- 9,789	- 5,750	- 4,041

N.A. - NOT AVAILABLE.

The trend of machine tool production as shown in Chart 2 continues upward so that some of the cumulated deficit may be made up during the last five months of 1941. In addition, many new machine tool facilities are just getting into production--this trend justifies a probable output of \$1 billion in 1942. Unfilled orders continue to mount, however, in spite of the increased rate of machine tool deliveries. During the last quarter they have increased nearly \$100 million--from \$483 million on April 30 to \$577 million on July 31. These orders, which represent about nine months productive capacity at the July rate, do not completely reflect total machine tool requirements. It is known for instance that the re-

quirements for new bomber facilities will approximate \$300 million, and these machines did not appear in orders as of July 31. Furthermore the new planned facilities for the production of ordnance; requirements for Britain provided by Defense Aid appropriations, and the need of Russian war industries for machine tools are only partly expressed in unfilled orders to date. Several hundred million dollars more will find their way into the unfilled order category in the next few months at a rate which will probably be much more rapid than deliveries of present orders.

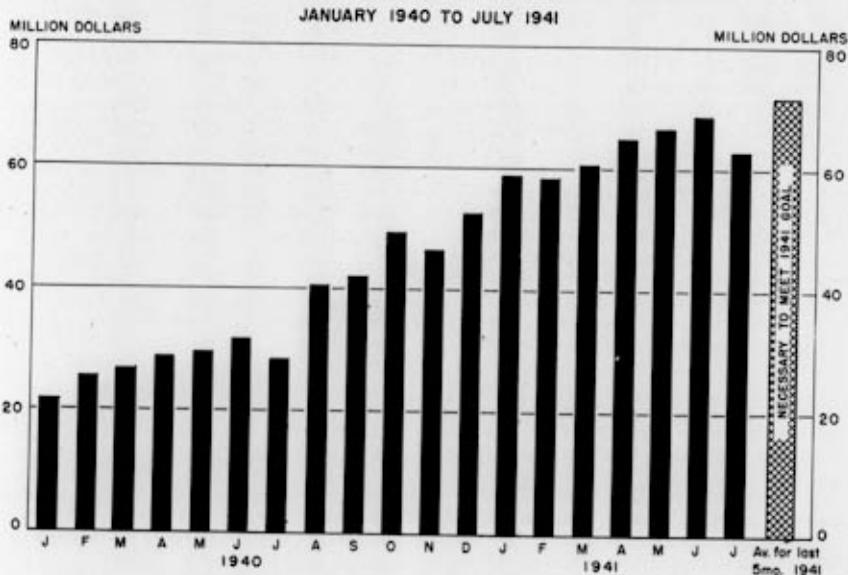
Even if production reaches \$800 million in 1941 and \$1 billion in 1942, it will be far below actual

requirements. Figures are not available to justify an estimate of the machine tools needed by United States industries and the export requirements for British Empire, South America, Russia, and China but they are conservatively equivalent to at least 18 months production at the estimated accelerated rate of deliveries for 1942. Present schedules for bombers, tanks, artillery, and other defense equipment cannot be

met unless (1) production of machine tools is stepped up far more than now seems likely or (2) tools are diverted from nondefense industries to defense industries at a much faster rate than is now indicated.

Note: For a discussion of United States machine tool exports, see Defense Progress, Issue Number 51, pp. 11-14.

CHART 2—VALUE OF MACHINE TOOL DELIVERIES



SIGNIFICANCE OF AMERICAN-BRITISH-DUTCH ECONOMIC SANCTIONS AGAINST JAPAN

Japan's military operations can be definitely limited through the cooperation of the United States, the British Empire, and the Dutch East Indies in applying economic sanctions against her.

The military strength of the Japanese to date has depended largely upon her ability to obtain 30 basic materials and types of equipment through regular channels of foreign trade. It is estimated that about 87 percent of these basic materials and types of equipment originated in the United States, the British Empire, and the Dutch East Indies or areas under their influence.

The recent freezing of Japanese funds in the United States, with parallel action by the British and Dutch Governments--and the counter action by Japan--places the trade relations of these countries with Japan in a precarious condition. Japanese public officials have complained of the economic "encirclement" by the three Powers. Strict economic sanctions, applied by the Governments will seriously hamper the continuity of the Japanese war effort and extension of her military activity, once reserves of materials have been exhausted.

The accompanying Chart shows that Japan has depended upon outside sources for practically her entire consumption of 10 of the materials, including such important items as aluminum ore, rubber, iron and steel scrap, nickel, and mercury. Japan is greatly deficient in 10 others, including iron ore, tin, manila fiber, hides and skins, and fertilizer materials. She has imported considerable quantities of the 10 remaining materials and equipment.

The United States has been Japan's chief supplier of such key items as petroleum and products, iron and steel scrap, copper, and metal working machinery, while the British Empire has furnished her with the greater portion of tin, rubber, and nickel, and the Dutch East Indies with bauxite (aluminum ore).

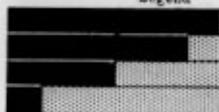
Continental Europe and Latin American countries have been the principal sources of a few of these materials. The European countries were largely eliminated after the European war began. If a comprehensive program of preclusive buying in Latin America were followed by the United States, Japan would then be entirely dependent upon the three Powers for these materials.

JAPANESE DEFICIENCY IN BASIC MATERIALS AND EQUIPMENT AND PRINCIPAL SOURCES OF SUPPLY

Material	Degree of Deficiency	Principal Sources
Metallic Ores		
Aluminum ^a (bauxite)		1. Dutch Indies 2. Br. Malaya
Antimony		N. A.
Mercury		1. Italy 2. Mexico
Molybdenum		1. United States
Nickel		1. Canada 2. United Kingdom
Platinum		1. United States, Russia or Colombia
Iron Ore		1. Br. Malaya 2. Philippines
Lead		1. Canada 2. United States
Tin ^b		1. Br. Malaya 2. Dutch Indies
Copper		1. United States 2. Canada
Manganese		1. Br. India 2. Dutch Indies
Tungsten		1. Possibly United States 2. China
Zinc		1. Mexico 2. Canada
Other Raw Materials		
Iron & Steel Scrap		1. United States
Magnesite ^b		1. Br. India
Manila Fiber		1. Philippines
Rubber ^c		1. Br. Malaya 2. Dutch Indies
Asbestos		1. Canada
Nitrates		1. Chile
Petroleum & Products		1. United States 2. Dutch Indies
Phosphates		1. United States 2. Egypt
Potash		1. Possibly United States
Hides & Skins		1. China 2. United States
Wool		1. Australia 2. Latin America
Fluorspar		N. A.
Steel semi-mfgs.		1. Br. India 2. United States
Manufactured Equipment		
Aircraft ^d		1. United States 2. Germany
Metal Working Machinery ^d		1. United States 2. Germany
Automobiles		1. United States 2. Italy
Internal Combustion Engines		1. United States 2. Germany

Legend

(The bars, based on most recent data available, are approximate.)



Practically 100 percent deficiency

More than two-thirds deficiency

Two-thirds to one-third deficiency

Less than one-third deficiency

^a Position may have been improved by recent concessions in Indo-China and Thailand.

^b Trade reports indicate that Japan produces and exports metallic magnesia from imported materials.

^c Position improved by recent concessions in Indo-China and Thailand.

^d Japan would apparently import much larger quantities of these items, were they available.

Through the export licensing system of the United States, important basic materials and equipment such as scrap iron and machinery were cut off from Japan during 1940. The licensing system has been further extended during 1941 so that Japan has been deprived of additional materials. The British Government has preempted supplies of several materials, produced in outlying parts of the Empire, and formerly purchased by Japan. Also, trade reports indicate that the Dutch East

Indies have limited exports of rubber, tin, and petroleum products to Japan at peacetime levels. According to trade advices as a result of the separate and independent actions by the three Governments, a number of Japanese war industries began to feel the pinch for raw materials during the latter part of 1940 and first half of 1941. The joint efforts of the United States and the Allied Powers in restricting exports to Japan will go far in reducing her war efforts.

DEFENSE PROGRESS SERIES

Revisions have been made in the July Defense Progress Series program figures due to reallocation of Defense Aid funds as follows:

(Million Dollars)

Increases

Ordnance	\$256
Other Munitions	50
Merchant Ships	<u>54</u>
Total	\$360

Decreases

Industrial Facilities	\$150
Other Equipment and Supplies	170
Miscellaneous	<u>40</u>
Total	\$360

It will be noticed that the box heads and stubs of the over-all financial program and the Army and Navy programs have been revised to provide more detailed information and a clearer description of the data.

UNITED STATES ARMED FORCES

	1940		1941			
	June 30	Dec. 31	March 31	June 30	July 31	Aug. 31
	(Thousand, officers and enlisted men)					
ARMED FORCES ON ACTIVE DUTY						
TOTAL	452	877	R 1,324	1,775	1,847	R 1,932
ARMY - TOTAL	266	619	R 1,031	1,448	1,506	1,576
Regular	263	424	R 466	509	512	534
Nat'l. Guard in Fed. Serv.	-	156	R 222	288	283	279
Reserve Officers	3	22	R 38	55	63	67
Selective Service Trainees	-	17	R 305	596	648	696
NAVY & MARINE CORPS - TOTAL	186	258	293	327	341	R 356
NAVY - TOTAL	158	210	242	273	283	n.a.
Regular	151	185	207	220	225	n.a.
Reserve	7	25	35	53	58	n.a.
MARINE CORPS - TOTAL	28	48	51	54	58	n.a.
Regular	28	41	40	43	45	n.a.
Reserve	.4	7	11	11	13	n.a.

R Preliminary estimate.

n.a. Not available

In the table on the previous page the growth of the United States armed forces in active duty is shown classified by service and tenure.

Preliminary indexes for employment in the 18 selected private defense industries during July are shown in Defense Progress Series this week. *

Among the 18 selected private defense industries, the most notable increase in employment occurred in private shipbuilding, where the index increased from 262 in June to 303 in July. This represents the employment of an additional 20,100 employees as ship construction began in new yards in Portland, Oregon; South Portland, Maine; Los Angeles and Richmond, California; Wilmington, North Carolina; and at several Gulf Coast locations. The airframe industry continued to employ new workers at an increasing rate and the index moved from 469 in June to 509 in July. During recent months that industry has increased its labor force by an average of 10,000 wage earners a month, but during July the increase was accelerated to a total of 14,100 workers as new plant facilities were put into production, notably by Martin, Consolidated, Douglas, Lockheed, and Curtiss-Wright. The airframe industry is expected to show even greater em-

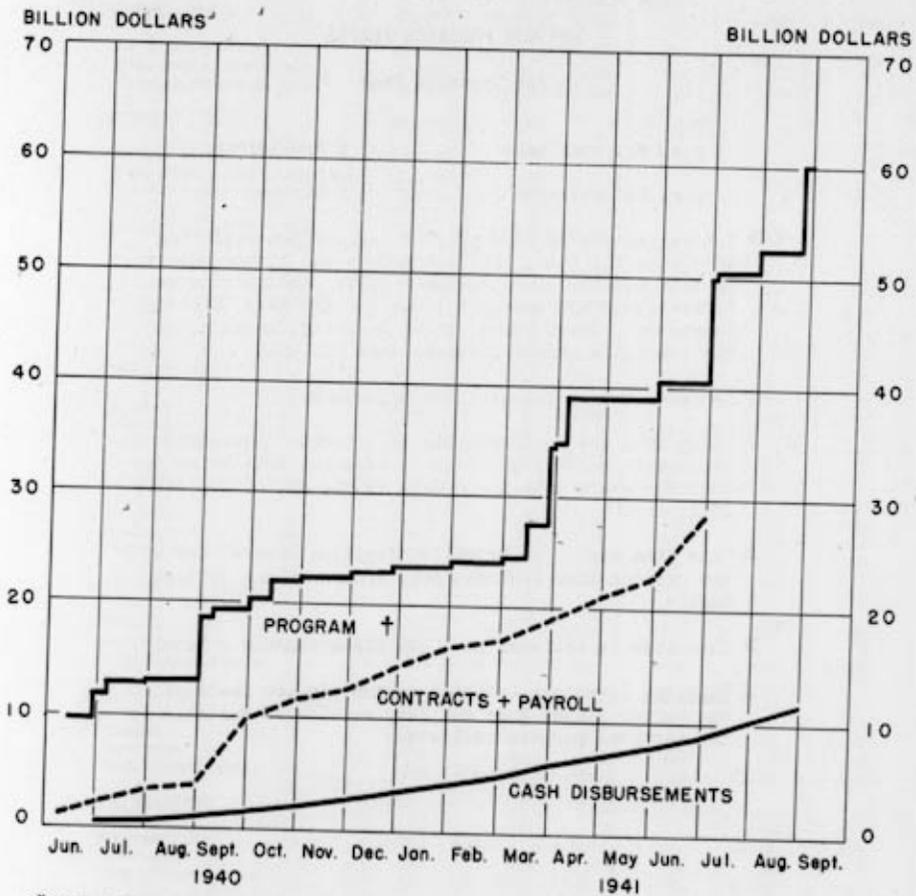
ployment increases this fall as the heavy bomber program gets under way. Aero-engine employment also expanded sharply in July as some of the major automotive companies tooled up for engine production.

Significant gains in July employment were also noted in foundries and machine shops, blast furnaces, steel works and rolling mills, electrical machinery, and machine tools. Two important specialty industries, aluminumware and die casting, reported substantial declines in employment owing to inability to secure materials for nondefense use. Other industries in which significant shortages of materials have been reported and priority unemployment is imminent are silk and rayon, hardware, electrical household appliances, plumbing supplies, heating equipment, radios and parts, non-ferrous metals, and cork products.

From the latest monthly data on United States exports and imports presented in this issue, changes since last year in trade with pro-democratic and Axis-dominated countries can be contrasted. In addition the increasing portions of exports under license are shown and the proportion of our total imports in strategic and critical defense materials are indicated.

* Prepared by the staff of the Bureau of Labor Statistics.

ENACTED DEFENSE PROGRAM,* CONTRACT AWARDS AND CASH DISBURSEMENTS



* United States and British Programs

† The program line represents dates on which funds have become available.

FOOTNOTES

DEFENSE PROGRESS SERIES

See Opposite Page

n.a. Not available

P Preliminary

n.r. Not released

R Revised

- ^a Totals include defense program legislation beginning with June 11, 1940; British orders and disbursements in this country since November 1939; and certain authorizations and appropriations for the Navy, Maritime Commission, Coast Guard, pilot training, housing, and the stockpile passed prior to June 11, 1940.
- ^b Decrease due to cancellation of orders.
- ^c These data are not available at present. Revisions are now in process which it is reported will bring the contract award data up to date by the end of September 1941.
- ^d This item was formerly called "British Orders" and at the present time includes only orders of the British Empire.
- ^e This item is included in "Cash Disbursements - Total".
- ^f Suitable Inventory includes weapons in the hands of the United States Army and Navy considered suitable for the tactical purpose indicated.

DEFENSE PROGRESS SERIES

TOTAL UNITED STATES DEFENSE PROGRAM

	Cumulative 6/11/40 ^a to			Monthly		
	End let full year 6/30/41	1 month ago 7/31/41	End, latest month 8/31/41	1 year ago 8/40	1 month ago 7/41	Latest month 8/41
FINANCIAL PROGRAM						
	(Million dollars)					
PROGRAM - TOTAL	49,879	52,480	E 60,016	171	2,601	E 7,536
U. S. contractual	41,374	43,625	E 50,989	0	2,251	E 172
Pay, subs., trav., etc. ^a	4,835	5,196	5,368	0	361	E 7,364
Foreign orders in U. S. ^a	3,670	3,659	E 3,659	171	-11b	E 0
CONTRACTS - TOTAL	28,239	£	£	515	£	£
United States	23,019	£	£	262	£	£
Pay, subs., trav., etc.-paid	1,550	n.a.	n.a.	82	n.a.	n.a.
Foreign orders in U. S. ^a	3,670	£	£	171	n.a.	£
CASH DISBURSEMENTS - TOTAL	9,115	E 10,253	E 11,490	435	E 1,138	E 1,237
U. S. contractual	5,490	n.a.	n.a.	153	n.a.	n.a.
Pay, subs., trav., etc. ^a	1,550	n.a.	n.a.	82	n.a.	n.a.
Foreign orders in U. S. ^a	2,075	E 2,143	E 2,208	200	E 68	E 65
O B J E C T S						
TOTAL MUNITIONS						
Program	28,847	E 30,992	E 35,501	49	E 2,145	E 4,509
Contracts	17,760	£	£	169	£	£
Cash disbursements	3,508	E 3,943	E 4,418	206	E 435	E 475
AIRPLANES, ENGINES, ETC.						
Program	11,729	12,224	E 12,518	29	495	E 294
Contracts	6,829	£	£	-57	£	£
Cash disbursements	1,467	E 1,617	1,787	100	E 150	E 170
NAVAL SHIPS & PARTS						
Program	6,796	7,774	E 8,154	0	978	E 380
Contracts	5,000	£	£	13	£	£
Cash disbursements	693	E 798	E 903	32	E 105	E 105
ORDNANCE (Incl. Naval Ordnance)						
Program	8,226	E 8,800	E 11,937	20	E 574	E 3,137
Contracts	4,978	£	£	139	£	£
Cash disbursements	936	E 1,046	E 1,166	49	E 110	E 120
OTHER MUNITIONS						
Program	2,096	E 2,194	E 2,892	0	E 98	E 698
Contracts	953	£	£	74	£	£
Cash disbursements	412	E 482	E 562	25	E 70	E 80

Table continued on following page. For footnotes see opposite page.

DEFENSE PROGRESS SERIES

FOOTNOTES

DEFENSE PROGRESS SERIES

See Opposite Page

n.a. Not available

P Preliminary

n.r. Not released

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f Suitable Inventory includes weapons in the hands of the United States Army and Navy considered suitable for the tactical purpose indicated.

DEFENSE PROGRESS SERIES (Continued)

	Cumulative 6/11/40 ^a to			Monthly		
	End 1st full year 6/30/41	1 month ago 7/31/41	End, latest month 8/31/41	1 year ago 8/40	1 month ago 7/41	Latest month 8/41
<u>MERCHANT SHIPS</u>						
	(Million dollars)					
Program	1,605	E 1,659	E 3,358	1	E 54	R 1,699
Contracts	1,462	<u>0</u>	<u>0</u>	1	<u>0</u>	<u>0</u>
Cash disbursements	252	R 282	R 317	22	R 30	R 35
<u>INDUSTRIAL FACIL.-CONS., EQUIP., & REAL ESTATE</u>						
Program	5,887	E 5,794	E 5,954	25	E -93	R 160
Contracts	2,761	<u>0</u>	<u>0</u>	30	<u>0</u>	<u>0</u>
Cash disbursements	824	R 994	R 1,174	26	R 170	R 180
<u>INDUSTRIAL FACIL.-CONSTRUCTION ONLY</u>						
Program	1,607	1,957	R 2,150	n.a.	350	R 193
Value in place	559	720	R 945	n.a.	161	R 225
<u>POSTS, DEPOTS, & FORTIFICATIONS</u>						
Program	3,638	3,700	R 4,181	0	62	R 481
Contracts	2,212	<u>0</u>	<u>0</u>	54	<u>0</u>	<u>0</u>
Cash disbursements	1,448	R 1,618	1,788	32	R 170	R 170
<u>HOUSING</u>						
Program	452	602	R 602	0	150	0
Contracts	275	314	R 331	0	39	R 17
Cash disbursements	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<u>STOCKPILE</u>						
Program	983	1,068	R 1,068	0	85	R 0
Contracts	470	<u>0</u>	<u>0</u>	63	<u>0</u>	<u>0</u>
Cash disbursements	180	R 200	R 230	4	R 20	R 30
<u>OTHER EQUIPMENT & SUPPLIES</u>						
Program	3,632	E 3,469	E 3,984	96	E -163	R 515
Contracts	1,749	<u>0</u>	<u>0</u>	116	<u>0</u>	<u>0</u>
Cash disbursements	1,339	R 1,425	R 1,535	62	R 86	R 110
<u>PAY - ALL AGENCIES</u>						
Total						
Program	2,808	2,858	2,997	0	50	139
Cash disbursements	1,192	R 1,347	R 1,506	65	R 155	R 159
Army and War Department						
Program	1,954	1,954	1,954	0	0	0
Cash disbursements	743	R 851	R 962	36	R 108	R 111
Navy, Mar. Corps, & Navy Dept.						
Program	750	757	896	0	7	139
Cash disbursements	394	R 434	R 474	27	R 40	R 40
Civilian employees, other agencies						
Program	104	147	147	0	43	0
Cash disbursements	55	R 62	R 70	2	R 7	R 8

Table continued on following page.

For footnotes see opposite page.

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DEFENSE PROGRESS SERIES (Continued)

	Cumulative 6/11/40 ² to			Monthly		
	End 1st full year 6/30/41	1 month ago 7/31/41	End, latest month 8/31/41	1 year ago 8/40	1 month ago 7/41	Latest month 8/41
(Million dollars)						
<u>SUBSISTENCE, TRAVEL, MISC.</u>						
Program	2,027	E 2,338	E 2,371	0	E 311	33
Cash disbursements	372	E 444	E 522	18	E 72	E 78
<u>AGENCIES</u>						
<u>U. S. MILITARY</u>						
<u>TOTAL</u>						
Program - Total	33,871	35,760	41,585	0	1,889	5,825
Contractual	30,297	32,177	37,842	0	1,880	5,665
Pay, subs., trav., etc.	3,574	3,583	3,743	0	9	160
Contracts	18,495	0	0	199	0	0
Cash disbursements - Total	6,183	E 7,033	E 7,948	212	E 850	E 915
Pay, subs., trav., etc.	1,379	n.a.	n.a.	76	n.a.	n.a.
<u>ARMY</u>						
Program - Total	20,346	20,352	24,607	0	6	4,255
Contractual	17,639	17,645	21,900	0	6	4,255
Pay, subs., trav., etc.	2,707	2,707	2,707	0	0	0
Contracts	9,050	0	0	124	0	0
Cash disbursements - Total	3,862	E 4,392	E 4,967	97	E 530	E 575
Pay, subs., trav., etc.	908	n.a.	n.a.	44	n.a.	n.a.
<u>NAVY</u>						
Program - Total	13,525	15,408	16,978	0	1,883	1,570
Contractual	12,658	14,532	15,942	0	1,874	1,410
Pay, subs., trav., etc.	867	876	1,036	0	9	160
Contracts	9,445	0	0	75	0	0
Cash disbursements - Total	2,321	E 2,641	E 2,981	115	E 320	E 340
Pay, subs., trav., etc.	471	n.a.	n.a.	32	n.a.	n.a.
<u>DEFENSE AID (Lend-Lease)</u>						
Program	7,000	7,000	7,000	0	0	0
Allocations	5,177	n.a.	n.a.	-	900	n.a.
Contracts	2,430	n.r.	n.r.	-	n.r.	n.r.
Cash disbursements	26	E 79	E 149	0	E 53	E 70
<u>MARITIME COMMISSION</u>						
Program	795	795	2,494	0	0	1,699
Contracts	835	0	0	n.a.	0	0
Cash disbursements	164	E 190	E 220	13	E 26	E 30
<u>RFC AND SUBSIDIARIES</u>						
Program	2,808	3,061	E 3,061	0	253	E 0
Contracts	924	0	0	55	0	0
Cash disbursements	333	E 410	E 495	3	E 77	E 85

Table continued on following page.

For footnotes see opposite page.

FOOTNOTES

DEFENSE PROGRESS SERIES

See Opposite Page

n.a. Not available

P Preliminary

n.r. Not released

Ɛ Revised

- ^a Totals include defense program legislation beginning with June 11, 1940; British orders and disbursements in this country since November 1939; and certain authorizations and appropriations for the Navy, Maritime Commission, Coast Guard, pilot training, housing, and the stockpile passed prior to June 11, 1940.
- ^b Decrease due to cancellation of orders.
- ^c These data are not available at present. Revisions are now in process which it is reported will bring the contract award data up to date by the end of September 1941.
- ^d This item was formerly called "British Orders" and at the present time includes only orders of the British Empire.
- ^e This item is included in "Cash Disbursements - Total".
- ^f Suitable Inventory includes weapons in the hands of the United States Army and Navy considered suitable for the tactical purpose indicated.

DEFENSE PROGRESS SERIES (Continued)

	Cumulative 6/11/40 ^a to			Monthly		
	End 1st full year 6/30/41	1 month ago 7/31/41	End, latest month 8/31/41	1 year ago 8/40	1 month ago 7/41	Latest month 8/41
FOREIGN ORDERS IN U. S. ^d	(Million dollars)					
Program	3,670	3,659	E 3,659	171	-11 ^b	E 0
Contracts	3,670	3,659	E 3,659	171	-11 ^b	E 0
Cash disbursements	2,075	E 2,143	E 2,208	200	E 68	E 65
OTHER AGENCIES						
Program	1,735	2,205	2,217	0	470	12
Contracts	335	E	E	8	E	E
Cash disbursements	334	E 398	E 470	7	E 64	E 72

OTHER DEFENSE INDICATORS

VALUE OF FACIL. ON APPLIC. FOR CERT. OF NECESSITY	(Million dollars)					
Total	1,424	1,573	n.a.	-	149	n.a.
Approved, private funds	829	899	n.a.	-	70	n.a.
Approved, public funds	201	217	n.a.	-	16	n.a.
Pending	387	448	n.a.	-	61	n.a.
DEFENSE HOUSING	(Number of dwelling units)					
Fund allocations	110,298	123,433	125,390	5,925	13,135	1,957
Cons. contracts awarded	78,820	89,223	94,993	1,162	10,403	5,770
Construction completed	21,768	31,299	39,038	0	9,531	7,739

DEFENSE EQUIPMENT INDEXES

	1940			1941		
	July	September	December	March	June	July
PRODUCTION RATE INDEXES	(Scheduled peak month production=100)					
Military airplanes	13.0	10.0	19.6	27.0	34.9	34.0
Combat vehicles	n.a.	n.a.	n.a.	11.9	31.8	59.8
Combat vessels	19.0	20.0	22.7	31.1	37.3	37.3
Army-type guns, total	n.a.	n.a.	n.a.	28.4	38.7	61.9
Field artillery	n.a.	n.a.	n.a.	6.3	15.0	8.3
Antiaircraft guns	n.a.	n.a.	n.a.	19.1	38.1	52.5
Infantry-supporting guns	n.a.	n.a.	n.a.	30.3	36.2	65.0
	June 30	Sept. 30	Dec. 31	March 31	June 30	July 31 ¹
TOTAL PRODUCTION INDEXES	(Cumulated since 7/40. Production requirements=100)					
Military airplanes	0.5	1.5	3.5	6.5	10.7	12.1
Combat vehicles	n.a.	n.a.	2.8	4.8	9.2	12.8
Combat vessels	5.8	6.9	8.7	11.1	14.1	15.1
Army-type guns, total	n.a.	n.a.	5.3	9.6	16.0	19.5
Field artillery	n.a.	n.a.	1.5	2.8	5.7	6.2
Antiaircraft guns	n.a.	n.a.	3.2	5.2	10.6	13.2
Infantry-supporting guns	n.a.	n.a.	7.6	13.5	22.0	26.9

Table continued on following page. For footnotes see opposite page.

FOOTNOTES

DEFENSE PROGRESS SERIES

See Opposite Page

n.a. Not available

P Preliminary

n.r. Not released

R Revised

a Totals include defense program legislation beginning with June 11, 1940; British orders and disbursements in this country since November 1939; and certain authorizations and appropriations for the Navy, Maritime Commission, Coast Guard, pilot training, housing, and the stockpile passed prior to June 11, 1940.

b Decrease due to cancellation of orders.

c These data are not available at present. Revisions are now in process which it is reported will bring the contract award data up to date by the end of September 1941.

d This item was formerly called "British Orders" and at the present time includes only orders of the British Empire.

e This item is included in "Cash Disbursements - Total".

f Suitable Inventory includes weapons in the hands of the United States Army and Navy considered suitable for the tactical purpose indicated.

Defense Equipment Indexes (Continued)						
	1940			1941		
	June 30	Sept. 30	Dec. 31	March 31	June 30	July 31
U. S. INVENTORIES						
	(U. S. tactical requirements%100)					
Military airplanes	7.0	n.a.	8.6	n.a.	13.4	14.5
Combat vehicles	n.a.	n.a.	4.4	n.a.	8.8	10.2
Combat vessels, delivered	37.7	n.a.	36.0	n.a.	36.6	36.6
Army-type guns, total, suitable f	n.a.	n.a.	5.7	n.a.	11.8	13.6
Field artillery, suitable f	n.a.	n.a.	6.4	n.a.	9.7	10.3
Antiaircraft guns, " f	n.a.	n.a.	6.9	n.a.	11.2	12.8
Infantry-supporting guns, " f	n.a.	n.a.	4.6	n.a.	13.1	15.6

STOCKPILE								
Commodity and Units	Two Year Program	Status	Cumulative 6/11/40 ^B to			Monthly		
			End let full year 6/30/41	1 month ago 7/31/41	End, latest month 8/31/41	1 year ago 8/40	1 month ago 7/41	Latest month 8/41
ANTIMONY (short tons)	18,000	Purch. Deliv.	29,637 7,295	29,637 7,796	29,637 8,166	6,250 0	0 501	0 370
CHROME ORE (thou. long tons)	1,300	Purch. Deliv.	647 173	679 192	737 194	46 6	32 19	58 2
INDUS. DIAMONDS (thous. carats)	2,000	Purch. Deliv.	771 4	713 10	717 615	0 0	0 5	4 605
MANGANESE (thou. long tons)	1,800	Purch. Deliv.	3,219 328	3,341 333	3,348 350	764 15	123 6	7 17
MANILA FIBER (bales)	395,257	Purch. Deliv.	99,546 70,696	111,546 83,747	116,171 93,396	0 0	12,000 13,050	4,625 9,649
MERCURY (flasks)	10,000	Purch. Deliv.	5,000 2,050	5,000 2,050	5,000 2,050	0 0	0 0	0 0
MICA (thou. lbs.)	10,800	Purch. Deliv.	5,581 2,288	5,581 4,579	5,759 4,900	0 0	0 2,290	178 321
QUARTZ CRYSTALS (lbs.)	702,000	Purch. Deliv.	99,270 52,469	99,270 52,469	99,270 52,469	0 1,797	0 0	0 0
QUININE SULPHATE (thou. avdp. oz.)	6,400	Purch. Deliv.	7,200 6,485	7,200 6,600	7,200 6,600	0 0	0 115	0 0
RUBBER (long tons)	517,000	Purch. Deliv.	262,685 206,002	344,791 219,029	417,405 221,849	39,667 9,304	82,106 13,027	72,614 2,820
TIN (long tons)	159,400	Purch. Deliv.	100,420 42,285	105,420 45,345	105,420 46,720	2,136 1,318	5,000 3,060	0 1,375
TUNGSTEN (short tons)	13,000	Purch. Deliv.	67,294 5,871	72,987 5,875	79,587 5,885	6,695 0	5,693 4	6,600 10

ESTIMATED TOTAL COST

	(Thousand dollars)						
Total program	563,872	563,872	563,872	n.a.	0	0	0
Purchases	469,866	523,016	568,040	56,343	53,150	45,024	45,024
Purchases without excess	338,752	380,315	415,346	56,343	41,562	35,031	35,031
Deliveries	173,369	184,652	191,084	811	11,283	6,432	6,432
Deliveries without excess	173,318	184,531	190,963	811	11,212	6,432	6,432

Table continued on following page.

For footnotes see opposite page.

DEFENSE PROGRESS SERIES (Continued)

ECONOMIC ACTIVITY RELATED TO DEFENSE

	1940	1941					
	July	January	June	July	Week Ending August 23 August 30		
<u>FED. RES. HD. PRODUCTION INDEXES</u>							
		(Indexes 1935-39=100)					
Total industrial production	121	140	157	E 162			
Durable manufactures	132	170	188	E 198			
Nondurable manufactures	112	122	141	E 142			
Minerals	120	118	132	E 131			
<u>BUR. FOR. & DOM. COM. MFGS.</u>							
<u>ORDERS, SHIPMENTS, INVENTORIES</u>							
		(Indexes)					
New orders, total (1/39=100)	127	176	229	E 226			
Shipments, total (1/39=100)	117	148	191	E 184			
Inventories-total (12/31/38=100)	109.2	120.8	128.5	E 131.2			
Durable (12/31/38=100)	111.9	129.7	139.1	E 141.0			
Nondurable (12/31/38=100)	106.4	111.2	117.1	E 120.6			
<u>BLS PRICE INDEXES</u>							
		(Indexes)					
Strategic materials (8/39=100)	123.6	126.1	138.5	140.3	142.1	141.8	
Critical materials (8/39=100)	107.5	111.7	114.8	115.2	115.7	115.7	
Basic commodities (8/39=100)	108.5	120.5	146.3	148.7	150.7	152.2	
Machine tools (8/39=100)	108.7	114.6	117.7	119.0	n.a.	n.a.	
All commodities (1926=100)	77.7	80.8	87.1	88.0	90.0	90.6	
<u>BLS COST OF LIVING INDEX</u>							
	100.3	100.8	104.6	105.2			
<u>TRANSPORTATION AND ELECTRIC POWER</u>							
		(Averages)					
Freight cars							
Loadings (thous. per wk.)	707	684	878	854	900		
Unloads for export (cars dly.)	1,502	1,352	1,441	1,614	1,566	1,708	
Surplus, total (thous. daily)	133	110	71	62	51		
Box cars	57	43	34	25	20		
Coal cars	47	42	17	18	14		
Power prod. (mil. kwh. wkly.)	2,731	3,080	3,189	E 3,214	3,193	3,224	
<u>NATIONAL INCOME</u>							
		(Billion dollars, annual rate)					
Total income payments	75.2	81.7	88.0	89.1			
<u>FEDERAL DEBT</u>							
		(Billion dollars, end of month)					
Net public debt	41.5	43.9	46.3	46.9		E 48.0	
<u>EMPLOYMENT</u>							
		(Thousand workers)					
Total civil nonagricultural	35,454	36,621	38,790	39,241			
Total WPA employment	1,655	1,890	1,410	1,055	1,043		
Defense							
Private, 18 major industries	1,660	2,036	2,417	2,523			
Priv.contractors, pub.constr.	13	448	382				
Public	155	203	227				
Total direct defense	1,828	2,687	3,026				
Deep-sea merchant vessels	51	49	51	50			
<u>UNEMPLOYMENT (WPA Estimate)</u>							
		(Million workers)					
Number of unemployed	9.3	7.6	5.9	5.6			

E Revised data.

E Preliminary data.

n.a. Data not available.

Table concluded on following page.

DEFENSE PROGRESS SERIES (Continued)

	1940		1941		
	July	January	June	July	Week Ending August 23 August 30
EMPLOYMENT IN 18 MAJOR PRIVATE DEFENSE INDUSTRIES¹		(Indexes, 1939=100)			
All eighteen industries	123.3	151.3	179.5	187.7	
Blat. furn., st. wks., etc.	116.7	128.7	140.6	144.6	
Foundry & mach. shop prod.	114.8	137.5	162.5	167.9	
Elect. mach., app., & supp.	115.3	143.8	175.7	181.6	
Smelting & refining	112.7	124.0	130.8	130.1	
Brass, bronze, copper prod.	114.5	151.5	167.8	167.8	
Aluminum manufactures	121.2	146.5	147.3	150.0	
Machine tools	155.6	189.4	223.5	228.8	
Machine tool accessories	139.7	167.3	224.8	227.9	
Abrasives	112.1	151.1	183.0	180.6	
Screw-machine products	115.9	156.9	189.9	199.9	
Airframes	222.2	355.7	469.4	509.3	
Aero-engines	299.2	434.1	574.2	646.1	
Shipbuilding	138.7	195.6	262.3	303.1	
Firearms	159.3	234.5	317.1	336.1	
Ammunitions	144.6	245.8	361.3	376.2	
Explosives	142.5	161.4	214.8	298.6	
Optical goods	111.9	138.1	166.4	168.4	
Instruments	115.7	147.9	186.1	192.6	
UNITED STATES FOREIGN TRADE					
EXPORTS					
Total exports	317	325	330		
(Million dollars)					
Exports by destination					
United Kingdom	108	117	104		
Canada	65	62	75		
British Asia	24	28	26		
China	10	8	9		
Latin America	58	59	70		
Other pro- democratic areas	11	21	20		
Russia	6	3	3		
Portugal & Spain	4	2	3		
Axis & Axis dominated areas	21	18	9		
All other	8	8	11		
Exports licensed	9.7	37.0	39.0		
(Percent of total exports)					
IMPORTS					
Imports for consumption	218	224	261		
(Million dollars)					
Imports by origin					
United Kingdom	16	10	9		
Canada	37	35	48		
British Asia	55	63	66		
China	10	5	7		
Latin America	52	67	83		
Other pro- democratic areas	13	10	10		
Russia	1	2	-4		
Portugal & Spain	2	2	3		
Axis & Axis dominated areas	23	20	22		
All other	9	9	13		
Strategic & critical materials	29.8	38.8	34.2		
(Percent of total imports)					

¹ Data furnished by Bureau of Labor Statistics.

n.a. Data not available.

² Preliminary data.³ Revised data.

DEFENSE PROGRESS

NUMBER 55

SEPTEMBER 12, 1941



OFFICE OF PRODUCTION MANAGEMENT
BUREAU OF RESEARCH AND STATISTICS - STACY MAY, CHIEF

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DEFENSE PROGRESS



BUREAU OF RESEARCH AND
STATISTICS • STACY MAY, CHIEF

ECONOMIC ANALYSIS BRANCH
MORRIS A. COPELAND, CHIEF

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ASSISTANT CHIEF & EDITOR

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BRIEFS OF CONTENTS

	<u>Page</u>
● PRODUCTION OF MILITARY AIRPLANES reached a new high during August as the production rate index advanced to 43 percent of the scheduled peak rate. During July the index stood at 34. Total production at the end of August amounted to 14 percent of requirements.	2
● AIRPLANE ARMAMENT PRODUCTION has increased sharply during the past two months. According to the index just constructed, production is 21 percent of the peak expected in April 1942. At the end of July less than 7 percent of requirements had been produced.	4
● THE NET EFFECT OF FOUR MAJOR REVISIONS in the delivery schedule of military airplanes has been to increase the total program considerably; to reduce the deliveries scheduled before June 30, 1942; and to extend delivery schedules well into 1943.	6
● DELIVERY SCHEDULES FOR MAJOR COMBAT SHIPS have been speeded up since January 1, 1941. The August 1, 1941 schedule calls for the delivery by the end of 1942, of 116 thousand tons more than the January 1, 1941 schedule. Some of this increase is scheduled for delivery before July 1, 1942, but the bulk of it is scheduled between July and December 1942.	9
● OVER 20 THOUSAND WORKERS WERE DISPLACED IN THE SILK INDUSTRY during August due to the "freezing" of silk inventories. Unless shifts to substitute fibers are made rapidly, further unemployment in the hosiery industry may be expected. Rapid placing of defense orders for silk products will help the silk throwers and weavers.	12
● EXPORTS TO THE UNITED KINGDOM during the first six months of 1941 were \$30 million less than during the last half of 1940. Exports of arms, ammunition and implements of war, however, continued the upward trend. More than 60 percent of the total United States exports have gone to the British Empire and it is anticipated that this percentage will increase in the immediate future.	14
● DEFENSE PROGRESS SERIES	16

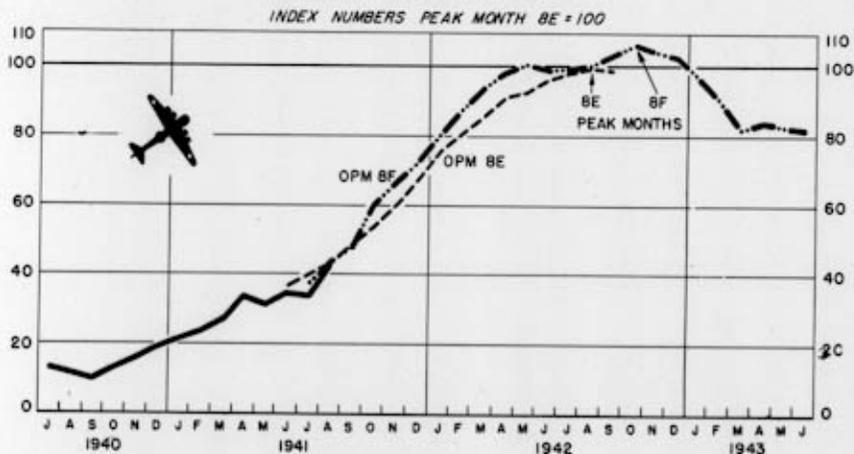
AIRPLANE PRODUCTION IN AUGUST 1941

Production of military airplanes reached a new high in August. The increase from July to August was the most satisfying increase that has occurred as yet during the program. The production rate index rose from 34 in July to over 43. The index, as can be seen from the chart below, was only fractionally lower than that called for under the Office of Production Management schedules. The output of all types of bombers was lower than schedule but this was offset by a large output of pursuit ships (particularly 1-engine pursuits) and noncombat planes.

The total production index for airplanes now stands at 14 percent of the production requirements set up under OPM Schedule 8-E. This is slightly behind schedule as a result of the low output in previous months, especially in July, but the deficiency will be overcome rapidly if production in future months continues to advance as rapidly as in August.

The record production in August was due to increases in production in most types of planes. A major influence, however, was large production of pursuit planes by the two leading producers. One of these

CHART I - MILITARY AIRPLANES
MONTHLY PRODUCTION RATE



whose July output was small because of a shift to a new model was getting back into mass production in August, although it has not yet reached its peak.

Scheduled future production of airplanes under OPM Report 8-F is also shown on the chart. According to this new schedule, production will

reach 100 in May 1942, three months before it reaches 100, the peak under Schedule 8-E. With the approaching completion of the trainer program there is a slight decline in the index. As the production of heavy bombers increases the index moves upward to a new peak in October 1942, 7 percent higher than the peak of Schedule 8-E.

AIRPLANE ARMAMENT PRODUCTION

The manufacture of machine guns and light cannon for arming airplanes represents about one-fourth of the production requirements for Army-type guns facing American industry at this time. Over 50 thousand 20 mm and 37 mm cannon, and over 300 thousand .30 cal. and .50 cal. machine guns are needed for (a) arming planes to be used by the United States Army and Navy, (b) planes to be sent abroad, (c) armament for planes constructed in England and Canada, and (d) as extra and replacement armament. The indexes presented in the accompanying charts indicate the progress being made in filling these requirements.^a

If the United States were producing armament solely for the planes being manufactured in this country, the indexes of airplane production and armament production would be related if the rates of production were properly scheduled. It should be recognized, however, that no direct comparison can be made between these indexes for airplane armament and the indexes for aircraft production previously presented. ^b The principal reasons are that a share of the American output of armament is sent abroad for use on foreign-made planes, that the English tend to use a large number of lighter guns for armament, while the Americans use a smaller number of heavier weapons, and that some foreign made guns are put on American-made planes which are exported.

On the basis of schedules in effect on August 1, 1941, the index of monthly output of armament will reach a peak in April 1942. As can be seen from Chart 1, output during the first nine months of the program averaged less than 7 percent of this peak rate. Commencing in April, however, monthly output turned up rather sharply, and by July the index had tripled to reach 21 percent of the peak rate. If existing schedules are met, output should continue to rise rapidly for the next nine months.

At the end of over a year of effort we have produced less than 7 percent of the production requirements of airplane armament. As the total production index presented in Chart 2 indicates, accumulated production should increase rapidly in the future, but according to current programs as much as half of the requirements now scheduled will not be met before June 1942.

^a The individual types of guns and weights assigned in computing this index are:

37 mm cannon	100
20 mm cannon	80
.50 cal. machine gun	40
.30 cal. machine gun	20

^b See page 2 of this issue and Defense Progress, No. 51, pp.8-10.

CHART 1 - AIRPLANE ARMAMENT MONTHLY PRODUCTION RATE

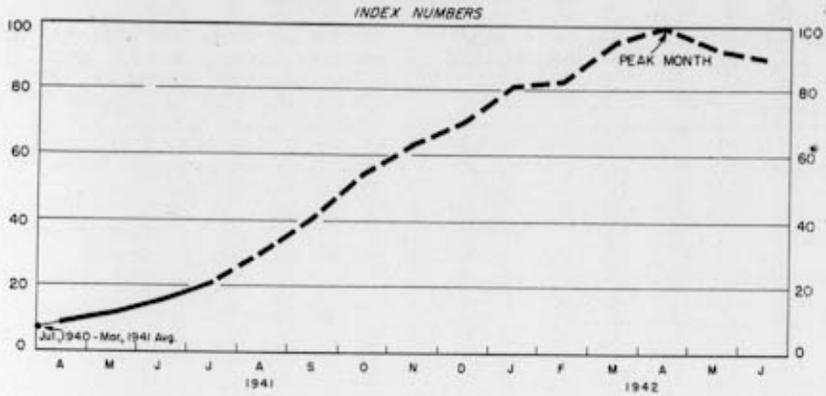
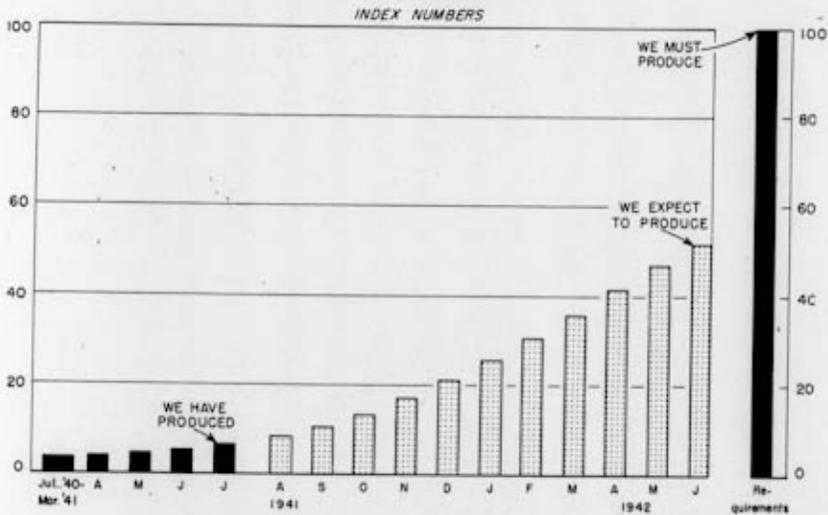


CHART 2 - AIRPLANE ARMAMENT TOTAL PRODUCTION



REVISIONS IN DELIVERY SCHEDULES FOR AIRPLANES

There have been four major revisions in the delivery schedule for military airplanes since formal scheduling under the OPM "8" Series was begun in September 1940. The net effect of these revisions has been to increase the total number of planes to be delivered; to reduce the number of planes to be delivered prior to June 30, 1942; and to extend delivery schedules well into 1943.

The five schedules are shown in Chart 1 and Table 1 in terms of weighted indexes of cumulated deliveries. The total requirements under the current OPM Schedule 8-F are

taken as the basis of comparison and given an index value of 100.

According to the earliest schedule, 8-A, established in September 1940, 31 percent of the total requirements were to be delivered by December 31, 1941 and 46 percent by June 30, 1942, as shown in the table. According to the current schedule, 8-F, established July 1941, only 23 percent of the total requirements will be completed by the end of the present calendar year and 45 percent by June 30, 1942.

It will be noted from Chart 1 that Schedule 8-A called for the

CHART 1 - SCHEDULES OF TOTAL DELIVERIES OF AIRPLANES

JUNE 30, 1940 - JUNE 30, 1943

PRODUCTION REQUIREMENTS OF OPM REPORT 8F = 100

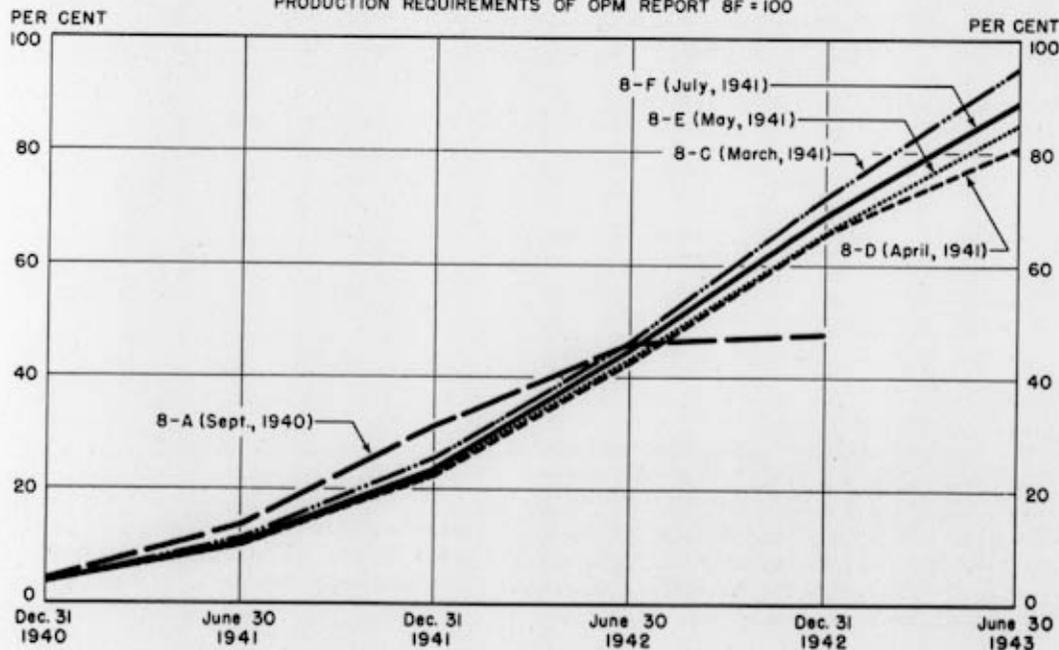


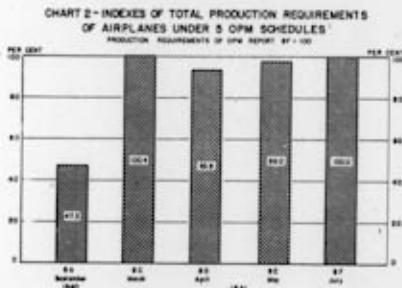
TABLE 1 — PROPORTION OF TOTAL REQUIREMENTS FOR MILITARY AIRPLANES AS DETERMINED UNDER SCHEDULE 8-F DELIVERED AND ESTIMATED TO BE DELIVERED BY DATES SHOWN, ACCORDING TO OPM DELIVERY SCHEDULES

Schedule	Dec. 31, 1940	June 30, 1941	Dec. 31, 1941	June 30, 1942	Dec. 31, 1942	June 30, 1943
	(Percent)					
8-A (September 1940)	3.9	13.8	31.1	46.0	47.3	—*
8-C (March 1941)	3.3	11.1	25.2	46.1	71.9	94.8
8-D (April 1941)	3.3	10.0	22.4	42.6	65.1	80.0
8-E (May 1941)	3.3	10.0	22.5	43.1	65.3	84.8
8-F (July 1941)	3.3	10.1	23.0	44.8	68.5	88.8

* Total requirements under Schedule 8-A were to be completed by Dec. 31, 1942.

highest rate of deliveries throughout 1941 and the first half of 1942; levelled out during the last half of 1942; and called for completion of the total requirements provided for in this schedule by December 31, 1942.

Under Schedule 8-C the total number of planes required was more than doubled, as shown in Chart 2,



by the introduction of requirements of foreign governments other than British and by a large increase in British and United States require-

ments. Notwithstanding this increase in total requirements, expected deliveries to the end of 1941 were reduced substantially below those called for in Schedule 8-A. Expanded requirements were met by an increase in the number of planes scheduled for delivery after June 30, 1942 and by extending the schedule into 1943.

The total number of planes included in Schedule 8-D was below the number called for in 8-C. Prior to April the schedules had been based primarily upon manufacturers' estimates. In Schedule 8-D, however, less reliance was placed upon manufacturers' estimates, which have proved to be consistently over-optimistic about future deliveries.

In Reports 8-D and 8-E scheduled deliveries run closely together. The slight increase in the number of planes to be delivered under Schedule 8-E during the first half of 1943 is due primarily to the introduction in this schedule of the augmented heavy bomber program. Report 8-F increased monthly scheduled de-

TABLE 1 — PROPORTION OF TOTAL REQUIREMENTS FOR MILITARY AIRPLANES AS DETERMINED UNDER SCHEDULE 8-F DELIVERED AND ESTIMATED TO BE DELIVERED BY DATES SHOWN, ACCORDING TO OPM DELIVERY SCHEDULES

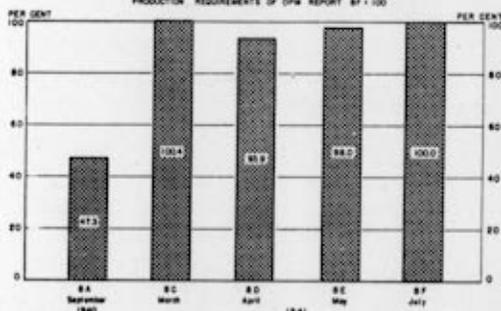
Schedule	Dec.	June	Dec.	June	Dec.	June
	31, 1940	30, 1941	31, 1941	30, 1942	31, 1942	30, 1943
	(Percent)					
8-A (September 1940)	3.9	13.8	31.1	46.0	47.3	—*
8-C (March 1941)	3.3	11.1	25.2	46.1	71.9	94.8
8-D (April 1941)	3.3	10.0	22.4	42.6	65.1	80.0
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8-F (July 1941)	3.3	10.1	23.0	44.8	68.5	88.8

* Total requirements under Schedule 8-A were to be completed by Dec. 31, 1942.

highest rate of deliveries throughout 1941 and the first half of 1942; levelled out during the last half of 1942; and called for completion of the total requirements provided for in this schedule by December 31, 1942.

Under Schedule 8-C the total number of planes required was more than doubled, as shown in Chart 2,

CHART 2 - INDEXES OF TOTAL PRODUCTION REQUIREMENTS OF AIRPLANES UNDER 5 OPM SCHEDULES
PRODUCTION REQUIREMENTS OF OPM REPORT 87-100



by the introduction of requirements of foreign governments other than British and by a large increase in British and United States require-

ments. Notwithstanding this increase in total requirements, expected deliveries to the end of 1941 were reduced substantially below those called for in Schedule 8-A. Expanded requirements were met by an increase in the number of planes scheduled for delivery after June 30, 1942 and by extending the schedule into 1943.

The total number of planes included in Schedule 8-D was below the number called for in 8-C. Prior to April the schedules had been based primarily upon manufacturers' estimates. In Schedule 8-D, however, less reliance was placed upon manufacturers' estimates, which have proved to be consistently over-optimistic about future deliveries.

In Reports 8-D and 8-E scheduled deliveries run closely together. The slight increase in the number of planes to be delivered under Schedule 8-E during the first half of 1943 is due primarily to the introduction in this schedule of the augmented heavy bomber program. Report 8-F increased monthly scheduled de-

liveries over 8-E and this expanded total scheduled deliveries. Delivery schedules for engines, propellers, and other equipment are derived from airframe schedules, and this change will aid in planning a sufficiently large production of these items so that deliveries of airframes will not be held up by engine or propeller shortages.

There is little relation between these changes in delivery

schedules for planes and changes in the financial program as represented by funds available and contract awards. OPM schedules have consistently anticipated increased appropriations. Thus during the first half of 1941 funds available have increased by 173 percent and contracts awarded have more than doubled but the index of number of planes to be delivered by June 30, 1943 fell from 94.8 according to Report 8-C to 88.8 according to Report 8-F.

TABLE 2 — CHANGES IN ALLOCATIONS, CONTRACTS, AND DELIVERY SCHEDULES FOR MILITARY AIRPLANES SINCE JANUARY 1, 1941

	<u>January 1, 1941</u>	<u>August 31, 1941</u>
Financial Program ^a (million dollars)	\$ 4,613	P \$12,518
	<u>January 1, 1941</u>	<u>June 30, 1941</u>
Contracts ^a (million dollars)	\$ 2,303	\$ 4,978
	<u>March 1941 (8-C)</u>	<u>July 1941 (8-F)</u>
Index of Number of Military Planes to be Delivered ^b	94.8	88.8

^a Cumulated from June 11, 1940 to dates shown.

^b Cumulated from June 1, 1940 to June 30, 1943 according to OPM delivery schedules. Requirements of Schedule 8-F = 100.

P Preliminary.

REVISIONS IN DELIVERY SCHEDULES FOR MAJOR COMBAT SHIPS

Delivery schedules for major combat ships have been speeded up since January 1, 1941. Thus the August 1, 1941 schedule calls for the delivery of 466 thousand tons by the end of 1942, or 116 thousand tons more than the January 1, 1941 schedule. While some of this increase, 22 thousand tons, is scheduled by July 1, 1942, the bulk of it, 94 thousand tons, is scheduled between July and December 1942. The

accompanying chart and Table 1 show the differences between the two delivery schedules up to December 31, 1942.

The total program remains unchanged at 2,265 thousand tons. As shown in Table 1, the proportion of total production requirements scheduled for completion by July 1, 1942 was 9 percent according to the January 1, 1941 schedule. The August

**TONNAGE OF MAJOR COMBAT SHIPS
DELIVERED AND ESTIMATED TO BE DELIVERED THROUGH DECEMBER 1, 1942
ACCORDING TO JANUARY 1 AND AUGUST 1, 1941, SCHEDULES**

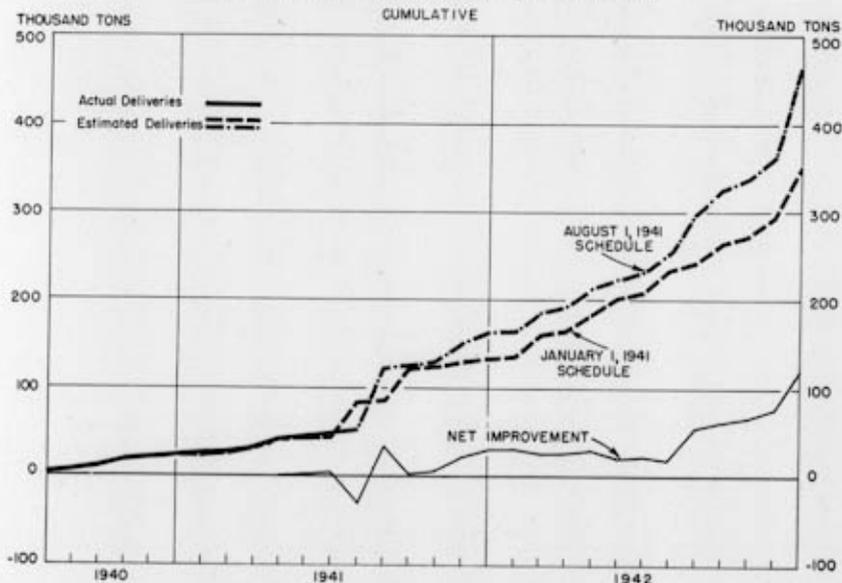


TABLE 1 - CUMULATED TOTAL TONNAGE OF MAJOR COMBAT SHIPS TO BE DELIVERED ACCORDING TO DELIVERY SCHEDULES ESTABLISHED JANUARY 1 AND AUGUST 1, 1941 IN RELATION TO TOTAL REQUIREMENTS

Schedule	Actual Deliveries to Date of Schedule	Total Scheduled Deliveries to July 1, 1942	Percent of Total Requirements	Total Scheduled Deliveries to Dec. 31, 1942	Percent of Total Requirements
	(Tons)	(Tons)		(Tons)	
January 1, 1941	23,750	209,150	9.2	350,170	15.5
August 1, 1941	52,800	231,880	10.2	466,370	20.6

schedule calls for completion of 10 percent of the program by this date. By the end of 1942, 21 percent of the total requirements will be completed according to the current schedule as compared with 16 percent under the earlier estimates.

The increases in the scheduled deliveries during the first half of 1942 according to the August schedule are due to speeding up scheduled deliveries of the lighter types of vessels, as is shown in Table 2. One light cruiser, five destroyers, and

TABLE 2 - TOTAL SCHEDULED DELIVERIES OF MAJOR COMBAT SHIPS TO DATES SHOWN, ACCORDING TO JANUARY 1 AND AUGUST 1, 1941 SCHEDULES

Type of Vessel	July 1, 1942			December 31, 1942		
	Jan. 1, 1941 Schedule	Aug. 1, 1941 Schedule	Increase August over July	Jan. 1, 1941 Schedule	Aug. 1, 1941 Schedule	Increase August over July
Battleships	2	2	0	3	5	2
Large Cruisers	0	0	0	0	0	0
Heavy Cruisers	0	0	0	0	0	0
Light Cruisers	3	4	1	7	8	1
Aircraft Carriers	1	1	0	1	1	0
Submarines	21	26	5	32	40	8
Destroyers	43	48	5	74	87	13

five submarines not previously scheduled for delivery until later are now called for by July 1, 1942. Deliveries by the end of 1942, according to the August 1 schedule, have been set forward in comparison with the January 1 schedule as follows: two additional battleships, one light cruiser, eight destroyers, and 13 submarines.

The program for combat ships was formulated in the fall of 1940

and there have been no important changes made since then. However, the authorized program has been expanded in estimated cost from \$6,061 million on January 1, 1941 to \$8,154 million ^a on August 31, 1941. The speed-up in delivery schedules is partially responsible for these higher costs.

^a Preliminary.

REDUCED EMPLOYMENT IN THE SILK INDUSTRY

Twenty to twenty-five thousand workers were displaced in the silk industry in the United States during August due to the "freezing" of silk inventories for defense purposes. The extent to which employment in the major silk consuming industries was affected by the order is shown in the following table.

raw silk. As a result employment in the industry was reduced during August by nearly one-half, or by about 10 thousand.

The silk weaving industry showed a reduction of one thousand workers, or 5.6 percent. That the percentage reduction in the silk weaving industry is no greater than

WORKERS DISPLACED IN THE SILK INDUSTRY BY INVENTORY FREEZING

Industry	Workers Displaced	Percentage Change in Employment August 2, 1941 to August 30, 1941
Full-fashioned Hosiery	12,000	-12.0
Seamless	300	-.5
Silk Throwing and Spinning	10,000	-44.7
Silk Weaving	1,000	-5.6

Employment in the full-fashioned hosiery industry declined 12.0 percent, or by about 12 thousand workers, from the 2nd to the 30th of August. The seamless hosiery industry, which has used rayon much more extensively than silk, showed practically no change (-0.5 percent) over the same period.

As would be expected, the greatest relative decline in employment occurred in the silk throwing industry. The silk throwsters were the first to be seriously affected by the Office of Production Management order stopping processing of

shown is probably due to the inclusion in the survey of a number of firms that have shifted from the weaving of silk to the weaving of rayon since the 1939 Census, upon which the classification of firms was based.

The full impact of the silk shortage on employment is not expected until some time in September. The remaining silk inventories and the grey goods on hand when the freezing order was issued will by that time be processed. Then, unless immediate deliveries of substitute fibers can be increased substantial-

ly, unemployment in former silk-using plants will mount. Then, too, there may be a spread in unemployment to rayon weaving establishments and the garment industries as a result of the diversion of rayon to former silk users by Government order.

The extent to which, in the months after September, the current reduction in employment is recovered depends primarily on six factors: (1) the success of producers formerly using silk in adapting their production to the use of other fibers as a substitute; (2) the effective clearing of trade channels to establish the flow of appropriate rayon deniers to the full-fashioned hosiery and other industries formerly using silk; (3) the success of producers formerly using rayon which is diverted to former silk uses in adapting their production to the use of cotton as a substitute ^a; (4) the possibility of increasing rayon pro-

duction; (5) the acceptance on the part of consumers of products made of substitute fibers; and (6) the speed with which defense requirements for silk products, e.g., parachutes, loading bags, etc., are translated into orders so that processing of the available silk may be combined. This would alleviate the situation for the silk throwers and weavers.

^a A complicating factor is that immediate quantity production of the finer grades of cotton lisle is not possible because of the lack of long staple cotton as well as of the equipment to spin it in the United States. Cotton yarn to be used as a substitute for silk or rayon must, therefore, be of the grades and sizes that have typically been produced in the United States.

NOTE: Based on summary of survey furnished by the Bureau of Labor Statistics.

EXPORTS TO THE UNITED KINGDOM

JANUARY, 1940 - JUNE, 1941

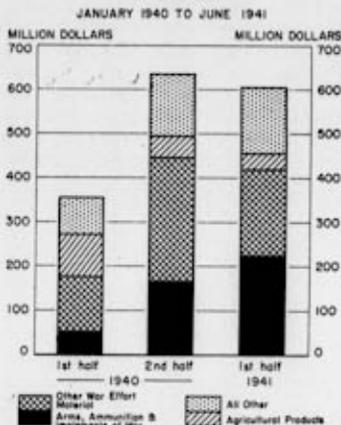
Recorded exports of domestic merchandise to the United Kingdom in the first half of 1941 amounted to \$606 million*, or \$30 million less than in the last half of 1940, but some \$250 million more than in the first half of 1940. The reduction in exports may seem to bear out the complaints of "not enough aid to Britain". However, it is understood that some exports have been made without documentation in recent months. In general it may be said that the data available are insufficient to furnish a basis for a complete analysis of the extent of aid to Britain.

Exports to the British Empire constituted 41 percent of total United States exports during the first six months of 1940, 64 percent during the last half, and 62 percent during the first half of 1941. It is estimated that this percentage will be larger during the next few months because of greater aid under the Lend-Lease program. Separate data on Lend-Lease exports have not been available thus far, even for confidential use.

The accompanying chart shows exports to the United Kingdom in four broad categories: arms, ammunition and implements of war; other war effort materials; agricultural products; and, all others.

Exports of arms, ammunition and implements of war increased \$58 million from the last half of 1940 to the first half of 1941. Aircraft represents about 70 percent of this category. An indeterminate number of airplanes have been exported

CHART I - EXPORTS TO UNITED KINGDOM



without documentation so that arms, ammunition and implements of war may actually be a greater proportion of total exports than the chart indicates. This category in the first six months of 1941 shows the greatest relative increase over the first six months of 1940. During that period it represented 14 percent of the total exports to the United Kingdom in comparison with 26 percent for the last half of 1940 and 37 percent for the first half of 1941.

The exports of, "other war effort materials" during the first half of 1941 showed a decrease of

\$85 million from the last half of 1940. During the last six months of 1940 the exports in this category exceeded the exports of arms, ammunition and implements of war by \$100 million, but were \$29 million less during the first half of 1941. Of the 12 groups of items composing "other war effort materials", only tractors and parts showed an increase over the last half of 1940. Metal working machinery and iron and steel semi-manufactures, which are large tonnage items, constituted about 70 percent of the value of this category.

Exports of total agricultural products to the United Kingdom for the first six months of 1941 were

only a fraction of what they were during the first half of 1940, and \$12 million less than for the last half. Exports of cotton and other bulky agricultural products accounted for a large part of the value of agricultural exports to the United Kingdom during the first half of 1940. In recent months food-stuffs have become more important in the exports to the United Kingdom, and in addition to the exports officially reported, there are indications that some concentrated products have gone out in bombers without documentation.

*Re-exports of foreign merchandise bring the total to \$623 million.

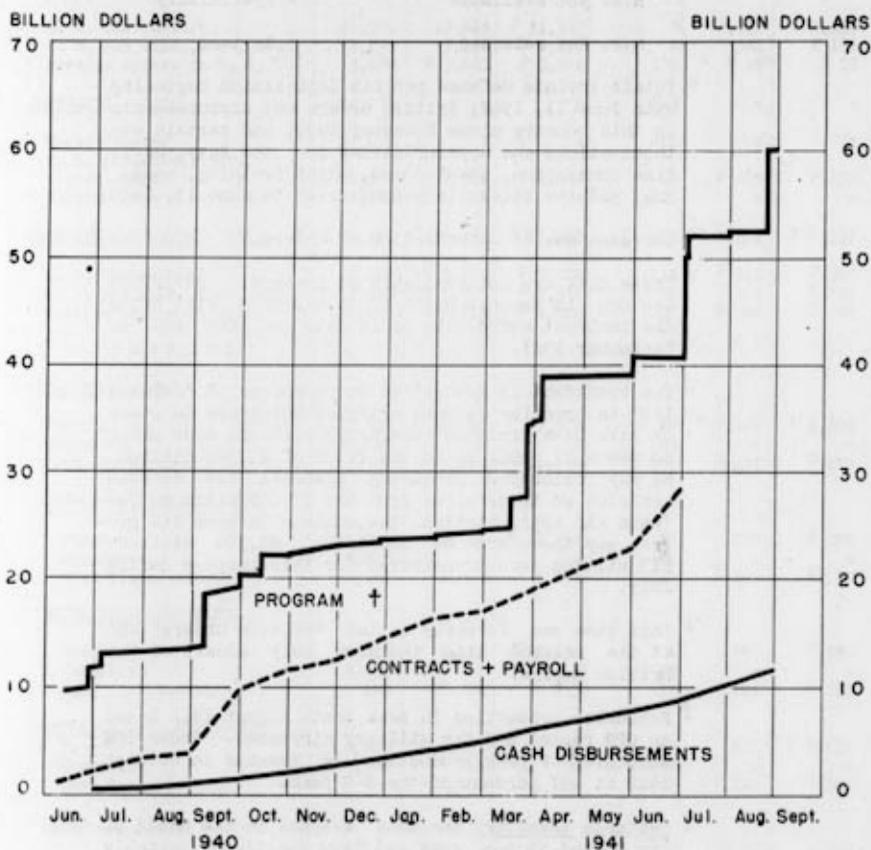
FACTORY DEFENSE PROGRAM
CONTRACT AWARDS AND COST DEVELOPMENTS

DEFENSE PROGRESS SERIES

UNITED STATES ARMED FORCES

	1940		1941			
	June 30	Dec. 31	March 31	June 30	July 31	Aug. 31
	(Thousand men)					
TOTAL	452	877	1,436	1,776	1,847	1,932
Army	266	619	1,143	1,449	1,506	1,576
Navy & Marine Corps	186	258	293	327	341	356

**ENACTED DEFENSE PROGRAM,*
CONTRACT AWARDS AND CASH DISBURSEMENTS**
June 11, 1940 - August 31, 1941



*United States Program plus Foreign Orders.

† The program line represents dates on which funds have become available.

FOOTNOTES

DEFENSE PROGRESS SERIES

See Opposite Page

n.a. Not available

^f Preliminary

n.r. Not released

^r Revised

- ^a Totals include defense program legislation beginning with June 11, 1940; British orders and disbursements in this country since November 1939; and certain authorizations and appropriations for the Navy, Maritime Commission, Coast Guard, pilot training, housing, and the stockpile passed prior to June 11, 1940.
- ^b Decrease due to cancellation of orders.
- ^c These data are not available at present. Revisions are now in process which it is reported will bring the contract award data up to date by the end of September 1941.
- ^d The President is authorized for purposes of "Defense Aid" to transfer defense articles which are in stock or have been procured from appropriations made prior to March 11, 1941 up to the value of \$1,300 million. He may reimburse procuring agencies for defense articles so transferred from the \$7,000 million Defense Aid appropriation. The maximum Defense Aid program may therefore be considered \$8,300 million. \$13 million were transferred for this purpose during July.
- ^e This item was formerly called "British Orders" and at the present time includes only orders of the British Empire.
- ^f Scheduled production in peak month August 1942 based on OPM report 8-E for military airplanes. Under OPM schedule 8-F peak production is reached in October 1942 at 107 percent of the 8-E peak.
- ^g Suitable Inventory includes weapons in the hands of the United States Army and Navy considered suitable for the tactical purpose indicated.

DEFENSE PROGRESS SERIES

TOTAL UNITED STATES DEFENSE PROGRAM

	Cumulative 6/11/40 through ^a			Monthly		
	End let full year 6/30/41	1 month ago 7/31/41	End, latest month 8/31/41	1 year ago 8/40	1 month ago 7/41	Latest month 8/41
	FINANCIAL PROGRAM					
(Million dollars)						
<u>PROGRAM - TOTAL</u>	49,879	52,482	P 60,210	171	F 2,603	P 7,728
U. S. Contractual	41,374	43,625	P 51,157	0	2,251	P 7,532
U. S. Pay, subs., trav., misc.	4,835	5,196	P 5,379	0	361	P 183
Foreign orders in U. S. ^o	3,670	P 3,661	P 3,674	171	r -9 ^b	P 13
<u>CONTRACTS - TOTAL</u>	28,239	c	c	515	c	c
United States	23,019	c	c	262	c	c
U. S. pay, subs., trav., misc.-paid	1,550	P 1,775	P 2,010	82	P 225	P 235
Foreign orders in U. S. ^o	3,670	c	c	171	c	c
<u>CASH DISBURSEMENTS - TOTAL</u>	9,115	P 10,253	P 11,490	435	P 1,138	P 1,237
U. S. Contractual	5,490	P 6,335	P 7,272	153	P 845	P 937
U. S. pay, subs., trav., misc.	1,550	P 1,775	P 2,010	82	P 225	P 235
Foreign orders in U. S. ^o	2,075	P 2,143	P 2,208	200	P 68	P 65
O B J E C T S						
<u>TOTAL MUNITIONS</u>						
Program	28,847	F 30,994	P 35,503	49	P 2,147	P 4,509
Contracts	17,760	c	c	169	c	c
Cash disbursements	3,508	P 3,943	P 4,418	206	P 435	P 475
<u>AIRPLANES, ENGINES, ETC.</u>						
Program	11,729	12,224	P 12,519	29	495	P 295
Contracts	6,829	c	c	b -57	c	c
Cash disbursements	1,467	P 1,617	P 1,787	100	P 150	P 170
<u>NAVAL SHIPS AND PARTS</u>						
Program	6,796	7,774	P 8,154	0	978	P 380
Contracts	5,000	c	c	13	c	c
Cash disbursements	693	P 798	P 903	32	105	P 105
<u>ORDNANCE (INCL. NAVAL ORDNANCE)</u>						
Program	8,226	F 8,803	P 11,938	20	577	P 3,135
Contracts	4,978	c	c	139	c	c
Cash disbursements	936	P 1,046	P 1,166	49	P 110	P 120
<u>OTHER MUNITIONS</u>						
Program	2,096	F 2,193	2,892	0	F 97	F 699
Contracts	953	c	c	74	c	c
Cash disbursements	412	P 482	562	25	P 70	P 80

Table continued on following page. For footnotes see opposite page.

FOOTNOTES

DEFENSE PROGRESS SERIES

See Opposite Page

n.a. Not available P Preliminary
n.r. Not released F Revised

- ^a Totals include defense program legislation beginning with June 11, 1940; British orders and disbursements in this country since November 1939; and certain authorizations and appropriations for the Navy, Maritime Commission, Coast Guard, pilot training, housing, and the stockpile passed prior to June 11, 1940.
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DEFENSE PROGRESS SERIES

TOTAL UNITED STATES DEFENSE PROGRAM (Continued)

	Cumulative 6/11/40 through ^a			Monthly		
	End 1st full year 6/30/41	1 month ago 7/31/41	End, latest month 8/31/41	1 year ago 8/40	1 month ago 7/41	Latest month 8/41
<u>MERCHANT SHIPS</u>						
	(Million dollars)					
Program	1,605	1,659	P 3,358	1	54	P 1,699
Contracts	1,462	c	c	1	c	c
Cash disbursements	252	P 282	P 317	22	P 30	P 35
<u>INDUSTRIAL FACIL.,-CONS., EQUIP., & REAL ESTATE</u>						
Program	5,887	5,794	P 6,009	25	-93	P 215
Contracts	2,761	c	c	30	c	c
Cash disbursements	824	P 994	P 1,174	26	P 170	P 180
<u>INDUSTRIAL FACIL.,-CONSTRUCTION ONLY</u>						
Program	1,607	1,957	P 2,150	n.a.	350	P 193
Value in place	559	720	P 945	n.a.	161	P 225
<u>POSTS, DEPOTS & FORTIFICATIONS</u>						
Program	3,638	r 3,699	P 4,181	0	r 61	P 482
Contracts	2,212	c	c	54	c	c
Cash disbursements	1,448	P 1,618	P 1,788	32	P 170	P 170
<u>HOUSING</u>						
Program	452	602	P 602	0	150	0
Contracts	275	314	r 334	0	39	r 20
Cash disbursements	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<u>STOCKPILES</u>						
Program	983	1,068	P 1,181	0	85	P 113
Contracts	470	c	c	63	c	c
Cash disbursements	180	P 200	P 230	4	P 20	P 30
<u>OTHER EQUIPMENT & SUPPLIES</u>						
Program	3,632	r 3,470	P 3,997	96	r -162	P 527
Contracts	1,749	c	c	116	c	c
Cash disbursements	1,339	P 1,425	P 1,535	62	P 86	P 110
<u>PAY - DEFENSE AGENCIES</u>						
Total						
Program	2,808	2,858	2,997	0	50	139
Cash disbursements	1,192	P 1,347	P 1,506	65	P 155	P 159
Army						
Program	1,926	1,926	1,926	0	0	0
Cash disbursements	523	P 605	P 689	22	P 82	P 84
Navy and Marine Corps						
Program	737	744	883	0	7	139
Cash disbursements	312	P 342	P 372	22	P 30	P 30

Table continued on following page. For footnotes see opposite page.

FOOTNOTES

DEFENSE PROGRESS SERIES

See Opposite Page

n.a. Not available

P Preliminary

n.r. Not released

R Revised

^a Totals include defense program legislation beginning with June 11, 1940; British orders and disbursements in this country since November 1939; and certain authorizations and appropriations for the Navy, Maritime Commission, Coast Guard, pilot training, housing, and the stockpile passed prior to June 11, 1940.

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DEFENSE PROGRESS SERIES

TOTAL UNITED STATES DEFENSE PROGRAM (Continued)

	Cumulative 6/11/40 through*			Monthly		
	End 1st full year 6/30/41	1 month ago 7/31/41	End, latest month 8/31/41	1 year ago 8/40	1 month ago 7/41	Latest month 8/41
PAY - DEFENSE AGENCIES (CONT.)						
(Million dollars)						
Civilian employees						
Program	145	188	188	0	43	0
Cash disbursements	357	P 400	P 445	21	P 43	P 45
SUBSISTENCE AND TRAVEL						
Program	703	704	704	0	1	0
Cash disbursements	247	P 287	P 331	13	P 40	P 44
MISCELLANEOUS						
Program (commitments)	1,324	1,634	1,678	0	310	P 44
Cash disbursements	125	P 157	P 191	5	P 32	P 34
A G E N C I E S						
U S. MILITARY						
TOTAL						
Program - Total	33,871	35,760	41,585	0	1,889	5,825
Contractual	30,297	32,177	37,842	0	1,880	5,665
Pay, subs., trav., misc.	3,574	3,583	3,743	0	9	160
Contracts	18,495	c	c	199	c	c
Cash disbursements - Total	6,183	P 7,033	P 7,948	212	P 850	P 915
Contractual	4,804	n.a.	n.a.	136	n.a.	n.a.
Pay, subs., trav., misc.	1,379	n.a.	n.a.	76	n.a.	n.a.
ARMY						
Program - Total	20,346	20,352	24,607	0	6	4,255
Contractual	17,639	17,645	21,900	0	6	4,255
Pay, subs., trav., misc.	2,707	2,707	2,707	0	0	0
Contracts	9,050	c	c	124	c	c
Cash disbursements - Total	3,862	P 4,392	P 4,967	97	P 530	P 575
Contractual	2,954	n.a.	n.a.	53	n.a.	n.a.
Pay, subs., trav., misc.	908	n.a.	n.a.	44	n.a.	n.a.
NAVY						
Program - Total	13,525	15,408	16,978	0	1,883	1,570
Contractual	12,658	14,532	15,942	0	1,874	1,410
Pay, subs., trav., misc.	867	876	1,036	0	9	160
Contracts	9,445	c	c	75	c	c
Cash disbursements - Total	2,321	2,641	2,981	115	320	340
Contractual	1,850	n.a.	n.a.	83	n.a.	n.a.
Pay, subs., trav., misc.	471	n.a.	n.a.	32	n.a.	n.a.

Table continued on following page. For footnotes see opposite page.

FOOTNOTES

DEFENSE PROGRESS SERIES

See Opposite Page

n.a. Not available

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DEFENSE PROGRESS SERIES

TOTAL UNITED STATES DEFENSE PROGRAM (Continued)

	Cumulative 6/11/40 through ^a			Monthly		
	End 1st full year 6/30/41	1 month ago 7/31/41	End, latest month 8/31/41	1 year ago 8/40	1 month ago 7/41	Latest month 8/41
DEFENSE AID (LEND-LEASE)	(Million dollars)					
Program d *	7,000	7,000	7,000	0	0	0
Allocations	5,177	5,343	6,294	-	166	951
Contracts	2,430	n.r.	n.r.	-	n.r.	n.r.
Cash disbursements	26	P 79	P 149	0	P 53	P 70
MARITIME COMMISSION						
Program	795	795	2,494	0	0	1,699
Contracts	835	c	c	n.a.	c	c
Cash disbursements	164	P 190	P 220	13	P 26	P 30
R.F.C. AND SUBSIDIARIES						
Program	2,808	3,061	P 3,240	0	253	P 179
Contracts	924	c	c	55	c	c
Cash disbursements	333	P 410	P 495	3	77	P 85
FOREIGN ORDERS IN U. S. *						
Program	3,670	P 3,661	P 3,674	171	r -9 ^b	P 13
Contracts	3,670	r 3,661	P 3,674	171	r -9 ^b	P 13
Cash disbursements	2,075	P 2,143	P 2,208	200	68	P 65
OTHER AGENCIES						
Program	1,735	2,205	2,217	0	470	12
Contracts	335	c	c	8	c	c
Cash disbursements	334	P 398	P 470	7	P 64	P 72
OTHER DEFENSE INDICATORS						
VALUE OF FACIL. ON APPLIC. FOR CERT. OF NECESSITY	(Million dollars)					
Total	1,424	1,573	n.a.	-	140	n.a.
Approved, private funds	829	899	n.a.	-	70	n.a.
Approved, public funds	201	217	n.a.	-	16	n.a.
Pending	387	448	n.a.	-	61	n.a.
DEFENSE HOUSING	(Number of dwelling units)					
Fund allocations	110,298	123,433	125,390	5,925	13,135	1,957
Cons. contracts awarded	78,820	89,223	94,993	1,162	10,403	5,770
Construction completed	21,768	31,299	39,038	0	9,531	7,739

Table continued on following page. For footnotes see opposite page.

CONFIDENTIAL

NUMBER 22

DEFENSE PROGRESS SERIES

FOOTNOTES

DEFENSE PROGRESS SERIES

See Opposite Page

n.a. Not available

P Preliminary

n.r. Not released

r Revised

- ^a Totals include defense program legislation beginning with June 11, 1940; British orders and disbursements in this country since November 1939; and certain authorizations and appropriations for the Navy, Maritime Commission, Coast Guard, pilot training, housing, and the stockpile passed prior to June 11, 1940.
- ^b Decrease due to cancellation of orders.
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- ^d The President is authorized for purposes of "Defense Aid" to transfer defense articles which are in stock or have been procured from appropriations made prior to March 11, 1941 up to the value of \$1,300 million. He may reimburse procuring agencies for defense articles so transferred from the \$7,000 million Defense Aid appropriation. The maximum Defense Aid program may therefore be considered \$8,300 million. \$13 million were transferred for this purpose during July.
- ^e This item was formerly called "British Orders" and at the present time includes only orders of the British Empire.
- ^f Scheduled production in peak month August 1942 based on OPM report 8-E for military airplanes. Under OPM schedule 8-F peak production is reached in October 1942 at 107 percent of the 8-E peak.
- ^g Suitable Inventory includes weapons in the hands of the United States Army and Navy considered suitable for the tactical purpose indicated.

DEFENSE PROGRESS SERIES

	Defense Equipment Indexes					
	1940			1941		
	July	December	March	June	July	August
<u>PRODUCTION RATE INDEXES</u>	(Scheduled peak month production=100)					
Military airplanes f	13.0	19.6	27.0	34.9	34.0	43.3
Combat vessels	19.0	22.7	31.1	37.3	37.3	
Combat vehicles	n.a.	n.a.	11.9	31.8	59.8	
Army-type guns	n.a.	n.a.	28.4	38.7	61.9	
Field artillery	n.a.	n.a.	6.3	15.0	8.3	
Antiaircraft	n.a.	n.a.	19.1	38.1	52.5	
Infantry-supporting	n.a.	n.a.	30.3	36.2	65.0	
	June 30	Dec. 31	March 31	June 30	July 31	Aug. 31
<u>TOTAL PRODUCTION INDEXES</u>	(Cumulated since 7/40. Production requirements=100)					
Military airplanes	0.5	3.5	6.5	10.7	12.1	13.9
Combat vessels	5.8	8.7	11.1	14.1	15.1	
Combat vehicles	n.a.	2.8	4.8	9.2	12.8	
Army-type guns	n.a.	5.3	9.6	16.0	19.5	
Field artillery	n.a.	1.5	2.8	5.7	6.2	
Antiaircraft	n.a.	3.2	5.2	10.6	13.2	
Infantry-supporting	n.a.	7.6	13.5	22.0	26.9	
<u>U. S. INVENTORIES</u>	(U. S. tactical requirements=100)					
Military airplanes	7.0	8.6	n.a.	13.4	14.5	
Combat vessels, delivered	37.7	36.0	n.a.	36.6	36.6	
Combat vehicles	n.a.	4.4	n.a.	8.8	10.2	
Army-type guns, suitable $\frac{\$}{\$}$	n.a.	5.7	n.a.	11.8	13.6	
Field artillery, " $\frac{\$}{\$}$	n.a.	6.4	n.a.	9.7	10.3	
Antiaircraft " $\frac{\$}{\$}$	n.a.	6.9	n.a.	11.2	12.8	
Infantry-supporting " $\frac{\$}{\$}$	n.a.	4.6	n.a.	13.1	15.6	

Table continued on following page.

For footnotes see opposite page.

FOOTNOTES

DEFENSE PROGRESS SERIES

See Opposite Page

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- ^g Suitable Inventory includes weapons in the hands of the United States Army and Navy considered suitable for the tactical purpose indicated.

DEFENSE PROGRESS SERIES

STOCKPILE

Commodity and Units	Two Year Program	Status	Cumulative 6/11/40 ^a through			Monthly		
			End 1st full year 6/30/41	1 month ago 7/31/41	End, latest month 8/31/41	1 year ago 8/40	1 month ago 7/41	Latest month 8/41
<u>ANTIMONY</u> (short tons)	18,000	Purch. Deliv.	29,637 7,295	29,637 7,796	*29,637 8,166	6,250 0	0 501	0 370
<u>CHROME ORE</u> (thou. long tons)	1,300	Purch. Deliv.	647 173	679 192	737 194	46 6	32 19	58 2
<u>INDUS. DIAMONDS</u> (thous. carats)	2,000	Purch. Deliv.	771 4	713 10	717 615	0 0	0 5	4 605
<u>MANGANESE</u> (thou. long tons)	1,800	Purch. Deliv.	3,219 328	3,341 333	3,348 360	764 15	123 6	7 17
<u>MANILA FIBER</u> (bales)	395,257	Purch. Deliv.	99,546 70,696	111,546 83,747	116,171 93,296	0 0	12,000 13,050	4,625 9,649
<u>MERCURY</u> (flasks)	10,000	Purch. Deliv.	5,000 2,050	5,000 2,050	5,000 2,050	0 0	0 0	0 0
<u>MICA</u> (thou. lbs.)	10,800	Purch. Deliv.	5,581 2,288	5,581 4,579	5,759 4,900	0 0	0 2,290	178 321
<u>QUARTZ CRYSTALS</u> (lbs.)	702,000	Purch. Deliv.	99,270 52,469	99,270 52,469	99,270 52,469	0 1,797	0 0	0 0
<u>QUININE SULPHATE</u> (thou. avdp. oz.)	6,400	Purch. Deliv.	7,200 6,485	7,200 6,600	7,200 6,600	0 0	0 115	0 0
<u>RUBBER</u> (long tons)	517,000	Purch. Deliv.	262,685 206,002	344,791 219,029	417,405 221,849	39,667 9,304	82,106 13,027	72,614 2,820
<u>TIN</u> (long tons)	159,400	Purch. Deliv.	100,420 42,285	105,420 45,345	105,420 46,720	2,136 1,312	5,000 3,060	0 1,375
<u>TUNGSTEN</u> (short tons)	13,000	Purch. Deliv.	67,294 5,871	72,987 5,875	79,587 5,885	6,695 0	5,593 4	6,600 10

Estimated Total Cost

(Thousand dollars)

Total program	563,872	563,872	563,872	n.a.	0	0
Purchases	469,866	523,016	568,040	56,343	53,100	45,024
Purchases without excess	338,752	380,315	415,346	56,343	41,562	35,031
Deliveries	173,389	184,562	191,084	811	11,283	6,432
Deliveries without excess	173,318	184,531	190,963	811	11,212	6,432

Table continued on following page.

For footnotes see opposite page.

DEFENSE PROGRESS SERIES

ECONOMIC ACTIVITY RELATED TO DEFENSE

	1940		1941			Week Ending Sept. 6
	July	January	June	July	August	
FED. RES. BD. PROD. INDEXES						
Total industrial production	F 122	140	F 159	P 161		P 161
Durable manufactures	F 136	F 171	F 195	P 200		P 201
Nondurable manufactures	F 112	F 123	F 139	P 138		P 137
Minerals	120	118	F 133	P 132		P 133
BUR. FOR. & DOM. COM. MFGS.						
ORDERS, SHIPMENTS, INVENTORIES						
New orders, total (1/39=100)	127	176	229	P 226		
Shipments, total (1/39=100)	117	148	191	P 184		
Inventories, * (12/31/38=100)	109.2	120.8	128.5	P 131.2		
Durable (12/31/38=100)	111.9	129.7	139.1	P 141.0		
Nondurable (12/31/38=100)	106.4	111.2	117.1	P 120.6		
BLS PRICE INDEXES						
Strategic materials(8/39=100)	123.6	126.1	138.5	140.3	n.a.	141.8
Critical materials(8/39=100)	107.5	111.7	114.8	115.2	n.a.	116.7
Basic commodities (8/39=100)	108.5	120.5	146.3	148.7	151.4	153.8
Machine tools (8/39=100)	108.7	114.6	117.7	119.0	n.a.	n.a.
All commodities (1926=100)	77.7	80.8	87.1	88.0	n.a.	91.0
BLS COST OF LIVING INDEX						
	100.3	100.8	104.6	105.2		
TRANSPORTATION & ELECTRIC POWER						
Freight cars						
Loadings (thous. per wk.)	707	684	878	854	892	798
Unloads for export (dly.)	1,502	1,352	1,441	1,614	P 1,677	1,514
Surplus, total(thous.dly.)	133	110	71	62		47
Box cars	57	43	34	25		19
Coal cars	47	42	17	18		11
Power prod. (mil.kwh.wkly.)	2,731	3,080	3,189	3,214	P 3,290	3,096
NATIONAL INCOME						
(Billion dollars, annual rate)						
Total income payments	75.2	81.7	88.0	89.1		
FEDERAL DEBT						
(Billion dollars, end of month)						
Net public debt	41.5	43.9	46.3	46.9	P 48.0	
EMPLOYMENT						
(Thousand workers)						
Total civil nonagricultural	35,454	36,621	38,790	39,241		
Total WPA employment	1,655	1,890	1,410	1,055	1,042	1,043
Defense						
Private, 18 major indus.	1,660	2,036	2,417	2,523		
* contractors, pub.constr.	13	448	382	412		
Public	155	203	227	231		
Total direct defense	1,828	2,687	3,026	3,166		
Deep-sea merchant vessels	51	49	51	50		
UNEMPLOYMENT (WPA Estimate)						
(Million workers)						
Number of unemployed	9.3	7.6	5.9	5.6		

F Revised data.

P Preliminary data.
Table concluded on following page.

n.a. Data not available.

DEFENSE PROGRESS SERIES

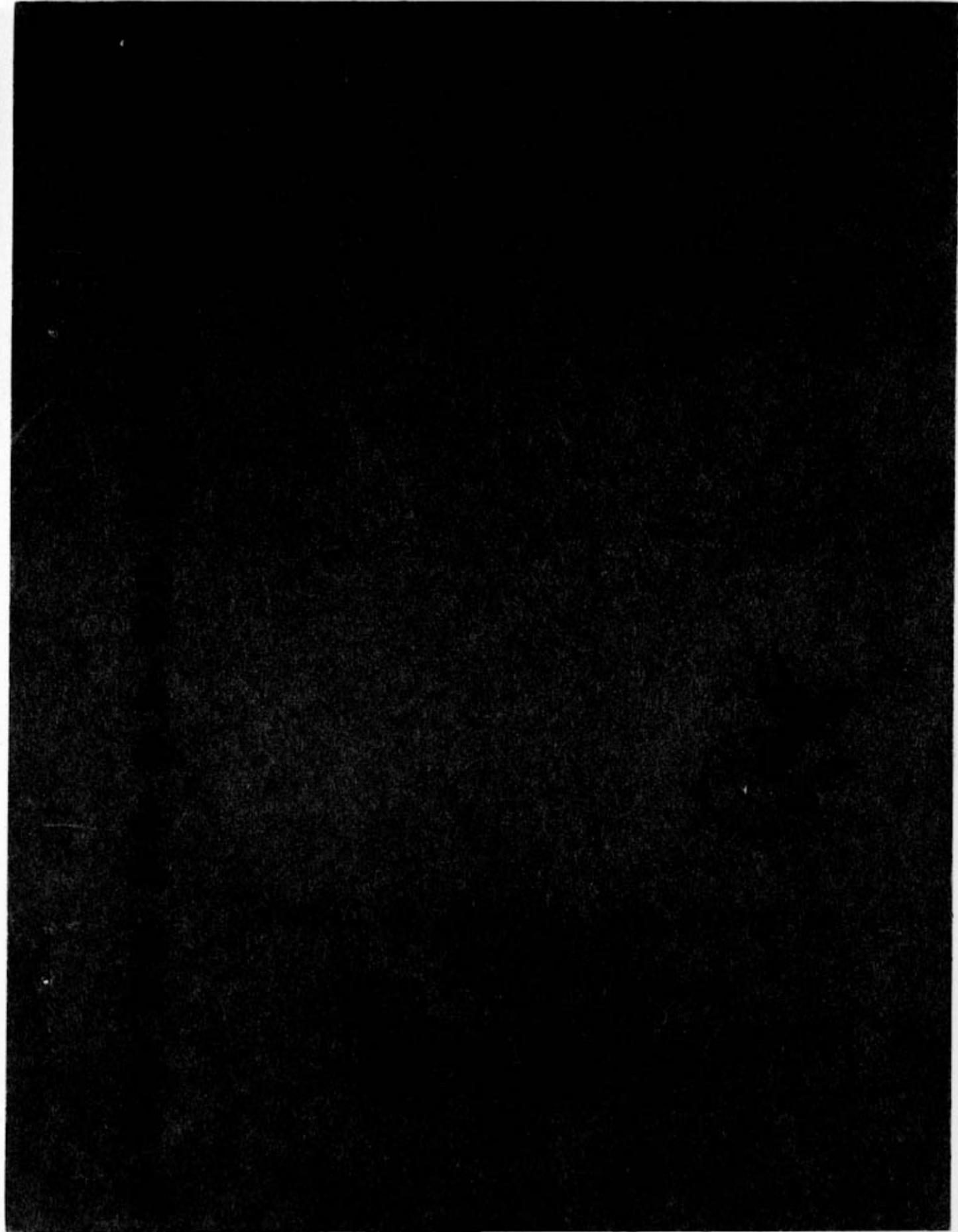
ECONOMIC ACTIVITY RELATED TO DEFENSE

	1940	1941				Week Ending Sept. 6
	July	January	June	July	August	
<u>LABOR DISPUTES</u>						
			(Monthly figures)			
PLANTS WITH IMPORTANT DEFENSE CONTRACTS						
Number strikes in progress	n.a.	13	11	15	19	
Workers involved (thous.)	n.a.	26	28	P 13	P 35	
Man-days idle (thous.)	n.a.	146	103	P 160	P 340	
ALL INDUSTRIES						
Number strikes in progress	390	330	P 670	P 700		
Workers involved (thous.)	83	109	P 216	P 235		
Man-days idle (thous.)	529	665	P 1,375	P 1,300		
<u>LABOR TURNOVER</u> ^h			(Rate per 100 employees)			
ALL MANUFACTURING						
Total accession	4.77	5.54	6.31	6.00		
Total separation	3.35	3.41	3.71	4.24		
Quit	0.85	1.31	2.06	2.25		
Layoff	2.25	1.61	1.03	1.40		
Discharge	0.14	0.18	0.26	0.29		
Military separation	n.a.	0.19	0.26	0.19		
7 MAJOR DEFENSE INDUSTRIES						
Total accession	5.09	7.10	6.93	7.09		
Total separation	1.85	2.70	3.09	3.09		
Quit	0.84	1.24	1.73	1.90		
Layoff	0.73	0.79	0.62	0.53		
Discharge	0.15	0.22	0.29	0.33		
Military separation	n.a.	0.23	0.27	0.17		
AIRCRAFT						
Total accession	12.40	12.17	10.77	12.68		
Total separation	3.57	3.65	3.21	3.36		
Quit	2.96	2.44	2.33	2.48		
Layoff	0.15	0.33	0.32	0.19		
SHIPBUILDING						
Total accession	13.00	18.21	12.12	15.53		
Total separation	5.40	7.91	6.00	5.63		
Quit	1.14	1.93	2.37	2.65		
Layoff	3.71	4.78	2.71	2.05		
MACHINE TOOLS						
Total accession	3.05	6.68	6.28	5.17		
Total separation	2.09	2.44	2.82	2.79		
Quit	1.28	1.77	1.99	2.02		
Layoff	0.21	0.09	0.15	0.12		

r Revised data

p Preliminary data.
h Bureau of Labor Statistics

n.a. Data not available



DEFENSE PROGRESS



BUREAU OF RESEARCH AND
STATISTICS • STACY MAY, CHIEF

ECONOMIC ANALYSIS BRANCH
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BRIEFS OF CONTENTS

	<u>Page</u>
● REVISIONS IN DELIVERY SCHEDULES FOR DEFENSE EQUIPMENT since January 1, 1941 have increased the major combat ships, merchant vessels, and ordnance scheduled for delivery by June 30, 1942 and decreased slightly the planes scheduled by this date. According to the current schedules, June 30, 1942 will find us with half or less of present estimated requirements of these items.	1
● THE NUMBER OF WAGE EARNERS IN THE AIRCRAFT INDUSTRY rose from 150 thousand in March to 218 thousand in August, or by nearly 45 percent, while the number of productive man-hours rose more than 46 percent. During the same period the proportion of workers on the secondary shifts rose from 42 to more than 43 percent and the index of plant utilization rose from 77.2 to 79.7 hours per week.	4
● THE PRODUCTION AND TRANSPORTATION OF BITUMINOUS COAL must be expanded during the remainder of 1941 by 25 percent to avoid restriction of consumption well below estimated 1941 requirements. The situation is particularly serious for the Upper Lakes and New England Regions.	8
● PETROLEUM is not likely to be the Achilles' heel of the German war machine in the near future. Nevertheless, German supplies of petroleum cannot be materially increased and the present operations on the Eastern front may require dipping into reserve storage.	10
● REVISED ESTIMATES OF SUPPLIES AND REQUIREMENTS of 33 raw materials for 1941 and 1942 do not include civilian requirements for aluminum, magnesium, and nickel due to lack of supply; and also do not include estimates of 1942 supply for six commodities due to uncertainties of import.	12
● DEFENSE PROGRESS SERIES. The request for an additional \$6 billion for Defense Aid was sent to Congress on September 18, 1941. If this request is approved, Defense Aid funds will amount to \$13 billion exclusive of \$1.3 billion provided for transfers of old equipment.	17

REVISIONS IN DELIVERY SCHEDULES FOR DEFENSE EQUIPMENT

Delivery schedules for the three major components of the Defense Program—ships, planes, and ordnance—have been revised since January 1941. The effect of these revisions, which are shown in the accompanying chart in terms of indexes of scheduled deliveries, has been to increase the major combat ships, merchant vessels, and ordnance scheduled for delivery by June 30, 1942 and to decrease slightly the planes scheduled by this date. According to the current schedules, June 30, 1942 will find us with only half or less of present estimated requirements of these items. If the revision of requirements now in process should result in an increase present delivery schedules shown in the chart would overstate program progress.

Merchant Vessels. Revisions in schedules for merchant vessels have provided for great acceleration in deliveries. According to the schedule established January 1, 1941 a volume of tonnage equivalent to 24 percent of the total requirements under the current schedule was to be delivered by December 31, 1942. The August 1, 1941 schedule stepped up deliveries to such an extent that 73 percent of current requirements are called for by this date.

This increase in scheduled deliveries represents in large part a growth in the total program. The Defense Aid program was extended to include merchant vessels and the program of the Maritime Commission

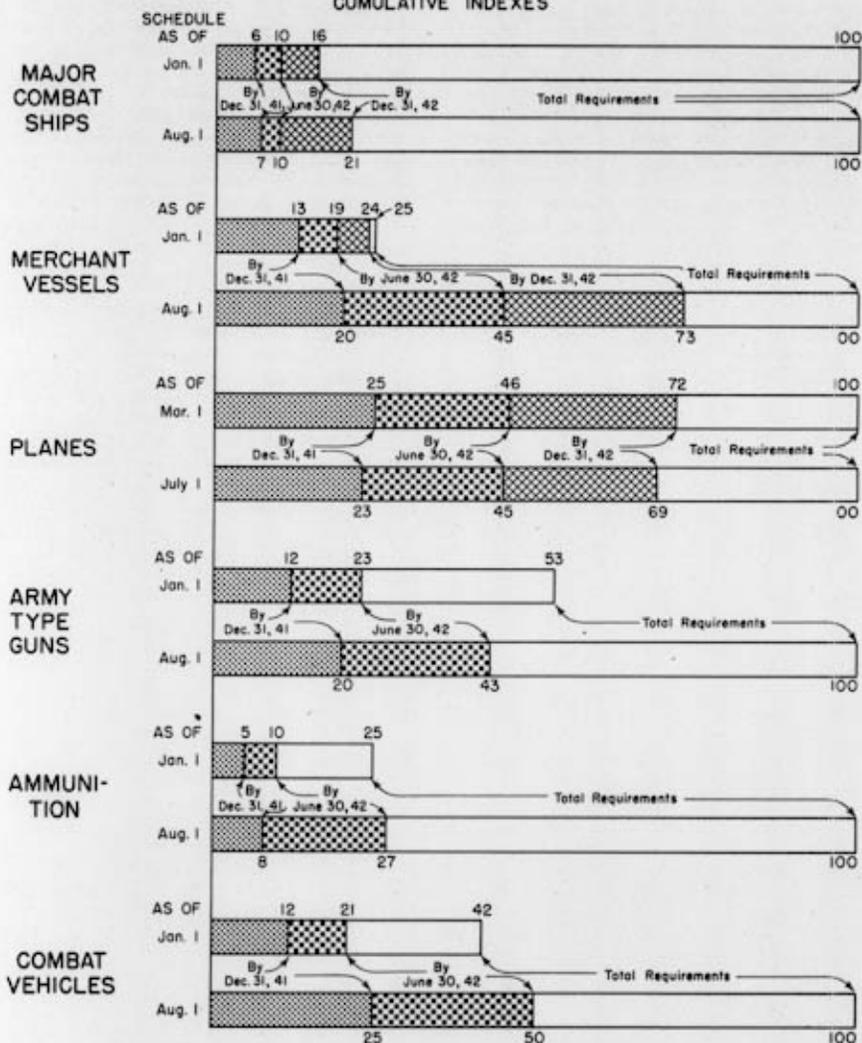
underwent great expansion so that total construction requirements in terms of gross tons under the August schedule are four times greater than under the January schedule. Including this expansion in requirements, the merchant vessel program is scheduled to be closer to completion by December 31, 1942 than any other major phase of the program, as shown in the chart.

Ordnance. Production plans for guns, ammunition, and combat vehicles have been greatly expanded since January 1941. Deliveries scheduled by June 30, 1942 in terms of the weighted index have been increased since January from 23 to 43 in the case of guns; from 10 to 27 for ammunition; and from 21 to 50 for combat vehicles. These increases have been achieved by stepping up expected deliveries of items already included in the January schedule and also by introducing schedules for a number of items not scheduled prior to January during the period between January and August. Among the important items for which schedules were established after January 1 are the following: the modernized 155 mm field gun, the modernized 75 mm field gun, 20 mm aircraft cannon, and several types of 20 mm aircraft ammunition.

Under the August schedule only 43 percent of the total requirements for guns in terms of the weighted index are scheduled for delivery by June 30, 1942; 27 percent of the ammunition requirements and 50 percent

REVISIONS IN DELIVERY SCHEDULES FOR DEFENSE EQUIPMENT

CUMULATIVE INDEXES



of the requirements for combat vehicles are scheduled to be delivered by this date. As of August there were still a number of important ordnance items for which no delivery schedules had been established. These were mostly items for which funds have been made available only recently under the First Supplemental National Defense Appropriation Act of 1942.

Military Airplanes. Delivery schedules for planes as of March (OPM Report 8-C) and July 1941 (OPM Report 8-F) are shown in the chart in terms of weighted indexes of cumulative deliveries. According to the March schedule 72 percent of the total requirements were to be delivered by the end of 1942. Cumulated deliveries to this date dropped to 69 percent of total requirements according to the July schedule. ^a

Major Combat Ships. According to the January 1, 1941 schedule 16 percent of the total construction requirements, in terms of tonnage of all types of ships, was scheduled for delivery by December 31, 1942. The August 1, 1941 schedule calls for delivery of 21 percent of the program by this date. The bulk of this increase is scheduled between July and December 1942. ^b

^a See Defense Progress, No. 55, p. 6 for a more detailed analysis of revisions in delivery schedules for planes.

^b See Defense Progress, No. 55, p. 9 for a more detailed analysis of revisions in delivery schedules for major combat ships.

PLANT UTILIZATION IN THE AIRCRAFT INDUSTRY, MARCH THROUGH AUGUST 1941

Employment. In the five months from March to August 1941, the number of wage earners in plants manufacturing military airframes, engines, and propellers increased from about 150 thousand to 218 thousand, or by nearly 45 percent. Considerably more than half of this rise took place in July and August. The increase in employment was accompanied by an increase in the average hours per wage earner of more than one percent, making an increase in the total number of productive man-hours between March and August of more than 46 percent. During the same period, the monthly production rate index of military airplanes rose from 27 in March to a July-August average of over 38, an increase of about 43 percent. ^a

Expansion in employment and hours as shown in Table 1 was achieved in all three of the major branches of the aviation industry.

The greatest relative increases in employment and man-hours occurred in airframe and engine plants. For these two sectors of the industry, the relative increase in man-hours was greater than the relative change in employment. The smallest relative increase in employment was in propeller plants where the total man-hours increased less than employment, indicating a decrease in average hours per worker in the six months.

Plant Utilization. During this period, also, there was an increase

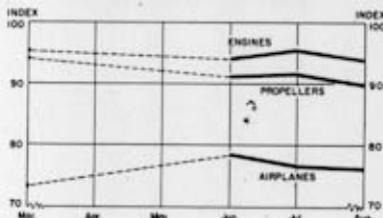
^a As the monthly production rate index is based upon deliveries, it was thought more desirable to take the July-August average since high deliveries in August reflect to some extent the inability to make deliveries in July owing to shortages of one or a few parts.

TABLE 1 - PERCENTAGE INCREASE OF EMPLOYMENT AND MAN-HOURS
MARCH TO AUGUST 1941

Sector of Industry	Total Number of Wage Earners	Total Productive Man-hours
	Percent Increase	Percent Increase
Airframe Plants	41.4	43.2
Engine Plants	62.4	64.1
Propeller Plants	28.9	26.5
Whole Industry	44.6	46.5

in the proportion of wage earners working on the second and third shifts. In March about 42 percent of the wage earners in the aircraft industry worked on the second and third shifts. By August the percentage had increased to more than 43 percent. This increase together with a rise in overtime work resulted in a slight improvement in the index of plant utilization.* For the aircraft industry as a whole, the index of plant utilization increased from 77.2 hours per week to 79.7 hours per week.

CHART 1-INDEXES OF PLANT UTILIZATION* IN THE AIRCRAFT INDUSTRY



The increase was due entirely to an increase in the index for the airframe group. There was a decrease in the index for the other two industries due to a greater expansion of employment on the first shift

* This is measured by the ratio of total productive man-hours to the number of wage earners on the first shift.

than on the second and third shifts. The indexes of utilization from March to August are shown in Chart 1.

In the whole six-month period plant utilization has been highest in the engine industry and lowest in airframe production.

The indexes of plant utilization shown in Chart 1 may be compared with the maximum operation of 168 hours per week on the one hand and a minimum operation of one 40-hour shift per week on the other. In terms of the absolute maximum, operations in August for the entire industry were 47.4 percent of the absolute maximum; for airframes, 45.4 percent; for engines, 55.8 percent; and for propellers, 53.5 percent. In terms of the minimum, actual operations were equivalent to an average of nearly 2 shifts in the aircraft industry as a whole and to 1.9, 2.3, and 2.2 shifts for airframes, engines, and propellers respectively.

The absolute maximum of 168 hours per week is for many reasons impossible of achievement but according to the August figures, some improvement over the actual rate of utilization ought to be reasonably possible. This is suggested by a comparison of the index for the plant of highest utilization with the index for each group and with the index for the plant with the lowest utilization as shown in Chart 2 and Table 2.

The distribution of the plants according to the average hours of plant utilization in the month of August is given in Table 2. However, the fact that a certain number of

TABLE 2 - DISTRIBUTION OF PLANTS AND PRODUCTIVE CAPACITY
IN THE AIRCRAFT INDUSTRY ACCORDING TO EXTENT
OF PLANT UTILIZATION, AUGUST 1941 ^a

Average Hours of Plant Utilization ^b	Number of Plants			Percentage of Total Capacity of Each Sector ^c		
	Airframes	Engines	Propellers	Airframes	Engines	Propellers
120 - 124		1	2		13.0	31.1
115 - 119						
110 - 114						
105 - 109		1			.2	
100 - 104		1	1		26.8	9.3
95 - 99		1			2.5	
90 - 94	1	2	1	10.9	26.3	9.2
85 - 89	3	2	2	10.7	3.7	6.4
80 - 84	3	1		20.4	7.3	
75 - 79	5	1	1	13.3	2.3	2.8
70 - 74	3	2		18.3	14.2	26.9
65 - 69	6	1	4	14.4	.9	
60 - 64	6			4.8		
55 - 59	3	1	1	5.4	.3	2.6
50 - 54	2	1	3	1.1	.5	10.2
45 - 49	2	2		.2	2.0	
40 - 44	3		1	.3		1.5
35 - 39	1			.2		
TOTAL	38	17	16	100.0	100.0	100.0

^a Based for the most part on data from military producers for week ended August 22, appearing in Materiel Division Consolidated Statistical Report for August 1941.

^b Hours of plant utilization = $\frac{\text{total man-hours for week}}{\text{number of workers on first shift}}$

This assumes that the number of workers in the first shift represents full use of facilities.

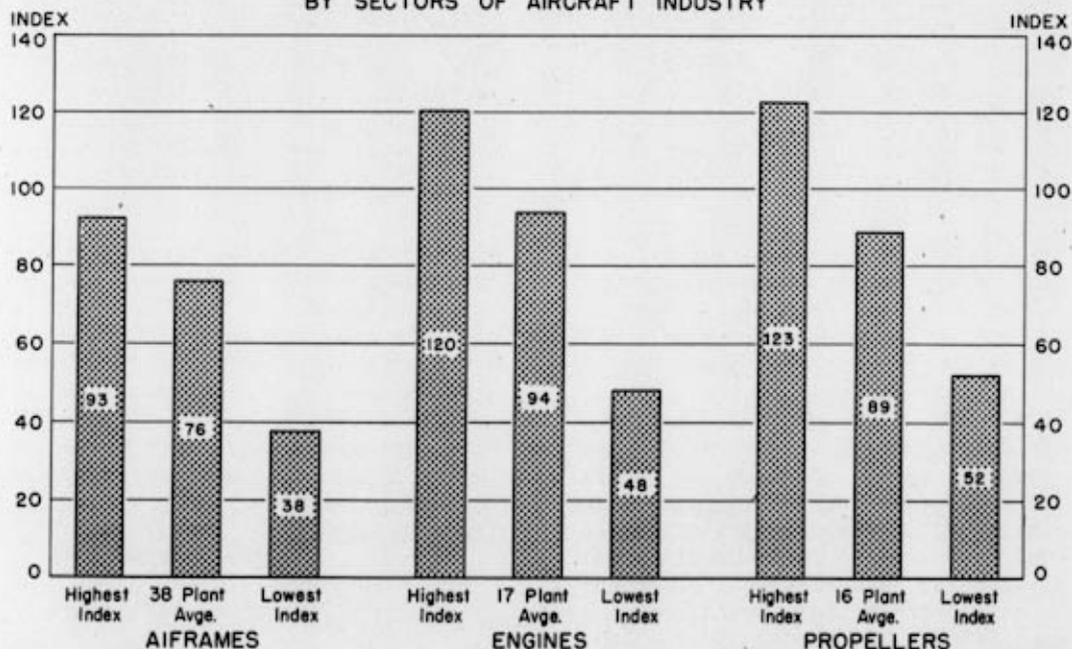
^c The percentage of capacity in the whole sector is measured as follows:
 $\frac{\text{Number of productive workers on first shift in a particular plant}}{\text{Number of productive workers on first shift in the whole sector}}$

the plants in the industry operate at a certain level of plant utilization is not as significant as the proportion of the operative capacity of the industry working at that level. It is desirable, therefore, to know what proportion of the operative capacity of the industry is working at a particular level of plant utilization. For this purpose, the operative capacity of the total industry is taken as the number of productive workers on the first shift. The proportion of the operative capacity of the industry which a particular plant represents is measured by its proportion of the

work in the whole industry on the first shift.

Table 2 also shows the distribution of the operative capacity of the industry according to average hours of plant utilization in the month of August. It will be noted that most of the operative capacity of the airframe plants worked at between 65 and 95 hours per week. 13 percent of the engine plant and 31 percent of the propeller plant operative capacity were operated at more than 120 hours per week. The major portion of the operative capacity in these cases was in use more than 75 hours per week.

CHART 2 - HIGHEST, LOWEST AND AVERAGE INDEXES*
OF PLANT UTILIZATION
BY SECTORS OF AIRCRAFT INDUSTRY



COAL PRODUCTION AND TRANSPORTATION, 1941*

Production and transportation of bituminous coal must be expanded during the remaining weeks of 1941 by 25 percent to avoid restriction of consumption below estimated 1941 requirements. A serious shortage of bituminous coal, due both to insufficient production and lack of transportation facilities, threatens industrial production during the coming fall and winter, especially in New England, the Upper Lakes Region, and other consuming areas remote from mine operations.

If the remaining requirement for 1941 is to be met, about 13 million tons of bituminous coal must be produced and transported in each of the remaining weeks of the year. This figure compares with an average weekly production in the six weeks ending August 30 of less than 11 million, as shown in the accompanying table. In addition, if the strike now in progress is not promptly settled, the estimated weekly requirements will have to be increased accordingly.

COAL PRODUCTION AND CARLOADINGS

Week Ended (1941)	Revenue Carloadings (Thousand cars)	Production	
		Bituminous (Thousand tons)	Anthracite (Thousand tons)
August 30	170	10,880	--
August 23	170	10,750	1,258
August 16	168	10,740	1,174
August 9	166	10,550	1,285
August 2	166	10,500	1,237
July 26	169	10,756	1,265

Increased industrial production in the northern states industrial areas, as well as the greatly expanded railroad tonnage demands, has resulted in estimated requirements of bituminous coal for calendar year 1941 of 530 to 540 million tons. The status of requirements and supply in the current year are shown below:

	(Million tons of bituminous coal)
1941 Requirements	530
Production to August 31	319
To be Produced as of August 31	211

There has been difficulty in expanding mine output since the spring strike but the major deterrent to increasing coal production to the necessary proportions is the lack of railroad transportation facilities. The needed increase will require an average loading until the end of the year of about 199 thousand cars per week. Such a performance is impossible with the existing railroad plant, unless very fundamental readjustments are made in the marketing and distribution of coal. Transportation facilities have been utilized near capacity for recent weeks and the heavy loadings

have reduced the surplus of open top cars on the railroad system to very low figures and a large proportion of these was in the Western districts where the coal traffic is comparatively insignificant. A number of major coal roads including the Baltimore & Ohio, Western Maryland, Pittsburgh & Lake Erie, Clinchfield, and Southern System reported no surplus open tops for the week ended the 16th.

Two of the special coal movements, lake cargo traffic and the northwestern coastal movement, deserve separate attention. The lake cargo coal movement through August 31 was about 4 million tons, or 14 percent, behind the comparable period in 1941,^a although navigation on the lakes was started early this year. Major factors in this decrease were the prolonged interruption due to the spring strike plus the desire to turn ore vessels rapidly, even though failure to take ore cargoes might result. Consumption in the Northwest served by ex-lake coal is expected to be 10 to 15 percent greater than in 1941. Withdrawals from stocks at the upper lake ports so far this year support these estimates. Although the lake coal movement has improved in recent weeks, the amount of coal available at upper lake ports is about

^a Lake cargo tonnage through August 31, 1940 was 30,046,785 tons, compared with 25,768,742 tons through August 31, 1941.

2,800,000 tons below last year, at a time when provision should be made for increased consumption. Unless very substantial improvement occurs during the remainder of the navigation season it will be necessary to face the prospect of all-rail coal movement to the Northwest at a time when car supply is extremely tight or of a restriction of consumption in that area.

The New England coal movement, which consists largely of ex-water coal from Hampton Roads ports, also has not kept pace with demands. Diminution of vessel tonnage as compared with recent years and the large increase of consumption in the busy New England area are complicated by the shift of many plants and public utilities from oil to coal. Although the all-rail movement to New England has been well ahead of that of last year, the vessel tonnage has been deficient and the movement by water has shown only a slight increase. It is customary during the peak fall months to supplement the coastwise vessel fleet with 10 or more chartered steamers. It is unlikely that these will be available for coal this year. New England, like the Upper Lake Region, may face the prospect, therefore, of less coal than it needs this fall. Tightness of supply may be expected over wide areas, and the new year may begin with stocks well below customary levels, throwing an increased burden in 1942 on both mining and transportation facilities.

* Prepared from materials provided by the staff of the National Resources Planning Board.

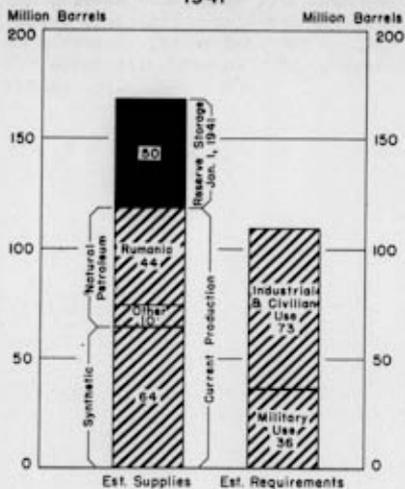
ESTIMATED GERMAN SUPPLY AND REQUIREMENTS OF PETROLEUM, 1941

Germany is well supplied with petroleum products, and substitutes, for military operations for the immediate future. From the beginning of the war in September 1939, up to the Russian campaign, it is estimated that Germany captured stores of liquid fuel in excess of her own consumption and rationed consumption in occupied territory. (She obtained from the Low Countries, Norway and France, an estimated 20 million barrels, which was 8 million barrels more than her military consumption up to the fall of France.) Germany has so far had a measure of control of her liquid fuel stocks through her timing of campaigns; and military experts seem certain that she has not yet extended her supply lines beyond their capacity to furnish petroleum products to the armed forces.

The accompanying chart shows estimates of German supplies and requirements of petroleum products for 1941.

Germany must depend on two major sources of supply, natural oil from Rumania and her own domestic heavily protected synthetic production. Both of these sources place heavy demands on transportation and mining facilities. The reported failure of Germany to maintain her commitments for shipping coal and oil to Italy may indicate excessive pressure on these facilities. The shift of operations to the Eastern front has shortened the supply lines from Rumania and may have relieved

EST. GERMAN SUPPLIES & REQUIREMENTS OF PETROLEUM 1941



transportation pressure on oil moving into Germany. German petroleum supplies for 1941 materially larger than those indicated in the chart, although hoped for by the Germans, cannot be expected in the near future.

It is estimated that about two-thirds of the petroleum products to be consumed during 1941 will be used for German industrial and civilian purposes. Civilian use, has been

restricted to 25 percent or less of peacetime consumption and on the basis of experience in World War I might be cut as low as 10 percent of normal consumption.

Estimates of the total German military consumption of petroleum products during the first three months of the Russian campaign run from 7 to 10 million barrels. If

Germany continues to utilize liquid fuel at this rate on the Eastern front, and at existing rates on other fronts and for industrial and civilian uses, she will be forced to utilize her reserves in storage. At the present time these petroleum reserves alone are considered adequate to maintain the German war machine for about six months at current rates.

PRESENT STATUS OF 33 RAW MATERIALS

The recent establishment of the Supply Priorities and Allocations Board focuses attention on the available estimates regarding supplies and requirements for 1941 and 1942. The estimates of new supply and requirements, both civilian and military, in 1941 and 1942 for 33 commodities, 18 metals and 15 others, are shown in the accompanying four charts.

Charts 1 and 2 present the data for the 18 metals, Charts 3 and 4 for the 15 other commodities. In these data are included revisions of estimates presented previously^a for 32 commodities, 18 metals and 14 other commodities. (Burlap has since been added.)

Most of the revisions which have taken place in these estimates are not of major significance, being in the nature of refinements rather than fundamental changes. Certain revisions are, however, of interest. Thus, in the case of aluminum, magnesium, and nickel, civilian requirements are not shown. These are three of the metals of crucial importance in the defense program and the estimated new supplies are not suffi-

cient, or are barely sufficient for present levels of military requirements. In the case of the following six commodities which are wholly imported, antimony, burlap, cork, manila fiber, silk and tin, no estimates of new supply for 1942 are given since uncertainties regarding future imports make such estimates highly unreliable. In the case of the estimate of the 1941 new silk supply, there is a sharp downward revision from 44 million pounds to 21.2 million pounds. The reasons for this are clear.

It would be desirable to check the estimates of requirements in 1941 against current consumption. Unfortunately, although more than seven months of 1941 have elapsed, little information of this kind is available except for a few commodities. Undoubtedly, as allocations of commodities become more widespread, much of this information will be available for such purposes of comparison.

^a (Defense Progress, August 1, 1941, Issue Number 50, Annual Review, pp. 58 - 65)

CHART I — 1941 ESTIMATED NEW SUPPLY AND REQUIREMENTS OF 18 SELECTED METALS

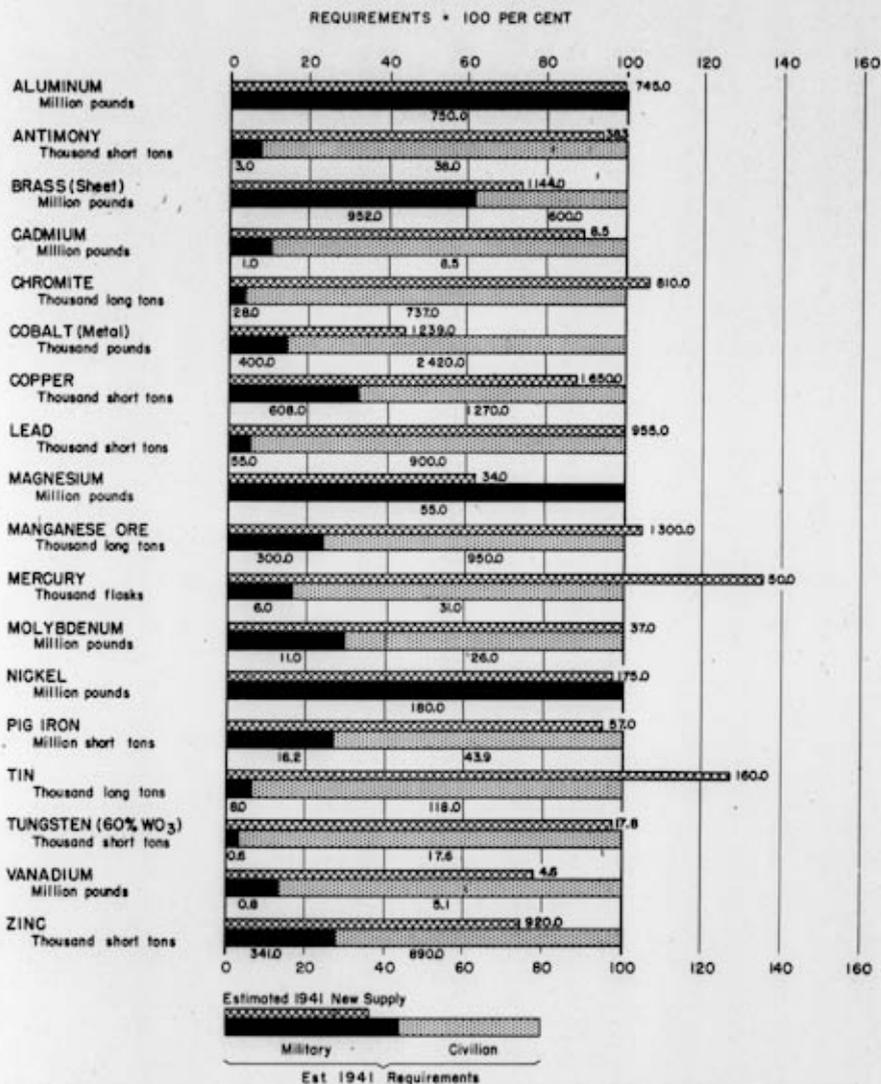
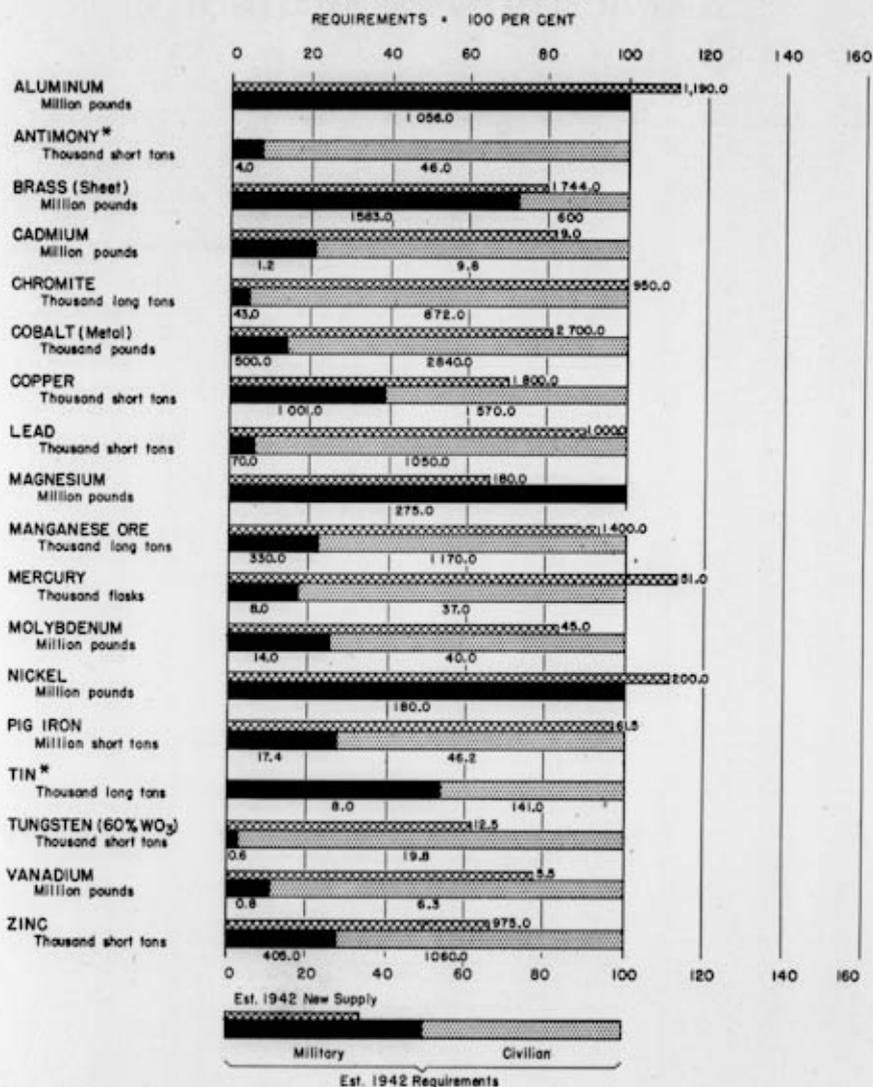
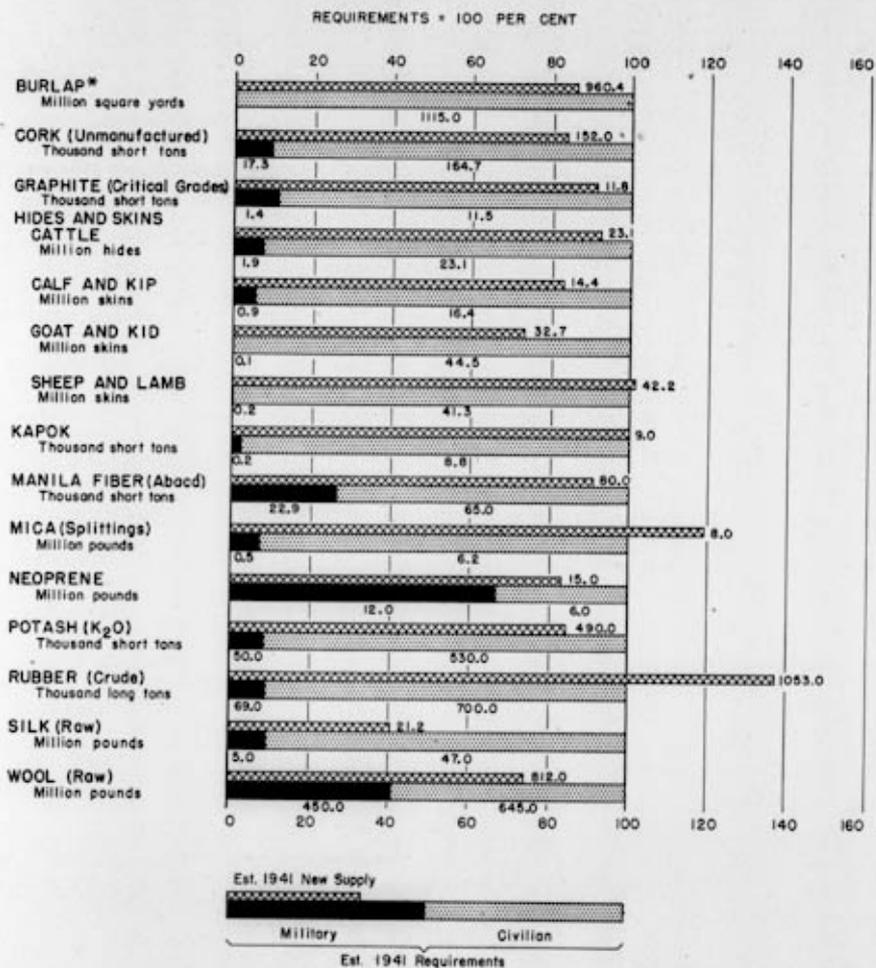


CHART 2—1942 ESTIMATED NEW SUPPLY AND REQUIREMENTS
OF 18 SELECTED METALS



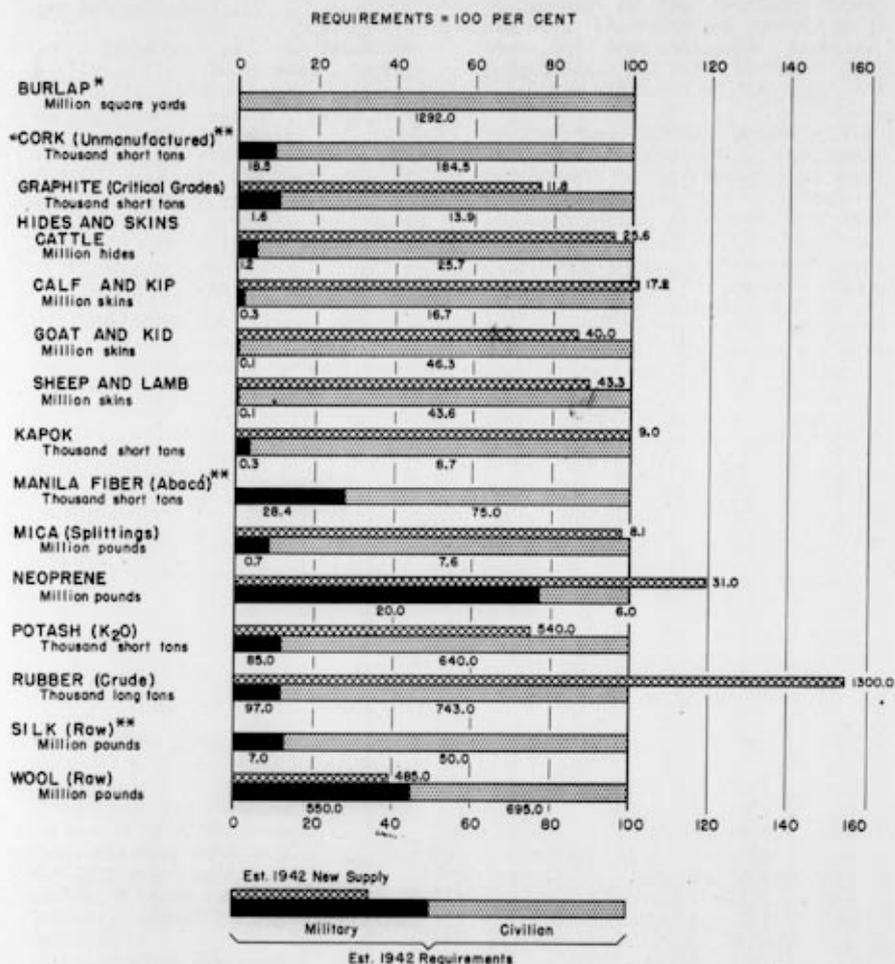
* Estimated 1942 new supply not available.

CHART 3 - 1941 ESTIMATED NEW SUPPLY AND REQUIREMENTS OF 15 SELECTED NON-METALLIC MATERIALS



* Estimated military requirements not available.

CHART 4 - 1942 ESTIMATED NEW SUPPLY AND REQUIREMENTS OF 15 SELECTED NON-METALLIC MATERIALS



* Estimated 1942 new supply and military requirements not available.

** Estimated 1942 new supply not available.

DEFENSE PROGRESS SERIES

New Defense Aid Bill

On September 18, the Second Defense Aid Supplemental Appropriation estimate was introduced in Congress requesting funds of almost \$6 billion which, if passed, will raise the total amount for Defense Aid to \$13 billion. The amounts provided in the new bill and the new resulting totals are shown by objects in the table below.

Second Defense Aid Report

The table also shows the allocations, obligations, and expenditures of the funds already available as of August 31, 1941, as given in the President's second report to Congress on the Lend-Lease Act of March 11, 1941. According to this report between April 1 and August 31

90 percent of the available funds had been allocated and over 50 percent had been obligated. Cash expenditures, however, amounted to less than 6 percent of the funds.

Of the various programs for different categories of munitions and vessels, those for merchant vessels and aircraft are the furthest advanced groups with 75 percent and 66 percent respectively of the available funds obligated. Over 95 percent of the funds for ordnance material have been allocated, but as of August 31, less than 40 percent had been obligated. Eighty-three percent of the funds for the facilities program have been allocated and contracts and obligations amount to \$262 million, or 43 percent of the total funds.

DEFENSE AID
Funds, Allocations, and Obligations

Object	Requested Sept. 18	Total Approp. and Request	August 31, 1941		
			Alloca- tions	Obliga- tions	Expend- itures
(Million Dollars)					
Ordnance and ordnance stores	1,190	2,681	1,422	585	17
Aircraft & aeronautical material	685	2,739	2,027	1,347	19
Tanks and other vehicles	385	855	394	222	9
Vessels & other watercraft	850	1,633	700	588	110
Misc. military equipment	155	465	113	56	6
Facilities and equipment	375	977	502	262	41
Agric., & other commodities	1,875	2,955	975	429	153
Testing, reconditioning, etc.	175	335	130	65	33
Services	285	325	13	2	1
Administrative expenses	10	20	5	-	-
Total	5,985	12,985	6,281	3,556	389

In addition to the \$389 million expended under the \$7 billion program, \$98 million for equipment and supplies has been transferred from appropriations made prior to March 11, 1941. The principal transfers were \$42 million for ordnance, \$32 million for vessels, and \$17 million for tanks and vehicles.

Contract Awards

Data on contract awards made by the Navy and Defense Aid during July and August are now available and have been added to the series this week. No similar data are available as yet for the Army and other agencies, but it is expected that further additions can be made during the next few weeks.

Hours and Earnings.

Latest available data on hours and earnings in the machine tool, aircraft and shipbuilding industries are presented in the economic series this week. Although weekly hours in the machine-tool industry average nearly 51 and are well above the level of a year ago, there has been a decline of one hour per week since June. A similar decline occurred in the shipbuilding industry while average hours in the airplane industry remained constant at slightly less than 45 hours. Hourly earnings continued to rise in all three industries, and in the shipbuilding industry rose to nearly \$1.02 per hour.

UNITED STATES ARMED FORCES

	1940		1941			
	June 30	Dec. 31	March 31	June 30	July 31	Aug. 31
	(Thousand men)					
TOTAL	452	877	1,436	1,776	1,847	1,929
Army	266	619	1,143	1,449	1,506	1,576
Navy & Marine Corps	186	258	293	327	341	353

FOOTNOTES

DEFENSE PROGRESS SERIES

See Opposite Page

n.a. Not available

P Preliminary

n.r. Not released

R Revised

- ^a Totals include defense program legislation beginning with June 11, 1940; British orders and disbursements in this country since November 1939; and certain authorizations and appropriations for the Navy, Maritime Commission, Coast Guard, pilot training, housing, and the stockpile passed prior to June 11, 1940.
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- ^e This item was formerly called "British Orders" and at the present time includes only orders of the British Empire.
- ^f Scheduled production in peak month August 1942 based on OPM report 8-E for military airplanes. Under OPM schedule 8-F peak production is reached in October 1942 at 107 percent of the 8-E peak.
- ^g Suitable Inventory includes weapons in the hands of the United States Army and Navy considered suitable for the tactical purpose indicated.

DEFENSE PROGRESS SERIES

TOTAL UNITED STATES DEFENSE PROGRAM

	Cumulative 6/11/40 through ^a			Monthly		
	End 1st full year 6/30/41	1 month ago 8/31/41	1st half, current mo. 9/15/41	1 year ago 8/40	1 month ago 7/41	Latest month 8/41
FINANCIAL PROGRAM (Million dollars)						
<u>PROGRAM - TOTAL</u>	49,879	P 60,210	P 60,210	171	2,603	P 7,728
U. S. contractual	41,374	P 51,157	P 51,157	0	2,251	P 7,532
U. S. pay, subs., trav., misc.	4,835	P 5,379	P 5,379	0	361	P 183
Foreign orders in U. S. ^o	3,670	P 3,674	P 3,674	171	b -9	P 13
<u>CONTRACTS - TOTAL</u>	28,239	c	c	515	c	c
United States	23,019	c	c	262	c	c
U. S. pay, subs., trav., misc.-paid	1,550	P 1,992	P 2,128	82	P 212	P 230
Foreign orders in U. S. ^o	3,670	P 3,674	P 3,674	171	b -9	P 13
<u>CASH DISBURSEMENTS - TOTAL</u>	9,115	P 11,440	P 12,038	435	P 1,115	P 1,210
U. S. contractual	5,490	P 7,195	n.a.	153	P 817	P 888
U. S. pay, subs., trav., misc.	1,550	P 1,992	P 2,128	82	P 212	P 230
Foreign orders in U. S. ^o	2,075	P 2,253	n.a.	200	P 86	P 92
O B J E C T S						
<u>TOTAL MUNITIONS</u>						
Program	28,847	P 35,503	P 35,503	49	P 2,147	P 4,509
Contracts	17,760	c	c	169	c	c
Cash disbursements	3,508	P 4,420	P 4,650	206	P 425	P 487
<u>AIRPLANES, ENGINES, ETC.</u>						
Program	11,729	P 12,519	P 12,519	b 29	495	P 295
Contracts	6,829	c	c	-57	c	c
Cash disbursements	1,467	P 1,780	P 1,860	100	151	P 162
<u>NAVAL SHIPS AND PARTS</u>						
Program	6,796	P 8,154	P 8,154	0	978	P 380
Contracts	5,000	5,630	n.a.	13	174	456
Cash disbursements	693	P 935	P 995	32	P 112	P 130
<u>ORDNANCE (INCL. NAVAL ORDNANCE)</u>						
Program	8,226	P 11,938	11,938	20	577	P 3,135
Contracts	4,978	c	c	139	c	c
Cash disbursements	936	P 1,190	P 1,260	49	P 114	P 140
<u>OTHER MUNITIONS</u>						
Program	2,096	P 2,892	P 2,892	0	97	P 699
Contracts	953	c	c	74	c	c
Cash disbursements	412	P 515	P 535	25	P 48	P 55

Table continued on following page. For footnotes see opposite page.

CONFIDENTIAL

DEFENSE PROGRESS SERIES

FOOTNOTES

DEFENSE PROGRESS SERIES

See Opposite Page

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DEFENSE PROGRESS SERIES

TOTAL UNITED STATES DEFENSE PROGRAM (Continued)

	Cumulative 6/11/40 through ^a			Monthly		
	End let full year 6/30/41	1 month ago 8/31/41	1st half, current mo. 9/15/41	1 year ago 8/40	1 month ago 7/41	Latest month 8/41
<u>MERCHANT SHIPS</u>						
	(Million dollars)					
Program	1,605	P 3,358	P 3,358	1	54	P 1,699
Contracts	1,462	c	c	1	c	c
Cash disbursements	252	P 340	P 360	22	P 43	P 45
<u>INDUSTRIAL FACIL.,-CONS., EQUIP., & REAL ESTATE</u>						
Program	5,887	P 6,009	P 6,009	25	-93	P 215
Contracts	2,761	3,783	n.a.	30	532	490
Cash disbursements	824	P 1,180	P 1,280	26	P 171	P 185
<u>INDUSTRIAL FACIL.,-CONSTRUCTION ONLY</u>						
Program	1,607	P 2,118	n.a.	n.a.	350	P 193
Value in place	559	P 945	n.a.	n.a.	161	P 225
<u>POSTS, DEPOTS & FORTIFICATIONS</u>						
Program	3,638	P 4,181	P 4,181	0	61	P 482
Contracts	2,212	c	c	54	c	c
Cash disbursements	1,448	P 1,675	P 1,730	32	P 112	P 115
<u>HOUSING</u>						
Program	452	P 602	P 602	0	150	0
Contracts	275	334	354	0	39	20
Cash disbursements	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<u>STOCKFILES</u>						
Program	983	P 1,181	P 1,181	0	85	P 113
Contracts	470	568	P 588	63	53	45
Cash disbursements	180	P 235	P 250	4	P 31	P 24
<u>OTHER EQUIPMENT & SUPPLIES</u>						
Program	3,632	P 3,997	P 3,997	96	-162	P 527
Contracts	1,749	c	c	116	c	c
Cash disbursements	1,339	P 1,580	P 1,640	62	P 119	P 122
<u>PAY - DEFENSE AGENCIES</u>						
Total - Program	2,808	2,997	2,997	0	50	139
Cash disbursements	1,192	P 1,495	P 1,580	65	P 146	P 157
Army - Program	1,926	1,926	1,926	0	0	0
Cash disbursements	523	P 679	P 725	22	P 73	P 83
Navy & Mar. Corps - Program	737	883	883	0	7	139
Cash disbursements	312	P 372	P 387	22	P 30	P 30

Table continued on following page. For footnotes see opposite page.

CONFIDENTIAL

DEFENSE PROGRESS SERIES

FOOTNOTES

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DEFENSE PROGRESS SERIES

TOTAL UNITED STATES DEFENSE PROGRAM (Continued)

	Cumulative 6/11/40 through ^a			Monthly		
	End 1st full year 6/30/41	1 month ago 8/31/41	1st half, current mo. 9/15/41	1 year ago 8/40	1 month ago 7/41	Latest month 8/41
(Million dollars)						
PAY - DEFENSE AGENCIES (CONT.)						
Civilian employees - Program	145	188	188	0	43	0
Cash disbursements	357	P 444	P 468	21	P 43	P 44
SUBSISTENCE AND TRAVEL						
Program	703	704	704	0	1	0
Cash disbursements	247	P 340	P 365	13	P 43	P 50
MISCELLANEOUS						
Program (commitments)	1,324	P 1,678	P 1,678	0	310	P 44
Cash disbursements	125	P 175	P 183	5	P 25	P 25
A G E N C I E S						
U. S. MILITARY						
TOTAL						
Program - Total	33,871	41,585	41,585	0	1,889	5,825
Contractual	30,297	37,842	37,842	0	1,880	5,665
Pay, subs., trav., misc.	3,574	3,743	3,743	0	9	160
Contracts	18,495	c	c	199	c	c
Cash disbursements - Total	6,183	P 7,922	n.a.	212	P 826	P 913
Contractual	4,804	n.a.	n.a.	136	n.a.	n.a.
Pay, subs., trav., misc.	1,379	n.a.	n.a.	76	n.a.	n.a.
ARMY						
Program - Total	20,346	24,607	24,607	0	6	4,255
Contractual	17,639	21,900	21,900	0	6	4,255
Pay, subs., trav., misc.	2,707	2,707	2,707	0	0	0
Contracts	9,050	c	c	124	c	c
Cash disbursements - Total	3,862	P 4,870	n.a.	97	P 494	P 514
Contractual	2,954	n.a.	n.a.	53	n.a.	n.a.
Pay, subs., trav., misc.	908	n.a.	n.a.	44	n.a.	n.a.
NAVY						
Program - Total	13,525	16,978	16,978	0	1,883	1,570
Contractual	12,658	15,942	15,942	0	1,874	1,410
Pay, subs., trav., misc.	867	1,036	1,036	0	9	160
Contracts	9,445	P 11,269	n.a.	75	P 814	P 1,010
Cash disbursements - Total	2,321	P 3,052	n.a.	115	P 332	399
Contractual	1,850	n.a.	n.a.	83	n.a.	n.a.
Pay, subs., trav., misc.	471	n.a.	n.a.	32	n.a.	n.a.

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- ^g Suitable Inventory includes weapons in the hands of the United States Army and Navy considered suitable for the tactical purpose indicated.

DEFENSE PROGRESS SERIES

TOTAL UNITED STATES DEFENSE PROGRAM (Continued)

	Cumulative 6/11/40 through ^a			Monthly		
	End 1st full year 6/30/41	1 month ago 8/31/41	1st half, current no. 9/15/41	1 year ago 8/40	1 month ago 7/41	Latest month 8/41
DEFENSE AID (LEND-LEASE)	(Million dollars)					
Program ^d	7,000	7,000	7,000	0	0	0
Allocations	5,177	6,294	6,391	-	166	951
Contracts	2,430	3,569	n.a.	-	612	499
Cash disbursements	26	P 150	n.a.	0	53	P 71
MARITIME COMMISSION						
Program	795	2,494	2,494	0	0	1,699
Contracts	835	c	c	n.a.	c	c
Cash disbursements	164	P 215	n.a.	13	P 24	P 27
R.F.C. AND SUBSIDIARIES						
Program	2,808	3,240	3,240	0	253	179
Contracts	924	c	c	55	c	c
Cash disbursements	333	P 465	n.a.	3	P 77	P 55
FOREIGN ORDERS IN U. S. ^e						
Program	3,670	P 3,674	P 3,674	171	b -9	P 13
Contracts	3,670	P 3,674	P 3,674	171	b -9	P 13
Cash disbursements	2,075	P 2,253	n.a.	200	86	P 92
OTHER AGENCIES						
Program	1,735	2,217	2,217	0	470	12
Contracts	335	c	c	8	c	c
Cash disbursements	334	P 435	n.a.	7	P 49	P 52
OTHER DEFENSE INDICATORS						
VALUE OF FACIL. ON APPLIC. FOR CERT. OF NECESSITY (Million dollars)						
Total	1,424	n.a.	n.a.	-	140	n.a.
Approved, private funds	829	n.a.	n.a.	-	70	n.a.
Approved, public funds	201	n.a.	n.a.	-	16	n.a.
Pending	387	n.a.	n.a.	-	61	n.a.
DEFENSE HOUSING (Number of dwelling units)						
Fund allocations	110,298	125,390	125,390	5,925	13,135	1,957
Cons. contracts awarded	78,820	94,993	100,011	1,162	10,403	5,770
Construction completed	21,768	39,038	41,384	0	9,531	7,739

Table continued on following page. For footnotes see opposite page.

CONFIDENTIAL

DEFENSE PROGRESS SERIES

FOOTNOTES

DEFENSE PROGRESS SERIES

See Opposite Page

n.a. Not available

P Preliminary

n.r. Not released

r Revised

- ^a Totals include defense program legislation beginning with June 11, 1940; British orders and disbursements in this country since November 1939; and certain authorizations and appropriations for the Navy, Maritime Commission, Coast Guard, pilot training, housing, and the stockpile passed prior to June 11, 1940.
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DEFENSE PROGRESS SERIES

Defense Equipment Indexes

	1940			1941		
	July	December	March	June	July	August
<u>PRODUCTION RATE INDEXES</u> (Scheduled peak month production=100)						
Military airplanes ^f	13.0	19.6	27.0	34.9	34.0	43.3
Combat vessels	19.0	22.7	31.1	37.3	37.3	
Combat vehicles	n.a.	n.a.	11.9	31.8	59.8	
Army-type guns	n.a.	n.a.	28.4	38.7	61.9	
Field artillery	n.a.	n.a.	6.3	15.0	8.3	
Antiaircraft	n.a.	n.a.	19.1	38.1	52.5	
Infantry-supporting	n.a.	n.a.	30.3	36.2	65.0	
	June 30	Dec. 31	March 31	June 30	July 31	Aug. 31
<u>TOTAL PRODUCTION INDEXES</u> (Cumulated since 7/40. Production requirements=100)						
Military airplanes	0.5	3.5	6.5	10.7	12.1	13.9
Combat vessels	5.8	8.7	11.1	14.1	15.1	
Combat vehicles	n.a.	2.8	4.8	9.2	12.8	
Army-type guns	n.a.	5.3	9.6	16.0	19.5	
Field artillery	n.a.	1.5	2.8	5.7	6.2	
Antiaircraft	n.a.	3.2	5.2	10.6	13.2	
Infantry-supporting	n.a.	7.6	13.5	22.0	26.9	
<u>U. S. INVENTORIES</u> (U. S. tactical requirements=100)						
Military airplanes	7.0	8.6	n.a.	13.4	14.5	
Combat vessels, delivered	37.7	35.0	n.a.	36.6	36.6	
Combat vehicles	n.a.	4.4	n.a.	8.8	10.2	
Army-type guns, suitable ^g	n.a.	5.7	n.a.	11.8	13.6	
Field artillery, " ^g	n.a.	6.4	n.a.	9.7	10.3	
Antiaircraft " ^g	n.a.	6.9	n.a.	11.2	12.8	
Infantry-supporting " ^g	n.a.	4.6	n.a.	13.1	15.6	

Table continued on following page.

For footnotes see opposite page.

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DEFENSE PROGRESS SERIES

FOOTNOTES

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See Opposite Page

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DEFENSE PROGRESS SERIES

Commodity and Units	Two Year Program	Status	STOCKPILE					Monthly	
			Cumulative 6/11/40 through ^a			1 year ago 8/40	1 month ago 7/41	Latest month 8/41	
			End of full year 6/30/41	1 month ago 8/31/41	1st half, current mo. 9/15/41				
<u>ANTIMONY</u> (short tons)	18,000	Purch. Deliv.	29,637 7,295	29,637 8,166	29,637 8,264	6,250 0	0 501	0 370	
<u>CHROME ORE</u> (thou. long tons)	1,300	Purch. Deliv.	647 173	737 194	741 221	46 6	32 19	58 2	
<u>INDUS. DIAMONDS</u> (thous. carats)	2,000	Purch. Deliv.	771 4	717 615	739 639	0 0	0 5	4 605	
<u>MANGANESE</u> (thou. long tons)	1,800	Purch. Deliv.	3,219 328	3,348 350	3,358 371	764 15	123 6	7 17	
<u>MANILA FIBER</u> (bales)	395,257	Purch. Deliv.	99,546 70,696	116,171 93,396	170 98	0 0	12,000 13,050	4,625 9,649	
<u>MERCURY</u> (flasks)	10,000	Purch. Deliv.	5,000 2,050	5,000 2,050	6,200 2,510	0 0	0 0	0 0	
<u>MICA</u> (thou. lbs.)	10,800	Purch. Deliv.	5,581 2,288	5,759 4,900	11,957 5,246	0 0	0 2,290	178 321	
<u>QUARTZ CRYSTALS</u> (lbs.)	702,000	Purch. Deliv.	99,270 52,469	99,270 52,469	748 52	0 1,797	0 0	0 0	
<u>QUININE SULPHATE</u> (thou. avdp. oz.)	6,400	Purch. Deliv.	7,200 6,485	7,200 6,600	7,200 6,600	0 0	0 115	0 0	
<u>RUBBER</u> (long tons)	517,000	Purch. Deliv.	262,685 206,002	417,405 221,849	445 231	39,667 9,304	82,106 13,027	72,614 2,820	
<u>TIN</u> (long tons)	159,400	Purch. Deliv.	100,420 42,285	105,420 46,720	105,420 46,870	2,136 1,318	5,000 3,060	0 1,375	
<u>TUNGSTEN</u> (short tons)	13,000	Purch. Deliv.	67,294 5,871	79,587 5,885	78,499 6,007	6,695 0	5,693 4	6,600 10	
			Estimated Total Cost						
			(thousand dollars)						
Total program			563,872	563,872	563,872	n.a.	0	0	
Purchases			469,866	568,040	P 587,840	56,343	53,150	45,024	
Purchases without excess			338,752	415,346	P 434,816	56,343	41,562	35,031	
Deliveries			173,369	191,084	P 197,100	811	11,283	6,432	
Deliveries without excess			173,318	190,963	P 196,979	811	11,212	6,432	

Table continued on following page. For footnotes see opposite page.

DEFENSE PROGRESS SERIES

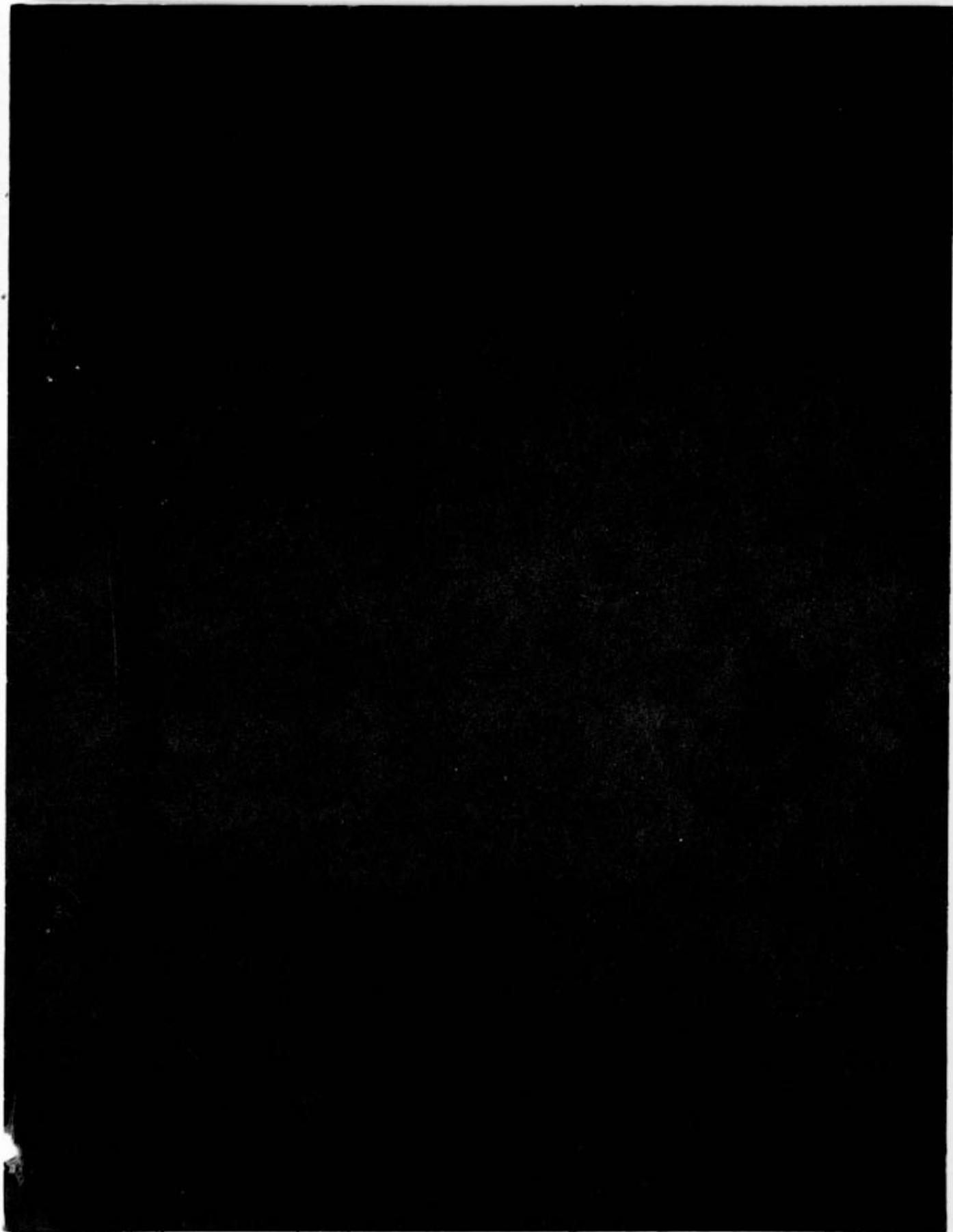
ECONOMIC ACTIVITY RELATED TO DEFENSE

	1940		1941			
	July	January	July	August	Week Ending	
					Sept. 6	Sept. 13
FED. RES. BD. PROD. INDEXES						
	(Indexes 1935-39=100)					
Total industrial production	122	140	161	P 161		P 161
Durable manufactures	136	171	200	P 202		P 205
Nondurable manufactures	112	123	138	P 137		P 136
Minerals	120	118	132	P 133		P 131
BUR. FOR. & DOM. COM. MFGS. ORDERS, SHIPMENTS, INVENTORIES						
	(Indexes)					
New orders, total (1/39=100)	127	176	P 226			
Shipments, total (1/39=100)	117	148	P 184			
Inventories, " (12/31/38=100)	109.2	120.8	P 131.2			
Durable (12/31/38=100)	111.9	129.7	P 141.0			
Nondurable (12/31/38=100)	106.4	111.2	P 120.6			
BLS PRICE INDEXES						
	(Indexes)					
Strategic materials(8/39=100)	123.6	126.1	140.3	141.6	141.8	141.7
Critical materials(8/39=100)	107.5	111.7	115.2	116.3	117.0	117.1
Basic commodities (8/39=100)	108.5	120.5	148.7	151.4	153.8	156.3
Machine tools (8/39=100)	108.7	114.6	119.0	119.2	n.a.	n.a.
All commodities (1926=100)	77.7	80.8	88.0	n.a.	91.0	91.6
BLS COST OF LIVING INDEX						
	(1935-39=100)					
	100.3	100.8	105.2			
TRANSPORTATION & ELECTRIC POWER						
	(Averages)					
Freight cars						
Loadings (thous. per wk.)	707	684	854	892	798	914
Unloads for export (dly.)	1,502	1,352	1,614	r 1,635	1,514	1,770
Surplus, total (thous.dly.)	133	110	62	47	48	
Box cars	57	43	25	19	20	
Coal cars	47	42	18	11	12	
Power prod. (mil.kwh.wkly.)	2,731	3,080	3,214	P 3,290	3,096	3,281
NATIONAL INCOME						
	(Billion dollars, annual rate)					
Total income payments	75.2	81.7	89.1			
FEDERAL DEBT						
	(Billion dollars, end of month)					
Net public debt	41.5	43.9	46.9	P 48.0		
AVERAGE HOURS WORKED PER WEEK^h						
	(Hours)					
Machine tools	47.5	50.4	50.9			
Aircraft	42.0	44.7	44.7			
Shipbuilding	39.3	41.8	44.3			
AVERAGE HOURLY EARNINGS^h						
	(Cents)					
Machine tools	76.8	79.6	84.1			
Aircraft	73.8	77.6	82.0			
Shipbuilding	86.2	89.7	101.6			

^r Revised data.

^P Preliminary data.
^h Bureau of Labor Statistics

n.a. Data not available.



DEFENSE PROGRESS



BUREAU OF RESEARCH AND
STATISTICS • STACY MAY, CHIEF

ECONOMIC ANALYSIS BRANCH
MORRIS A. COPELAND, CHIEF
LESTER S. KELLOGG,
ASSISTANT CHIEF & EDITOR

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BRIEFS OF CONTENTS

Page

- THE CURRENT MERCHANT SHIPBUILDING SCHEDULES call for production by 1943 of 10 million more tons than were produced in 1912-1918, the comparable period of World War I. 2

- BRITISH AND ALLIED MERCHANT SHIPPING LOSSES in the first two years of World War II were nearly three times as large as in the first two years of World War I. Half of the merchant shipping losses are caused by submarines; aircraft destruction is reported a third as great. 5

- DEFENSE PROGRESS SERIES. A new high in the monthly production rate of combat vehicles and ammunition was reached in August according to weighted indexes. Requests for additional defense funds submitted to Congress since August 16 are summarized. Labor disputes during August reached new highs since the start of the defense program. 8

SHIPBUILDING IN THE UNITED STATES

1912 - 1921 AND 1937 - 1943*

Present^a and scheduled production of steel sea-going vessels of 1,000 gross tons or more will, by the end of 1943, have resulted in an amount of steel shipping about equal, in deadweight tonnage,^b to that produced in the entire emergency construction period of World War I which ended in 1921. In terms of speed of output, the current vessel program will at the end of 1943 be three years, or more than ten million deadweight tons, ahead of construction as of 1919, the comparable year of the previous emergency construction effort.

In order to compare the size and speed of the comparable shipbuilding efforts in the present and preceding emergency programs, the years 1937 and 1912 were selected as base years. Each of these dates preceded the outbreak of hostilities in Europe in 1939 and 1914 by two full calendar years, and 1937 marked the first full calendar year of the Maritime Commission's long-range shipbuilding program. The earlier period

is carried through to 1921,^c thus including three years of post-war construction, in order to take into account the entire emergency construction program of that period, the greater part of which was actually delivered after the Armistice in 1918; the second period runs from 1937 to the end of 1943, which is as far as the present program has as yet been projected.

During the 10 years of Period I (1912 to 1921) the volume of steel sea-going ships of 1,000 gross tons or more constructed and delivered by American shipyards totaled 15.7 million deadweight tons. Approximately the same total deadweight tonnage of new vessels will have been completed under the present schedules and program by the end of 1943, the seventh year of Period II.

During the first seven years (1912 to 1918) of Period I, deliveries amounted to 5.1 million deadweight tons, as compared with the 15.7 million deadweight tons which

* Includes production under the Maritime Commission Program since 1937.

^b Deadweight tonnage has been used for this comparison as being the best available index to the cargo carrying capacity of the vessels. It makes no allowance for superior speed, or for larger cargo carrying capacity in relation to deadweight tonnage, of vessels constructed and scheduled under the

current program as compared with those of the preceding emergency program.

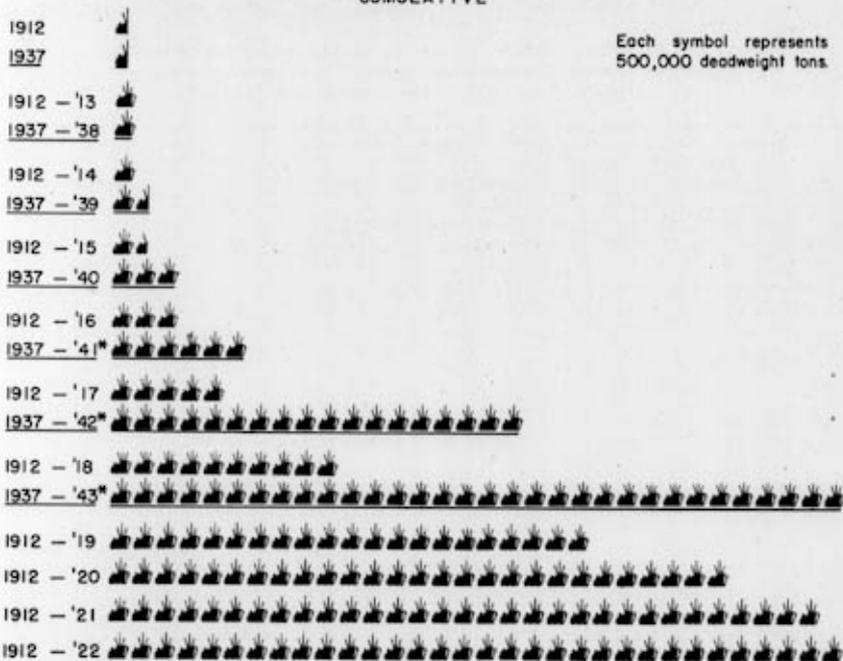
^c Actually three vessels were delivered for government account early in 1922, but to keep this comparison on a calendar year basis these few deliveries are not included in this discussion. They are, however, shown in the charts together with 16 vessels delivered for private account in 1922.

are scheduled for delivery during the same period of the present program.

Shipbuilding activity in the United States, as a result of the long-range program of the Maritime Commission, was much more advanced at the time of the outbreak of war in Europe in September 1939 than was the case in August 1914; and a more

rapid acceleration of output is to be seen in current and scheduled production in the present period. As the accompanying chart shows, delivered tonnage for the first three years of Period II (1937 to 1940) is 25 to 33-1/3 percent above the tonnage delivered in 1912 to 1915—the comparable years of Period I. Comparison of the fourth and fifth

U. S. SHIPBUILDING
1912-1922 AND 1937-1943
CUMULATIVE



* Projected from June 30, 1941.

years of each period shows production in the latter period almost double that of the corresponding years of the earlier period. In the sixth and seventh years of Period II (1942 and 1943) production will more than treble the sixth and seventh years (1917 and 1918) in Period I.

Production Beyond 1943

Since the present emergency ship-construction program is definitely scheduled only through 1943, it is possible to use only the first seven years of the present period for comparison with the earlier

period. Inasmuch, however, as the production scheduled for 1942 will exceed by 20 percent, and for 1943 by 40 percent, the actual output of the peak year, 1919, of Period I, it is evident that a continuation of the present accelerating construction effort beyond 1943 would result in a much larger total volume of construction than that actually delivered in the ten years 1912 to 1921.

The status of the shipbuilding schedule through 1943 is shown by program and by types of vessel in the following table.

ESTIMATED NUMBER AND TONNAGE OF MERCHANT VESSELS CONTRACTED FOR, COMMITTED AND AUTHORIZED IN THE UNITED STATES MARITIME COMMISSION PROGRAM TO BE DELIVERED BETWEEN JULY 1, 1941 AND DECEMBER 31, 1943

PERIOD	TYPE OF VESSEL	PROGRAM								TOTAL	
		REGULAR		EMERGENCY		DEFENSE AID		PRIVATE ACCOUNT			
		NO.	DWT TONS	NO.	DWT TONS	NO.	DWT TONS	NO.	DWT TONS	NO.	DWT TONS
1941 JULY 1-DEC. 31	TOTAL	42	408	16	169	12	122	15	215	85	914
	CARGO	32	294	16	169	12	122	2	16	62	601
	COMBINATION	7	67	0	0	0	0	0	0	7	67
	TANKER	3	47	0	0	0	0	13	199	16	246
1942 JAN. 1-DEC. 31	TOTAL	129	1,333	223	2,343	184	2,054	32	466	568	6,156
	CARGO	115	1,150	223	2,343	158	1,621	2	15	498	5,129
	COMBINATION	6	55	0	0	0	0	0	0	6	55
	TANKER	8	128	0	0	26	433	30	451	64	1,012
1943 JAN. 1-DEC. 31 AND LATER	TOTAL	135	1,395	379	3,979	80	1,313	20	274	614	6,961
	CARGO	133	1,377	379	3,979	19	301	5	37	536	5,694
	COMBINATION	2	18	0	0	0	0	0	0	2	18
	TANKER	0	0	0	0	61	1,012	15	237	76	1,249

* Prepared from material provided by the Maritime Commission.

MERCHANT SHIPPING LOSSES DURING WORLD WAR I AND II

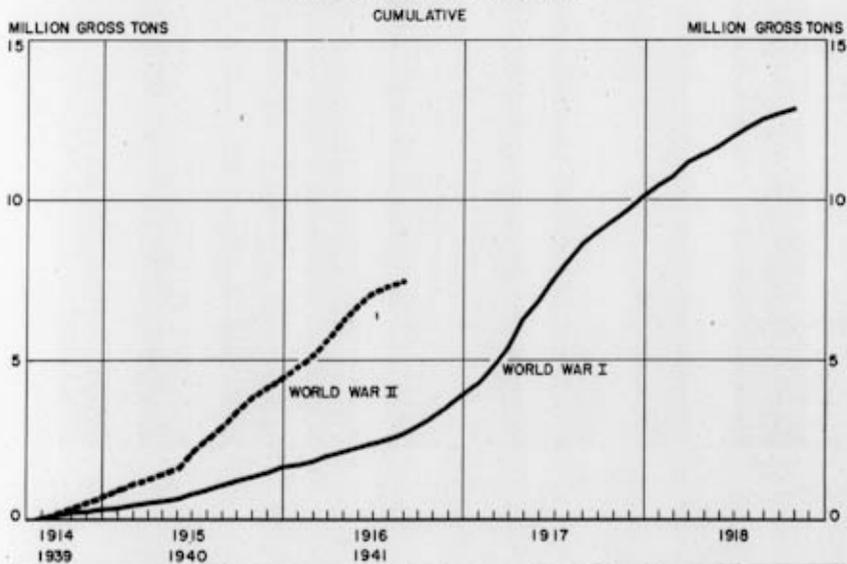
The reported merchant marine losses of the British, Allied and Neutral countries for July and August 1941 averaged 163,500 gross tons per month. United States and British construction is estimated to have exceeded the losses. This relatively low rate of loss during the past two months has been attributed to greater American aid in convoying and the diversion of Axis war activities to the Eastern front. September losses, however, are expected to be larger than those for July or August.

The accompanying chart shows

the cumulated British, Allied and Neutral losses for the first two years of World War II and World War I.

British, Allied and Neutral losses during the first two years of the present war totaled 7,442 thousand gross tons, which was nearly three times as great as their losses for the first two years of World War I, but nearly 2 million gross tons less than for the last two years of that war, which was the period of unrestricted submarine warfare. It was not until February 1917, a period of some 30 months after the be-

BRITISH AND ALLIES MERCHANT SHIPPING LOSSES DURING WORLD WARS I AND II

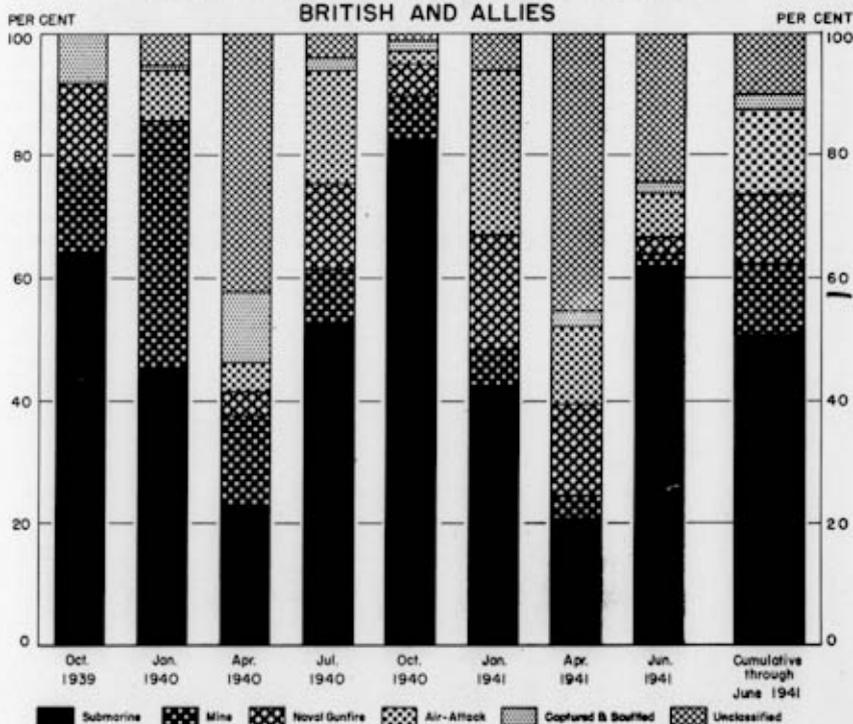


ginning of World War I, that the loss in shipping tonnage reached 400 thousand gross tons per month. This level of loss per month was exceeded within the first 10 months of World War II. The highest loss, so far in World War II, was 597 thousand gross tons in April 1941, the period of the retreat from Greece. This loss, however, was nearly 300 thousand gross tons less than the highest monthly loss of 881 thousand gross tons in April 1917. Shipping losses

have been greatly reduced since April 1941 and those for August were less than for October 1918, the last month of World War I.

In gross tonnage the British Merchant Marine is still estimated to be about 90 percent (some 14,850 thousand gross tons) as large as the 16,500 thousand gross tons at the beginning of the present war. With captures and transfers it is estimated that Britain still has control

MERCHANT MARINE WAR LOSSES BY CAUSES BRITISH AND ALLIES



of a greater gross tonnage of merchant shipping than at the beginning of the war. The comparative gross tonnage, however, does not give the relative carrying capacity of merchant ships because shipping is less effective, due to longer voyages, slow convoys, congested unloading facilities, and the shipping assigned to the armed forces.

The preceding chart, showing shipping losses by causes, indicates wide variations in each.

In spite of the greatly publicized bombing by air, the submarine is, by far, the most effective agent of destruction of ocean shipping. During the present war, the loss by submarine, although showing wide variations from month to month, accounts for about half of the total cumulative losses. If there is a seasonal pattern in destruction by submarines, the chart indicates that

October is the highest month and April the lowest. The cumulative loss by aircraft, the second highest cause, has been about one-third as large as the loss by submarine. Since January 1940 reported destruction by mines has greatly declined. The chart shows that nearly half of the reported losses for both April 1940 and 1941 are unclassified. It is impossible to ascertain whether the relationships between the kinds of losses would be revised if a complete determination of cause of unclassified losses were feasible.

If the losses of the British, Allied and Neutral Powers from all causes can be held at the level of May to August 1941, or at a rate of about 3,500 thousand tons annually, by the middle of 1942 the British shipping situation should be alleviated by the accelerated shipbuilding program of the United States.

DEFENSE PROGRESS SERIES

August Production Indexes

The indexes measuring production of defense equipment which have been presented in previous issues of Defense Progress have been extensively revised. These revisions involve:

- (a) extension of the indexes to include addition of series covering the production of guns and combat vehicles not previously included in the indexes,
- (b) addition of indexes measuring the production of ammunition, and
- (c) adoption of a new base for all indexes.

The revised base, which will be used for all index numbers dealing with production of munitions, is production during fiscal year 1942, i.e., actual production during July and August 1941 and scheduled production (on the basis of schedules which were in effect on August 1, 1941) from September 1, 1941 to June 30, 1942. The base for the weighted production rate index is average monthly production during the fiscal year and the base for the total production index is total production during this period.

The production rate and total production indexes for Army-type guns, ammunition, and combat vehicles are presented in the charts and tables on the following pages. Actual production through August, scheduled production from August 1941 to June 1942, and total produc-

tion requirements are shown on these charts. Several important facts to be kept in mind in examining these data are:

- (a) In comparing actual production with scheduled production during August, it must be recognized that the schedules are essentially manufacturers' estimates and at this stage are subject to frequent if not continuous revision.
- (b) The indicated peak monthly production rates, particularly in the case of the ammunition indexes, are only the peaks existing under current schedules; they do not represent production at capacity.

Contract Awards

Data on contract awards made by the Navy during the first half of September are now available and have been added to the series this week.

Certificates of Necessity

The total value of facilities for which Certificates of Necessity have been requested rose to \$1,842 million during August 1941. Data on the value of privately and publicly financed facilities which were approved during August and data on the value of facilities for which certificates are still pending approval are shown.

Labor Disputes

More strikes were in progress during August than in any month since the beginning of the defense program, according to data presented on the last page of the series. The numbers of men idle (290 thousand), and man-days lost (1,825 thousand), during August were higher than the two preceding months but did not equal the peaks of April and May 1941.

Pending Defense Legislation

Bills which would add over \$200 million to the defense program were proposed to Congress between August 16 and September 20, 1941. The bulk

of this sum, \$121 million, would augment the ordnance program of the Navy Department. The totals involved and agencies concerned are shown in the following table.

PENDING LEGISLATION

Agency Involved	Date Introduced	Amount Proposed (Million dollars)
TOTAL		223
Coast Guard	Aug. 16	19
TVA	Sept. 15	40
Coast Guard	Sept. 18	26
OEM	Sept. 20	17
Navy	Sept. 20	121

UNITED STATES ARMED FORCES

	1940		1941			
	June 30	Dec. 31	March 31	June 30	Aug. 31	Sept. 30
	(Thousand men)					
<u>ARMED FORCES ON ACTIVE DUTY</u>						
TOTAL	452	877	P 1,324	1,775	1,929	P 1,974
<u>ARMY - TOTAL</u>	266	619	P 1,031	1,448	1,576	P 1,603
Regular	263	424	P 466	509	534	P 536
Nat'l. Guard in Fed. Serv.	-	156	P 222	288	279	P 278
Reserve Officers	3	22	P 38	55	67	P 74
Selective Service Trainees	-	17	P 305	596	696	P 715
<u>NAVY & MARINE CORPS - TOTAL</u>	186	258	293	327	353	P 371
<u>NAVY - TOTAL</u>	158	210	242	273	293	P 309
Regular	151	185	207	220	231	P 236
Reserve	7	25	35	53	62	P 73
<u>MARINE CORPS - TOTAL</u>	28	48	51	54	60	P 62
Regular	28	41	40	43	47	P 49
Reserve	.4	7	11	11	13	P 13

P Preliminary estimate.

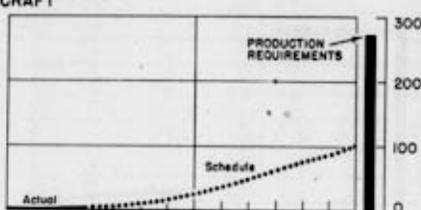
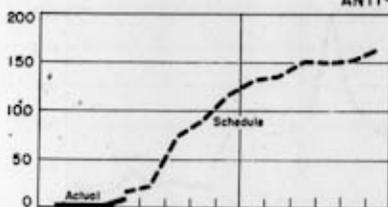
n.a. Not available.

CHART 3 - AMMUNITION

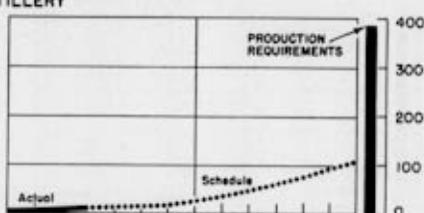
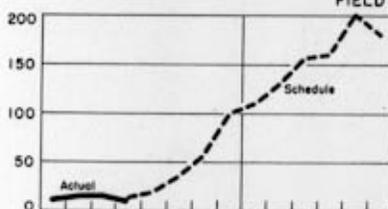
PRODUCTION RATE INDEX
AVERAGE MONTHLY PRODUCTION FY '42 = 100

TOTAL PRODUCTION INDEX
TOTAL PRODUCTION FY '42 = 100

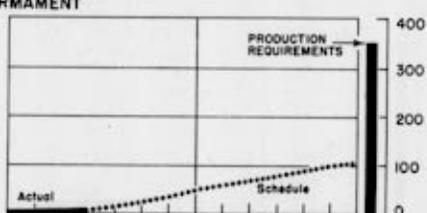
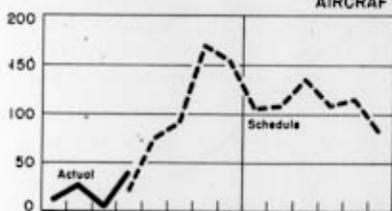
ANTI - AIRCRAFT



FIELD ARTILLERY



AIRCRAFT ARMAMENT



SMALL ARMS

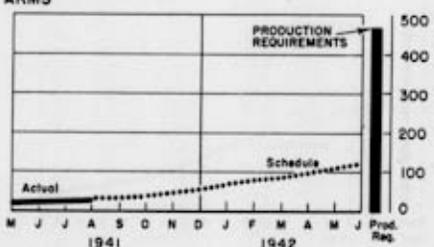
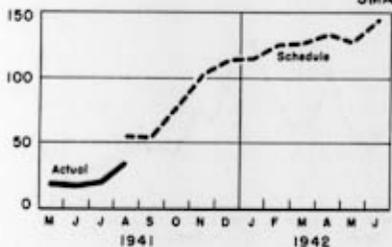
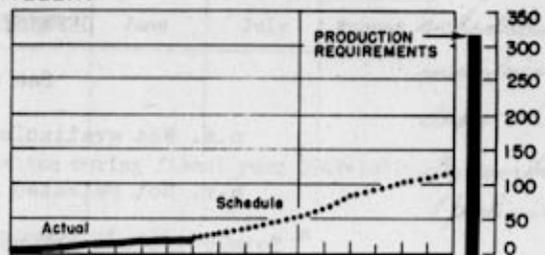
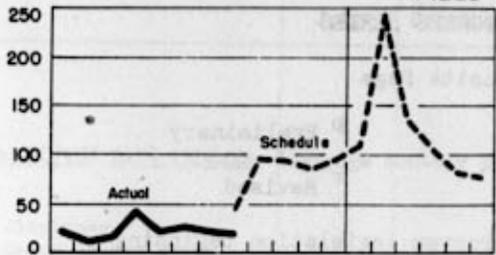


CHART 4 - ARMY TYPE GUNS

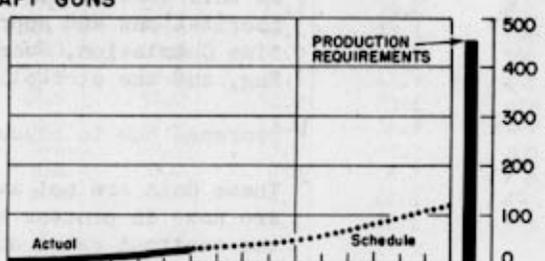
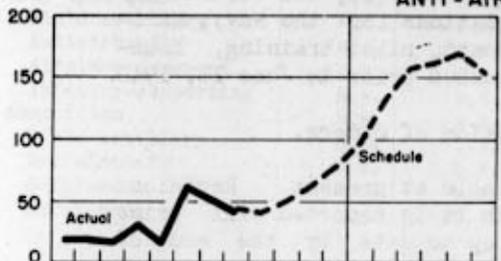
PRODUCTION RATE INDEX
AVERAGE MONTHLY PRODUCTION F.Y. '42 = 100

TOTAL PRODUCTION INDEX
TOTAL PRODUCTION F.Y. '42 = 100

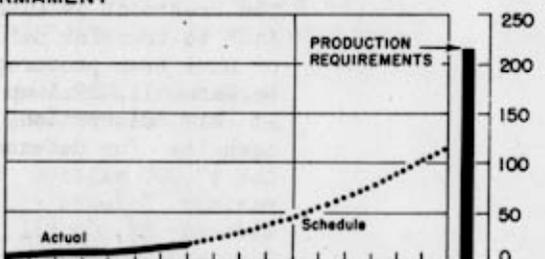
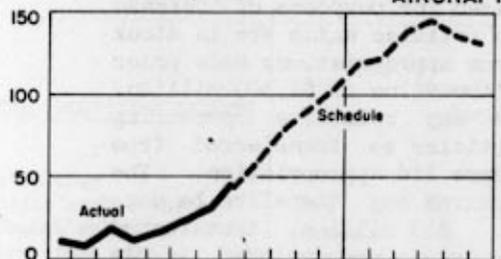
FIELD ARTILLERY



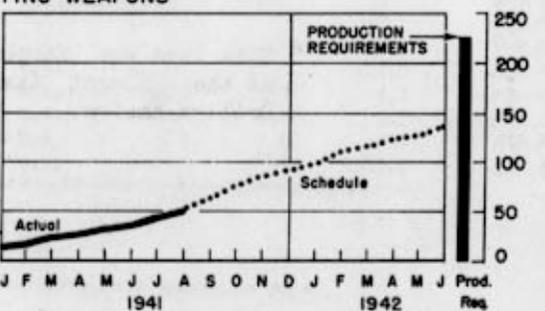
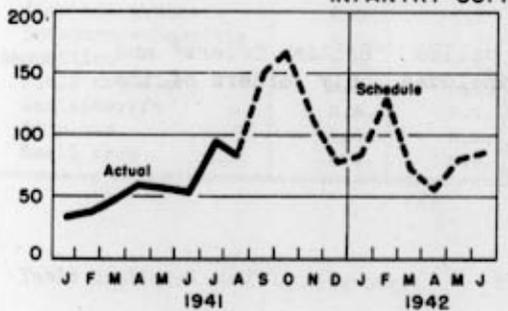
ANTI-AIRCRAFT GUNS



AIRCRAFT ARMAMENT



INFANTRY SUPPORTING WEAPONS



CONFIDENTIAL

CHART 4 - ARMY TYPE GUNS

PRODUCTION RATE INDEX

TOTAL PRODUCTION INDEX

FOOTNOTES

DEFENSE PROGRESS SERIES

See Opposite Page

n.a. Not available

P Preliminary

n.r. Not released

R Revised

- ^a Totals include defense program legislation beginning with June 11, 1940; British orders and disbursements in this country since November 1939; and certain authorizations and appropriations for the Navy, Maritime Commission, Coast Guard, pilot training, housing, and the stockpile passed prior to June 11, 1940.
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DEFENSE PROGRESS SERIES

DEFENSE EQUIPMENT INDEXES

	1940		1941				<i>If August schedules are maintained indexes should be December 1941 (preliminary)</i>
	July	December	March	June	July	August	
<u>PRODUCTION RATE INDEXES</u>	(Average monthly production during fiscal year 1942=100)						
Airplanes			(In process of revision)				
Major combat ships			(In process of revision)				
Combat vehicles	n.a.	n.a.	10.8	30.5	54.0	60.2	129.4
Army-type guns	n.a.	n.a.	29.6	40.3	57.2	56.4	87.3
Field artillery	n.a.	n.a.	15.3	26.5	20.4	19.4	95.8
Antiaircraft	n.a.	n.a.	16.1	60.9	50.9	41.9	78.0
Airplane armament	n.a.	n.a.	18.8	23.1	30.5	45.9	102.4
Infantry-supporting	n.a.	n.a.	48.9	52.0	94.9	83.4	75.9
Ammunition	n.a.	n.a.	n.a.	13.0	13.6	18.8	109.8
Field artillery	n.a.	n.a.	n.a.	14.9	15.7	9.7	99.9
Antiaircraft	n.a.	n.a.	n.a.	0.0	0.0	8.7	116.3
Airplane	n.a.	n.a.	n.a.	26.9	4.5	42.4	154.6
Small arms	n.a.	n.a.	n.a.	16.9	19.4	32.4	113.6
	July 31	Dec. 31	March 31	June 30	July 31	Aug. 31	
<u>TOTAL PRODUCTION INDEXES</u>	(Cumulated since 7/40. Production during fiscal year 1942=100)						
Airplanes			(In process of revision)				
Major combat ships			(In process of revision)				
Combat vehicles	n.a.	3.5	6.1	12.3	16.8	21.8	58.1
Army-type guns	n.a.	7.2	13.1	22.2	27.0	31.7	64.5
Field artillery	n.a.	3.0	7.1	14.8	16.5	18.1	51.7
Antiaircraft	n.a.	5.0	9.3	18.0	22.2	25.7	45.2
Airplane armament	n.a.	4.2	7.4	11.7	14.3	18.1	45.8
Infantry-supporting	n.a.	11.9	21.6	35.5	43.4	50.3	92.8
Ammunition	n.a.	n.a.	n.a.	10.9	11.9	13.5	38.3
Field artillery	n.a.	n.a.	n.a.	7.4	8.7	9.5	27.0
Antiaircraft	n.a.	n.a.	n.a.	0.6	0.6	1.3	27.1
Airplane	n.a.	n.a.	n.a.	5.4	5.8	9.4	50.8
Small arms	n.a.	n.a.	n.a.	20.8	22.4	25.1	55.8

Table continued on following page.

For footnotes see opposite page.

FOOTNOTES

DEFENSE PROGRESS SERIES

See Opposite Page

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DEFENSE PROGRESS SERIES

TOTAL UNITED STATES DEFENSE PROGRAM

	Cumulative 6/11/40 through ^a			Monthly		
	End 1st full year 6/30/41	1 month ago 8/31/41	1st half, current mo. 9/15/41	1 year ago 8/40	1 month ago 7/41	Latest month 8/41
FINANCIAL PROGRAM (Million dollars)						
PROGRAM - TOTAL	49,879	P 60,210	P 60,210	171	2,603	P 7,728
U. S. contractual	41,394	P 51,157	P 51,157	0	2,251	P 7,532
U. S. pay, subs., trav., misc.	4,835	P 5,379	P 5,379	0	361	P 183
Foreign orders in U. S. *	3,670	P 3,674	P 3,674	171	b -9	P 13
CONTRACTS - TOTAL	28,239	c	c	515	c	c
United States	23,019	c	c	262	c	c
U. S. pay, subs., trav., misc.-paid	1,550	P 1,992	P 2,128	82	P 212	P 230
Foreign orders in U. S. *	3,670	P 3,674	P 3,674	171	b -9	P 13
CASH DISBURSEMENTS - TOTAL	9,115	P 11,440	P 12,038	435	P 1,115	P 1,210
U. S. contractual	5,490	P 7,195	n.a.	153	P 817	P 888
U. S. pay, subs., trav., misc.	1,550	P 1,992	P 2,128	82	P 212	P 230
Foreign orders in U. S. *	2,075	P 2,253	n.a.	200	P 86	P 92
O B J E C T S						
TOTAL MUNITIONS						
Program	28,847	P 35,503	P 35,503	49	P 2,147	P 4,509
Contracts	17,760	c	c	169	c	c
Cash disbursements	3,508	P 4,420	P 4,650	206	P 425	P 487
AIRPLANES, ENGINES, ETC.						
Program	11,729	P 12,519	P 12,519	b 29	495	P 295
Contracts	6,829	c	c	-57	c	c
Cash disbursements	1,467	P 1,780	P 1,860	100	151	P 162
NAVAL SHIPS AND PARTS						
Program	6,796	P 8,154	P 8,154	0	978	P 380
Contracts	5,000	r 5,759	5,804	13	174	456
Cash disbursements	693	P 935	P 995	32	P 112	P 130
ORDNANCE (INCL. NAVAL ORDNANCE)						
Program	8,226	P 11,938	11,938	20	577	P 3,135
Contracts	4,978	c	c	139	c	c
Cash disbursements	936	P 1,190	P 1,260	49	P 114	P 140
OTHER MUNITIONS						
Program	2,096	P 2,892	P 2,892	0	97	P 699
Contracts	953	c	c	74	c	c
Cash disbursements	412	P 515	P 535	25	P 48	P 55

Table continued on following page. For footnotes see opposite page.

FOOTNOTES

DEFENSE PROGRESS SERIES

See Opposite Page

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DEFENSE PROGRESS SERIES

TOTAL UNITED STATES DEFENSE PROGRAM (Continued)

	Cumulative 6/11/40 through ^a			Monthly		
	End let full year 6/30/41	1 month ago 8/31/41	1st half, current mo. 9/15/41	1 year ago 8/40	1 month ago 7/41	Latest month 8/41
<u>MERCHANT SHIPS</u>						
	(Million Dollars)					
Program	1,605	P 3,358	P 3,358	1	54	P 1,699
Contracts	1,462	c	c	1	c	c
Cash disbursements	252	P 340	P 360	22	P 43	P 45
<u>INDUSTRIAL FACIL.,-CONS., EQUIP., & REAL ESTATE</u>						
Program	5,887	P 6,009	P 6,009	25	-93	P 215
Contracts	2,761	3,783	n.a.	30	532	490
Cash disbursements	824	P 1,180	P 1,280	26	P 171	P 185
<u>INDUSTRIAL FACIL.,-CONSTRUCTION ONLY</u>						
Program	1,607	P 2,035	P 2,035	n.a.	350	r 70
Value in place	599	r 909	P 1,006	n.a.	161	r 184
<u>POSTS, DEPOTS & FORTIFICATIONS</u>						
Program	3,638	P 4,181	P 4,181	0	61	P 482
Contracts	2,212	c	c	54	c	c
Cash disbursements	1,448	P 1,675	P 1,730	32	P 112	P 115
<u>HOUSING</u>						
Program	452	P 602	P 602	0	150	0
Contracts	275	334	354	0	39	20
Cash disbursements	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<u>STOCKFILES</u>						
Program	983	P 1,181	P 1,181	0	85	P 113
Contracts	470	568	P 588	63	53	45
Cash disbursements	180	P 235	P 250	4	P 31	P 24
<u>OTHER EQUIPMENT & SUPPLIES</u>						
Program	3,632	P 3,997	P 3,997	96	-162	P 527
Contracts	1,749	c	c	116	c	c
Cash disbursements	1,339	P 1,580	P 1,640	62	P 119	P 122
<u>PAY - DEFENSE AGENCIES</u>						
Total - Program	2,808	2,997	2,997	0	50	139
Cash disbursements	1,192	P 1,495	P 1,580	65	P 146	P 157
Army - Program	1,926	1,926	1,926	0	0	0
Cash disbursements	523	P 679	P 725	22	P 73	P 83
Navy & Mar. Corps - Program	737	883	883	0	7	139
Cash disbursements	312	P 372	P 387	22	P 30	P 30

Table continued on following page. For footnotes see opposite page.

CONFIDENTIAL

DEFENSE PROGRESS SERIES

FOOTNOTES

DEFENSE PROGRESS SERIES

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DEFENSE PROGRESS SERIES

TOTAL UNITED STATES DEFENSE PROGRAM (Continued)

	Cumulative 6/11/40 through ^a			Monthly		
	End 1st full year 6/30/41	1 month ago 8/31/41	1st half, current mo. 9/15/41	1 year ago 8/40	1 month ago 7/41	Latest month 8/41
PAY - DEFENSE AGENCIES (CONT.)						
	(Million dollars)					
Civilian employees - Program	145	188	188	0	43	0
Cash disbursements	357	P 444	P 468	21	P 43	P 44
SUBSISTENCE AND TRAVEL						
Program	703	704	704	0	1	0
Cash disbursements	247	P 340	P 365	13	P 43	P 50
MISCELLANEOUS						
Program (commitments)	1,324	P 1,678	P 1,678	0	310	P 44
Cash disbursements	125	P 175	P 183	5	P 25	P 25
A G E N C I E S						
U. S. MILITARY						
TOTAL						
Program - Total	33,871	41,585	41,585	0	1,889	5,825
Contractual	30,297	37,842	37,842	0	1,880	5,665
Pay, subs., trav., misc.	3,574	3,743	3,743	0	9	160
Contracts	18,495	c	c	199	c	c
Cash disbursements - Total	6,183	P 7,922	n.a.	212	P 826	P 913
Contractual	4,804	n.a.	n.a.	136	n.a.	n.a.
Pay, subs., trav., misc.	1,379	n.a.	n.a.	76	n.a.	n.a.
ARMY						
Program - Total	20,346	24,607	24,607	0	6	4,255
Contractual	17,639	21,900	21,900	0	6	4,255
Pay, subs., trav., misc.	2,707	2,707	2,707	0	0	0
Contracts	9,050	c	c	124	c	c
Cash disbursements - Total	3,862	P 4,870	n.a.	97	P 494	P 514
Contractual	2,954	n.a.	n.a.	53	n.a.	n.a.
Pay, subs., trav., misc.	908	n.a.	n.a.	44	n.a.	n.a.
NAVY						
Program - Total	13,525	16,978	16,978	0	1,883	1,570
Contractual	12,658	15,942	15,942	0	1,874	1,410
Pay, subs., trav., misc.	867	1,036	1,036	0	9	160
Contracts	9,445	P 11,269	11,508	75	P 814	P 1,010
Cash disbursements - Total	2,321	P 3,052	n.a.	115	P 332	399
Contractual	1,850	n.a.	n.a.	83	n.a.	n.a.
Pay, subs., trav., misc.	471	n.a.	n.a.	32	n.a.	n.a.

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DEFENSE PROGRESS SERIES

FOOTNOTES

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DEFENSE PROGRESS SERIES

TOTAL UNITED STATES DEFENSE PROGRAM (Continued)

	Cumulative 6/11/40 through ^a			Monthly		
	End 1st full year 6/30/41	1 month ago 8/31/41	1st half, current mo. 9/15/41	1 year ago 8/40	1 month ago 7/41	Latest month 8/41
DEFENSE AID (LEND-LEASE)						
	(Million dollars)					
Program ^d	7,000	7,000	7,000	0	0	0
Allocations	5,177	6,294	6,391	-	166	951
Contracts	2,430	3,569	n.a.	-	612	499
Cash disbursements	26	P 150	n.a.	0	53	P 71
MARITIME COMMISSION						
Program	795	2,494	2,494	0	0	1,699
Contracts	835	c	c	n.a.	c	c
Cash disbursements	164	P 215	n.a.	13	P 24	P 27
R.F.C. AND SUBSIDIARIES						
Program	2,808	3,240	3,240	0	253	179
Contracts	924	c	c	55	c	c
Cash disbursements	333	P 465	n.a.	3	P 77	P 55
FOREIGN ORDERS IN U. S.^e						
Program	3,670	P 3,674	P 3,674	171	b -9	P 13
Contracts	3,670	P 3,674	P 3,674	171	b -9	P 13
Cash disbursements	2,075	P 2,253	n.a.	200	86	P 92
OTHER AGENCIES						
Program	1,735	2,217	2,217	0	470	12
Contracts	335	c	c	8	c	c
Cash disbursements	334	P 435	n.a.	7	P 49	P 52
OTHER DEFENSE INDICATORS						
VALUE OF FACIL. ON APPLIC. FOR CERT. OF NECESSITY (Million dollars)						
Total	1,424	1,842	n.a.	-	140	322
Approved, private funds	829	942	n.a.	-	70	43
Approved, public funds	201	221	n.a.	-	16	4
Pending	387	679	n.a.	-	61	275
DEFENSE HOUSING (Number of dwelling units)						
Fund allocations	110,298	125,390	125,390	5,925	13,135	1,957
Cons. contracts awarded	78,820	94,993	100,011	1,162	10,403	5,770
Construction completed	21,768	39,038	41,384	0	9,531	7,739

Table continued on following page. For footnotes see opposite page.

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DEFENSE PROGRESS SERIES

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^r Revised

^a Totals include defense program legislation beginning with June 11, 1940; British orders and disbursements in this country since November 1939; and certain authorizations and appropriations for the Navy, Maritime Commission, Coast Guard, pilot training, housing, and the stockpile passed prior to June 11, 1940.

^b Decrease due to cancellation of orders.

^c These data are not available at present. Revisions are now in process which it is reported will bring the contract award data up to date by the end of September 1941.

^d The President is authorized for purposes of "Defense Aid" to transfer defense articles which are in stock or have been procured from appropriations made prior to March 11, 1941 up to the value of \$1,300 million. At his discretion, he may reimburse procuring agencies for defense articles so transferred from the \$7,000 million Defense Aid appropriation. The maximum Defense Aid program may therefore be considered \$8,300 million. \$13 million, transferred for this purpose during July, are included in the data in Defense Aid allocations, contracts, and cash disbursements.

^e This item was formerly called "British Orders" and at the present time includes only orders of the British Empire.

CONFIDENTIAL

DEFENSE PROGRESS SERIES

Commodity and Units	Two Year Program	Status	STOCKPILE					
			Cumulative 6/11/40 through ^a			Monthly		
			End 1st full year 6/30/41	1 month ago 8/31/41	1st half, current mo. 9/15/41	1 year ago 8/40	1 month ago 7/41	Last month 8/41
<u>ANTIMONY</u> (short tons)	18,000	Purch. Deliv.	29,637 7,295	29,637 8,166	29,637 8,264	6,250 0	0 501	0 370
<u>CHROME ORE</u> (thou. long tons)	1,300	Purch. Deliv.	647 173	737 194	741 221	46 6	32 19	58 2
<u>INDUS. DIAMONDS</u> (thous. carats)	2,000	Purch. Deliv.	771 4	717 615	739 639	0 0	0 5	4 605
<u>MANGANESE</u> (thou. long tons)	1,800	Purch. Deliv.	3,219 328	3,348 350	3,358 371	764 15	123 6	7 17
<u>MANTLA FIBER</u> (bales)	395,257	Purch. Deliv.	99,546 70,696	116,171 93,396	170 98	0 0	12,000 13,050	4,625 9,649
<u>MERCURY</u> (flasks)	10,000	Purch. Deliv.	5,000 2,050	5,000 2,050	6,200 2,510	0 0	0 0	0 0
<u>MICA</u> (thou. lbs.)	10,800	Purch. Deliv.	5,581 2,288	5,759 4,900	11,957 5,246	0 0	0 2,290	178 321
<u>QUARTZ CRYSTALS</u> (lbs.)	702,000	Purch. Deliv.	99,270 52,469	99,270 52,469	748 52	0 1,797	0 0	0 0
<u>QUININE SULPHATE</u> (thou. avdp. oz.)	6,400	Purch. Deliv.	7,200 6,485	7,200 6,600	7,200 6,600	0 0	0 115	0 0
<u>RUBBER</u> (long tons)	517,000	Purch. Deliv.	262,685 206,002	417,405 221,849	445 231	39,667 9,304	82,106 13,027	72,614 2,820
<u>TIN</u> (long tons)	159,400	Purch. Deliv.	100,420 42,285	105,420 46,720	105,420 46,870	2,136 1,318	5,000 3,060	0 1,375
<u>TUNGSTEN</u> (short tons)	13,000	Purch. Deliv.	67,294 5,871	79,587 5,885	78,499 6,007	6,695 0	5,693 4	6,600 10
			Estimated Total Cost					
			(thousand dollars)					
Total program			563,872	563,872	563,872	n.a.	0	0
Purchases			469,866	568,040	587,840	56,343	53,150	45,024
Purchases without excess			338,752	415,346	434,816	56,343	41,562	35,031
Deliveries			173,369	191,084	197,100	811	11,283	6,432
Deliveries without excess			173,318	190,963	196,979	811	11,212	6,432

Table continued on following page. For footnotes see opposite page.

DEFENSE PROGRESS SERIES

ECONOMIC ACTIVITY RELATED TO DEFENSE

	1940		1941			
	July	January	July	August	Week Ending	
					Sept. 13	Sept. 20
FED. RES. BD. PROD. INDEXES						
			(Indexes 1935-39=100)			
Total industrial production	122	140	161	P 161		Sept. Est. P 161
Durable manufactures	136	171	200	P 202		P 205
Nondurable manufactures	112	123	138	P 137		P 136
Minerals	120	118	132	P 133		P 131
BUR. FOR. & DOM. COM. MFGS.						
ORDERS, SHIPMENTS, INVENTORIES						
			(Indexes)			
New orders, total (1/39=100)	127	176	r 212			
Shipments, total (1/39=100)	117	148	r 185			
Inventories, " (12/31/38=100)	109.2	120.8	P 131.2			
Durable (12/31/38=100)	111.9	129.7	r 140.8			
Nondurable (12/31/38=100)	106.4	111.2	r 120.8			
BLS PRICE INDEXES						
			(Indexes)			
Strategic materials(8/39=100)	123.6	126.1	140.3	141.6	141.7	141.7
Critical materials(8/39=100)	107.5	111.7	115.2	116.3	117.1	117.1
Basic commodities (8/39=100)	108.5	120.5	148.7	151.4	156.3	156.3
Machine tools (8/39=100)	108.7	114.6	119.0	119.2	n.a.	n.a.
All commodities (1926=100)	77.7	80.8	88.0	90.3	91.6	91.5
BLS COST OF LIVING INDEX						
	100.3	100.8	(1935-39=100)			
			105.2	106.0		
TRANSPORTATION & ELECTRIC POWER						
			(Averages)			
Freight cars						
Loadings (thous. per wk.)	707	684	854	892	914	908
Unloads for export (dly.)	1,502	1,352	1,614	1,635	1,770	1,607
Surplus, total(thous.dly.)	133	110	62	47	44	
Box cars	57	43	25	19	18	
Coal cars	47	42	18	11	10	
Power prod. (mil.kwh.wkly.)	2,731	3,080	3,214	r 3,395	3,281	3,232
NATIONAL INCOME						
			(Billion dollars, annual rate)			
Total income payments	75.2	81.7	89.1			
FEDERAL DEBT						
			(Billion dollars, end of month)			
Net public debt	41.5	43.9	46.9	48.0		
EMPLOYMENT						
			(Thousand workers)			
Total civil nonagricultural	35,454	36,621	39,241	P 39,500		
Total WPA employment	1,655	1,890	1,055	1,042	1,037	1,035
Defense						
Private, 18 major indus.	1,660	2,036	2,523	2,589		
" contractors, pub.constr.	13	448	412			
Public	155	203	231			
Total direct defense	1,828	2,687	3,166			
Deep-sea merchant vessels	51	49	50	51		
UNEMPLOYMENT (WPA Estimate)						
			(Million workers)			
Number of unemployed	9.3	7.6	5.6	5.3		

r Revised data.

P Preliminary data.

n.a. Data not available.

Table concluded on following page.

DEFENSE PROGRESS SERIES

ECONOMIC ACTIVITY RELATED TO DEFENSE

	1940		1941			
	July	January	July	August	Week Ending	
					Sept. 13	Sept. 20
LABOR DISPUTES			(Monthly figures)			
PLANTS WITH IMPORTANT DEFENSE CONTRACTS						
Number strikes in progress	n.a.	13	15	19		
Workers involved (thous.)	n.a.	26	P 13	P 35		
Man-days idle (thous.)	n.a.	146	P 160	P 340		
ALL INDUSTRIES						
Number strikes in progress	390	330	P 700	P 740		
Workers involved (thous.)	83	109	P 235	P 290		
Man-days idle (thous.)	529	665	P 1,300	P 1,825		

F Revised data.

P Preliminary data.

n.a. Data not available.

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DEFENSE PROGRESS

Will you please substitute the attached
sheet for Page 18, Issue 57 of Defense Pro-
gress, September 26, 1941.

DEFENSE PROGRESS SERIES

STOCKPILE								
Commodity and Units	Two Year Program	Status	Cumulative 6/11/40 through ^a			Monthly		
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<u>MERCURY</u> (flasks)	10,000	Purch. Deliv.	5,000 2,050	5,000 2,050	6,200 2,510	0 0	0 0	0 0
<u>MICA</u> (thou. lbs.)	10,800	Purch. Deliv.	5,581 2,288	5,759 4,900	11,957 5,246	0 0	0 2,290	178 321
<u>QUARTZ CRYSTALS</u> (lbs.)	702,000	Purch. Deliv.	99,270 52,469	99,270 52,469	748,000 52,000	0 1,797	0 0	0 0
<u>QUININE SULPHATE</u> (thou. avdp. oz.)	6,400	Purch. Deliv.	7,200 6,485	7,200 6,600	7,200 6,600	0 0	0 115	0 0
<u>RUBBER</u> (long tons)	517,000	Purch. Deliv.	262,685 206,002	417,405 221,849	445,000 231,000	39,667 9,304	82,106 13,027	72,614 2,820
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(thousand dollars)								
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