

PRESIDENT'S SECRETARY'S FILE
Subject File
War Production Board: "War
Progress": 10/23/42-1/1/43
Box 172

MOUNTING DEMANDS FOR SEAMEN

NEW MERCHANT SHIPS are coming off the ways fast. If estimates are met, new personnel needed to man them will mount to 90,000 by the end of next year. Crew requirements will step up as follows (figures are cumulative):

1942:	
Dec. 31.....	18,500
1943:	
Mar. 31.....	34,000
June 30.....	50,000
Sep. 30.....	65,000
Dec. 31.....	90,000

About 20% of the new men must be technically skilled—engineers, deck officers and radio operators. Another 20%—boatswains, carpenters, etc.—must also be men of special skills.

--and the war accentuated the trend in several ways. Seamen were attracted to higher-paying industries; large numbers actually quit ship crews to help build more merchant ships, as well as guns.

Meanwhile, the war at sea sharply increased the strain on ships and crews. The average duration of each voyage was considerably lengthened. Also, sinkings caused heavy losses of crew. On the average, 25% of the crew is lost, injured, or missing when a ship is torpedoed. And oftentimes survivors are stranded in remote ports.

SEAMEN'S PAY DOUBLED

There was no short answer to the marine manpower problem such as, for example, a general raise in pay. Under war conditions, the income of American seamen had already been jacked up about 100%, including bonuses. Prewar jobs for ordinary seamen at \$100 a month now

pay about \$200; a captain who made \$450 now draws about \$900, and a Diesel engineer draws about \$1,000 a month today, as against \$500 formerly.

Nor would job freezing supply the solution, though it might have helped staunch the outflow of merchant marine labor. To meet expanding requirements, new sources of manpower had to be tapped.

OLD HANDS RETURN

The problem was met by (1) winning back men who had quit the sea for other occupations, and (2) training new men for the ships coming off the ways. To do this, WSA resorted to some innovations to improve the morale of seamen.

One of the first things done (pay having already been raised) was to encourage a policy of promotion from within—point the way for a qualified man to pass from an oiler's rating to third assistant engineer, or from mate to skipper. Then a recasting of port facilities for seamen was initiated—shore hospitals, medical service, rest homes and clubs were installed and improved, both at home and abroad.

PAID WHILE WAITING

Standby pay (about 75% of basic pay) plus subsistence allowance of about \$4 per day was instituted to support highly skilled and scarce personnel while on the waiting list. These reserve pools are designed to maintain a 30-day supply of men on hand by keeping them from drifting away when they cannot get an outgoing ship at once. An orderly system for repatriating torpedoed seamen stranded abroad was also instituted. In this past week, for example, 500 such men were brought back in a single batch, and 200 in another.

And finally, the merchant marine was given a psychological uplift. A comprehensive publicity campaign, employ-

Lend-Lease Reaches Another High

October exports - up 18% - go to bulwark drive on Rommel, and to United Nations bases in South Africa, India, and the Pacific. Russian shipments shift.

LEND-LEASE EXPORTS rose to a new peak--\$536,000,000--in October, up 18% over September. It was the fifth successive month of gains.

Military shipments continued to account for about half the total. Supplies to British forces in Egypt--which have tripled since January--were at a new high of \$61,000,000, up 30% over April's \$46,000,000.

CARGOES FOR ROMMEL

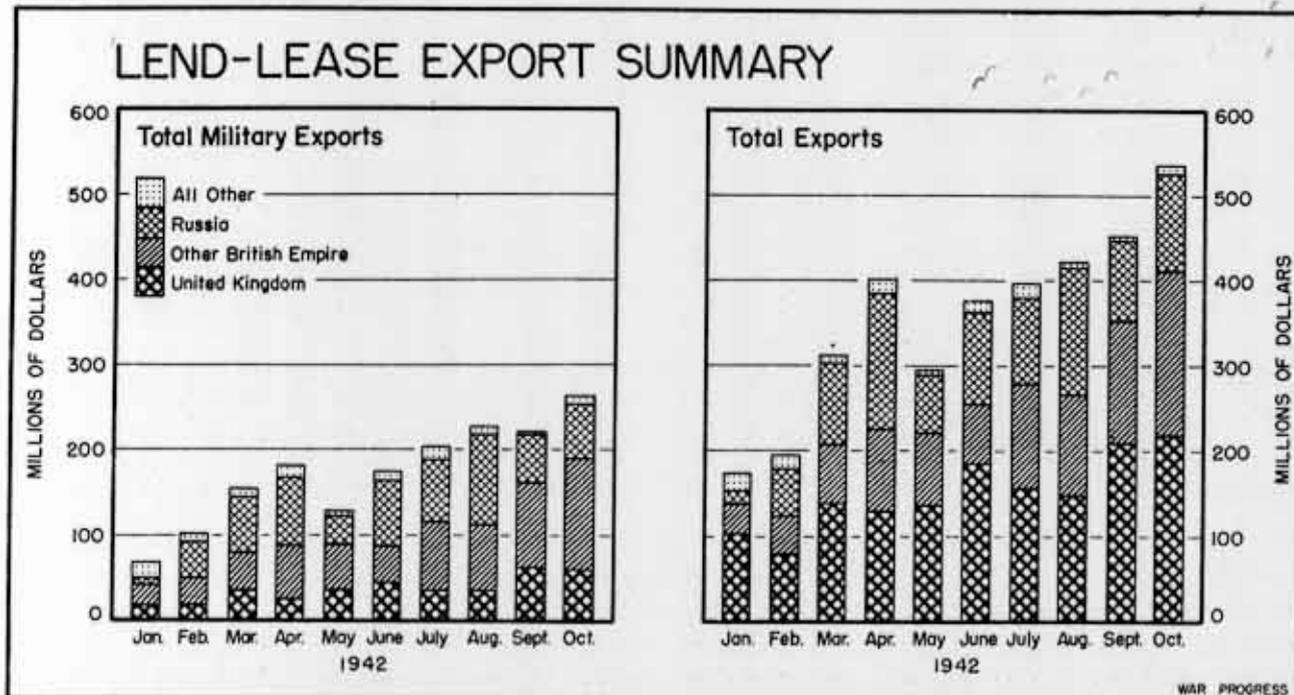
October cargoes destined for Egypt read like the Army's Table of Basic Allowances. They comprised foodstuffs, planes, tanks, artillery, trucks, scout cars, ammunition, gasoline and lubricating oil, aircraft bombs, road building and railway equipment (including 6 locomotives and 660 freight cars), sup-

plies for tank repair stations; also hospital supplies--vaccines, serums, drugs, and so on.

Shipments to the Union of South Africa, where British forces are in training, rose 285%--from \$4,000,000 to \$15,400,000. The cargoes consisted largely of trainer planes, naval and other guns, various types of ammunition, and ferrous and nonferrous metals.

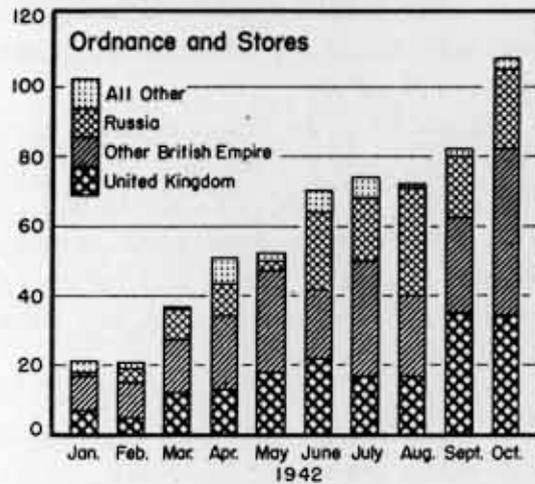
Exports to other strategic military areas--India and Australia and New Zealand--also were up. As usual, however, the major portion of lend-lease supplies went to the United Kingdom and Russia, as the following table shows:

	Oct.	Sept.	Change
	(in millions)		
United Kingdom..	\$217.3	\$208.3	+ 4%
Russia.....	113.4	96.2	+ 18
Egypt (British).	60.9	45.9	+ 30
India (British).	39.6	37.9	+ 4
Australia & New Zealand.....	40.4	26.3	+ 40

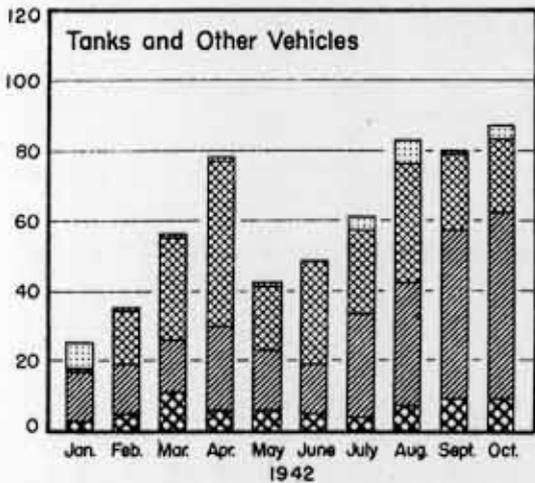
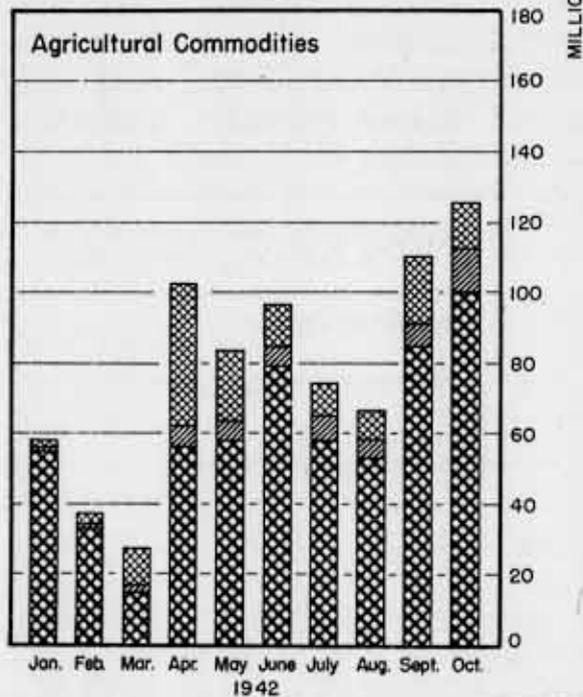
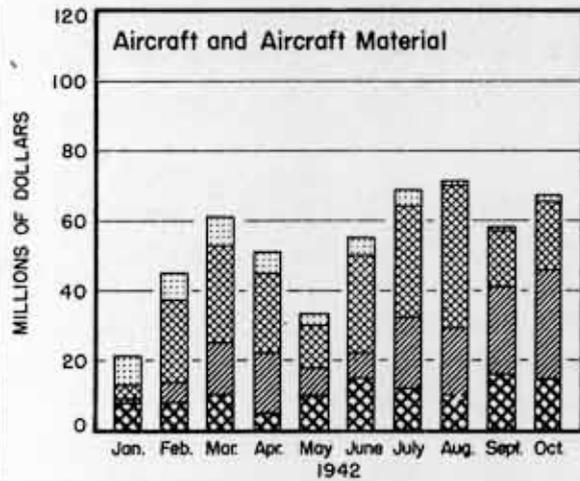
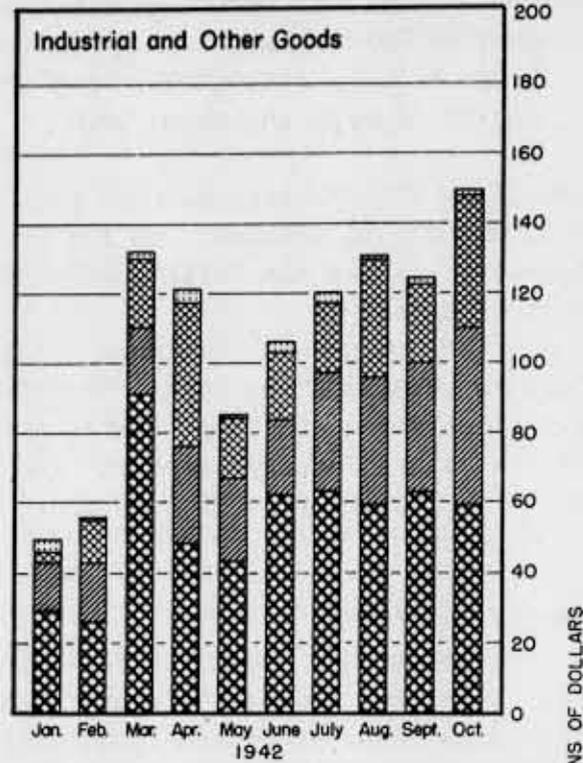


WHERE THE LEND-LEASE SHIPMENTS GO

Military Goods



Nonmilitary Goods



IN OCTOBER, ALL TYPES OF LEND-LEASE EXPORTS WERE UP FOR THE FIRST TIME. SHIPMENTS OF MILITARY GOODS (ORDNANCE, TANKS, PLANES, ETC.) ROSE FROM \$220,000,000 TO \$262,000,000 (CHART, PAGE 5); INDUSTRIAL AND OTHER GOODS FROM \$124,000,000 TO \$149,000,000;

AND AGRICULTURAL PRODUCTS FROM \$110,000,000 TO \$125,000,000. BRITISH EMPIRE COUNTRIES IN THE AGGREGATE RECEIVED MORE SUPPLIES THAN EVER BEFORE, BUT THE UNITED KINGDOM'S PERCENTAGE DECREASED. RUSSIA'S SHARE OF THE TOTAL WAS THE SAME AS IN SEPTEMBER.

	Oct. (in millions)	Sept.	Change
Union of South			
Africa.....	15.4	4.0	+ 285
Iran & Iraq.....	11.5	9.3	+ 24
Brazil.....	4.0	0.1	+3900
British East			
Africa.....	2.9	2.1	+ 38
Gold Coast.....	2.3	3.3	- 30
Belgian Congo...	2.0	1.0	+ 100

The composition of exports to Russia has changed somewhat since last summer. Then, they were mainly aircraft and tanks and other combat vehicles. Now they consist largely of aircraft (fly-aways), trucks and motorcycles, metals, industrial equipment, ordnance and ammunition. For example, last month we shipped over 4,300 trucks, 1,600 motorcycles, equipment for a rolling mill, and the following amounts of aluminum, copper, nickel, etc.:

Item	Pounds
Aluminum & alloys.....	7,300,000
Fabricated aluminum....	3,900,000
Copper pipes, plates, tubes, & sheets.....	782,000
Copper wire.....	5,900,000
Brass plates & sheets..	12,300,000
Fabricated brass & bronze.....	1,200,000
Nickel alloy & scrap...	138,000
Nickel.....	208,000
Cast zinc.....	3,150,000
Nickel chrome.....	100,000
Mercury.....	235,000
Molybdenum ore & concentrates.....	1,700,000

Most of the metal, chemical, and machine tool shipments go to Vladivostok, for transshipment to the munitions factories behind the Urals. Most of the ordnance, ammunition, military and other vehicles, foodstuffs, clothing, and tex-

tiles go to southern Russia. Few cargoes have been sent to northern Russia in the last two months.

The flow of lend-lease goods to Latin America is still but a trickle. October shipments amounted to \$5,000,000--less than 1% of the total. Although all the major countries share in the program, Brazil got four-fifths of it--mostly reconnaissance and trainer planes, tanks, and trucks.

SMALL THINGS TO CHINA

Lend-lease aid to China has been running at about \$1,000,000 a month; early in the year, it was \$10,000,000. With land routes cut off, only small things like aircraft parts, hand tools, and drums of lubricating oil are flown in.

Battle Lesson on Spares

As number of planes in action increases, fewer spares are needed. Earlier plans called for one extra engine for every two delivered, ratio now 4 to 10.

AS A RESULT of further battle experience, spare parts requirements for American-built planes have been revised again--this time downward.

Back in February, estimates of initial spare requirements for 1943 totaled \$5,154,000,000 (not including second- and third-year requirements amounting to about \$500,000,000). But now the 1943 estimate has been pulled down to \$4,607,000,000, distributed as follows:

Spare	Old	New	% Change
	Est.	Est.	
	(in millions)		
Airframe parts	\$2,172	\$1,831	-16%
Engine parts..	1,354	1,472	+ 9
Engines.....	1,628	1,304	-20
Total.....	\$5,154	\$4,607	-11

Whereas previous plans called for

one spare engine for every two fighter, bomber, and transport engines delivered in planes to the Army Air Forces next year, the revised ratio is 4 to 10. Last February, on the theory that the British would be fighting nearer their home bases and hence could distribute supplies more quickly, the proportion for U.S.-built RAF planes was half the ratio for our own aircraft—one engine for every 4 delivered. Now, however, requirements are standardized at 4 to 10 for the British as well.

NEW CONCEPT

The revised program introduces a new concept on airframe parts: As the number of a particular plane in operation increases, fewer spares per ship are specified. For example, if a certain fighter is to be produced at the rate of 50 a year, airframe spares will represent 42% of the airframe value; at 500 annually, only 38%; at 2,000 or more annually, 30%.

BOMBERS AND TRANSPORTS

The same applies to bombers and transports. Airframe spares for medium bombers, for instance, will range from 28% for types produced at the rate of 50 a year down to 17% for those turned out at the rate of 2,000 or more per annum; four-engined transports will vary from 20% for the 50-a-year models to 15% for those in the 2,000-or-more class. By far the bulk of airframe spares will be in the 2,000-a-year, or "minimum," category. Last February, requirements were put at a flat 45% for fighters, 32% for bombers, 30% for transports.

The general downward revision in spares is traceable to the increase in planes in operation. As the number of planes concentrated in air bases goes up, the margin of required spares goes down—risks are automatically spread

over more units, and inventory per plane declines. Presumably, moreover, increased use of cargo planes to carry spare parts next year will reduce the need for stocking engines, wheels, brakes, wings, propellers, guns, pumps, generators, carburetors, bomb-bay doors, etc. at smaller depots on the United Nations air map.

War Progress Notes

ARMY TAG TROUBLE

SOLDIER IDENTIFICATION PLATES—the Army calls them "dog tags"—have just had a whirl on the raw material merry-go-round. Originally made of monel metal, conservation brought a change to stainless steel (18% chrome, 8% nickel), after that to a nickel-silver alloy. A few weeks ago, further supplies of nickel silver were denied and a swing to 17% chrome steel was recommended. But that combination is too heavy and too hard for the Quartermaster Corps' 1,000 embossing machines. Meanwhile, the Army has switched back to chrome-nickel steel.

SAFETY AT SEA

AS A RESULT of the recent fire on the Navy transport "Wakefield," the commander of the Pacific Fleet cruiser force has started a riddance campaign against inflammable materials—wood furniture, linoleum, superfluous personal effects, paint and cork insulation, office files not currently in use, rugs, drapes, awnings, etc. Stores of inflammables such as gasoline, cigarette lighter fluid, alcohol, and paint must be reduced to a minimum. All awnings must be stored ashore. Curtains will be replaced by fiber glass drapes. Power pumps for emergency emptying of airplane gasoline tanks must be installed; and power craft must be placed where a fire in them would have the least effect on the rest of the

vessel. New construction is expected to keep within the restriction as far as possible.

ODT ULTIMATE

THE ODT now permits florists to deliver funeral wreaths only three times a day to a funeral home and twice a day to any private residence. One additional call, however, may be made by each truck to remove wedding decorations.

SMALL CHANGE

OUR NEED FOR copper is bringing small producers on the import list. So far this year, the United States has imported 650 pounds from Nicaragua, 740 pounds from Honduras, and 2,200 pounds from Costa Rica.

WAACS WITHOUT UNIFORMS?

WHEN the Women's Auxiliary Army Corps was set up, provision was made for 53,000 officers and members; now the number

has been boosted to 150,000, and the Quartermaster Corps has been asked to have the necessary clothing by next March. Ordinarily, it takes three times that long--12 months, not four and a half months--to supply troops with uniforms after initial procurement of cloth. In commercial practice, the lag is seldom, if ever, less than six months. Normally, the Army meets emergency clothing needs by drawing upon stores--but no WAAC clothing is in stock. So, it would seem that (1) the WAACS will be trained without uniforms, or (2) they won't induct the full 150,000 quota, or (3) America's garment makers are going to break a speed production record.

SOLDIERS IN THE MINES

RECENTLY the Army furloughed 4,300 soldiers to work copper mines (Nov 6 '42, pl3). Now furloughs are under consideration for 1,500 "qualified men" to work at Wyoming, Utah, and Washington coal mines.

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program - Checks paid (millions of dollars) -----	1,420	1,254	1,354	791	327
War bond sales (millions of dollars) -----	182	166	188	148	48
Commodity prices (August 1939 = 100)					
28 Basic commodities -----	170.1	170.4	169.8	167.1	154.9
Controlled -----	162.2	162.0	162.0	161.2	155.9
Uncontrolled -----	189.8	191.4	189.2	182.6	152.6
Nonferrous metal scrap -----	117.5	117.5	117.5	133.6	132.8
Petroleum carloadings (no. of tank cars)					
Total -----	52,793	51,689	52,052	57,506	49,014
Movement into East -----	25,675	25,145	25,069	23,560	3,113
Exports (no. of freight cars unloaded for export Friday)					
Atlantic Coast ports -----	1,190	1,236	1,430	1,667	1,446
Gulf Coast ports -----	316	292	323	645	407
Pacific Coast ports -----	544	1,025	807	421	177
Strikes affecting the war effort					
Number in progress -----	7	5	8	14	n.a.
Man-days lost -----	20,535	12,162	62,244	22,138	n.a.
Unused steel capacity (% operations below capacity) -----	1.7	1.3	-1.1	0.4	4.1

n.a. Not available.

ECONOMIC TRENDS

Plant Utilization - Labor Disputes - Retail Sales

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
PLANT UTILIZATION(a)							
Airframes							
All plants	91.4	90.3	89.3	88.0	75.9		
Three best	114.8	114.5	113.4	114.1	92.9		
Aero engines							
All plants	103.4	107.2	105.9	106.1	96.1		
Three best	132.2	134.1	123.8	124.4	113.9		
Aircraft propellers							
All plants	107.0	110.1	107.7	99.5	95.2		
Three best	135.0	134.1	131.0	130.4	118.1		
Shipbuilding and repair							
All private construction yards	p77.3	77.0	79.1	72.9	b62.0		
Three best	p109.5	r111.2	111.5				
Major repair yards	p72.4	74.3	75.3	73.3	b63.7		
Tanks							
All plants	n.a.	p72	76	75	b69		
Best plant	n.a.	n.a.	n.a.	102	b97		
Machine tools							
All plants	88.1	88.6	90.4	88.6	b77.9		
Three best	135.5	135.3	138.2	138.9	b113.9		
Large plants	94.0	95.4	97.1	94.7	b79.2		
Medium plants	78.6	77.6	80.0	79.0	b67.2		
Small plants	67.4	66.0	67.4	66.5	b58.4		
Machine utilization in machine tool plants							
All plants	107	108	110	110	n.a.		
Three best	166.8	167.7	167.3	167.2	n.a.		
Large plants	117	120	121	122	n.a.		
Medium plants	97	97	99	98	n.a.		
Small plants	73	72	74	72	n.a.		
LABOR DISPUTES							
All industries							
Number of strikes in progress	320	400	475	405	664	356	583
Workers involved (thousands)	66	90	100	85	348	140	
Man-days idle (thousands)	325	450	450	375	1,925	1,508	1,182
Strikes affecting the war effort							
Number in progress	115	187	229	95			
Workers involved (thousands)	42	81	79	43			
Man-days idle (thousands)	168	319	266	174			

October. (a) Number of man-hours weekly divided by the number of workers on the largest shift, Monday through Friday; machine utilization figures are based on machine operator hours. Theoretical maximum is 168 hours. (b) September, 1941; October not available. n.a. Not available. p Preliminary. r Revised.

ECONOMIC TRENDS

Production - Commodity Prices

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
PRODUCTION (1935-39 = 100)							
Industrial production-total	192	191	187	172	168	126	111
Durable Manufactures	270	263	260	233	210	134	117
Iron and steel	207	199	197	199	191	157	101
Pig iron	198	194	190	192	184	154	123
Aircraft	P3,015	P2,863	2,682	2,053	1,296	212	101
Railroad cars	P284	P275	280	310	278	99	158
Locomotives	P538	P530	507	485	335	92	205
Shipbuilding - private yards	P1,974	P1,896	1,843	1,300	634	140	115
Copper smelting	159	156	159	155	137	*113	128
Zinc smelting	181	178	178	185	177	116	122
Zinc shipments	130	130	132	145	143	148	107
Lead shipments	n.a.	193	188	198	207	136	118
Nondurable manufactures	148	150	144	138	143	120	103
Cane sugar meltings	n.a.	n.a.	77	93	109	104	78
Rubber products	n.a.	n.a.	75	73	134	128	90
Rubber consumption	n.a.	81	82	79	137	129	90
Minerals	135	137	136	125	139	128	119
Copper production	175	173	174	169	156	*116	139
Zinc production	n.a.	128	128	146	134	114	115
Lead production	n.a.	n.a.	122	135	119	109	
Government (1939 = 100)							
Mfg. in gov't arsenals and quartermaster depots	n.a.	2,367	2,367	2,003	1,464	149	n.a.
Shipbuilding - gov't yards	n.a.	2,241	1,938	1,514	923	122	n.a.
COMMODITY PRICES (1926 = 100)							
All commodities (wholesale prices)	P100.0	P99.6	P99.2	98.7	92.4	79.4	85.4
Farm products	109.0	107.8	106.1	104.5	90.0	67.1	80.4
Foods	103.4	102.4	100.8	98.7	88.9	73.3	85.5
All other than farm products and foods	P95.5	95.5	95.6	95.6	93.4	83.8	85.1
Raw materials	103.0	102.2	101.2	100.0	89.7	72.3	80.7
Semimanufactured goods	92.7	92.9	92.7	92.8	89.9	83.1	82.5
Manufactured goods	P99.4	99.2	98.9	98.7	93.9	82.3	88.1
Durable (1929 = 100)	110.6	110.6	110.4	110.0	105.1	95.9	100.7
Nondurable (1929 = 100)	103.4	102.8	102.2	100.9	93.0	77.0	87.7
Producers' goods (1929 = 100)	105.8	105.4	105.3	105.0	99.1	84.4	93.3
Durable	108.9	108.9	108.8	108.5	105.5	97.0	102.0
Nondurable	104.5	104.0	104.0	103.7	94.5	74.7	86.6
Consumers goods (1929 = 100)	104.4	103.8	102.7	101.0	93.7	80.8	89.6
Durable	116.0	116.3	115.1	114.2	103.8	92.6	96.7
Nondurable	102.7	101.9	100.8	98.9	92.1	79.0	88.6

*Production indexes, October. Commodity prices, October for those indexes on a 1926 base, September for the indexes on a 1929 base. a Annual average. p Preliminary. n. a. Not available.

PRODUCTION PROGRESS

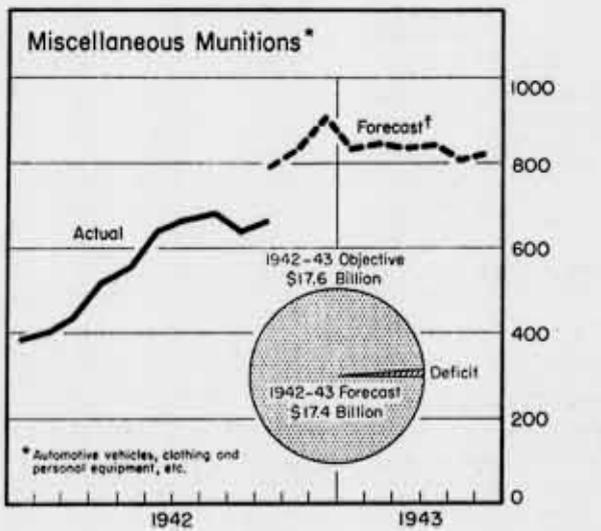
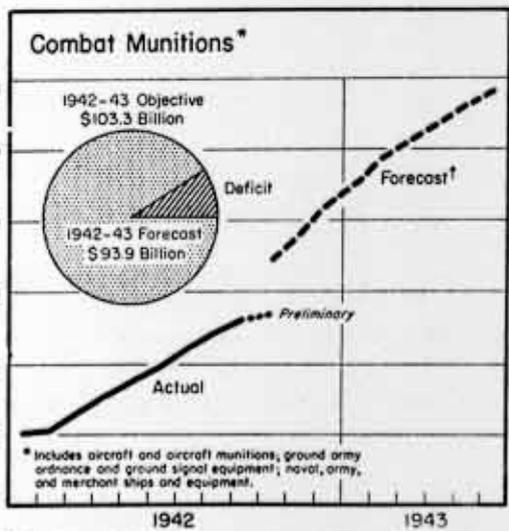
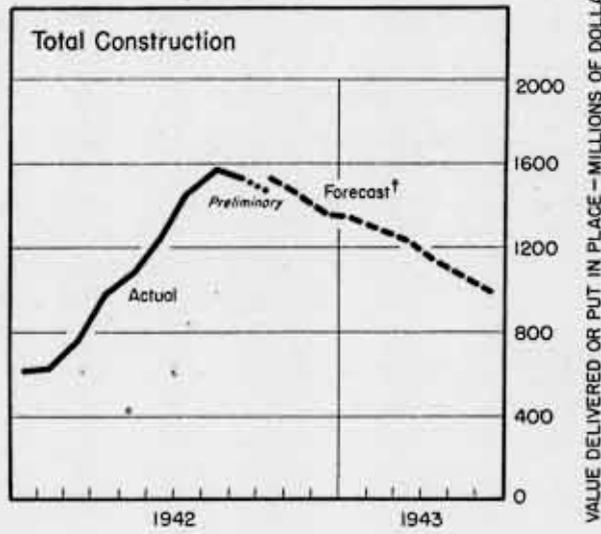
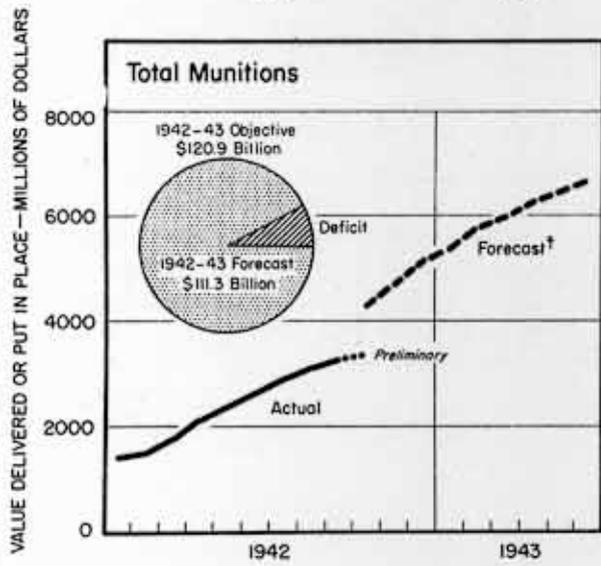
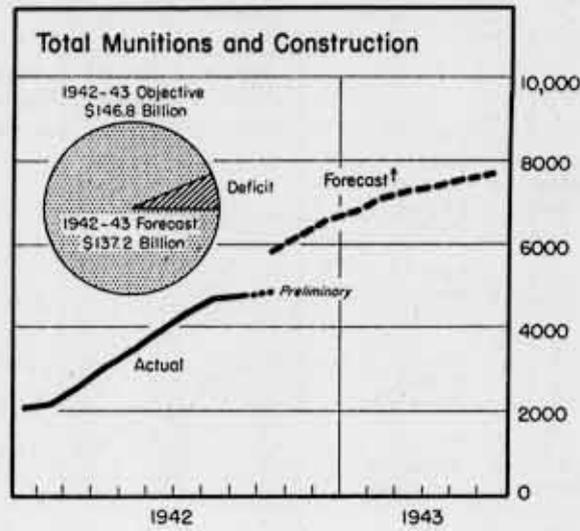
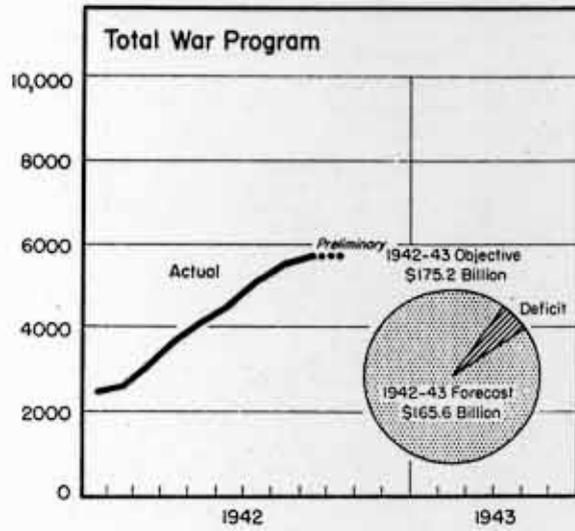
General Summary (Value of production, in millions of dollars)

		Total Program	Total Munitions & Construction	Total Munitions	Total Construction	Miscel. Munitions		
Valuation of Actual Production ↓	1942 January	2,423	2,031	1,423	608	390	1942 January ↓	Valuation of Actual Production ↓
	February	2,566	2,120	1,496	624	401		
	March	3,055	2,508	1,750	758	439		
	April	3,692	3,051	2,074	977	521		
	May	4,140	3,433	2,340	1,093	557		
	June	4,542	3,853	2,608	1,245	642		
	July	5,064	4,323	2,874	1,449	667		
	August	5,441	4,681	3,109	1,572	679		
	September	r5,621	r4,792	r3,258	r1,534	639		
	October	p2,704	p4,837	p3,364	p1,473	663		
Valuation of Scheduled Production: "Forecast" ↓	November		6,092	4,646	1,446	830	1942 November ↓	Valuation of Scheduled Production: "Forecast" ↓
	December		6,491	5,126	1,365	906		
1942 Actual plus Forecast* 1942 Objective ↓	1943 January	58,501	48,212	34,068	14,144	7,334	1943 January ↓	1942 Actual plus Forecast* 1942 Objective ↓
	February	64,647	54,358	40,214		7,415		
	March							
1943 Forecast* 1943 Objective	1943 January	107,136	89,001	77,241	11,760	10,096	1943 January ↓	1943 Forecast* 1943 Objective
	1943 Objective	110,595	92,460	80,700		10,219		
1942-43 Est. as % of Objective		95%	93%	92%		99%	1942-43 Est. as % of Objective	
		Combat Munitions(a)	Aircraft & Aircraft Munitions	Ground Army Munitions(b)	Naval and Army Vessels & Equip.	Merchant Vessels		
Valuation of Actual Production* ↓	1942 January	1,033	383	236	335	79	1942 January ↓	Valuation of Actual Production ↓
	February	1,095	446	241	310	98		
	March	1,311	530	313	374	94		
	April	1,553	567	397	460	129		
	May	1,783	656	444	536	147		
	June	1,966	722	490	568	186		
	July	2,207	758	629	623	197		
	August	2,430	875	658	688	209		
	September	r2,619	r884	700	r824	r211		
	October	p2,701	p936	734	p840	191		
Valuation of Scheduled Production: "Forecast" ↓	November	3,816	1,357	1,122	1,074	263	1942 November ↓	Valuation of Scheduled Production: "Forecast" ↓
	December	4,220	1,485	1,315	1,139	281		
1942 Actual plus Forecast 1942 Objective ↓	1943 January	4,536	1,635	1,447	1,165	289	1943 January ↓	1942 Actual plus Forecast 1942 Objective ↓
	February	4,899	1,746	1,670	1,186	297		
	March	5,141	1,896	1,748	1,197	300		
1943 Forecast 1943 Objective	1943 January	67,145	27,820	22,070	13,665	3,590	1943 January ↓	1943 Forecast 1943 Objective
	1943 Objective	70,481	32,467	20,097	14,327	3,590		
1942-43 Est. as % of Objective		91%	83%	100%	91%	101%	1942-43 Est. as % of Objective	

*Based on schedules of procurement agencies as of Oct. 1. (a) Fighting Items: Includes aircraft and aircraft munitions; ground army ordnance and ground signal equipment; naval, army, and merchant vessels. Excludes Miscellaneous Munitions. (b) Ground army ordnance and ground signal equipment. p Preliminary. r Revised.

PRODUCTION PROGRESS

General Summary — Munitions, Construction, Nonmunitions



† Based on schedules of procurement agencies as of October

PRODUCTION PROGRESS

Aircraft-Ordnance (Value of production, in millions of dollars)

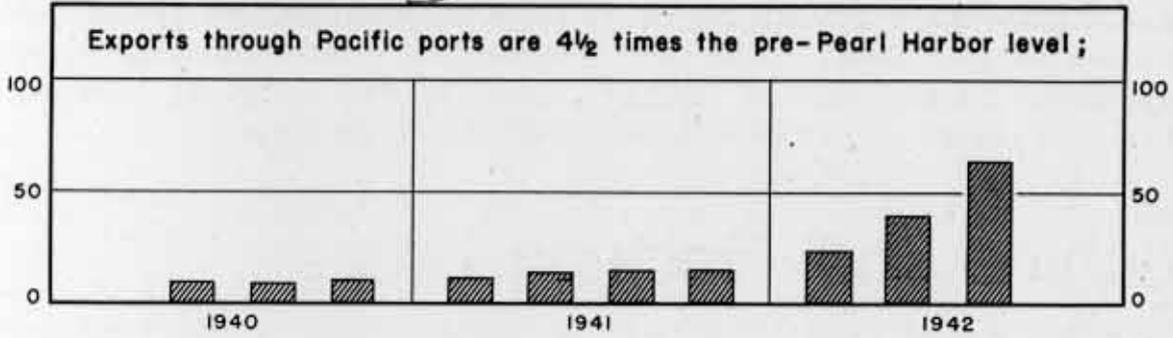
		Combat Planes	Aircraft Armament	Aircraft Ammunition	Artillery & Equip.	Artillery & Tank Cannon Ammunition		
Valuation of Actual Production ↓	1942 January	151	14	28	15	42	1942 January	Valuation of Actual Production ↓
	February	179	17	27	18	48	February	
	March	210	20	43	36	72	March	
	April	197	23	38	42	84	April	
	May	241	29	47	29	88	May	
	June	260	29	50	27	99	June	
	July	276	29	56	48	118	July	
	August	286	29	59	56	102	August	
	September	321	28	57	52	110	September	
	October	313	33	66	62	107	October	
Valuation of Scheduled Production: "Forecast" * ↓	November	449	34	107	141	141	November	Valuation of Scheduled Production: "Forecast" * ↓
	December	495	37	127	185	154	December	
1942 Actual plus Forecast * 1942 Objective 1943 Forecast * 1943 Objective 1942 - 43 Est. as % of Objective	1943 January	550	40	148	194	205	1943 January	1942 Actual plus Forecast * 1942 Objective 1943 Forecast * 1943 Objective 1942 - 43 Est. as % of Objective
	February	613	40	154	203	215	February	
	March	705	41	166	199	238	March	
		3,378	322	705	711	1,165	1942 Actual plus Forecast *	
		4,936	252	1,231	977	1,268	1942 Objective	
		11,433	525	2,240	2,316	2,965	1943 Forecast *	
		14,107	648	2,358	1,823	2,682	1943 Objective	
		78%	94%	82%	108%	105%	1942 - 43 Est. as % of Objective	
		Antiaircraft Guns & Equip.	Antiaircraft Ammunition	Small Arms & Infantry Weapons	Small Arms & Infantry Weapon Ammunition	Combat Vehicles		
Valuation of Actual Production ↓	1942 January	17	16	14	33	87	1942 January	Valuation of Actual Production ↓
	February	16	11	14	38	89	February	
	March	20	8	19	54	89	March	
	April	26	21	23	69	111	April	
	May	40	21	30	84	123	May	
	June	52	21	30	89	137	June	
	July	65	30	30	115	171	July	
	August	78	28	37	113	177	August	
	September	85	33	43	127	181	September	
	October	95	15	44	135	191	October	
Valuation of Scheduled Production: "Forecast" * ↓	November	111	31	57	233	275	November	Valuation of Scheduled Production: "Forecast" * ↓
	December	121	38	69	259	312	December	
1942 Actual plus Forecast * 1942 Objective 1943 Forecast * 1943 Objective 1942 - 43 Est. as % of Objective	1943 January	162	36	71	285	347	1943 January	1942 Actual plus Forecast * 1942 Objective 1943 Forecast * 1943 Objective 1942 - 43 Est. as % of Objective
	February	171	46	78	296	530	February	
	March	169	47	82	324	549	March	
		726	273	410	1,349	1,943	1942 Actual plus Forecast *	
		989	264	505	1,488	2,495	1942 Objective	
		2,358	636	938	4,070	7,107	1943 Forecast *	
		2,257	671	769	3,657	6,713	1943 Objective	
		95%	97%	106%	105%	98%	1942 - 43 Est. as % of Objective	

*Based on schedules of procurement agencies as of Oct. 1.

EXPORTS MOVE WEST

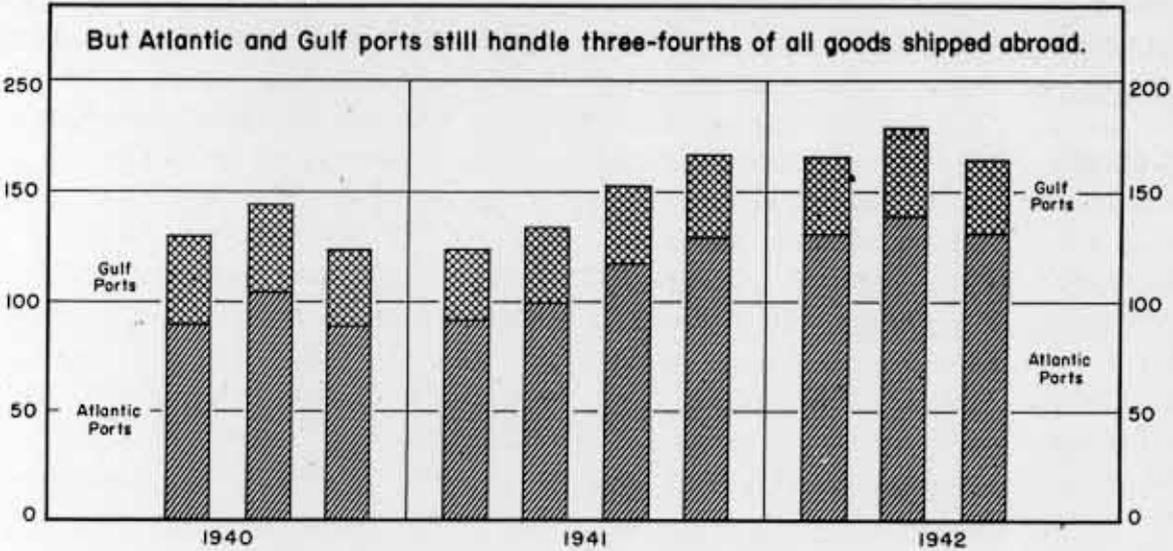
Submarines in Caribbean and demands of Pacific war theater bring increased use of West Coast ports.

Exports through Pacific ports are 4½ times the pre-Pearl Harbor level;



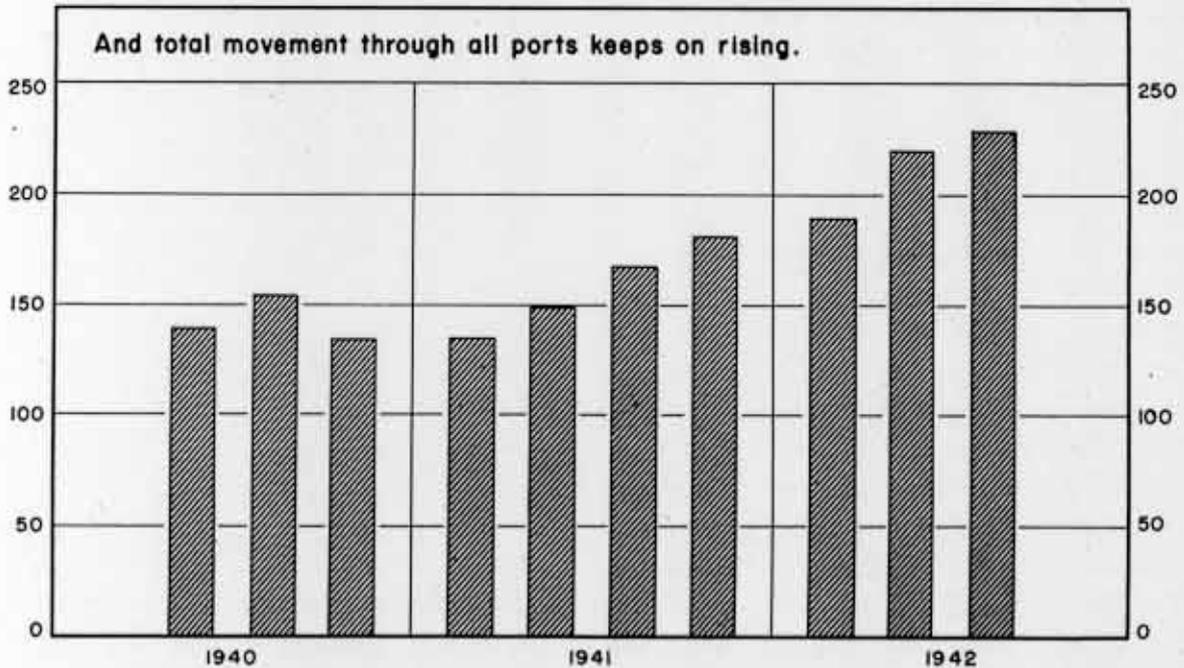
But Atlantic and Gulf ports still handle three-fourths of all goods shipped abroad.

THOUSANDS OF FREIGHT CARS UNLOADED FOR EXPORT QUARTERLY



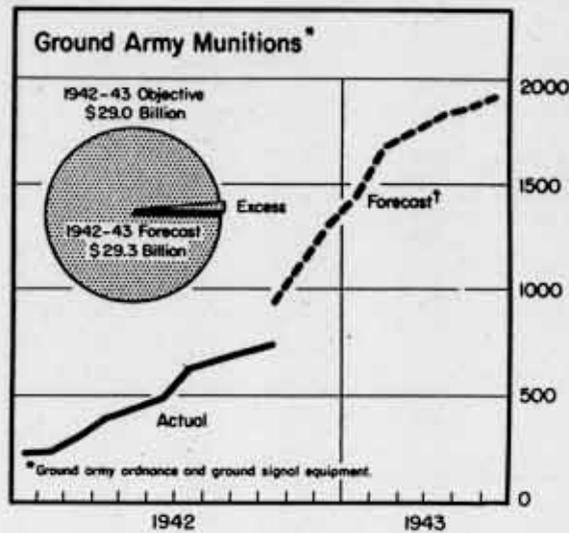
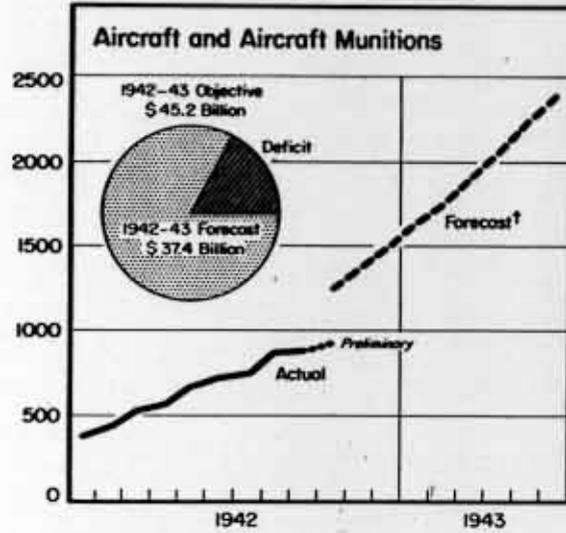
THOUSANDS OF FREIGHT CARS UNLOADED FOR EXPORT QUARTERLY

And total movement through all ports keeps on rising.

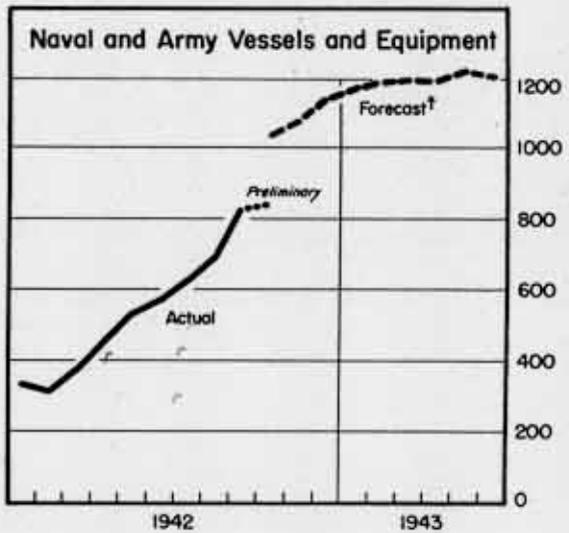
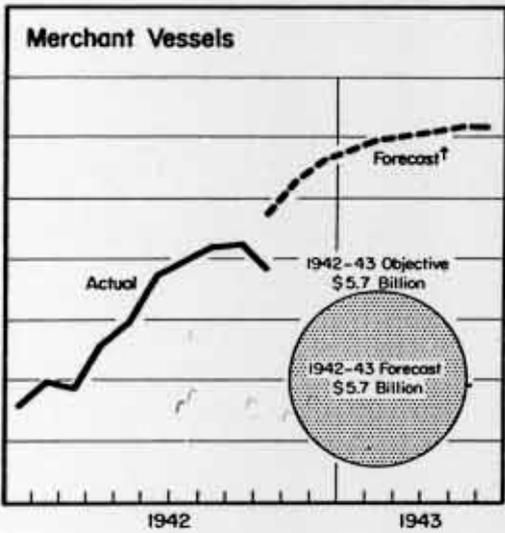


PRODUCTION PROGRESS

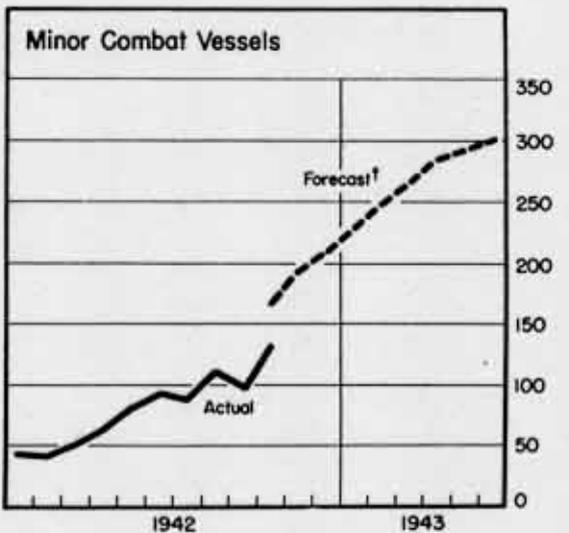
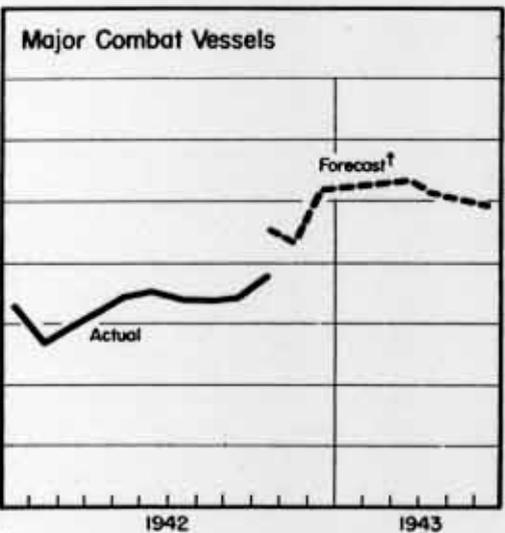
Selected Items — Aircraft, Ground Army, Ships



VALUE DELIVERED OR PUT IN PLACE — MILLIONS OF DOLLARS



VALUE DELIVERED OR PUT IN PLACE — MILLIONS OF DOLLARS



† Based on schedules of procurement agencies as of October 1.

PRODUCTION PROGRESS

Ships-Construction-Nonmunitions (Value put in place, in millions of dollars)

		Battleships, Cruisers & Carriers	Destroyers	Submarines	Antisub- marine Vessels	Transports (Army, Navy)		
Valuation of Actual Production ↓	1942 January	63	76	26	42	2	1942 January	Valuation of Actual Production ↓
	February	56	62	17	40	1	February	
	March	67	63	18	49	1	March	
	April	72	68	18	62	3	April	
	May	73	75	23	79	4	May	
	June	75	81	20	91	11	June	
	July	68	81	21	86	7	July	
	August	71	73	25	r108	9	August	
	September	74	75	22	r96	14	September	
	October	84	82	23	130	12	October	
Valuation of Scheduled Production: "Forecast"* ↓	November	95	94	26	185	14	November	Valuation of Scheduled Production: "Forecast"* ↓
	December	117	99	42	201	16	December	
	1943 January	114	106	43	223	19	1943 January	
1942 Actual plus Forecast * 1942 Objective ↓	February	114	105	45	240	21	February	1942 Actual plus Forecast * 1942 Objective ↓
	March	112	105	48	257	21	March	
	1943 Forecast* 1943 Objective	1,335	1,076	538	3,291	283	1943 Forecast* 1943 Objective	
1942 - 43 Est. as % of Objective							1942 - 43 Est. as % of Objective	
		Landing Vessels	Industrial Facilities	Aircraft Fields & Bases	Clothing & Personal Equip.	Automotive Vehicles & Equip.		
Valuation of Actual Production ↓	1942 January	3	342	54	68	126	1942 January	Valuation of Actual Production ↓
	February	1	358	54	61	126	February	
	March	2	392	68	76	129	March	
	April	3	485	86	91	170	April	
	May	6	524	129	92	161	May	
	June	14	565	160	110	183	June	
	July	48	604	228	117	195	July	
	August	87	668	239	122	204	August	
	September	120	r682	r229	112	190	September	
	October	145	p674	p236	109	174	October	
Valuation of Scheduled Production: "Forecast"* ↓	November	165	590	281	130	198	November	Valuation of Scheduled Production: "Forecast"* ↓
	December	139	550	269	131	209	December	
	1943 January	99	573	229	127	216	1943 January	
1942 Actual plus Forecast* 1942 Objective ↓	February	80	542	213	117	209	February	1942 Actual plus Forecast* 1942 Objective ↓
	March	63	510	196	120	207	March	
	1943 Forecast* 1943 Objective	452	4,500	1,900	1,393 1,410	2,429 2,618	1943 Forecast* 1943 Objective	
1942 - 43 Est. as % of Objective					114%	96%	1942 - 43 Est. as % of Objective	

*Based on schedules of procurement agencies as of Oct. 1. p Preliminary. r Revised.

WAR PROGRESS

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(British Secret)

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ED. 1755, Vol. 10, No. 14, 1755
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"Sights" - Before and After Dec. 7
Checking Up on War Facilities

Number 116

December 4, 1942

The Program - A Year After

Pearl Harbor was to the U.S. what Dunkirk was to Britain - it pushed up our sights. And now problem is to cut down objectives to capacity and get better scheduling.

AMERICA'S TOTAL WAR PROGRAM adds up to \$242,000,000,000. Of that amount, \$60,000,000,000 had been spent through October. Another \$112,000,000,000 has been committed for planes, tanks, ships, guns, etc. Thus, we still have \$70,000,000,000 of war work to be "placed" --not allowing for any further additions to the program.

TEN-FIGURE TALK

Those billion-dollar figures are now of a fairly familiar magnitude. Persons inside and outside war agencies are beginning to be accustomed to tossing around nine-ciphered quantities with the acquired fluency of a man who has

just caught on to a new trade. The trade, in this case, is producing for war.

But a year ago--before Pearl Harbor --we were just beginning to think, plan, and talk in billions. For example, back in December, 1941, monthly output of munitions and war construction was \$1,750,000,000. And in looking ahead into 1942, it seemed daring to suggest that output in December, 1942, would amount to as much as \$2,600,000,000. Yet, output next month will be well over \$5,000,000,000--twice what was then hoped for. And sometime during next year, monthly munitions output and war construction will be up nearly 50% more--that despite the fact that war construction has passed its peak (WP-Nov20'42,p4).

That change in production perspective--in magnitude--is directly traceable to Pearl Harbor. Before December

PLANE OUTPUT UP 17%, NEAR 8-L FORECAST

TOTAL AIRPLANE ACCEPTANCES in November --at \$432,000,000--rose 17% above October to new record levels and were only 1% below the new 8-L forecast, which is in the process of superseding the 8-K initial schedule. Acceptances were 20% below the 8-K forecast.

The 8-L forecast for November was compiled toward the end of the month, and so is partly after the fact. The 8-L schedule was lower than 8-K for November, but the two are substantially the same in value terms for 1943.

The following table shows (1) month-to-month gains over October, and (2)

deviations from 8-K and 8-L forecasts:

	% Change	% Deviation from Forecast	
		8-K Init.	8-L
Total planes..	+17%	-20%	-1%
Combat.....	+17	-19	-1
Service combat	+14	-35	-5
Trainer.....	+24	-11	+4

Pursuit planes had a particularly good month, with a gain of 26%. Heavy bombers rose only 6%. This group, however, was up 10% in October, counter to the general 5% downtrend; hence, it was not on the rebound.

7, 1941, persons within the various war agencies looked upon a \$40,000,000,-000-a-year volume as large, and many doubted its feasibility. And the major problem at that time was to raise "sights."

HOW PROGRAM GREW

That was done when the President, in January, set forth objectives for planes, tanks, and other weapons. And programs went up sharply thereafter.

What happened can be summarized in three paragraphs:

1. In March, 1941, the forecast for output of munitions and war construction this year was around \$19,000,000,-000. Expectations at the time were so modest that the government-financed industrial facilities program was only \$4,000,000,000 (compared to \$13,500,-000,000 today--page 5) and it was hoped that it would be finished by the end of 1941.

2. In December, 1941, the forecast for 1942 was roughly \$27,000,000,000.

3. But now, with only a month to go, it looks as if 1942 munitions produc-

tion and war construction will be around \$46,000,000,000 to \$48,000,000,000. That's a rise in expectations of 145% since March, 1941; and a rise of 75% from a year ago.

There's another gauge of how expectations have changed. Back in December, 1941, it was anticipated that the program would begin to flatten out early in 1943. Production was to rise from \$2,600,000,000 a month in December, 1942, to only about \$2,800,000,000 in June, 1943. And today, not only is the program on a much higher level of \$5,-000,000,000 a month, but also it is far from a peak.

SEEM SMALL NOW

Looking back, early estimates of output for 1942 look Lilliputian compared with what is likely to be produced this year; note particularly the jumps in naval and merchant ships and industrial facilities in the following table (in billions of dollars):

	1942 Forecast		
	Mar. '41*	Dec. '41*	Today*
Airplanes.....	\$ 5.3	\$ 6.2	\$ 7.8
Naval ships....	1.5	2.5	5.9
Mercnant ships.	0.7	1.4	2.1
Ordnance.....	7.6	7.2	9.1
Indus. facil...	**	3.4	6.4
Other produc-			
tion & const..	4.1	6.6	16.9
Total mun. & const.....	\$19.2	\$27.3	\$48.2

*Though data are not strictly comparable, they are indicative.

**No facilities planned; program supposed to have been completed in 1941.

Once Pearl Harbor made clear that previous plans were inadequate, the program grew rapidly and it got too high to be realizable. For instance, current performance has consistently lagged be-

IN THIS ISSUE:

THE PROGRAM—A YEAR AFTER.	1
PLANE OUTPUT UP 17%, NEAR 8-L FORECAST	1
KEY STATISTICS OF THE WEEK	4
IMBALANCE BEGINS WITH FACILITIES	5
SHIPS UP—TONNAGE SAME	7
DIRECTING WORLD TRAFFIC IN MATERIALS	9
WAR PROGRESS NOTES	10
MONTH-TO-MONTH PRICE INCREASES NARROWING	11
ECONOMIC TRENDS.	12,13
WAR SWALLOWS UP THE GOVERNMENT	13
PRODUCTION PROGRESS (AIRCRAFT, CONSTRUCTION)	14-16

hind program requirements. Schedules have exceeded capacity--materials, machines, and manpower. And it has been necessary to bring down expectations to levels of feasibility.

The goal for munitions production and war construction for 1943 has been as high as \$93,000,000,000. It is now in the process of being lowered (WP-Nov13'42,p3). And a significant start in this direction has been made with the 22% cut in Section I of the Army Supply Program (WP-Nov27'42,p4).

And the overall program for 1943--taking into account pay, subsistence, and other miscellaneous items--has been

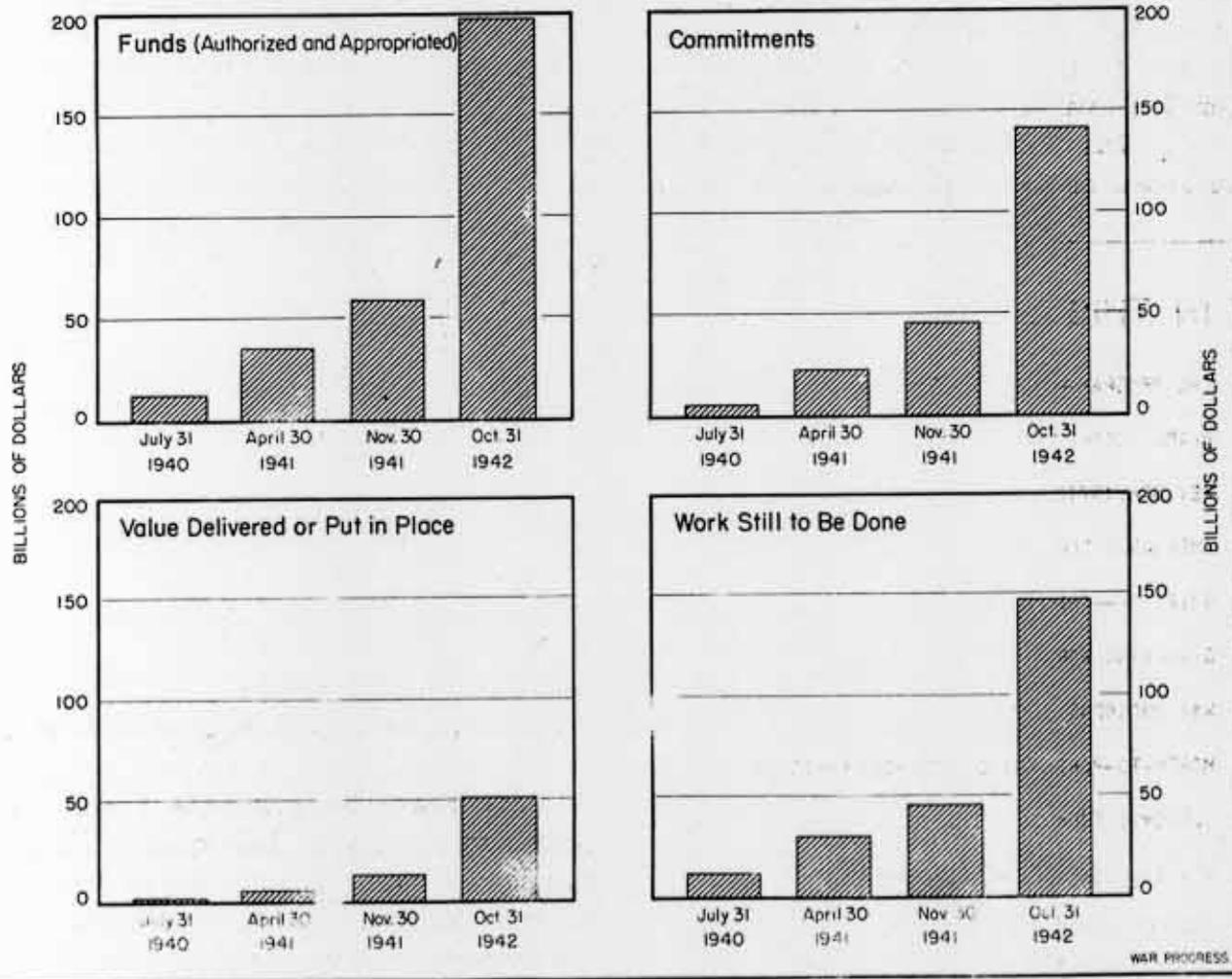
as high as \$110,000,000,000. That also is in the process of coming down. But in any case the total program for next year will approach the \$100,000,000,000 mark--an average of more than \$8,000,000,000 a month. That's a big jump from the \$300,000,000 a month rate of output at the time of the fall of France.

FINANCING PHASE

The point is that the entire concept of the war production effort has changed. In the early days, the Army, the Navy, and the Maritime Commission were concerned first with financing. The funds Congress authorized established and

GROWTH OF A PROGRAM

Data on munitions production and war construction indicate how Pearl Harbor changed American ideas.



KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program - Checks paid (millions of dollars) -----	1,139	1,420	1,196	804	352
War bond sales (millions of dollars) -----	211	182	271	149	59
Commodity prices (August 1939 = 100)					
28 Basic commodities -----	170.2	170.1	169.6	166.7	155.0
Controlled -----	161.9	162.2	162.0	161.4	156.3
Uncontrolled -----	190.7	189.8	188.7	181.0	151.6
Nonferrous metal scrap -----	117.5	117.5	117.5	127.1	131.5
Petroleum carloadings (no. of tank cars)					
Total -----	51,527	52,793	51,666	55,135	50,690
Movement into East -----	25,146	25,675	24,766	22,141	3,065
Exports (no. of freight cars unloaded for export Friday)					
Atlantic Coast ports -----	924	1,190	1,284	1,827	1,570
Gulf Coast ports -----	239	316	313	408	460
Pacific Coast ports -----	962	944	911	543	193
Strikes affecting the war effort					
Number in progress -----	14	7	3	9	n.a.
Man-days lost -----	20,600	20,535	3,159	17,487	n.a.
Unused steel capacity (% operations below capacity) -----	1.7	1.7		0.4	4.1

limited their production objectives. Once appropriations and authorizations were granted, the procurement agencies went about getting contracts placed with manufacturers and builders--making commitments. And placement of contracts was regarded as a production plan. A follow-through--to see that individual items were procured in an orderly and balanced fashion--was yet to come.

NOW IT'S PRODUCTION

Now that phase is past. Financing--getting funds authorized--is a back-number consideration. Strategic factors (What do the armed forces want?) and production factors (Do we have the materials and facilities to do the job?) dominate. Instead of being primarily concerned about letting contracts (committing funds to particular programs--planes, tanks, etc.) procurement agencies are concerned with scheduling production in an orderly fashion, so that

one program does not get in the way of another program.

In this respect, Pearl Harbor was to the United States what Dunkirk was to Britain. It pushed this country toward the realization that total war must be considered in terms of production. But with or without Pearl Harbor, we'd have reached this phase anyway. As facilities become crowded with orders, as demand for raw materials exceeds supply, as manpower becomes limited, scheduling of output--to get the most out of the economy--inevitably rises to prime importance in a nation's production.

TOWARD OPTIMUM OUTPUT

Instead of the questions, How much money has Congress authorized? How much money have we committed? the prime question becomes, How much can we produce? And that's where scheduling comes in--organizing resources toward optimum output of end products.

Imbalance Begins with Facilities

Off to a prewar start, plants to produce end products are 60% completed. But only 28% of our raw materials facilities are in place; and projects are piling up.

THE UNITED STATES has passed the half-way mark in its drive to build and equip industrial facilities for war--some \$7,000,000,000 out of a \$13,500,000,000 government-financed construction and machinery program has been put in place.

WAITING FOR STEEL

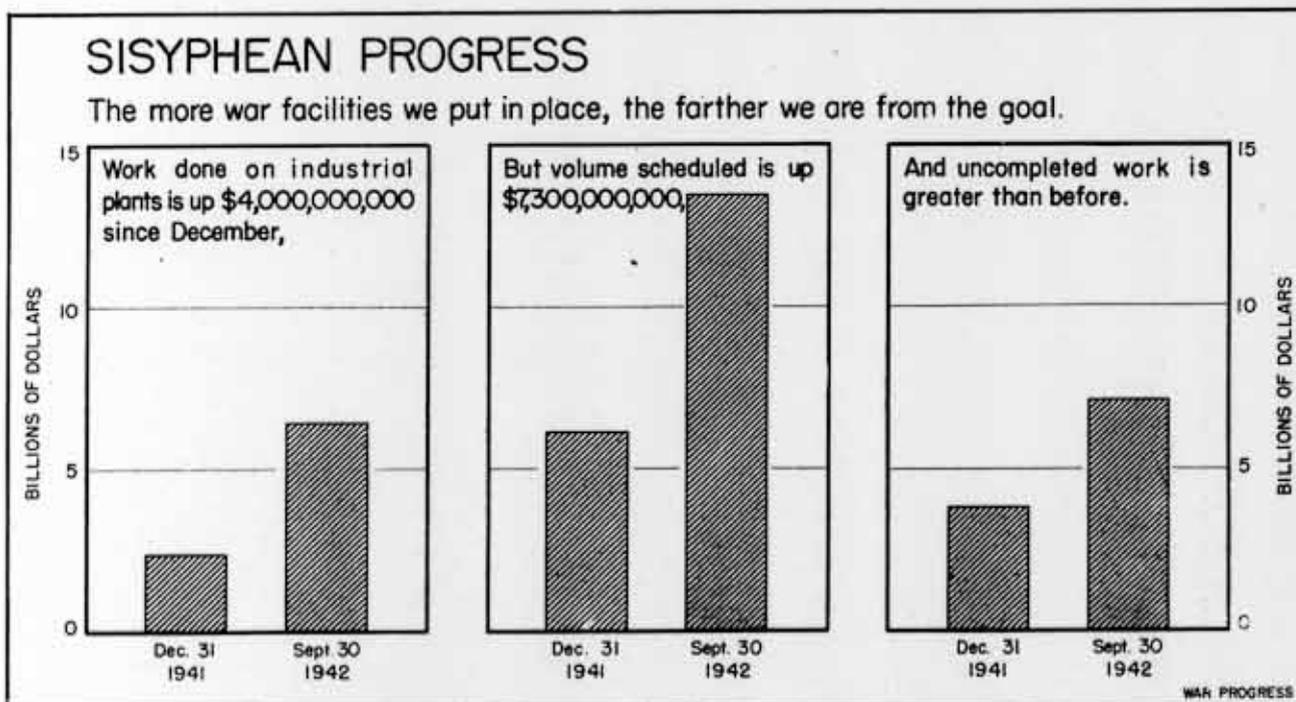
But, while plants to manufacture machinery and finished munitions such as ships, tanks, planes, guns, and ammunition were more than 60% completed on September 30, the projects slated to augment the supply of raw materials for those plants--iron and steel, synthetic rubber, chemicals, etc.--were only 28% completed (chart, page 6).

For example, of \$3,390,000,000 on the books for ammunition and explosives facilities, around 70%, or \$2,400,000,-

000, was in place. However, plants to produce iron and steel were only 26% completed (\$311,473,000 out of \$1,187,000,000). Thus, new capacity for making shells has outstripped our effort to increase steel supply--and, quantitatively, steel is the most important single component of shell manufacture.

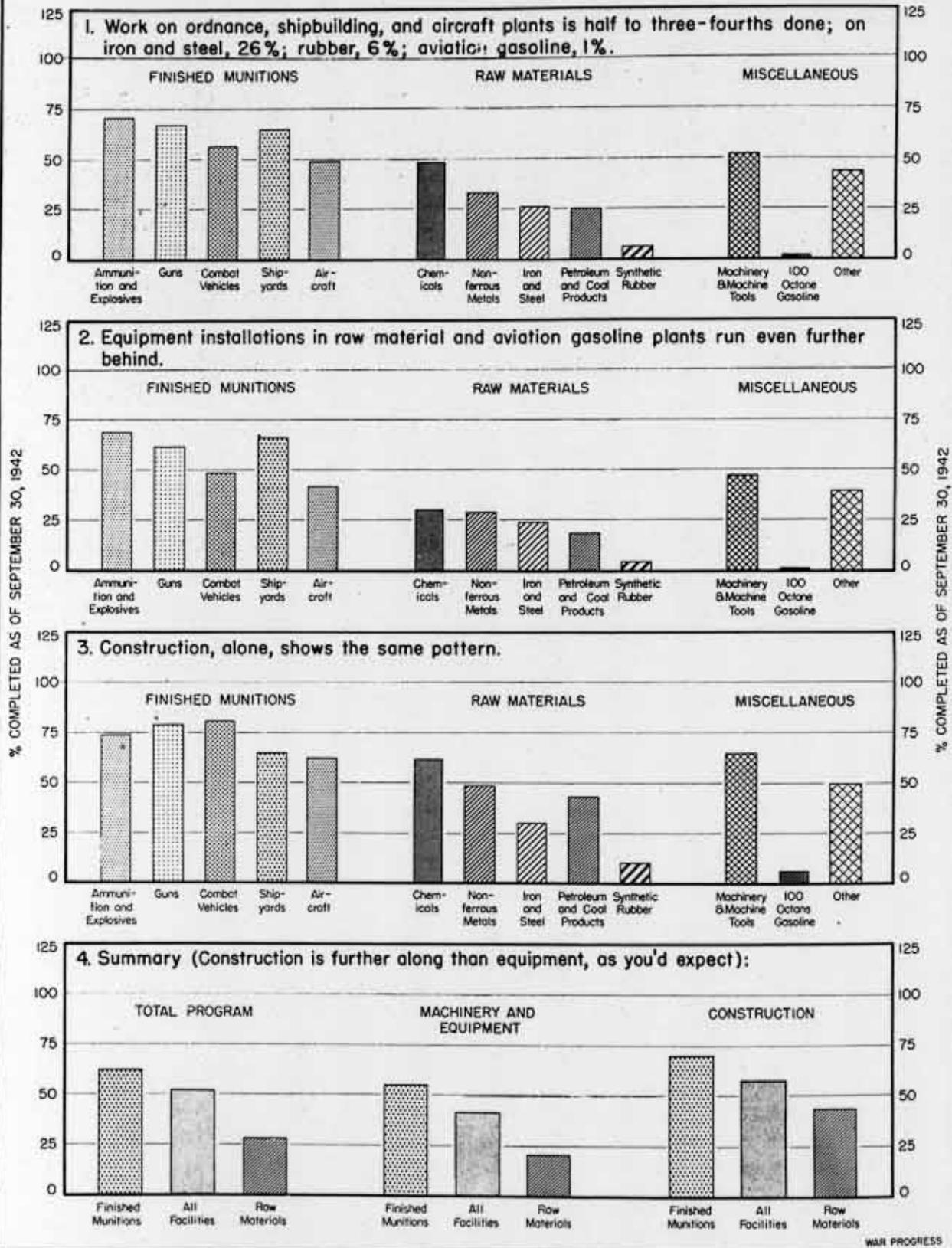
Back in 1940, British and French contracts for finished munitions touched off some private expansion of U.S. airplane, ordnance, and shipbuilding plants. But there was no comparable expansion of facilities to produce raw materials. Those were the days when domestic steel production was around 67,000,000 tons annually, or 18% below capacity; when our new supply of copper was approximately 380,000 tons in excess of consumption; when the quantity of these and other basic materials--aluminum, zinc, magnesium, rubber, chemicals--seemed sufficient to many persons.

As a result, when the government-financed program for war plants was put



SEQUENCE IN WAR FACILITIES

Raw material plant program further from completion than factories making finished munitions.



into gear, expansion of aluminum, steel, magnesium and other raw materials producing facilities did not begin until 6 to 18 months after initial expansion of plants for finished munitions--tanks, guns, planes--as follows:

<u>War Facility</u>	<u>Start of Work on First Expansion</u>
Aluminum.....	Mar. 1941
Magnesium.....	Feb. 1941
Steel.....	Aug. 1941
Aircraft.....	Oct. 1940
Garand rifles.....	Oct. 1940
Machine guns.....	Oct. 1940
Tanks.....	Sep. 1940
Aviation gasoline..	Apr. 1942
Synthetic rubber...	June 1941

In addition to a later start, expansion of facilities to produce raw materials was held back by technological problems. It was relatively simple, say, to decide on how an ammunition-loading plant should be built--but not so with synthetic rubber.

RUBBER COMPLEXITIES

Once Buna-type rubber was decided on for the bulk of the program, it became necessary to determine whether butadiene--the chief material in Buna manufacture--should be produced in alcohol or petroleum plants. Competition with aviation gasoline for conversion facilities also clouded the picture. As a consequence, only \$37,000,000, or 6%, of the \$637,000,000 program for all government-financed synthetic rubber plants was in place on September 30, 1942.

The problem in aviation gasoline expansion--which includes component materials such as cumene, isopentane, iso-octane, and alkylates, as well as the finished product--is similar. First, work wasn't begun until April, 1942. Second, technological difficulties arose

SHIPS UP - TONNAGE SAME

EIGHTY-FOUR Maritime Commission vessels were delivered in November, three more than in October but 12 below forecast. Tonnage, at 892,000 deadweight tons (preliminary), was virtually the same as in October and 2% above the forecast.

Unit deliveries fell below forecasts largely because of smaller-type vessels. Only one coastal vessel was delivered whereas six were expected, and initial deliveries of tank landing ships (those built by the Maritime Commission for the Navy) were far behind the schedule. For the third month in a row, Liberty ship deliveries exceeded the forecast--this time by two vessels. Tankers were right on schedule; standard cargo types were two shy.

--faster, higher-flying planes demanded increasingly better fuels (WP-Aug28'42, p5). Finally, naval and other programs competed with aviation gasoline facilities for high-alloy steels, compressors, recording instruments, etc. Result: Only \$1,100,000, or about 1%, of the \$107,000,000 scheduled for 100-octane gasoline plants and machinery was in place on September 30, 1942.

POSTWAR ANGLE

(Largely because of postwar possibilities for 100-octane gasoline, privately financed expansion--\$473,200,000--exceeds that of the government by far. Although research and engineering work started earlier, actual construction on this program began early in 1941; as of September 30, 1942, \$107,200,000, or 23% of scheduled construction and equipment was in place. In all, \$3,444,000,000 of certificates of necessity have been

ing top radio talent, news writers, and poster illustrators, played up the importance and daring of the service. Special insignia were issued to merchant seamen. Only a fortnight ago President Roosevelt personally pinned the Distinguished Service Medal on Edwin F. Cheney, Jr., who swam through burning oil and rescued 11 of his crew mates

after his ship had been torpedoed.

Intensive recruiting accompanied the campaign. In New York, 30,000 men made inquiries in ten days, of whom 4,000 were registered and 500 assigned to ships at once. And the Recruitment and Manning Organization of WSA feels, as a result, that ships will come off the ways to waiting crews.

Machine Tool Backlog Drops

For the first time since Pearl Harbor shipments top demand. Orders will be worked off in about nine months at current output, less on basis of bluebook schedules.

DESPITE THE SCARCITY of materials and labor, shipments of machine tools increased about 35% to 40% in the first eight months of the year. In August, they reached a peak of \$117,400,000 and, for the first time since we entered the war, actually topped new orders (chart, page 11).

The cut in the backlog of orders between July and August was 2%--from \$1,117,000,000 to \$1,094,000,000. And at the June-July-August rate of shipments, it would take 9.6 months to fill the orders on company books at the end of August. In July, on a May-June-July basis, it would have taken 10.1 months to complete all the unfilled orders.

Since capacity for producing different types of tools varies, the backlog will be filled at different rates. For example, at the recent pace of shipments, all outstanding orders for certain types of gear cutters could be filled in 2.0 months, and for rounding and chamfering machines in 5.6 months, but for large gear hobbing machines it would take 20 months.

The recent rate of operations, however, is not the sole guide to how long

it takes to work off a backlog. Schedules of production oftentimes are rising sharply--though experience suggests that schedules tend to be optimistic--and on the basis of Army-Navy Munitions Board bluebook projections of average production, a 27.9-months' average backlog for die sinkers falls to 13.5 months; a 10.9-months' backlog for jig borers drops to 6.1 months. The ultimate reality probably lies somewhere in between; comparisons of the time required to work off backlogs for 20 critical tools on the basis of June-July-August operation and the average machine tool bluebook projection follow:

Machine Tool	No. of Months	
	June-July- Aug. Rate	Bluebook Projection
Die sinkers.....	27.9	13.5
Gear hobbers, 16" & over.....	20.0	5.3
Honing & lapping.....	14.0	5.8
Turret lathes, saddle.....	13.4	9.3
Auto. chucking (s.s.).....	13.1	10.3
Gear shapers.....	12.6	10.0
Duplicators.....	12.6	
Thread grinders..	12.5	6.5
Surface broach- ing.....	12.2	9.6

issued for privately financed plants. That's 20% of all publicly and privately financed war facilities.)

Having lost the benefit of an early start, progress of the laggards has been hampered further as projects have continued to pile up. In the first nine months this year, government-financed commitments for industrial facilities more than doubled--from \$6,200,000,000 on December 31, 1941, to \$13,500,000,000 on September 30, 1942. Construction completions and equipment deliveries

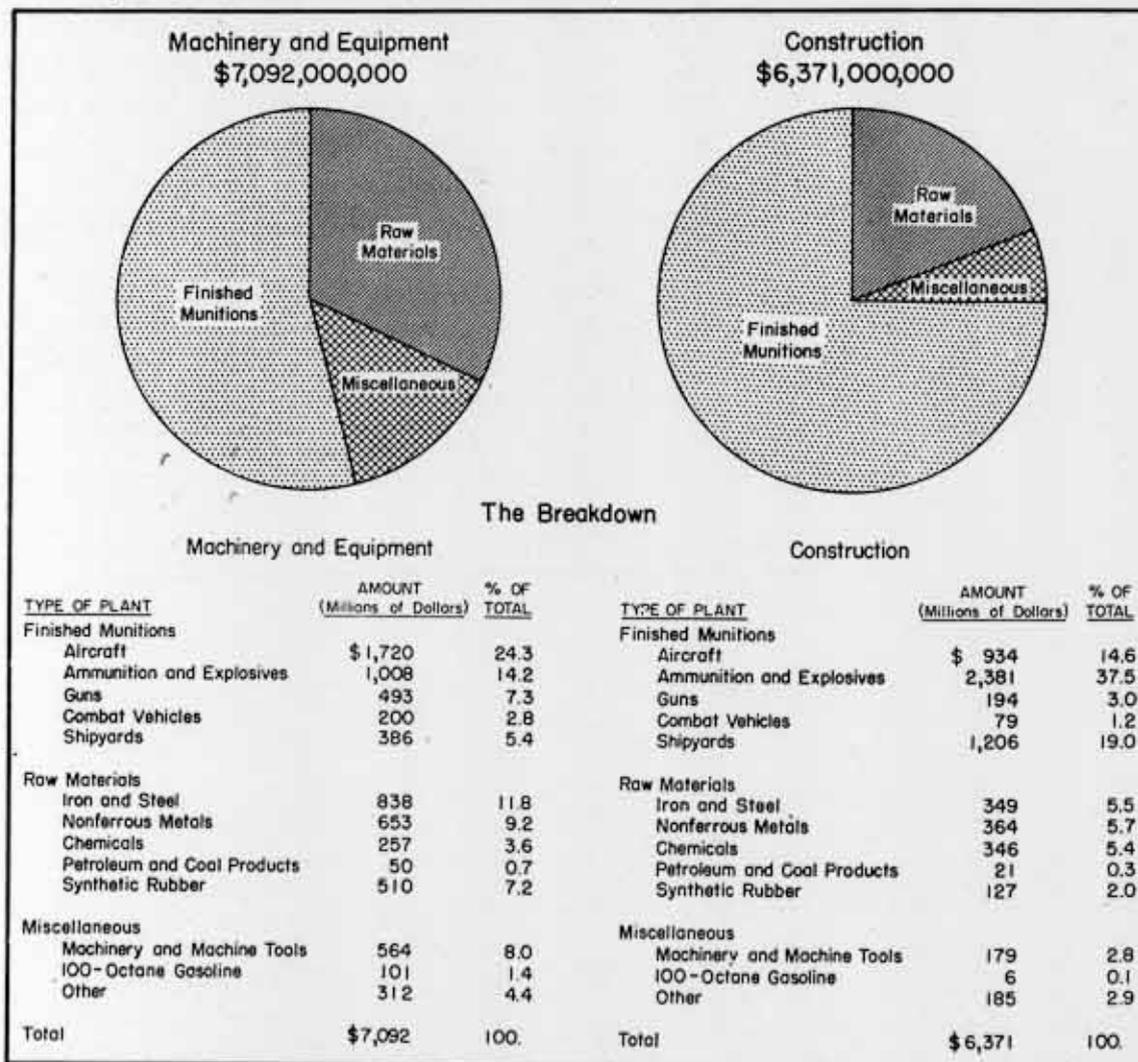
went up even faster, from \$2,400,000,000 to \$6,400,000,000. But the quantitative rise in the program was so great that the uncompleted work expanded to \$7,100,000,000 from \$3,800,000,000 (chart, page 5).

LONG WAY TO GO

The upshot of it is that many projects now on the books are only in the early stages of completion. They won't be producing things of war for many months. Yet they are siphoning off time, mate-

EQUIPMENT VS. BRICK AND MORTAR

An analysis of how the war facilities dollar is split.



DECEMBER 4, 1942

CONFIDENTIAL... 9

rials, machinery, and manpower from end products and other facilities that are closer to the stage of actual operation. Typical example was the projected \$45,000,000 steel castings plant at Hammond, Ind. The War Production Board last week ordered work halted. It was a case of not pouring \$44,000,000 of materials and man-hours after the \$1,000,000 already spent.

Directing World Traffic in Materials

Combined Raw Materials Board sends critical copper, rubber, and tin where it will do the most good; thus, Bolivian tin to U.S., African rubber to Britain, etc.

BEFORE THE WAR, such critical materials as rubber, tin, tungsten, manganese, chromite, etc. were at the beck and call of U.S. dollars and British pounds, and supplies were more than ample. But today, cut off from Far Eastern and European resources, and with demands greatly increased, this country and Britain must scratch, scrimp, and save what they have. That is the *raison d'etre* of the Combined Raw Materials Board.

CURBING COMPETITION

Organized last January by the United States and Great Britain, it is charged with the responsibility of distributing raw materials where they will be most effective in prosecuting the war, and where competitive bidding and cross-hauling will be minimized. Before making its decisions, CRMB consults other combined boards—the Combined Production and Resources Board, Combined Shipping Adjustment Board, and Combined Food Board. Its policies are carried out in the United States through such agencies as the War Production Board, Board of Economic Warfare, State Department, Metals Reserve Corporation, etc.; in Britain, through the Ministry of Supply.

Rubber provides an example of what CRMB does. By partitioning the available supply, CRMB prevents U.S. and

British procurement officers from getting in one another's way. Thus the Board directed that (1) Great Britain is to buy the entire African production (except Liberian rubber controlled by American interests) and (2) the United States the whole Latin American output. The output of Ceylon is to be purchased by the United Kingdom but is allocated by the CRMB to various claimant countries. And since Ceylon is the nearest source of supply to Soviet Russia, 20% of its rubber goes to that country.

DOLING OUT TIN

Similarly, with tin: CRMB has assigned to the United States about half the Bolivian concentrates, all Belgian Congo metal and concentrates, and concentrates from French Cameroons, Alaska, and Mexico; to England, the entire Nigerian output of concentrates, a portion of the Bolivian concentrates, and concentrates from Portugal, the United Kingdom, Southern Rhodesia, Southwest Africa, Tanganyika, Uganda, and the Union of South Africa. (Half the Bolivian tin is now smelted in the United States instead of England, saving transport.)

CUTTING UP COPPER

The Board also has directed the flow of copper. The United States is to import copper metal from Latin America and Turkey and copper concentrates from Latin America, Canada, and Newfoundland; the British are to take copper metal

from Africa, the United States, and Canada. Before the war no Chilean copper came to the United States.

In some cases, the CRMB has helped to expand production. It arranged for an Anglo-American mission to visit the Belgian Congo and see what strategic materials in addition to tin and copper could be taken out. It sent experts to Ecuador to find new stands of balsa wood; at CRMB's behest, plantings of abaca (source of Manila fiber) in Panama and Costa Rica and sisal in Haiti have been increased. A significant CRMB service was its provision of a continuous supply of Australian coal to keep New Caledonian nickel converters working at top speed.

Measures recommended by the CRMB have resulted in considerable savings of materials--the substitution of low-grade mica for scarce high-grade types; cotton bagging for burlap (jute is needed for twine). Conservation measures recommended by the CRMB are cabled by the State Department to all their consuls for local application.

FOUR-PART FUNCTION

Among other things, the CRMB coordinates United Nations buying arrangements and supervises international trade agreements, such as the barter deals now being negotiated by the United States and Great Britain with Spain and Portugal. It has set priorities on the movement of export materials on the over-worked Indian railways and the ferrying of tungsten, silk, tin, etc. out of China by air. It was instrumental in evacuating skilled Malayan tin miners to Australia. And two days after the British captured Tananarive, capital of Madagascar, CRMB had made arrangements for shipping 10,000 tons of graphite to the United States.

Thus, fundamentally, the Board's functions are divided into four parts:

(1) to distribute available supplies of critical materials so that they can be used most effectively by the United Nations; (2) to stimulate production where possible; (3) to encourage savings and substitutions on a United Nations, rather than a national, scale; and (4) arrange for coordinated and noncompetitive buying and shipping.

War Progress Notes

PATTERN FOR OCCUPATION

IN PLACE OF PILLAGE, American armies will bring succor to occupied territories according to the design for French North Africa, which will get over \$50,000,000 in lend-lease supplies next quarter. Food, clothing, and industrial supplies are predominant in the allocations.

The program--subject to revision as conditions in Algiers and Morocco change--provides for shipment of about 175,000 tons of soft coal for railroad locomotives and generating plants; 2,500 tons of fertilizer; thousands of spare parts for agricultural implements, and quantities of gasoline and diesel oil as well as matches and kerosene for home lighting. (North African homes are still in the pre-electric era.)

To supplement Algerian and Moroccan food stocks--depleted by German confiscations--the U.S. plans to ship the following farm products (pounds):

Milk, powdered & evap.	3,200,000
Cheese.....	2,000,000
Refined sugar.....	75,000,000
Vegetable oils.....	8,000,000
Green tea.....	1,800,000
Tobacco.....	4,000,000
Soap.....	1,000,000

On the lend-lease purchase program for French North Africa are also 450,000 pairs of shoes, 50,000,000 yards of cotton cloth, and a considerable amount

of cotton suits, knitted wear and hosiery. Medical and hospital supplies range from surgical instruments and bandages to sulfa drugs and antitoxins. To keep the population informed, 1,000 tons of newsprint will be shipped.

PRICE RISE FLATTENS OUT

FOR A YEAR AND A HALF before the General Maximum Price Regulation went into effect in April, commodity prices had been advancing at an average rate of 1% to 2% per month (chart, below). In the

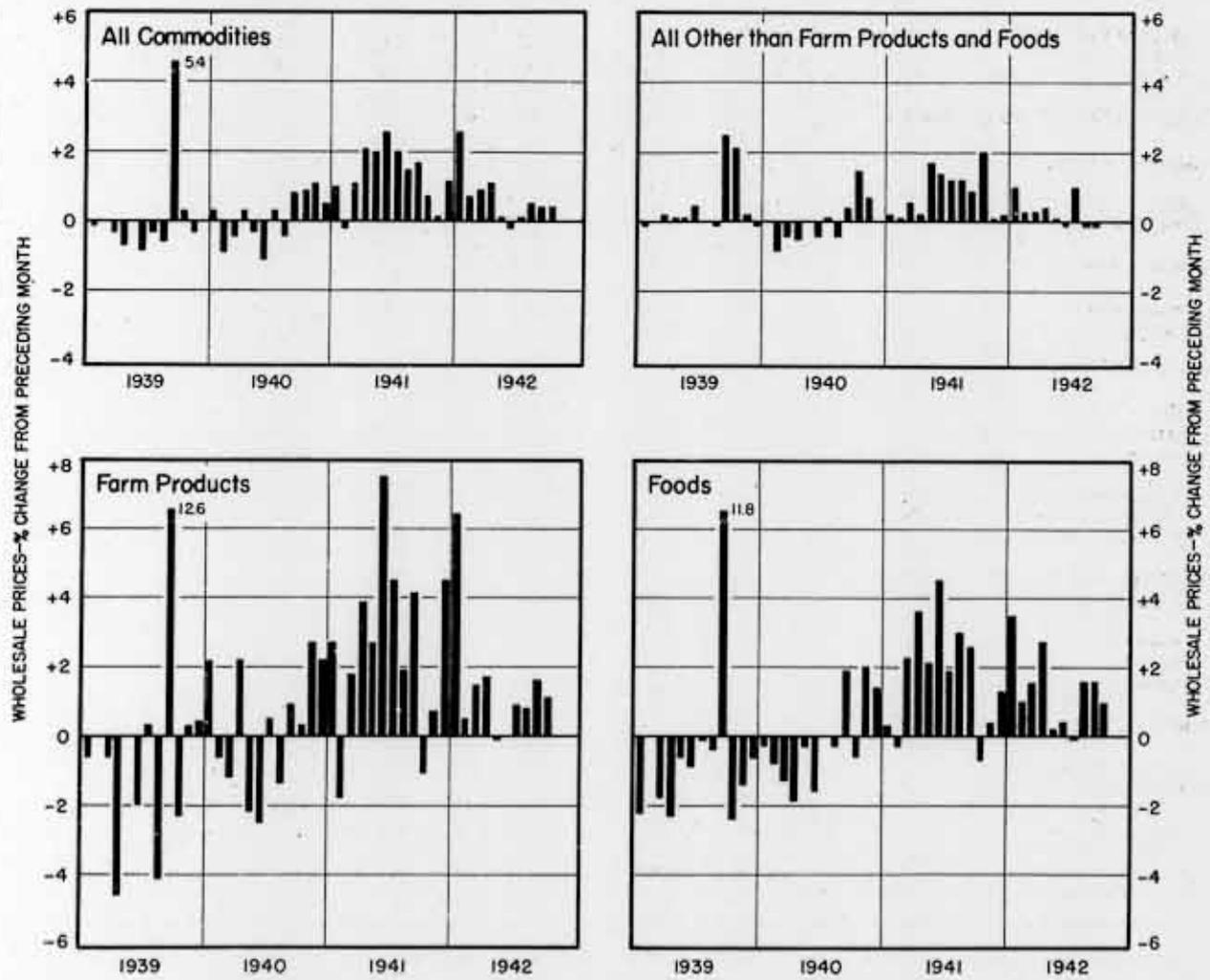
six months since GMPR, the advances have averaged about 0.2% per month, and these have been due entirely to the farm product and food groups.

PLASTIC SCREENINGS

INSECTS AND FLIES, instead of being kept out of dwellings by old-fashioned metal screens, will in the future find their way barred by screens made of non-critical plastics. Screening is one of the newest--and most unusual--products added to the long list being made of plastics.

MONTH-TO-MONTH PRICE INCREASES NARROWING

Farm products and foods are still advancing, but at sharply lower rate than in 1941; stabilization apparent in "all other" group.



ECONOMIC TRENDS

Transportation - Federal Finances - Construction

	Latest Month	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
TRANSPORTATION (1935-39 = 100)†							
Commodity and passenger	195	r192	r186	158	154	121	a110
Commodity - total	192	r189	r184	161	162	126	a111
Railroad	214	209	203	174	165	125	a112
Waterborne (domestic)	104	105	107	r59	r147	143	a114
Intercity truck	147	r152	r150	166	179	135	a104
Pipe line	130	r129	r122	126	122	105	a110
Air transport	373	r359	r349	292	219	136	a103
Passenger-total	205	r203	193	148	132	108	a106
Railroad	302	289	256	165	140	116	a113
Intercity bus	243	r273	280	159	163	117	a102
Air transport	301	296	270	324	380	182	a94
Local transit	142	136	134	131	112	98	a103
Freight carloadings (thousand cars weekly)	809	902	876	834	863	742	647
Less-than-carload	89	92	87	98	154	153	156
Miscellaneous	384	432	412	376	386	306	255
All Other	336	378	377	360	323	283	236
FEDERAL FINANCE (billion dollars)							
Expenditures-total (b)	6.4	5.9	5.9	4.0	1.9	.6	.5
War	6.1	5.5	5.4	3.6	1.4	-	-
All other	.3	.4	.5	.4	.4	.6	.5
Receipts - total	.6	.6	2.5	.6	.6	.4	.3
Income tax	.2	.2	2.1	.2	.1	a	a
All other	.4	.4	.4	.4	.5	.3	.2
Federal debt							
Gross debt	96.1	92.9	86.5	68.6	55.0	41.3	37.1
Balance in general fund	3.1	4.9	4.3	2.8	2.3	2.2	2.6
Net debt	93.0	88.0	82.2	65.8	52.7	39.1	34.5
Guaranteed obligations (excluding those owned by the Treasury)	4.3	4.3	4.6	5.7	6.3	5.7	4.6
Net debt and gtd. obligations	97.3	92.3	86.8	71.5	59.0	44.8	39.1
War bond sales - total funds rec'd (million dollars)	735	935	755	634	234	-	-
Series E	542	665	510	422	110	-	-
Series F	45	60	61	42	19	-	-
Series G	148	210	184	170	105	-	-
CONSTRUCTION (million dollars)							
Facilities - applications for certificates of necessity							
Total approved	170	167	198	274	57	-	-
Private funds	149	144	180	241	52	-	-
Public funds	21	23	18	33	5	-	-

* Transportation indexes, September; freight carloadings, federal finances, November; construction, October. † Not adjusted for seasonal. a Annual rate. (b) Treasury general fund only. r Revised.

ECONOMIC TRENDS

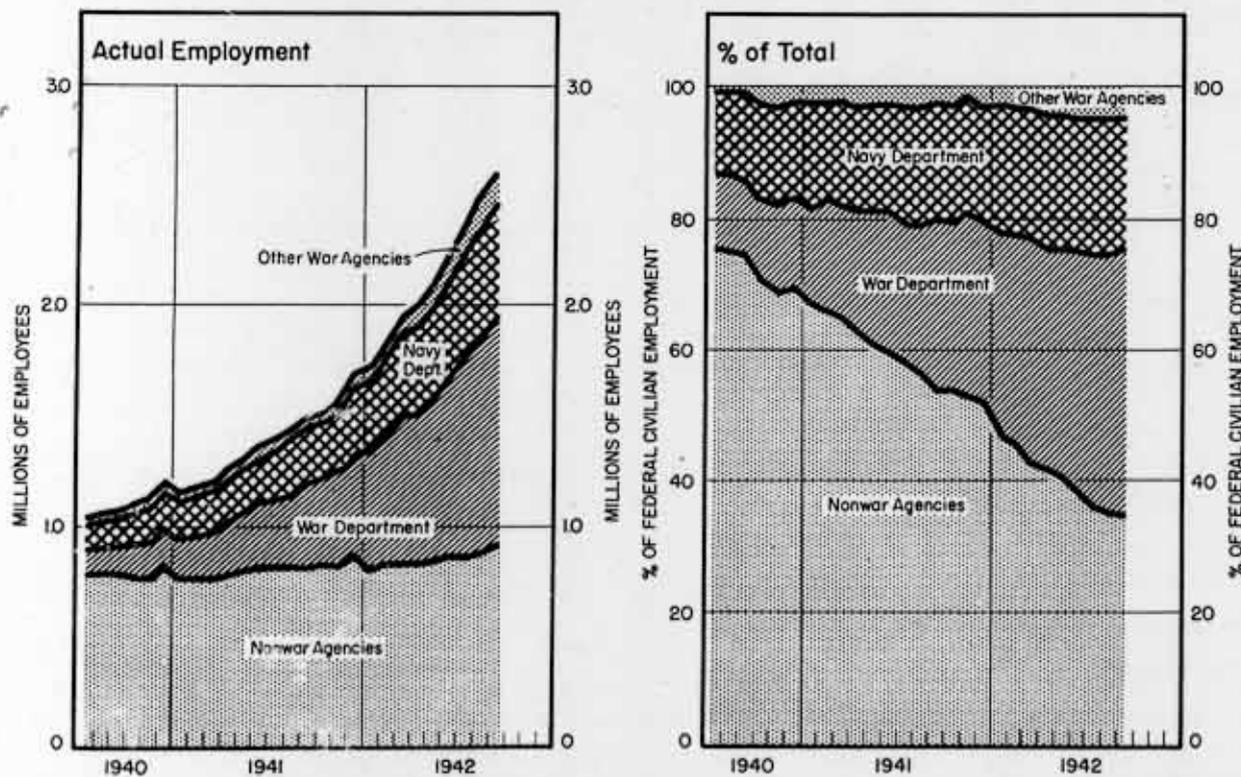
Retail Sales - Employment

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
RETAIL SALES (million dollars)							
Total	5,310	4,888	4,656	4,584	4,711	3,766	3,676
Durable goods	882	850	856	859	1,128	942	855
Nondurable goods	4,427	4,038	3,800	3,725	3,582	2,824	2,821
EMPLOYMENT (thousands)							
Nonagricultural-total	38,555	r38,348	37,802	35,998	36,053	31,110	31,155
Manufacturing-total	15,297	r15,233	14,980	14,109	13,597	10,780	11,030
Durable goods	8,582	8,440	8,284	7,605	7,057	4,840	5,228
Nondurable goods	6,715	6,795	6,696	6,504	6,540	5,940	5,802
Construction	2,089	r2,185	2,181	1,771	2,204	1,527	1,315
All other	21,169	20,949	20,641	20,118	20,252	18,803	18,810

*October. r Revised.

WAR SWALLOWS UP THE GOVERNMENT

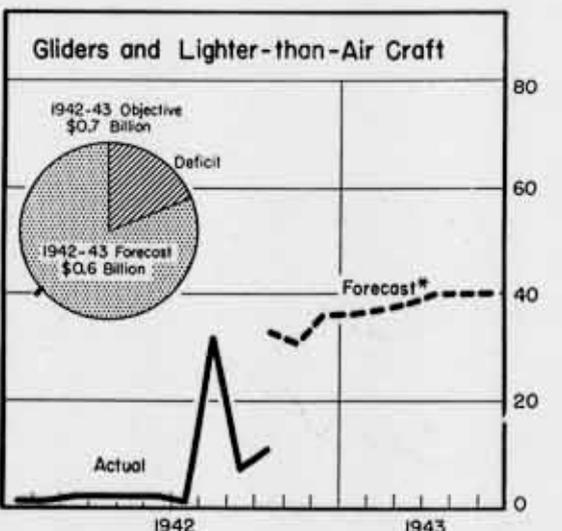
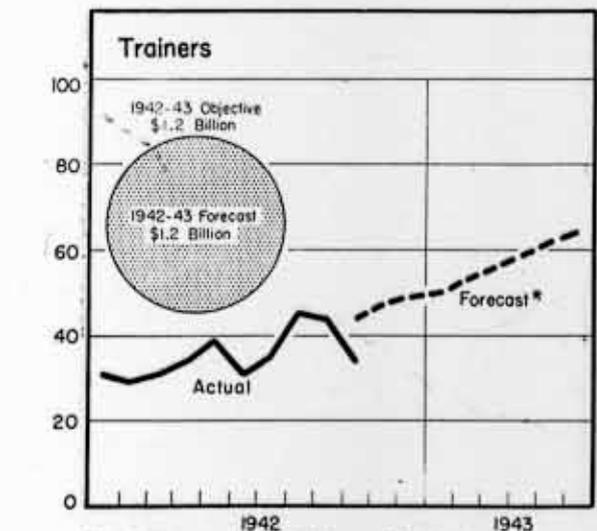
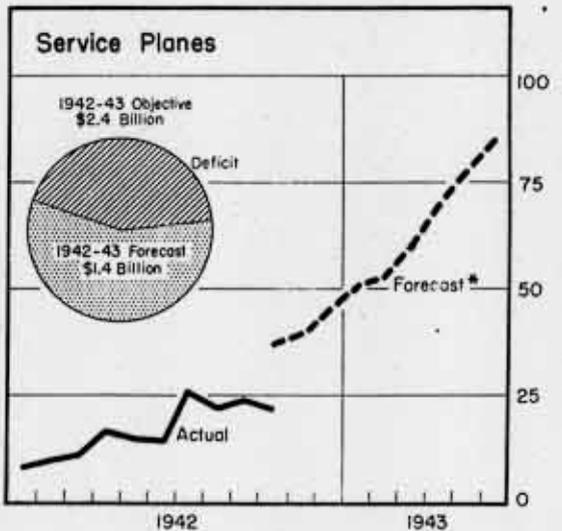
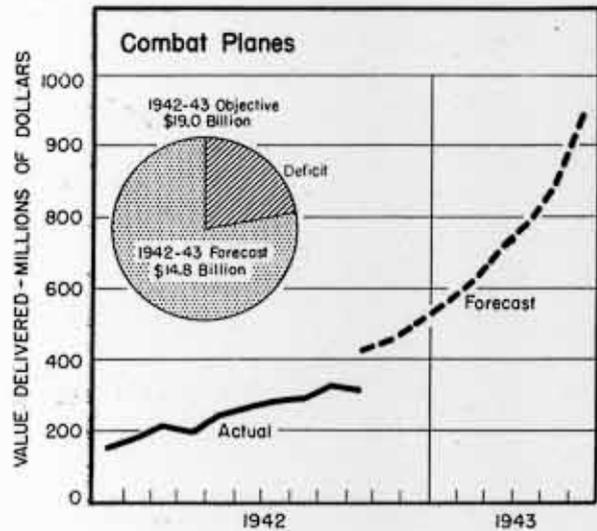
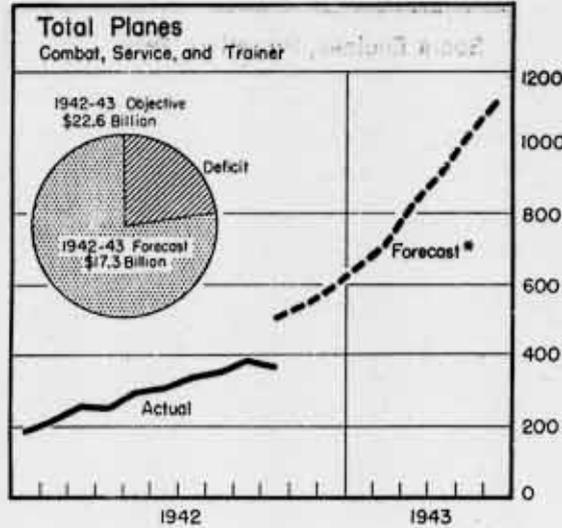
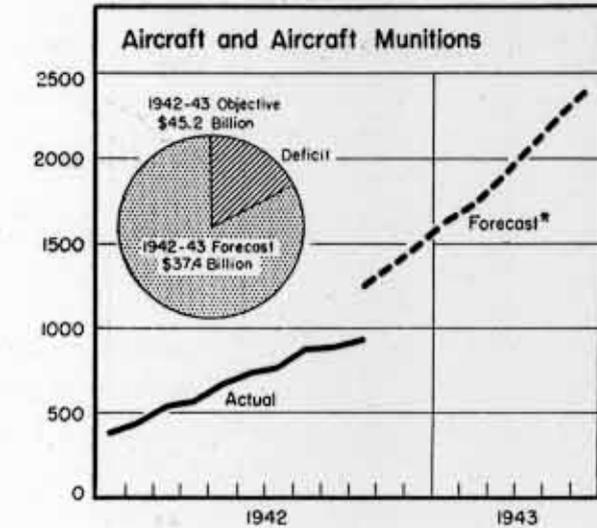
Two-thirds of federal civilian workers now in war agencies, and 100,000 more being added each month; nonwar payrolls maintained.



WAR PROGRESS

PRODUCTION PROGRESS

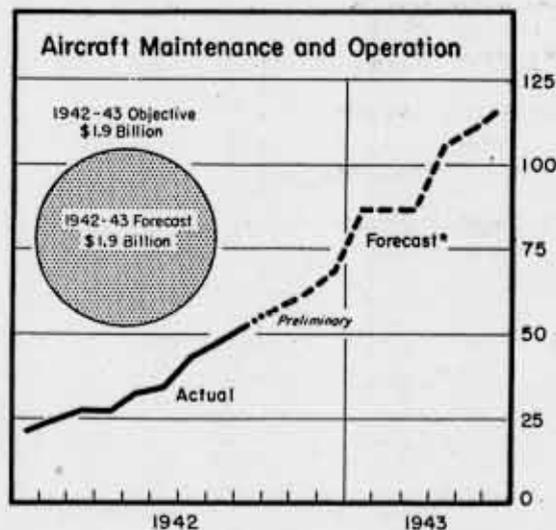
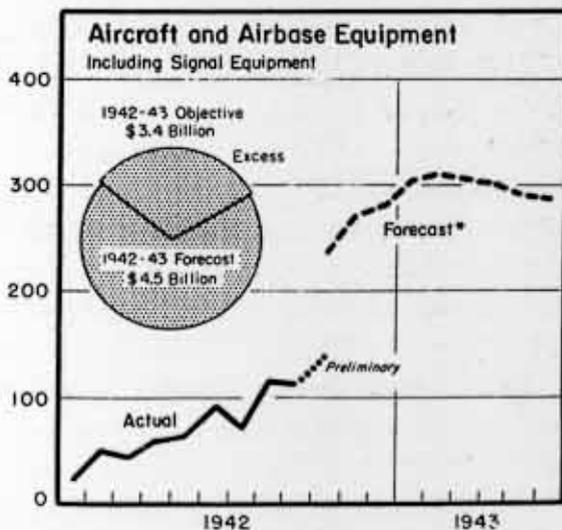
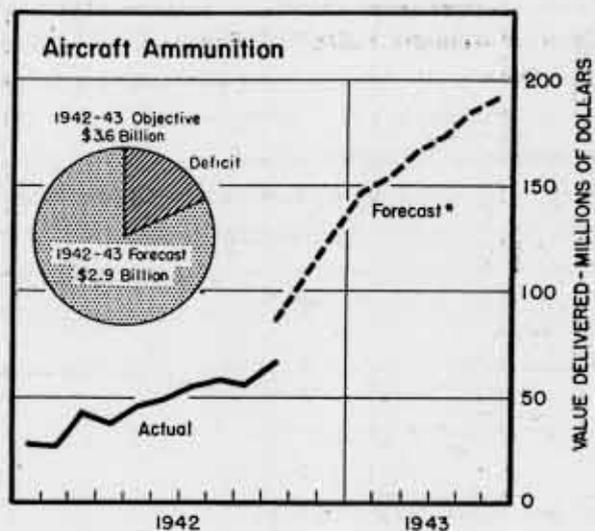
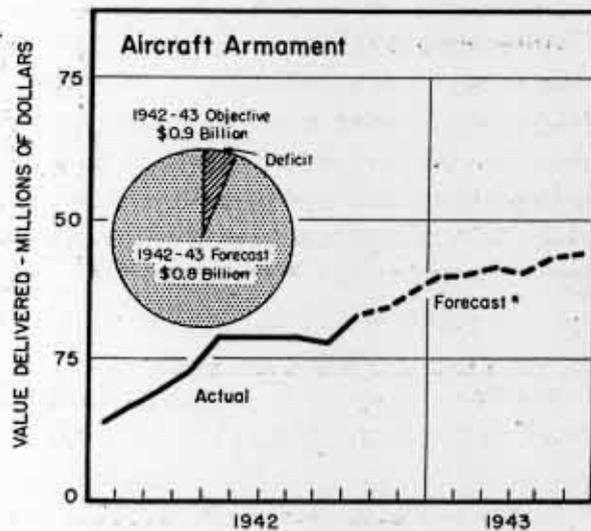
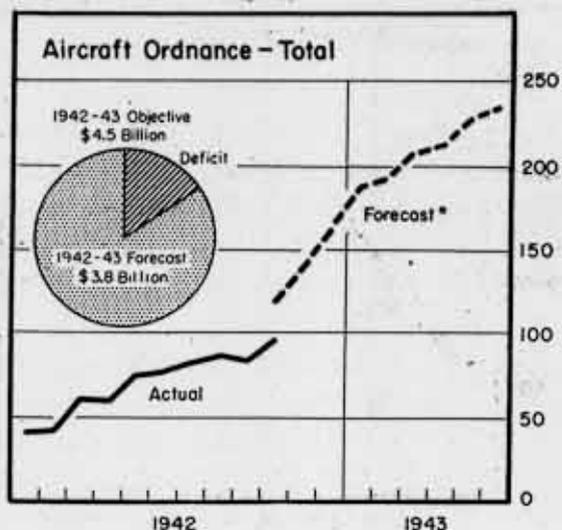
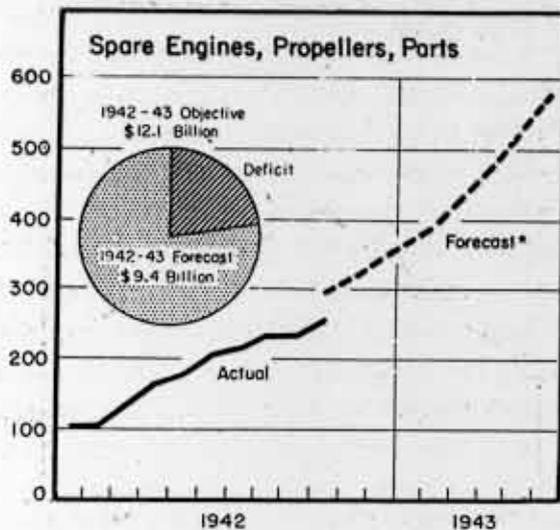
Aircraft and Aircraft Munitions



*Based on procurement schedules as of October 1.

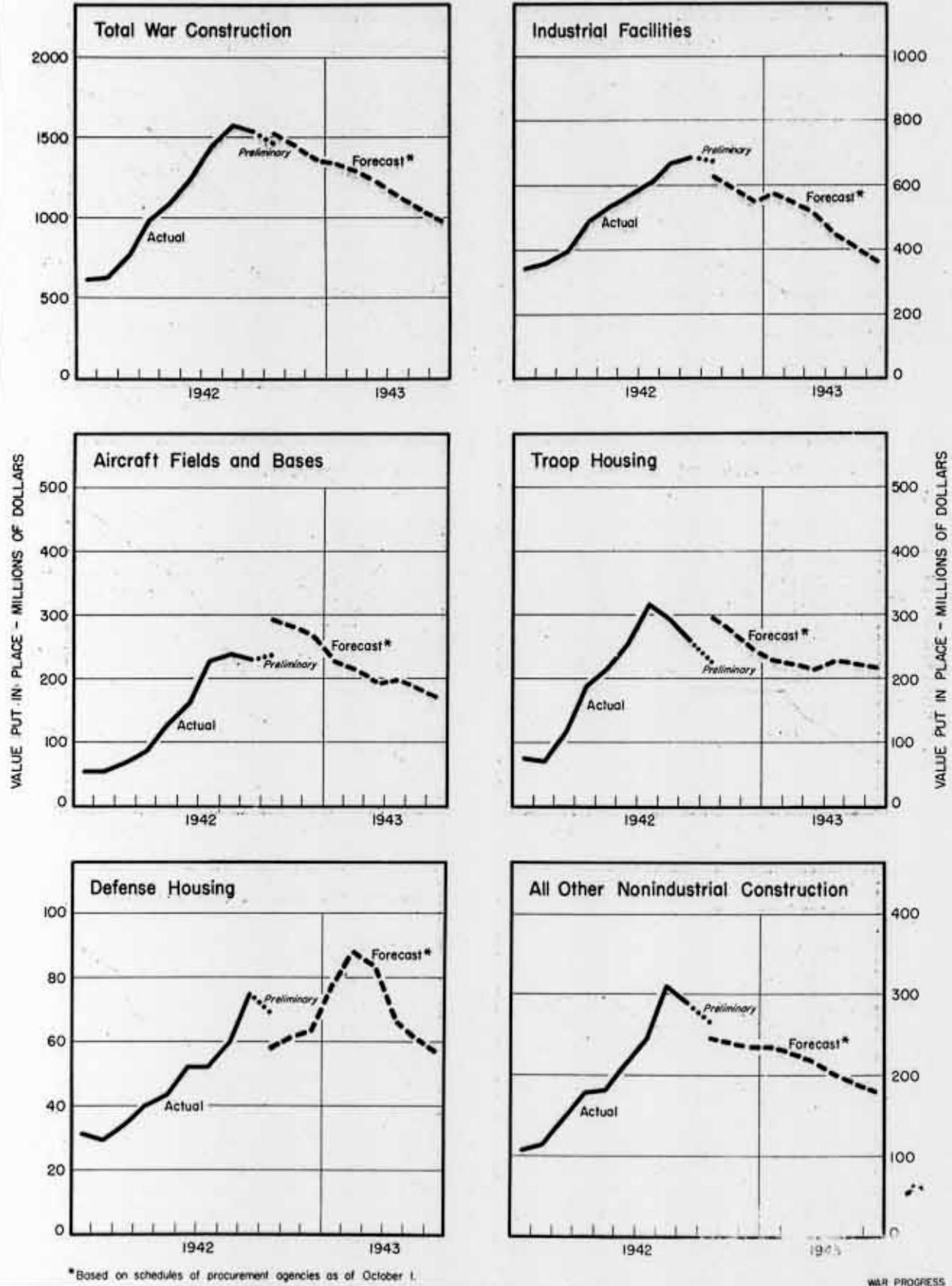
PRODUCTION PROGRESS

Aircraft and Aircraft Munitions (Continued)



*Based on procurement schedules as of October 1

PRODUCTION PROGRESS War Construction



*Based on schedules of procurement agencies as of October 1.

The Crystal Ball

WAR PROGRESS

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DECLASSIFIED
E.O. 11652, Sec. 1.4(c) and 1.4(d) of GFI
Exempt from GDS, Exempt from GDS
By RMP, 2008 MAR 29 1973

Smart Recovery in War Output
Log of the Landing Craft
Scorecard on Merchant Shipping

Number 117

December 11, 1942

Machine Tool	No. of Months	
	June-July- Aug. Rate	Bluebook Projection
internal cyl. grinders.....	12.2	7.3
Auto. (bet. center) lathes..	12.1	5.9
Engine lathes, 24" & over.....	12.1	7.5
Precision boring.....	12.0	7.4
Internal broaching.....	11.5	10.1
Multispindle way & special drills	11.5	5.2
Gear hobbers up to 16".....	11.2	5.8
Auto. chuck- ing (m.s.).....	11.2	10.0
External cyl. grinders.....	11.1	7.2
Gear grinders....	11.0	7.5
Jig borers.....	10.9	6.1

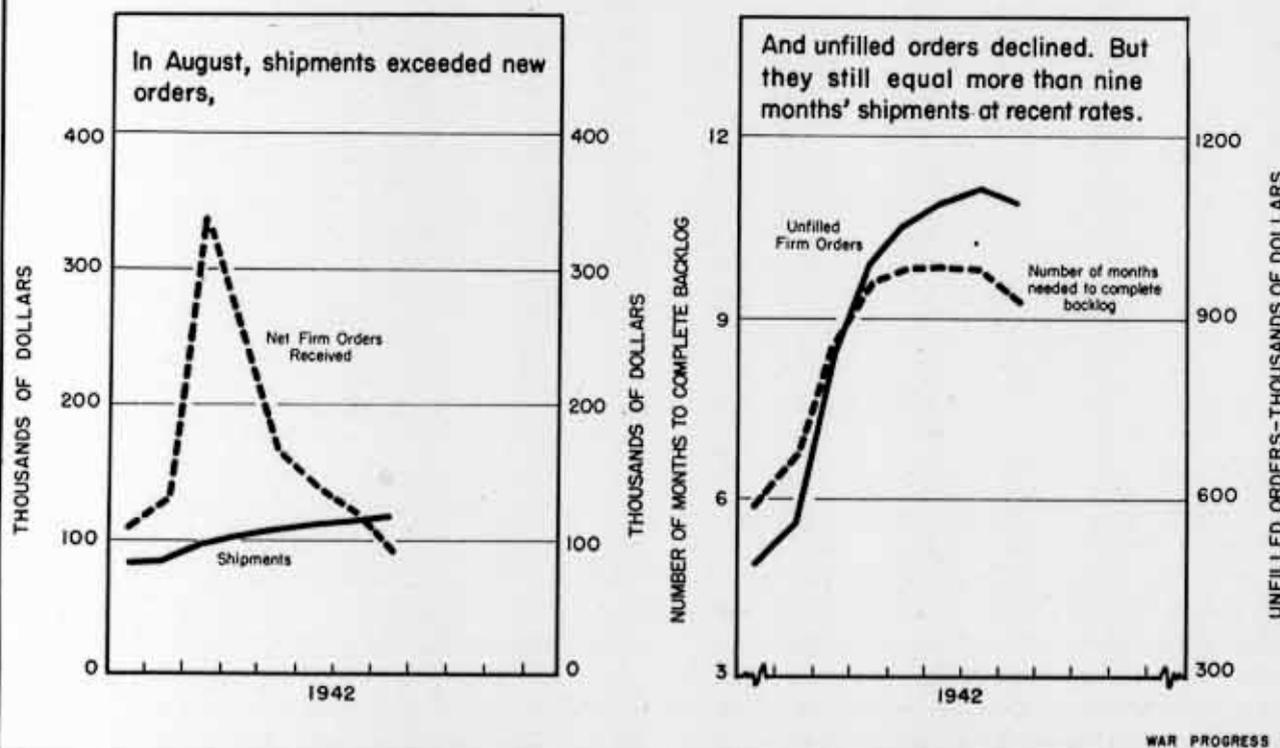
The number of months' backlog is, of course, not the real measure of the tool shortage. The point is whether the tools can be delivered when plants need them. A 12-month backlog on tools to be shipped to uncompleted plants is a less serious problem than a 6-month backlog on tools immediately needed.

EXPORTS DECLINE

Foreign nations are getting a smaller portion of U. S. machine tool output. Exports declined from an average of 17.8% of dollar value in the first quarter of 1942 to 7.9% in July. The United Kingdom received 51% (in dollar value) of machine tools exported in the first seven months of the year, Canada 18.4%, Russia 18.3%. Particularly significant is the drop in shipments to Russia, which were \$2,450,000 in June and only \$1,340,000 in July.

In general, the machine tool situ-

MACHINE TOOL SHIPMENTS RISE AGAIN, AS BACKLOG DROPS FOR FIRST TIME



November Munitions Output Up 11%

All major categories—airplanes, naval ships, combat vehicles, guns and ammunition—participate in rebound from measly 3% gain in October.

WAR OUTPUT IN NOVEMBER recovered smartly from its poor showing in October. The value of munitions production—on a value delivered or in place basis—reached a new high for the year at \$3,746,000,000 (preliminary), up 11%. Not only was this increase three times greater than the modest 3% September-October gain, but also it broke a six-months' succession of diminishing increases and was the best gain in five months:

	<u>% Gain</u>
January-February.....	5%
February-March.....	17
March-April.....	19
April-May.....	13
May-June.....	12
June-July.....	10
July-August.....	8
August-September.....	5
September-October.....	3
October-November.....	11

The downward trend in construction continued at an accelerating rate and pulled down the overall output of "hard items." Total munitions and war construction amounted to \$5,103,000,000 (preliminary), up only 5%, as against the 11% gain in munitions alone.

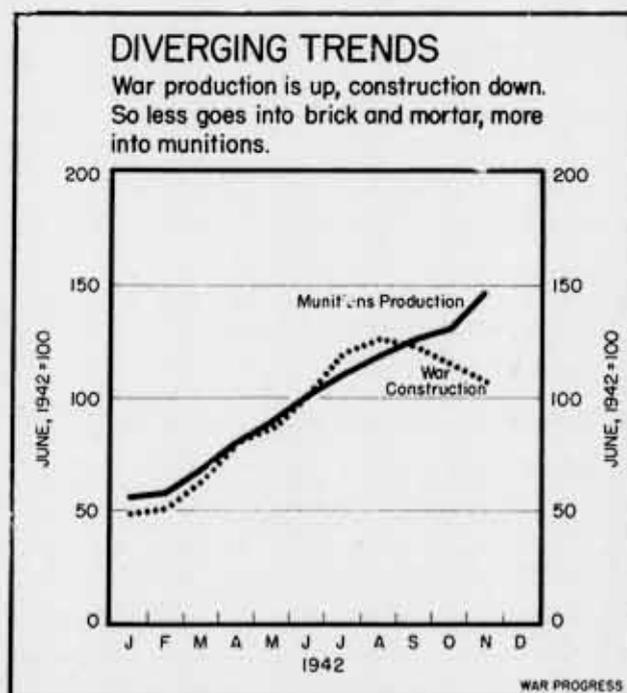
Construction put in place, at \$1,357,000,000, was off 8% from October. This compared with a 4% drop from September to October and a 2% drop from August to September. This accelerating decline is in accord with policy. Con-

struction schedules are being pared (WP-Nov20'42,p4) to free critical materials for direct munitions. Thus current and future increases in munitions can properly be chargeable in part to the drop in war construction (chart, below).

IMPORTANT ITEMS UP

All major categories contributed to the 11% November jump in the value of munitions delivered or put in place, as the Production Progress tabulation on page 2 indicates. In October, three important items—combat planes, artillery and tank cannon ammunition, and anti-aircraft ammunition—declined. None was off last month, and an increase as high as 45% (for artillery and equipment) was realized.

An important factor in the 11% increase in munitions was airplanes, up 17% in value, as previously reported



(WP-Dec4'42,pl). In this case, however, the rise was to some extent fashioned by accident. A group of planes scheduled to be accepted toward the end of October was actually not accepted until November 1. This cut down the October total, raised November's and boosted the month-to-month gain.

Bombers in November moved 14% ahead of October, mainly because of a 54% increase in acceptances of medium bombers; these had not done well in October. Heavy and light bombers were both up 6%. Bombers as a group were close to the new 8-L forecast, but 19% below the 8-K schedule which 8-L is superseding.

PURSUIT CLIMB 26%

Pursuit planes, which in October had barely moved ahead of September, last month advanced 26%, led by one-engined army pursuit planes and the perennially good performers, navy fighters. Twin-engined fighters were about the same as in October. Fighters slightly exceeded the 8-L forecast for November, but were 16% shy of the 8-K schedule.

Acceptances of trainers, after a one-month recession in October, bounced back

IN THIS ISSUE:

NOVEMBER MUNITIONS OUTPUT UP 11%	1
PRODUCTION PROGRESS PRELIMINARY (TABLE) .	2
KEY STATISTICS OF THE WEEK.	3
LANDING CRAFT—A RACE FROM SCRATCH. . . .	6
EUREKA—BOAT BEGINNINGS.	6
NO MARGIN FOR ERROR	9
SCORECARD ON MERCHANT SHIPPING.	10
WAR PROGRESS NOTES.	11
GODCHILD OF DEPRESSION, CASUALTY OF WAR. .	12
ECONOMIC TRENDS (TABLES).	13,14
PRODUCTION PROGRESS (GROUND ARMY MUNITIONS)	15,16

PRODUCTION PROGRESS—Preliminary

Value delivered or put in place in November.

Millions of dollars

	November Preliminary	% Change from October
Total munitions.....	3,746	+11%
Combat munitions (a).....	3,043	+12
Aircraft and aircraft munitions.....	1,057	+13
Ground army munitions (b).....	860	+13
Naval and Army vessels etc.....	913	+ 9
Merchant vessels.....	213	+11
Combat planes.....	365	+17
Aircraft armament.....	37	+13
Aircraft ammunition.....	74	+12
Artillery and equipment.....	97	+45
Antiaircraft guns and equipment.....	104	+10
Small arms and infantry weapons.....	50	+13
Artillery and tank cannon amm.....	122	+14
Antiaircraft ammunition.....	18	+16
Small arm etc., amm.....	137	+ 2
Combat vehicles.....	236	+12

(a) Fighting items: Aircraft and aircraft munitions; ground army ordnance and ground signal equipment; naval, army, and merchant vessels and equipment. (b) Ground army ordnance and ground signal equipment.

to exceed both 8-K and 8-L forecasts. Communication planes again ran far below schedules.

The glider program started to move last month, even though deliveries were 56% behind schedule. Acceptances—in dollar terms—have risen in two months from \$1,270,000 (in September) to \$21,100,000 in November. And during November, two-thirds of the gliders were troop carriers, only one-third trainers. In September, the relationship was reversed: 17% troop carriers, 83% trainers.

BATTLESHIP DELIVERED

Making a sharp recovery from October, actual deliveries of naval vessels increased 34%, in dollar value, but lagged 8% behind forecast. This increase was greatly influenced by the delivery of the 35,000-ton battleship, "Alabama," last of her class. (On a value put in place basis, the rise was only 13%.)

Deliveries of major combat vessels were up 28%, exceeding the forecast by 17%—one light cruiser was delivered

ahead of schedule. Landing vessels again showed the biggest jump (86%).

Gains in major ordnance items (Progress charts, pages 15, 16) range from 9% for tanks and ammunition to 16% for small arms and 133% for self-propelled guns.

BEHIND FORECASTS

Despite the general production gains, however, most major combat items fell short of schedules; for example, ten out of the dozen categories in the following table were behind the forecast:

	November Deliveries	
	as % of Oct.	as % of Forecast
Tank guns.....	84%	130%
Major combat vessels	128	117
Landing vessels.....	186	99
AA guns, equip. amm.	102	88
Small arms & infantry weapons.....	109	95
Maritime Comm. ships	104	94

	November Deliveries	
	as % of Oct.	as % of Forecast
Tanks.....	109	88
Amm. for artillery & tank guns.....	114	86
Wheeled artillery...	69	78
Self-propelled guns.	233	76
Minor combat vessels	98	66
Naval auxiliaries...	176	65

The excellent performance in self-propelled gun carriages and medium tanks (the latter were up 54%) was due in part to a change in the basis of acceptance. Vehicles delivered without the full complement of spare tracks were considered "good." Light tank deliveries were off 48%, however; technical difficulties, expected to be cleaned up this month, arose in the adoption of a new type of armor plate.

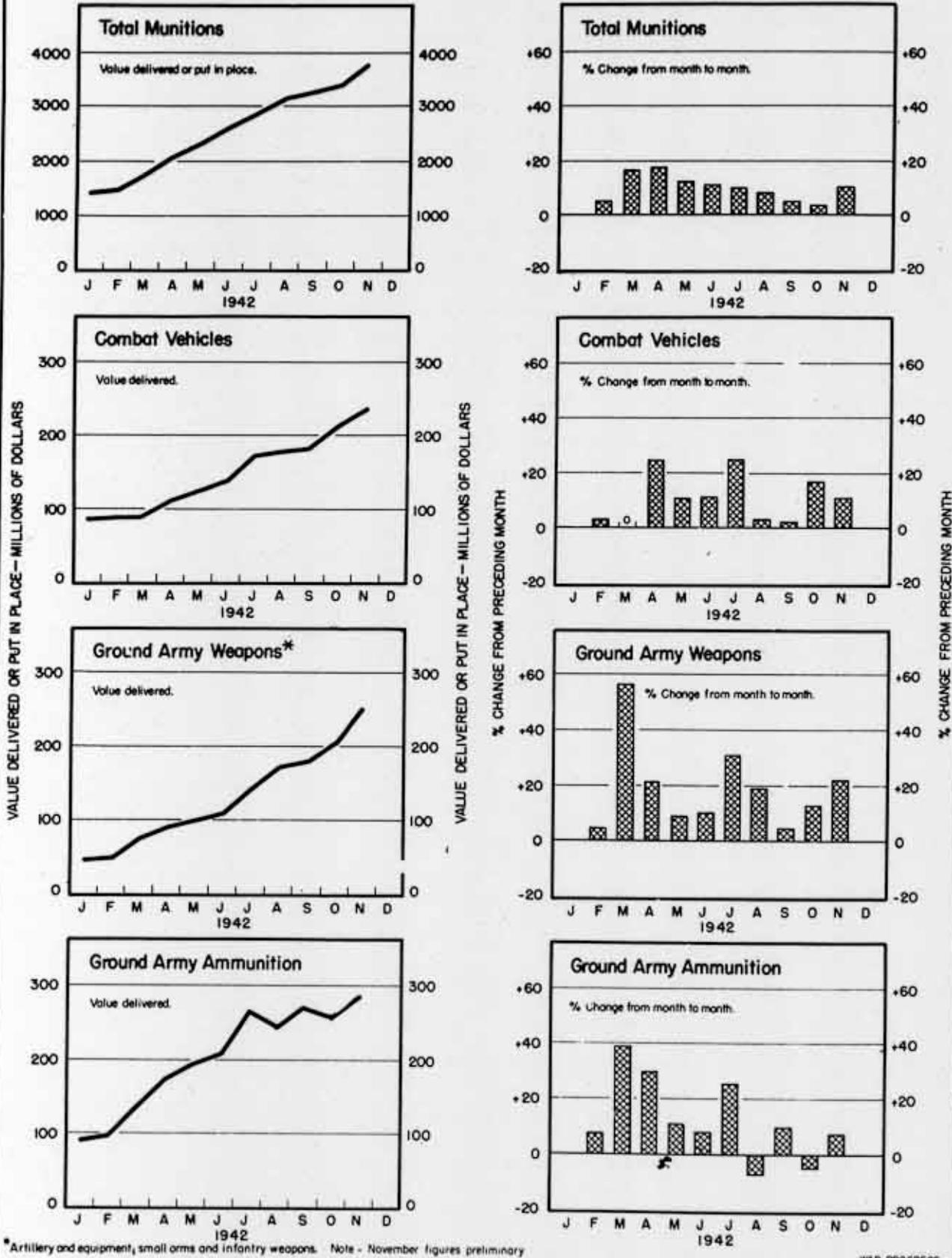
The 105mm. field howitzer—the basic artillery piece—was down more than 90%

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program - Checks paid (millions of dollars) -----	1,347.6	1,139	1,922	840	410
War bond sales (millions of dollars) -----	184	211	96	154	78
Commodity prices (August 1939 = 100)					
28 Basic commodities -----	170.5	170.2	170.4	166.0	156.7
Controlled -----	162.0	161.9	162.1	160.9	157.4
Uncontrolled -----	191.8	190.7	191.4	179.1	154.8
Nonferrous metal scrap -----	117.5	117.5	117.5	127.1	131.5
Petroleum carloadings (no. of tank cars)					
Total -----	51,342	51,527	51,689	54,280	49,680
Movement into East -----	25,358	25,146	25,145	22,227	2,181
Exports (no. of freight cars unloaded for export Friday)					
Atlantic Coast ports -----	1,144	924	1,222	1,606	1,431
Gulf Coast ports -----	431	239	356	541	418
Pacific Coast ports -----	1,021	962	961	501	207
Strikes affecting the war effort					
Number in progress -----	10	14	4	11	n.a.
Man-days lost -----	9,470	20,600	2,895	20,199	n.a.
Unused steel capacity (% operations below capacity) -----	1.4	1.7	0.4	0.7	2.4

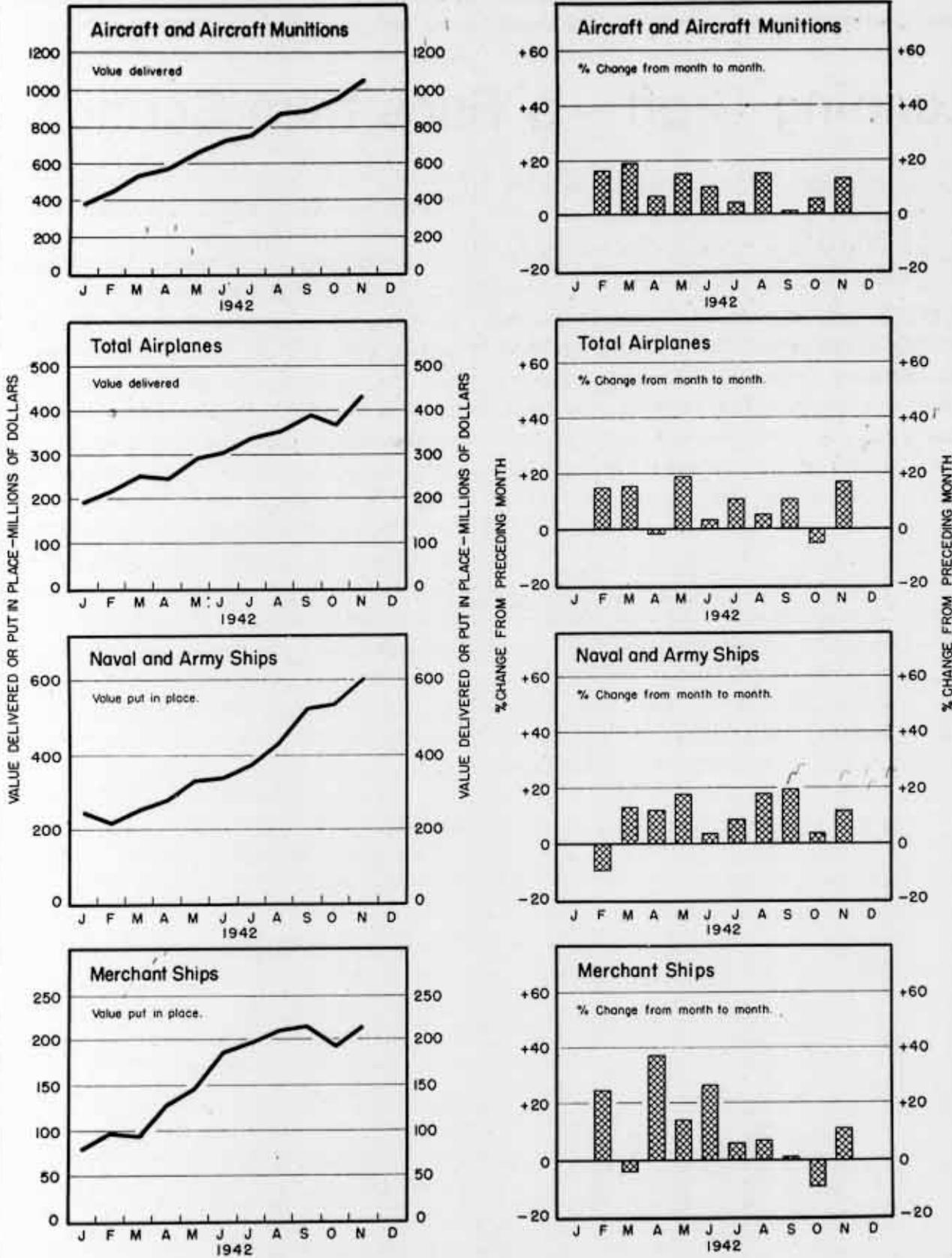
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NOVEMBER RECOVERY: WAR OUTPUT UP SMARTLY— Increases are general as munitions production rises 11%, overshadowing October's



-HALTING SIX MONTHS' DOWNTREND IN GAINS

small advance of 3%. Airplanes, Ground Army Weapons in lead.



from October, due to the diversion to self-propelled gun mounts. Self-propelled 105mm. howitzers were up 800%. In the small arms category, machine guns made the best overall showing, followed

closely by Garand rifles and carbines. But production of ammunition for small arms and infantry weapons was up only slightly; copper deliveries—as usual—were the retarding influence.

Landing Craft — a Race from Scratch

Production is geared to strategic needs, as deliveries of invasion vessels rise from \$ 2,000,000 a month in the spring to \$ 100,000,000 in November.

BY THE SPRING of this year, the American landing craft program had hardly started—deliveries in the first quarter averaged only \$2,000,000 a month, or less than 2% of the total for all naval ships. Yet a month ago we invaded Africa with hundreds of landing craft carrying tanks, trucks, and men.

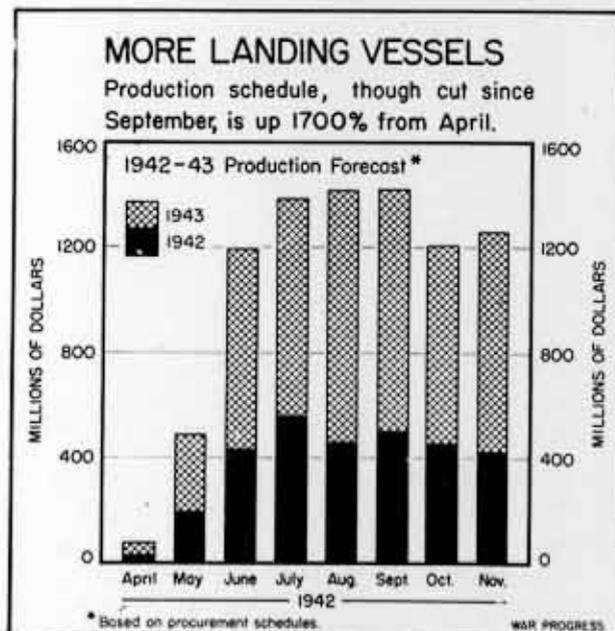
EMPHATIC UPSWING

What happened can best be shown by the statistics: Landing craft deliveries rose from \$2,275,000 in April to more than \$5,000,000 in May, \$26,000,000 in August, \$41,000,000 in September, and \$54,000,000 in October. Schedules

EUREKA — BOAT BEGINNINGS

A DECADE AGO, southern Louisiana oil drillers needed a boat to ply shallow, debris-filled water without going aground or fouling the propeller. Higgins Industries designed such a vessel, and it is the prototype of the shallow-draft Eureka landing boat, which numerically dominates the U.S. landing craft program.

The craft have also been used in South America, Australia, and Africa to reach remote sources of rubber and other critical materials. And contemplated is an ocean freighter version which could land supplies on almost any shore without need of port facilities.



were even more ambitious, calling for \$47,500,000 in September, \$64,000,000 in October. In August, however, deliveries exceeded the forecast by 12%.

EXPEDITING AGENCY

To build up production speedily, the Navy created a new unit—the Landing Craft Expediting Agency. Its special job was to speed procurement of necessary materials, and landing craft were accorded top priority ratings. Moreover, not only available shipyards but structural steel plants and other metal working facilities located on inland water sites (map, page 8) were pressed into service. (Because it did such a

good job, the Landing Craft Expediting Agency has now been directed to speed up the destroyer escort vessel program.)

MAJOR NAVAL ITEM

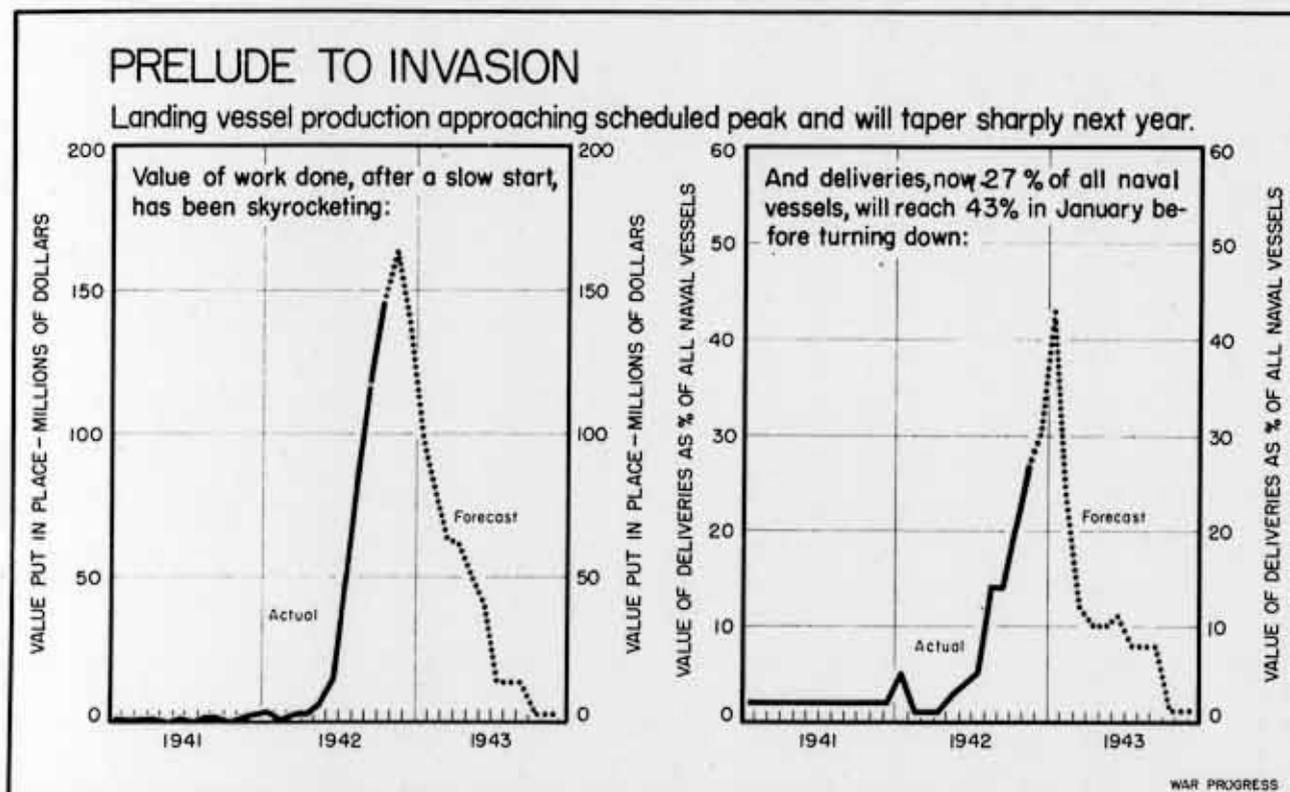
Such sharp acceleration of the landing craft program has naturally built up its proportion of total naval construction. From a nominal percentage of total naval ship deliveries in the first quarter, it rose to 27% in November; and, on the basis of October 1 forecasts, landing craft will reach 43% of the value of total deliveries of all naval ships in January (chart, below).

This sharp rise in the proportion of landing craft to total naval ship construction is directly traceable to strategic upward revisions in the landing craft program. In April, the 1942-

43 landing craft program amounted to only \$76,000,000; but seven months later the total had advanced to \$1,260,000,000. Early in 1943 the program is scheduled to taper off both relatively and absolutely unless strategic conditions at that time determine otherwise. Some other naval construction--particularly lighter combat craft--has been bumped off stride by the swift-paced landing vessel program. But this situation is being alleviated as landing vessel yards round out their inventories of needed materials.

WIDE RANGE OF TYPES

Our landing craft range all the way from paddle-pushed rubber boats to craft that actually carry other craft--and building periods may be as low as three



FROM A MONTHLY AVERAGE OF ONLY \$2,000,000 IN THE FIRST QUARTER OF THIS YEAR, WORK DONE ON LANDING VESSELS SOARED TO \$145,000,000 IN OCTOBER ALONE. DELIVERIES WERE NOT QUITE SO HIGH--\$54,000,000 IN OCTOBER, \$100,000,000 IN NOVEMBER--BUT THEY AMOUNTED TO MORE THAN A FOURTH OF THE TOTAL NAVAL VESSEL DE-

LIVERIES FOR LAST MONTH. ACCORDING TO PRESENT SCHEDULES, DELIVERIES WILL MOVE UP TO 43% OF TOTAL NAVAL VESSEL DELIVERIES IN JANUARY, 1943, THEN TAPER OFF SHARPLY. HOWEVER, THIS DOWNTREND MAY BE REVERSED. MILITARY EVENTS IN 1943 MAY FORCE NEW UPWARD REVISIONS IN THE LANDING CRAFT PROGRAM.

weeks or less, or as much as an estimated eight months for the largest types.

Production leaders numerically are in the class known as raiding craft. These include rubber boats (made in two sizes) and Eureka-type landing craft about 36 feet in length. With spoon-billed or automatic drop-ramp bows, the Eureka boats can be run up on beaches to discharge their load. Some carry about 30 fully equipped men; others are designed to handle a truck, light tank, or other vehicle.

Another class, known technically as "landing craft," comprises vessels capable of carrying heavier mechanized

equipment as well as personnel. In this group the Higgins-designed shallow-draft tank lighter has seen greatest unit production to date.

Still larger types, known as landing force vessels, are now coming into production for the first time.

STRATEGIC SHIFT

Developed with a suddenness and speed that are of a piece with the function and performance of the craft themselves in combat, the landing vessel program is an indication of ability to quickly shift production emphasis as strategic needs demand.

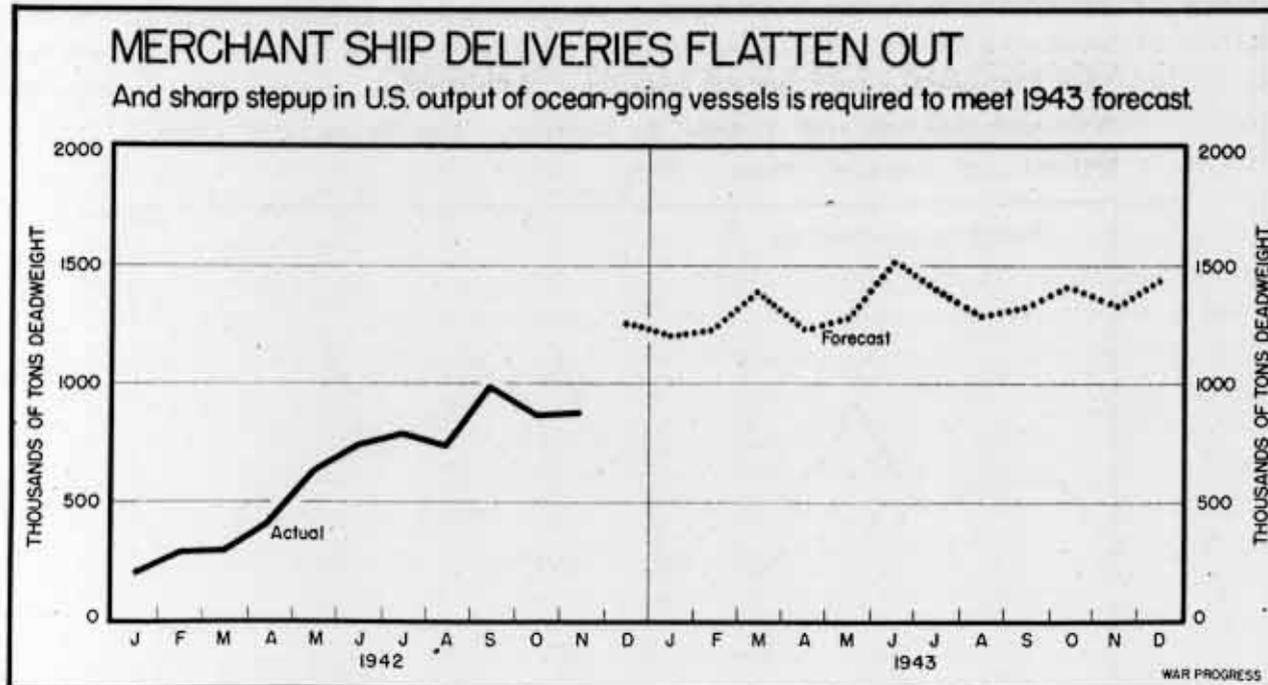
LANDING CRAFT FROM MAINE TO OREGON

Yards large and small—on coasts, lakes, and rivers—are turning out vessels to carry tanks, guns, and troops to overseas fronts



IN EXPEDITING THE LANDING VESSEL PROGRAM, FEW SHIPYARDS WERE OVERLOOKED. IN ADDITION TO UTILIZING THE LARGE COASTAL YARDS AT BROOKLYN, NORFOLK, CHARLESTON, ETC., THE NAVY FARMED OUT ORDERS TO SMALLER SHIPYARDS AT INLAND WATER SITES. AND BECAUSE MANY

TYPES OF LANDING BOATS ARE COMPARATIVELY SIMPLE TO BUILD, STRUCTURAL STEEL PLANTS AND OTHER METAL WORKING FACILITIES HAVE BEEN PRESSED INTO SERVICE IN PLACES LIKE KANSAS CITY, OMAHA, DECATUR, ALA., IRONTON, O., AND AMBRIDGE, PA.



No Margin for Error

To meet 1943 objective, merchant ship output must average 1,300,000 tons a month — 32% over current levels. Diversion of materials, shipways would imperil program.

ON THE SURFACE, it looks as though the merchant shipbuilding program will lag considerably behind the 16,000,000-ton deadweight objective for ocean-going vessels next year.

To achieve that goal, an average monthly output of about 1,300,000 tons of major types of merchant ships is necessary. But during the last three months, deliveries flattened out (chart, above) and have averaged only about 910,000 tons, or some 68% of monthly requirements for next year.

From that, however, it does not follow that the Maritime Commission will not meet next year's requirements, or even somewhat higher schedules if needed, materials are made available.

About 100 Liberty ships (1,000,000 tons) might have been added to the mer-

chant fleet during the final quarter of 1942 had not two special factors intervened: (1) 24 of the Maritime Commission's fast-producing ways were temporarily diverted to landing craft production; (2) some new yards, authorized during the spring of 1942, did not get into operation as soon as expected because major equipment was diverted to other programs.

NEW YARDS IN ACTION

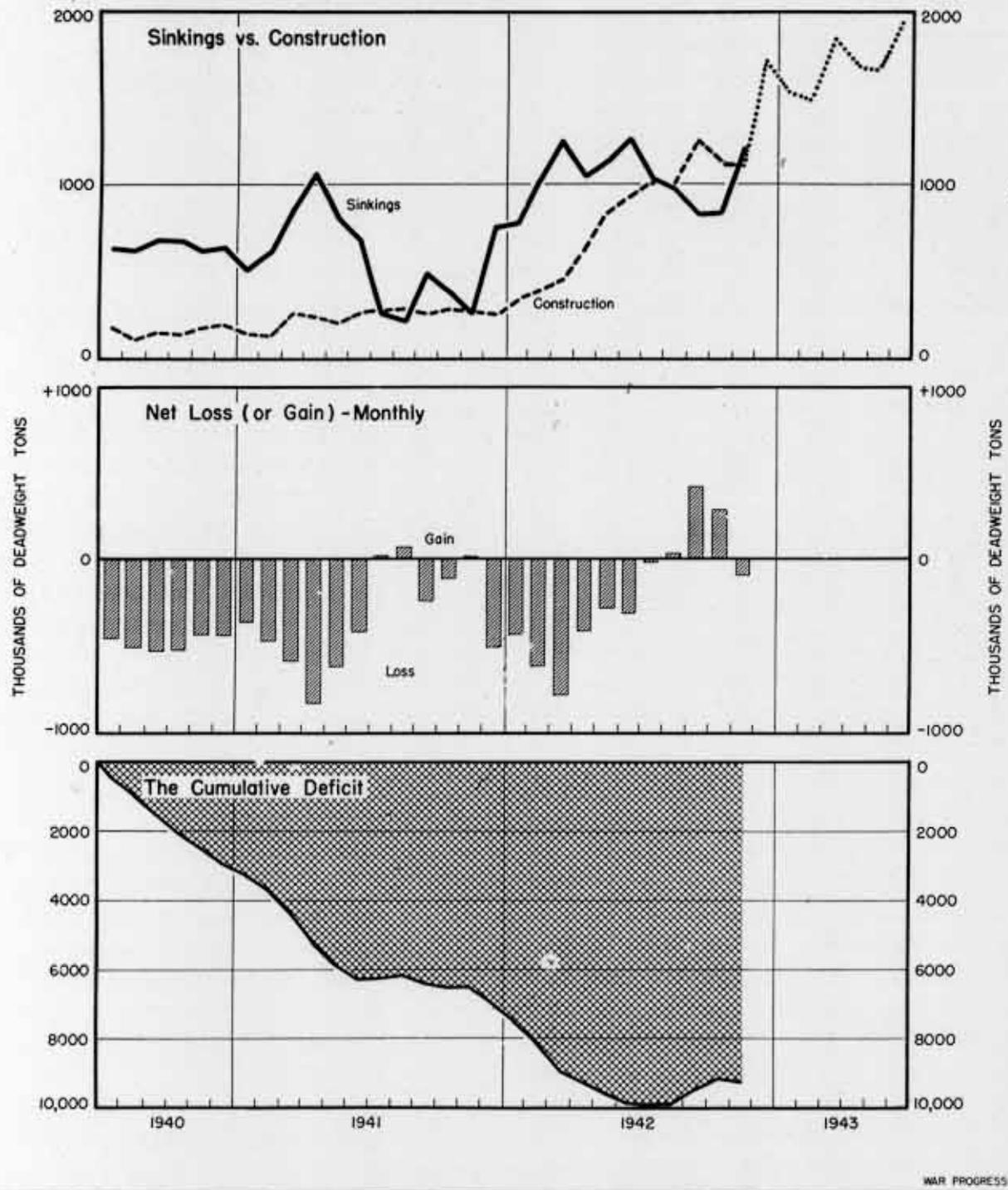
Schedules from now on require sharp monthly increases—from current levels of 83 merchant ships to an average of 120 per month. From a facilities standpoint, that seems feasible. Some 30 yards are now in production, and five new yards will begin deliveries this month and next.

Also, building time has been decreasing steadily (WP-Nov13'42,p7). A year ago it took 235 days to produce a Liberty ship—from keel laying to delivery. In November, the average for all yards was 56 days.

However, any sudden draft on shipyard facilities or interference with

SCORECARD ON MERCHANT SHIPPING

November sinkings rise sharply to February-July levels, and United Nations net tonnage takes a drop.

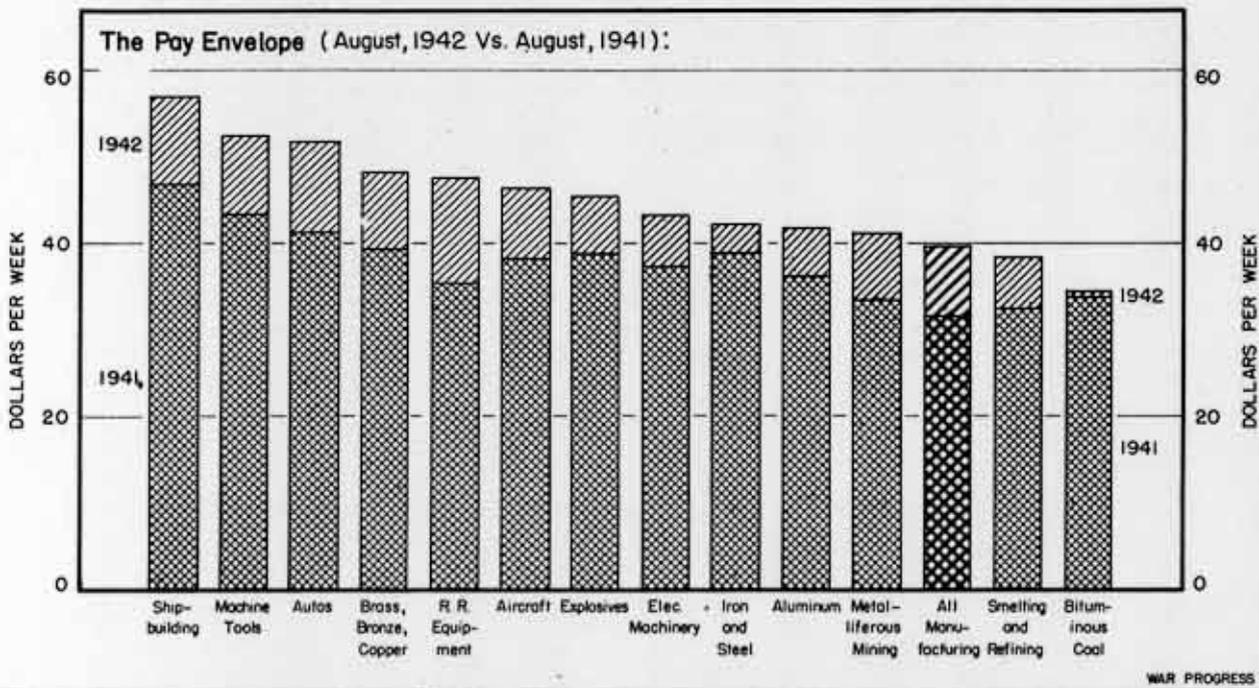
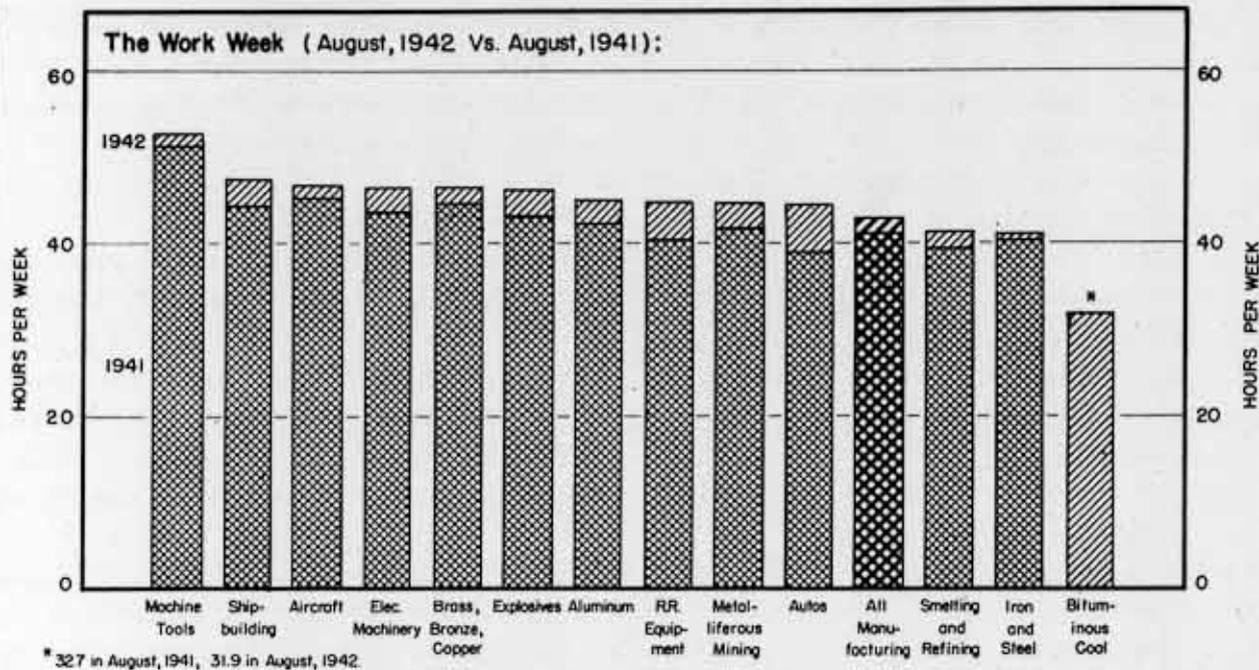


SINKINGS ROSE SIGNIFICANTLY LAST MONTH—THE MONTH OF THE NORTH AFRICAN INVASION—AND MORE THAN OFFSET CONSTRUCTION OF NEW VESSELS IN THE UNITED STATES, GREAT BRITAIN, AND CANADA. THUS, AFTER THREE MONTHS OF INCREASES, UNITED NATIONS NET TONNAGE DECLINED.

CONSTRUCTION OVER THE NEXT FEW MONTHS, HOWEVER, IS LIKELY TO OUTSTRIP SINKINGS. IF CONSTRUCTION SCHEDULES ARE REALIZED, THE MERCHANT FLEET SHOULD INCREASE, AS THE CHART SUGGESTS—UNLESS, OF COURSE, SINKINGS JUMP TO HITHERTO UNRECORDED LEVELS.

40-HOUR WEEK DISAPPEARING

Most industries are now working employees 43 to 48 hours, as against average of 41 hours a year ago. And pay rises sharply.



IN ALMOST EVERY WAR-ESSENTIAL INDUSTRY, WORKERS ARE PUTTING IN MORE HOURS THAN A YEAR AGO. FACTORY WORKERS GENERALLY—IN WAR AND NONWAR PLANTS—AVERAGED NEARLY 43 HOURS A WEEK IN AUGUST, AGAINST 41 A YEAR BEFORE.

THE SHORT WORK WEEK IN COAL MINING STANDS OUT CONSPICUOUSLY IN THE CHART: IT IS A MAJOR FACTOR IN THE PRODUCTION PROBLEM FACING THE INDUSTRY (PAGE 5).

WAGES HAVE RISEN EVEN MORE SHARPLY THAN HOURS OF WORK. PAY IN METAL MINING IS DOWN NEAR THE BOTTOM OF THE LIST, WHICH EXPLAINS IN PART WHY A WLB PANEL HAS RECOMMENDED A \$1 A DAY INCREASE IN ITS FIRST EXCEPTION TO THE "LITTLE STEEL" FORMULA. PURPOSE IS TO STOP THE DRIFT OF MINERS TO HIGHER-PAYING WAR INDUSTRIES, SUCH AS SHIPBUILDING AND AIRCRAFT ON THE WEST COAST (WP-AUG7'42, P7).

the flow of materials or equipment will seriously jeopardize the attainment of objectives—as the flattening out of deliveries during the last two months suggests. Thus, realization of the merchant ship program depends directly on how high an urgency rating it gets relative to other munitions programs.

War Progress Notes . . .

OCD IN STRIDE

CIVILIAN DEFENSE equipment is now beginning to materialize in quantity. Because many of its items compete with more urgent military needs, the program has attained only a portion of its objectives—particularly in heavy equipment—but, since October, deliveries have stepped up perceptibly.

For example, up to October 21, there had been no deliveries of 6,000 skid and 8,923 trailer pump units on order; and of 3,000 front-end auxiliary pump units ordered, only 44 had been delivered. But today, deliveries of skid pumps are up to 50% of orders, trailer units 10%, front-end auxiliary units 15%.

The following table shows the progress of the program in selected items:

	Quantity Ordered	Supplies on Hand Oct. 21	Supplies on Hand Dec. 1
Gas masks	5,000,000	920	469,581
Steel helmets	2,700,000	1,193,785	1,400,000
Rubber boots (pr.)	108,000	nil	nil
Hospital beds	13,860	nil	2,535
Shovels	18,000	6,075	18,000
Buckets	72,000	24,000	71,995
Extinguishers	2,258,000	nil	350,029
Hose, 2½"-feet	7,560,000	685,200	2,560,000
Front-end pumps	3,000	44	442
Skid pumps	6,000	nil	2,484
Trailer pumps	8,923	nil	796

Distribution—either to local communities or OCD depots—has been approximately as follows:

Area	% of Supplies
New England	9.9%
N. Y., N. J., Del	25.
Pa., Md., Va.	16.6
N. C., S. C., Ga., Ala., Miss	8.
Ky., Ohio, W. Va., Ind.	11.
Mich., Ill., Wis.	14.
All else in Midwest	2.
Tex., La., Ark., Okla	4.3
West Coast	9.2
	100.0

Factors controlling regional allocation of equipment on Army and Navy instructions are (1) vulnerability to air attack, (2) density of population, and (3) production concentration. A qualifying factor, however, is the extent of local preparedness. Thus, New England—relatively well supplied with firefighting equipment—receives a proportionately smaller allocation.

SOME ITEMS WITHHELD

All the items ordered thus far are maximums for the present program, excepting gas masks, for which the original order of 5,000,000 is only a "token."

Certain items—such as ambulances and automotive firefighting apparatus—have not yet been ordered, pending the result of field surveys. Maximum protection of all theoretically vulnerable regions will, of course, require additions to the initial \$97,000,000 appropriation.

WAR AND THE STOCKHOLDER

DATA NOW AVAILABLE indicate how the war has begun to hit the American shareholder.

A sample of 242 large corporations shows that profits before taxes are up 10% this year over the first nine months of 1941; but, after taxes, profits are down 29%.

Small corporations have not fared quite so badly. This is suggested by the Department of Commerce estimate that total corporate profits are down only 5% from the first nine months of 1941. Dividends have suffered accordingly—

off 7%. An industry-by-industry breakdown of what has happened to profits and dividends follows:

	% Change, 1st 9 months 1942 from 1st 9 months 1941	
	Profits after Taxes	Dividends
All corps.....	- 4.8%	- 7.1%
Total m'f'g.....	-15.2	- 8.6
Food & tobacco.....	- 5.4	- 3.5
Textiles & leather. + 0.6	+ 1.9	
Paper & printing... -32.1	-25.4	
Chemicals.....	-18.9	-14.7
Petroleum.....	-13.5	- 6.6
Iron & steel.....	-27.2	- 1.7
Nonferrous metals.. -14.7	+11.6	
Mach'y (ex. elect'l) -14.4	+ 4.1	
Elect'l mach'y..... + 2.7	+ 5.6	
Automobiles.....	-22.3	-33.6
Other		
transp't'n eq'p't. +59.9	-18.1	
Other m'f't's..... -29.2	- 5.8	

% Change, 1st 9 months 1942
from 1st 9 months 1941

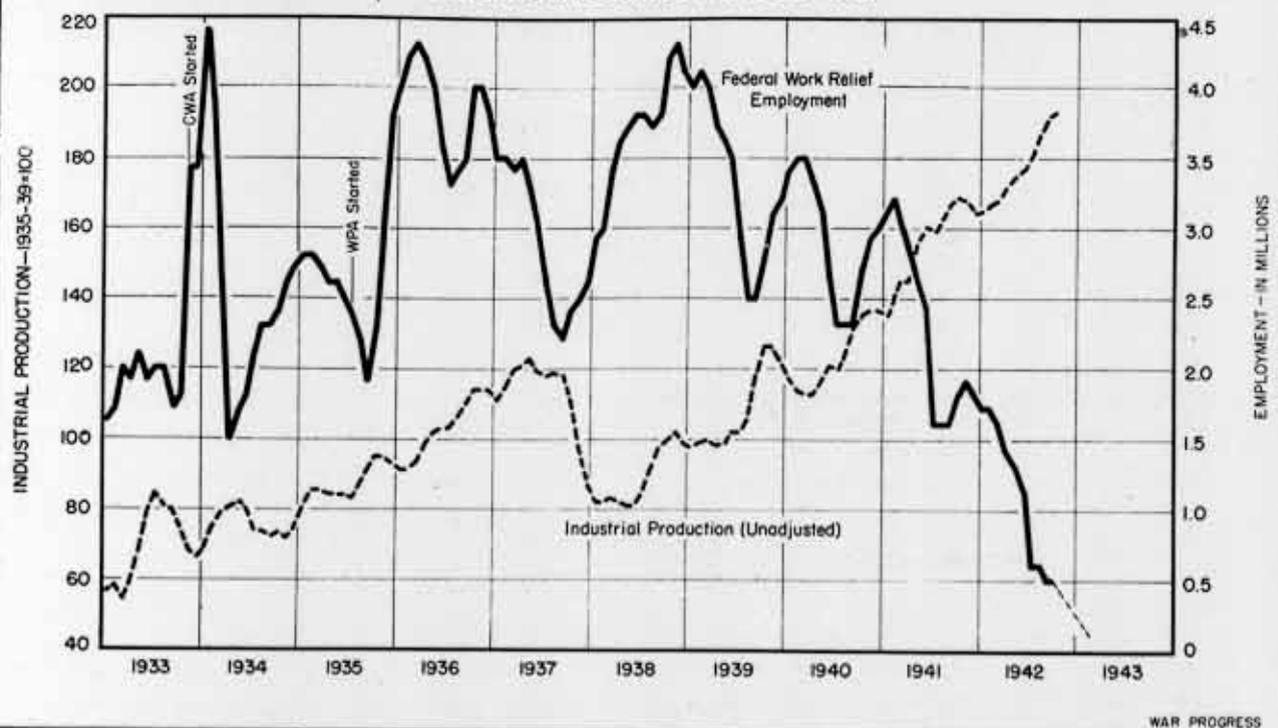
	Profits after Taxes	Dividends
Mining.....	- 6.7	- 5.0
Trade.....	- 4.1	+10.5
Finance.....	+ 0.3	- 8.8
Railroads.....	+36.0	+ 5.4
Heat, light & power -18.6		-19.1
Communications..... + 7.8		- 1.3
Misc.....	+15.0	- 3.0

DEATH OF WPA

WPA has been granted an "honorable discharge." Its rolls, down to 380,000, compare with the July, 1938, peak of 3,360,000. Ever since then (chart below) employment on Federal "made-work" projects declined as industrial production rose. And the war boom wrote WPA's epitaph, although 30% to 40% of WPA employment has been on war projects in recent months.

GODCHILD OF DEPRESSION, CASUALTY OF WAR

Created to take up unemployment through "made" work, WPA is now dissolved as war needs drive industrial production to three times the 1933 rate.



ECONOMIC TRENDS

Labor Turnover - Labor Force

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
LABOR TURNOVER (rate per hundred)							
All manufacturing industries							
Accessions	8.69	9.15	7.90	7.12	4.87	5.89	2.84
Separations - total	7.91	8.10	7.06	6.12	4.13	2.91	5.69
Quits	4.65	5.19	4.31	3.59	2.11	0.93	1.05
Layoffs	0.78	0.68	0.87	1.31	1.41	1.81	4.45
Discharges	0.45	0.44	0.42	0.35	0.28	0.17	0.19
Military separations	1.71	1.48	1.13	0.68	0.21	n.a.	n.a.
11 Selected war industries							
Quits							
Aluminum (a)	5.27	4.74	3.17	3.14	1.55	0.97	0.93
Aircraft	4.41	4.72	4.29	3.79	2.73	0.95	2.19
Brass, bronze, and copper products	5.17	5.65	4.53	3.48	2.37	0.93	n.a.
Electrical machinery	3.17	3.60	2.76	2.34	1.64	0.74	0.84
Engines and turbines	2.01	2.13	1.53	2.07	1.61	1.01	1.12
Explosives	2.12	3.80	2.92	1.92	1.27	0.63	1.09
Firearms	4.50	4.16	4.11	3.88	2.13	n.a.	n.a.
Foundry and machine shop	5.15	5.51	4.84	3.59	2.33	0.71	0.87
Iron and steel	3.33	3.60	3.34	2.29	1.36	0.57	1.62
Machine tools	3.64	3.87	3.41	3.50	1.93	1.38	0.97
Shipbuilding	5.39	6.66	5.77	4.29	2.70	0.99	1.28
Military separations							
Aluminum	2.27	1.71	1.00	1.04	0.13	n.a.	n.a.
Aircraft	2.82	2.41	1.84	0.74	0.21		
Brass, bronze, and copper products	1.75	1.48	1.28	0.88	0.20		
Electrical machinery	1.88	1.73	1.15	0.88	0.25		
Engines and turbines	2.56	2.04	1.33	0.78	0.18		
Explosives	2.59	2.53	1.83	0.54	0.10		
Firearms	2.15	1.66	1.55	0.59	0.01		
Foundry and machine shop	1.82	1.58	1.25	0.77	0.17		
Iron and steel	1.90	1.59	1.50	0.89	0.30		
Machine tools	2.18	1.82	1.22	0.62	0.10		
Shipbuilding	2.60	2.39	1.58	0.72	0.19		
LABOR FORCE (millions)							
Employment - total							
	52.8	52.4	52.4	51.6	50.2		
Male	37.5	38.1	38.2	38.4	37.7		
Female	15.3	14.3	14.2	13.2	12.5		
Unemployment - total							
	1.7	1.6	1.7	2.6	3.9		
Male	1.0	0.9	1.0	1.6	2.6		
Female	0.7	0.7	0.7	1.0	1.3		
Total labor force							
	54.5	54.0	54.1	54.2	* 54.1		
Male	38.5	39.0	39.2	40.0	40.3		
Female	16.0	15.0	14.9	14.2	13.8	n.a.	n.a.

*Labor Turnover, October. Labor Force, November. (a) Latest month includes Magnesium.

ECONOMIC TRENDS

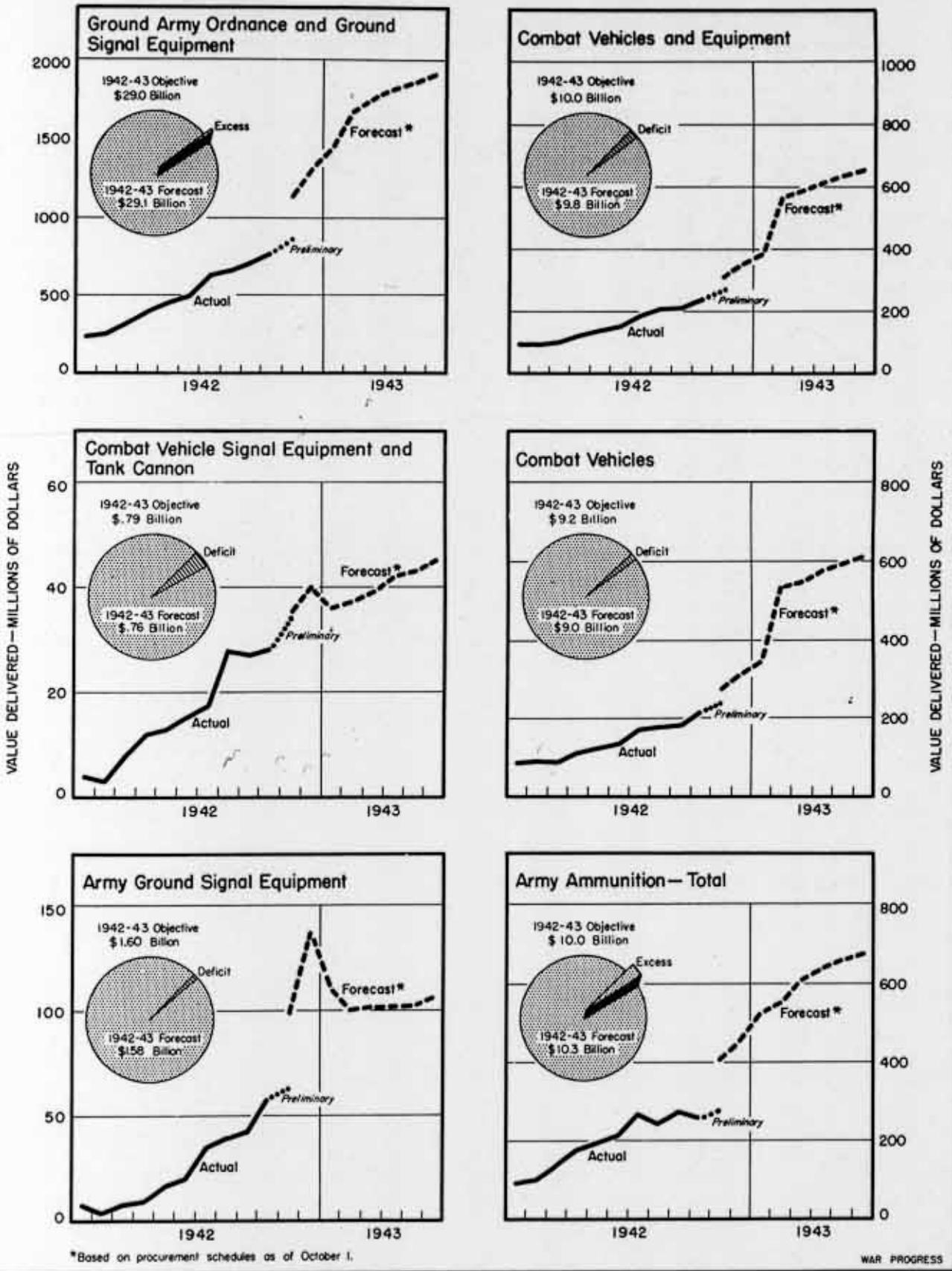
Income - New Orders, Shipments, Inventories - Federal Civilian Employment

	Latest * Month	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
NATIONAL INCOME							
Income payments (million dollars)	10,279	r10,127	r9,157	r8,719	8,508	6,339	6,324
Salaries and wages-total	7,071	r6,831	r6,639	r6,039	5,592	4,069	3,981
Manufacturing, mining, construction, agriculture	3,331	r3,264	r3,209	r2,752	2,539	1,554	1,565
Service industries, including railroads and utilities	963	r953	r959	r952	927	793	779
Distributive industries	1,354	r1,313	r1,302	r1,284	1,251	1,046	1,025
Government	1,395	r1,271	r1,134	r983	795	548	497
Work relief wages	28	30	35	68	80	128	115
All other income payments	3,208	r3,296	r2,518	r2,680	2,916	2,270	2,343
Income payments - annual rate (billion dollars)	117.9	r116.1	r115.3	r108.1	97.7	73.4	71.6
NEW ORDERS, SHIPMENTS, INVENTORIES							
New orders-mfrs. (Jan. 1939 = 100)	p271	264	233	292	193	147	n.a.
Durable goods	p397	390	334	449	239	197	
Nondurable goods	p190	183	167	192	163	116	
Shipments-mfrs. (1939 avg. = 100)			212	200	183	117	
Durable goods		283	270	239	215	122	
Nondurable goods	p182	177	167	168	157	113	
Inventories (1939 avg. = 100)							
Manufacturers-total	p175.9	175.4	175.0	167.0	r148.2	101.3	
Durable goods	p202.6	200.9	198.0	186.6	166.2	101.8	
Nondurable goods	p152.6	153.1	154.8	149.9	r132.5	100.9	
Raw materials†	p207.5	201.9	199.5	191.4	163.3	104.0	
Goods in process†	p269.6	270.4	267.3	251.0	227.4	109.3	
Finished goods†	p110.6	114.3	116.6	112.0	103.5	95.7	
Wholesalers	p115.2	121.4	124.2	137.6	129.6	102.9	
Retailers	p142.3	144.8	144.9	147.2	131.1	103.7	
FEDERAL CIVILIAN EMPLOYMENT (thousands)							
War Total	1,816	1,692	1,605	1,243	701	n.a.	
War Department-total	1,152	1,048	978	731	389		
Mfg. arsenals and depots	127	123	120	106	70		
Construction-force account	44	35	35	33	12		
Other civilian	981	890	823	592	307		
Navy Department-total	531	514	501	416	265		
Construction-force account	206	178	166	140	96		
Other civilian	325	336	335	276	169		
Other war agencies-total	133	130	126	96	47		
Construction-force account	21	22	22	25	24		
Other civilian	112	108	104	71	23		
Nonwar Total	949	908	928	1,196	1,592		
War projects of WPA	124	146	168	294	328	n.a.	n.a.

*October. r Revised. p Preliminary. n.a. Not Available. †New Series.

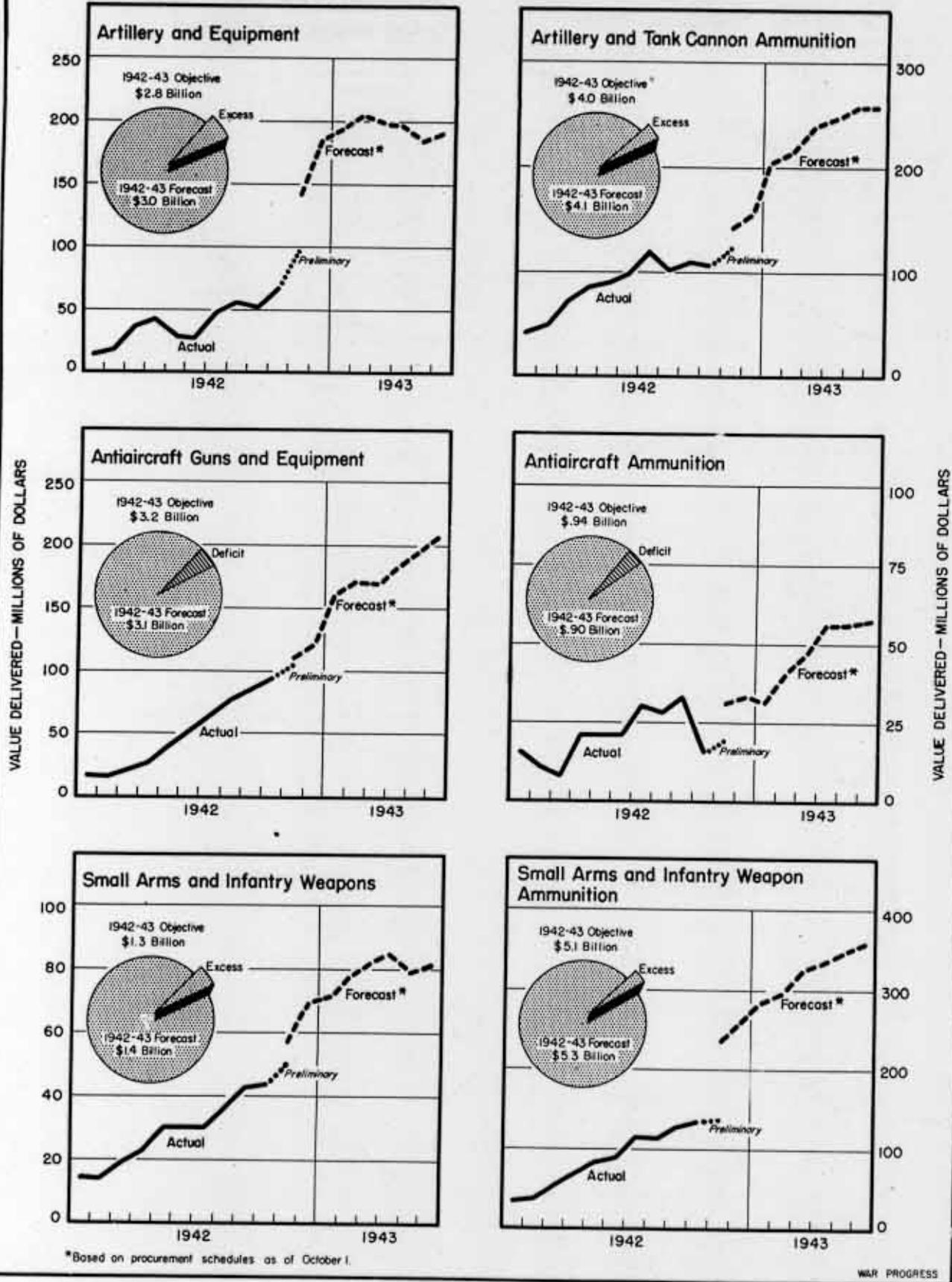
PRODUCTION PROGRESS

Ground Army Munitions



PRODUCTION PROGRESS

Ground Army Munitions (continued)



The President

WAR PROGRESS

Confidential
(British Secret)

DECLASSIFIED
E.O. 11652, Sec. 1.4; and E.O. 11652, Sec. 1.4
Authority: Dept. Order, 1111-11
By: [illegible] DATE: 12/11/83

Butter As Well As Guns
To Our Allies: 18% of U.S. Arms

Number 118

December 18, 1942

Civilian Pinch Begins in '43

Despite rationing and curtailment, standard of living moves along at near-record high. But next year's war program will cut sharply into consumers' goods and services.

AFTER A YEAR of actual war--notwithstanding sugar, gasoline, and coffee rationing--the American consumer is still getting a lot of butter along with his guns.

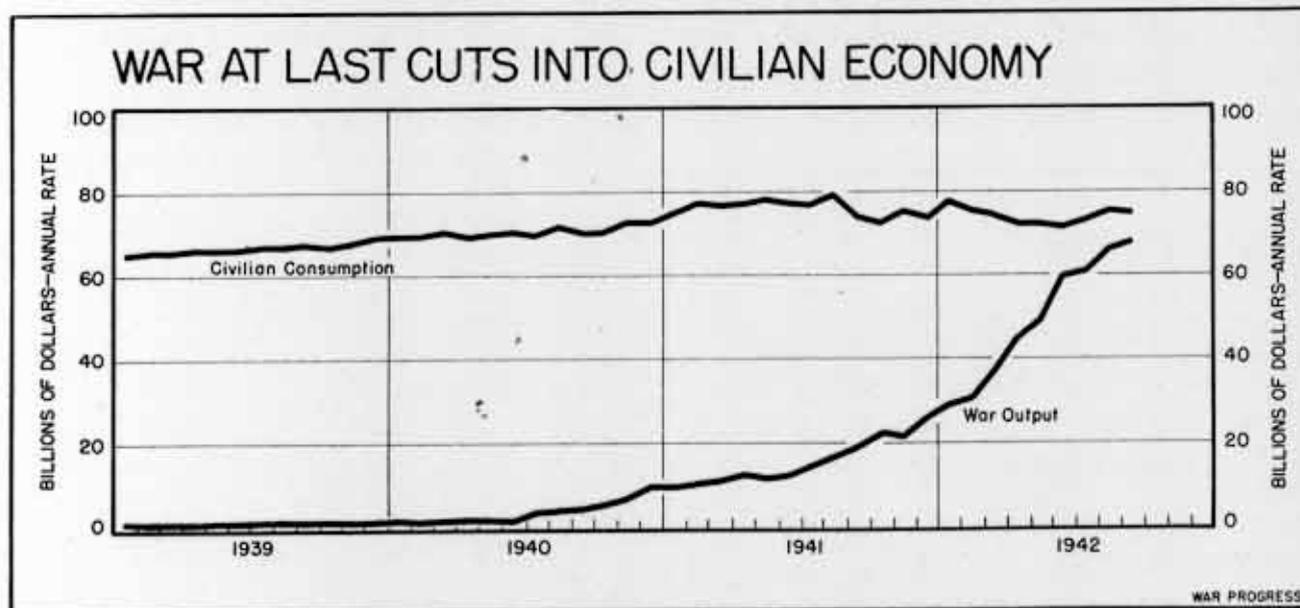
In the three months ended September 30, for example, U.S. consumers bought goods and services at an annual rate of \$74,000,000,000 (at 1941 prices). Though that falls short of the all-time peak rate of \$77,000,000,000 annually in the second quarter of 1941, it's only 4% short. The statistics point to an unavoidable conclusion.

Despite a full year of actual combat, despite soaring munitions output, de-

spite the building up of a large Army and Navy, the country is spending in a style to which it has only recently become accustomed. Solely in purchases of consumers' durable goods--automobiles, refrigerators, washing machines, construction, etc.--has the consumer been restrained significantly.

NO REAL STINT YET

In nondurable goods, consumer buying of gasoline, tires and tubes, sport supplies, and auto replacement parts has obviously declined; but up to now there has been no real stint on basic items such as food, clothing, footwear, etc.; and the total has hardly changed as yet. Services--which cover everything from cleaning a suit or getting a permanent to riding in a taxi or seeing a movie--are actually 10% higher now than a year



THUS FAR, THE U. S. HAS BUILT UP ITS WAR MACHINE WITHOUT GREATLY CURTAILING THE SUPPLY OF GOODS AND SERVICES AVAILABLE TO CIVILIANS; IN FACT, FOR MORE THAN A YEAR AFTER THE FALL OF FRANCE IN MID-1940; HOUSEHOLD CONSUMPTION ACTUALLY INCREASED SIDE-BY-

SIDE WITH MUNITIONS PRODUCTION. FROM NOW ON, IT WILL BE A DIFFERENT STORY. DEMANDS OF THE ARMED SERVICES FOR MANPOWER AND SUPPLIES AND OF OUR ALLIES FOR ARMS AND FOOD WILL FORCE CIVILIANS TO GET ALONG ON SHORTER RATIONS OF A LONG LIST OF PRODUCTS.

ago. So the drop in consumer expenditures from the 1941 peak is entirely accounted for by the decline in purchases of durable goods, as follows:

	Annual Consumption Rate		
	2nd Qtr. 1941	3rd Qtr. 1942	Net Change
(in billions--1941 dollars)			
Durable goods...	\$11.6	\$ 5.6	-\$6.0
Nondurable goods	43.8	44.3	+ 0.5
Services.....	21.7	24.0	+ 2.3
Total.....	\$77.1	\$73.9	-\$3.2

Purchases do not tell the full story. Passenger cars, refrigerators, washing machines, etc. are long-lasting commodities. Owners of these items--though unable readily to replace older models with new ones--go on using what they have. (Gasoline rationing, of course, has curtailed automobile mileage.)

WHEN FRANCE FELL

By and large, war production has raised rather than lowered the nation's living standards. In June, 1940, when France fell, the United States still counted its unemployment in the several

millions; the Federal Reserve Board index of industrial production stood at 122; the Works Projects Administration still had 1,700,000 persons on its relief rolls; war outlays ran to \$300,000,000 monthly; and the national income stepped along at a less than \$80,000,000,000 annual rate. Today, labor shortages are a production problem; the FRB index is up 54% to 188; the WPA is in process of dissolution; and the national income is well over the \$100,000,000,000-a-year mark. What's more, war expenditures currently run to 20 times the fall-of-France rate and are destined to rise to nearly 30 times.

TURN IN FALL OF '41

What happened is well-known history. Rapidly expanding munitions output took up the slack in the industrial machine--employment and hours of work in mines and factories increased. This was duly reflected in retail sales and consumption. It was not until the autumn of 1941 that the war imposed on this civilian way of life. And then it bore down on consumers' durable goods which took metals away from munitions. The earliest "L" orders took effect as follows:

IN THIS ISSUE:

CIVILIAN PINCH BEGINS IN '43	1
CIVILIAN ECONOMY--1943 VERSUS 1939	4
LEND-LEASE DOWN; RUSSIA'S SHARE UP	5
U. S. METALS GO ABROAD	5
ANOTHER STEP TOWARD PRODUCTION FEASIBILITY	7
STORAGE TO SPARE	9
WAR PROGRESS NOTES	10
KEY STATISTICS OF THE WEEK	10
AGRICULTURAL GOALS FOR 1943.	11
ECONOMIC TRENDS (HOURS AND EARNINGS, COST OF LIVING, PRICES)	12, 13
PRODUCTION PROGRESS (SHIPS).	14-16

Product	Initial Production Restriction
Mechanical refrigerators	Sept. 1941
Passenger cars.....	Sept. 1941
Trucks & buses.....	Sept. 1941
Laundry equipment.....	Oct. 1941
Metal office furniture..	Nov. 1941
Vacuum cleaners.....	Nov. 1941
Automatic phonographs...	Dec. 1941
Cooking appliances.....	Dec. 1941
Juke boxes.....	Dec. 1941

Moreover, the civilian economy coasted along on high inventories. In 1941, manufacturers rushed to capitalize on expanding purchasing power and rising

prices. Civilian goods output reached a record-breaking \$55,300,000,000, outpacing demand, and stocks went up \$1,100,000,000 (\$500,000,000 in durable goods, \$600,000,000 in nondurables). This year, purchases of radios, washing machines, ironers, refrigerators, furniture, food, clothing, household accessories, auto parts, etc. will have drained off \$1,500,000,000 in commercial inventories, three-fifths of it represented by nondurable items. (A part of this drain in inventories held by manufacturers, wholesalers, and retailers is compensated for by a building up of inventories of consumers.)

GUNS—AND BUTTER, TOO

Meanwhile, plans and schedules for a total 1942 war output of \$63,000,000,000—munitions, construction, and nonmunitions—were formulated last summer. Piled on top of a well-battered civilian economy, however, these were too much to handle. Consequently, 1942 war production, including pay and subsistence, will wind up at \$58,000,000,000, or 10% lower than mid-year expectations.

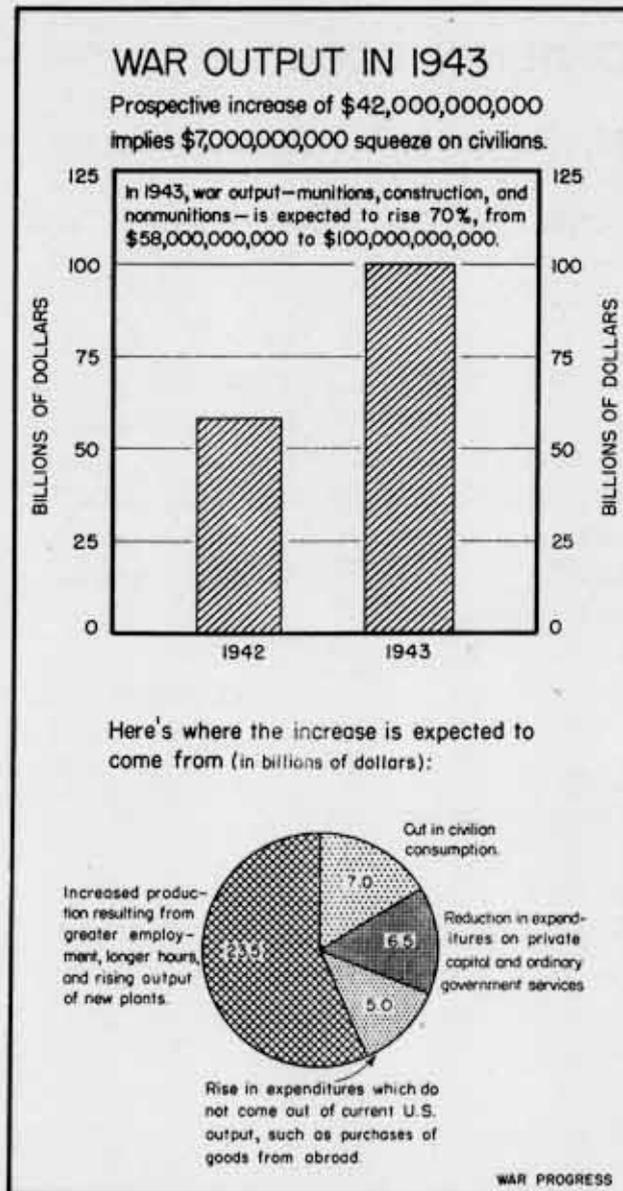
CONSUMERS MUST PAY

Next year, war output is expected to total about \$100,000,000,000, some \$42,000,000,000 more than in 1942 (adjacent chart). The consumer will then begin to pay. For around \$7,000,000,000 of that increase will have to come out of consumers' purchases, chiefly nondurable goods, which hitherto have hardly been scathed. Actual production of civilian goods will go down even more. By the end of 1943, buying of goods and services (based on 1941 prices) will be reduced to a \$63,000,000,000 annual rate, or to around the 1936-37 level.

What we can expect is that food, clothing, footwear, gasoline, and other products in which the armed forces and

exports compete with civilians for available supplies will decline sharply from current levels. Passenger cars, washing machines, vacuum cleaners, and other hard goods will suffer from wear and tear but should get replacement parts. Yet, some items will be plentiful—beer, wine, cigars, cigarettes; similarly numerous services, though labor will become increasingly restricted.

But this is just the beginning. As



TOTAL WAR OUTPUT—MUNITIONS, CONSTRUCTION, AND NON-MUNITIONS—IS DUE TO RISE \$42,000,000,000 NEXT YEAR; 55% OF THIS RISE WILL COME FROM INCREASED OUTPUT; 17% WILL BE SQUEEZED OUT OF CONSUMERS; THE REST OUT OF CAPITAL OUTLAYS GOVERNMENT SERVICES, ETC.

ation is still critical. But there is encouragement in the fact that, for the first time since Pearl Harbor, more machine tools are leaving manufacturers' shipping decks than are being placed on the order books.

did. Too many good paying jobs, requiring neither training nor experience, are available. Typical result: in Pascagoula, Miss., a shipbuilding center, training facilities not long ago were operated at only one-fourth capacity.

War Progress Notes

1 OUT OF 5 M.D.'S

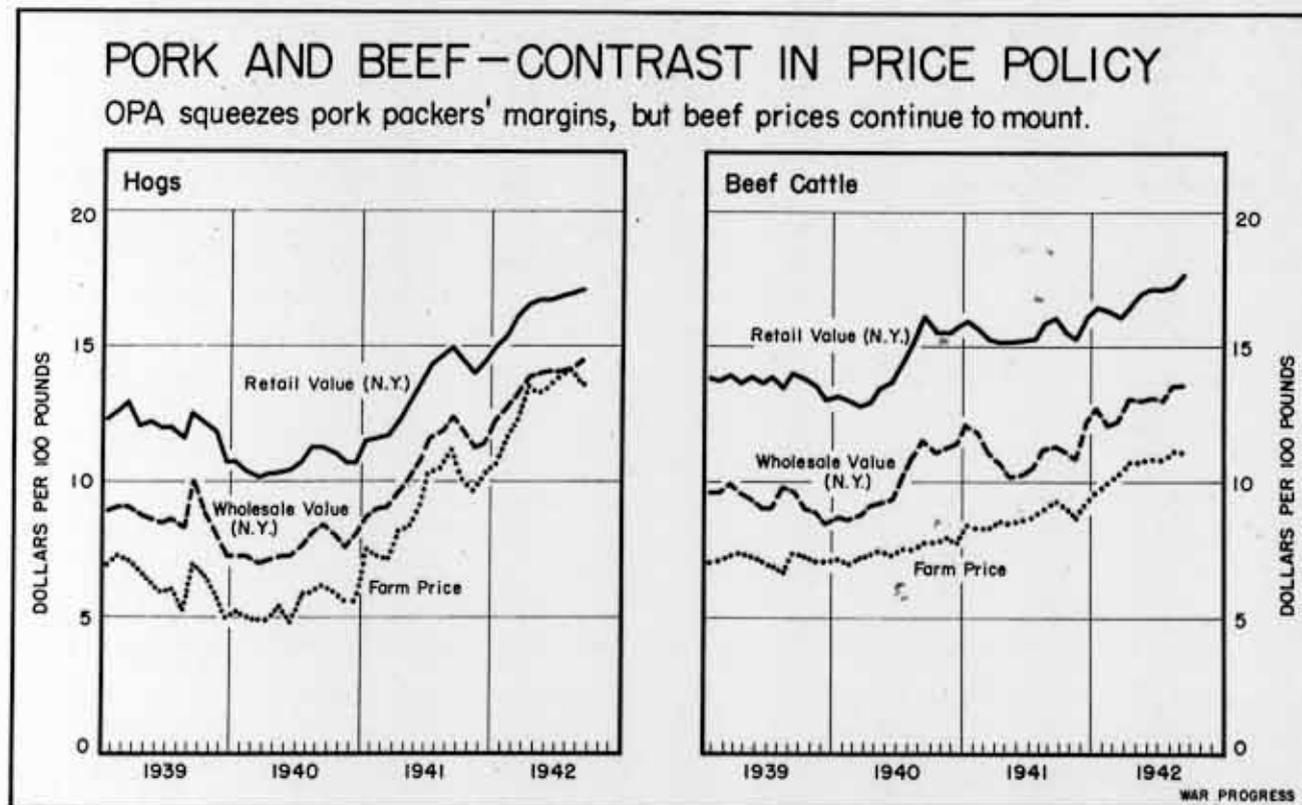
IN DECEMBER, 1940, 3,900 physicians and surgeons were in the Army. By December, 1941, this number had tripled, and since Pearl Harbor it has almost tripled again. And 21.8% of all registered physicians and surgeons in the United States are now in the Army or Navy.

TRAINING GOES BEGGING

POTENTIAL WAR WORKERS are not heading into free training courses as they once

JUNGLE AIRPORTS

MAJOR DIFFICULTY in expanding crude rubber production in the Amazon valley is transport—to get workers into the jungles and to bring crude rubber out. One means of solving this problem, now under consideration, is construction of a number of small airports—perhaps as many as 50—in the Amazon area. Possible obstacles: transporting workers and materials to the suggested airport sites; diverting transport planes from other uses; feeding and housing workers after they get to the jungles.



EVER SINCE 1940, HOG PRICES HAVE RISEN MORE SHARPLY THAN CATTLE PRICES. AND THROUGHOUT 1941, WHOLESALE AND RETAIL PRICES FLUCTUATED ACCORDINGLY. BUT SINCE GENERAL MAXIMUM PRICE REGULATION WENT INTO EFFECT, HOG PRICES HAVE ADVANCED FASTER THAN RETAIL

AND WHOLESALE PRICES OF PORK PRODUCTS, SQUEEZING THE MIDDLEMEN. IN BEEF, THE "SPREAD" HAS HELD MORE OR LESS CONSTANT. RETAILERS SOMETIMES SURREPTITIOUSLY RAISE BEEF PRICES BY "UPGRADING," CHARGING PRIME PRICES FOR LOWER-GRADE CUTS.

suggested by rationing of specific food items, difficulties in obtaining railroad transportation, and fuel oil and coal problems, the American people next year will start to pay for the war--not in cash, but out of consumption. More guns for the armed forces mean less butter for civilians. And though 1942 marks the end of civilian expansion, 1943 will be the start of the big drop in consumer expenditures on goods and services.

And yet, even though civilian consumption is due to be sharply squeezed next year, even though purchases drop from current levels of \$71,100,000,000 annually to \$63,000,000,000 by the end of 1943, that will still constitute a high level of living for wartime (table below). In fact, the United States has much belt-tightening to do before it gets down to the \$49,000,000,000 consumption of the 1932-33 depression low.

CIVILIAN ECONOMY - 1943 VERSUS 1939

BY conventional economic standards, 1939 was a good year for civilians. Purchases of consumers' goods and services totaled \$66,400,000,000, around 8% higher than in 1929 and 5% better than in 1937, year of the post-depression boom. And next year, many goods and services will be available in larger quantities than in 1939. But 1943 will also bring many cuts in civilian consumption, most significantly in food, clothing, footwear, and gasoline:

<u>Item</u>	<u>Estimated 1943 Consumption As a % of 1939</u>
Theatre admissions.....	166%
Indoor sports.....	157
Wine.....	149
Cigarettes.....	145
Natural gas (residential)	137
Electricity (residential)	134
Cigars.....	125
Mfd. gas (residential)...	125
Cleaning, pressing, etc..	125
Telephone service.....	121
Coal & coke (residential)	113
Beer.....	112
Fuel oil (residential)...	109
Distilled spirits.....	98

<u>Item</u>	<u>Estimated 1943 Consumption As a % of 1939</u>
Food.....	98%
Cereals.....	100
Dairy products.....	98
Lean meat, poultry & fish	95
Vegetables.....	94
Eggs.....	94
Tomatoes & citrus fruits	91
Fats & oils.....	86
Clothing.....	92
Smoking & chewing tobacco	91
Shoes.....	83
Spectator sports.....	79
Textile house furnishings	77
Wallpaper.....	60
Newspapers & periodicals.	60
Books.....	60
Gasoline (noncommercial).	59
Outdoor sports.....	48

Although production of consumers durables such as passenger cars, washing machines, mechanical refrigerators, and vacuum cleaners has been eliminated, there will be stocks to draw down on. And, of course, use of such items now in consumers' hands continues. Thus, actual sales are not a true measure of the standard of living.

Lend-Lease Down; Russia's Share Up

Decline in agricultural products pulls down November total, but military shipments rise. 18% of U.S. munitions output is now being exported; 27% last March.

ALTHOUGH lend-lease exports (freight on board, not arrivals) fell in November--from \$537,000,000 to \$524,000,000--shipments to Russia shot up to a new high of \$184,800,000.

Only agricultural exports were off last month--from \$114,000,000 to \$83,000,000. Shipments of industrial goods rose from \$151,000,000 to \$159,000,000, while military exports increased from \$272,000,000 to \$282,000,000.

ARMS TO OUR ALLIES

The United States is now sending to its allies about 18% of its munitions output (excluding ships); 14% of this is on lend-lease account; 4% more (\$80,000,000 monthly) is shipped on direct purchase contracts--almost entirely to the British Empire.

Though total military exports (including lend-lease flyaway planes) have been mounting steadily in dollar value--from \$174,000,000 in January to an estimated \$390,000,000 in November--munitions output (excluding ships) has mounted even faster, from \$790,000,000 to \$2,240,000,000. And so the export share of the U.S. arms output is off from a peak of 27.4% in March.

DIRECT PURCHASES DIMINISHED

Direct purchases have constituted a sharply diminishing part of total output (chart, page 6), being down from 12% early this year to 4% today. The lend-lease proportion is down only slightly, from a high of 17% in March to 14% last month.

Lend-lease accounted for only one-fourth to one-third of military shipments in the fall of 1941, direct purchase for the rest. But this year, with (1) the sharp upswing of exports to Russia, which gets almost all of its U.S. munitions under lend-lease, and (2) the completion of most of the contracts for airplanes, tanks, ordnance,

U.S. METALS GO ABROAD

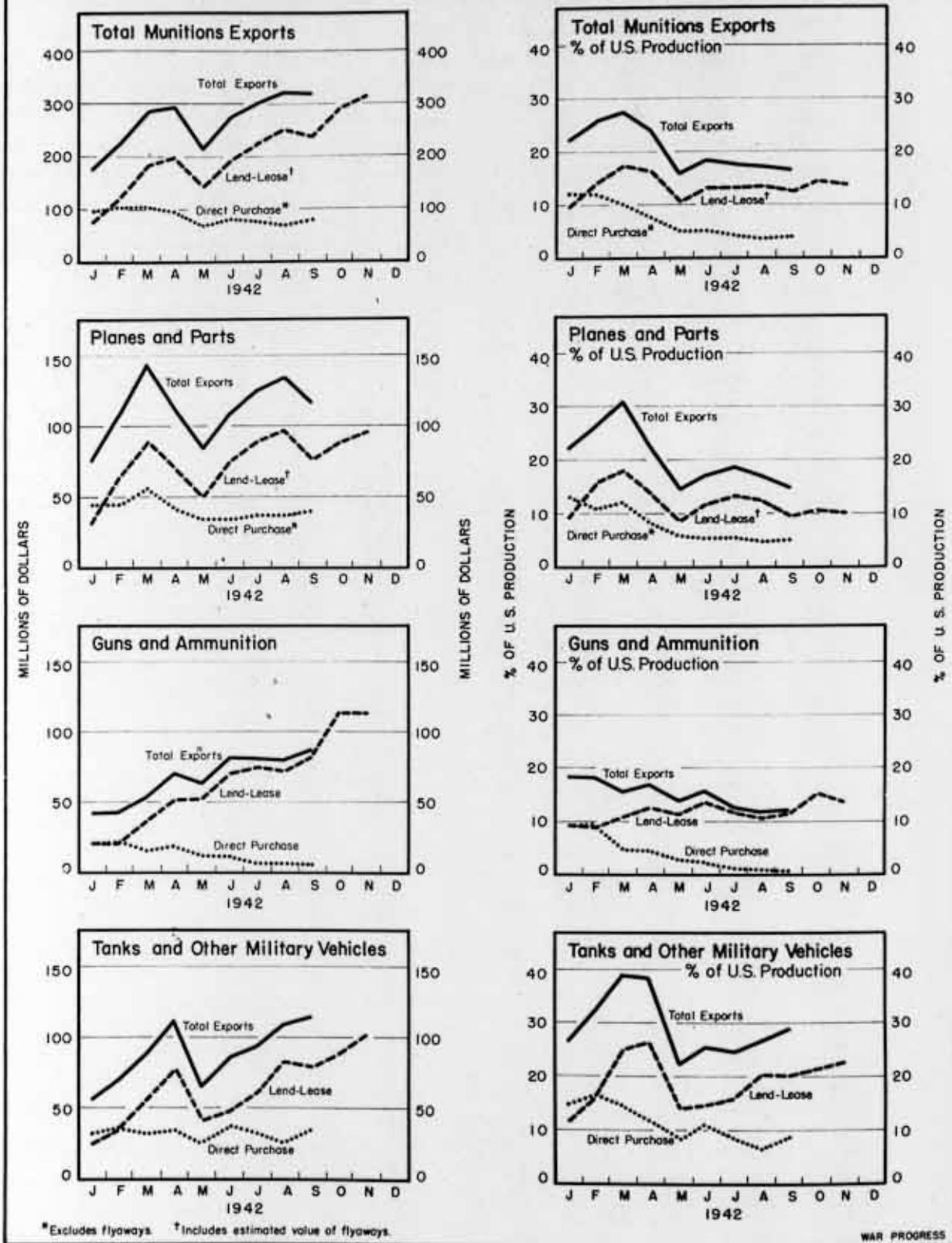
DESPITE DOMESTIC SHORTAGES, the United States has bolstered the munitions output of other United Nations by sending metals abroad. In the first six months of the year, exports--including cash purchases and lend-lease--ranged from 1% of new supply (production plus imports) for tungsten to 28% for molybdenum:

	Total Exports As % of New Supply	Lend-Lease As % of New Supply
Molybdenum.	28.0%	18.3%
Zinc.....	16.1	13.5
Copper.....	12.1	7.5
Steel, etc.	11.1	5.8
Lead.....	3.8	0.03
Nickel.....	3.6	0.3
Aluminum...	2.6	0.2
Tin.....	1.2	0.1
Tungsten...	1.0	0.4

The United Kingdom got most of the steel, copper, nickel, and zinc; Russia, the largest proportion of the molybdenum, tin, and aluminum; Canada, large amounts of steel, aluminum, and nickel. Canada sends nickel ore to the United States, gets back refined nickel and fabricated products.

ALLIES GET MORE U.S. WAR GOODS. . .

But a smaller proportion of our growing production. Lend-lease and direct purchase take 18% of munitions output, against 27% in March.



*Excludes flyaways. †Includes estimated value of flyaways.

etc. placed by the British in 1940, lend-lease overtook cash purchases. The turnabout came in February. Now, the United Nations get over four times as much munitions on lend-lease as on direct purchase (chart, page 6).

Some 30% of U.S. combat-vehicle production (in dollar value) goes to the United Nations--chiefly the British and Russians--but only about 15% of the air-

craft and aeronautical material and 14% of guns and ammunition.

In November, Russia became the biggest lend-leaser and received 40% of all ordnance, aircraft, and combat vehicles shipped (chart, page 8). This was in marked contrast to October when shipments to the Soviet Republic were off sharply because of difficulties in reaching northern ports (WP-Nov27'42, p6).

ANOTHER STEP TOWARD PRODUCTION FEASIBILITY

AS THE RESULT of recent strategical decisions, major changes in production objectives and schedules have been made. The midsummer objective of \$93,000,000,000 for munitions output and war construction for 1943 has been cut to \$81,700,000,000. And the scheduled output for next year has come down from \$89,000,000,000 (as of October 1) to \$84,900,000,000. A further cut of \$3,200,000,000 would bring schedules down to the revised goal; however, new Navy and Maritime schedules, as of December 1, were not on hand as War Progress went to press.

The major reduction has been in ground army ordnance and signal equipment; this has been carried through both to forecast and objective, though the forecast is still \$1,400,000,000, or nearly 30%, above the objective (see table--billions of dollars):

	-Forecast-	New	
	Oct. 1	Latest	Objective
Mun. & cons...	\$89.0	\$84.9	\$81.7
Munitions.....	77.2	73.4	72.2
Aircraft, etc.	27.8	28.6	28.6
Gr. army mun..	22.0	16.4	15.0
Navy, etc.....	13.7	13.9	13.3
Merch. ships..	3.6	3.6	4.4
Misc. mun.....	10.1	10.9	10.0
Construction..	11.8	11.5	9.5

If the proposed increase in merchant shipbuilding is finally authorized, then merchant ship schedules must be raised. Contrariwise, construction schedules have yet to be revamped downward to conform to the \$2,000,000,000 cut in objective. The naval schedule is also above the goal.

SUBJECT TO CHANGE

The above objectives and schedules are subject to revision; discussions are still under way to determine whether the overall program is too high relative to estimates of the capacity of our economy to turn out between \$75,000,000,000 and \$80,000,000,000 of munitions and construction in a year. If that conclusion is reached, new decisions on the disposition of U.S. production resources will be necessary.

The new army objective does not make allowance for the 1942 Services of Supply deficiency between actual production and objectives. It is estimated that this deficiency will amount to \$2,700,000,000, and if it is carried over to next year, the 1943 munitions objective would automatically be boosted to \$74,900,000,000, and the munitions and war construction objective to \$84,400,000,000.

About three-fourths of the agricultural shipments still go to the United Kingdom--providing Britain with the margin between bare subsistence and a fair diet--though the volume declined from \$67,000,000 in October to \$59,000,000 in November. Simultaneously, shipments of foodstuffs to Russia--badly needed because of Nazi occupation of much fertile land--rose from \$13,000,000 to \$15,000,000.

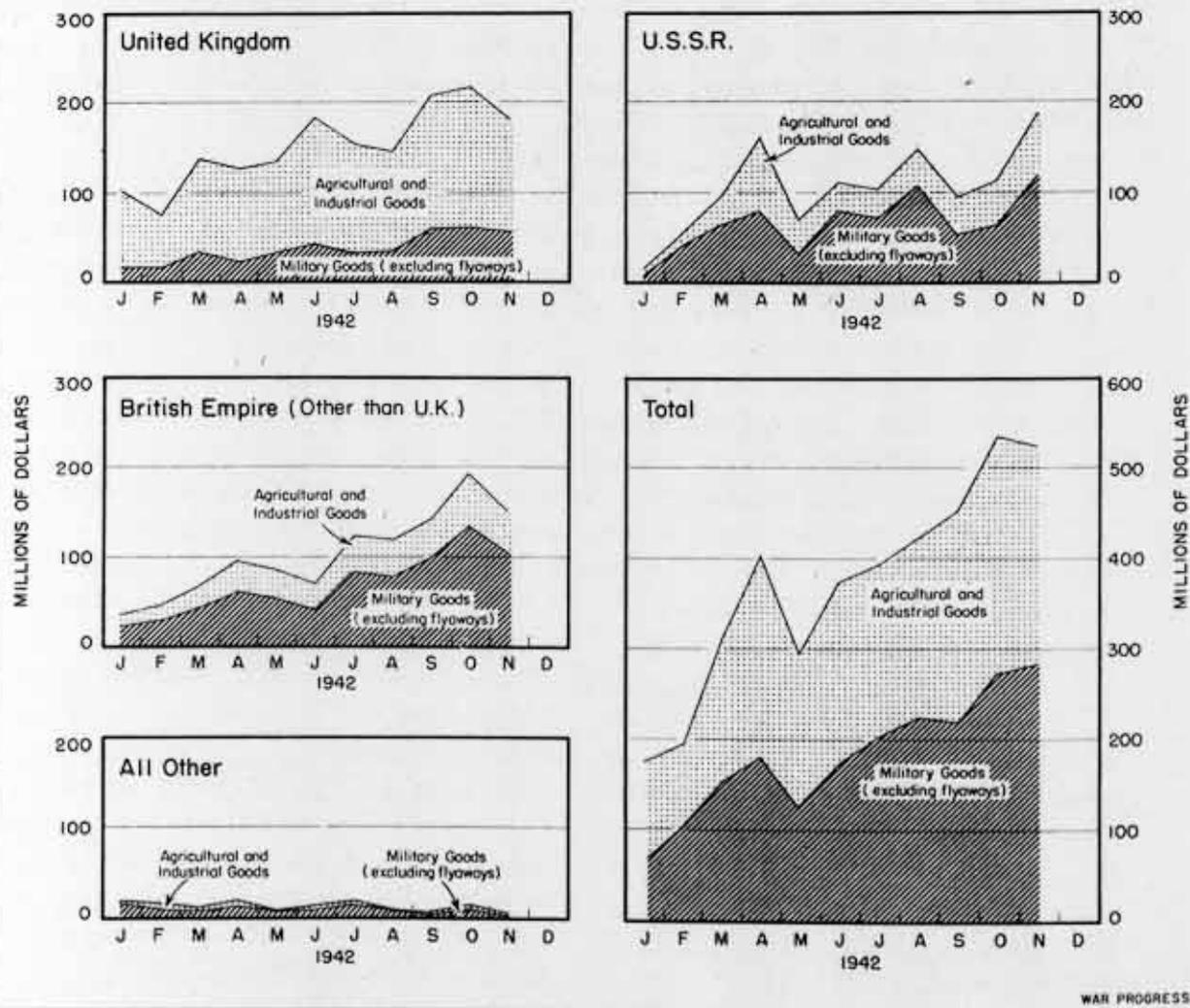
An important aspect of Russian lend-lease is the constant increase of in-

dustrial exports--to compensate for the loss of factory cities and mining regions. Russia now receives almost as large a volume of metals, chemicals, textiles, and machine tools as the United Kingdom, although last summer the latter was getting three times as much.

To Egypt went a larger volume of munitions, foodstuffs and supplies in November--destined for General Montgomery's army--than in any previous month. But concentration of shipping to the U.S.S.R. resulted in a drop of exports

LEND-LEASE EXPORT SUMMARY

Shipments to Russia, especially of military goods, up sharply in November; British get less.



to India, Australia, New Zealand, and Africa, as the following table shows:

	<u>Nov.</u>	<u>Oct.</u>	<u>Change</u>
	(in millions)		
Russia.....	\$184.8	\$113.4	+63%
United Kingdom....	181.3	217.3	-17
Egypt (British)...	62.7	60.9	+ 3
India (British)...	26.9	39.6	-30
Australia & New Zealand.....	26.2	40.4	-35
Iran & Iraq.....	14.1	11.5	+23
Union of S.Africa.	13.5	15.4	-12
British E. Africa.	1.9	2.9	-34
Nigeria.....	1.5	0.9	+66
Gold Coast.....	0.9	2.3	-60

Some 42 countries are eligible for lend-lease aid, but Russia and the British Empire get about 99% of the supplies. Brazil's share dropped from \$4,000,000 in October to \$400,000 in November. All the other Latin-American republics combined received only \$600,000, China \$1,000,000, and Turkey--the biggest lend-leaser among neutrals--\$600,000.

Storage to Spare

Unlike England, U. S. has plenty of private and public warehousing despite expanding demands of war, though some tightness exists in granaries, soybean tankage.

THE U.S. WAREHOUSE and storage industry has so far withstood the expanding demands of war.

By contrast, Great Britain is faced with a major problem in storage, complicated by the need to disperse goods to avert destruction. Abandoned mines, quarries, factories, halls, stables, piggeries, and open fields have been utilized. England is one huge munitions storehouse.

Whereas all standard storage facilities in England are 100% occupied and

overcrowded, the situation in the United States is as follows:

Public--as distinguished from industry-owned--merchandise warehousing: On October 1, available space was 81.3% occupied, compared with 83.2% on September 1. The New York-Pennsylvania area, concentration point for war exports, showed the heaviest occupancy--84%. Other regions of the country showed occupancy ranging down to 76%. While much military material occupies these warehouses, the Army and Navy have their own warehouses as well, in an undisclosed amount.

Public cold storage: On November 1, coolers were occupied to the extent of 74% and freezers 78%, utilization declining slightly from the previous month.

CROP STORAGE STRAINED

Single crop storage: Most standard facilities are reported to be full, particularly granaries, but auxiliary facilities and public merchandise warehouses are absorbing overflow. Grain storage has become such a problem that rural schoolhouses, sheds, and even dwellings have been pressed into service.

Open storage: There is, of course, an unlimited supply of open storage space in this country. Coal, lumber, steel, military trucks, tractors, jeeps, etc. all lend themselves well to open storage.

Liquid storage: Current problems are in alcohol for the manufacture of synthetic rubber and the storage of certain edible vegetable oils. Except in the Pittsburgh area, however, adequate alcohol storage facilities have thus far been obtained by falling back on unused petroleum space.

There is a shortage of tankage in the soybean belt which can be overcome only by expediting shipments to other regions and retarding the movement of cottonseed and peanut oil to the Middle West. There

is, however, no overall shortage of storage facilities for vegetable oil and fats, despite an estimated carry-over next year 27% in excess of the 1937-1941 average.

War Progress Notes

GREAT LAKES RECORD

SHIPMENTS OF IRON ORE on the Great Lakes set an all-time record this year of 92,077,000 tons--15% above 1941 and 44% above 1940. The 1942 record was aided by (1) diversion of grain and coal ships to hauling ore, and (2) more efficient loading and unloading. Also, ODT, with an eye to relieving the overburdened rails, kept the ships operating nine days beyond the normal November 30 closing.

BREAK FOR THE NAVY

THE \$5,500,000,000 cutback in the Army Supply Program (WP-Nov27'42,p4) is a boon to the Navy. A former army factory

is producing fuses for the Navy; after retooling, a second plant will make power drives for the big guns on warships. On the Pacific Coast, a brand new army plant will soon solve the problem of a naval steel-castings deficiency, save building a new factory. And sorely needed tools and equipment will be drawn from several army plants to expedite the Navy's destroyer escort vessel program.

CASE OF THE BT-12

BACK IN OCTOBER, 1941, the Army ordered 200 all-welded, stainless steel basic trainers--the Fleetwing BT-12--despite the fact that they cost more to build than basic trainers of aluminum-plywood construction. Those were the days when aluminum was tight, stainless steel plentiful.

But now, when BT-12s are finally coming into production--first of the order is scheduled for acceptance this month--stainless steel is as tight as aluminum.

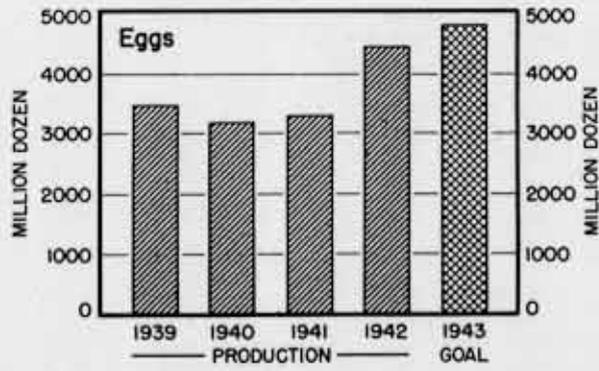
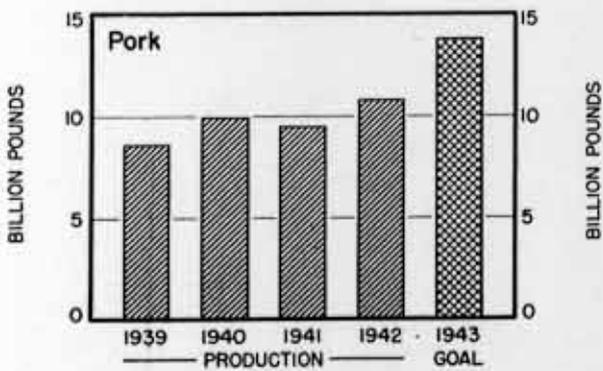
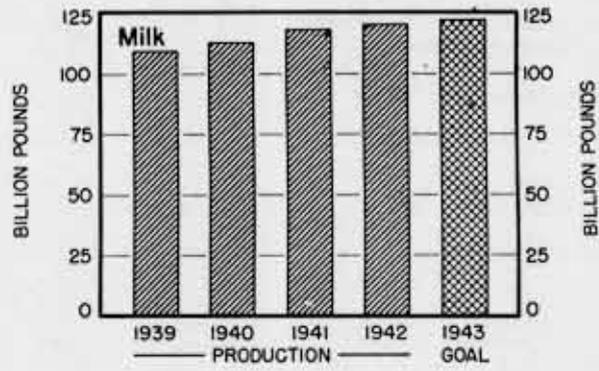
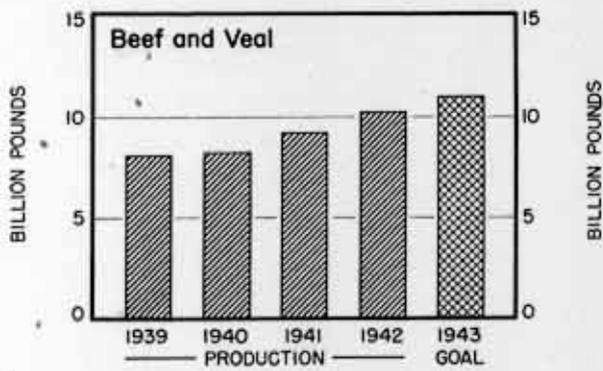
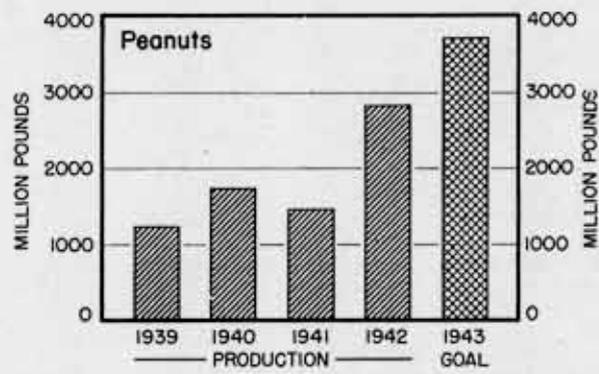
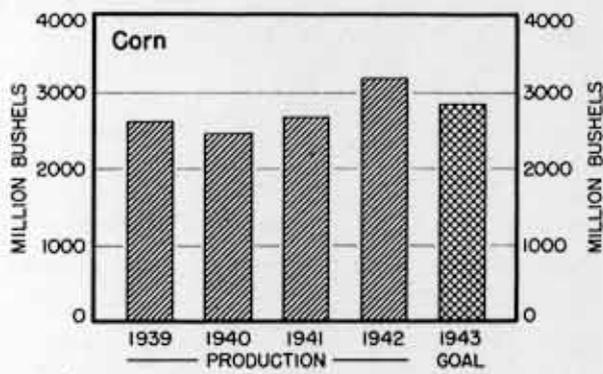
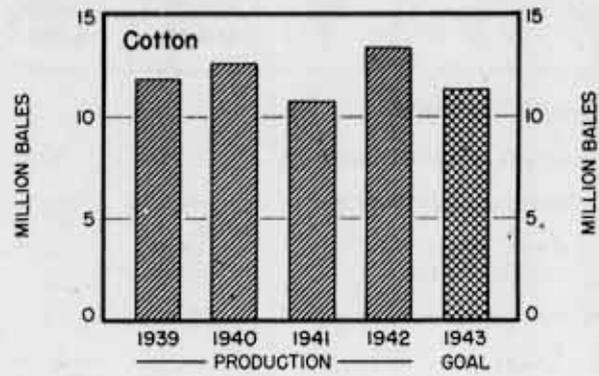
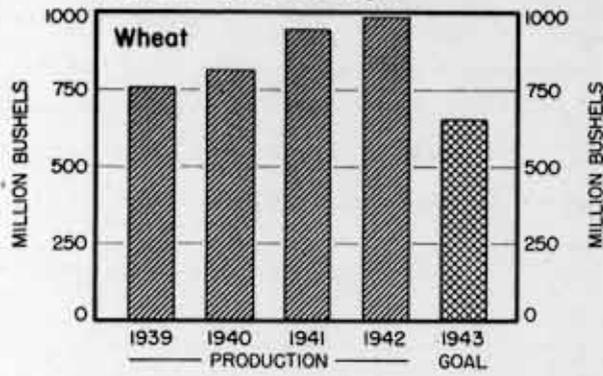
KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program - Checks paid (millions of dollars) -----	1,387	1,348	1,254	r946	r474
War bond sales (millions of dollars) -----	203	184	166	149	66
Commodity prices (August 1939 = 100)					
28 Basic commodities -----	171.4	170.5	170.4	166.4	160.2
Controlled -----	162.1	162.0	162.0	161.8	159.0
Uncontrolled -----	194.8	191.8	191.4	178.3	163.2
Nonferrous metal scrap -----	117.5	117.5	117.5	127.1	131.5
Petroleum carloadings (no. of tank cars)					
Total -----	51,190	51,342	52,793	54,968	48,910
Movement into East -----	24,974	25,358	25,675	24,384	1,863
Exports (no. of freight cars unloaded for export Friday)					
Atlantic Coast ports -----	1,088	1,144	924	1,491	1,596
Gulf Coast ports -----	319	431	239	467	397
Pacific Coast ports -----	925	1,021	962	417	121
Strikes affecting the war effort					
Number in progress -----	8	10	7	20	n.a.
Man-days lost -----	29,616	9,470	20,535	47,143	n.a.
Unused steel capacity (% operations below capacity) -----	1.6	1.4	1.3	1.7	2.1

n.a. Not available. r Revised.

AGRICULTURAL GOALS FOR 1943

Wheat, corn, and cotton are down, but eggs, milk, meat, and peanuts are up — peanuts particularly.



ECONOMIC TRENDS

Hours and Earnings

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
HOURS AND EARNINGS							
Average hours worked per week	44.6	42.4	42.8	42.4	41.1	39.1	37.6
All manufacturing industries	44.6	42.4	42.8	42.4	41.1	39.1	37.6
Durable goods	47.5	44.6	45.2	44.7	42.9	40.1	39.1
Nondurable goods	40.6	39.6	39.9	39.7	39.1	38.2	36.2
Selected industries							
Aircraft	46.3	47.3	46.7	47.3	45.2	41.8	41.2
Aluminum	n.a.	45.4	44.9	44.9	42.6	41.0	40.3
Automobiles	45.1	43.7	44.5	44.2	40.7	37.7	
Bituminous coal	n.a.	33.5	32.1	31.8	33.0	32.6	n.a.
†Brass, bronze, and copper products	46.5	45.7	46.0	45.6	43.1	42.6	36.7
†Copper, lead, and zinc smelting and refining	42.0	41.5	41.2	n.a.	n.a.	n.a.	n.a.
†Electrical machinery	46.7	46.4	46.6	n.a.	n.a.	n.a.	n.a.
†Engines and turbines	49.7	47.7	49.6	n.a.	n.a.	n.a.	n.a.
†Explosives	46.0	45.9	46.2	n.a.	n.a.	n.a.	n.a.
Firearms	49.0	40.8	49.3	50.0	51.0	n.a.	n.a.
†Iron and steel	41.0	40.0	40.1	n.a.	n.a.	n.a.	n.a.
Machine tools	52.5	50.9	52.8	53.9	52.0	44.9	45.1
Metalliferous mining	n.a.	45.4	45.5	43.5	42.5	42.4	n.a.
Railroad equipment	n.a.	n.a.	43.7	n.a.	n.a.	n.a.	n.a.
Rubber products	42.7	41.5	42.2	41.0	39.1	39.2	34.0
Shipbuilding private yards	47.6	46.8	47.7	49.2	45.4	38.3	37.3
Steam railroads	n.a.	47.1	46.8	47.0	47.2	44.9	43.5
Average hourly earnings (cents)							
All manufacturing industries	86.6	88.5	86.4	81.9	77.0	65.3	65.6
Durable goods	95.0	99.4	96.6	91.0	85.3	71.3	71.0
Nondurable goods	75.7	75.0	73.8	71.4	68.0	59.0	60.3
Selected industries							
Aircraft	99.1	100.8	99.3	97.1	87.2	74.8	70.0
Aluminum	n.a.	95.7	93.6	91.4	85.6	69.9	70.7
Automobiles	115.9	115.6	114.5	113.3	109.3	92.2	92.3
Bituminous coal	n.a.	107.0	106.1	105.8	103.8	88.2	n.a.
†Brass, bronze, and copper products	107.7	107.6	108.4	98.1	89.0	75.7	73.0
†Copper, lead, and zinc smelting and refining	92.7	92.0	91.4	n.a.	n.a.	n.a.	n.a.
†Electrical machinery	93.5	98.3	95.0	n.a.	n.a.	n.a.	n.a.
†Engines and turbines	112.1	112.5	110.3	n.a.	n.a.	n.a.	n.a.
†Explosives	98.2	101.3	97.1	n.a.	n.a.	n.a.	n.a.
Firearms	113.9	119.0	114.1	107.7	93.2	n.a.	n.a.
†Iron and steel	107.1	95.7	93.6	n.a.	n.a.	n.a.	n.a.
Machine tools	99.8	99.0	98.7	94.4	87.6	75.4	73.9
Metalliferous mining	n.a.	89.7	90.6	87.3	82.3	72.7	n.a.
Railroad equipment	n.a.	n.a.	106.8	n.a.	n.a.	n.a.	n.a.
Rubber products	94.8	94.9	93.6	91.0	86.5	76.9	78.3

*October. † Revised series. (a) Alloying, and rolling and drawing of nonferrous metals, excluding aluminum. (b) Blast furnaces, steel works, and rolling mills. n.a. Not available.

ECONOMIC TRENDS

Hours and Earnings (cont.)—Cost of Living—Prices

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
HOURS AND EARNINGS (continued)							
Average hourly earnings (cents)							
Shipbuilding—private yards	120.9	124.8	118.9	108.0	105.9	84.2	83.0
Steam railroads	n.a.	82.0	81.0	81.5	70.9	70.8	70.2
Average weekly earnings (dollars)							
All manufacturing industries	38.86	37.88	37.38	36.63	32.89	25.81	25.17
Durable goods	45.26	44.47	43.82	42.57	37.92	29.71	28.61
Nondurable goods	30.64	29.71	29.39	27.78	26.11	22.02	21.36
Selected industries							
Aircraft	45.77	47.19	46.24	45.90	39.29	30.30	28.60
Aluminum	n.a.	43.44	41.97	40.99	36.49	28.80	28.41
Automobiles	52.72	51.85	51.76	50.29	44.32	34.75	34.34
Bituminous coal	n.a.	35.64	34.13	33.46	34.27	28.49	n.a.
† Brass, bronze, and copper products (a)	48.61	49.02	49.59	44.56	38.24	32.21	26.76
† Copper, lead, and zinc smelting and refining	38.92	38.28	37.84	n.a.	n.a.	n.a.	n.a.
† Electrical machinery	44.53	45.30	44.29	n.a.	n.a.	n.a.	n.a.
† Engines and turbines	55.64	53.44	54.33	n.a.	n.a.	n.a.	n.a.
† Explosives	45.22	46.23	44.83	n.a.	n.a.	n.a.	n.a.
Firearms	55.81	58.02	56.28	53.86	47.57	n.a.	n.a.
† Iron and steel (b)	43.87	43.44	41.97	n.a.	n.a.	n.a.	n.a.
Machine tools	52.32	50.67	52.12	50.79	45.54	33.80	33.31
Metalliferous mining	n.a.	40.69	41.22	37.93	34.86	30.64	n.a.
Railroad equipment	n.a.	n.a.	46.72	n.a.	n.a.	n.a.	n.a.
Rubber products	40.49	39.23	39.46	36.80	33.54	30.11	25.83
Shipbuilding—private yards	57.57	58.63	56.93	53.30	47.84	32.26	31.49
Steam railroads	n.a.	47.1	46.8	47.0	47.2	44.9	43.5
COST OF LIVING (1935-39 = 100)							
All items	119.8	119.0	117.8	116.0	110.2	100.1	103.3
Food	131.1	129.6	126.6	121.6	113.1	96.7	104.1
Other than food	114.2	113.6	113.3	113.3	108.9	102.0	101.8
Clothing	126.0	125.9	125.8	126.2	113.8	c101.3	c104.8
Rent	107.9	108.0	108.0	109.9	107.8	c104.4	c103.7
Fuel, electricity, and ice	106.2	106.2	106.2	104.9	104.0	c99.9	c100.7
Housefurnishings	123.7	123.6	123.6	122.2	115.6	c102.7	c107.0
Miscellaneous	112.6	111.7	111.4	110.9	107.4	c100.9	c102.0
COMMODITY PRICES (1926 = 100)							
All commodities (wholesale prices)	p100.3	100.0	99.6	98.8	92.5	79.2	83.3
Farm products	110.5	109.0	107.8	104.4	90.6	67.3	75.7
Foods	103.5	103.4	102.4	98.9	89.3	72.3	83.1
All other than farm products and foods	p95.8	95.5	95.5	95.7	93.5	84.0	84.3
Raw Materials	103.9	103.0	102.2	99.7	90.2	72.4	77.2
Semimanufactured goods	92.6	92.7	92.9	92.9	89.7	82.1	79.8
Manufactured goods	p99.4	99.4	99.2	99.0	93.8	82.0	86.7

*Hours and earnings, October. Cost of living and commodity prices, November. †Revised series. (a) Alloying, and rolling and drawing of nonferrous metals, excluding aluminum. (b) Blast furnaces, steel works, and rolling mills. c December, 1937 and 1939. n.a. Not available. p Preliminary.

ECONOMIC TRENDS

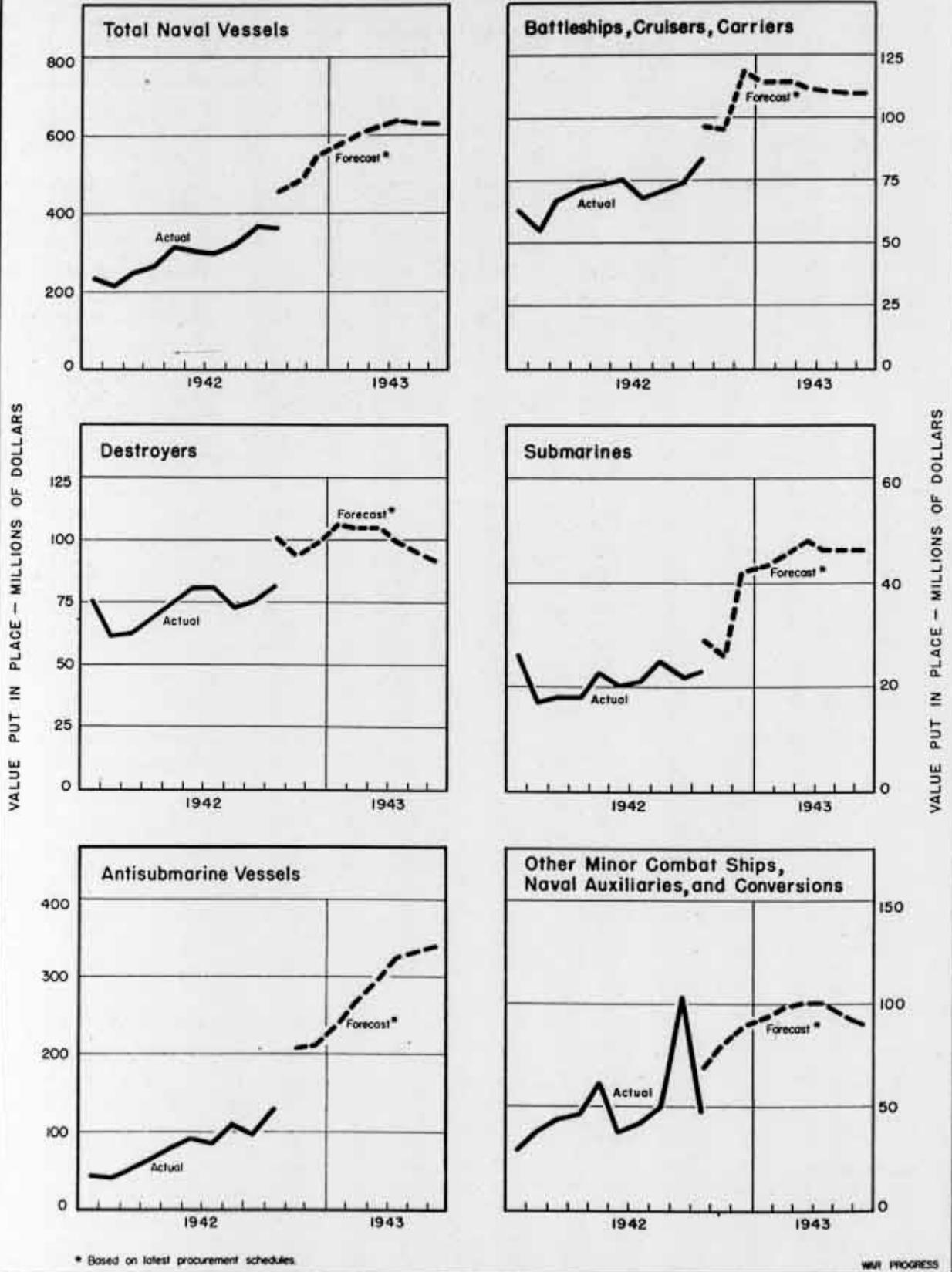
Hours and Earnings

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
HOURS AND EARNINGS							
Average hours worked per week							
All manufacturing industries	42.8	42.4	42.6	42.2	41.0	38.0	38.7
Durable goods	45.2	44.7	45.1	44.4	42.6	38.4	40.2
Nondurable goods	39.9	39.6	39.6	39.7	39.4	37.8	37.3
Selected industries							
Aircraft	46.7	46.6	47.2	47.7	45.6	42.0	40.6
Aluminum	44.9	44.8	44.5	44.4	42.2	38.3	40.8
Automobiles	44.5	43.3	44.0	42.4	39.0	37.7	34.8
Bituminous coal	31.9	29.7	33.2	31.6	32.7	27.4	26.6
Brass, bronze, and copper products	46.5	45.7	45.9	45.8	44.4	39.5	38.7
Copper, lead, and zinc smelting and refining	41.1	40.9	41.2	40.1	39.5	38.2	42.3
Electrical machinery	46.5	46.1	46.4	45.6	43.9	38.8	39.5
Engines and turbines	48.8	48.4	48.7	49.3	46.4	40.1	38.9
Explosives	46.3	45.7	46.0	45.2	43.1	40.2	39.5
Foundry and machine shop	48.3	47.8	48.4	47.6	45.6	38.9	42.0
Iron and steel	40.8	39.9	40.8	40.7	40.1	35.7	40.5
Machine tools	52.8	52.8	53.8	54.9	51.2	42.6	44.0
Metalliferous mining	44.6	43.3	44.0	44.4	41.9	39.5	44.5
Railroad equipment	44.8	44.2	44.2	44.3	40.4	38.4	40.2
Rubber products	42.2	41.4	41.5	39.7	39.4	37.0	34.8
Shipbuilding - private yards	47.7	48.2	48.4	48.7	44.4	38.1	38.2
Steam railroads	n.a.	46.6	47.1	46.9	45.7	44.2	42.8
Average hourly earnings (cents)							
All manufacturing industries	86.4	85.0	84.0	80.3	74.5	63.4	64.8
Durable goods	96.6	94.6	93.3	89.3	83.0	69.9	70.3
Nondurable goods	73.8	73.2	72.7	70.2	65.8	58.5	59.6
Selected industries							
Aircraft	99.3	99.2	99.3	95.2	84.5	73.8	70.1
Aluminum	93.6	92.0	91.3	88.4	85.4	70.1	67.9
Automobiles	114.5	114.4	113.7	115.8	105.5	93.5	92.6
Bituminous coal	109.7	108.7	108.6	105.8	103.3	89.0	89.4
Brass, bronze, and copper products	104.7	102.7	100.0	95.7	88.7	71.0	73.0
Copper, lead, and zinc smelting and refining	92.2	91.7	90.6	87.9	81.7	69.8	69.8
Electrical machinery	93.8	93.2	92.6	90.3	85.1	73.7	72.7
Engines and turbines	118.9	117.5	115.4	112.4	101.6	77.8	76.6
Explosives	98.8	99.1	99.2	97.9	89.6	80.2	80.1
Foundry and machine shop	94.2	92.4	92.1	87.9	82.6	71.4	69.9
Iron and steel	103.0	100.4	99.9	98.8	96.8	84.3	85.7
Machine tools	98.7	97.3	97.4	92.8	85.0	74.6	72.7
Metalliferous mining	91.4	89.2	88.7	86.3	80.8	70.1	71.1
Railroad equipment	105.1	103.7	101.4	96.2	85.7	76.1	73.4
Rubber products	93.6	93.3	92.6	88.2	86.1	77.0	78.3
Shipbuilding - private yards	118.8	113.8	108.8	109.1	103.9	82.9	81.7
Steam railroads	n.a.	80.7	80.7	83.6	70.7	69.2	67.4

*August (Preliminary). n.a. Not available.

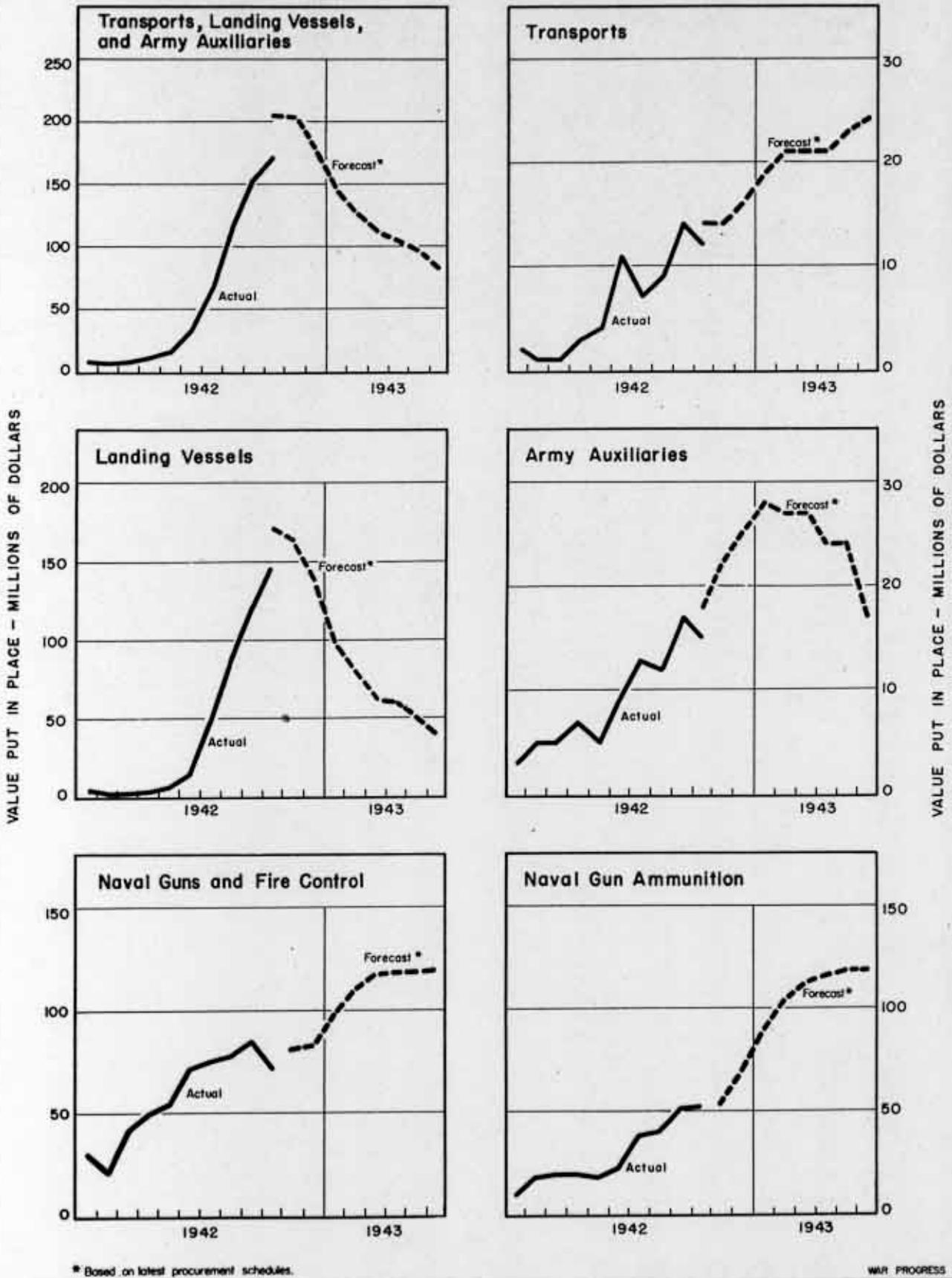
PRODUCTION PROGRESS

Naval, Army, and Merchant Ships and Equipment



PRODUCTION PROGRESS

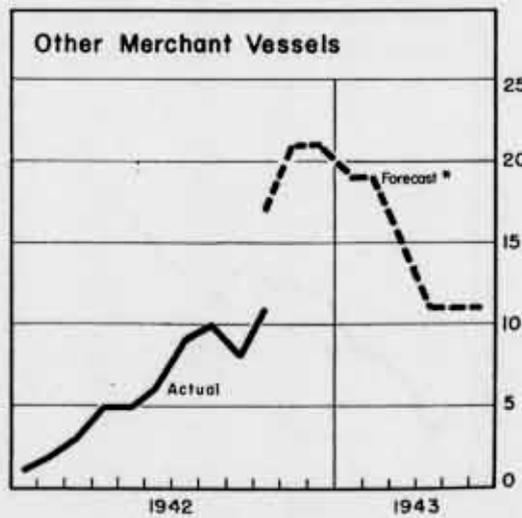
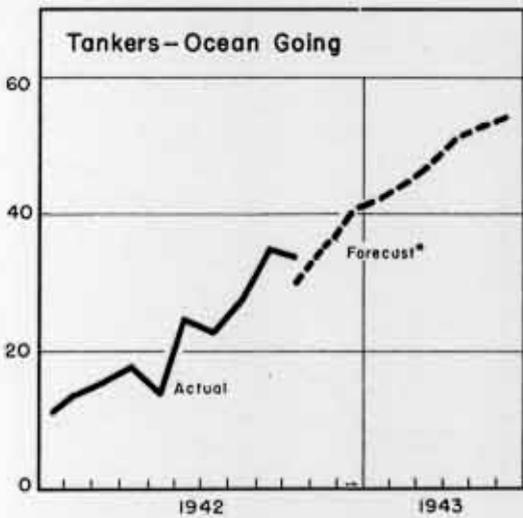
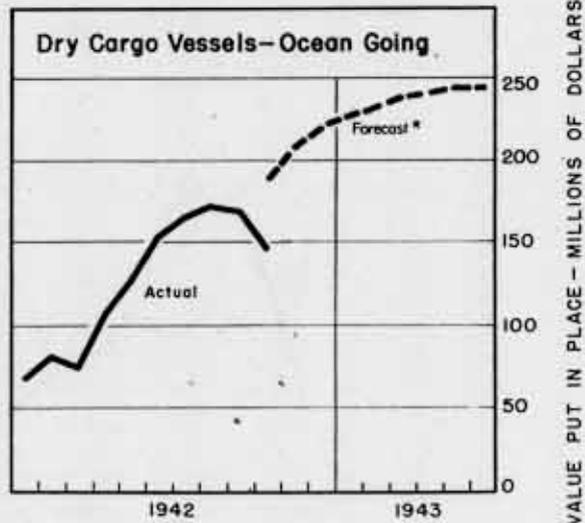
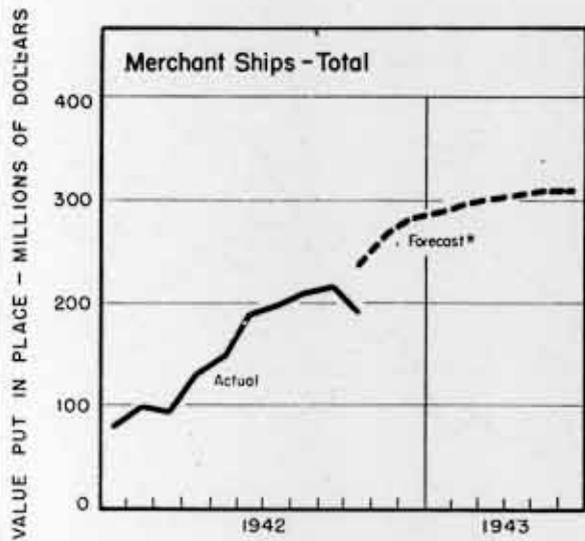
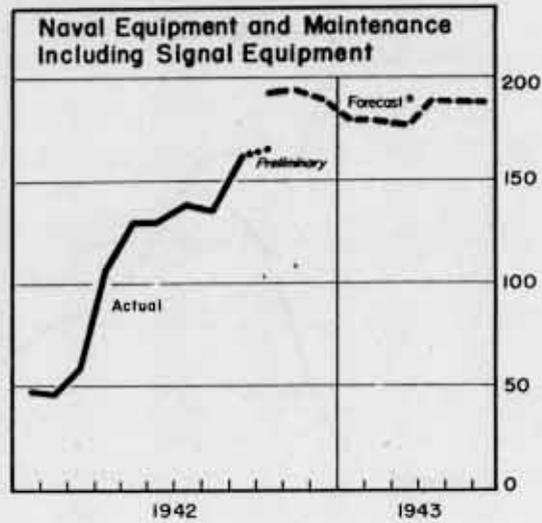
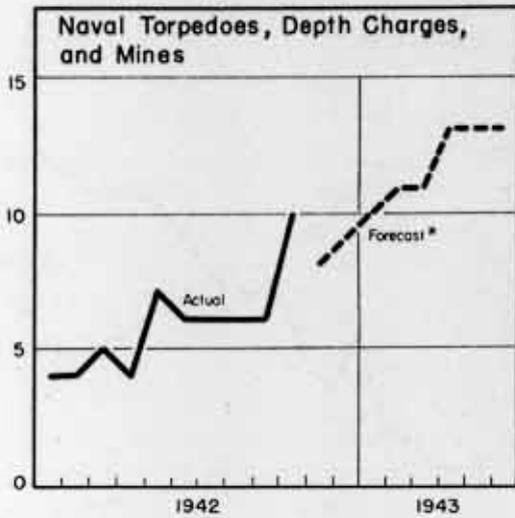
Naval, Army, and Merchant Ships and Equipment (Continued)



* Based on latest procurement schedules.

PRODUCTION PROGRESS

Naval, Army, and Merchant Ships and Equipment (Continued)



* Based on latest procurement schedules.

WAR PROGRESS

~~Confidential~~
~~(British Secret)~~

DECLASSIFIED
BY: 11484 (S. H. H.) and 11484 (S. H. H.)
ON: 11/14/2001
AUTHORITY: E.O. 11652

PRP Swings Toward CMP
Basic Statistics on War Output —
Production Progress Tables

Number 119

December 25, 1942

PRP Prepares for Shift to CMP

Requirements Committee ties metals allocations closer to end products. Uptrend in allotments to munitions items continues. Civilians cut again in first quarter, 1943.

IN SETTING FORTH the rules for operation of the Production Requirements Plan for the first quarter of 1943, the Requirements Committee tied down quantities of metals to particular end products more definitely than heretofore, and thus moved closer toward Controlled Materials Plan procedures.

ALLOTMENTS FIXED

In the past, if the military services wanted an allotment of carbon steel increased for one group of manufacturers (because of an urgent need for a particular end product), an Industry Branch could take it upon itself to raise the Requirements Committee's recommendation, cutting down an allotment somewhere else. But, in the first quarter of next year, the allocation is fixed. Thus, when the Requirements Committee allots 10,057 tons of carbon steel for machine gun production and 13,165 tons for the manufacture of fire control instruments, the quantities are not alterable in any way, unless the Army gets a new authorization from the Requirements Committee.

AUTHORIZATIONS SPECIFIC

The Requirements Committee has also tightened up and made more specific the heretofore relatively broad industry classifications according to which allocations are made. For instance, for the fourth quarter of this year, 84,800 tons of carbon steel were allotted to the group "miscellaneous metal-working

machinery," and it was left to the Industry Branch to distribute this allotment to the various subgroups within the miscellaneous classification. Now miscellaneous metal-working machinery has been broken up into nine groups, each with specific authorizations (tons of carbon steel): (1) bending machines, 3,907; (2) forges, hammers, presses, 13,218; (3) ammunition presses, 31,403; (4) power shears and nibblers, 1,707; and so forth. Such specific authorizations restrict the area within which WPB Industry Divisions can exercise discretion and tend to pin down allotments of metals to particular products.

ADVICE TO CLAIMANTS

Furthermore, the Requirements Committee advised claimant agencies (Army, Navy, Maritime Commission, etc.) to adjust their procurement schedules down

AIRPLANE OUTPUT LAGS

BECAUSE of a large proportion of small types (only trainers were above the 8-L schedule), the value of plane output was off 7% in the first 20 days of December as against November:

	<u>% Change</u>	<u>% Adj. Forecast</u>
Total planes..	- 7%	93%
Combat.....	- 9	91
Service combat	-10	68
Trainer.....	+19	128

December, as a whole, may show up better than the table suggests; in the first 20 days, December had one more Sunday than November; also, December is 31 days, November only 30. But Christmas must be reckoned with.

to the general level of materials allocations. This is a step toward obtaining a balance between schedules and the flow of critical materials—a necessary procedure if CMP is to function smoothly.

In making its authorizations, the Requirements Committee deliberately inflated, thus following the established British practice (WP-Oct23'42,p3). Total allotments will exceed supply by about 10%. Theory behind the overallocation is this: During the quarter, procurement agencies will undoubtedly change schedules and cancel orders to end-product manufacturers; these cancellations, in turn, will filter down to subcontractors and the metal mills—steel companies, brass mills, etc. And to keep the metal plants operating at top speed—to avoid any slowdowns because of a diminution in backlogs—authorizations have been inflated.

DIFFERS FROM THIRD QUARTER

This inflation differs in purpose from the inflation in the third quarter of this year (WP-July10'42,p5). Then the Requirements Committee did not have adequate data on requests—PD-25A appli-

cations were tabulated too late—and, rather than starve some manufacturers for materials, the Committee granted oversized allotments.

METALS FOR MUNITIONS

Metals are going increasingly into munitions. Authorizations for military end products are up from 16% (alloy steel) to 56% (zinc) over fourth quarter allocations (chart, page 3). Still another indication of the shift toward munitions is provided by a comparison of the percentage of metals going into military end products in the second quarter (1942) with the percentage authorized for the first quarter of 1943:

	% of Metals for Military End Products	
	2nd Qtr.*	1st Qtr.**
	'42	'43
Steel:		
Carbon.....	23%	42%
Alloy.....	44	72
Stainless.....	45	63
Copper.....	13	22
Brass & bronze....	62	77
Zinc.....	17	37

*Used **Authorized

IN THIS ISSUE:

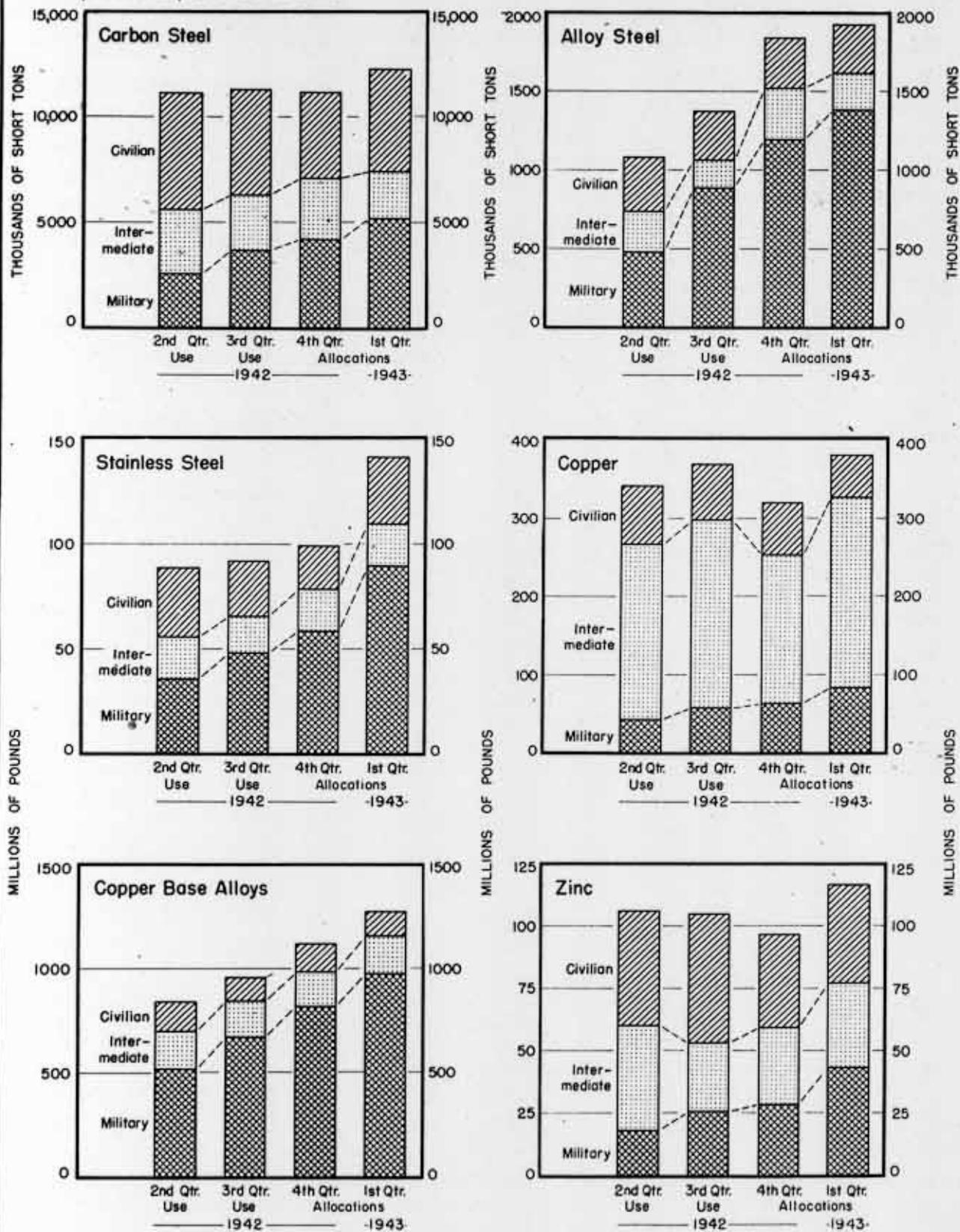
PRP PREPARES FOR SHIFT TO CMP	1
AIRPLANE OUTPUT LAGS	1
THREE CATEGORIES OF CIVILIAN-TYPE PRODUCTION	4
<i>Elected Hamer</i> ONCE PLENTIFUL NICKEL	5
BECOMING THE MOST AIR-MINDED NAVY	7
WAR PROGRESS NOTES	8
WARTIME DIVERGENCE IN PRODUCTION	9
KEY STATISTICS OF THE WEEK	10
ECONOMIC TRENDS (PRODUCTION)	11
WOMEN IN AIRCRAFT	11
PRODUCTION PROGRESS (GENERAL SUMMARY)	12-16

Indeed, the actual proportions of metals going to the armed services are much higher than the table indicates in view of the fact that a large proportion of the intermediate products—bolts, bearings, motors—wind up in munitions; furthermore, standard products (civilian-type items) such as tractors, heating stoves, printing machinery, lighting equipment, etc., also go to the armed forces.

The shift towards military end products is, of course, compensated for by declining proportions of metals assigned to the other two major products divisions (intermediate and standard products), as follows:

PRP ALLOTS MORE METALS FOR MUNITIONS

And proportions going to manufacturers of standard (civilian-type) and intermediate products perform decline.



THREE CATEGORIES OF CIVILIAN-TYPE PRODUCTION

REQUIREMENTS COMMITTEE authorizations of critical metals for standard (civilian type) products may be classified, roughly, into three groups:

(1) Goods which go to civilian consumers—cutlery, domestic refrigerators, kitchen utensils. In this group, first quarter 1943 allotments are down sharply from actual use during the third quarter of 1942. However, repairs sometimes shoot up authorizations strikingly: Copper for domestic laundry equipment, for example.

(2) Goods which go primarily to

industry—hand tools, electric welding apparatus, steam engines, etc. Here allotments are up, to meet the needs of war plants.

(3) Goods which go largely to the armed forces—kegs, barrels, drums (a North African campaign requires immense numbers of containers), medical equipment, beds, etc. In some cases, such as metal beds and clocks and watches, allotments are down sharply. The cuts largely reflect the elimination of civilian consumers from the market since the third quarter.

% CHANGE—1ST QUARTER '43 AUTHORIZATIONS COMPARED WITH 3RD QUARTER '42 USE

	--Steel--			Brass		
	Carbon	Alloy	Stainless	Copper	& Bronze	Zinc
<u>Civilian Consumers:</u>						
Kitchen articles.....	- 33	Zero	- 29	+ 9	-100	- 44
Cutlery.....	- 13	+ 33	- 72	- 77	- 91	+ 14
Bicycles & parts.....	- 33	- 98	Zero	*	+435	Zero
Baby carriages.....	- 47	Zero	Zero	Zero	Zero	Zero
Domestic ice refrig....	- 42	Zero	Zero	Zero	Zero	+900
Domestic laundry equip. -	13	Zero	+177	+735	+173	- 5
<u>Industrial Consumers:</u>						
Hand tools.....	+ 27	+ 10	+ 87	- 31	+ 11	- 9
Iron & steel wire.....	- 24	+ 39	- 4	- 15	- 22	- 39
Elec. welding apparatus N.C.		+235	+284	+ 17	+ 3	+254
Steam engines.....	+ 30	- 67	Zero	- 9	+ 20	- 9
Machine tools.....	- 6	- 3	+ 35	+ 4	+ 7	- 8
Intraplant trucks.....	+ 20	+132	- 20	+ 18	+ 27	+254
<u>Military Consumers:</u>						
Kegs, barrels, drums...	+ 18	- 2	*	+ 35	+ 38	+ 8
Metal beds, cots.....	- 23	- 40	Zero	- 38	- 55	+ 25
X-ray equip.....	+126	+172	- 62	+ 34	- 8	N.C.
Clocks & watches.....	- 27	Zero	+123	- 19	N.C.	- 26
Cameras & accessories..	+ 18	- 23	+103	- 22	+ 57	- 5
Surgical, etc., equip..	+ 50	+100	+ 87	+ 39	+ 48	+ 69

Zero- No metal authorized. * Small quantity authorized in first quarter; none used in third. N.C.- No change. Note: In official PRP tabulations "brass and bronze" is classified as "copper base alloys."

DECEMBER 25, 1942

5

% of Metals for Intermediate Products

	2nd Qtr.*	1st Qtr.**
	'42	'43
Steel:		
Carbon.....	27%	18%
Alloy.....	23	12
Stainless.....	25	14
Copper.....	65	63
Brass & bronze....	21	14
Zinc.....	40	24

% of Metals for Standard Products

	2nd Qtr.*	1st Qtr.**
	'42	'43
Steel:		
Carbon.....	34%	29%
Alloy.....	30	15
Stainless.....	29	21
Brass & bronze....	14	8
Zinc.....	43	39

*Used **Authorized

The demands of all producers are bigger than the supply of metals. First quarter requests for allotments exceed authorizations by wide margins, except in the case of brass and bronze for military products. They are only 4% over authorizations:

Requests As % of Authorizations

	Milit.	Stand.	Intermed.
Steel:			
Carbon.....	132%	121%	147%
Alloy.....	137	133	122
Stainless....	118	172	135
Copper.....	113	140	122
Brass & bronze	104	132	138
Zinc.....	110	142	142

On the whole, authorizations of metals to go into direct military products come closer to requests than in the case of either standard or intermediate products, largely because demands of the armed services have first call. Brass and bronze (copper base alloys) prove the point.

Enlisted Women

Some 200,000 WAACS, WAVES, SPARS and WAFS will ease pressure on manpower supply by taking over duties of soldiers, sailors, and coast guards.

ALTHOUGH THE NAVY set the precedent for enlisting women--the Yeomanettes were 11,000 strong in the last war--this time the Army had the first auxiliary to take the load of paper and other work off enlisted men and the U.S. manpower supply. As a starter, some 200,000 women will "join" the Army, Navy, Coast Guard, etc., as follows:

1. The Women's Army Auxiliary Corps, authorized by Congress last May, was originally limited to 25,000 women but has since been boosted, by executive order, to 150,000. The WAACS are organizationally independent, with their own administrative personnel, mess arrangements, etc., and are technically "with" rather than "in" the Army.

CLERKS, MECHANICS, MESSENGERS

Groups numbering from 50 up--companies average 150--are sent to stations at the request of the Army for service as clerks, radio operators, laboratory assistants, mechanics, messengers, secretaries, aircraft technicians, etc. While a few such companies are now at work in the Aircraft Warning Service and in administrative duties at camps and stations, the chief function of the Corps is still the training of recruits. Enlistments are now well over 15,000.

Base pay in the WAACS is the same as in the Army, and the service may be at home or abroad. Members are already on duty in England. Where barracks are not provided, the usual Army allowance is made for subsistence and quarters. For the lowest rank, the base pay plus allowance is comparable to a CAF-2 Civil

Service rating (\$1440 a year). And, in addition, clothing is provided.

2. No limit has been set on the number of women who may be recruited for the Navy, though "talking figures" for the bill authorizing the auxiliary mentioned the need for 1,000 officers and 10,000 enlisted women. As the Navy grows, the number of women required to replace men capable of sea duty will increase. WAVES are "in" the Navy, subject to Navy discipline and given Navy pay, but their service is limited to continental United States.

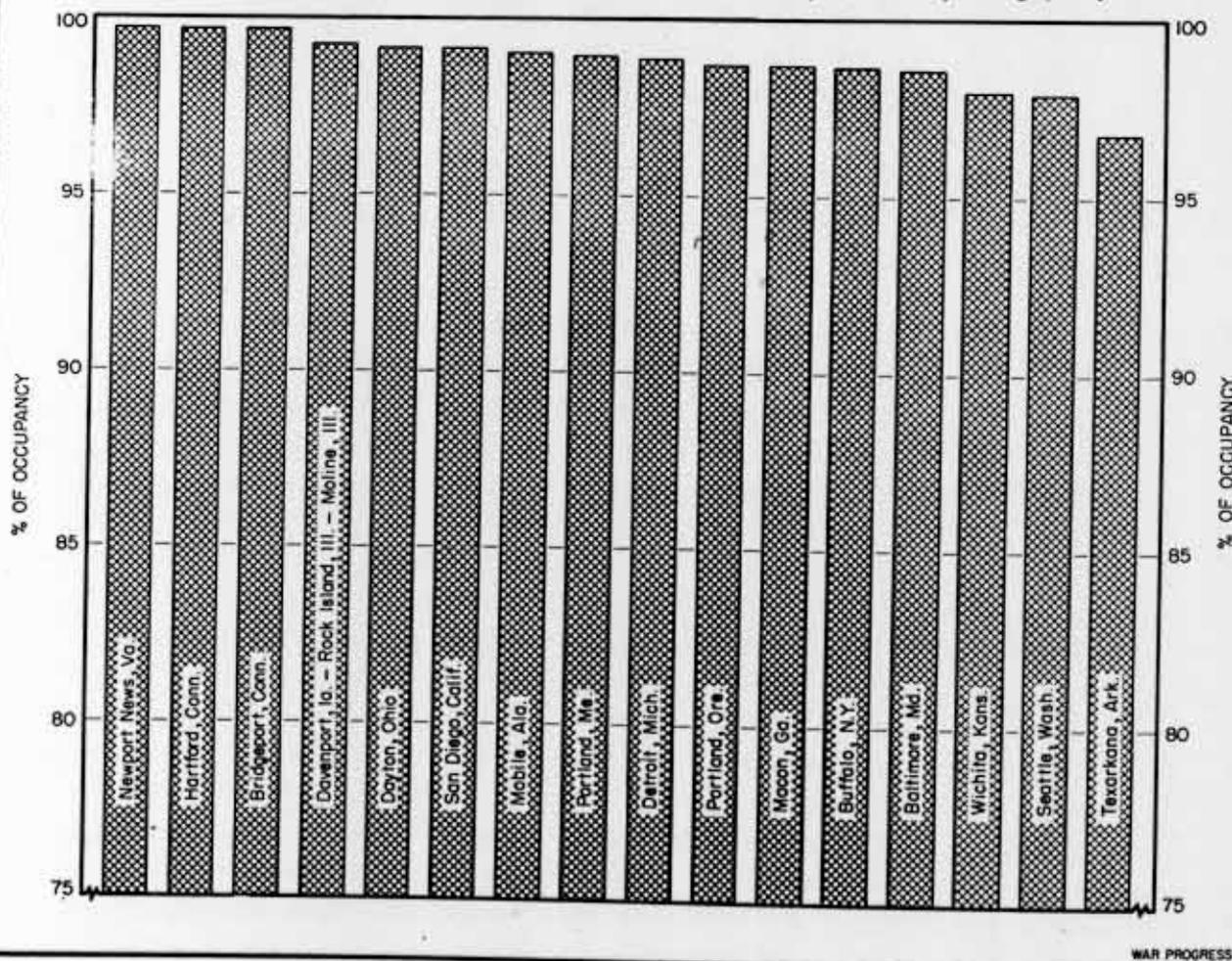
The jobs for which the WAVES are being trained include most of those in

which men now serve as yeomen (clerks), signalmen, pharmacists' mates, telegraphers, mechanics, radio technicians, etc. The first WAVE class was graduated as recently as November; about 300 are now on duty in the Navy Department.

3. The Women's Auxiliary of the Coast Guard—the SPARS—was authorized late in November and will start training its first class late this month. Present plans call for 4,000 women the first year, 8,000 the second. Like the Navy auxiliary with which it will train, graduates of the training courses will do yeoman and other service at home ports and stations.

NOT MANY VACANCIES

There's not much living room in war-production areas, with dwelling units occupied from 96.8% (for Texarkana) to 99.7% (for Newport News, Bridgeport, etc.)



ECONOMIC TRENDS

Hours and Earnings (cont.)—Cost of Living—War Employment

	Latest Month *	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
HOURS AND EARNINGS (continued)							
Average weekly earnings (dollars)							
All manufacturing industries	39.54	38.56	37.99	35.71	31.66	24.52	25.64
Durable goods	45.83	44.62	44.02	41.53	36.55	27.92	29.10
Nondurable goods	29.12	28.66	28.32	27.35	25.38	21.58	21.98
Selected industries							
Aircraft	46.09	46.03	46.67	44.97	38.08	30.59	28.14
Aluminum	41.97	41.20	40.54	39.11	36.03	26.88	27.68
Automobiles	51.76	49.79	50.20	48.92	41.09	35.15	32.26
Bituminous coal	34.13	32.18	39.91	33.10	33.85	24.61	23.58
Brass, bronze, and copper products	48.02	46.79	45.81	43.62	39.17	28.00	28.21
Copper, lead, and zinc smelting and refining	38.13	38.01	37.72	35.29	32.29	26.64	29.56
Electrical machinery	43.31	42.57	42.62	41.10	37.41	28.50	28.72
Engines and turbines	58.13	56.91	56.15	55.58	46.96	31.01	29.83
Explosives	45.57	45.35	45.67	44.28	38.56	32.20	31.68
Foundry and machine shop	45.74	44.46	44.71	41.98	37.72	27.78	29.19
Iron and steel	42.22	41.77	40.85	40.23	38.81	30.13	34.56
Machine tools	52.17	51.58	52.47	50.87	43.53	31.72	31.94
Metalliferous mining	41.22	38.90	39.12	38.31	33.68	27.47	31.62
Railroad equipment	47.27	45.78	44.71	42.71	34.73	29.25	29.46
Rubber products	39.46	38.88	38.24	34.73	33.78	28.52	26.53
Shipbuilding—private yards	56.93	55.07	52.73	53.38	46.47	31.69	31.44
Steam railroads	n.a.	37.60	38.05	39.17	32.34	30.63	28.87
COST OF LIVING (1935-39-100)							
All items	p117.8	117.5	117.0	114.3	108.1	100.6	104.3
Food	p126.6	126.1	124.6	118.6	110.8	98.4	107.9
Other than food	p113.3	113.2	113.2	112.1	106.7	101.7	102.4
Clothing	p125.8	125.2	125.3	123.6	110.8	100.3	105.1
Rent	p108.0	108.0	108.0	108.9	106.8	104.4	102.1
Fuel, electricity, and ice	p106.2	106.2	106.3	104.5	103.7	98.6	100.0
Housefurnishings	p123.6	123.0	122.8	121.2	112.0	101.1	106.7
Miscellaneous	p111.4	111.1	111.1	110.1	105.0	101.1	101.7
WAR EMPLOYMENT (thousands)							
Federal civilian							
War Department—total	1,064	873	777	560	322	97	
Manufacturing arsenals	87	84	80	66	51	14	
Navy Department—total	501	476	450	352	253	88	
Ship construction and repair	338	319	306	244	178	62	
Office of Emergency Management	63	57	46	18	5	-	
Construction (noncontract)	16	14	14	5	4	(a)	
War projects of WPA	168	242	285	328	350	n.a.	
War construction—private (contract)	1,302	989	889	570	384	5	

*Hours and Earnings, August (preliminary). Cost of Living, September. War Employment, August.
(a) Less than 500. n.a. Not available. p Preliminary.

DECEMBER 25, 1942

7

4. The smallest and most specialized female group—a Women's Auxiliary Ferrying Squadron—is neither "in" nor "with" the Army but on Civil Service. The Squadron ferries planes from factories to fields within continental United States, thus relieving men for duty elsewhere. It is attached to the Second Ferrying group of the Ferrying Division of the Air Transport Command at Wilmington, Del.

TRAINING IN TEXAS

The qualifications necessary for membership in the group include a commercial pilot's license with 200-horsepower rating and 500 hours of logged and certified flying time. The age limits are 21 to 35 years.

While several thousand women in the United States have pilot's licenses, comparatively few have the number of hours required by the WAFS. To meet the need for women in this auxiliary, a flying training program has been established in Texas. Ninety-eight women are now taking the four months' course.

FROM WHITE-COLLAR CLASS

Recruited largely from the white-collar classes—nonworkers, school-teachers, stenographers, clerks, etc.—the women enlisted in auxiliaries constitute no direct drain on war production. Indeed, to the extent that they perform duties which would otherwise require men, the WAACS, WAVES, SPARS, and WAFS lighten the manpower burden.

Becoming the Most Air-minded Navy

Although deliveries of aircraft carriers lag behind schedules, battle losses will soon be made up. Auxiliary ship has become integral part of program.

BEFORE PEARL HARBOR, the United States had seven aircraft carriers in service; announced losses have brought this down to three.

But the building program now under way—both for full-fledged combat carriers and for auxiliary (escort) carriers—promises to yield the most air-minded Navy in the world.

Four new combat carriers have already been launched since Pearl Harbor and keels for 12 others are on the ways. Three of the ships launched were scheduled (earlier this year) for actual completion in December, but now completion dates have been put forward into the first quarter of 1943. Two other carriers are scheduled for delivery by March 31, so that the nation's combat

carrier fleet will then be above Pearl Harbor strength.

To supplement the regular carrier, the Navy is utilizing an auxiliary carrier. This is, in effect, a converted merchant ship with a flight deck. Unarmored, carrying only about one-quarter of the plane complement of the regular carrier and possessing only half the speed, the auxiliary is designed primarily for convoy work. It can be utilized for limited offensive duty, although its speed is a restricting factor for task-force operations with destroyers and cruisers.

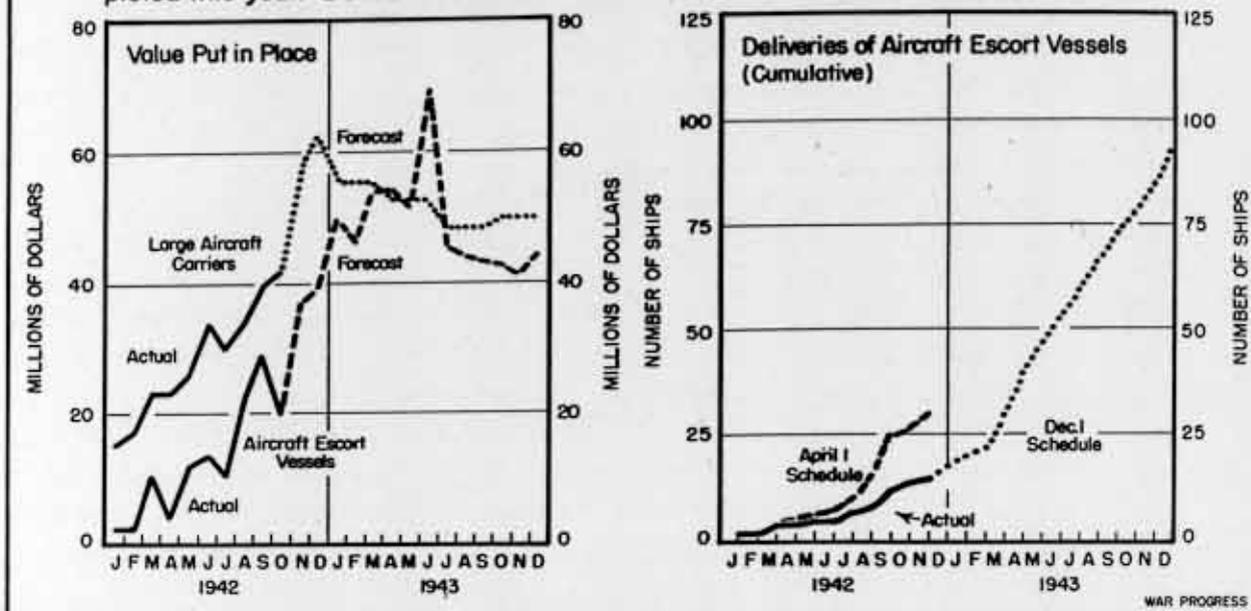
AUXILIARY PROGRAM

At the time of Pearl Harbor, only two auxiliaries had been completed; 15 have since been completed (to December 1), five going to the British. And remaining schedules to December 31, 1943, call for deliveries of over 70 more ships.

Just as the regular carriers are be-

MORE "FLAT-TOPS"

Value of aircraft carrier production is rising, though no large ones have been completed this year. Deliveries of escort vessels are behind earlier expectations.



IT TAKES 21 MONTHS TO BUILD A FULL-FLEDGED AIRCRAFT CARRIER, AND NONE HAS BEEN ADDED TO THE NAVY SINCE PEARL HARBOR. HOWEVER, VALUE PUT IN PLACE (LEFT HAND CHART) HAS BEEN MOUNTING STEADILY, AND DIVIDENDS, IN THE FORM OF COMMISSIONED SHIPS, WILL PAY OUT EARLY

NEXT YEAR. BUILDING OF AUXILIARY CARRIERS—IN EFFECT CONVERTED MERCHANT SHIPS—IS MUCH SPEEDIER, AND THOUGH DELIVERIES HAVE NOT KEPT PACE WITH APRIL 1 FORECAST, IMPORTANT ADDITIONS TO THE FLEET HAVE ALREADY BEEN MADE (RIGHT HAND CHART).

hind schedule, so it is with the auxiliaries: 1942 deliveries are now scheduled to equal 62% of the ships forecast on April 1. As with other types of convoy vessels, auxiliary carriers have had to stand aside for the accelerated landing vessel program (WP-Dec 11 '42, p6). Deliveries have also been held back by difficulties in obtaining motor generators, pumps, turbines, winches, and other equipment. Furthermore, it has taken private shipyards time to get familiar with the job of converting a merchant-ship hull into a carrier.

After the battle of the Coral Sea, an emphatic change took place in the naval program (WP-June 19 '42, p1). Tonnage of the battleship-large cruiser program was cut 55%, the carrier program was nearly tripled. Shipways for

battleships, which require three years to build, were cleared for carriers, building time of which has been cut from a pre-Pearl Harbor 31 months to about 21 months today.

BIGGER THAN BATTLESHIPS

Altogether, scheduled 1943 additions to the carrier fleet will have an aggregate value of about \$1,000,000,000. That will be 14% of total naval deliveries—more than twice the value of deliveries of battleships and cruisers.

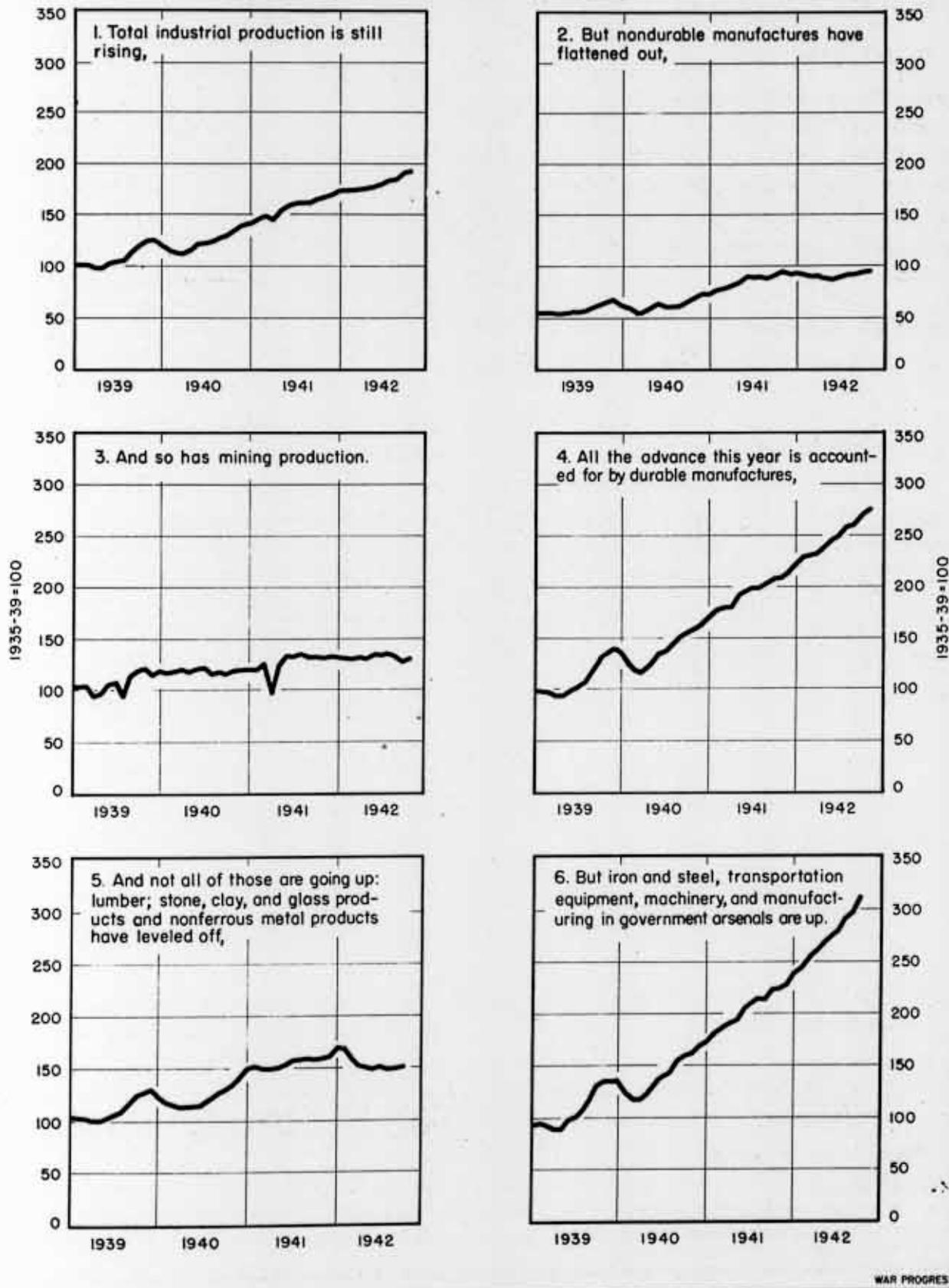
War Progress Notes

SERVICE INSIGNIA

FROM NOW ON mothers, wives, and sweet-hearts of men in Service will find it harder to get military pins, buttons,

WARTIME DIVERGENCE IN PRODUCTION

Rise in mining, nondurable goods, and some durables halted, but machinery, transportation equipment, and armament continue up.



and badges to wear as tokens. The quantities of metals allotted to military insignia for the January-March quarter production period are down sharply from the preceding quarter.

LET THE STEEL BELLS RING

BECAUSE of copper shortages, the railroads have fitted many new and old locomotives with steel instead of brass bells. Trainmen say that the steel bells carry further than brass and do not cause an annoying ringing in the ears.

AITCHES INCLUDED

THE BRITISH have named one of their new light tanks the "Harry Hopkins."

MATCHWOOD BARRACKS

REDUCE the length of wooden matches a quarter inch and save 7,000,000 board feet of lumber a year, enough to house 7,000 soldiers. Shorten the steel sta-

ples in book matches by a quarter inch and save about 100 tons of steel a year, equivalent to three medium tanks. These and other conservation measures are being considered by the WPB and the match manufacturers.

FISH SALVAGE

THE FISH AND WILDLIFE SERVICE of the Department of the Interior is urging sports fishermen not to throw their catch back into the water but to take it home or sell it, thus adding to the nation's food supply. Sportsmen's clubs are urged to serve as collecting and selling agencies.

LIGHTS OUT

DIMOUTS in coastal cities to avoid silhouetting ships have incidentally curbed consumption of electricity. Now, a program is being considered for dimming all U.S. cities as a means of saving electric power, coal, and transportation.

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program - Checks paid (millions of dollars) -----	1,237	1,387	1,420	873	342
War bond sales (millions of dollars) -----	213	203	182	126	126
Commodity prices (August 1939 = 100)					
28 Basic commodities -----	172.0	171.4	170.1	166.6	158.6
Controlled -----	162.2	162.1	162.2	162.3	157.4
Uncontrolled -----	196.4	194.8	189.8	177.7	161.6
Nonferrous metal scrap -----	117.5	117.5	117.5	127.1	131.5
Petroleum carloadings (no. of tank cars)					
Total -----	49,974	51,192	51,527	52,569	48,284
Movement into East -----	23,966	24,974	25,146	24,392	1,742
Exports (no. of freight cars unloaded for export Friday)					
Atlantic Coast ports -----	1,066	1,088	1,190	1,799	1,634
Gulf Coast ports -----	351	319	316	566	359
Pacific Coast ports -----	n.a.	925	944	628	112
Strikes affecting the war effort					
Number in progress -----	8	8	14	21	n.a.
Man-days lost -----	8,657	29,616	20,600	52,898	n.a.
Unused steel capacity (% operations below capacity) -----	1.9	1.6	1.7	2.0	6.6

n.a. Not available.

ECONOMIC TRENDS

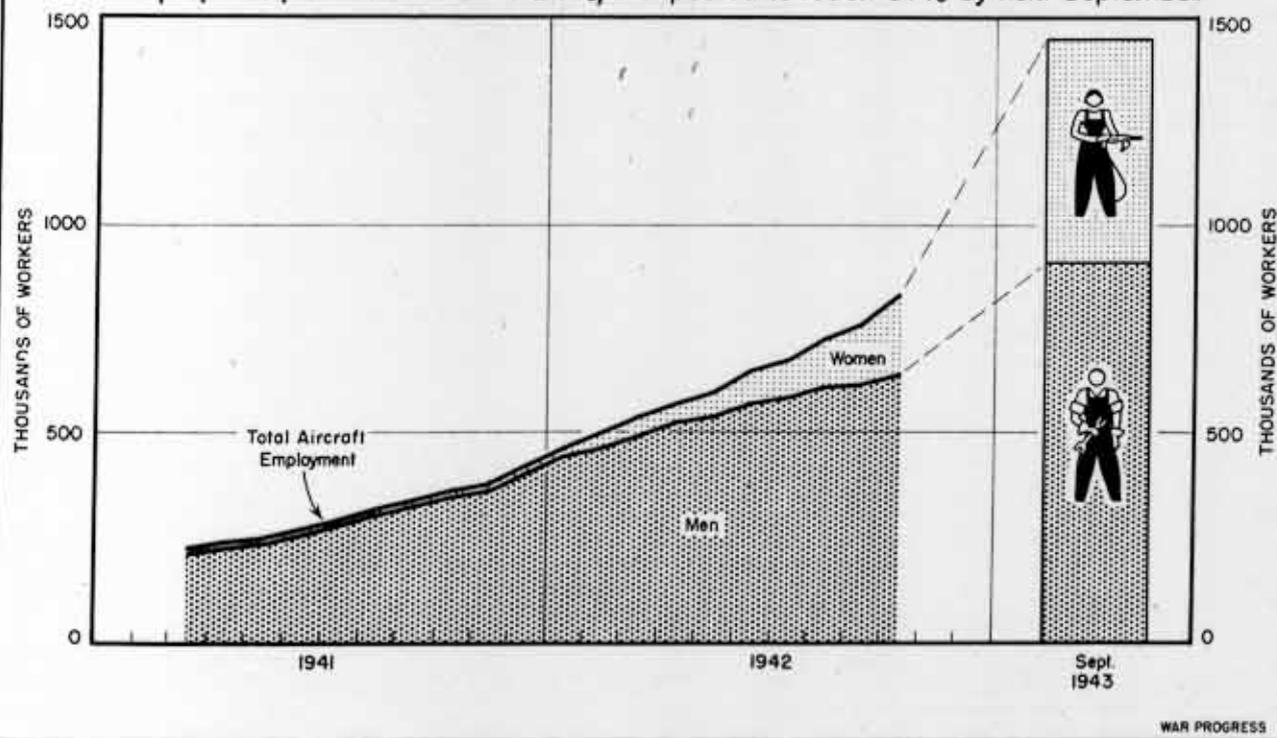
Production

	Latest Month	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
PRODUCTION (1935-39 = 100)							
Industrial production-total	p192	p193	p191	175	167	126	97
Durable Manufactures	p275	p273	p263	240	209	137	98
Iron and steel	p203	207	199	200	192	164	68
Pig iron	n.a.	199	194	191	184	163	88
Aircraft	p3,174	p3,058	p2,863	2,207	1,349	241	101
Railroad cars	p303	p296	p275	290	264	112	151
Locomotives	p525	p541	p530	497	338	95	185
Shipbuilding - private yards	p2,067	p2,004	p1,896	1,416	645	138	112
Copper smelting	p167	r157	156	162	139	n.a.	114
Zinc smelting	185	181	178	184	180	128	118
Zinc shipments	133	130	130	146	147	162	94
Lead shipments	n.a.	196	193	202	206	154	103
Nondurable manufactures	p143	p147	150	138	144	118	93
Minerals	p133	135	137	130	135	123	109

* November. n.a. Not available. p Preliminary. r Revised.

WOMEN IN AIRCRAFT

From 3-1/2% in March, 1941, employment of female workers in airframe, aeroengine, and propeller plants has risen to 23%, is expected to reach 37% by next September.



PRODUCTION PROGRESS

General Summary (Value of production, in millions of dollars)

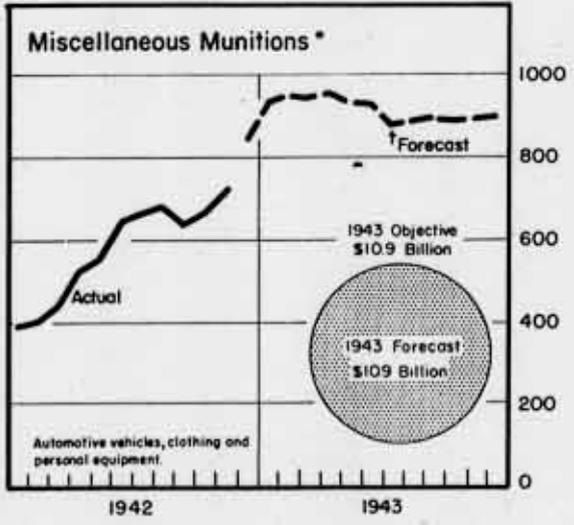
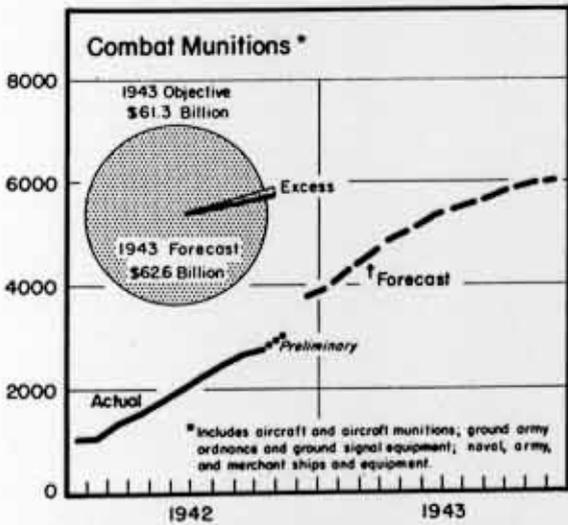
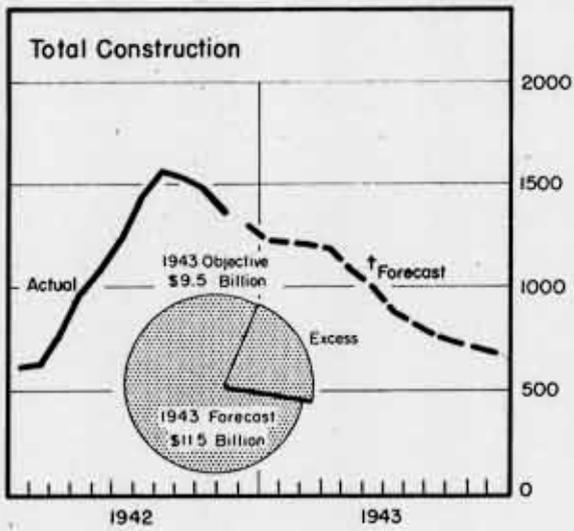
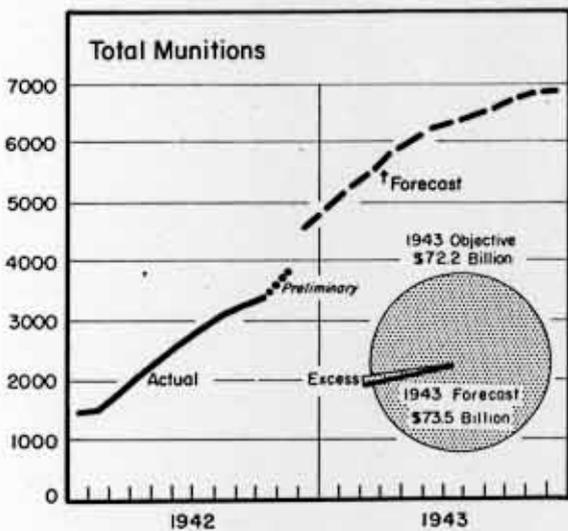
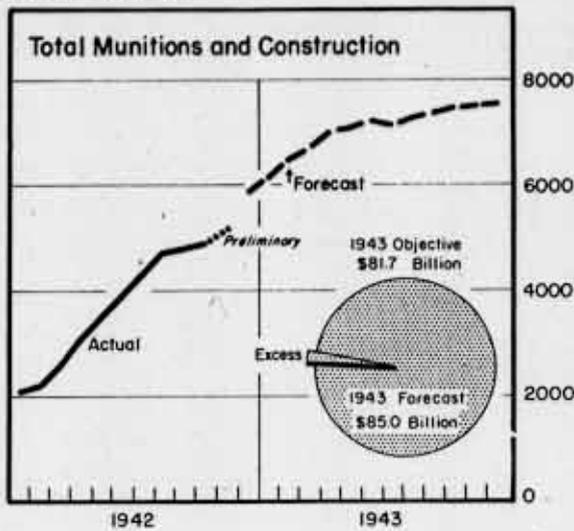
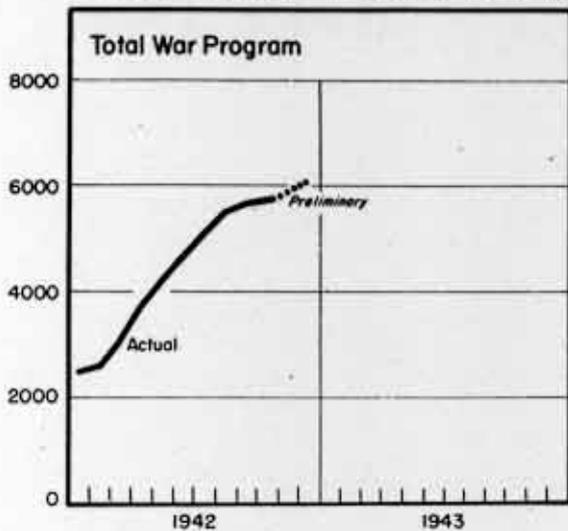
		Total Program	Total Munitions & Construction	Total Munitions	Total Construction	Miscel. Munitions		
Valuation of Actual Production	1942 1st Quarter Avg.	2,681	2,220	1,556	664	410	1942 1st Quarter Avg.	Valuation of Actual Production
	2nd Quarter Avg.	4,125	3,446	2,341	1,105	574	2nd Quarter Avg.	
	3rd Quarter Avg.	5,375	4,599	3,081	1,518	662	3rd Quarter Avg.	
Valuation of Scheduled Production: "Forecast"	October	5,725	4,858	3,385	1,473	663	October	Valuation of Scheduled Production: "Forecast"
	November	pb,053	ps,153	ps,196	1,357	723	November	
	December		5,889	4,579	1,310	846	December	
Valuation of Scheduled Production: "Forecast"	1943 January		6,140	4,902	1,238	936	1943 January	Valuation of Scheduled Production: "Forecast"
	February		6,474	5,250	1,224	949	February	
	March		6,688	5,468	1,220	941	March	
	April		7,009	5,817	1,192	949	April	
	May		7,099	6,004	1,095	931	May	
	June		7,226	6,228	998	927	June	
	July		7,181	6,306	875	873	July	
	August		7,289	6,469	820	882	August	
	September		7,363	6,598	765	890	September	
	October		7,465	6,735	730	883	October	
	November		7,546	6,840	706	889	November	
	December		7,569	6,887	682	897	December	
1942 Total			46,692	32,692	14,000	7,167	1942 Total	
1942 Objective			51,309	37,309	14,000	8,057	1942 Objective	
1943 Forecast *			885,049	873,504	11,545	10,947	1943 Forecast	
1943 Objective			81,749	72,204	9,545	10,893	1943 Objective	
1943 Forecast as % of Obj.			104%	102%	102%	100%	1943 Forecast as % of Obj.	

		Combat Munitions(a)	Aircraft & Aircraft Munitions	Ground Army Munitions(b)	Naval and Army Vessels & Equip.	Merchant Vessels		
Valuation of Actual Production	1942 1st Quarter Avg.	1,146	453	263	340	90	1942 1st Quarter Avg.	Valuation of Actual Production
	2nd Quarter Avg.	1,767	648	444	521	154	2nd Quarter Avg.	
	3rd Quarter Avg.	2,419	839	662	712	206	3rd Quarter Avg.	
Valuation of Scheduled Production: "Forecast"	October	2,722	936	r759	836	191	October	Valuation of Scheduled Production: "Forecast"
	November	ps,073	1,060	850	ps23	240	November	
	December	3,733	1,364	995	1,087	287	December	
Valuation of Scheduled Production: "Forecast"	1943 January	3,966	1,471	1,059	1,138	298	1943 January	Valuation of Scheduled Production: "Forecast"
	February	4,301	1,596	1,222	1,178	305	February	
	March	4,527	1,734	1,280	1,208	305	March	
	April	4,868	1,936	1,389	1,238	305	April	
	May	5,073	2,124	1,418	1,221	310	May	
	June	5,301	2,327	1,456	1,211	307	June	
	July	5,433	2,500	1,453	1,179	301	July	
	August	5,587	2,648	1,474	1,164	301	August	
	September	5,708	2,820	1,452	1,133	303	September	
	October	5,852	3,006	1,429	1,115	302	October	
	November	5,951	3,149	1,411	1,092	299	November	
	December	5,990	3,245	1,394	1,053	298	December	
1942 Total		26,525	9,181	6,712	7,564	2,068	1942 Total	
1942 Objective		29,252	10,759	8,598	7,564	2,068	1942 Objective	
1943 Forecast *		62,557	28,556	16,437	13,930	3,634	1943 Forecast	
1943 Objective		61,311	28,634	14,975	13,930	4,434	1943 Objective	
1943 Forecast as % of Obj.		102%	100%	110%		95%	1943 Forecast as % of Obj.	

*Based on latest schedules of procurement agencies. (a) Includes aircraft and aircraft munitions, ground army ordnance and ground signal equipment; naval, army, and merchant vessels. Excludes Misc. Munitions. (b) Ground army ordnance and ground signal equipment. p Preliminary. r Revised. k Revised from WP-Dec18'42,p7.

PRODUCTION PROGRESS

General Summary—Munitions, Construction, Nonmunitions



† Based on latest schedules of procurement agencies.

PRODUCTION PROGRESS

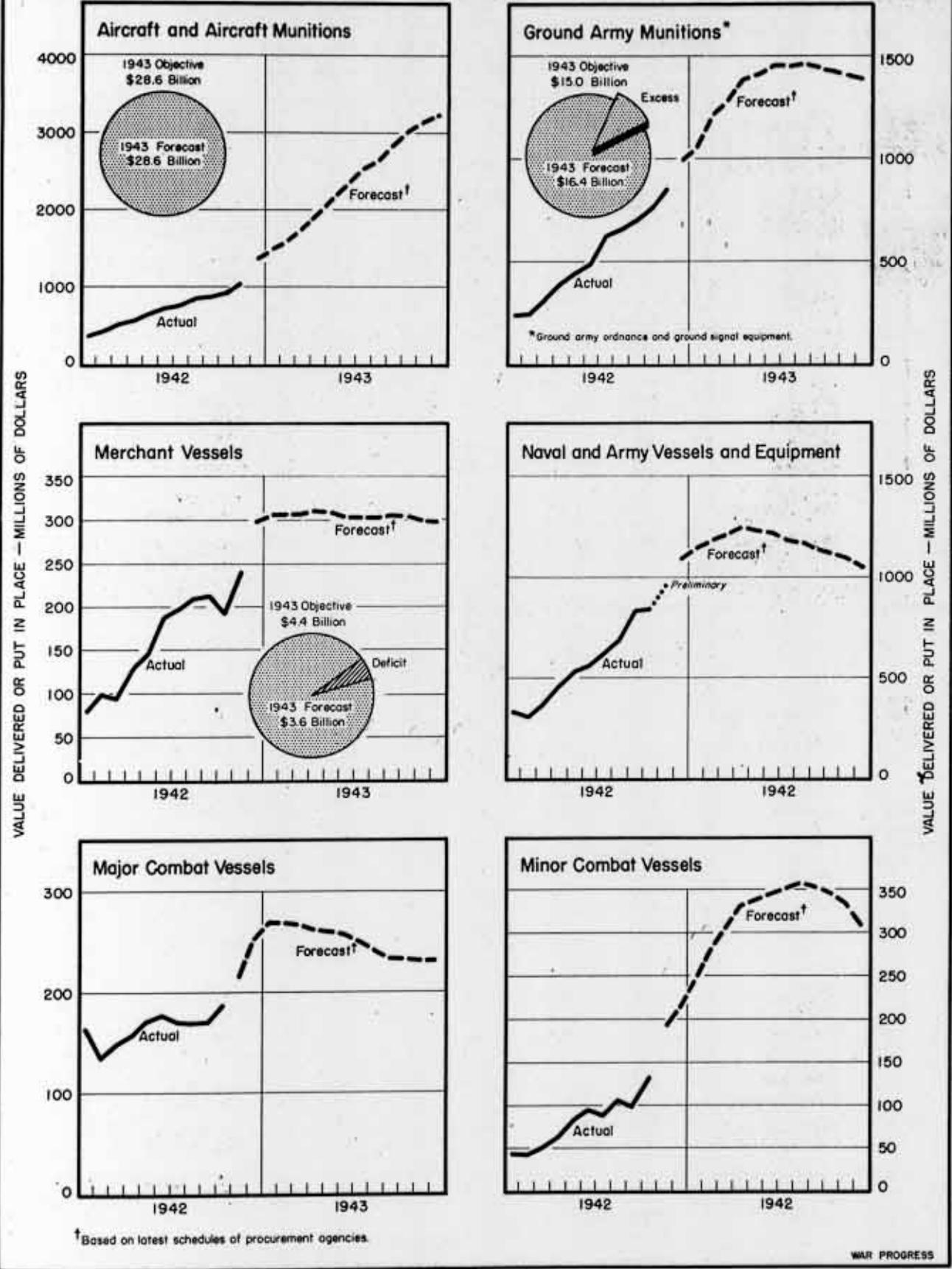
Aircraft - Ordnance (Value of production, in millions of dollars)

		Combat Planes	Aircraft Armament	Aircraft Ammunition	Artillery & Equip.	Artillery & Tank Cannon Ammunition			
Valuation of Actual Production	1942 1st Quarter Avg.	180	17	33	23	54	1942 1st Quarter Avg.	Valuation of Actual Production	
	2nd Quarter Avg.	233	27	45	33	90			2nd Quarter Avg.
	3rd Quarter Avg.	294	29	57	52	110			3rd Quarter Avg.
↓	October	313	33	66	76	107	October	↓	
	November	368	37	72	97	122	November		
	December	416	37	101	112	122	December		
Valuation of Scheduled Production: "Forecast"	1943 January	455	37	119	151	167	1943 January	Valuation of Scheduled Production: "Forecast"	
	February	515	37	125	166	183			February
	March	595	39	129	174	194			March
	April	690	47	128	169	220			April
	May	792	49	130	160	230			May
	June	900	50	130	163	230			June
	July	1,011	50	124	166	236			July
	August	1,103	48	120	170	240			August
	September	1,207	48	119	163	237			September
	October	1,315	49	119	146	236			October
	November	1,393	48	116	145	233			November
	December	1,439	48	115	142	229			December
	1942 Total	3,218	325	644	598	1,114			1942 Total
1942 Objective	3,218	243	928	805	1,184	1942 Objective	1942 Objective		
1943 Forecast*	11,415	550	1,474	1,915	2,635	1943 Forecast	1943 Forecast		
1943 Objective	11,415	618	1,450	1,339	2,312	1943 Objective	1943 Objective		
1943 Forecast as % of Obj.	100%	89%	101%	143%	114%	1943 Forecast as % of Obj.	1943 Forecast as % of Obj.		
		Antiaircraft Guns & Equip.	Antiaircraft Ammunition	Small Arms & Infantry Weapons	Small Arms & Infantry Weapon Ammunition	Combat Vehicles			
Valuation of Actual Production	1942 1st Quarter Avg.	14	12	16	42	88	1942 1st Quarter Avg.	Valuation of Actual Production	
	2nd Quarter Avg.	34	21	28	81	124			2nd Quarter Avg.
	3rd Quarter Avg.	76	30	37	118	176			3rd Quarter Avg.
↓	October	95	15	44	135	212	October	↓	
	November	95	17	49	138	216	November		
	December	110	27	37	171	327	December		
Valuation of Scheduled Production: "Forecast"	1943 January	124	29	55	189	267	1943 January	Valuation of Scheduled Production: "Forecast"	
	February	108	34	71	202	320			February
	March	113	36	76	208	333			March
	April	134	46	77	259	368			April
	May	143	46	72	269	380			May
	June	150	48	74	277	391			June
	July	180	40	75	264	373			July
	August	187	39	76	269	374			August
	September	181	39	75	264	376			September
	October	161	39	75	267	390			October
	November	157	39	74	270	391			November
	December	156	39	71	272	391			December
	1942 Total	699	248	370	1,166	1,940			1942 Total
1942 Objective	978	241	590	1,528	2,332	1942 Objective	1942 Objective		
1943 Forecast*	1,794	474	871	3,010	4,354	1943 Forecast	1943 Forecast		
1943 Objective	1,824	470	668	3,225	3,612	1943 Objective	1943 Objective		
1943 Forecast as % of Obj.	99%	101%	130%	93%	120%	1943 Forecast as % of Obj.	1943 Forecast as % of Obj.		

*Based on latest schedules of procurement agencies. r Revised.

PRODUCTION PROGRESS

Selected items - Aircraft, Ground Army, Ships



PRODUCTION PROGRESS

Ships-Construction-Nonmunitions (Value put in place, in millions of dollars)

		Battleships, Cruisers & Carriers	Destroyers	Sub-marines	Antisub-marine Vessels	Transports (Army, Navy)			
Valuation of Actual Production	1942 1st Quarter Avg.	62	67	20	44	1	1942 1st Quarter Avg.	Valuation of Actual Production	
	2nd Quarter Avg.	73	75	20	74	6			2nd Quarter Avg.
	3rd Quarter Avg.	71	76	23	97	6			
	October	84	82	23	130	12	October		
Valuation of Scheduled Production: "Forecast"	November	95	94	26	185	15	November	Valuation of Scheduled Production: "Forecast"	
	December	119	98	37	209	19	December		
	1943 January	120	106	44	237	21	1943 January		
	February	120	104	45	270	24	February		
	March	119	102	47	295	23	March		
	April	116	100	47	323	23	April		
	May	114	99	48	331	24	May		
	June	112	98	48	337	23	June		
	July	109	91	50	345	24	July		
	August	109	83	50	348	25	August		
	September	110	75	49	347	25	September		
	October	112	73	49	343	26	October		
	November	113	72	48	328	26	November		
	December	113	71	48	302	26	December		
	1942 Total	917	928	276	1,177	98	1942 Total		
	1942 Objective						1942 Objective		
	1943 Forecast*	1,367	1,074	573	3,806	290	1943 Forecast		
	1943 Objective						1943 Objective		
							1943 Forecast as % of Obj.		

		Landing Vessels	Industrial Facilities	Aircraft Fields & Bases	Clothing & Personal Equip.	Automotive Vehicles & Equip.			
Valuation of Actual Production	1942 1st Quarter Avg.	2	361	59	68	127	1942 1st Quarter Avg.	Valuation of Actual Production	
	2nd Quarter Avg.	4	525	125	98	171			2nd Quarter Avg.
	3rd Quarter Avg.	85	651	229	117	196			
	October	145	674	236	109	174	October		
Valuation of Scheduled Production: "Forecast"	November	155	647	197	107	179	November	Valuation of Scheduled Production: "Forecast"	
	December	143	620	190	161	229	December		
	1943 January	115	558	190	186	223	1943 January		
	February	92	554	185	180	211	February		
	March	76	550	180	179	215	March		
	April	71	480	188	170	214	April		
	May	60	435	188	157	209	May		
	June	45	390	180	144	206	June		
	July	28	309	151	143	207	July		
	August	18	283	131	143	208	August		
	September	9	258	112	144	206	September		
	October	3	238	108	142	202	October		
	November	3	228	104	139	200	November		
	December	2	217	100	137	197	December		
	1942 Total	727	6,561	1,870	1,226	2,066	1942 Total		
	1942 Objective		6,561	1,870	956	2,211	1942 Objective		
	1943 Forecast*	522	4,500	1,817	1,864	2,498	1943 Forecast		
	1943 Objective		4,050	1,317	1,867	2,669	1943 Objective		
							1943 Forecast as % of Obj.		

*Based on latest schedules of procurement agencies.

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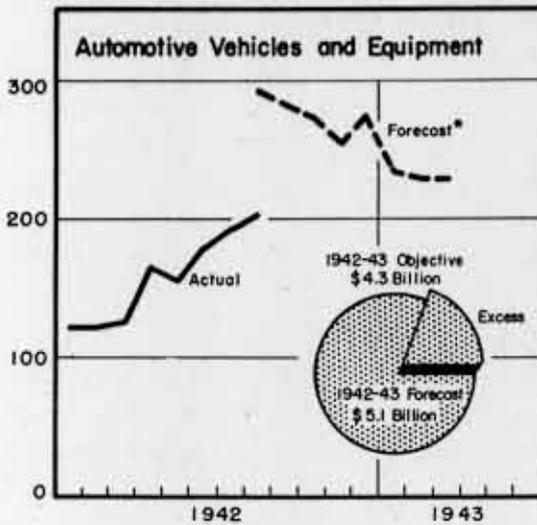
Commerce Dept. Letter, 11-16-78

By RHP, Date

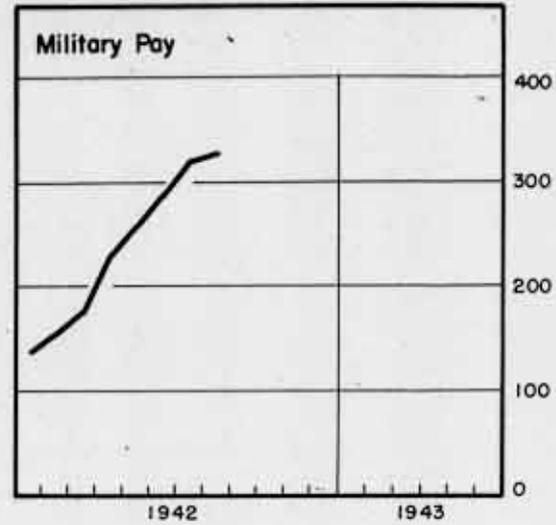
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PRODUCTION PROGRESS

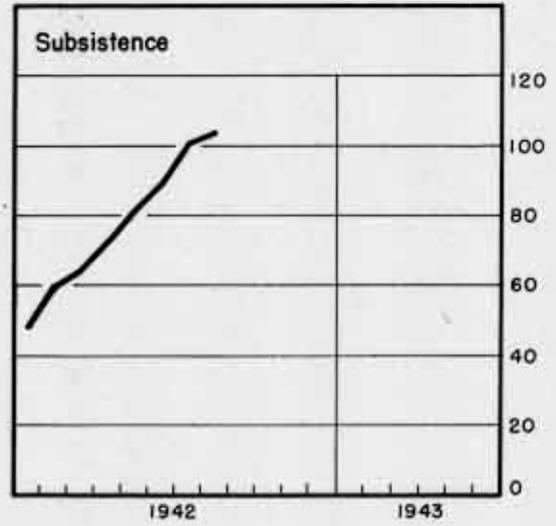
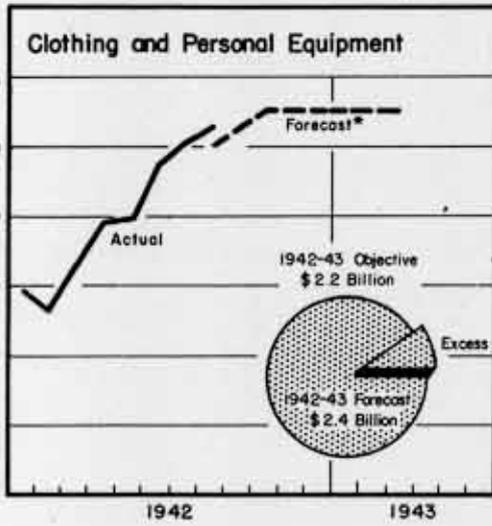
Miscellaneous Munitions



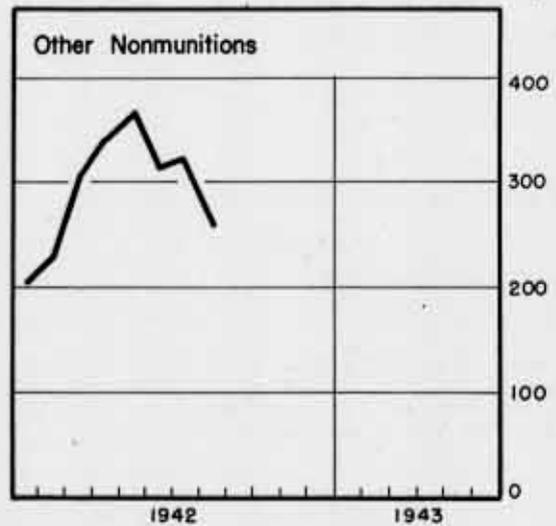
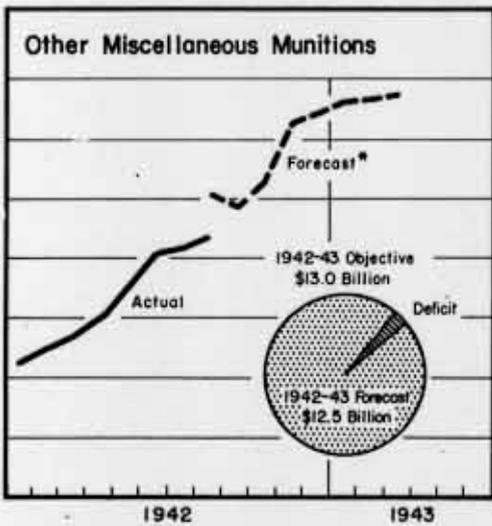
Nonmunitions



VALUE DELIVERED — MILLIONS OF DOLLARS



VALUE DELIVERED — MILLIONS OF DOLLARS



*Based on schedules of procurement agencies as of August 1.

The President Box 12

WAR PROGRESS

~~Confidential~~
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MAR 23 1973

Manpower - The New Year's Problem

Number 120

January 1, 1943

In 1943 Manpower Means Womanpower

3,000,000 women must be drawn from the home to meet draft of armed services and war industries; and even then there will be a squeeze on civilian production.

AMERICA'S war production problem has developed in three distinct phases. First--back in the summer of 1940--the country needed machines to make weapons. And American industry entered the tooling-up phase--building plants and new machinery--with a labor reserve of 9,000,000 unemployed.

Then materials ran short. It became necessary to allocate critical materials. Now we face a manpower crisis; by the end of 1943, an additional 6,500,000 men and women will be needed by the armed services and by war industries.

The Army and Navy are scheduled to make the heaviest inroads into our reserves, with recruitment of 4,400,000 men by the end of the year (1943).

Munitions and other essential industries and services are also expanding rapidly. Altogether, around 16,400,000 persons are now employed in munitions production, food processing factories, metal and coal mining, petroleum production, transportation, telephone and telegraph, gas and electric companies, and government war agencies. By the end of the year, it is estimated 18,500,000 will be needed--an increase of 2,100,000.

RECRUITS TO COUNT ON

How can we meet this 6,500,000 draft on the labor force? There are certain recruitments that can be counted on:

1. There is a natural labor increment. Every year there is a net addition of 700,000 to the working force as a result of population growth.
2. Then there are still 1,500,000 unemployed. But unemployment probably

INDEX OF DEMAND FOR LABOR

When jobs are easy to find, when employers compete for labor, workers move around. And today the "quit rate" is at record levels.



cannot be reduced below 1,000,000; there are always people between jobs, temporarily laid off, etc. Thus, only about 500,000 unemployed will be available.

That leaves 5,300,000 to go. These must be obtained from additions to the labor force (women, for instance), or from curtailment of civilian industries.

FORCED CONVERSIONS

Certain curtailments are likely to yield a substantial, but indeterminate, number of workers. For example, construction will be cut this year, and carpenters, bricklayers, plumbers, common laborers, etc. will be forced to seek work in manufacturing and other occupations. Retail and wholesale trade also will undergo forced curtailment--as production and distribution of civilian goods drop. And again a supply of workers will be thrown on the labor market. Finally, finance, service, and miscellaneous trades will shrink; likewise the ranks of the self-employed--doctors, dentists, proprietors of small stores, etc.

In all, possibly as many as 2,000,000 persons might be diverted from these curtailed trades to war and essential industries. However, many won't be in areas where war workers are needed and

might actually join the ranks of the unemployed. Some measures to direct their movement into war industries may be necessary.

A longer work week would add to the labor force. In October, for example, workers in manufacturing industries averaged 43.6 hours per week. If scheduled hours were raised to 48--this would be 46 hours in practice--man-hours equivalent to several hundred thousand workers would be gained.

But even assuming all these additions (and the assumptions are optimistic, especially in regard to the rapid diversion of 2,000,000 workers from construction, trade, etc.) that would still leave a shortage of some 3,000,000 persons.

Where will they come from?

A hundred thousand or so might come from those in retirement, but essentially, as in Great Britain, the bulk must be recruited from the home--from among the 16,000,000 homemakers with no children under 16 years old (chart, page 4).

UP TO THE WOMEN

Today only 28% of American women between the ages of 14 and 65 are gainfully employed, compared with 42% in England. About 30% of our nonagricultural workers are women, but they are concentrated in trade, service industries, and soft-goods factories--needle trades, textile mills, leather goods, tobacco manufactures, etc. However, employment of women in war production (aircraft, machine tool, electrical machinery, transportation equipment plants, etc.) is rising, as the following table shows:

Industry	Women as % of Total Employment	
	Oct. '41	Oct. '42
Apparel & other finished fabrics...	75.9%	77.5%
Tobacco mfrs.....	68.0	66.9

IN THIS ISSUE:

IN 1943 MANPOWER MEANS WOMANPOWER	1
MORE, HEAVIER, AND COSTLIER AIRPLANES	5
MAKING UP FOR LOST TIME	7
MACHINE TOOL DOWNTURN	8
WAR PROGRESS NOTES	9
KEY STATISTICS OF THE WEEK	10
ECONOMIC TRENDS	11
RETAIL INVENTORIES DOWN; SALES UP	11
PRODUCTION PROGRESS (CONSTRUCTION)	12

DECLASSIFIED

JANUARY 1, 1943

3

Industry	Women as % of Total Employment	
	Oct. '41	Oct. '42
Textile-mill prod...	44.7%	47.2%
Leather prod.....	39.9	44.1
Electrical equip....	29.0	35.8
Scientific instru- ments & supplies...	29.6	33.5
Nonferrous metal prod.*.....	18.6	25.2
Aircraft.....	1.4	21.4
Iron & steel prod.**	9.0	12.2
Automobiles & equip.	4.2	8.8
Machine tools.....	1.1	5.1
Shipbuilding.....	0.1	1.4

* Excluding smelting & refining

**Excluding blast furnaces, steel works & rolling mills

In practice, difficulties arise in channeling women and other workers into war industries. In the case of women, for example, many are not interested in jobs and do not have to work. A large proportion live in areas where labor is plentiful, and to get work in essential industries they would have to "pull up stakes."

MOVING PROBLEMS

Similar difficulties apply to shifting male workers. It is easy to place arrows on a map indicating a migration from a surplus labor market to a deficit labor market (page 4). It is much harder to induce workers to transport furniture and families and interrupt the education of their children, even after they have lost their earning power in their regular occupations. Men will try to subsist in their home localities on odd jobs and makeshift work rather than move to a strange town.

Moreover, the demand for workers is greatest in areas least suited to them. Most war-production towns are already

overcrowded and additional housing and services--transportation, laundries, doctors, dentists, etc.--are simply not available.

Thus, it may not be easy--even if statistically feasible--to get a clerk in a department store to move into a war factory; or a construction worker to take a job in a foundry.

ON-THE-SPOT HELP

Indeed, it is more likely that nonwar plants--clothing, food, furniture, tobacco, paper, printing, building materials, etc.--in munitions production areas will be forced to curtail operations or shut down altogether in order to provide labor for war industries. If housing facilities are virtually unobtainable, it may be necessary to use on-the-spot workers, rather than import people from surplus labor markets.

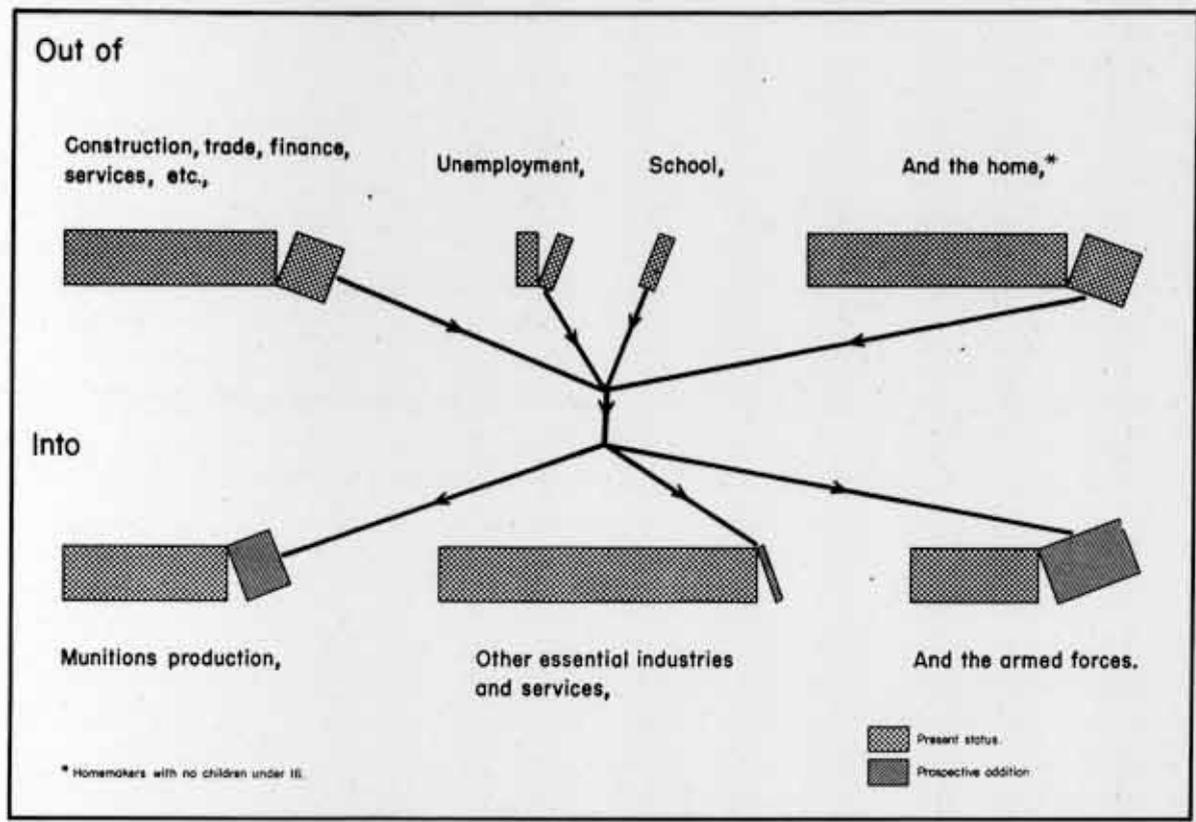
Furthermore, there are problems with the statistics. Although we may be able to produce the 1943 agricultural crop without a net increase in year-round workers, serious seasonal problems will arise at seeding and harvest time. Many women and boys will be required to take men's places behind the plow. And many farmers on poor land will have to be shifted to more fertile spots--a big job all by itself. Soldiers may have to be furloughed from the Army and workers brought in from Mexico to meet the peak load.

QUIT RATE HIGH

In addition, problems arise within industry. Operating in a seller's market, workers are independent, feel free to change jobs. The quit rate is the highest in history (chart, page 1).

It has been necessary to prevent non-ferrous metal miners and lumber workers in Mountain and Pacific states from leaving their jobs. Also, in some com-

LABOR MOBILIZATION MEANS MOVING PEOPLE...



munities like Detroit, men cannot be hired without a release from their employers--thus discouraging pirating and shopping for higher pay.

Finally, the manpower problem is not merely a matter of numbers, but of making the best use of our labor supply. Not only do we have to draw 6,500,000 persons into industry this year, but we must see that workers go where they are most needed.

So far, voluntary measures have been resorted to. But in wartime, all scarce

resources come ultimately under governmental direction--as Britain discovered.

If about 3,000,000 women cannot be induced to leave their homes for jobs, then the need for drastic allocation of manpower will be much more emphatic. This means drawing workers directly from civilian industries. Just as once we shut down refrigerator plants because they competed with war industries for steel, so we may have to shut down clothing and cigarette factories because they compete with war industries for labor.

More, Heavier, and Costlier Airplanes

Accent on bombers boosts average airframe weight and cost per plane by 50% in the past two years. And in 1943 they will take on still more heft and value.

WITH ONLY minor month-to-month interruptions, U.S. manufacturers have been consistently turning out more military planes in the past two years. That fact is ancient history. But now it can be demonstrated that they have been building bigger planes and better ones, too, as has so often been asserted.

In early 1941, for example, when slightly more than 1,000 military planes came off the production lines, the average airframe weight per plane was about 4,000 pounds. Today we're not only producing nearly five times as many planes but the average airframe weight per plane has increased 50%--to about 6,000 pounds in November (chart, page 6).

COST CLIMBS, TOO

The dollar value of the program also reflects the increasing "heft" and quality of planes. At the beginning of 1941, the average value per plane was \$60,000. Today the value per plane is more than \$90,000 (chart, page 6), also a 50% gain.

The expansion in weight and value per plane goes hand in hand with the transition from training period to battle stage and from defensive planning to a war of attack.

Back in January, 1941, although we were producing a considerable number of combat planes for export, we were still feeling our way in the expansion of our own air forces; consequently, trainer planes accounted for 15% of the total value of plane acceptances, service combat planes 6%, and combat planes 79%. Today, trainer planes are down to 10% of total value, combat planes are up to 84%, and service combat planes--transport and communication types--are unchanged.

BOMBERS TIP THE SCALES

It is the rise of the bomber in the combat plane program that has built up the average military plane weight and value to current high levels. From 41% of the total value of airplane acceptances in January, 1941, bombers pushed up to 63% of the value of acceptances in November, 1942. Meanwhile, the lighter pursuit planes during the same period dropped from 35% to 20%, as follows:

	% of Total Value		
	Jan.	Dec.	Nov.
	1941	1941	1942
Combat.....	79%	86%	84%
Bomber.....	41	57	63
Pursuit.....	35	27	20
Naval reconnaissance	3	2	1
Service combat.....	6	3	6
Transport.....	6	2	6
Communication.....	0*	1	0*
Trainer.....	15	11	10

*Less than .05%

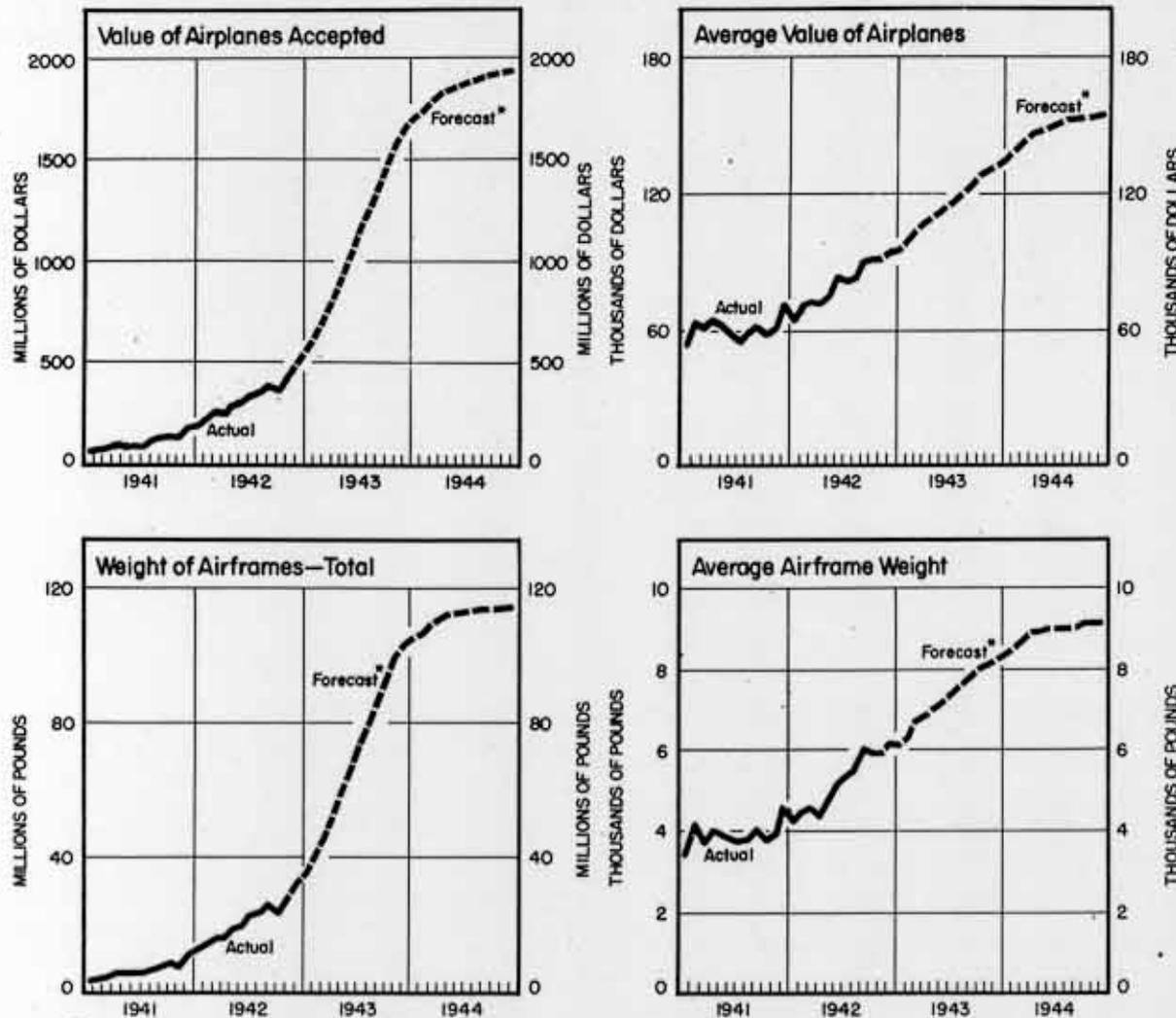
And in 1943, a further accentuation of the trend toward heavier and costlier planes is indicated. In June, 1943, average value per plane is figured to be \$113,000; the average airframe weight, 7,171 pounds.

YEAR'S INCREASE

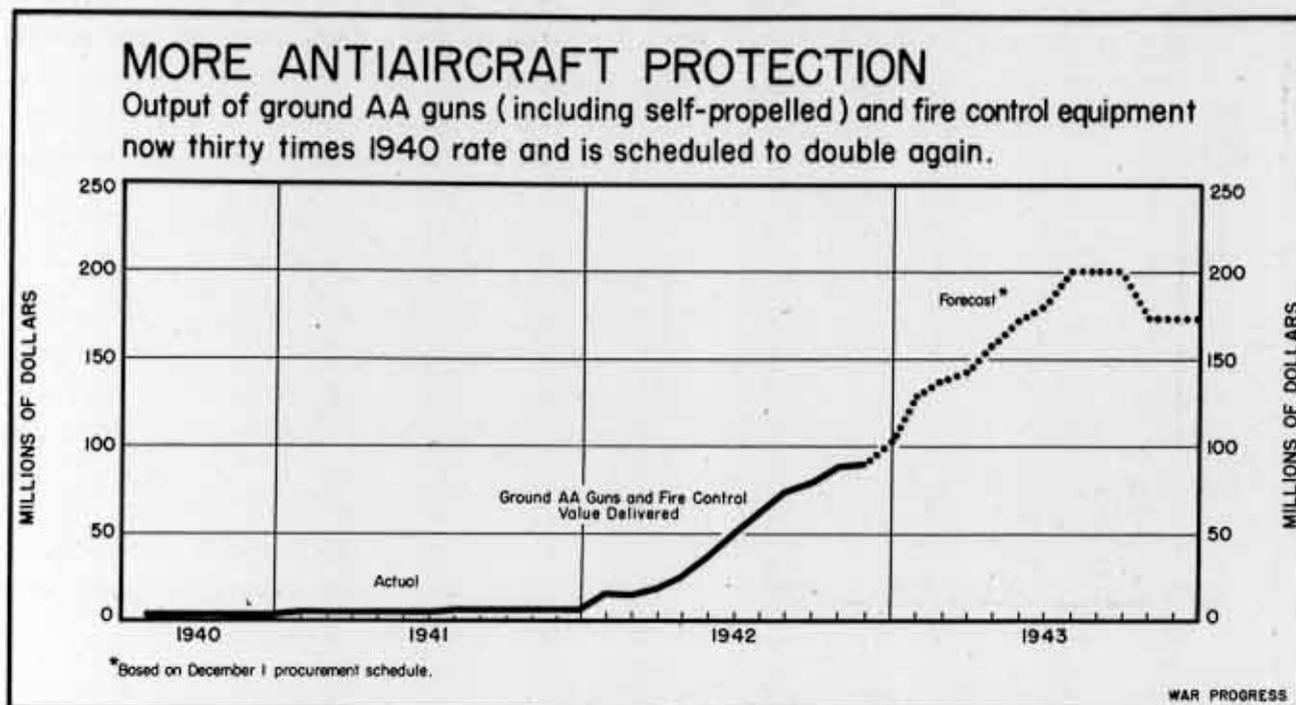
By the end of the year, scheduled value at \$132,000 per plane and average airframe weight at 8,190 pounds will be 45% and 40% respectively above present (November) levels.

HEFTIER AND HIGHER-PRICED PLANES

Average weight of airframes and average value per plane have risen steadily, are destined to rise even more.



*Based on procurement schedules.



Making Up for Lost Time

Output of anti-aircraft guns now outpaces war program as a whole; production in November five times that of January. Emphasis on mobile, more powerful weapons.

PRODUCTION of ground anti-aircraft guns and equipment is making up for lost time. Today, two months' U.S. production (October-November) of anti-aircraft machine guns is numerically as great as total output of two years--1940 and 1941. In heavy and light larger caliber types, November output alone was well over double 1940-1941 production.

ABOVE-AVERAGE RATE

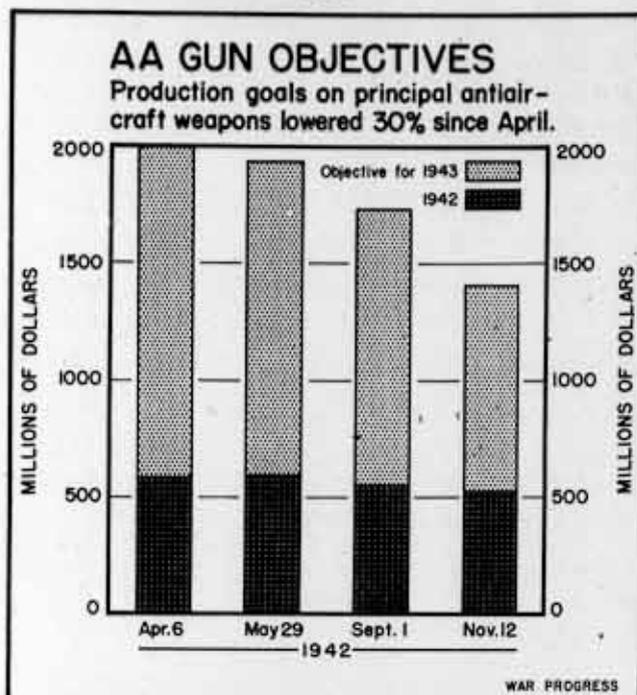
Though small relative to the entire war program, anti-aircraft output has been increasing at a faster clip. In November, total production of AA guns--at \$95,000,000--was over five times that of January. This compares with a less than two-and-a-half-fold increase for aircraft and a threefold expansion for combat munitions as a whole. This

above-average uptrend will continue into the new year; 1943 AA gun schedules incline somewhat more steeply than those for most major fighting items. But the program is changing to meet changing strategy.

HEAVY GUNS WANTED

In 1943, there will be less stress on anti-aircraft machine guns because (1) these types have been in large-scale production for some time, and (2) heavier guns are becoming essential for coping with modern heavily armed and armored planes; fighter planes and fighter bombers, equipped with cannon, multiple machine guns, and armor, are increasingly used for ground strafing. However, for greater effectiveness, some of the anti-aircraft machine guns will be mounted on trucks or half-track gun motor carriages now about to come into production.

More attention will be given to heavy guns, principally the 90mm. (with em-



IN LINE WITH THE GENERAL POLICY OF CUTTING BACK THE WAR PRODUCTION PROGRAM TO FEASIBLE LEVELS, AA GUN OBJECTIVES FOR 1942-1943 HAVE BEEN SUCCESSIVELY REDUCED FROM \$2,000,000,000 IN THE FIRST (APRIL) ARMY SUPPLY PROGRAM TO \$1,405,000,000 IN NOVEMBER.

phasis on the offensive-type wheeled models rather than on fixed mounts) and the 4.7-inch mobile gun. Among light AA types, plans call for doubling output of the 40mm. Bofors gun, while the 37mm. type will show practically no increase, even when the half-track self-propelled model (which also mounts two machine guns) is included.

EQUIPMENT STEPPED UP

Fire control equipment (directors, searchlights, height finders, remote control systems, etc.), which vastly increases AA efficiency, will bulk increasingly large in the anti-aircraft program; from 37% of total value of deliveries in 1942, it will rise to 51% in 1943. (Fire control is needed for existing as well as new guns.) Production of fire control equipment items has been hampered by shortage of necessary tools and skills and in certain

cases by delayed allocation of existing electrical instruments used as components.

For the guns themselves, machine tool shortages are still a major problem, with materials also causing difficulty. As a result, the anti-aircraft program has gone the way of most major programs. Objectives, low and not clearly defined before Pearl Harbor, were then set deliberately high; and now they have been pared down to the level of production possibilities for the entire army program (adjacent chart). In April, the 1943 objective for AA guns and equipment was \$1,420,000,000; as of December 1, it stood at \$883,000,000.

Machine Tool Downturn

Output declines for first time in year - off 7% from October's high; new orders are up, reversing the trend. Will require 7.8 months to work off backlogs.

FOR THE FIRST TIME in a year, monthly machine tool output has declined. November deliveries, at \$121,000,000, were off 7% from October's record high of \$130,000,000. On the other hand, net firm orders received by toolmakers increased for the first time since March, to \$76,000,000, up 14% over October.

Though the excess of shipments over new orders (less cancellations) narrowed, unfilled orders on the books of toolbuilders were whittled down still further, to \$941,000,000 as of December 1. This was 5% less than on November 1 and 16% below the August 1 peak of \$1,117,000,000 (chart, page 9).

WORK-OFF TIME

With a proportionately greater drop in production than in unfilled orders, time required to fill the backlog increased slightly. On the basis of the

November rate of shipments, it would take 7.8 months to work off orders on the toolbuilders' books as of December 1; a month earlier, it would have taken 7.6 months to fill the then-existing backlogs. However, the time required has come down sharply since July, when it was 9.8 months.

EXPORTS INCREASE

Backlogs for individual types of tools, of course, vary widely, but production is gradually catching up with unfilled orders in most categories, and scheduled additional increases in production rates for certain types of tools will speed the process.

Exports of machine tools (primarily to the United Kingdom, Canada, and Russia) have increased in each month since July; in October, they amounted to 10.6% of total shipments, in July to 7.9%.

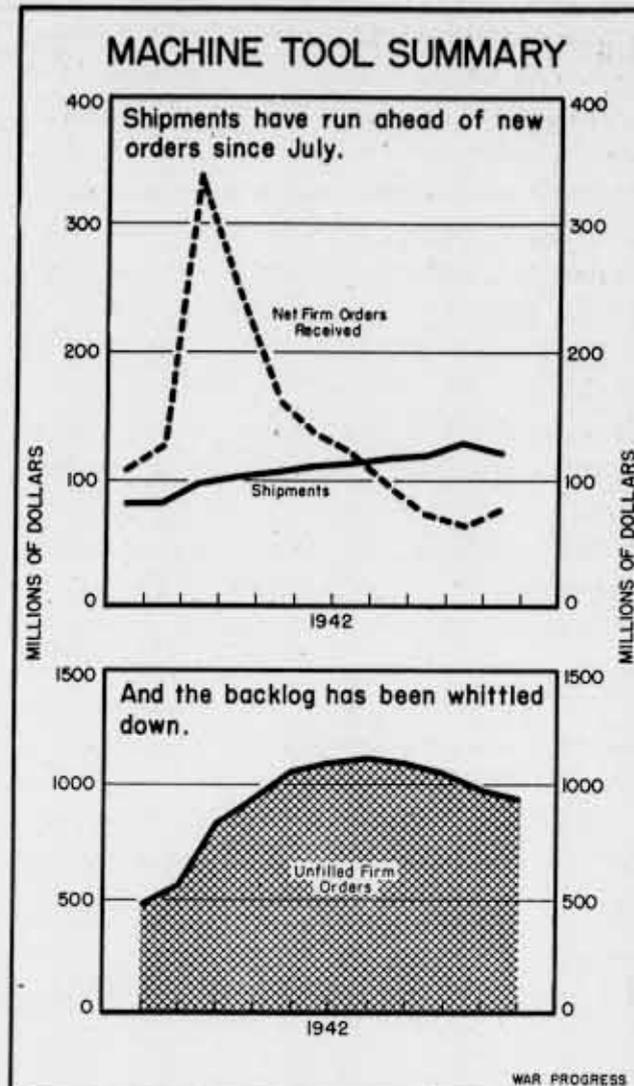
War Progress Notes

COMING RETAIL SQUEEZE

DESPITE limitation and conservation orders, retail stores were able to fill their shelves faster than consumers could empty them in late 1941 and early 1942. Retail inventories in July (adjusted for seasonal) reached a new high of \$7,527,000,000. Since then, however, the trend has been down (chart, page 11). At the end of October, retail stocks were below \$7,000,000,000, and the exceptionally good Christmas business has undoubtedly cut them further.

CALORIES FOR CAPTIVES

ACCORDING to The Hague Conventions, prisoners of war are entitled to receive the same subsistence as that of the captor's base troops. In the case of prisoners taken by the United States, this would mean 5.3 pounds of meat weekly, whereas our civilian population is lim-



ited to around 2½ pounds. So a prisoner's menu has been devised equal to the Army's basic ration in nutrition and calories, but regardless of the meat content.

CHRISTMAS BONDS

THE CAMPAIGN to popularize war bonds as Christmas gifts failed to catch on. Sales in the week ended December 26, at \$216,000,000, were only modestly higher than the preceding week's sales of \$213,000,000 or the \$211,000,000 of the last week of November.

6 NEW CMP CLAIMANTS

WHEN the Controlled Materials Plan was announced on November 2, seven claimant

WAR PROGRESS

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BY: [illegible]
ON: [illegible]

Fewer Sinkings, More Lend-Lease
PRP Uncovers Large Inventories

Number 111

October 30, 1942

agencies were established to participate in the Requirements Committee's determinations of allotments of critical materials and to distribute allotments among prime and subcontractors. Now six more claimants have been added to the list, making 13 in all. The new claimants, and a tentative list of the claims they are to represent, follow:

Facilities Bureau, WPB: New facilities for the production of steel (carbon and alloy), synthetic rubber, high octane gasoline, aluminum, and magnesium.

Office of Rubber Director, WPB: New facilities for manufacturers and fabricators of rubber and rubber products (other than plants under the jurisdiction of the Facilities Bureau); repair, maintenance, and operating supplies for rubber manufacturers.

Office of Defense Transportation: New construction and repair, maintenance and operating supplies for railroads,

trucks, busses and automobiles (both commercial and private), and domestic water transportation facilities.

Petroleum Administrator for War: New facilities and repair, maintenance and operating supplies for the production of natural gas and crude petroleum, refining of petroleum products (excluding requirements for high-octane gasoline and synthetic-rubber plants).

National Housing Agency: New housing in war production areas, either privately or publicly financed.

Department of Agriculture: Though specified as a claimant agency, its jurisdiction (such as farm machinery, food processing, etc.) has not been finally determined.

The original claimant agencies are: War Department, Navy Department, Maritime Commission, Aircraft Scheduling Unit, Office of Lend-Lease Administration, Board of Economic Warfare, Office of Civilian Supply.

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program - Checks paid (millions of dollars) -----	1,176	1,237	1,139	803	401
War bond sales (millions of dollars) -----	216	213	211	146	163
Commodity prices (August 1939 = 100)					
28 Basic commodities -----	172.7	172.0	170.2	167.1	158.7
Controlled -----	162.2	162.2	161.9	163.3	157.1
Uncontrolled -----	199.1	196.4	190.7	177.0	162.9
Nonferrous metal scrap -----	117.5	117.5	117.5	127.1	131.5
Petroleum carloadings (no. of tank cars)					
Total -----	50,058	49,974	51,527	52,569	48,284
Movement into East -----	24,224	23,966	25,146	24,392	1,742
Exports (no. of freight cars unloaded for export Friday)					
Atlantic Coast ports -----	926	1,066	924	1,624	1,140
Gulf Coast ports -----	343	351	239	493	340
Pacific Coast ports -----	n.a.	909	962	576	175
Strikes affecting the war effort					
Number in progress -----	9	8	14	21	n.a.
Man-days lost -----	12,756	19,930	20,600	52,898	n.a.
Unused steel capacity (% operations below capacity) -----	1.8	1.9	1.7	4.2	3.9
n.a. Not available					

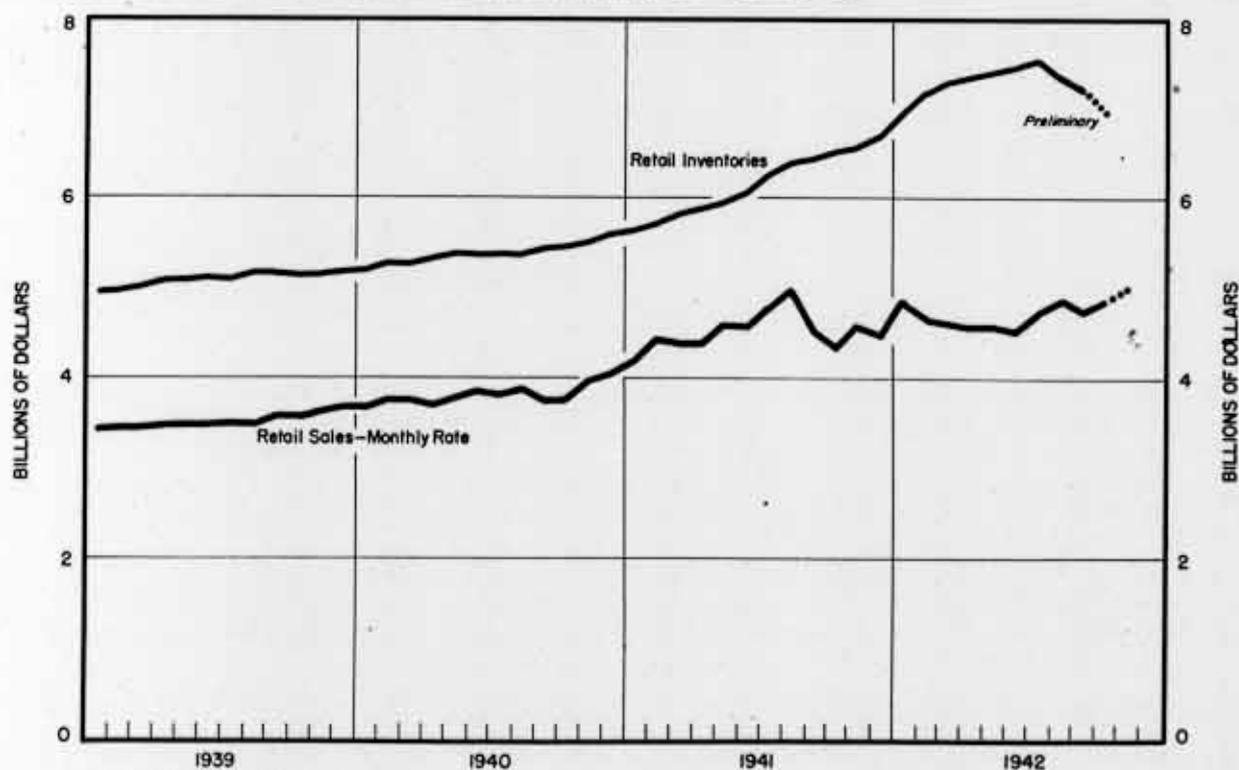
ECONOMIC TRENDS

Labor Disputes - Retail Sales - Transportation

	Latest Month *	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
LABOR DISPUTES							
Number of strikes in progress	225	320	400	375	464	317	467
Workers involved (thousands)	65	66	90	72	339	130	
Man-days idle (thousands)	175	325	450	325	1,397	1,665	982
RETAIL SALES (million dollars)†							
Durable goods	p4,927	r5,282	r4,840	r4,569	4,569	3,690	3,430
Nondurable goods	p767	r870	r838	r856	1,067	919	799
	p4,159	r4,413	r4,003	r3,712	3,503	2,771	2,631
TRANSPORTATION (1935-39 = 100)†							
Commodity and passenger	206	r201	r196	r169	157	127	117
Commodity - total	203	r198	r194	172	167	135	121
Railroad	221	214	209	185	171	134	123
Waterborne (domestic)	105	110	113	92	144	151	125
Intercity truck	199	r196	r191	160	180	147	111
Pipe line	135	130	129	126	127	104	113
Air transport	392	390	372	303	222	139	111
Passenger-total	212	r208	203	163	128	103	103

*Labor disputes and retail sales, November; transportation indexes, October. †Not adjusted for seasonal.
p Preliminary. r Revised.

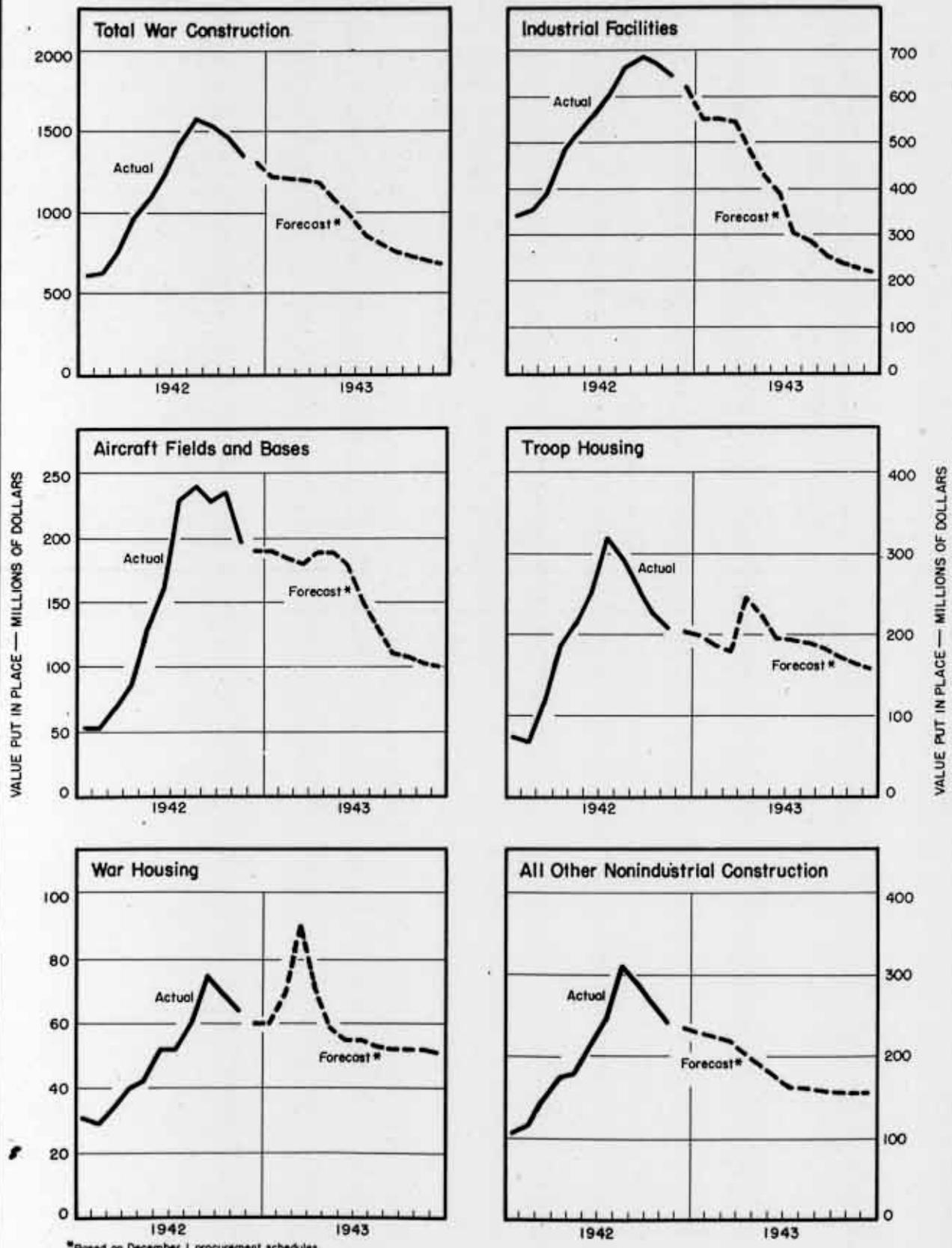
RETAIL INVENTORIES DOWN; SALES UP



Adjusted for seasonal variation.

PRODUCTION PROGRESS

War Construction



*Based on December 1 procurement schedules.

WAR PROGRESS

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BY 21424 (sic) ON 07/01/2001 BY SP
DATE 07/01/2001 BY SP
BY 21424 (sic) ON 07/01/2001 BY SP

Steel Allocations - British Style

Getting Merchant Seamen

Record Bituminous Coal Needs

Machine Tool Orders Drop

Number 110

October 23, 1942

Lend-Lease Volume at New High

But Russia's share dips sharply. United Kingdom is in the lead again with upswing in exports to the Middle East. Shipping is a big factor in rise.

IN SEPTEMBER, lend-lease exports rose for the fourth month in a row, reaching a new high of \$453,700,000—a 7% gain over August. This was due in part to an improvement in the overall shipping situation—sinkings were down last month (WP-Oct 9 '42, p10).

FOODSTUFFS INCREASE

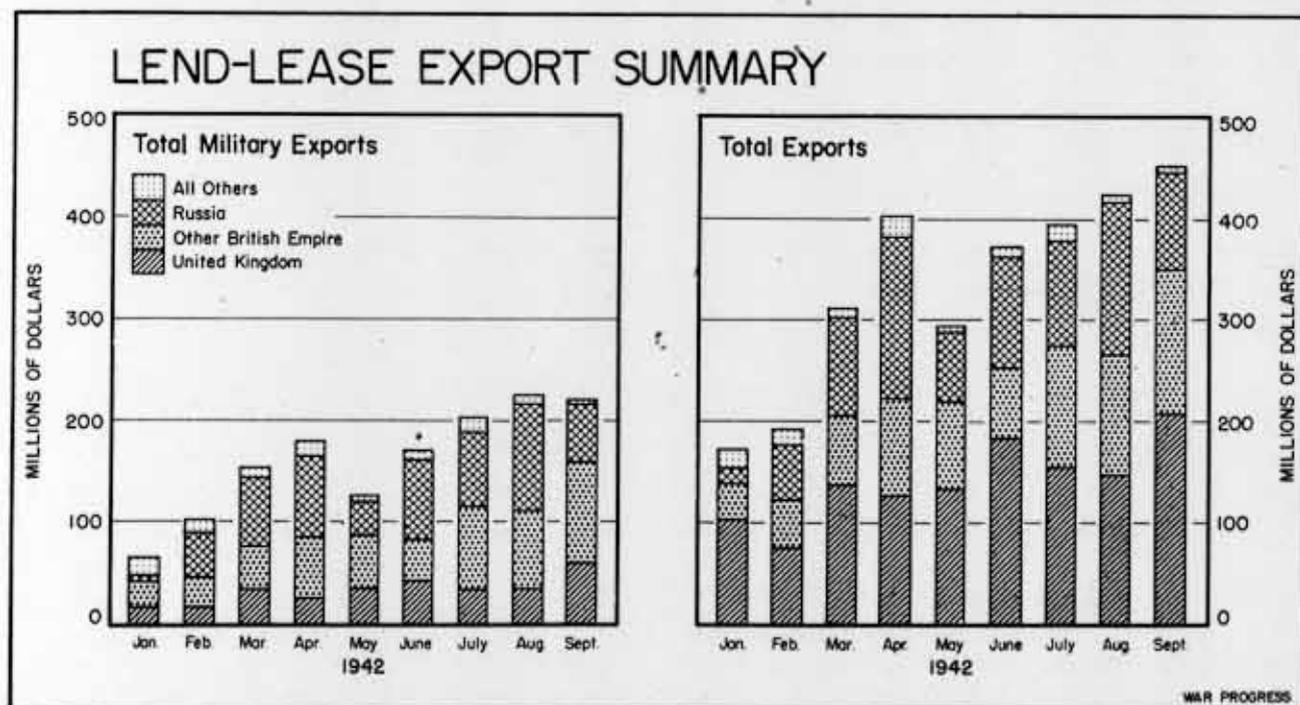
As in August and July, munitions accounted for almost half the total shipments; but industrial and other goods fell from about 33% in the previous two months to 27%, while agricultural products increased from about 17% to 27%.

The United Kingdom changed places with Russia as top lend-leaser. September shipments to the United Kingdom

exceeded August's by 42%, while exports to Russia declined 35%. Exports to India, Egypt, Australia, and New Zealand were up 23%, 28% and 10% respectively. Iran and Iraq cargoes were down 15%. The following table shows the country-by-country changes:

	Sept.	Aug.	Change
	(in millions)		
United Kingdom	\$208.3	\$146.5	+42%
Russia.....	96.2	148.5	-35
Egypt.....	45.9	35.8	+28
India.....	37.9	30.7	+23
Australia & New Zealand..	26.3	23.9	+10
Iraq & Iran...	9.3	10.9	-15
Union of South Africa.	4.0	3.9	+3
Gold Coast....	3.3	3.0	+10

Only four-fifths as many ships bound for Russian ports left the U.S. in Sep-

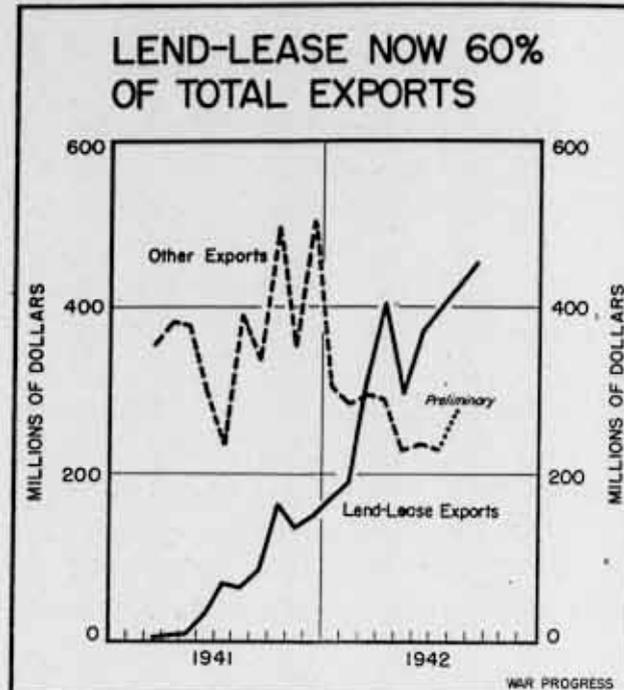


tember as in August. The number of cargoes going to Vladivostok—consisting mainly of foodstuffs—was the same, and those headed for the Persian Gulf increased, but shipments to North Russian ports decreased. For the first time, more agricultural goods (in dollar value) were exported to Russia than aircraft, and almost as much as tanks and other vehicles (chart, page 3).

RUSSIA GETS ONE-FIFTH

Exports of aircraft to Russia declined from \$41,000,000 in August to \$15,600,000 in September; ordnance and stores from \$32,400,000 to \$18,100,000; combat and other vehicles from \$35,600,000 to \$21,900,000; industrial and other goods from \$31,000,000 to \$21,800,000. Only agricultural shipments increased—from \$8,300,000 to \$17,900,000. (Among the items were 320,000 pounds of toilet soap and 86,000 pounds of candles.)

Russia's portion of lend-lease ex-



ports in September was one-fifth, while British countries—excluding the United Kingdom—accounted for one-third. (More tanks, airplanes, guns and ammunition in the aggregate went to India, Egypt, Australia and New Zealand than to Russia.)

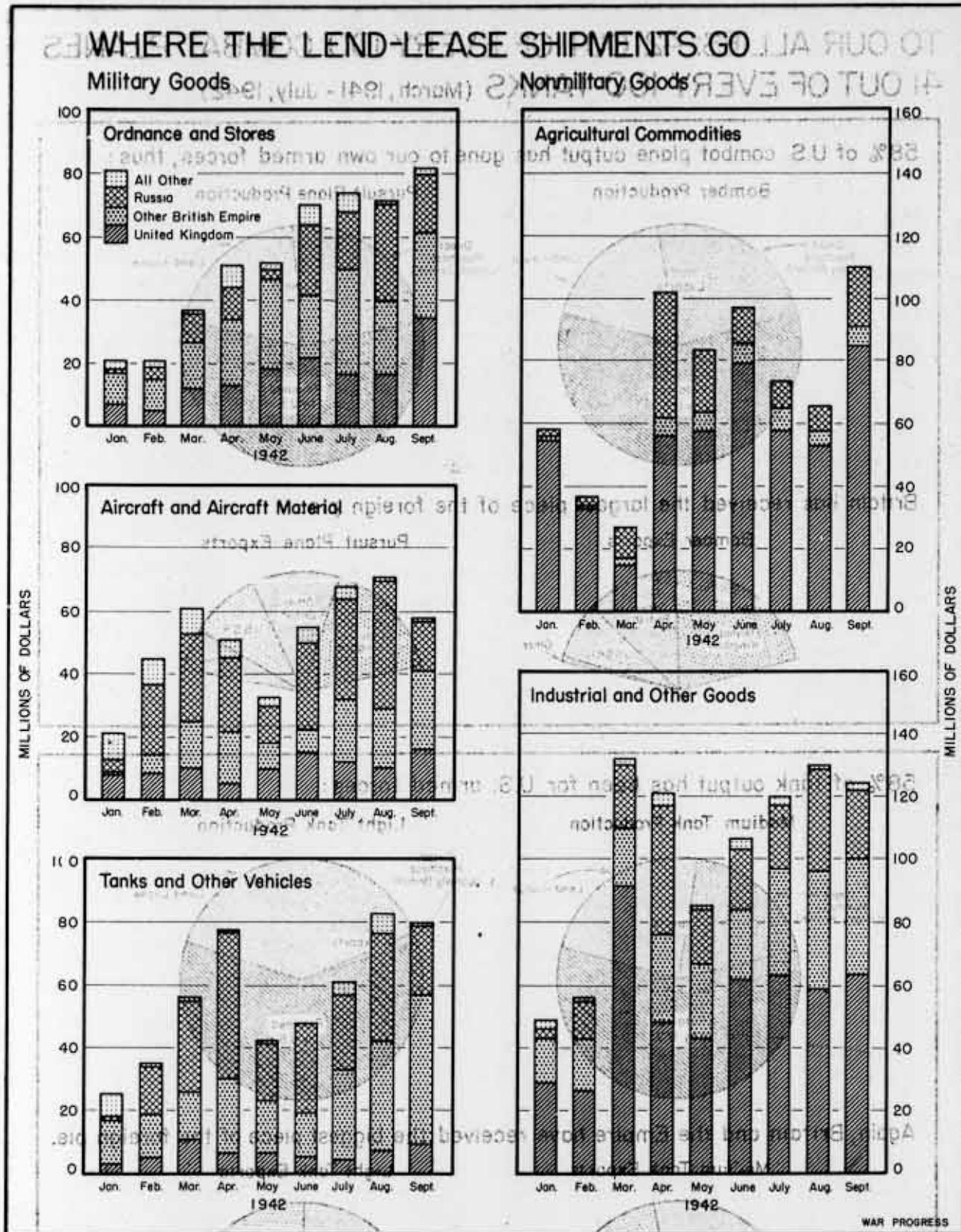
NEW HIGH FOR BRITAIN

Lend-lease shipments to the United Kingdom in September were the highest for any month since the program began. Almost four-fifths of all agricultural commodities went to Britain (as in August); 49% of industrial and other commodities (45% in August); and 43% of ordnance and stores (25% in August). Agricultural shipments to the British Isles included:

Item	Pounds
Ham.....	5,300,000
Bacon.....	7,300,000
Canned pork.....	15,300,000
Canned sausage.....	28,000,000
Other canned meat.....	1,800,000
Evaporated milk & cream.	58,000,000
Dried skimmed milk products.....	18,300,000

IN THIS ISSUE:

LEND-LEASE VOLUME AT NEW HIGH	1
PRP PARES BULGE IN METAL STOCKS	6
SPOTTING HIGH INVENTORIES	7
CAUTION: PROGRAM READJUSTMENT AHEAD.	10
KEY STATISTICS OF THE WEEK	11
WAR PROGRESS NOTES	11
PROJECTING THE MANPOWER PROBLEM	12
LOCOMOTIVES—AN EXAMPLE OF CONVERSION	13
ECONOMIC TRENDS	14,15
PRODUCTION PROGRESS (TABLES)	16,18,20
PRODUCTION PROGRESS (CHARTS)	17,19

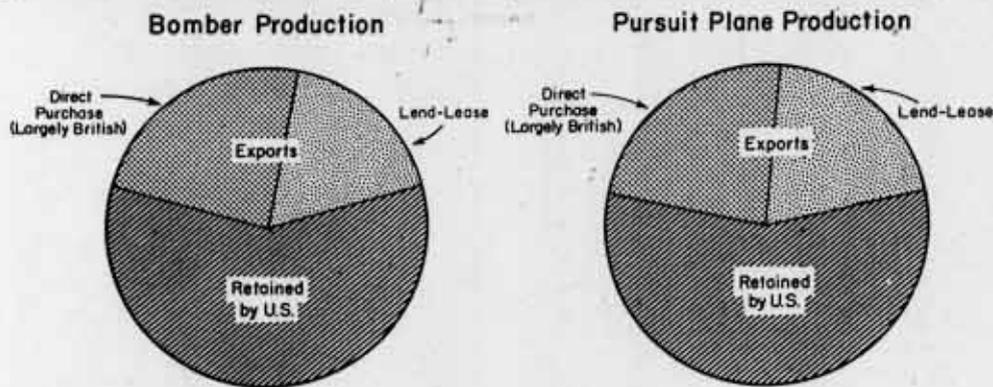


IN SEPTEMBER, LEND-LEASE MILITARY EXPORTS DROPPED SLIGHTLY, WHILE AGRICULTURAL EXPORTS ROSE SHARPLY (CHART, PAGE 1), THUS REVERSING THE MAY-TO-AUGUST TREND. DECLINE IN SHIPMENTS OF WAR GOODS IS ACCOUNTED FOR ENTIRELY BY THE DROP IN EXPORTS OF ORDNANCE,

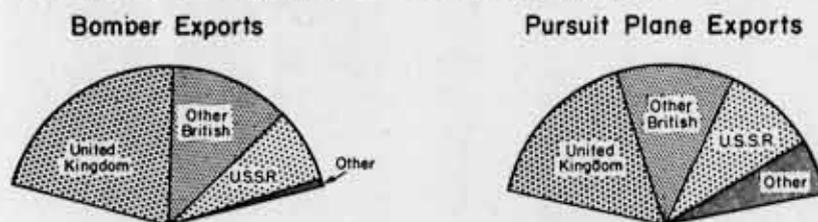
AIRCRAFT, TANKS AND OTHER VEHICLES TO RUSSIA. JUMP IN AGRICULTURAL EXPORTS IS DUE TO GREATLY INCREASED SHIPMENTS TO THE UNITED KINGDOM. LEND-LEASE AID TO CHINA, TURKEY, LATIN AMERICA, SPAIN, AND PORTUGAL HAS DWINDLED TO ABOUT 1% OF TOTAL.

TO OUR ALLIES: 42 OUT OF EVERY 100 COMBAT PLANES 41 OUT OF EVERY 100 TANKS (March, 1941 - July, 1942)

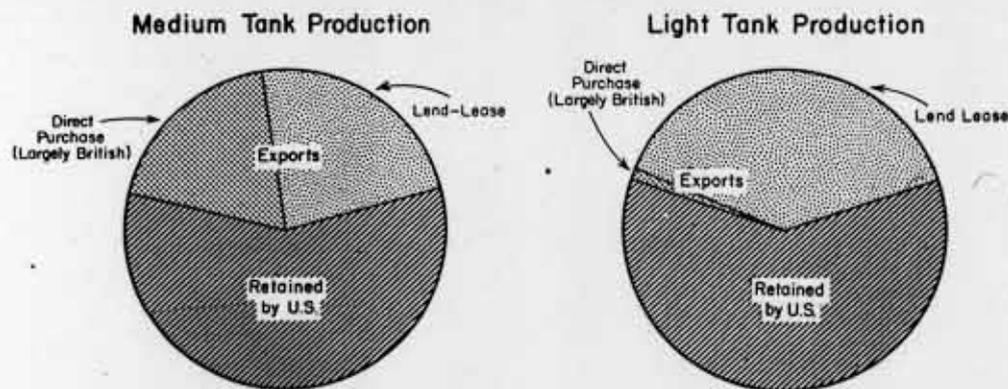
58% of U.S. combat plane output has gone to our own armed forces, thus:



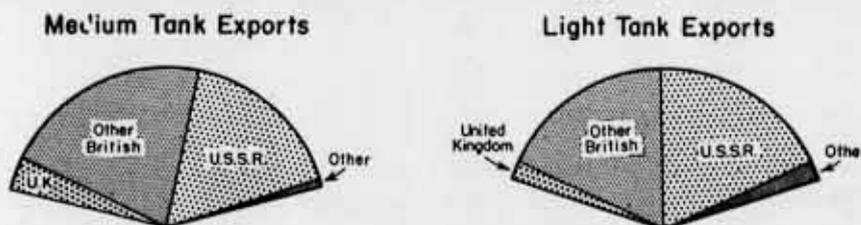
Britain has received the largest piece of the foreign pie:



59% of tank output has been for U.S. armed forces:



Again, Britain and the Empire have received the biggest piece of the foreign pie.



<u>Item</u>	<u>Pounds</u>
Lard.....	50,000,000
Processed cheese.....	15,600,000
Other cheese.....	10,100,000
Dried egg products.....	12,500,000
Refined sugar.....	20,600,000
Dried beans.....	8,600,000
Raisins.....	3,360,000
Soybeans.....	2,500,000
Tobacco.....	29,600,000
Corn starch.....	18,500,000
Cotton.....	50,200,000

Among industrial goods going to the United Kingdom were about 265,000 tons of steel billets, ingots, and slabs, and 16,800 tons of steel and tin plate.

FIGHTING STUFF TO EGYPT

September exports to India consisted chiefly of tanks and motor trucks, steel bars and alloy steel ingots, ferromolybdenum, fire-fighting equipment, concrete mixers, cranes, lubricating oil, ordnance and stores. To Australia we sent mainly munitions, industrial materials (steel products, chemicals, etc.), radio equipment, cotton and cotton cloth.

Important items in lend-lease cargoes to New Zealand were iron and steel products, antimony ore and concentrates, high-octane gasoline, wood pulp, and boxboard. To the allied forces in Egypt went munitions, food, high-octane gasoline, industrial materials (iron and steel items), unloading and hauling equipment, 338,000 pounds of newsprint, and 5,700,000 pounds of kraft containers.

SHIP 40% OF ALL TANKS

In the first seventeen months of the lend-lease program--from March, 1941, through July, 1942--lend-lease took about 13% of all airplanes (19% of bombers and pursuit planes) produced in the United States; 14% more (23% of bombers and pursuit planes) were exported on

direct-purchase contracts. (These totals include flyaways.) In this period, about 30% of all the tanks built by American factories went to lend-lease; an additional 10% were shipped on direct purchase (chart, page 4).

BOMBERS TO BRITAIN

By far the greater proportion of bomber-and-pursuit plane exports has gone to the British Empire, much less to Russia. But in tanks the proportions are closer:

	<u>Russia</u>	<u>British Empire</u>	<u>Others</u>
Bombers.....	18%	80%	2%
Pursuit planes	22	66	12
Medium tanks..	41	57	2
Light tanks...	45	50	5

A considerable proportion of the above shipments represents direct-purchase accounts--contracted for before lend-lease was initiated. In terms of lend-lease exports alone the distribution between Britain and Russia has been fairly close (except for medium tanks):

	<u>Russia</u>	<u>British Empire</u>	<u>Others</u>
Bombers.....	42%	55%	3%
Pursuit planes	46	40	14
Medium tanks..	74	24	2
Light tanks...	47	49	4

In all, the British received about one out of every two American bombers shipped to foreign countries, and two out of every five pursuits; Russia got one out of every five bombers and pursuits. In tanks the Russian proportion was 100% higher--two out of every five. Relatively few tanks have been sent to the British Isles, but British forces in other countries received nearly half our total tank shipments.

PRP Pares Bulge in Metal Stocks

Processors reduce authorizations to manufacturers when large inventories are uncovered. However, substantial supplies remain to be worked off—especially in munitions.

PROCESSING OF PD-25A applications for fourth-quarter PRP yielded a "gold mine" in critical metals. In examining manufacturers' requests for fourth-quarter allotments of copper, steel, zinc, etc., PRP processors uncovered many large inventories. And individual allowances were cut accordingly. "Savings" went to increase the fourth-quarter reserve for emergencies to cover PD-25F applications for additional allocations. This reserve is known as the "kitty."

DOUBLE-CHECK ON REQUESTS

This quarter's requests were subjected to a double cut (charts, pages 8, 9). First the Requirements Committee reduced overall requests anywhere from 13% (alloy steel to manufacturers of military end products) to 43% (stainless steel and copper to manufacturers of intermediate products). After that, the Materials Branches examined individual applications and cut further, so that ultimate allowances were down as much as 53% (zinc to manufacturers of intermediate products).

AND 20 FOR THE "KITTY"

An example of what happened is carbon steel. Out of requests for every 100 tons, the Requirements Committee granted 74 tons; but PRP processors cut that down to 54 tons, thus saving 20 tons per 100 for the "kitty." Makers of military end products, as might be expected, fared better than either manufacturers of intermediate products—parts, components, etc.—or manufac-

turers of indirect military and civilian-type products. In the case of carbon steel products, they got 60% of their requests, as against 57% for makers of intermediate products, and 44% for makers of indirect military and civilian items.

Larger authorizations to manufacturers of military end products were due first to initially larger allocations by the Requirements Committee (WP-Oct9 '42,p5), and second to less severe cuts by the processors.

MILITARY PRODUCTS FAVORED

In making authorizations of stainless steel, for instance, processors reduced the Requirements Committee allocation to military end-product makers by less than 4%; to manufacturers of intermediate end products by more than 8%; and to makers of indirect military and civilian goods by almost 15%, as the following table indicates:

	%	%
	Allocations to Requests	Authorizations to Requests*
<u>Military End Prod.</u>		
Steel:		
Carbon.....	80%	60%
Alloy.....	87	79
Stainless.....	80	77
Copper.....	82	77
Brass & bronze..	80	80
Zinc.....	82	73
<u>Intermediate Prod.</u>		
Steel:		
Carbon.....	72	57
Alloy.....	78	68
Stainless.....	57	52
Copper.....	57	51
Brass & bronze..	67	62
Zinc.....	61	47

	%	%
	Allocations to Requests	Authorizations to Requests*
<u>Indirect Military & Civilian</u>		
<u>Steel:</u>		
Carbon.....	67	44
Alloy.....	68	54
Stainless.....	62	53
Copper.....	79	63
Brass & bronze..	76	61

*Based on the first 7,000 PD-25As processed--about 35% to 47% of authorizations.

In paring down Requirements Committee

determinations, PRP processors had before them overall as well as individual indications of inventories on hand, as of June 30. Based on second-quarter rates of consumption, stocks held by manufacturers ran from seven weeks' supply (brass and bronze) to 22 weeks' supply (nickel), viz:

<u>Metal</u>	<u>Weeks' Supply</u>
<u>Steel:</u>	
Carbon.....	12
Alloy.....	13
Stainless.....	19
Aluminum.....	12
Copper.....	9

SPOTTING HIGH INVENTORIES

PRP APPLICATIONS for metals in the fourth quarter were subjected to rigorous examination for inventory excesses on the basis of actual consumption in the second quarter. These are instances of the ample supplies held by some of the leading munitions industries, as of June 30:

	<u>Weeks' Supply</u>
<u>Stainless Steel:</u>	
Searchlights, etc.....	116
Navy shipyards.....	87
Airplane landing mats.....	40
Ordnance.....	32
Ammunition.....	29
Airplanes.....	21
<u>Copper:</u>	
Navy ammunition.....	118
Navy shipyards.....	62
Airplane landing mats.....	43
Combat tanks.....	38
Ordnance.....	24
Auto, truck & military vehicle parts.....	23

	<u>Weeks' Supply</u>
<u>Copper Base Alloys:</u>	
Pyrotechnics.....	70
Navy shipyards.....	67
Navy ammunition.....	41
<u>Aluminum:</u>	
Navy air stations.....	54
Navy shipyards.....	51
Airplanes.....	19
<u>Nickel:</u>	
Navy shipyards.....	190
Ordnance.....	100
Ammunition.....	97
Searchlights, etc.....	91
<u>Zinc:</u>	
Ordnance.....	71
Airplanes.....	56

Since these figures represent aggregates, they do not reflect some extreme imbalances in inventories between (1) individual companies and (2) individual shapes and forms of metals.

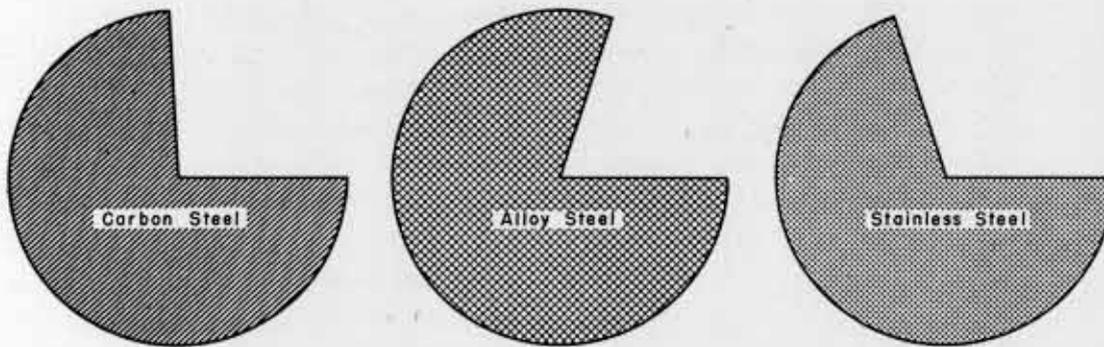
PRP SAVES STEEL, COPPER, ZINC FOR RESERVE "KITTY"

First, Requirements Committee sets fourth quarter allocations 20% to 36% below demands;

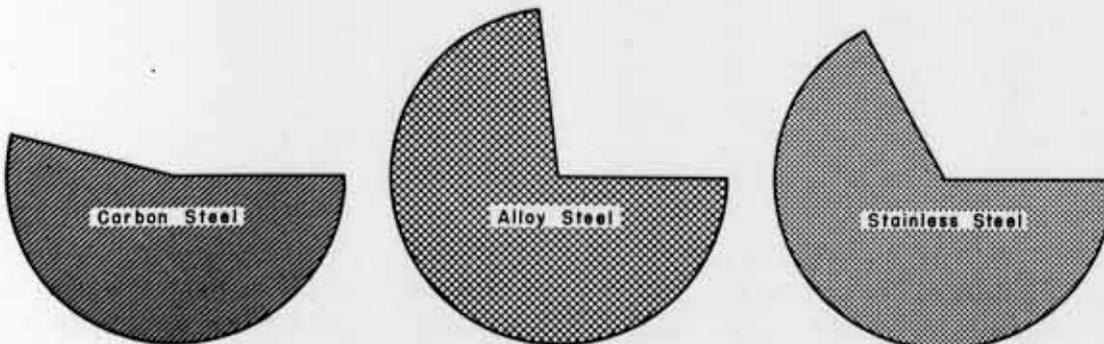
This is what manufacturers asked for :



This is what the Requirements Committee allocated:

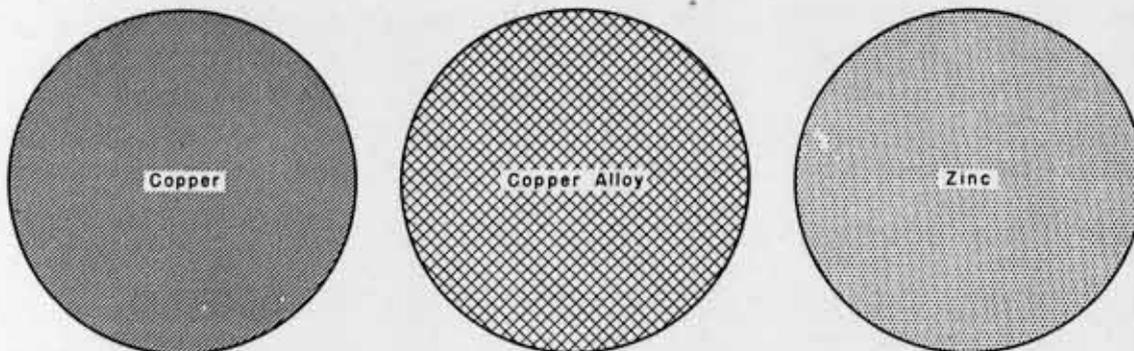


And this is what the PD-25A processors authorized:



- AS MANUFACTURERS' REQUESTS TAKE DOUBLE CUT
then, as PD-25A processors discover large stocks, requests are cut 1½% to 27% more.

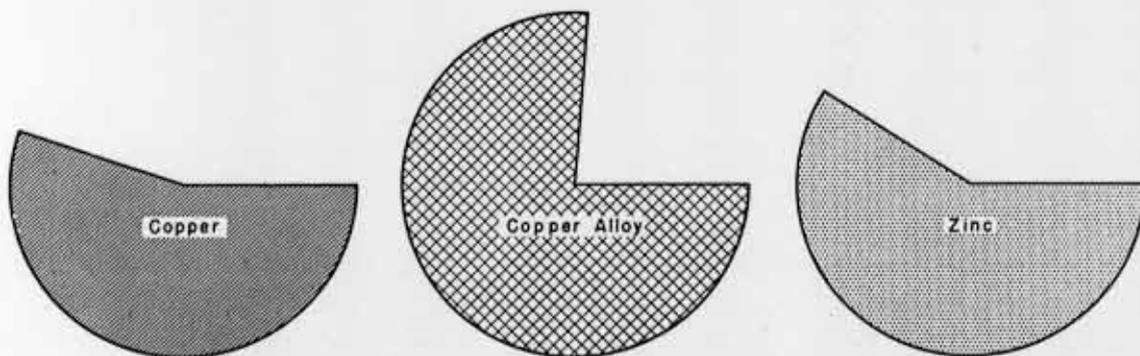
This is what manufacturers asked for:



This is what the Requirements Committee allocated:



And this is what the PD-25A processors authorized:



<u>Metal</u>	<u>Weeks' Supply</u>
Brass & bronze.....	7
Nickel.....	22
Zinc.....	12

Since many PD-25A applicants—presumably those with unusually large stocks—failed to submit inventory data (for example, 24% of all aluminum users did not report their June 30 inventory of aluminum), it may be assumed that over-all stocks of scarce metals were actu-

ally higher than indicated in the table. Overall stocks, moreover, do not convey an accurate idea of the excessive inventories held by individual groups of manufacturers. For instance, manufacturers of searchlights, etc., held more than a two-year supply of stainless steel and an almost two-year supply of nickel, at second-quarter rates of consumption. Navy shipyards had piled up enough nickel to last them for almost four years, stainless steel for

CAUTION: PROGRAM READJUSTMENT AHEAD

LAST MONTH, War Progress instituted the policy of presenting tables showing the dollar value of the war program, broken down by major categories. This month the tables appear as usual, along with summary charts—pages 16 to 20. However, a word of caution is in order.

Currently, the war program is being reoriented. As War Progress has repeatedly noted in the past, scheduled production—forecasts—have been far too high, relative to actually attained output (WP-Oct 16 '42, pl, Sep 11 '42, pl). And objectives have been even higher.

The present schedules and objectives for 1943 call for a total of munitions production and war construction in excess of \$90,000,000,000. Overall estimates of what is feasible for our economy (at present prices) suggest that a figure of between \$75,000,000,000 and \$80,000,000,000 represents a probable maximum in 1943.

This disparity between the "feasible" and the "forecast" has led to various moves for revision of schedules. The necessity for such moves is being reinforced by the strength-

ening of materials controls. In view of these considerations, neither objectives nor forecasts are firm at the present time.

However, they provide an essential basis for any broad consideration of program revisions, and so are being presented. First, they indicate the direction of the various parts of the program, as well as the whole; second, they indicate the relative size of the various parts of the program; and third, they indicate the relationship of forecast production to objectives.

Moreover, the tables will serve as the historical basis for comparing the old war program with the new war program; they will make it possible to measure not only how much the program as a whole has been reduced but how much individual parts of the program have been cut. And in that way they will serve as an indicator of strategical emphasis: which parts of the program—facilities and construction, combat vehicles, aircraft, merchant ships, or antisubmarine vessels, etc.—have received decreased or increased importance in our scheduling plans.

Britain's Baedeker on Steel

Allocation system, damned in the days of the Blitzkrieg, is now widely praised. Claimants for iron and steel sit around table, watch one another divide the pie.

THE BRITISH "iron and steel distribution scheme" got under way in the third quarter of 1940 and was promptly thrown out of kilter by the German blitz. Disruption of production by bombings, together with the newness of the system, kept deliveries of finished steel well below allocations--by 18% in the first three months and by 14% in the second three months of the scheme's operation. In the first quarter, 1942, however, deliveries were only 5% below allocations and in the second quarter only 3%.

LEND-LEASE INCLUDED

After two years of experience, the scheme is accepted as inherently sound, and continuous satisfactory operation is confidently expected. This view, of course, takes lend-lease additions to British steel supply for granted; and these currently equal approximately 30% of home production of ingots, a volume which may be cut down because of domestic U. S. needs.

ROUND-TABLE METHOD

In theory, the scheme could work even if lend-lease shipments were cut off. For though imports influence the level to which total allocations can be raised, they do not influence the actual operations by which the scheme channels the flow of materials into end products. Actually, however, there is little doubt that without lend-lease imports it would have been difficult for the British to

U. S. MISSION SUGGESTS:

AN AMERICAN STEEL MISSION, headed by Charles R. Hook, president of the American Rolling Mill Company, recently visited Great Britain, investigated the iron and steel industry there, recommended that this country--after certain changes in procedure and organization--adopt the British system of allocating steel.

In view of the current study and restudy of the American system of distributing critical materials, War Progress herewith presents a general outline of the British iron and steel distribution scheme.

maintain an inventory to meet emergency requirements.

In essence, Britain uses a round-table distribution method. Users of steel get together and collectively cut up the iron and steel pie among themselves. This is the way it works:

STRATEGIC FACTORS STRONG

Requirements for steel are computed by 23 government "departments" on the basis, mainly, of current programs which are in line with, and an expression of, major strategy. Of these 23 departments the Admiralty, the Ministry of Supply (Army), and the Ministry of Air Production formulate the bulk of military requirements or, roughly, 75% of all requirements. Of the remaining 20 departments, the Board of Trade, the Mines Department, and the Ministry of War Transport determine most of the essential civilian and indirect military re-

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program - Checks paid (millions of dollars) -----	1,354	1,070	1,308	722	350
War bond sales (millions of dollars) -----	188	164	196	124	57
Commodity prices (August 1939 = 100)					
28 Basic commodities -----	169.8	169.7	169.4	167.0	152.6
Controlled -----	162.0	162.1	161.2	161.4	154.4
Uncontrolled -----	188.9	188.7	190.0	181.8	148.1
Nonferrous metal scrap -----	117.5	115.8	115.8	132.5	133.5
Petroleum carloadings (no. of tank cars)					
Total -----	52,052	54,747	55,788	55,174	49,036
Movement into East -----	25,069	27,675	27,851	17,565	4,046
Exports (no. of freight cars unloaded for export Friday)					
Atlantic Coast ports -----	1,430	1,292	1,354	1,975	1,619
Gulf Coast ports -----	323	317	271	474	543
Pacific Coast ports -----	807	783	829	499	164
Stikes affecting the war effort					
Number in progress -----	n.a.	8	13	15	n.a.
Man-days lost -----	n.a.	62,244	18,674	25,600	n.a.
Unused steel capacity (% operations below capacity) -----	-1.1	-1.0	2.7	1.1	0.1

n.a. Not available.

more than a year and a half, copper, brass, and bronze for a year and a quarter, and aluminum for one year.

Producers of ordnance items held a two-years' supply of nickel, almost one and a half year's supply of copper, and more than half a year's supply of stainless steel at the second-quarter rate of consumption. Stockpiles of similar magnitude were reported by manufacturers of airplane landing mats, combat tanks, and others (table; page 7).

SOME SHOCKING STOCKPILES

Some producers of civilian-type products held inventories which, on the basis of greatly curtailed production, appear ridiculously high. On the basis of second-quarter use, manufacturers of metal doors, etc., had supplies of stainless steel on hand sufficient to last 20 years; it was sufficient also to meet the quarterly requirements for stainless steel of all navy shipyards. The

aluminum supply held by public utilities for maintenance and repair needs would last (again on the basis of second-quarter use) for 132 years. That supply was sufficient to meet the annual need of aluminum in aircraft propellers and parts.

The wide spreads in inventories suggest that there is still little balance in the distribution of critical metals. Apparently controls exercised to date have been inadequate to bring about a balance between production, consumption, and inventories--either because of insufficient know-how or because of insufficient teeth, or both.

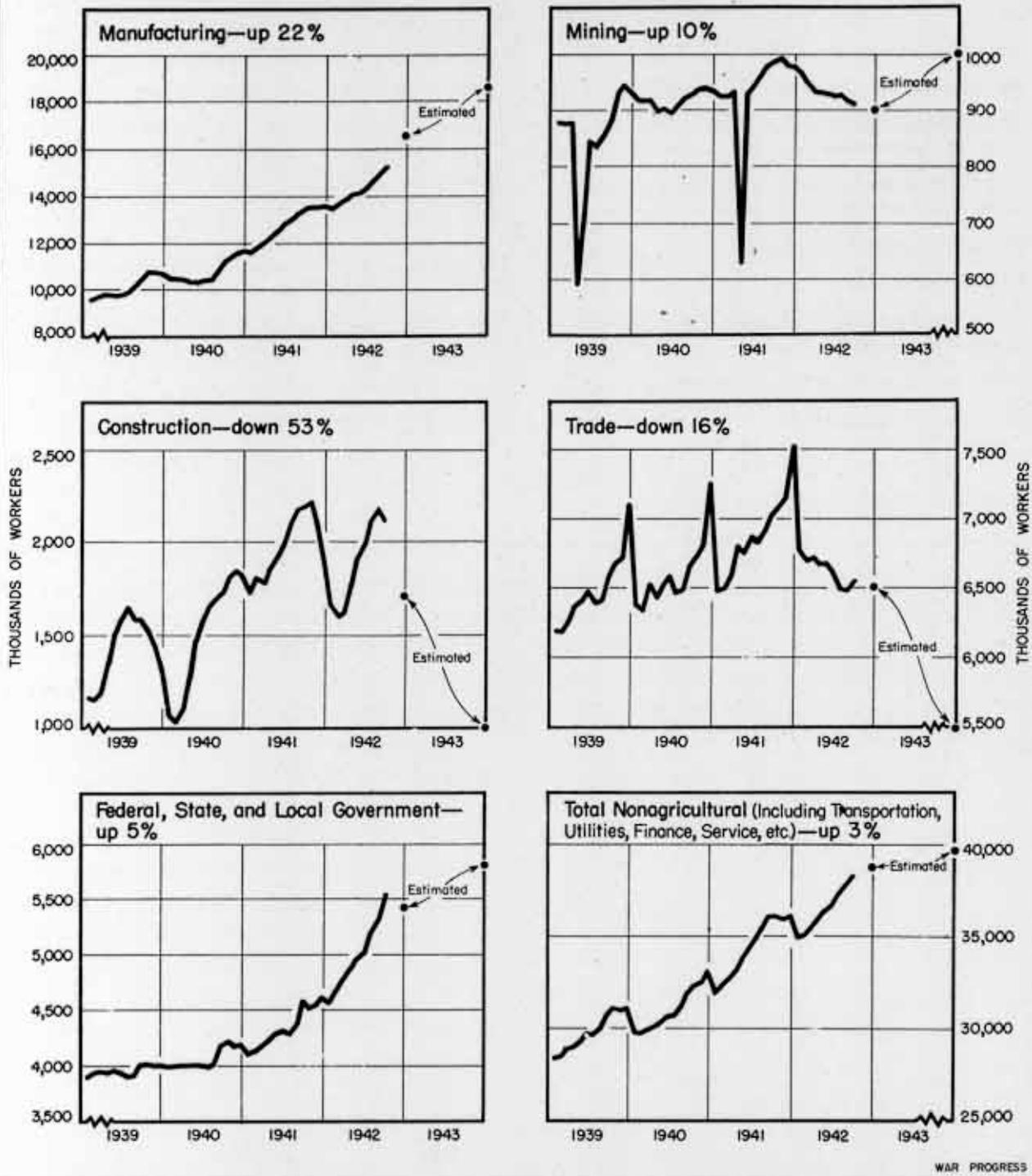
War Progress Notes

SILVER IN OVERALLS

ALOOF PATRICIAN of the dining table, mint, and Congressional forum before the war, silver now goes to work. It replaces copper as an electrical con-

PROJECTING THE MANPOWER PROBLEM

Government and manufacturing demands for workers are still increasing
 And overall nonagricultural employment will be up 3% by December, 1943,
 despite expected sharp drop in construction and trade.



IN THE LAST TWO YEARS, THERE WAS SUFFICIENT MANPOWER SLACK TO MEET (1) SUBSTANTIAL ADDITIONS TO OUR ARMED FORCES; (2) A 5,400,000 INCREASE IN GOVERNMENT AND MANUFACTURING WORKERS AND (3) A 1,200,000 INCREASE IN TRADE, ETC. BUT NOW THE SLACK HAS

BEEN TAKEN UP. THE EXPECTED INCREASE OF 4,600,000 GOVERNMENT AND MANUFACTURING WORKERS BY DECEMBER, 1943, MUST COME—IN LARGE PART—FROM WORKERS IN TRADE, FINANCE, AND CONSTRUCTION. THIS SHIFT, IN THE CASE OF TRADE, HAS ALREADY BEGUN.

ductor, substitutes for tin and other metals in bearings. Latest use is in aircraft engine bearings of steel, heavily plated with a lead-silver alloy. And long employed in delicate soldering jobs, silver is now used in welding and brazing large aircraft and other parts.

PROSPERITY TIP

TIPS LEFT to waiters and waitresses in 1941 exceeded by 55% the gratuities left beside plates in 1929. And in 1941, for the first time since 1929, tips exceeded the amount of tuition paid to private colleges and universities. (That includes Harvard or Stanford, excludes Michigan or California.)

SILK-STOCKING SALVAGE

THE ARMY NEEDS silk for powder bags-- and silk-stocking salvage may be the answer after all. A drive started last year was pulled up short because no way was found to separate foreign fibers (cotton, rayon, nylon) from the silk in

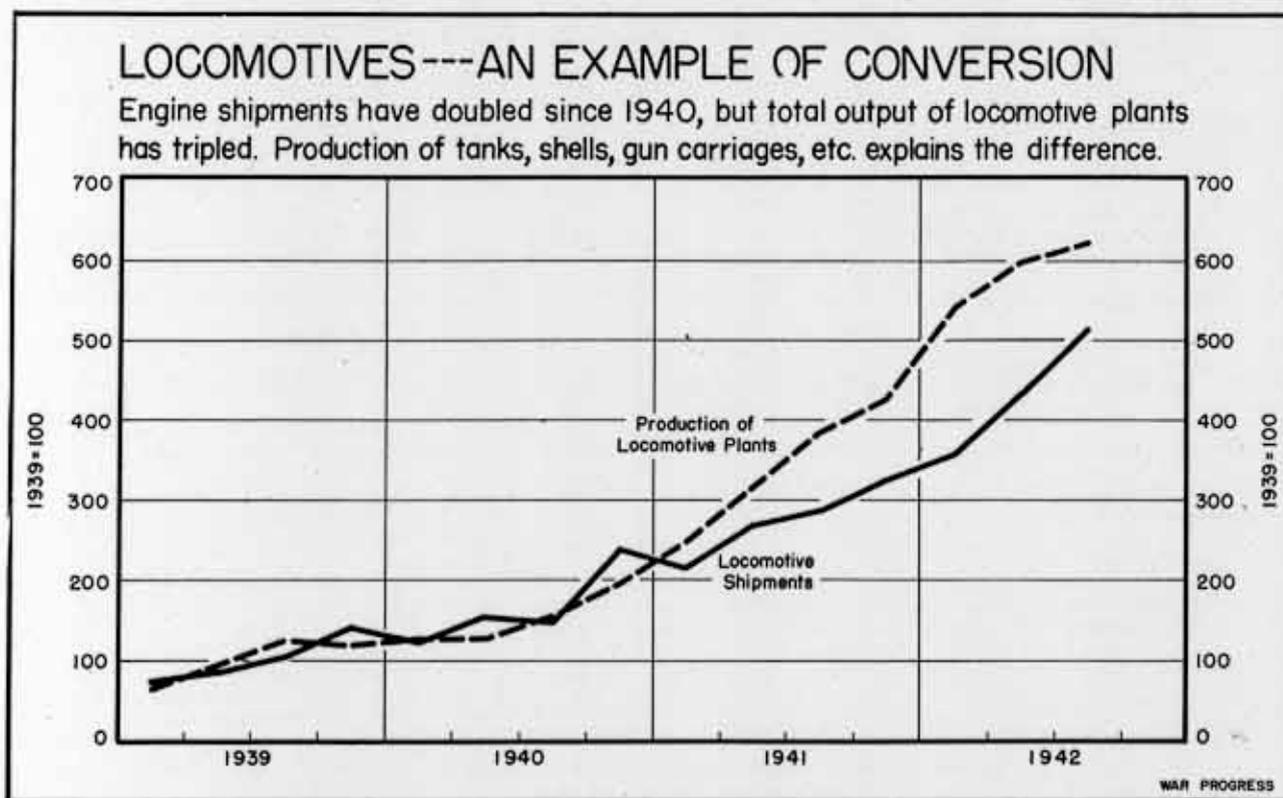
used stockings. Now a dye process has been developed that stains each kind of fiber a different color and the silk can be successfully reclaimed. Beginning Nov. 16, women will be asked to turn in their used stockings. Collections will be handled wherever hosiery is sold at retail.

STEEL RECORD

FOR THREE WEEKS in a row, steel operations have exceeded capacity. It now appears that in October steel operations will exceed 100% of stated capacity for the first month since May, 1929.

CONVERSION IN ACTION

THE LOCOMOTIVE INDUSTRY is a good case history of conversion. Observe in the chart below how during 1939 and 1940, production and locomotive shipments moved together; but after the spring of 1941--when locomotive makers began turning out tanks, guns, etc.--total production outran locomotive shipments.



ECONOMIC TRENDS

Production - Labor Disputes - Construction

	Latest Month	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
PRODUCTION (1935-39 = 100)							
Industrial production-total	p191	187	181	168	167	119	118
Durable Manufactures	p265	260	252	227	205	118	125
Iron and steel	199	r197	r196	r200	192	131	134
Pig iron	194	190	192	192	185	126	150
Aircraft	p2,851	r2,682	r2,485	r1,961	1,210	189	93
Railroad cars	p289	r280	r275	307	249	75	153
Locomotives	p517	r507	492	462	319	98	204
Shipbuilding-private yards	p1,955	r1,843	r1,714	1,139	560	132	109
Copper smelting	155	r159	153	147	135	m113	138
Zinc smelting	178	178	177	184	175	101	120
Zinc shipments	130	132	139	148	146	126	114
Lead shipments	193	188	186	189	209	119	125
Nondurable manufactures	p149	144	139	137	145	119	111
Cane sugar meltings	n.a.	77	78	86	132	124	53
Rubber products	n.a.	75	r76	81	134	124	104
Rubber consumption	81	82	r81	87	137	124	104
Minerals	p137	136	132	118	138	121	121
Copper production	172	r174	165	165	152	m116	141
Zinc production	n.a.	130	r131	144	135	99	113
Lead production	n.a.	122	127	131	120	111	128
Government (1939 = 100)							
Mfg. in gov't arsenals and quartermaster depots	n.a.	1.3	r1.3	1.1	.8	.1	-
Shipbuilding-gov't yards	n.a.	3.7	r3.2	2.4	1.5	.2	-
LABOR DISPUTES							
All industries							
Number of strikes in progress	400	475	520	320	687	373	656
Workers involved (thousands)	90	100	100	80	358	104	-
Man-days idle (thousands)	450	450	450	450	1,953	892	1,450
Strikes affecting the war effort							
Number in progress	187	229	222	74	n.a.	-	-
Workers involved (thousands)	81	79	81	39	n.a.	-	-
Man-days idle (thousands)	319	266	234	167	n.a.	-	-
CONSTRUCTION (million dollars)							
Facilities - applications for certificates of necessity							
Total approved	167	198	159	386	60	-	-
Private funds	144	180	102	355	52	-	-
Public funds	23	18	57	31	8	-	-
Pending	n.a.	n.a.	n.a.	624	810	-	-

*September. a Average for 1939. n.a. Not available. p Preliminary. r Revised.

ECONOMIC TRENDS

Plant Utilization - Commodity Prices - Retail Sales

	Latest Month *	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
PLANT UTILIZATION (a)							
Airframes							
All plants	90.3	89.3	87.1	86.6	75.8		
Three best	114.5	113.4	111.6	111.7	91.5		
Aero engines							
All plants	107.2	105.9	106.1	105.1	94.2		
Three best	134.1	123.8	129.7	129.4	107.2		
Aircraft propellers							
All plants	110.1	107.7	106.8	99.6	89.6		
Three best	134.1	131.0	131.7	139.3	116.3		
Shipbuilding and repair							
All private construction yards	p77.0	79.1	78.3	72.5	62.0		
Three best	p112.2	111.5	111.6	95.1	80.2		
Major repair yards	p74.3	75.3	74.2	71.9	63.7		
Tanks							
All plants	p72	76	73	83	69		
Best plant	n.a.	n.a.	90	104	97		
Machine tools							
All plants	87.6	90.4	89.9	85.0	77.9		
Three best	135.3	138.2	144.0	134.1	113.9		
Large plants	93.9	97.1	96.3	89.3	79.2		
Medium plants	77.6	80.0	80.0	78.3	67.2		
Small plants	66.0	67.4	67.2	65.2	58.4		
Machine utilization in machine tool plants							
All plants	109	110	109	106	n.a.		
Three best	167.7	167.3	167.7	166.6	n.a.		
Large plants	120	121	121	118	n.a.		
Medium plants	98	99	98	95	n.a.		
Small plants	72	74	75	70	n.a.		
COMMODITY PRICES (1926 = 100)							
All commodities (wholesale prices)	p99.6	99.2	98.7	97.6	91.8	79.1	87.4
Farm products	107.8	106.1	105.3	102.8	91.0	68.7	85.9
Foods	102.4	100.8	99.2	96.1	89.5	75.1	88.0
All other than farm products and foods	p95.5	95.6	95.7	95.2	91.6	82.1	85.9
Raw Materials	102.2	101.2	100.1	98.2	90.0	72.6	84.4
Semimanufactured goods	92.9	92.7	92.8	92.3	90.3	81.8	85.3
Manufactured goods	p99.2	98.9	98.6	97.8	92.8	81.9	89.1
RETAIL SALES (million dollars)							
Total	p4,879	4,678	4,448	4,473	4,583	3,606	3,587
Durable goods	p850	856	818	803	1,062	813	862
Nondurable goods	p4,029	3,822	3,631	3,670	3,521	2,793	2,726

*September. (a) Number of man-hours weekly divided by the number of workers on the largest shift, Monday through Friday; machine utilization figures are based on machine operator hours. n.a. Not available. p Preliminary

PRODUCTION PROGRESS

General Summary (Value of production, in millions of dollars)

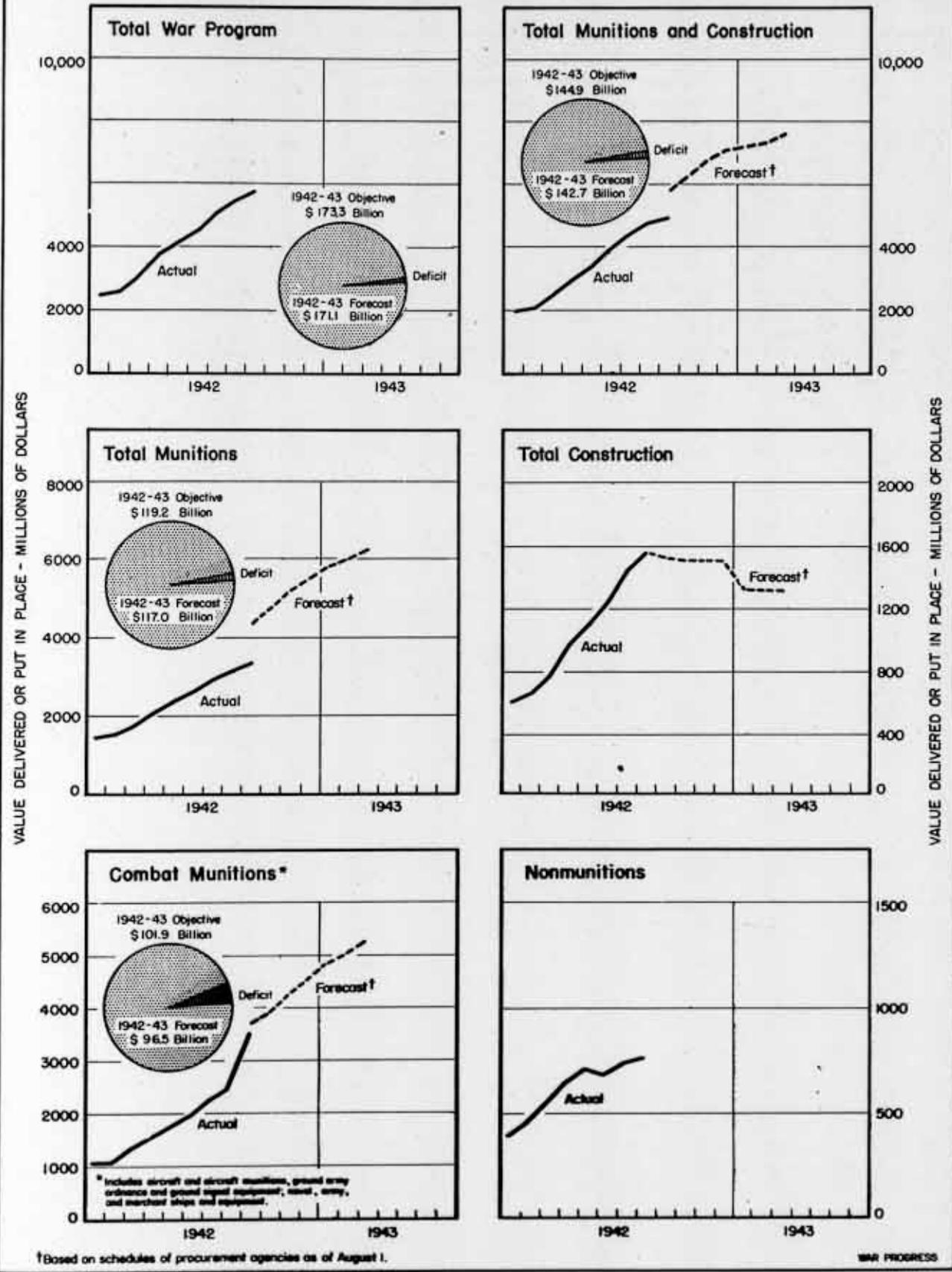
		Total Program	Total Munitions & Construction	Total Munitions	Total Construction	Non-munitions		
Valuation of Actual Production ↓	1942						1942	Valuation of Actual Production ↓
	January	2,436	2,044	1,436	608	392	January	
	February	2,589	2,143	1,519	624	446	February	
	March	3,071	2,524	1,766	758	547	March	
	April	3,714	3,073	2,096	977	641	April	
	May	4,171	3,464	2,371	1,093	707	May	
	June	4,578	3,889	2,644	1,245	689	June	
	July	5,102	4,361	2,912	1,449	741	July	
	August	5,471	4,711	3,138	1,573	760	August	
	September	p 5,716	p 4,887	p 3,346	p 1,541	p 829	September	
	October		6,282	4,777	1,505		October	
	November		6,741	5,236	1,505		November	
December		7,055	5,553	1,502		December		
Valuation of Scheduled Production: "Forecast"* ↓	1943						1943	Valuation of Scheduled Production: "Forecast"* ↓
	January		7,168	5,833	1,335		January	
	February		7,319	5,985	1,334		February	
March		7,560	6,229	1,331		March		
1942 Actual plus Forecast*	61,463	51,174	36,794	14,380	10,289	1942 Actual plus Forecast*		
1942 Objective	63,696	53,407	39,027			1942 Objective		
1943 Forecast*	109,603	91,465	80,165	11,300	18,135	1943 Forecast*		
1943 Objective	109,573	91,438	80,138			1943 Objective		
1942 - 43 Est. as % of Objective	98.6	98.2	98.1			1942 - 43 Est. as % of Objective		
		Combat Munitions ^(a)	Aircraft & Aircraft Munitions	Ground Army Munitions ^(b)	Naval and Army Vessels & Equip.	Merchant Vessels		
Valuation of Actual Production ↓	1942						1942	Valuation of Actual Production ↓
	January	1,032	382	236	335	79	January	
	February	1,094	445	241	310	98	February	
	March	1,309	528	313	374	94	March	
	April	1,551	565	397	460	129	April	
	May	1,781	654	444	536	147	May	
	June	1,964	720	490	568	186	June	
	July	2,207	758	629	623	197	July	
	August	2,398	844	657	688	209	August	
	September	p 2,645	p 884	700	p 829	231	September	
	October	3,872	1,278	1,211	1,144	239	October	
	November	4,240	1,385	1,418	1,181	256	November	
December	4,528	1,491	1,568	1,197	272	December		
Valuation of Scheduled Production: "Forecast"* ↓	1943						1943	Valuation of Scheduled Production: "Forecast"* ↓
	January	4,826	1,659	1,741	1,141	285	January	
	February	4,977	1,768	1,795	1,126	288	February	
March	5,216	1,931	1,877	1,118	290	March		
1942 Actual plus Forecast*	28,621	9,934	8,304	8,245	2,137	1942 Actual plus Forecast*		
1942 Objective	32,290	12,685	8,772		2,137	1942 Objective		
1943 Forecast*	67,863	28,229	22,936	13,176	3,522	1943 Forecast*		
1943 Objective	69,587	32,973	20,048		3,522	1943 Objective		
1942 - 43 Est. as % of Objective	94.7	83.6	108.4		100.0	1942 - 43 Est. as % of Objective		

*Based on schedules of procurement agencies as of August 1. (a) Fighting Items: Includes aircraft and aircraft munitions, ground army ordnance and ground signal equipment; naval, army, and merchant ships and equipment. (b) Ground army ordnance and ground signal equipment. p Preliminary.

NOTE: Because of probable program readjustments, forecasts and objectives are not firm (box, page 10).

PRODUCTION PROGRESS

General Summary—Munitions, Construction, Nonmunitions



PRODUCTION PROGRESS

Aircraft-Ordnance (Value of production, in millions of dollars)

		Combat Planes	Aircraft Armament	Aircraft Ammunition	Artillery & Equip.	Artillery & Tank Cannon Ammunition			
Valuation of Actual Production ↓	1942						1942 ↓	Valuation of Actual Production ↓	
	January	151	14	28	15	42			January
	February	129	17	27	18	48			February
	March	210	20	43	36	72			March
	April	197	23	38	42	84			April
	May	241	29	47	29	88			May
	June	260	29	50	27	99			June
	July	276	29	56	48	118			July
	August	286	29	59	56	102			August
September	321	28	57	52	110	September			
Valuation of Scheduled Production: "Forecast" * ↓	October	426	33	120	125	186	October	Valuation of Scheduled Production: "Forecast" * ↓	
	November	444	34	156	167	211	November		
	December	487	36	160	184	231	December		
1942 Actual plus Forecast * 1942 Objective	1943						1943 ↓	1942 Actual plus Forecast * 1942 Objective	
	January	547	37	169	198	234			1943
	February	610	43	170	201	240			February
	March	704	43	173	208	241	March	March	
1942 - 43 Est. as % of Objective	1942 Actual plus Forecast *	3,478	321	841	799	1,385	1942 Actual plus Forecast *	1942 - 43 Est. as % of Objective	
	1942 Objective	4,936	307	1,099	977	1,269	1942 Objective		
	1943 Forecast *	11,427	506	1,984	2,455	2,835	1943 Forecast *	1943 Objective	
	1943 Objective	14,107	688	2,054	1,823	2,736	1943 Objective		
	1942 - 43 Est. as % of Objective	78.2	83.1	88.8	116.2	105.4	1942 - 43 Est. as % of Objective		

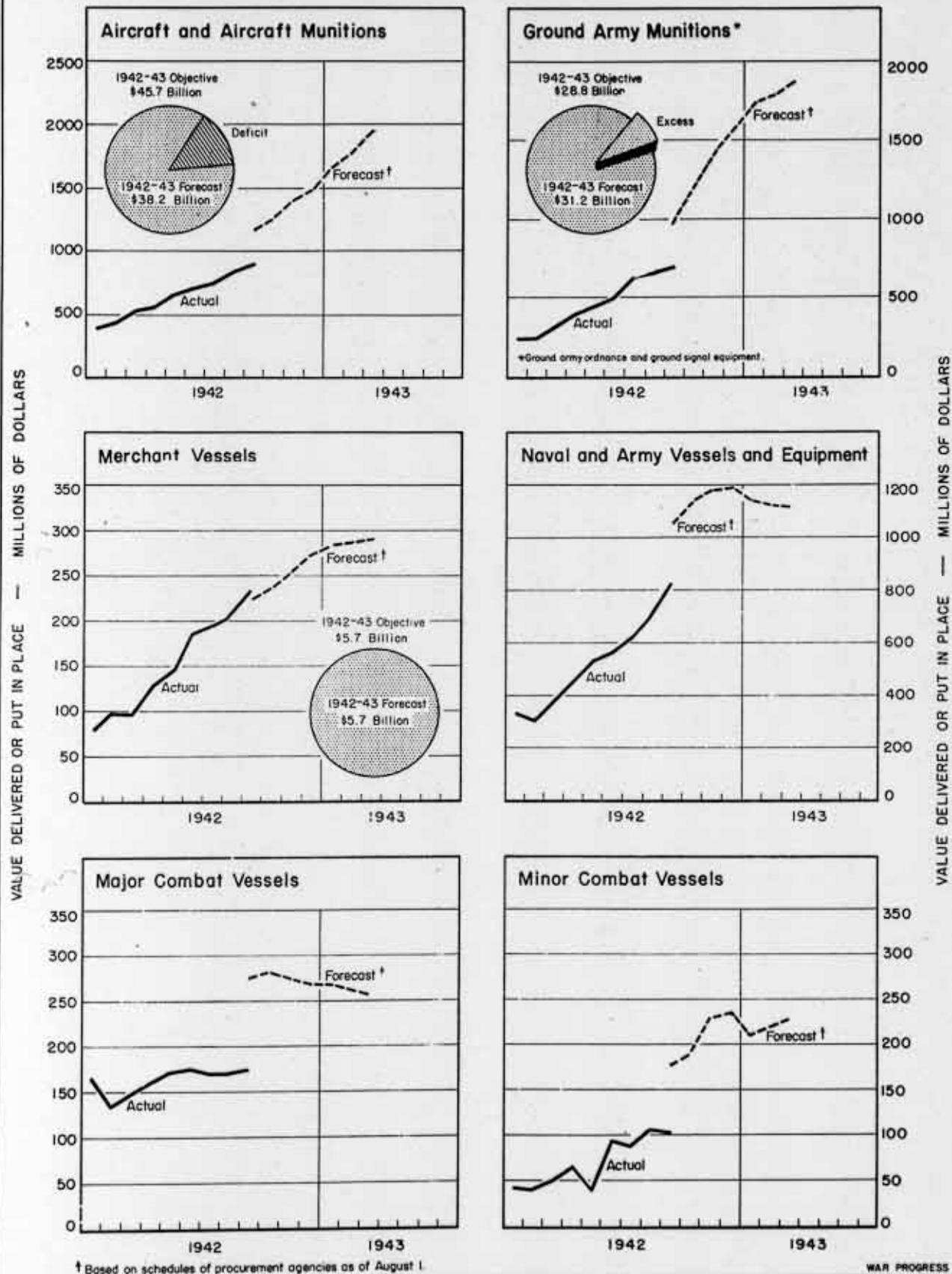
		Antiaircraft Guns & Equip.	Antiaircraft Ammunition	Small Arms & Infantry Weapons	Small Arms & Infantry Weapon Ammunition	Combat Vehicles			
Valuation of Actual Production ↓	1942						1942 ↓	Valuation of Actual Production ↓	
	January	17	16	14	33	87			January
	February	16	11	14	38	89			February
	March	20	8	19	54	89			March
	April	26	21	23	69	111			April
	May	40	21	30	84	123			May
	June	52	21	30	89	137			June
	July	65	30	30	115	171			July
	August	78	28	37	113	177			August
September	85	33	43	127	181	September			
Valuation of Scheduled Production: "Forecast" * ↓	October	125	30	47	230	361	October	Valuation of Scheduled Production: "Forecast" * ↓	
	November	151	45	55	265	406	November		
	December	160	60	62	289	459	December		
1942 Actual plus Forecast * 1942 Objective	1943						1943 ↓	1942 Actual plus Forecast * 1942 Objective	
	January	186	57	71	327	530			1943
	February	200	58	75	331	560			February
	March	212	63	78	346	595	March	March	
1942 - 43 Est. as % of Objective	1942 Actual plus Forecast *	835	324	404	1,506	2,391	1942 Actual plus Forecast *	1942 - 43 Est. as % of Objective	
	1942 Objective	1,003	261	501	1,544	2,483	1942 Objective		
	1943 Forecast *	2,382	604	955	4,473	7,834	1943 Forecast *	1943 Objective	
	1943 Objective	2,273	668	771	3,682	6,707	1943 Objective		
	1942 - 43 Est. as % of Objective	98.2	100.0	106.8	114.4	111.3	1942 - 43 Est. as % of Objective		

*Based on schedules of procurement agencies as of Aug. 1.

NOTE: Because of probable program readjustments, forecasts and objectives are not firm (box, page 10).

PRODUCTION PROGRESS

Selected Items - Aircraft, Ground Army, Ships



PRODUCTION PROGRESS

Ships-Construction-Nonmunitions (Value put in place, in millions of dollars)

		Battleships, Cruisers & Carriers	Destroyers	Submarines	Antisub- marine Vessels	Transports (Army, Navy)		
Valuation of Actual Production ↓	1942 January	63	76	26	42	2	1942 January	Valuation of Actual Production ↓
	February	55	62	18	41	1	February	
	March	67	63	18	49	1	March	
	April	72	68	18	62	3	April	
	May	73	75	23	79	4	May	
	June	75	81	20	91	11	June	
	July	68	81	21	86	7	July	
	August	71	73	25	102	9	August	
	September	74	75	22	98	14	September	
Valuation of Scheduled Production: "Forecast" ↓	October	123	113	45	191	12	October	Valuation of Scheduled Production: "Forecast" * ↓
	November	120	113	43	209	15	November	
	December	116	112	40	226	16	December	
↓	1943 January	116	106	45	201	17	1943 January	↓
	February	115	102	45	211	20	February	
	March	114	98	45	221	21	March	
1942 Actual plus Forecast * 1942 Objective		977	879	319	1,276	95	1942 Actual plus Forecast * 1942 Objective	
1943 Forecast * 1943 Objective		1,293	1,004	506	3,261	247	1943 Forecast * 1943 Objective	
1942 - 43 Est. as % of Objective							1942 - 43 Est. as % of Objective	
		Landing Vessels	Industrial Facilities	Aircraft Fields & Bases	Automotive Vehicles & Equip.	Military Pay (a)		
Valuation of Actual Production ↓	1942 January	3	342	54	125	138	1942 January	Valuation of Actual Production ↓
	February	1	358	54	125	157	February	
	March	2	392	68	127	175	March	
	April	3	485	86	168	228	April	
	May	6	524	129	159	259	May	
	June	14	565	160	181	287	June	
	July	48	604	228	193	320	July	
	August	87	668	240	201	328	August	
	September	120	p683	p243	p 187	p 364	September	
Valuation of Scheduled Production: "Forecast" * ↓	October	169	534	344	274		October	Valuation of Scheduled Production: "Forecast" * ↓
	November	174	533	345	257		November	
	December	150	533	344	274		December	
↓	1943 January	114	517	267	234		1943 January	↓
	February	99	517	267	232		February	
	March	83	516	266	232		March	
1942 Actual plus Forecast * 1942 Objective		777	6,221	2,295	2,271	4,158	1942 Actual plus Forecast * 1942 Objective	
1943 Forecast * 1943 Objective		626	4,000	2,250	2,728	9,107	1943 Forecast * 1943 Objective	
1942 - 43 Est. as % of Objective							1942 - 43 Est. as % of Objective	

* Based on schedules of procurement agencies as of August 1. p Preliminary.

NOTE: Because of probable program readjustments, forecasts and objectives are not firm (box, page 10).

quirements. The latter are estimated to constitute three-fourths of all non-direct military requirements.

END PRODUCTS SPECIFIED

Each department is charged with formulating requirements for clearly defined purposes. The Admiralty, for example, is responsible for naval and mercantile shipbuilding requirements, including requirements for repair and maintenance of ships as well as of the machinery and plant of firms working mainly for the Admiralty. The Board of Trade formulates requirements for (1) any purpose not covered by another department, including repair and maintenance, and (2) indirect and direct export of iron and steel products (with certain exceptions). The Ministry of War Transport is responsible for the requirements of railways (including rolling stock), ports, canals and canal carriers, highways, tramway and trolley

vehicles, works and buildings for inland transport undertakings.

Requirements are prepared at least five weeks before the beginning of each quarter and must specify quantity needed and the end products into which alloy steels, nonalloy steel, drop forgings, tin, terne, and black plate, and iron castings are to go. Allowances are made for wastage in fabricating processes.

ESTIMATES EXCESSIVE AT FIRST

When the scheme was first initiated, department requests for steel usually exceeded by a wide margin the amount needed to turn out end products; in other words, the productive capacity of plants failed to keep up with the expectations of the planners--as in the United States when production falls short of forecasts. In time, however, departments developed the technical knowledge needed for more accurate estimates of requirements, and, consequently, excesses have been materially reduced.

PREPARING TO CUT THE PIE

To get an overall estimate of needs, each departments' requirements are first routed to the Iron and Steel Control (a division of the Raw Materials Department in the Ministry of Supply) which is the controlling authority of the steel producers. The Iron and Steel Control consolidates requirements in order to determine the total demand for each product for the ensuing quarter. It also prepares estimates of the steel volume that can be made available for distribution in the following quarter--production plus imports. This forecast, together with the consolidated requirements, is then submitted to the Materials Committee, which proceeds to cut up the pie--to allocate.

The Materials Committee is composed

IN THIS ISSUE:

BRITAIN'S BAEDAKER ON STEEL	1
U. S. MISSION SUGGESTS:	1
KEY STATISTICS OF THE WEEK	3
LONG ON COAL, SHORT ON MEN	5
WSA: CALLING ALL TARS	7
MOUNTING DEMANDS FOR SEAMEN	8
EXPORTS MOVE WEST	9
MACHINE TOOL BACKLOG DROPS	10
40-HOUR WEEK DISAPPEARING	12
WAR PROGRESS NOTES	13
PORK AND BEEF--CONTRAST IN PRICE POLICY .	13
ECONOMIC TRENDS	14,15
PRODUCTION PROGRESS	16

WAR PROGRESS

Confidential
(British Secret)

UNCLASSIFIED
EXCEPT WHERE SHOWN
OTHERWISE AND WHERE INDICATED
BY OTHER DATA 800-735-873

What CMP Has to Offer: Direct Tie-in
of Allocations to Output

Airplane Production Drops Sharply

Number 112

November 6, 1942

What PRP Does Not Do, CMP Must

Controlled Materials Plan binds physical output of end products to actual consumption of aluminum, steel, and copper. Expands on British "iron and steel scheme."

TAKING A LEAF right out of the British war book (WP-Oct23'42, pl) and adding a few pages of its own, the War Production Board--in conjunction with procurement agencies: the Army, Navy, etc.--has adopted the Controlled Materials Plan to direct the flow of critical raw materials into military and essential civilian products. The plan becomes formally operative in the second quarter of next year for three metals--aluminum, copper, and steel. In the meantime, procedural adjustments--both in and out of WPB--must be made to shift from the Production Requirements Plan to CMP.

RIGHT DOWN THE LINE

In contrast to PRP, CMP fixes direct responsibility for the allocation, distribution, and consumption of metals. Thus, aluminum, copper, or steel are allotted in lump sums and for specific programs to seven claimant agencies--the Army, Navy, Aircraft Scheduling Unit, the Maritime Commission, Lend-Lease Administration, the Board of Economic Warfare, and the Office of Civilian Supply. It is the responsibility of these claimant agencies, in turn, to assign (out of their total allotments) quotas to prime contractors; and the prime contractors, in turn, reallocate part of their allotments to subcontractors. So it goes, right down the line--with each ton of metal accounted for--contractor by contractor.

Thus, part of the Army's allotment

of steel would go to manufacturers of shells; part to manufacturers of tanks; part to anti-aircraft gun arsenals; and then these manufacturers would reallocate to their suppliers, and so on. (And since WPB undertakes to see that overall allotments do not exceed supply, an allotment or suballotment is equivalent to a guarantee of raw materials.)

PRP LACKS ALL-OVER CONTROL

Under PRP, no such direct and continuous line of responsibility exists; no definitive effort is made to see that allotments of steel to tank production, say, dovetail with allotments of steel to manufacturers of tank motors, so that the two are clearly scheduled together. PRP allocations are made on a horizontal basis--to individual manufacturers; and priorities ratings are used to bind one production schedule into another. That is, if all airplanes are granted an AAL rating, all manufacturers making components for airplanes get an AAL rating. But there is no assurance that materials are available to translate priorities claims into scheduled production of components and finished items. Nor is there an all-over control to see that all parts of a program fit together and keep in step with one another.

CMP FOLLOWS THROUGH

CMP, on the other hand, establishes the much-wanted clear line of responsibility. Once allotments of raw materials are made, it is up to the Army, the Navy, the Maritime Commission, the Office of Civilian Supply, etc., to measure out these materials so as to meet their respective procurement programs.

To that end, each claimant agency is asked to (1) develop feasible schedules of end-product output; (2) work out a balanced allotment of aluminum, steel, and copper to prime contractors to achieve those schedules, and (3) follow through the allotments of prime contractors to subcontractors and sub-subcontractors. Thus, unlike PRP, materials allocations are to be tied in directly with programming or scheduling so that failures to meet schedules can be checked back. Are contractors and subcontractors getting the production they are supposed to get out of their allotted quantity of materials?

BILLS OF MATERIALS

Key to the operations of CMP is bills of materials. The more accurate they are, the more proficient will CMP be. Before any allotments are made by the Requirements Committee, each claimant agency is requested to set forth how much aluminum, copper, steel it needs to meet production programs. These claims must be substantiated by bills

of materials for products--how much steel plate goes into a tank, how much aluminum into a propeller with allowance for wastage and rejected materials--all along the line for every procurement item or its components. The information thus gathered is not only essential for the determination of requirements but is also of fundamental importance in making allotments by claimant agencies to prime contractors, and by the latter to secondary contractors.

BRANCH FOR EACH MATERIAL

Claimant agencies transmit their estimates of overall requirements to the Controlled Materials Branches of the War Production Board. (There's a branch for each controlled material: one for copper, one for aluminum, one for steel; and as more materials are brought under the plan--rubber is a possibility--there will be additional branches.) The branches then total up all the claims, adding together what the Army wants, what the Navy wants, what Lend-Lease and Civilian Supply ask for, and so on. That represents the demand, which the branches then balance against anticipated supply.

IN THIS ISSUE:

WHAT PRP DOES NOT DO, CMP MUST	1
UP AND DOWN STREAM WITH CMP'S PAPER . .	3
WAR NOW TAKING 40% OF U. S. ENERGY . . .	4
SHIPS EXCEED FORECAST AGAIN	5
PLANE OUTPUT DOWN: DIVERSE REASONS . .	7
KEY STATISTICS OF THE WEEK	9
SHIPPING KEY TO NITROGEN SUPPLY	10
BOTTOM OF THE BIN IN AUTO PARTS	11
WAR PROGRESS NOTES	13
ECONOMIC TRENDS	14
PRODUCTION PROGRESS (AIRCRAFT)	15,16

CUTTING CLAIMS TO SUPPLY

It is a safe assumption that requests will exceed supply--claimant agencies are bound in the interest of their own programs to ask for all they need. So the CMP Branches try to cut requests. This is done by negotiation; representatives of each branch confer with representatives of the claimant agencies in an effort to discard any dispensable materials requests. When such negotiations are completed with all claimant agencies, and no additional negotiated cuts seem feasible, then the branches report to the Requirements Committee on (1) total claims; (2) total supply, and

(3) recommendations on how to cut down claims to supply.

The Requirements Committee consists of a member of each of the claimant

agencies, a representative of the State Department, and the Vice Chairman of Program Determination of WPB. Thus, in effect, when the recommendations of the

UP AND DOWN STREAM WITH CMP'S PAPER

UNDER THE CONTROLLED MATERIALS PLAN, paper flows in two directions--upstream and downstream.

First, the individual consumers of metals (sub-subcontractors, subcontractors, and prime contractors) report to claimant agencies--Army, Navy, etc., what they need, based on bills of materials; their requests (adjusted) ultimately reach the Requirements Committee. That's the upstream flow.

Then the downstream flow begins--from Requirements Committee to claimant agency to prime contractor to sub-subcontractor and then along to the metal mills. Here's the step-by-step story.

UPSTREAM

1. Secondary consumer prepares bill of materials and transmits to his prime consumer.

2. Prime consumer prepares bill of materials, combining controlled items which he must purchase for his own account with those included in bills of materials submitted by the secondary consumers, and transmits to claimant agency office.

3. Claimant agency office combines bills of materials from all prime consumers to form program and transmits to claimant agency.

4. Claimant agency combines material requirements for all programs and submits same to Controlled Material Branch.

5. Controlled Material Branch re-

views requirements of all claimant agencies, recommends cuts necessary to balance supply, and transmits to Requirements Committee.

6. Requirements Committee makes final reconciliation between requirements and supply.

DOWNSTREAM

7. Requirements Committee makes allotment of controlled materials to claimant agencies.

8. Claimant agency distributes allotments among claimant agency offices.

9. Claimant agency office issues authorization to procure controlled materials to prime consumer.

10. Prime consumer places order with metal mill, or extends authorization to purchase to secondary consumer.

11. Secondary consumer places order with metal mill or extends authorization to purchase to tertiary consumer.

12. Metal mill reports orders received to Controlled Material Branch.

13. Controlled Material Branch reviews orders placed with metal mill and issues production directive.

14. Metal mill adjusts schedule to conform with production directive and reports actual shipments to Controlled Material Branch.

15. Controlled Material Branch reports on metal mill shipments to all agencies for all programs.

Controlled Materials Branches go to the Requirements Committee, they go to the claimants themselves: it is up to the claimants to argue out the division of the raw materials pie. But if ultimate determinations cannot be reached by agreement in the Requirements Committee, because either the Army representative, or Navy representative, etc., feels he has no authority to reduce his claim beyond a certain limit, then--as chairman of the Requirements Committee--the Vice Chairman on Program Determination arbitrates the difference and makes final allotments.

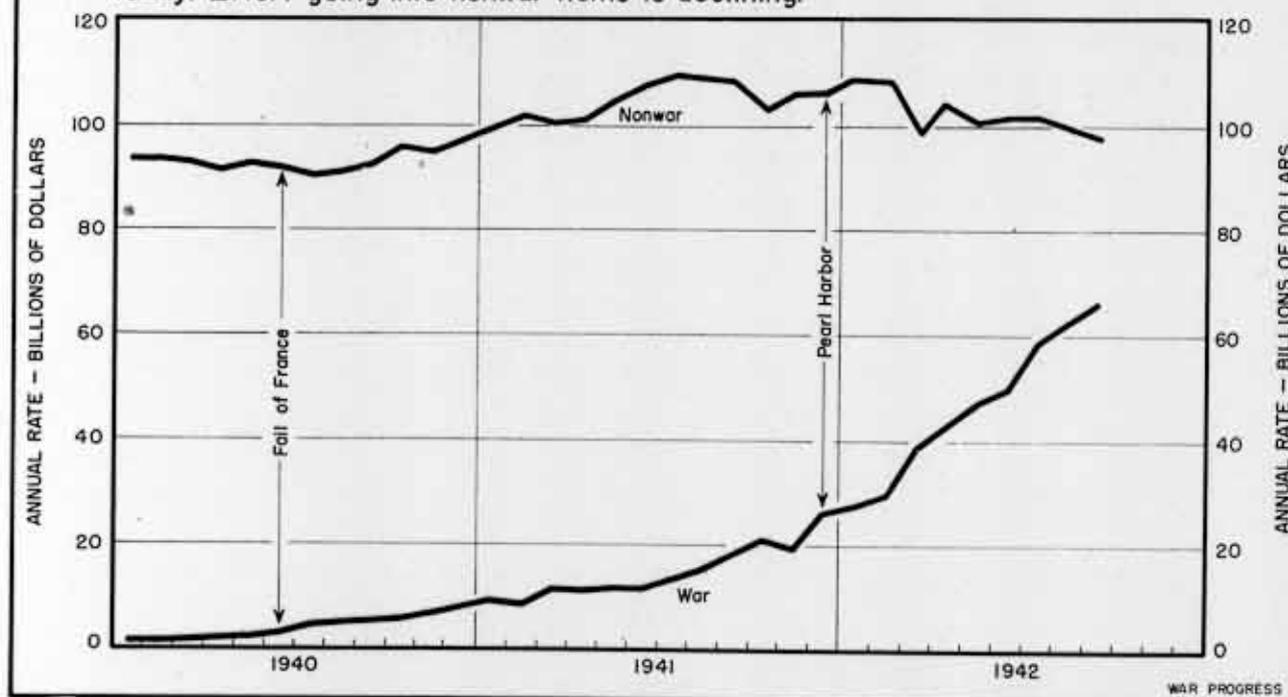
After allotments are made, the real job of dovetailing production and materials supplies begins. Each claimant

agency then must distribute its allotments among prime contractors; each prime contractor must subdivide his allotments among subcontractors, etc. This task calls for speed and a high order of judgment under pressure, and it is at this point that CMP meets its first crucial test. Consider the timetable of the plan.

On February 1, the Vice Chairman of Program Determination is to issue to the various claimants their allotted cuts of the materials pie. By April 1 the plan is to be operative. In two months claimants must revise programs and schedules in accordance with cuts in their materials allotments. Allotments must be sent to prime contractors, duly

WAR NOW TAKING 40% OF U.S. ENERGY

Military outlays for goods and services have risen from \$3,000,000,000 a year when France fell to \$26,000,000,000 at Pearl Harbor and \$66,000,000,000 today. Effort going into nonwar items is declining.



THIS CHART DOES NOT ADEQUATELY INDICATE WHAT THE WAR IS DOING TO THE U. S. ECONOMY: HOW MORE AND MORE IT IMPINGES ON THE SUPPLY OF GOODS AND SERVICES AVAILABLE TO CIVILIANS; HOW MORE AND MORE IT FORCES INCREASING CONTROLS OVER PRODUCTION AND THE FLOW OF RAW MATERIALS--AS IN THE CONTROLLED MATERIALS PLAN. THUS, THE CHART INDICATES THAT THE ANNUAL

RATE OF NONWAR OUTPUT HAS FALLEN BY ABOUT \$11,500,000,000--OR ONE-TENTH--FROM THE PEAK IN JULY, 1941. BUT WHEN ALLOWANCE IS MADE FOR THE RISE IN PRICES, THE "REAL" DECLINE IN NONMILITARY OUTPUT IS ABOUT ONE-FIFTH. HOWEVER, IT IS HIGHER THAN TOTAL OUTPUT IN ANY YEAR PRIOR TO 1937. "REAL" OUTPUT FOR WAR PURPOSES CONTINUES TO RISE.

numbered. Prime contractors, in turn, then must redistribute allotments, also duly numbered, to subcontractors, who, in turn, redistribute suballotments. And finally, contractors and subcontractors must place their orders for aluminum, copper, and steel; and deliveries on these orders must begin by April 1.

BRIDGING THE GAP

Theoretically, if any agency fails to get out its allotments in time so that contractors can place their orders before April 1, aluminum, steel, or copper would not be available for that program; theoretically also, that program would be held up. Actually, however, PRP apportionments and priority ratings will bridge any break in the CMP timetable. After July 1, PRP authorizations will not be valid for obtaining aluminum, copper, or steel. CMP is then expected to be in full sway.

"A" AND "B" PRODUCTS

CMP divides products into two classes: A and B. The A products are military end items essentially--tanks, guns, naval vessels, merchant ships, etc. The B products comprise such intermediate and civilian type items as ball bearings, batteries, rivets, machinery, equipment, furniture, etc. and since all claimants will want ball bearings or batteries or machine tools, the compilation of bills of materials is to be centralized, with the Office of Civilian Supply acting as a clearing house.

CHECKS AND BALANCES

Each claimant agency--the Army, Navy, Maritime Commission, etc.--must submit to OCS a statement detailing how many units or dollar value of B products it requires; how many machine tools, say, and of what type. OCS then estimates

SHIPS EXCEED FORECAST AGAIN

DELIVERIES of Maritime Commission ships in October totaled 81, according to preliminary figures. This was 12 fewer ships than in the record month of September but 9% above the forecast. The tonnage, at 891,000 deadweight tons, was 12% below September but 12% above the October forecast.

Liberty ship deliveries again exceeded the forecast, this time by five vessels; one more standard cargo vessel was delivered than expected and one extra tanker. Chief reason for the dropping off in ship deliveries was the switching over during the month of an important shipyard from Liberty ships to tank-landing vessels which are scheduled for initial delivery this month.

how much materials this will require, and submits this total as B-item claims to the Controlled Materials Branches and the Requirements Committee.

B-item production programs are supervised by WPB Industry Branches. But allotments are charged against the account of the claimant agency getting the end product. Thus steel for tank bearings would be charged against the Army's overall allotment of steel.

The Controlled Materials Plan is a system of internal checks and balances--something that PRP distinctly is not. Thus, when claimant agencies--the Requirements Committee--sit around the table to allocate the supplies of aluminum, steel, and copper, they are--in a very real sense--checking one another; each claimant has to balance his wants against the wants of all others.

There will be another type of check when the plan is in full operation. If

the Army, say, puts in a request for bearings to the Office of Civilian Supply, it submits supporting schedules; and those schedules would have to check against its schedules of end products requiring bearings. Nor is that the end. Schedules of end products in turn would have to check with the schedules supporting requests for aluminum, steel, and copper. A claimant could not very well ask for 10,000 tons of steel for a 1,000-ton job and support the request in a schedule. Moreover, there will be still another check. Demands for steel would have to check against--be complementary to--demands for aluminum and copper, and vice versa. A claimant asking for steel plates to build ten ships but the copper equivalent for only five would be defeated by his own inconsistency.

80-60-40 PROVISIO

What CMP will do, in the final analysis, is to interlock schedules and raw material requirements. Claimant agencies must submit--in support of their requests--monthly forecasts of production for 12 months ahead; and they must make an estimate of programs 18 months in advance.

Claimants are permitted to anticipate their allotments, so that production schedules may be laid out in advance. Allotments of 80% of the current quarter allotment may be made for the following quarter, 60% for the quarter after that, and 40% for the third quarter. Thus, allotments can be stretched out a year in advance. This corresponds to the British 80-70-60 scheme.

REQUIRED: REALISTIC SCHEDULES

It is in programming of production within materials supply that CMP makes its major contribution to the war effort. Heretofore, programs of the Army, the Navy, and other procurement agen-

cies have not been so realistic as they might be. Forecasts usually did not come up to objectives; and actual production fell far short of forecasts, or schedules (WP-Oct.16'42,pl). But, under CMP, realistic schedules must be forthcoming; for the failure to make production schedules will be clear evidence that a claimant agency asked for more materials than were needed.

DOWN TO CASES

Thus, CMP brings war production down to cases. To get raw materials, procurement agencies must submit schedules and the validity of their schedules will be tested by results. Are they getting the end products they said they would get? Thus, CMP ties raw materials directly into the end product. And that is the country's main job at the present juncture in the war effort.

After all, the major limiting factor on production today is raw materials. And to get the most out of raw materials, it is necessary to see what happens to them--to trace them through by allotment number and date from producer to the end product. And that is what CMP makes possible.

WON'T WORK IN A DAY

Yet, it is important not to expect too much initially. It took the British more than two years to get the iron and steel allocations scheme operating efficiently. And the United States--industrially and geographically--has a far bigger task. Though we must cut down the time--benefiting from their experience, and ours with PRP--it is certain to take months before the seven claimant agencies, the Controlled Materials Branches, the Industry Branches, and WPB, itself, become conversant with and habituated to their new responsibilities and problems.

Plane Output Down: Diverse Reasons

October acceptances off in dollar value for first time since April. Materials shortages, design changes, G.F.E components, and manpower are chiefly blamed.

FOR THE FIRST TIME since April, the dollar value of plane output failed to gain. Acceptances last month--at \$369,000,000 (preliminary)--were down 5% from September. This was a sharp break away from recent performance, as the following month-to-month changes indicate:

March-April.....	- 1%
April-May.....	+16
May-June.....	+ 3
June-July.....	+10
July-August.....	+ 5
August-September.....	+10
September-October.....	- 5

In units, the October production was

off 6% from September and 25% from the forecast (as of October 1). Dollar value was 27% below forecast.

A telephone checkup of ten of the companies with the poorest showings indicated that production troubles which have dogged the industry in recent months continued in October. They were: materials shortages, especially of shapes and forgings--both aluminum and steel; delays in deliveries of Government Furnished Equipment; labor turnover.

NO SINGLE BLAME

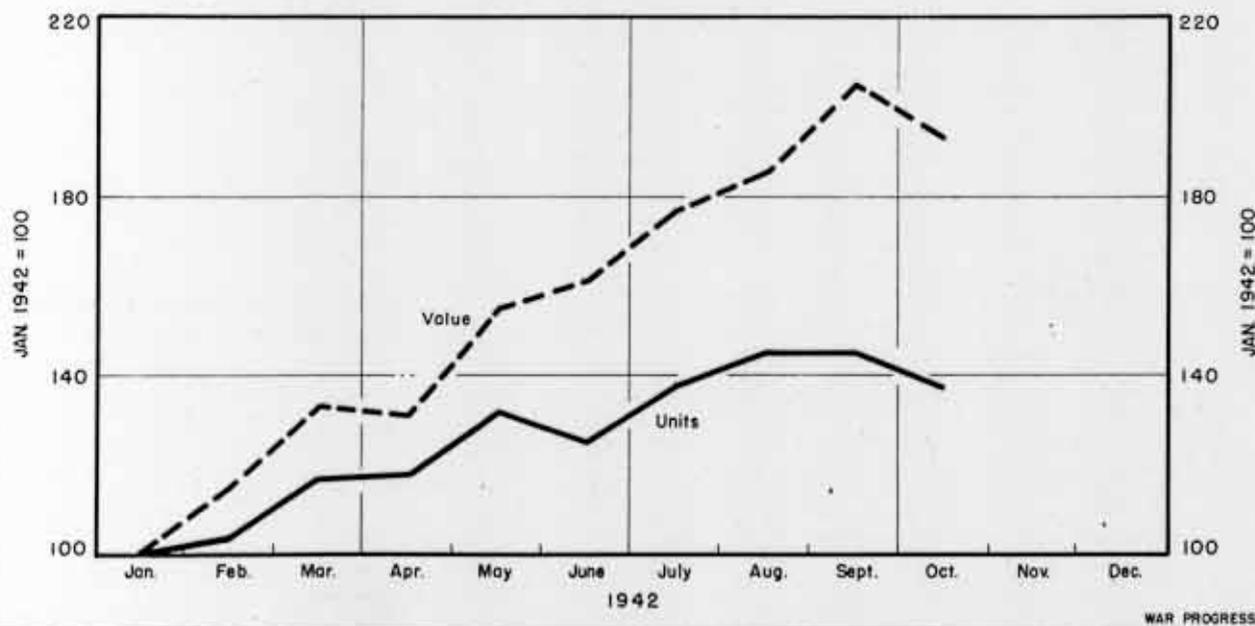
But, generally speaking, the reasons for failure to come up to or surpass September output were varied. There was no single focus of complaint. Some typical comments of manufacturers were:

"Unsuccessful attempt to redesign landing gear doors."

"Steel is tying us into a knot; al-

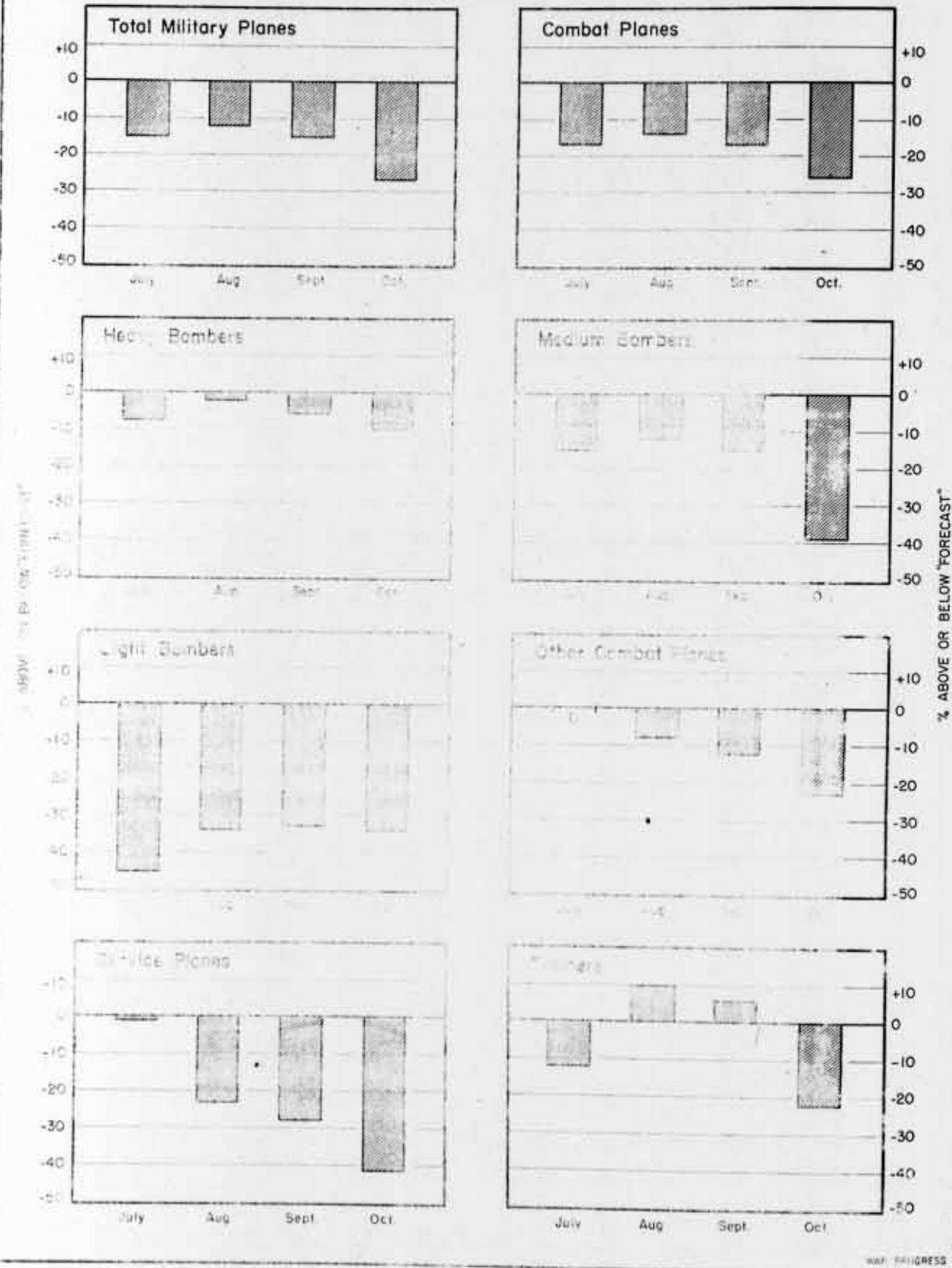
STRESS ON LARGER PLANES

Value of aircraft output has risen much more sharply than unit production since January; both value and number off in October.



PLANE "FORECASTS" AGAIN PROVE OPTIMISTIC

Gap between procurement schedules and value of actual production widened in October on all types of military aircraft.



so labor shortages due to draft."

"Design changes; material shortages."

"Schedule met, but planes unaccepted because of G.F.E. shortages."

"Design changes owing to conversion to new type plane."

One manufacturer reported that the weather interfered with his meeting schedules. Flying conditions were so bad that test flights were out of the question; 59 of his planes, finished in October, were accepted November 1.

NAVY FIGHTERS TOP MONTH

Best showing of the month was made by Navy fighters; value was up 44% above September, and 1% above forecast. Four-engined bombers increased 10%, but fell 8% below forecast. Single-motored bombers were up 57%.

Medium twin-engined bombers were off 32% from September, the value of acceptances being lower than in any month since April. Only about half of the

forecast was met. Combat planes, as a group, were down 2% in value--26% below forecast.

Trainers, which in August and September had exceeded forecasts, were down 23% and fell 22% behind schedules. Service combat planes were down 11% in October, 41% behind the production scheduled.

25% SHORT

October results re-emphasized the disparity between actual production and schedules. As the chart on page 8 illustrates, the percentage gap between the actual output and schedules almost doubled last month. On the basis of acceptances to date this year, production will fall almost 25% short of the President's original objective.

October results halted a trend toward higher values per plane (chart, page 7). The number and dollar value of planes declined together and the gap between value and number "stayed put".

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program - Checks paid (millions of dollars) -----	1,196	1,354	1,253	826	326
War bond sales (millions of dollars) -----	271	188	243	136	59
Commodity prices (August 1939 = 100)					
28 Basic commodities -----	169.6	169.8	169.9	167.0	153.3
Controlled -----	162.0	162.0	161.3	161.5	154.5
Uncontrolled -----	188.7	189.2	191.4	181.7	150.4
Nonferrous metal scrap -----	117.5	117.5	115.8	132.5	133.5
Petroleum carloadings (no. of tank cars)					
Total -----	51,666	52,052	52,848	56,539	48,428
Movement into East -----	24,766	25,069	25,389	19,926	4,094
Exports (no. of freight cars unloaded for export Friday)					
Atlantic Coast ports -----	1,284	1,430	1,317	1,329	1,546
Gulf Coast ports -----	313	323	304	409	531
Pacific Coast ports -----	911	807	787	454	134
Strikes affecting the war effort					
Number in progress -----	3	8	13	15	n.a.
Man-days lost -----	3,159	62,244	18,674	25,600	n.a.
Unused steel capacity (% operations below capacity) -----	0.4	-0.1	1.4	1.4	1.8

n.a. Not available.

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program - Checks paid (millions of dollars) -----	1,070	1,278	1,310	892	306
War bond sales (millions of dollars) -----	164	184	163	113	49
Commodity prices (August 1939 = 100)					
28 Basic commodities -----	169.7	169.6	168.4	166.9	150.7
Controlled -----	162.1	161.4	161.3	161.5	153.3
Uncontrolled -----	188.7	190.0	186.2	181.5	144.3
Nonferrous metal scrap -----	115.8	115.8	115.8	132.5	128.4
Petroleum carloadings (no. of tank cars)					
Total -----	n. a.	52,691	54,644	55,719	49,427
Movement into East -----	27,675	25,306	28,557	18,529	4,396
Exports (no. of freight cars unloaded for export Friday)					
Atlantic Coast ports -----	1,292	1,343	1,569	2,063	1,661
Gulf Coast ports -----	317	363	323	426	520
Pacific Coast ports -----	783	847	818	534	183
Strikes affecting the war effort					
Number in progress -----	8	9	11	6	n. a.
Man-days lost -----	62,244	48,280	24,706	6,700	n. a.
Unused steel capacity (% operations below capacity) -----	-1.0	-0.2	3.8	2.4	2.2

n. a. Not available.

of representatives from each of the departments, the Cabinet Statistical Office and the Iron and Steel Control. Thus, each department is in a position to scrutinize jealously the requirements of the other departments, and so protect its own piece of pie. But, finally, after all the words and statistics are in, it is the task of the committee chairman to determine allocations. And when any department objects to the chairman's decision it can appeal for a final decision to the War Cabinet. This rarely is necessary, however.

VIRTUAL BALANCE ACHIEVED

Though allocations, as finally determined by the chairman, have consistently been in excess of supply, the ratio has been getting down to virtual balance. In the third quarter of 1940, allocations were 11% above predicted supply, currently they are only 1%:

		% Allocations to Supply
1940	3rd quarter	111%
	4th "	102
1941	1st "	107
	2nd "	105
	3rd "	114
	4th "	108
1942	1st "	102
	2nd "	104
	3rd "	101

The committee has deliberately over-allocated because experience has shown that some departments do not absorb their entire allocations each period. Consequently, orders to steel mills failed to come in at a sufficient volume to keep them operating at capacity. So slightly more-than-capacity allocations were introduced to assure up-to-capacity operations.

Since departments usually have to plan more than three months ahead, they

Shipping Key to Nitrogen Supply

Twentyfold jump in ammonia requirements for explosives means less fertilizer available for food crops next year unless nitrate imports increase substantially.

IN 1941, U. S. production of military explosives required 48,000 tons of anhydrous ammonia. This year, requirements will approach 500,000 tons. And next year, the amount will more than double, to 1,100,000 tons.

This is more than twice as much anhydrous ammonia as was produced in 1941. And even taking into account the nitrogen content of sodium nitrate, ammonium sulphate, calcium cyanamide, etc.--in terms of an equivalent amount of ammonia--next year's direct military requirements will be 25% greater than the entire production and imports of nitrogenous materials, for all purposes, in 1941. As a result, overall demands exceed new supply.

As a further result, the fertilizer industry no longer is the biggest single consumer of nitrogen. This year, military and agricultural consumption were on a par. Next year by far the larger proportion will go into military explosives, as follows:

Year	% of Nitrogen Supply	
	Fertilizer	Military
1940.....	73%	3%
1941.....	58	6
1942 (est.).....	41	41
1943 (est.).....	28	61

Industrial requirements are placed at 253,000 tons of ammonia equivalent in 1943, some 10% lower than in 1941. And these have been stripped to essentials--explosives for road building,

NITROGEN--DEMAND AND SUPPLY

Estimates for this year and next indicate nitrogen demand and supply closely in balance, as the following table shows:

	1941	Est. 1942	Est. 1943
(thousand short tons ammonia equivalent)			
<u>New supply:</u>			
Production.....	751	926	1,487
Imports.....	110	286	290
	861	1,210	1,777
<u>Requirements:</u>			
Direct military..	48	498	1,089
Industrial.....	278	243	253
Fertilizer.....	501	496	496
Exports.....	43	33	33
	870	1,270	1,871
<u>Indicated deficit</u>	9	60	94

mining, and construction; refrigerants for cold storage plants; pickling agents for stainless steel, copper, brass, and bronze; fumigants for ships, warehouses, and railway cars, etc.

The tremendous military drain on domestic nitrogen has made the United States dependent on imports of natural nitrates from Chile. Chilean imports this year are estimated at 900,000 tons of sodium nitrate (five tons equal one ton of ammonia). And based on reported requirements for 1943, the same amount is figured on for next year. (Sodium nitrate is used primarily as a fertilizer, being put directly into the soil without further processing.)

However, such imports do not allow for building a stockpile to meet emer-

gencies such as: (1) failure to complete the Army's 10 anhydrous ammonia plants next fall; (2) a further rise in military explosives requirements, and (3) possible inability to obtain cargo space in the future. What's more, it won't overcome the indicated deficit in new supply--60,000 tons this year, 94,000 tons next (table, page 10).

The Department of Agriculture may divert 500,000 tons of a current bumper oilseed crop from feed to fertilizer,

thus releasing an additional 40,000 tons of ammonia. But that would be a palliative, not a solution, to the overall shortage.

The supply and demand problem poses a difficult choice: either to devote more shipping space to the importation of sodium nitrate, or to cut fertilizer allocations. This last might bring lower crop yields at a time when the United States is trying to increase its output of farm products.

Bottom of the Bin in Auto Parts

Military needs have cut civilian inventories down to zero in some items and junk piles are combed for usable old parts. Britain faced same problem in 1940.

HERMANN GOERING'S Luftwaffe in 1940 failed to sweep the R.A.F. from the skies over England, but it did succeed, without planning it, in immobilizing a large percentage of England's motor vehicles. Factories once devoted to making automotive replacement parts had been hastily converted to the manufacture of aircraft parts. And for lack of replacement parts, English highway traffic broke down. The Ministry of Supply had to stage an eleventh-hour rescue party, ordering (1) resumption of manufacture of essential automotive parts, (2) the reconditioning of damaged and worn parts where possible, and (3) the establishment of official maintenance and repair control offices.

JUNK PILES SCoured

The United States, itself now preparing a tremendous amount of military equipment, is approaching a similar non-military automotive parts shortage even though it is reconditioning some worn and damaged parts and attempting to sal-

vage usable old parts from junk piles. Present trends suggest that a shortage of mechanical parts rather than rubber may force curtailment of motor transport here. The rubber shortage is a future problem; the parts shortage is already here. This is because (1) critical metals have been diverted from parts to military production, (2) the manufacture of parts for civilian use has been severely curtailed, and (3) the army has drawn heavily upon local jobbers' and dealers' inventories as well as upon new output.

LITTLE LEFT OVER

Production last year was heavy, \$536,740,000 (with prices up about 7%) compared with an average annual output of \$374,500,000 in the preceding seven years. But with 5,000,000 more cars and 800,000 more trucks than in the preceding seven years and with the sweeping military demands on civilian supply centers, little of this has remained in inventories.

This year production as a whole is running at about 50% to 60% of 1941 for essential passenger parts and 70% to 75% for truck parts. But these overall percentages do not show the unevenness

of parts production. Forgings--axle shafts, transmission gears, differential gears, crankshafts, etc.--are being produced at a substantially lower rate than all other parts because facilities have been given over to munitions and forged parts are made of critical alloys. Some forged parts can't be obtained at all.

PINCH IS IN METALS

There is no lack of capacity for making other than forged parts, even though many major parts manufacturers have converted to munitions making. The real pinch is in metals--aluminum, copper, alloy steel, nickel, etc.--despite the substitution of carbon steel in many parts. Cuts of as much as 100% have been made in metals going into nonmilitary truck and passenger car parts:

	Consumption		% Decline
	1941	1942*	
	(thousands of lbs.)		
Aluminum..	821	250	70%
Copper....	44,926	18,000	60
Molybdenum	448	nil	100**
Nickel....	3,567	nil	100**
Steel:			
Carbon..	790,798	400,000	49
Alloy...	179,359	60,000	67
Tin.....	3,410	1,800	47
Tungsten..	18	12	33

*March 1942-March 1943.

**Use down to virtually nothing.

These cuts are now showing up in depleted inventories. One of the country's large truck manufacturers--typical of many--has reported to the Office of Defense Transportation an almost complete denudation of stocks of many parts. Thus, whereas at the end of 1941 this manufacturer had 350 crankshaft gears (1936 model) on hand, by the end of Aug-

ust the stock had been reduced to one. Here are some instances of depletion:

Part	Inventories	
	12/31/41	8/31/42
Piston (1941).....	14	5
Valve push rod stud nut (1927).....	6,002	0
Cylinder head bolt (1936).....	1,866	30
Connecting rod bearing (1939).....	487	12
Inlet & exhaust valve spring (1940).....	15,467	0
Crankshaft gear (1936).....	350	1
Piston ring retainer (1937).....	5,797	9
Cylinder head (1939).	0	0
Differential carrier gasket (1939).....	237	59
Rear axle shaft (1939).....	15	0

Even in December, 1941, inventories were none too high. Stocks of many parts were far short of the normal 60-day demand. And right now, unfilled orders for some items date back 15 months.

Although unsystematic exhumation and reconditioning of junked parts from auto graveyards is lifting supplies on hand, the addition is hardly an adequate cushion against a breakdown. Large quantities of usable parts are still going into scrap. For more permanent measures, efforts have been directed toward (1) making parts with uncritical materials; (2) standardizing types and sizes, thus reducing the number inactive on shelves; (3) inducing army procurement officers to refrain from getting supplies from local dealers and jobbers when stocks in army depots are adequate; (4) organizing on a nationwide scale the reclamation of usable parts from materials currently classified as scrap; and (5)

studying specific parts situations to determine the need for special allocations of critical materials required.

However, should motor vehicle lay-ups (for want of spare parts) progress to the point of a transportation crisis, as in Britain, the United States may have to permit resumption of parts manufacture on a larger scale than at present. And so it is necessary to maintain in a ready-to-operate condition a certain proportion of our auto parts plants--in case of just such a contingency.

War Progress Notes

OCTOBER A BAD MONTH?

TREASURY WAR EXPENDITURES for October showed the smallest monthly percentage gain--1.8%--since November, 1941. The daily average actually registered a decline--\$12,400,000--the first since the initiation of the defense program.

Treasury disbursements are at best only a rough indicator of war output, but together with the decline in output of ships (page 5) and planes (page 7) indicate that October was a poor month in war production. Past experience has shown that months of decreased or only slightly increased expenditures have been followed by dramatic upswings. However, the higher war production gets, the more ominous each sign of slackening.

SAVED FROM THE SHELF

SIZEABLE STOCKS of copper, aluminum, and other scarce metals have been uncovered recently by PRP field auditors. Because the metals were in obsolete forms and shapes and unusable for specific munitions production, manufacturers had failed to list them in their PD-25A inventory statements. But such stocks can often be used for processing in some other line; or at least, they

can come down from the shelves and go into scrap. In a four-week period auditors found 3,715 tons of steel, thousands of pounds of chemicals, and these quantities (pounds) of:

Aluminum.....	61,144
Copper.....	1,098,280
Nickel.....	11,441
Tin.....	308,557
Lead.....	65,784
Zinc.....	42,352
Chromium.....	92,742
Ferrosilicon.....	43,000
Mica.....	180

BACK TO THE MINES

RETURN OF SOLDIERS to the mining jobs they left behind them, announced a few weeks ago, has now been effected. At government expense, 4,300 former non-ferrous miners have been transferred to mining areas from their posts at Fort Douglas, Salt Lake City, and Camp McCoy, Sparta, Wisconsin. The War Department does not regard the action as a precedent but as a stopgap remedy for the manpower shortage that curtailed production in certain mines. A year ago, Britain had to switch 45,000 soldiers and war workers back to the coal mines (WP-Oct23'42,p6).

TANK TRACKS

THE SHORTAGE OF STEEL CASTINGS capacity is delaying the program to substitute steel for rubber in medium tank tracks. Last July, it was thought that conversion would be completed by September, 1942; that was changed to December; and now the date has been pushed forward another three months to March, 1943. Meanwhile, some of our mediums are leaving assembly lines with steel tracks, others with rubber--about 586 pounds per tank. Incidentally, all light tanks are being produced with rubber tracks.

ECONOMIC TRENDS

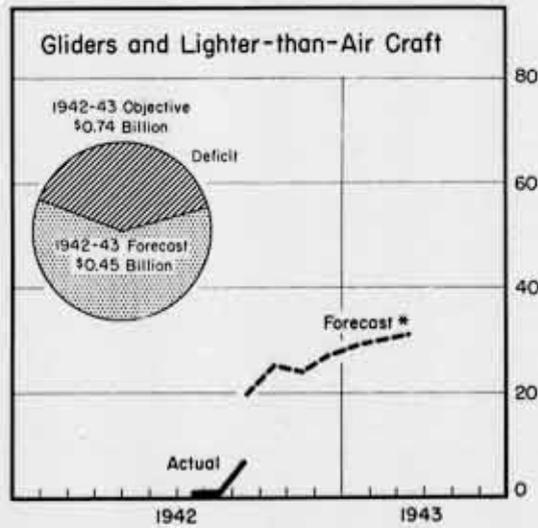
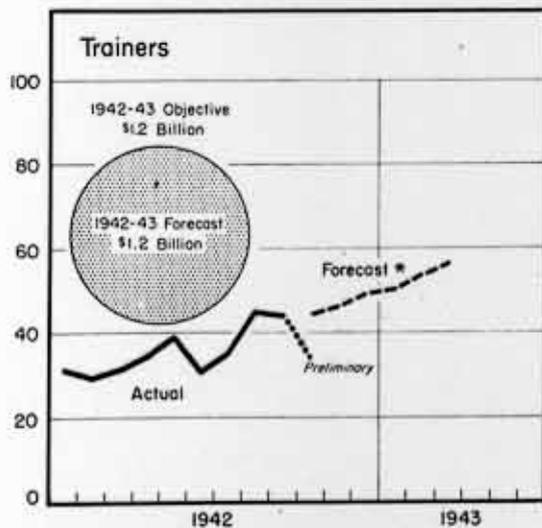
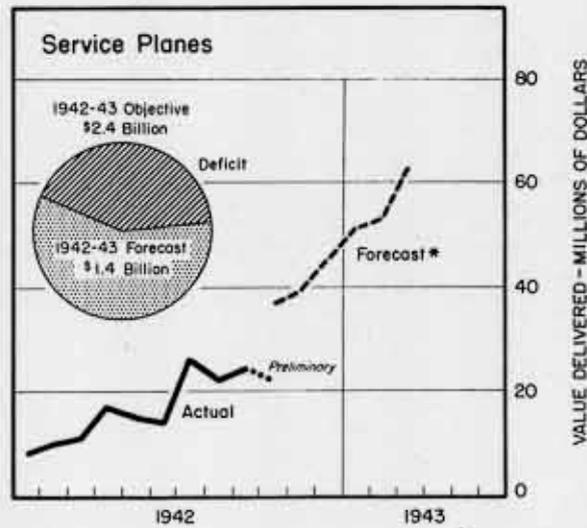
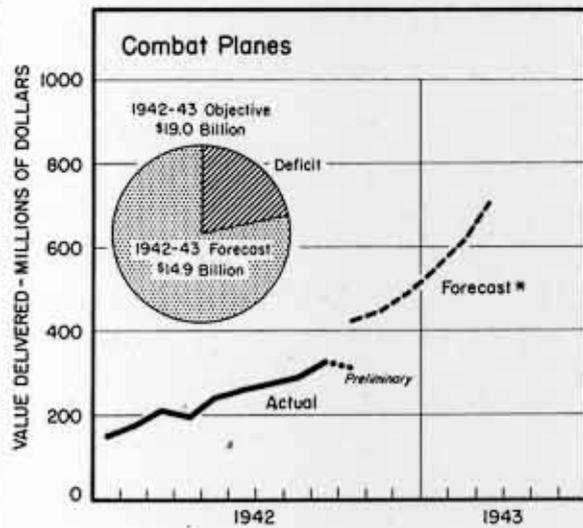
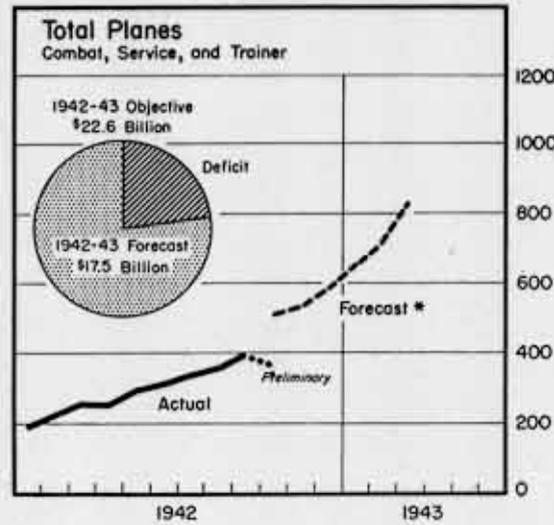
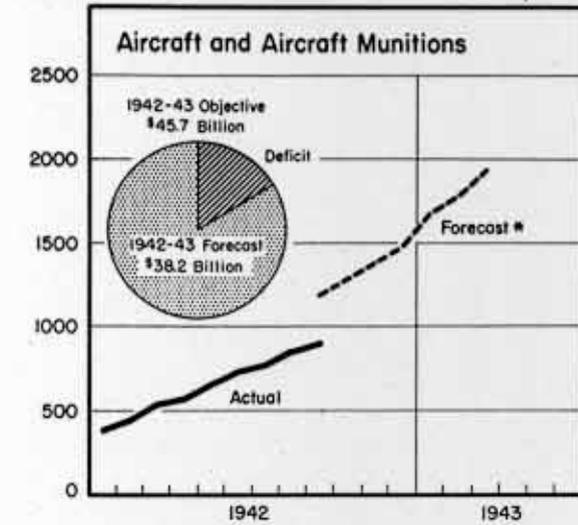
National Income - Federal Finances - Employment

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
NATIONAL INCOME							
Gross national product - annual rate (seasonally adjusted - billion dollars)	p163.5	p162.2	p159.4	138.0	126.2	89.3	-
War	p65.8	p62.7	p58.0	38.3	18.1	-	-
Nonwar	p97.7	p99.5	p101.4	99.7	108.1	89.3	-
Income payments (million dollars)	10,128	9,157	9,329	8,734	8,280	6,102	6,151
Salaries and wages - total	6,862	6,639	6,486	5,883	5,431	3,879	3,915
Manufacturing, mining, construction, agriculture	3,278	3,209	3,089	2,643	2,481	1,469	1,556
Service industries, including railroads and utilities	963	959	961	947	910	774	772
Distributive industries	1,318	1,302	1,300	1,279	1,229	1,012	1,013
Government	1,273	1,134	1,091	939	732	509	463
Work relief wages	30	35	45	75	79	115	111
All other income payments	3,266	2,518	2,843	2,851	2,849	2,223	2,236
Income payments - annual rate (billion dollars)	116.2	115.3	113.3	106.0	96.1	72.1	72.2
FEDERAL FINANCE (billion dollars)							
Expenditures - total	5.9	5.9	5.2	3.7	2.1	.7	.6
War	5.5	5.4	4.9	3.2	1.5	-	-
All other	.4	.5	.3	.5	.6	.7	.6
Receipts - total	.6	2.5	.6	.7	.5	.3	.3
Income tax	.2	2.1	.2	.3	.1	a	a
All other	.4	.4	.4	.4	.4	.2	.3
Federal debt							
Gross debt	92.9	86.5	81.7	65.0	53.6	41.0	37.0
Balance in general fund	4.9	4.3	3.2	2.9	2.6	1.9	2.7
Net debt	88.0	82.2	78.5	62.1	51.0	39.1	34.3
Guaranteed obligations (excluding those owned by the Treasury)	4.3	4.6	4.6	5.7	6.9	5.5	4.6
Net debt and gtd. obligations	92.3	86.8	83.1	67.8	57.9	44.6	38.9
War bond sales - total funds rec'd (million dollars)	935	755	697	531	271	-	-
Series E	665	510	454	327	123	-	-
Series F	60	61	52	40	23	-	-
Series G	210	184	191	164	125	-	-
EMPLOYMENT (thousands)							
Nonagricultural - total	p38,303	37,802	37,234	35,411	36,056	30,717	31,400
Manufacturing - total	p15,235	14,980	14,641	13,859	13,571	10,489	11,300
Durable goods	p8,440	8,284	8,082	7,387	6,962	4,563	5,240
Nondurable goods	p6,795	6,696	6,559	6,472	6,609	5,926	6,060
Construction	p2,119	2,181	2,108	1,625	2,184	1,571	1,320
All other	p20,949	20,641	20,485	19,927	20,301	18,657	18,780

* September except Federal Finance, which is for October. a Less than \$50,000,000.

PRODUCTION PROGRESS

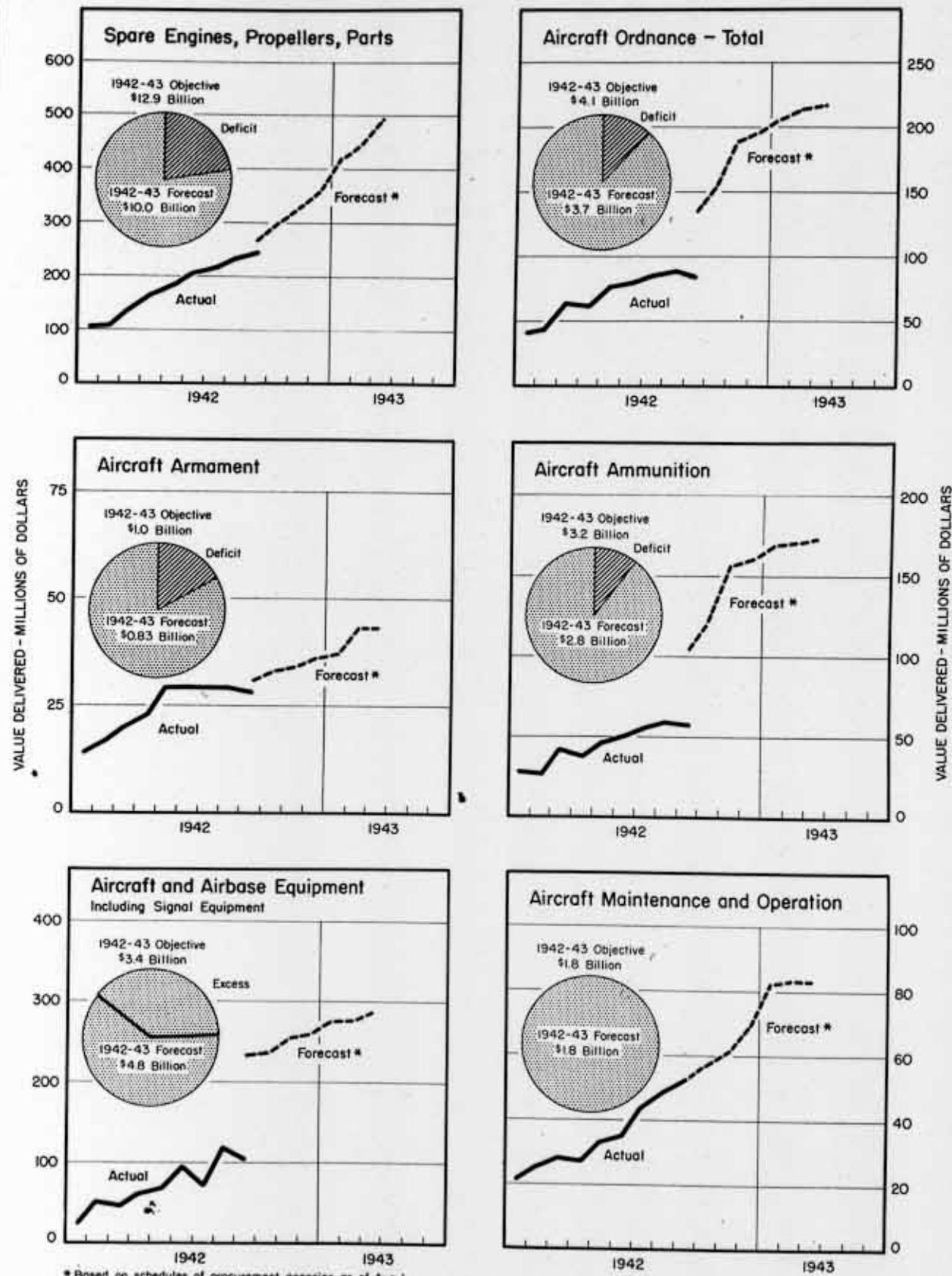
Aircraft and Aircraft Munitions



* Based on schedules of procurement agencies as of Aug. 1.

PRODUCTION PROGRESS

Aircraft and Aircraft Munitions (Continued)



The President

WAR PROGRESS

Confidential
(British Secret)

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Production Setback in October
Gains in the Battle of Shipping
The Balance of U.S. Power Supply

Number 113

November 13, 1942

Output Up 2½%, But It's a Setback

October gain in munitions production is smallest of year; actual deliveries far short of forecast, showing need for rescheduling to feasible levels.

OCTOBER was a bleak month in war output. Although total munitions production--on a value delivered or in place basis--actually increased 2½% over September, reaching a total of \$3,433,000,000 (preliminary), the gain was the smallest for any month this year; and it was the sixth successive month of diminishing increases.

	<u>% Gain</u>
January-February.....	6%
February-March.....	16
March-April.....	19
April-May.....	13
May-June.....	11½
June-July.....	10
July-August.....	8
August-September.....	7
September-October.....	2½

Clearly, we've come down a long way from the 19% March-to-April advance.

So the 2½% rise can be looked upon as a setback.

And if war construction is included in the October total, that 2½% gain is wiped out entirely. Construction dropped 4½%; and total munitions output and war construction at \$4,906,000,000 (preliminary) were only a fraction of 1%--\$19,000,000--above the September total.

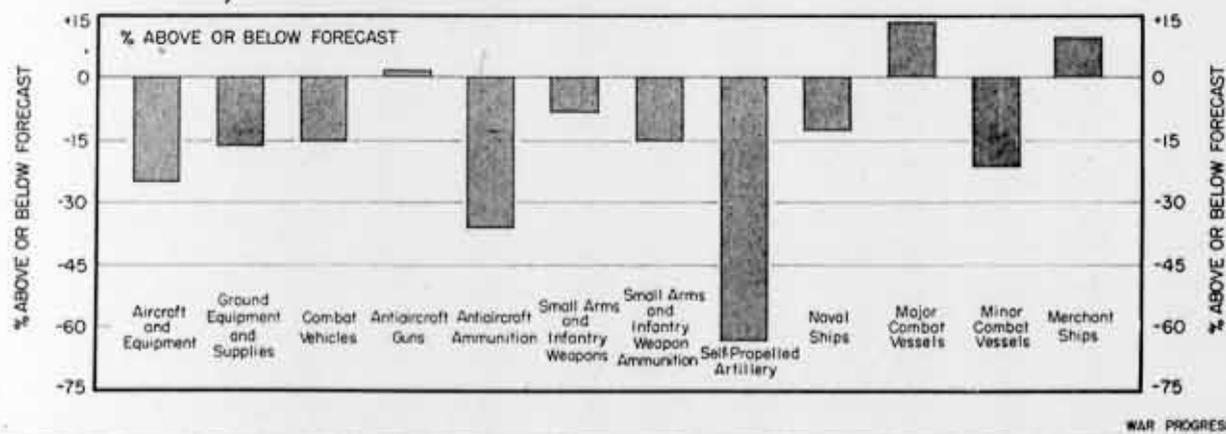
DIVERSE CAUSES

For the first time this year, expenditures on industrial facilities (including machinery and equipment) dropped. They were 1½% below September. But this, at least, was according to plan. The construction program has reached its peak (Production Progress chart, page 20).

No single reason is adducible for October's poor showing. Materials shortages and other diverse factors cut into airplane acceptances (WP-Nov6'42,p7); greater emphasis on spare parts slowed medium tank output; difficulties in changing over from copper to steel shell

FORECASTS AGAIN WIDE OF THE MARK

October deliveries of critical munitions items generally below first-of-the-month schedules, as these selected items show:



cases caused a drop in deliveries of artillery and antiaircraft ammunition.

There is a broader reason--an economic reason--for the showing. As munitions output mounts, large month-to-month gains become more difficult of achievement. For, an abundance of materials, machines, and manpower no longer exists, in the United States. War has taken up the slack. However, as the new Controlled Materials Plan begins to operate--as materials allocation becomes more efficient and orderly--greater increases in output may be squeezed out of our resources.

SCHEDULES BEYOND REACH

October results reaffirm one fact. The schedules--as laid out by the various procurement agencies--have been beyond our organizing ability to date. Output in many major categories fell sharply below the forecast--63% in self-propelled guns, for example; 27% in airplanes; 8% in small arms, etc.

And future schedules, as currently outlined, are out of reach of America's capacity to produce (chart, page 3). The process of bringing them down to

PRODUCTION PROGRESS--Preliminary
Value delivered or put in place in October -
Millions of dollars

	October Preliminary	% Change from September
Total munitions	3,433	+ 2 1/2%
Combat munitions (a)	2,737	+ 4
Aircraft and aircraft munitions	929	+ 5
Ground army munitions (b)	725	+ 4
Naval and Army vessels etc.	837	+ 1
Merchant vessels	246	+ 7
Combat planes	313	- 3
Aircraft armament	33	+18
Aircraft ammunition	63	+12
Artillery and equipment	62	+19
Antiaircraft guns and equipment	95	+11
Small arms and infantry weapons	43	+ 2
Artillery and tank cannon amm.	106	- 4
Antiaircraft ammunition	15	-55
Small arm etc., amm.	135	+ 6
Combat vehicles	185	+ 2

(a) Fighting Items: Aircraft and aircraft munitions; ground army ordnance and ground signal equipment; naval, army, and merchant vessels and equipment. (b) Ground army ordnance and ground signal equipment.

earth is now going on; but speedy completion is in order if the Controlled Materials Plan is to succeed.

Major combat items--on a delivery basis--cover a wide plus-and-minus range, relative to September; deviations from forecasts--both up and down--also were substantial, as follows:

IN THIS ISSUE:

OUTPUT UP 2 1/2%, BUT IT'S A SETBACK . . .	1
PRODUCTION PROGRESS PRELIMINARY (TABLE) .	2
GAINS IN THE BATTLE OF SHIPPING	6
SCORECARD ON MERCHANT SHIPPING	8
RISKS IN THE BALANCE OF POWER	9
EXPANSION IN DEPTH	13
PROPELLER PROBLEM	13
WAR PROGRESS NOTES	14
KEY STATISTICS OF THE WEEK	15
ECONOMIC TRENDS (TABLES)	16,17
PRODUCTION PROGRESS (CHARTS)	18-20

	October Deliveries	
	As % of Sept.	As % of Forecast
Tank guns.....	133	134
Major combat vessels.....	128	114
Maritime Commission vessels.....	83	109
Antiaircraft guns...l11	111	102
Small arms and infantry weapons.....	105	92
Tanks.....	99	88
Naval landing vessels.....	132	85
Minor combat vessels	83	79
Airplanes.....	95	73

are allowed to make commitments on future allocations--up to 80% of their current allocation for the next quarter, 70% for the quarter after that, and 60% for the third quarter following. This arrangement, known as "80-70-60," means that departments can make plans and allocations over a full year.

AUTHORIZATIONS ISSUED

Once the iron and steel pie is cut up among the departments, each individual department then issues authorizations to buy steel. This amounts to a warrant; it carries a number and the symbol of the issuing department and permits contractors to assign specific amounts of their authorized supply to subcontractors. The authorization states the tonnage allowed the individual contractor (including the volume going to subcontractors) for delivery in four quarters, which comprise the allocation quarter proper and the three quarters of the "80-70-60" arrangement. (There are also bulk authorizations for small orders. Small quantities of certain classes of iron and steel may be acquired without authorization.)

AVOIDING PRIVATE PRIORITIES

Holders of purchase authorizations usually go to their regular suppliers, though sometimes the Iron and Steel Control reshuffles company order books. Steel suppliers are supposed to honor equally all departments' authorizations, but it sometimes happens that a private system of priorities springs up. The symbol of the Admiralty or Ministry of Supply (Army) has secured quicker action than the symbol, say, of the Board of Trade. But these private discriminations are being increasingly guarded against.

As a means of checking up on actual steel utilized by each department's

contractors and subcontractors, the Iron and Steel Control maintains a week-by-week record of shipments by steel mills of 32 separate products. The shipments are charged to the account of the department and this makes it possible for the Control to apprise departments of weekly consumption vis-a-vis their allocations. If a department exceeds its allocations, then the Control may actually reduce deliveries from steel producers. In that way, it is able to keep authorizations--warrants--within the bounds of allocations.

TIME HEALS THE WOUNDS

When first introduced, the British scheme was damned to high heaven. But now, departments, manufacturers, and steel producers swear by it. This is partly because they have become accustomed to its forms; partly because problems which initially arose have been ironed out (steel mills have accepted the idea of letting their old customers go somewhere else, if necessary); partly because producers and consumers alike have become realistic about the need to cut allocations down to supplies (at the beginning, each consumer wanted to get his full share).

In short, time--habituation--has made the British plan work as much as the scheme of allocation itself. And in the United States, where right now we are going through the problems of working out a plan to distribute raw materials efficiently, time, too, will be necessary to get the system to work, especially so, since this country is so much greater, industrially and geographically, than the United Kingdom: it is 132,000,000 people, 3,000,000 square miles, and 90,000,000 tons of steel-ingot capacity against 46,000,000 population, 94,000 square miles, and 15,000,000 tons of ingot capacity.

	October Deliveries As % of Sept.	As % of Forecast
Antiaircraft ammun..	45	64
Naval auxiliaries...	27	38
Self-propelled guns.	85	37

deliveries jumped a third, they were 15% under forecast. Naval auxiliaries, assigned the lowest priorities in the naval program, fell 73% below September--only one-third of schedule.

Deliveries of newly constructed naval ships increased about 11%. But mainly because of a decrease of 80% in conversions, the value of all naval ships delivered was down 4%. Deliveries of major combat vessels moved 28% ahead of September and 14% ahead of forecast; two destroyers delivered a month ahead of schedule helped. On the other hand, deliveries of minor combat vessels were 21% below schedule and fell 17% behind September. Star performers among naval units were landing vessels, which carry priority over most other vessels. However, even though

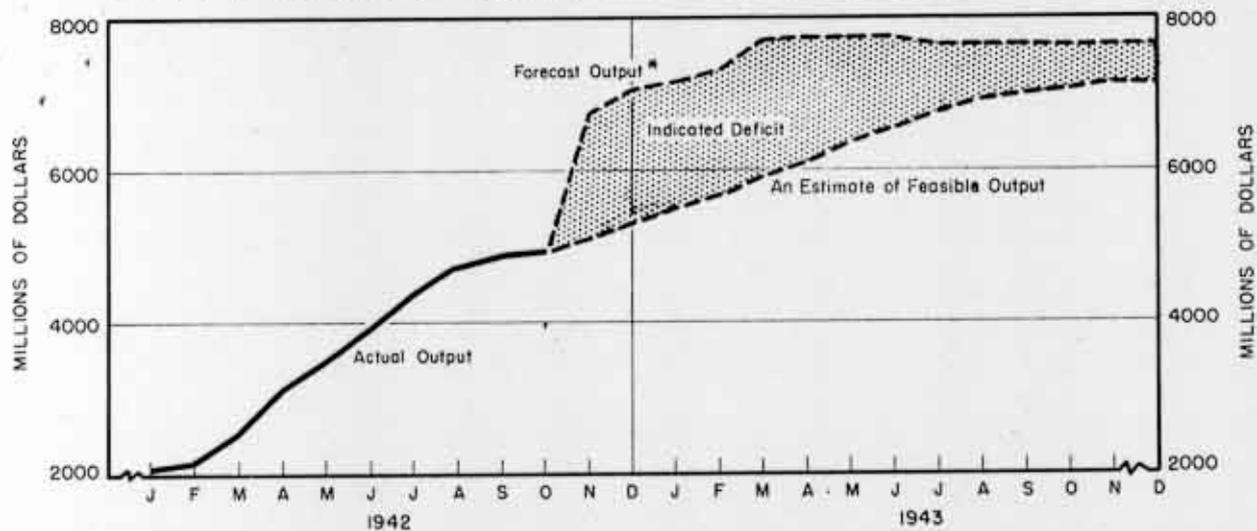
LIGHT TANKS SPURT

Deliveries of major army ordnance items exceeded September production by only 1% (by 3% if motor transport is excluded), owing primarily to declines in such items as medium tanks and ammunition for artillery, tank, and antiaircraft guns. However, light tank volume was up 44% from September. And the first medium armored car was finally delivered after many months' delay.

Production of the 155mm. self-propelled gun, the 75mm. self-propelled antitank howitzer, and the 76mm. tank gun, on which delivery recently started,

THE FORECAST VS. FEASIBILITY

October's negligible gain in munitions production and war construction reaffirms that current schedules are beyond nation's machines and materials.



*Based on schedules of procurement agencies as of August 1.

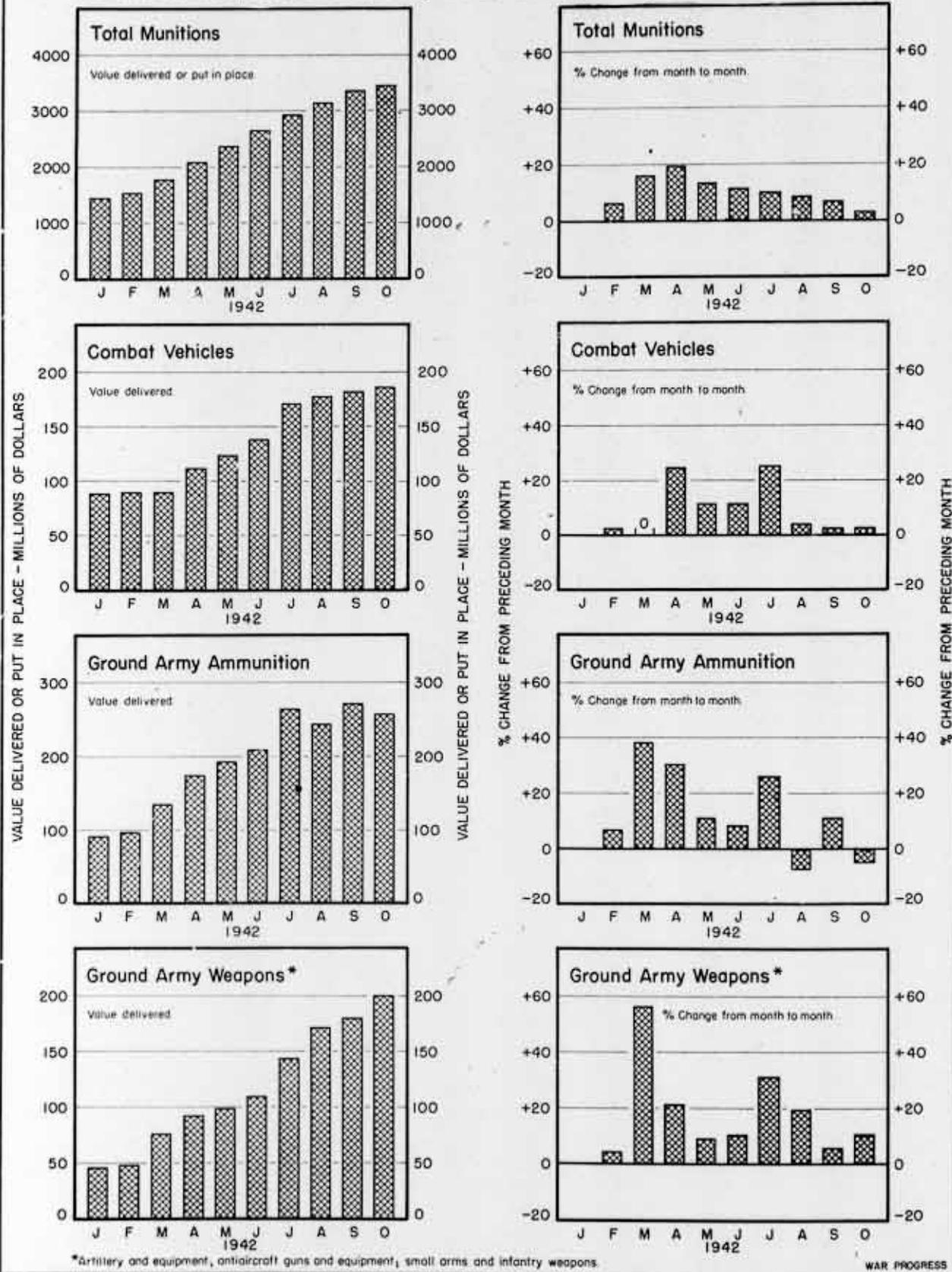
WAR PROGRESS

OCTOBER'S NEGLIGIBLE GAIN IN MUNITIONS OUTPUT AND WAR CONSTRUCTION DOES NOT WARRANT THE CONCLUSION THAT PRODUCTION HAS STABILIZED. ALTHOUGH IT IS CERTAIN TO INCREASE FROM CURRENT LEVELS, OUTPUT IN 1943 IS UNLIKELY TO APPROACH THAT CALLED FOR IN PRO-

CUREMENT SCHEDULES. THE CHART COMPARES THE FORECAST WITH THE CURRENTLY ACCEPTED FEASIBILITY ESTIMATE OF AROUND \$75,000,000,000 FOR 1943. IT SEEMS FEASIBLE TO APPROACH A MONTHLY OUTPUT OF \$7,500,000,000 LATE NEXT YEAR, BUT NOT AS FAST AS SCHEDULED.

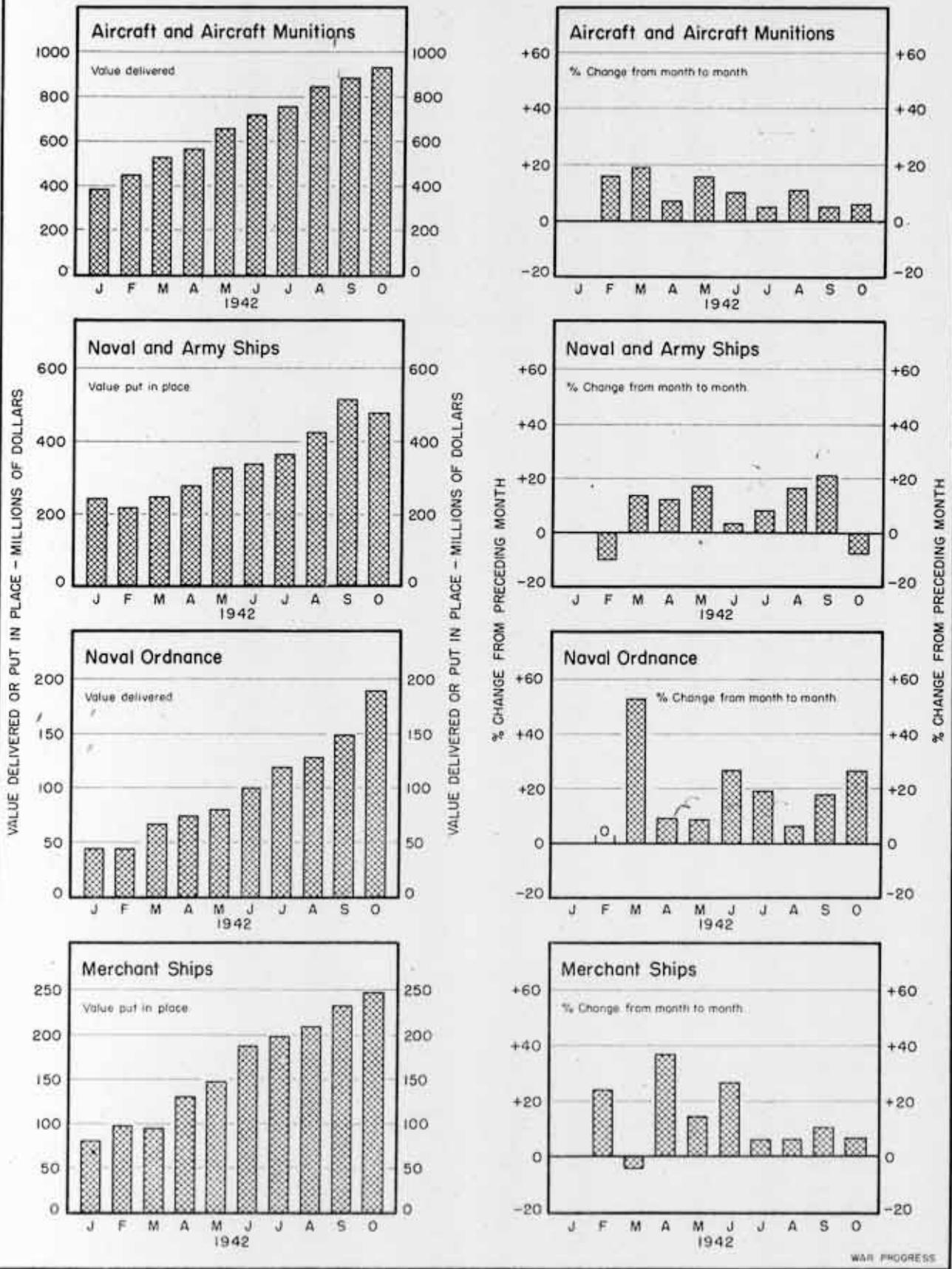
BLEAK OCTOBER: GAIN IN WAR OUTPUT NARROWS —

Total munitions production up only 2½%. Changes range from a 7% decline—



-AND SOME CATEGORIES FALL BEHIND SEPTEMBER

- for naval and army ships — to a big gain, for naval ordnance.



advanced sharply, but only the 75 came up to schedule.

Small arms delivered just about equaled those in September but lagged 11% behind the forecast. Machine guns (for

the ground army and combat vehicles) and Garand rifles were well up to September and the forecast. Submachine gun output was higher, but still far below the forecast.

Gains in the Battle of Shipping

Arming of merchant vessels and high level of new construction contribute to tonnage gains. And Mediterranean control would help by cutting Suez run in half.

THOUGH INDICATED REQUIREMENTS for cargo space still exceed the prospective supply for 1943, the United Nations are doing better in the battle of shipping. Not only does the invasion of French Africa promise to halve the distance to the Suez (thus doubling the yearly capacity of ships on the Middle Eastern run), but (1) new construction of United Nations' vessels has outpaced sinkings for the second successive month; (2) arming of American merchantmen is near-

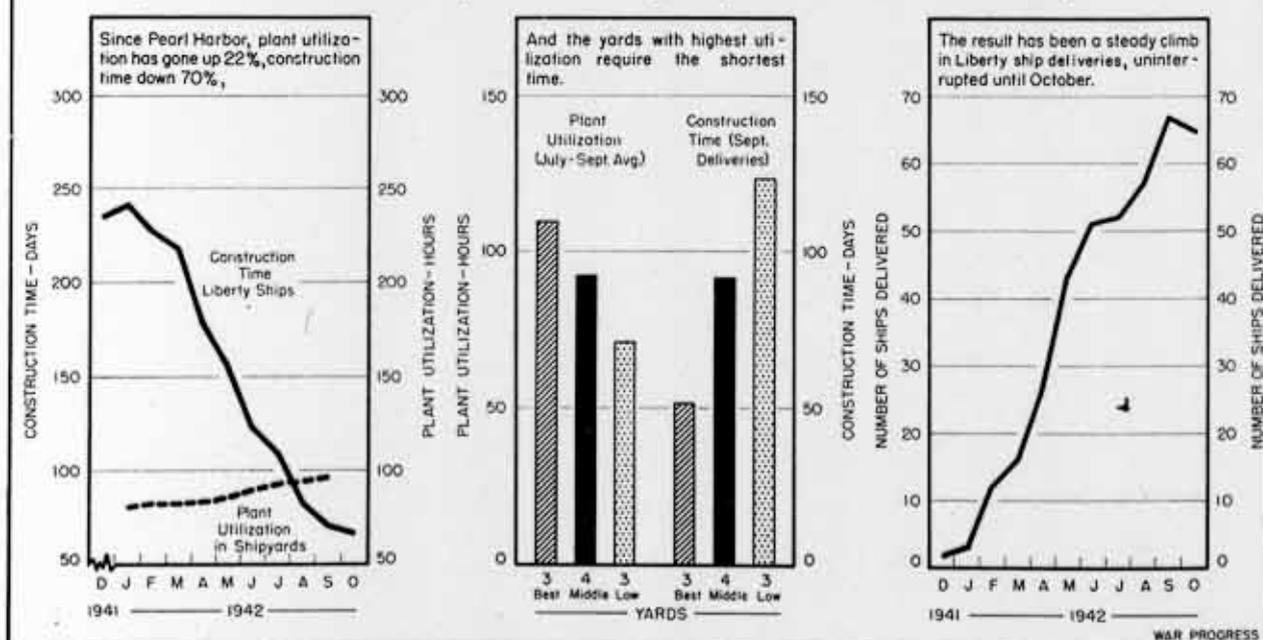
ing completion; and (3) the production time to build Liberty ships is constantly being whittled down--exceptional, but indicative, is this week's report that a Kaiser yard completed a ship four days and 15 hours after keel laying.

BESTING THE U-BOAT

Basic development of recent months is the continuing increase in tonnage available for carrying cargo. Preliminary October figures on sinkings were again considerably below new construction of United Nations' vessels (chart, page 8). In September, also, construction outpaced sinkings; thus there is a faint suggestion that between increased

MORE LIBERTY SHIPS IN LESS TIME

As plant utilization increases, number of days required to build vessels drops.



launchings and decreased sinkings, the campaign against the U-boats is becoming increasingly successful.

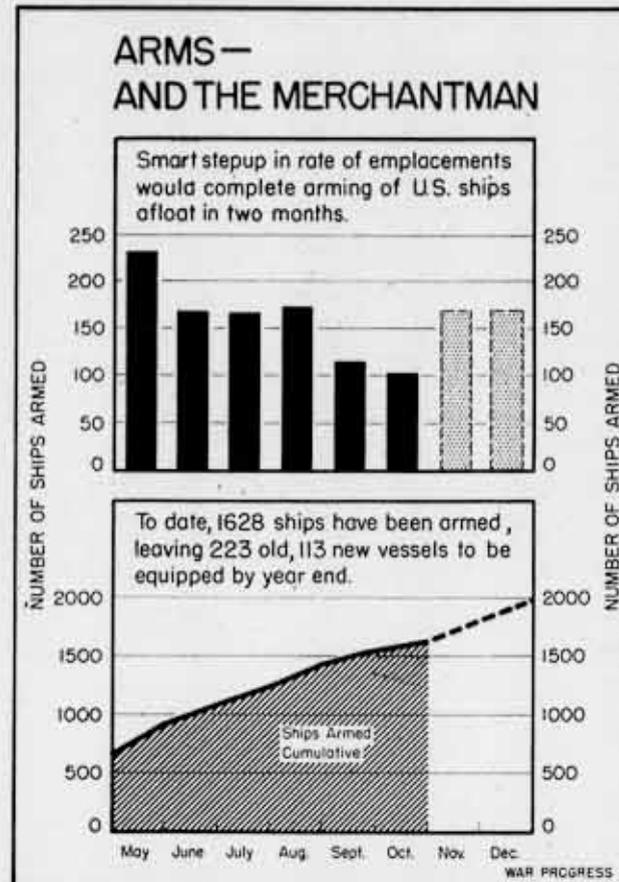
However, in the next few months, sinkings might rise sharply. Winter is the submarine's good hunting season. Long nights extend the period of above-water prowling, and ultrasensitive short-wave equipment makes it possible to detect ships in the dark. Moreover, winter seas make it hard to sight submarines either from the air or from shipboard. The sub's surface and wake tend to merge with the high waves. (Coincidentally, heavy seas interfere with a submarine's aim.) Additionally, the supply route to North Africa may become a ready target for undersea craft.

As part of the fight against the submarine, the job of arming U. S. ships now afloat is 88% completed. Gun emplacements have slowed down recently, but if the summer pace can be reattained this month and next, then by the year end most merchant vessels scheduled to be armed will be armed, including 113 to be newly launched (adjoining chart).

FEWER LAY-UPS

This has a special significance. Not only does it mean that cargo vessels have a certain amount of self-protection against marauders, but it also means that American repair yards are released. Ships waiting for repairs have been tying up yards for months. A gun emplacement frequently takes special reconstruction--the vessel must be strengthened to withstand the repercussion of the gun discharge. It is significant that in recent months the number of vessels awaiting repairs or armament has been reduced materially. That means the proportion of the merchant marine in actual service has increased.

On the construction side of the shipping equation, second- and third-shift



WAITING FOR MODERN WEAPONS HAS FREQUENTLY HELD UP ARMING U.S. MERCHANT SHIPS. BUT IF THIS MONTH AND NEXT EMPLACEMENTS STEP UP TO SUMMER LEVELS, VIRTUALLY ALL U.S. SHIPS WILL HAVE GUNS BY THE YEAR END. BESIDES OURS, 333 ALLIED VESSELS WERE ARMED.

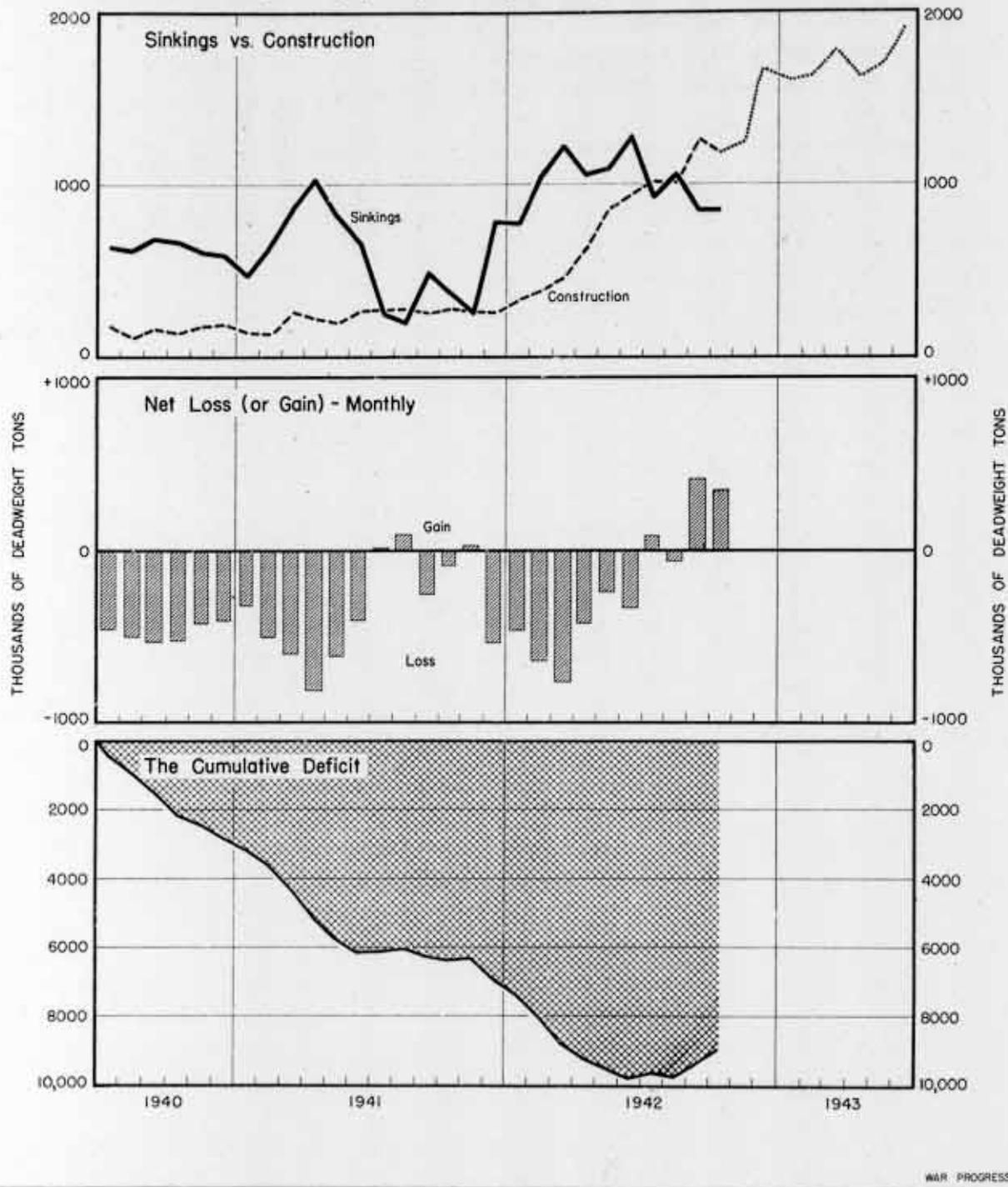
operations continue to rise. Plant utilization in Liberty shipyards rose 2% in September (chart, page 6), and the average construction time per ship has dropped over 25% since August. Building time has decreased from 235 days per ship in December to 66 days in October--and the trend, as the Kaiser exploit of this week suggests, is still downward.

CLEARING THE AFRICAN COAST

Clearing of the Mediterranean supply route to the Middle East and Russia (via Iran and Iraq) is still a military imponderable and cannot be counted as clear gain. Even if the African Coast is fully occupied by the United Nations, ships would still have to hug the shores of

SCORECARD ON MERCHANT SHIPPING

Sinkings held down for second successive month. Net gain in United Nations tonnage large, despite slight drop in new construction.



AFTER TWO YEARS OF GRADUAL ATTRITION, THE UNITED NATIONS' MERCHANT FLEET IS AGAIN GROWING; FAIR-SIZED INCREASES WERE REALIZED DURING THE LAST TWO MONTHS. BUT THOUGH AXIS SUBMARINES AND PLANES ARE NO LONGER SINKING SHIPS FASTER THAN THE SHIPYARDS CAN TURN

THEM OUT, THEY ARE DESTROYING MORE TONNAGE THAN A YEAR AGO, AND INDICATED LOSSES FOR SEPTEMBER AND OCTOBER MAY BE INCREASED BY ADDITIONAL SINKINGS NOT YET RECORDED. THUS THE INDICATED GAIN IN TONNAGE FOR BOTH MONTHS IS SUBJECT TO REDUCTION.

the African Coast and travel in convoys for protection against submarines and aircraft based on the European side of the Mediterranean.

WOULD DOUBLE UTILITY

Despite such handicaps to speed, success of the Anglo-American operations in Africa would free considerable shipping and ease the United Nations' cargo burden. In a recent twelve-month period, for example, it took 300 ships from England to supply the British armed forces in the Middle East. With the Mediterranean open, the job could have been done by 150 ships. Or, to put it differently, 300 ships could have supplied a force twice as large. The magnitude

of the saving is further suggested by the fact that between one-quarter and one-half of North Atlantic shipping next year is destined for the Middle East and Indian ports.

In spite of the favorable implications of the past few months, shipping needs are bound to increase with sizeable American forces fighting on two extensive fronts--the Mediterranean and the South Pacific. Therefore, there is nothing in the situation to justify the slightest slackening in the shipbuilding program. In fact, to meet the requirements of newly established supply lines, the United Nations will have to accelerate current rates of gain in merchant ship tonnage.

Risks in the Balance of Power

To save metals, U.S. cuts expansion plan for electricity 40%, despite war needs for generating capacity. Civilian curtailment now substitutes for reserves.

TWO MONTHS AGO U.S. plans for new electric generating capacity were cut about 40%. That meant taking certain risks--taking a chance of breakdowns and stoppages which might interfere with normal civilian uses and possibly with war production.

GUNS VS. BUTTER

A choice had to be made between a close-to-riskless power supply and the diversion of steel, copper, and equipment to direct military goods--guns, shells, and propulsion machinery. And so work was halted on 4,000,000 kilowatts of capacity, most of which was originally scheduled for completion in 1944. In all, an original program of 9,500,000 kilowatts extending into 1945 has been pared to 5,500,000 kilowatts

--saving an estimated 300,000 tons of steel and 13,000 tons of copper.

Yet demands for power have been steadily mounting. The maximum (one hour) peak load in the United States this winter is expected to be about 15% higher than last year's, and the following winter the peak load is figured to rise another 10%. Nevertheless, overall U.S. power supply seems up to probable demands even though facilities now in place will have to meet an overload strain, and even though there is a delicate balance of timing between scheduled capacity now on order and power requirements as they come on.

BANKING ON "BREAKS"

The revised power expansion program is, in effect, playing for the "breaks"--taking deliberate, considered risks to get maximum power capacity at a minimum expenditure of critical materials. But unforeseeable calamities due to sabotage, severe droughts, or hostile

bombing are not included in estimates of needs. Hydroelectric capacity, for example, depends on streamflow. But water conditions have been favorable this year.

Moreover, the power program is based on war production as planned. If the program is scaled down, present slight margins of safety might be widened. But should the quotas for planes, tanks, ships, etc., be raised substantially, present margins of safety would disappear, and there would not be enough power to go around.

PLANNING AHEAD

This last possibility--the raising of sights--demands a particular type of forward planning. It takes two to three years to build a generating plant, but usually not much more than a year, if that much, to build the plants which use the power. So it's necessary to allocate critical materials to power projects many months before construction of manufacturing plants begins.

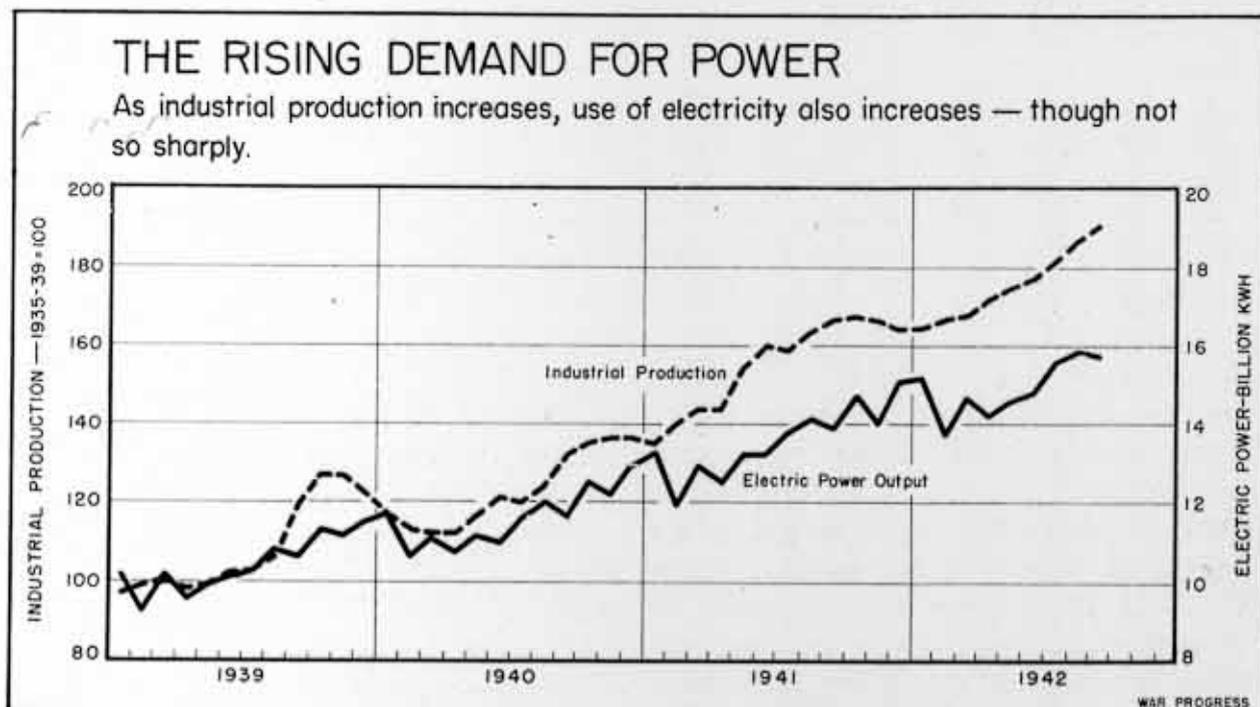
Right now the primary power problem is to satisfy the direct requirements of

war industries, which, it is estimated, will absorb 36% of peak load capacity of Class I utilities this year and 42% next year, approximately as follows:

	<u>1942</u>	<u>1943</u>
Ordnance & explosives..	5.8%	6.3%
Other munitions.....	5.4	4.1
Aluminum.....	5.2	6.7
Shipbuilding.....	2.6	2.7
Steel.....	4.2	4.4
Aircraft.....	2.1	3.6
Cantonments.....	1.3	1.5
Magnesium.....	0.9	1.4
Ferroatloys.....	0.9	1.0
Other war loads.....	<u>7.6</u>	<u>10.5</u>
Total war loads.....	36.0%	42.2%

To handle this load, total capacity (including reserves) of Class I utilities this year will amount to 41,000,000 kilowatts as against estimated peak-load demands of 37,000,000 kilowatts. Next year it is expected that 4,000,000 margin will be retained--45,000,000 kilowatt capacity against peak-load demands of 41,000,000.

But the overall figures do not re-



flect distribution problems--New York City may have a power surplus, the Gulf Coast a shortage, and so the combined figures look good. And because there is no such thing as a national power pool, power supply and demand is an area-by-area, even city-by-city, story.

LONG AND SHORT OF IT

Distribution of war plants throughout the United States is uneven. Some of them are spotted in regions where capacity and peak loads will run neck-and-neck. In the Pacific Northwest, a concentration of aluminum production, ferroalloy plants, shipyards, etc. has built up load requirements so substantially that serious delays in the installation of generating units on order could result in temporary power shortages. And the situation won't improve until the end of 1943. The case is similar in the South Central states, where new aluminum, magnesium, explosive, aviation gasoline, and synthetic rubber plants are being built. Following are the area-by-area prospects for the country from now to the end of 1943:

(1) Areas where reserves are below minimum requirements and curtailment may be unavoidable: Upper New York State (due largely to possibility of reduction in power importation from Canada); a small area in southern Illinois, southeastern Indiana, and western Kentucky; a broad band extending along the entire Gulf Coast, including northern and western Florida, southern Georgia, southern Alabama, Louisiana, Arkansas, and southern Texas (due to accelerated industrialization).

(2) Areas where power capacity appears adequate unless fuel shortages should interfere with generation: All of New England. Many of the power stations are oil-burning and cannot be converted to coal without excessive amounts

of critical materials and equipment. And coal may be short, too.

(3) Areas of surplus power which cannot be exported into areas of shortages: All of Nebraska, central and north central Texas, metropolitan New York, and the southeastern Florida coast. There are also ample reserve margins in New Jersey, eastern Pennsylvania, Delaware, and Maryland.

(4) In the remainder of the United States: Probable loads and probable power capacities are in close balance, and even small changes in capacity or loads could seriously alter the picture. (Within many areas, of course, there are scattered islands of deficiency or surplus where the localities are not tied in with main transmission networks.)

All the estimates of supply presuppose maximum coordination of all the interconnected facilities within a given area, irrespective of system boundaries or state lines.

REGIONAL HOOK-UPS

This means that by taking advantage of load diversity between systems, pooling of reserves, etc., two kilowatts can be made to do the work of three. Over 1,000,000 kilowatts have already been added by such coordination. For example, during the Southeastern power shortage a year ago 43,000,000 kilowatt-hours per week were imported into the shortage area--about 35% in excess of the highest previous estimates of the possibilities. In important areas such coordination represents the difference between a shortage and adequate capacity to meet war loads.

And as an ace-in-the-hole, four floating power plants of 30,000 kilowatts each will be completed by the Defense Plant Corporation before the middle of next year. They can be spotted on the Gulf Coast, on the Great Lakes, and any-

where else on the nation's inland waterway system. Through interconnections, this additional power could reach an area representing over half of our industrial production.

In recent months, power loads have been running below estimates. But where this is due (as it often is) to lags in war production--plants have been coming into operation later than scheduled--it represents merely a deferment of loads rather than a real decrease in demand. However, in the case of certain nonwar industries--retailing and consumer goods manufacturing--there has been a modest drop in the overall demand. And dimouts have reduced power loads substantially in metropolitan coastal areas. New York City, for example, used 600,000 kilowatt-hours per day less in July, 1942 than a year before.

Essentially, what has happened is

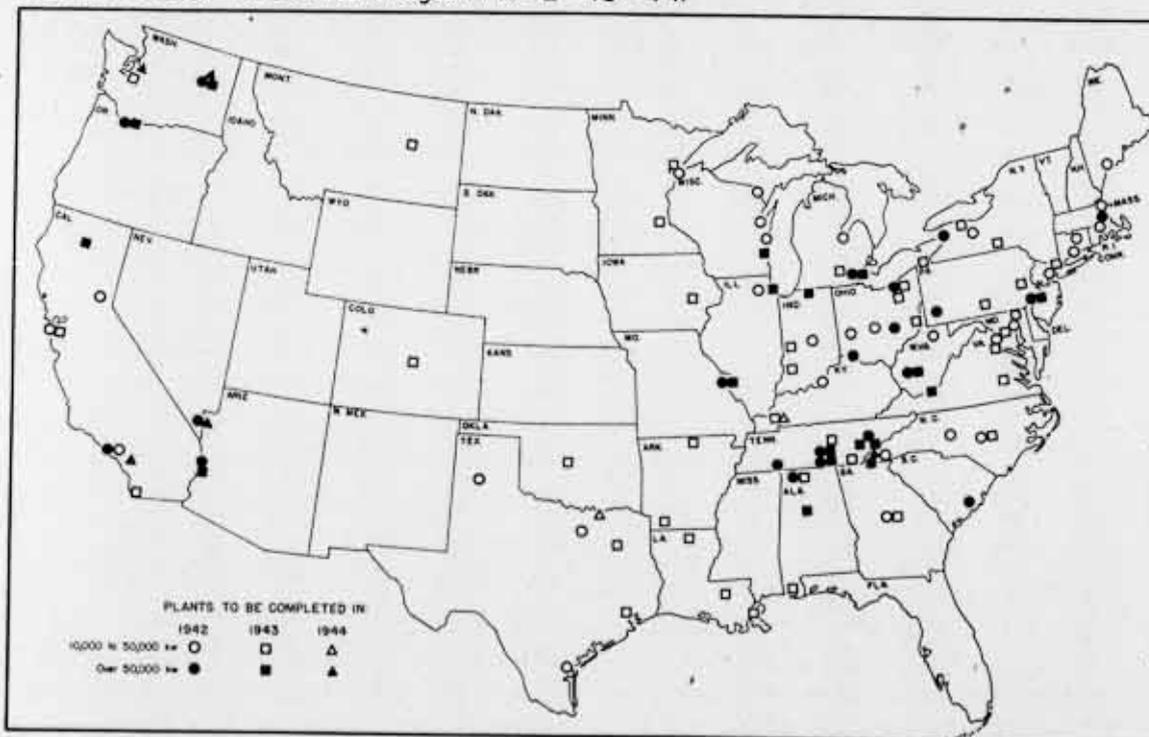
this: The war has forced revisions in customary ideas on safety factors; reserves must be active, not passive. "Standby" capacity will be in regular operation instead of standing by waiting for a stoppage. What used to be an "overload" is now a "normal load." Thus reserves in the future must be found in curtailing nonessential or less essential uses--cutting down on power supplies to civilian plants or staggering requirements to off-peak-load periods.

PUTTING IN NEW POWER

In some of the most important war production areas, however, war plants use such a high proportion of the total output that curtailment of nonessential loads would be of only minor assistance in meeting a deficiency. And it is into these areas that WPB's power branch has directed new installations.

MORE POWER TO THE U.S.

Here are the industrial areas to which the WPB has allocated new generating capacity—10,000 kilowatts or over—to avert shortages in 1942-43-44.



Long on Coal, Short on Men

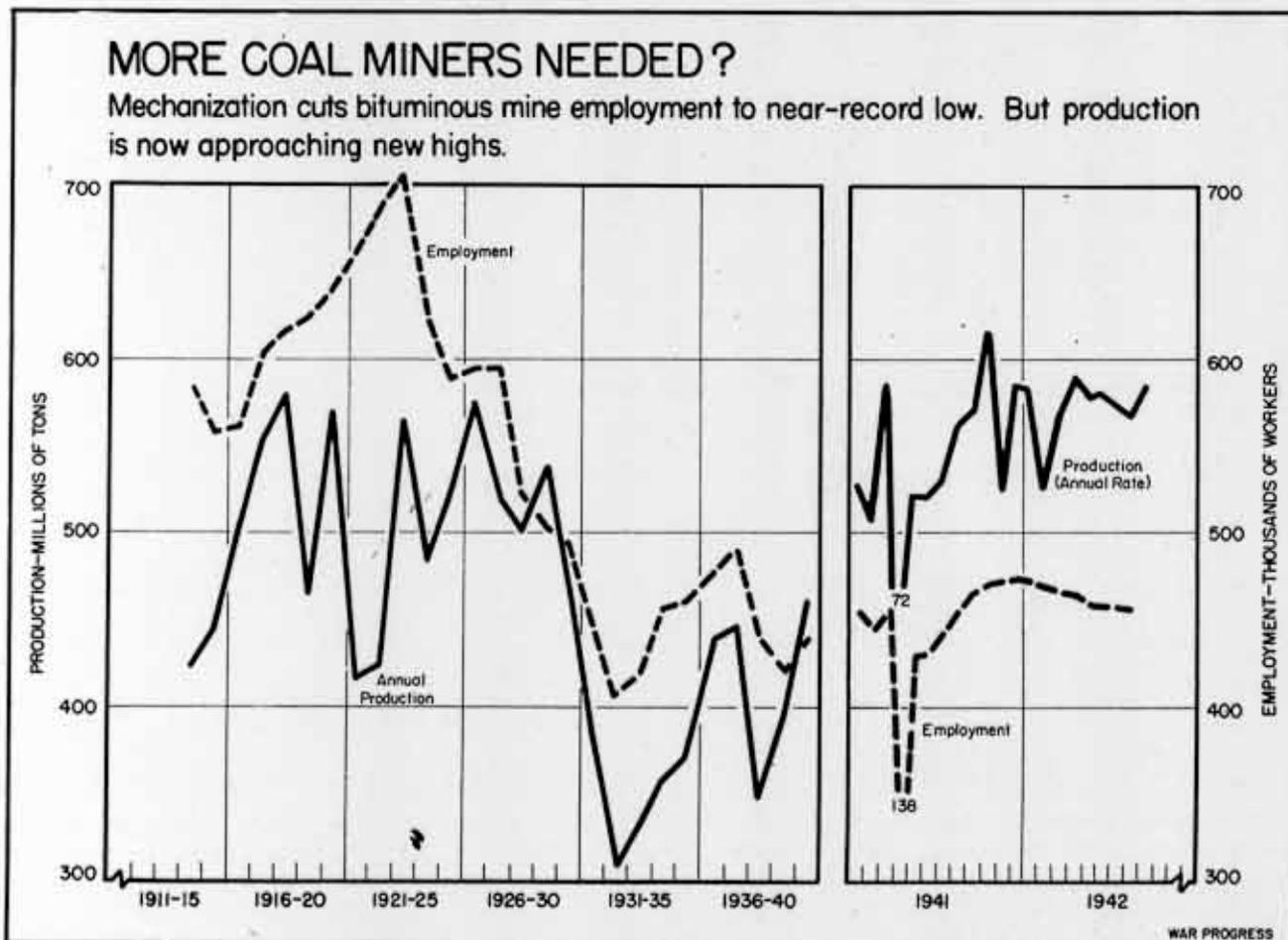
Next year's coal needs are biggest in history, but men are quitting mines for war jobs. Britain, facing same problem, is sending soldiers back to the pits.

THE UNITED STATES has all the bituminous coal it needs--underground. But getting it above ground is a manpower problem. Coal miners are going into higher-paying war industries and the armed services.

Last year, 432,000 miners produced 511,000,000 tons of bituminous coal--representing an energy value 1½ times that of petroleum, 4 times that of natural gas, and 13 times that of developed water power. Production in the current year will rise roughly 10% to 560,000,000 tons (chart, below). Next year's requirements, however, call for men and

machinery to mine at least 600,000,000 tons--more than the country has ever mined before.

So far this year, the industry has lost more than 50,000 workers, fully half of whom were highly skilled men--drillers, shooters, cutting and loading machine operators, trip riders, etc. One mine, needing 1,470 men, scoured 29 states and turned up with 890 workers--25 of them women. Replacements are being made principally with older men (some of them physically handicapped). Result: Many mines are now producing below daily capacity. And preliminary estimates show that, on the basis of present operations, output of high-grade by-product coals--needed to operate blast furnaces--will fall approximately 10,000,-



Expansion in Depth

As war effort widens, Army and Navy dip into smaller plants to meet quotas for guns, ships, etc. Prime contracts now spread among more companies.

AS THE PERIPHERY of the war effort has widened, procurement also has widened. More companies are getting prime war contracts for ships, planes, tanks, ordnance, ammunition, equipment, etc., than ever before. At the end of July, for example, 8,000 companies held prime supply contracts of \$50,000 and over from the Army, Navy, Maritime Commission, Treasury, or British Empire, compared with 7,000 a month earlier.

TOP TEN TRIMMED

And concentration of contracts is declining. In June the top 10, 20, 30, 50, and 60 companies held an appreciably smaller percentage of prime contracts than in February; and in February the percentage was smaller than in September, 1941, as follows:

No. of Companies	% Prime Contracts Held (dollar value)		
	June '42	Feb. '42	Sept. '41
10	34%	35%	41%
20	47	49	58
30	54	56	65
50	62	66	74
60	64	69	76

Between February and June, total prime contracts (other than construction) increased from \$30,900,000,000 to \$55,400,000,000. In June, 100 contractors held 69% of the contracts (in dollar value). Some 76 held contracts for \$100,000,000 or more; 22 for \$400,000,000 or more. Some 17 were in the \$600,000,000 and over class. Top eight in the billion dollar and over class follow:

Company	Volume of Work (billions of dollars)
General Motors.....	4.9
Curtiss Wright.....	2.7
Boeing Airplane.....	1.9
United Aircraft.....	1.8
Consolidated Aircraft.	1.6
Bethlehem Steel.....	1.5
Ford Motor Co.....	1.4
Douglas Aircraft.....	1.4

These eight companies were among the top ten in February as well as in June.

Propeller Problem

Shortage of 3-blade hydromatic — component of Flying Fortresses, Curtiss Commandos, Hurricanes, etc. — may slow plane production program in 1943.

A SHORTAGE of propellers threatens to impede plane output next year, largely because the production of the 23E50—a three-blade dural (aluminum alloy) hydromatic model—is not scheduled up to estimated requirements. The 23E50 is the main "prop" in the program.

At present, there is only a slight shortage of the 23E50 for planes and spares. But the deficiency is bound to increase on the basis of the 8-K initial program, which calls for 107,000 planes in 1943. The shortage affects the entire propeller program.

OTHER PROPS IN BALANCE

For the most part, all other propellers are in balance with estimated requirements, but when and as the 23E50 runs short, then Flying Fortresses, Liberator bombers, Curtiss Commando transports, British Lancaster bombers, Mosquito and Hurricane fighters, and other major planes for which 23E50s are blueprinted may have to be assigned other types of props. That would upset

the balance of the propeller program generally.

Indeed, in the first quarter of 1943, the shortage of the three-blade dural hydromatics will be so serious that even if spares, assigned to other models, were shifted over to planes scheduled to get the 23E50s, there would not be enough propellers to go around. Thus, planes would be unable to fly away from plants.

SECOND HALF BETTER

The problem will abate in the second half of 1943. This is indicated by the following tabulation, which shows the cumulative deficits or surpluses in controllable-pitch propellers (used in combat planes, transports, and advanced trainers) between July 1, 1942, and December 31, 1943:

Type	1942	1943	
	Dec. 31	June 30	Dec. 31
Hydromatic:			
4-blade dural	+13%	nil	+31%
3-blade dural	- 9	-22%	- 9
Electric:			
4-blade steel	+35	+15	+12
3-blade steel	+12	+21	+24
3-blade h.s.	-17	+ 1	- 1
3-blade dural	- 8	-11	-12
2-blade dural	- 3	+10	+ 4
Total	- 3%	-11%	- 4%

The three-blade dural hydromatic constitutes 57% of the propeller program as now laid out for 1943; consequently its influence on the total program is marked. It explains the expected rise in the overall cumulative deficit from 3% to 11% between the end of this year and the middle of next. After that, as the peak monthly rate of output of 23E50 builds up, the cumulative deficit will be cut down to 4%. Actually, in the final quarter of 1943, production of

23E50s will exceed requirements; and the total propeller program likewise will produce a surplus over needs for both new planes and spares.

Two plants are now manufacturing the 23E50. Two additional ones are coming into production--one in December, the other in January--but their peak output is not scheduled until late 1943 or early 1944. And to cut down the prospective near-term shortage, it will be necessary to bring these plants up to capacity sooner than planned.

Substitution of three-blade electrically controlled propellers for the hydromatic type is possible, but not enough of them are scheduled to make up the indicated deficiency between production and requirements.

War Progress Notes

FRENCH-AFRICAN ECONOMY

AMERICAN OCCUPATION of French North Africa should stop the flow of important mineral resources to the Axis and help take up shortages now slowing war production of the United Nations. Annual French North African output of strategic metals was as follows:

	Tons
Iron ore.....	2,700,000
Manganese.....	33,000
Pig lead.....	23,000
Lead ore.....	11,600
Lead scrap & products	9,200
Zinc.....	14,200
Cobalt.....	4,000

The iron ore is prized because of its high grade. And the cobalt alone was said to supply one-third of German munitions needs.

Last year Morocco, Algeria, and Tunisia exported to France about 250,000 tons of wheat, 30,000 tons of meat,

500,000,000 pounds of vegetable oils, and 200,000,000 tons of natural phosphates for fertilizer—a large portion of this presumably was confiscated by the Germans. Also, French North Africa exported 100,000 tons of cork last year and 9,000 tons of leather hides.

FOUR WHEELS INSTEAD OF TWO

BECAUSE OF CURTAILED production of motorcycles for civilian use, it has been recommended that 200 automobiles be taken from the civilian automobile pool and substituted for police motorcycles. It's a case of making four wheels do what two used to: But critical materials which would go into new cycles will be saved.

"SPARKS" ARE SCARCE

RADIO OPERATORS are so scarce that the Civil Aeronautics Administration has had to set up its own training school to supply its 475 radio stations on the

federal airways. The course is four months, and 75% of the enrollees are women—male applicants must have deferred draft classifications. Merchant shippers feel the shortage, too, and have had to raise wages sharply. Ship "sparks" were paid about \$150 a month before the war; they now average \$360 a month (including bonuses) on convoy routes. And radio operators on Russian-bound tankers reportedly receive up to \$600 a month.

BALSA WOOD TO BRITAIN

ALMOST ALL the aerogrades of balsa wood—grown in Ecuador—have been allocated by the Combined Raw Materials Board to Great Britain for the production of planes. The U.S. Navy and the Maritime Commission have changed specifications for life-saving equipment and the Army Air Force for nonstructural parts of planes—such as seats and panels—in order to cut American consumption.

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program - Checks paid (millions of dollars) -----	1,922	1,196	1,278	744	388
War bond sales (millions of dollars) -----	96	271	184	162	73
Commodity prices (August 1939 = 100)					
28 Basic commodities -----	170.4	169.6	169.6	167.4	154.6
Controlled -----	162.1	162.0	161.4	161.5	154.7
Uncontrolled -----	191.4	188.7	190.0	183.4	154.3
Nonferrous metal scrap -----	117.5	117.5	115.8	132.5	132.8
Petroleum carloadings (no. of tank cars)					
Total -----	n.a.	51,666*	52,691	56,353	49,267
Movement into East -----	25,145	24,766	25,306	20,287	3,932
Exports (no. of freight cars unloaded for export Friday)					
Atlantic Coast ports -----	1,222	1,284	1,343	1,457	1,445
Gulf Coast ports -----	356	313	363	452	452
Pacific Coast ports -----	961	911	847	518	159
Strikes affecting the war effort					
Number in progress -----	4	3	7	19	n.a.
Man-days lost -----	2,895	3,159	9,505	25,983	n.a.
Unused steel capacity (% operations below capacity) -----	0.4	0.4	-0.2	0.4	3.4

n.a. Not available

ECONOMIC TRENDS

Transportation - New Orders, Shipments, Inventories

	Latest Month	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
TRANSPORTATION (1935-39 = 100)							
Commodity and passenger	189	185	180	152	155	108	a110
Commodity - total	185	182	180	155	162	108	a111
Railroad	209	203	198	163	165	105	a112
Waterborne (domestic)	105	107	108	53	155	141	a114
Intercity truck	128	139	150	177	173	121	a104
Pipe line	123	116	119	142	122	82	a110
Air transport	346	338	324	273	212	135	a103
Passenger-total	202	193	181	143	136	108	a106
Railroad	289	256	234	173	158	123	a113
Intercity bus	265	280	228	127	183	128	a102
Air transport	296	270	263	268	368	175	a 94
Local transit	136	134	137	128	104	92	a103
Freight carloadings (thousand cars weekly)	902	876	870	838	915	839	789
Less-than-carload	92	87	90	131	160	160	170
Miscellaneous	432	412	400	376	401	339	316
All Other	378	377	380	331	354	340	303
NEW ORDERS, SHIPMENTS, INVENTORIES							
New orders-mfrs.(Jan. 1939 = 100)	p277	233	256	274	202	168	
Durable goods	p424	334	399	427	260	199	
Nondurable goods	p184	167	163	176	165	147	
Shipments - mfrs.(1939 avg. = 100)	p224	212	207	199	185	115	
Durable goods	p286	270	264	235	212	109	
Nondurable goods	p176	167	163	171	164	120	
Inventories (1939 avg. = 100)							
Manufacturers-total	p175.3	175.0	174.2	165.6	143.4	98.9	
Durable goods	p200.3	198.0	195.8	183.4	160.5	98.8	
Nondurable goods	p153.4	154.8	155.3	150.1	128.4	99.0	
Raw materials	p202.9	198.7	198.4	189.4	156.6	98.0	
Goods in process	p264.1	265.3	259.2	247.5	217.4	104.6	
Finished goods	p113.8	116.6	117.5	110.6	101.2	96.8	
Wholesalers	p121.4	124.2	128.0	140.1	125.4	100.2	
Retailers	p143.8	144.9	146.6	139.6	126.5	101.4	

*Transportation indexes, August. Freight carloadings, October. New orders, shipments, inventories, September.
a Annual. p Preliminary

ECONOMIC TRENDS

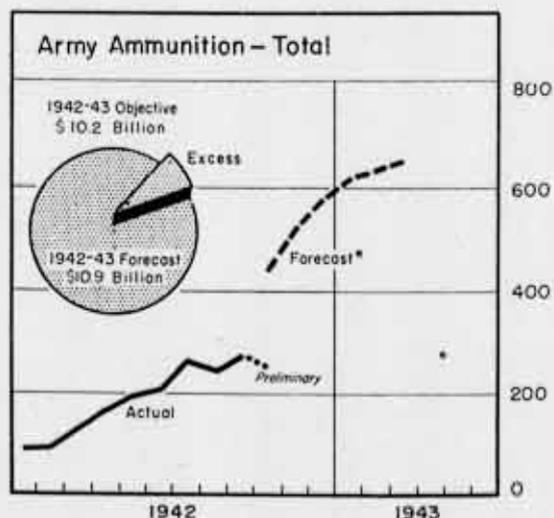
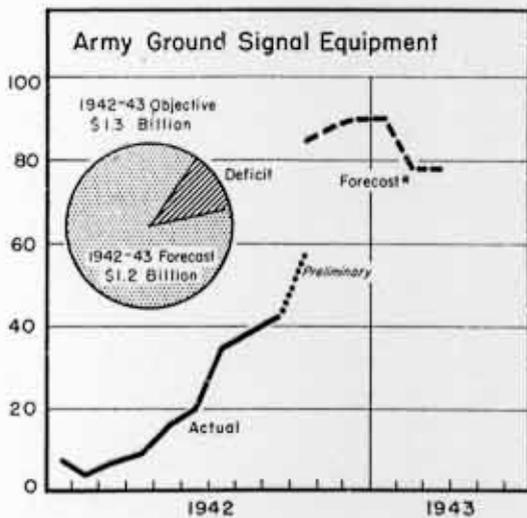
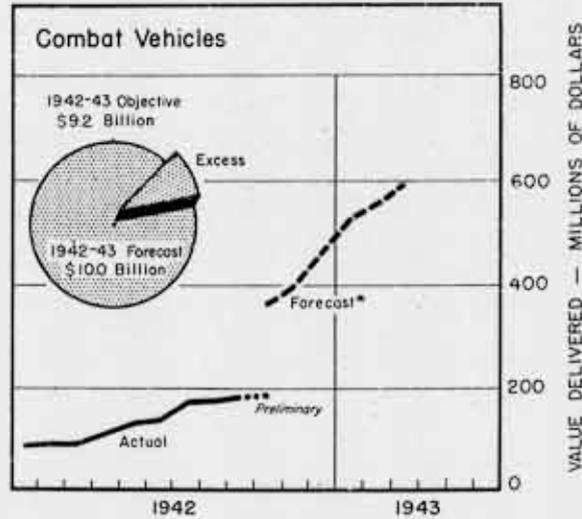
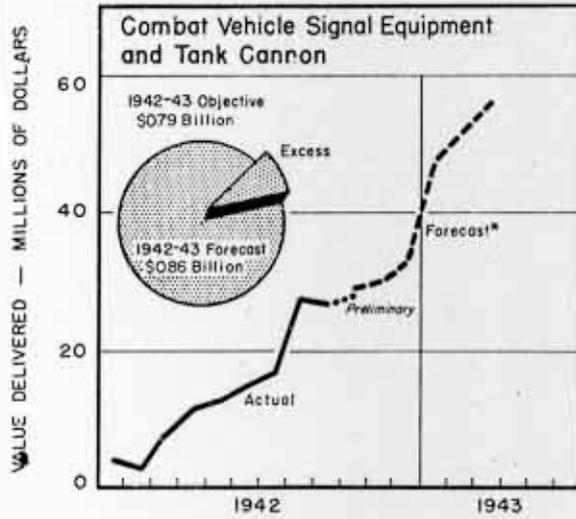
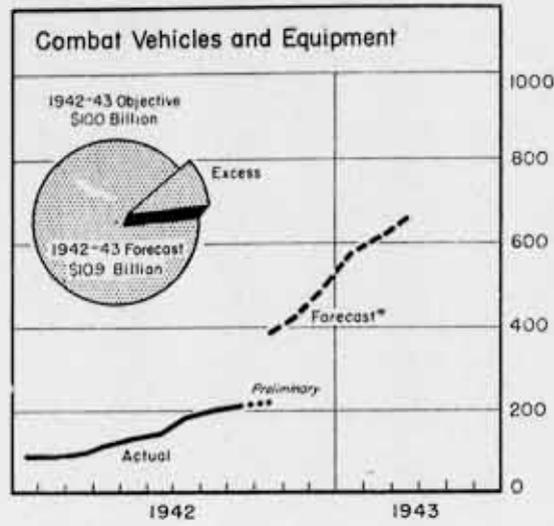
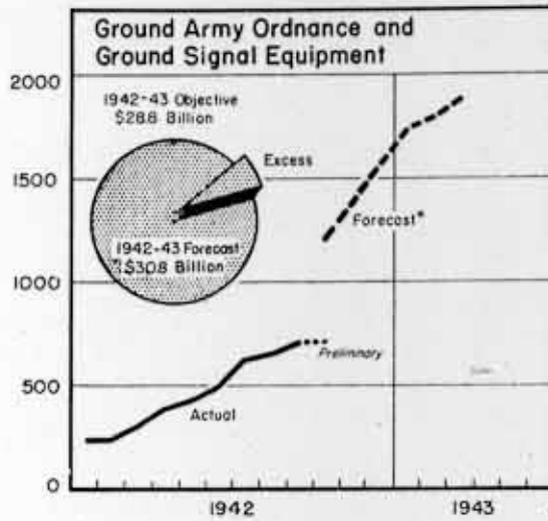
Labor Turnover - Labor Force

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
LABOR TURNOVER (rate per hundred)							
All manufacturing industries							
Accessions	9.15	7.90	8.28	6.99	5.16	6.17	3.78
Separations - total	8.10	7.06	6.73	5.36	4.53	2.79	4.62
Quits	5.19	4.31	4.02	3.02	2.81	1.02	1.59
Layoffs	0.68	0.87	1.05	1.19	1.16	1.58	2.84
Discharges	0.44	0.42	0.43	0.33	0.31	0.14	0.19
Military separations	1.48	1.13	0.93	0.63	0.13		
11 Selected war industries							
Quits							
Aluminum	4.34	3.17	3.51	3.07	2.25	1.06	1.66
Aircraft	4.72	4.29	3.76	3.70	3.20	1.46	1.22
Brass, bronze, and copper products	5.65	4.53	3.81	3.02	2.81	0.58	
Electrical machinery	3.60	2.76	2.36	1.88	2.54	0.89	1.47
Engines and turbines	2.13	1.53	1.67	1.72	2.00	1.30	1.80
Explosives	3.80	2.92	2.25	1.95	2.91	1.57	1.94
Firearms	4.16	4.11	3.65	3.79	3.63		
Foundry and machine shop	5.51	4.84	4.15	2.89	2.96	0.75	1.41
Iron and steel	3.60	3.34	2.78	1.79	2.03	0.59	1.39
Machine tools	3.87	3.41	3.02	2.75	2.76	1.38	1.77
Shipbuilding	6.66	5.77	4.67	4.27	3.00	1.35	1.77
Military separations							
Aluminum	1.71	1.00	1.19	0.69	0.27		
Aircraft	2.41	1.84	1.34	0.85	0.14		
Brass, bronze, and copper products	1.48	1.28	0.95	0.72	0.18		
Electrical machinery	1.73	1.15	1.03	0.65	0.15		
Engines and turbines	2.04	1.33	1.11	0.47	0.07		
Explosives	2.53	1.83	1.07	0.60	0.04		
Firearms	1.66	1.55	1.16	0.74	0.06		
Foundry and machine shop	1.58	1.25	0.93	0.62	0.07		
Iron and steel	1.59	1.50	1.24	0.87	0.17		
Machine tools	1.82	1.22	0.95	0.42	0.07		
Shipbuilding	2.39	1.58	1.07	0.64	0.13		
LABOR FORCE (millions)							
Employment - total							
	52.4	52.4	54.0	50.7	50.2		
Male	38.1	38.2	39.7	37.8	37.9		
Female	14.3	14.2	14.3	12.9	12.3		
Unemployment - total							
	1.6	1.7	2.2	3.0	3.9		
Male	0.9	1.0	1.4	2.0	2.5		
Female	0.7	0.7	0.8	1.0	1.4		
Total labor force							
	54.0	54.1	56.2	53.7	54.1		
Male	39.0	39.2	41.1	39.8	40.4		
Female	15.0	14.9	15.1	13.9	13.7		

*Labor Turnover, September. Labor Force, October.

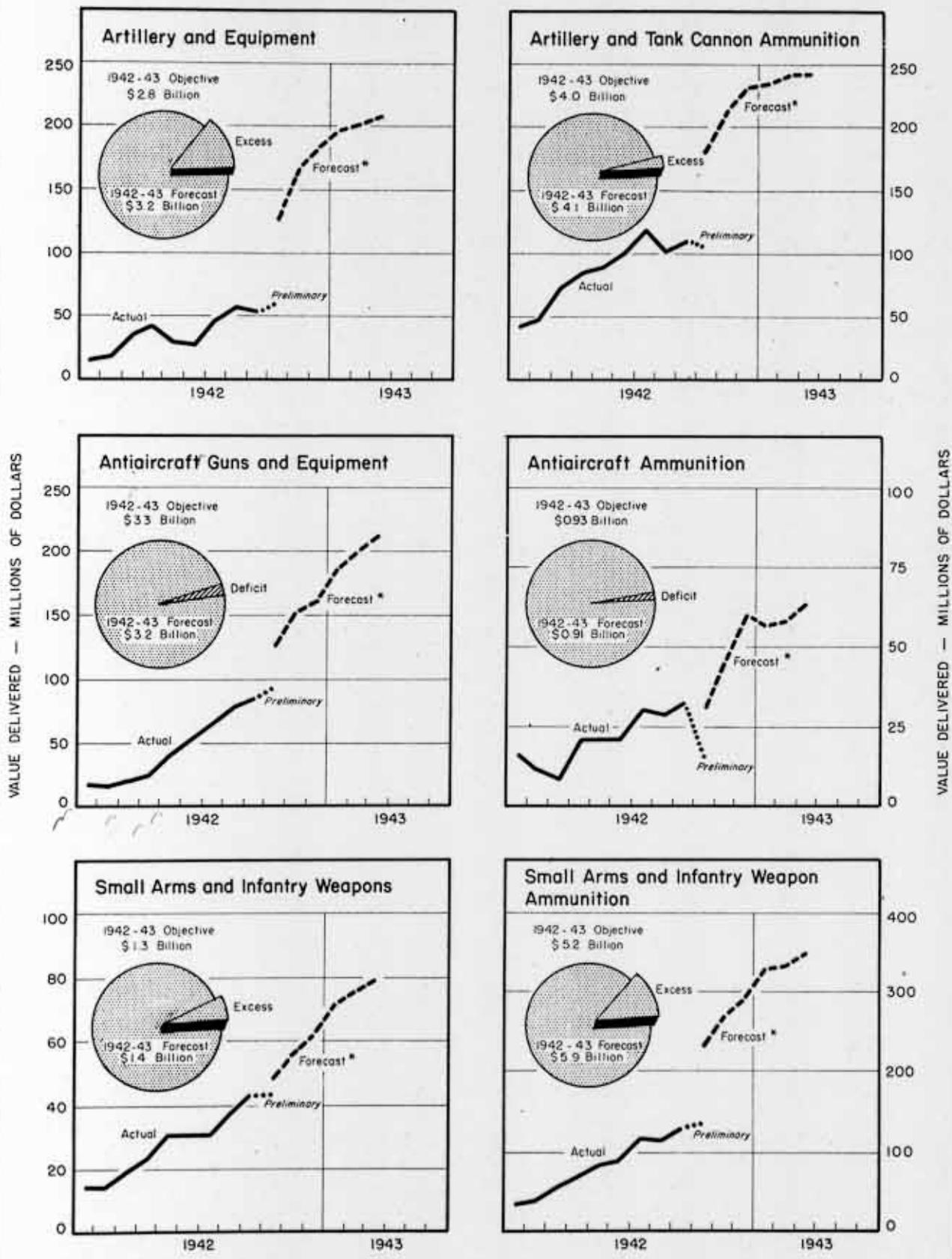
PRODUCTION PROGRESS

Ground Army Munifions



* Based on schedules of procurement agencies as of Aug. 1.

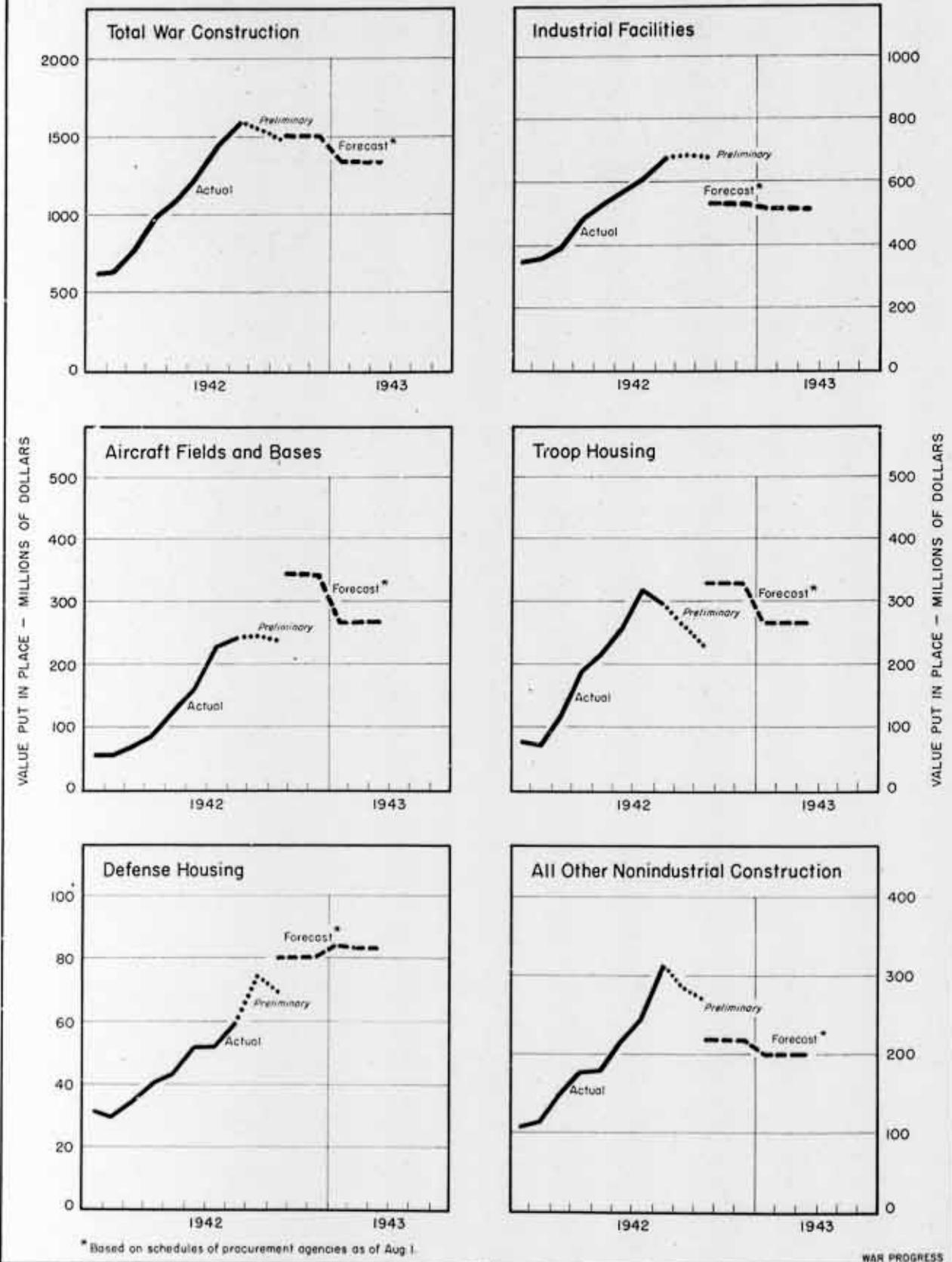
PRODUCTION PROGRESS Ground Army Munitions (continued)



* Based on schedules of procurement agencies as of Aug 1

PRODUCTION PROGRESS

War Construction



304

The Progress

WAR PROGRESS

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Fewer Tanks—but Better
Construction Downturn

Number 114

November 20, 1942

Cutback in the Tank Program

Symptomatic of war effort generally, production runs into materials snags, and Army lowers the objective; typifies war effort. Fewer units but better.

TANK PRODUCTION constitutes only about 5% of total munitions output, as now scheduled. Yet the development of the tank program just about typifies the entire war production program.

First, output was late in getting started.

Then, after the initial tooling-up period, the production curve shot up sharply.

Third, early designs were superseded by improved models.

Next, expanding production ran into general materials shortages. Finally, as a consequence, schedules have had to be reduced.

SLOW START

The first light tank built by American private industry for this war was not completed until April, 1940, a full eight months after Germany invaded Poland. The first medium tank came off private assembly lines a year later. And tank deliveries in really large numbers did not start until after Pearl Harbor. Then followed a "prosperity period" with production increases in nearly every month (chart, page 3). Now, however, materials are setting limits on the number of tanks built each month. But quality is improving.

The M4 is now the basic medium tank. In action overseas it has proved far superior to the M3. Its 75mm. tank gun is mounted in the top turret, where it has an all-around, 360-degree traverse.

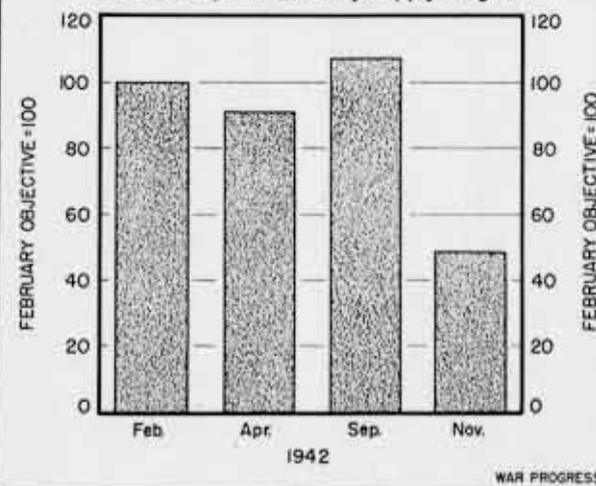
The M3's 75mm. gun, in a sponson mount on the right side of the hull, has a sweep of less than one-quarter of a circle. (Though the M3 has a full-swinging high-velocity 37mm. gun in its top turret, the circumscribed arc of its big gun limits its effectiveness.)

Among other advantages, the M4 offers a lower silhouette to enemy gunners and has a cast or welded alloy steel hull rather than riveted armor. Hits or near-hits on the outside of the hulls of M3s have sometimes turned their rivets into crew-killing bullets. (Some M3s now have welded or cast hulls.)

It was not until July that production of the M4 overtook the M3. And output of M3s is scheduled to continue until the end of February, though in limited quantities if present schedules are adhered to. (It takes time for plants to change over to a new model.) Yet a number of M3s are in storage in this coun-

FLUCTUATING GOALS

Medium tank objective for 1943, cut 9% in April and raised 18% in September, is slashed 55% in new Army Supply Program.



000 tons short of requirements in 1943.

As yet, the manpower problem is not so acute as in Great Britain, where, between 1938 and 1941, output of bituminous coal declined 8% (from 227,000,000 tons to 208,000,000 tons), while employment fell 12% (from 787,000 to 690,000).

Over the same period, average annual employment in U.S. bituminous coal mines declined 2% (from 441,000 to 432,000); but partly because of the high degree of mechanization in our mines and partly because of longer hours of work—coming out of a depression—it was possible to achieve a 46% production increase (from 349,000,000 tons to 511,000,000 tons).

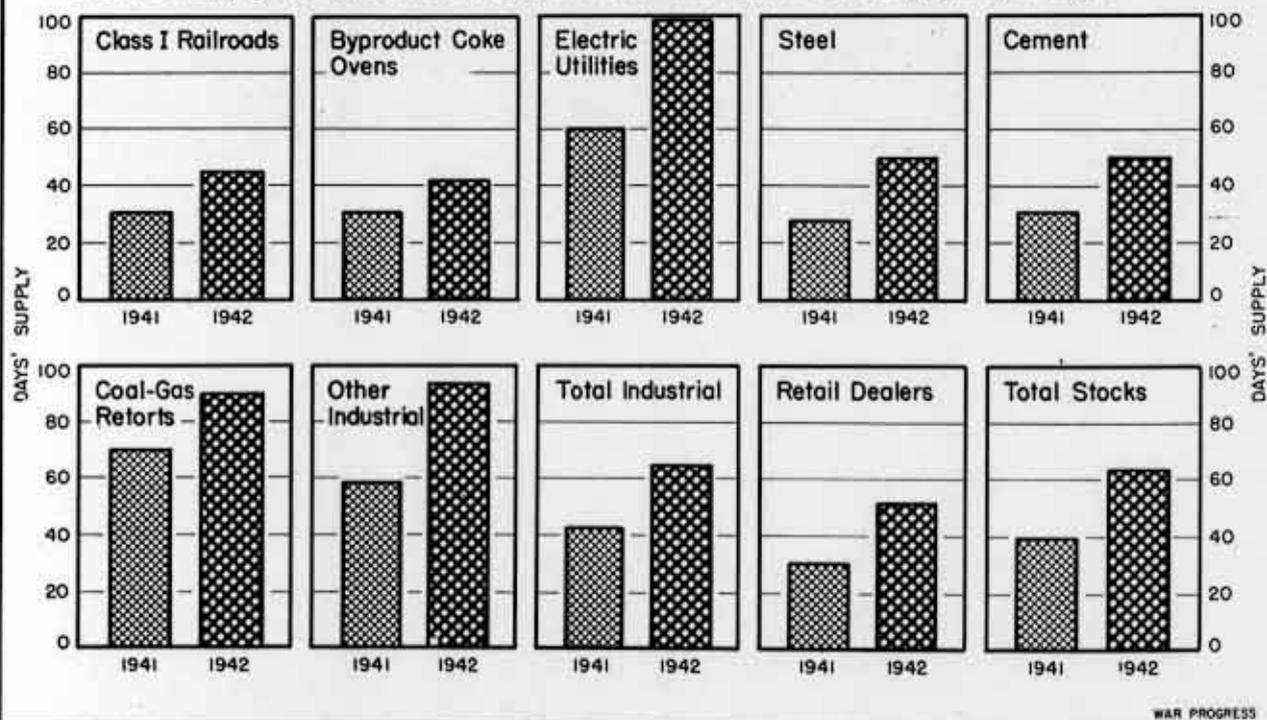
Drafting of miners under 30 into the

army was largely responsible for Great Britain's predicament. And to make up the deficit in coal production, England's armed forces and industries returned more than 45,000 men to the pits. What's more, young men are now being encouraged to enter the mines; coal mining has been made an alternative to military service. Yet, annual production is still 15,000,000 tons short of essential requirements, and fuel rationing has been proposed.

Since 1939, output of bituminous coal in the United States has risen more than 40%. Railroads—the biggest single user (estimated consumption this year is 109,000,000 tons)—increased their share of the total, and so did coke ovens.

COAL USERS BUILD UP STOCKS

Guard against interruption of shipments by holding average of more than two months' supply on September 1, against less than six weeks' supply a year ago.



THE DRIVE TO GET COAL CONSUMERS TO BUILD UP STOCKS OF BITUMINOUS COAL HAS HAD RESULTS. ON SEPT. 1, 1941, INVENTORIES TOTALED 45,000,000 TONS, AN AVERAGE OF 40 DAYS' SUPPLY. ONE YEAR LATER, THEY REACHED AN ALL-TIME PEAK OF 82,700,000 TONS, OR 64 DAYS' SUP-

PLY—4 DAYS MORE THAN THE ANNOUNCED GOAL. ELECTRIC UTILITIES AND "OTHER VITAL WAR PLANTS" WERE ASKED TO STOCKPILE BETWEEN 90 AND 120 DAYS' SUPPLY; AS OF SEPT. 1, UTILITIES HAD COAL TO LAST 99 DAYS AT CURRENT RATES OF CONSUMPTION, INDUSTRIAL PLANTS 65 DAYS.

try, and nobody seems to want them. Self-propelled artillery constitutes an increasingly important share of our tank program, as the result of fighting experience in Europe and Libya. Many of our self-propelled guns are mounted on tank chassis, mainly medium-tank chassis. For every four medium tanks this year, we are scheduled to make one self-propelled gun (mounted on a medium tank chassis). This suggests a possible use for the M3s still coming off the assembly lines: conversion into gun motor carriages for self-propelled artillery. Some of this is being done.

WANTED: MORE MEDIUMS

Our production of light tanks has been relatively satisfactory, in kind as well as in number. October volume, up 40% over September, set a new high. But battle experience has shown that light tanks are no match for heavier Axis machines. Recognizing this, the Army, in its production plans for next year, gives marked emphasis to the medium tank. The light tank is used largely against tankless opposition and for reconnaissance; it is assigned to all ar-

mored divisions and to some other units. Production of our 60-ton heavy tanks has been nil--only a few experimental jobs have been completed. The program for armored scout cars and carriers is also slow. These important wheeled, half-track, and full-track vehicles carry personnel, and mount guns ranging in some cases as large as 75mm. October production, though up 18% over September, was only 84% of forecast. In spite of these lags, best available estimates place current American production of tanks and other combat vehicles well ahead of that of Greater Germany. Total United Nations production now is probably far out in front of the combined Axis powers (WP-July31'42,p6).

ALLOY STEEL SHORTAGE

Right now shortages of materials, especially alloy steel, are the basic problems in tank production--this despite cuts of from 20% to nearly 100% in the use of critical materials for medium tanks, as follows:

Aluminum.....	41%
Chromium.....	44
Copper.....	55
Tin.....	21
Crude rubber.....	36
Nickel.....	75
Vanadium.....	99.9*

*Vanadium requirements are now down to one ounce per tank.

Effects of materials shortages are directly reflected in actual production. October output of medium tanks was down 25% from September. The first previous decline was in August when the switch over from M3s to M4s cut down M3 deliveries 70%.

Furthermore, November 1 forecasts are down about 35% from the summer months.

IN THIS ISSUE:

CUTBACK IN THE TANK PROGRAM	1
CONSTRUCTION GETS OVER THE HUMP	4
KEY STATISTICS OF THE WEEK	4
TRUCK TROUBLES	7
LESS GAS EVERYWHERE	7
AFRICAN ARITHMETIC	8
WAR PROGRESS NOTES	8
PLANE OUTPUT REBOUNDS	8
UNLOCKING THE MEDITERRANEAN	9
PAYROLL DEDUCTION SELLS MORE WAR BONDS	11
ECONOMIC TRENDS (TABLES)	12,13
PRODUCTION PROGRESS (CHARTS)	14-16

Objectives have been cut even more drastically. The new Army Supply Program sets 1943 medium tank objectives at only 45% of the level called for in September. Materials are simply not up to plant capacity.

SHORT IN ENGINES, TOO

In spite of a priority rating only slightly below that for tanks, practically no alloy steel has gone to armored cars. This is stated to be the reason the armored car program has just gotten under way.

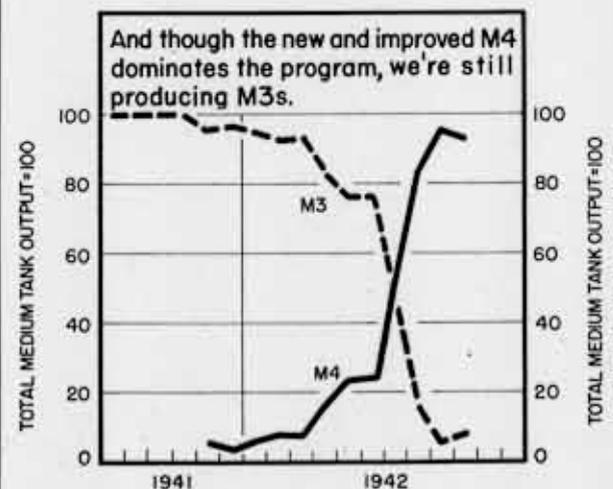
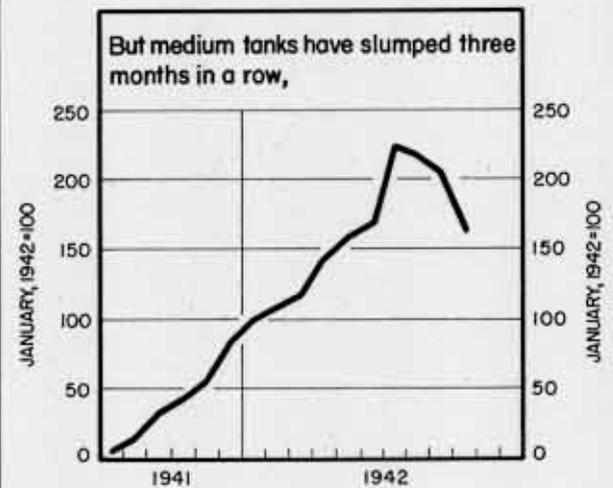
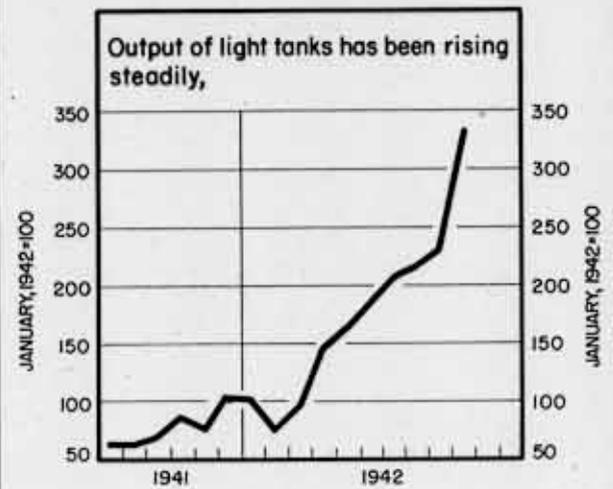
The shortage problem goes beyond alloy steels, however. Some 3,600 diesel engines, which were slated to power part of the 1942 production of medium tanks, have been diverted to the Navy. Then too, there have been diversions and threats of diversions of air-cooled radial engines (the main source of power for our light and medium tanks) to the Air Corps. And soft steel plates intended for tanks have ended up in merchant ships.

BATTLE LESSONS

In addition, spare parts are cutting output. Battle experience has dictated a sharp increase in allowances for replacement parts, and manufacturers have been far behind the original quotas anyway, leaving much to be made up. The problem has become so acute that tank builders have been told that payment for finished vehicles would be refused unless they were accompanied by spares. This means that relatively more of the allocated alloy steel and other materials will be diverted from finished tanks to parts.

Thus, tank production seems destined to rise much more slowly than in the past—and schedules may have to be lowered again—as with our war program generally.

TANK TRENDS



Construction Gets Over the Hump

From \$15,000,000,000, outlays will drop to less than \$11,000,000,000 in 1943. Even military building takes downturn. But industrial equipment rises.

THE BUILDING PROGRAM has passed its peak. From \$7,000,000,000 in 1940, construction--both war and nonwar--rose to \$11,700,000,000 in 1941 and to an estimated \$15,000,000,000 this year.

WILL DIP 29%

Next year, schedules of war construction (excluding machinery and equipment) call for a sharp drop, and total outlays for building--both inside and outside continental United States--will run to approximately \$10,700,000,000, down 29%. Indeed, the decline is already under way. Volume of construction this quarter will be about 15% less than in the July-

September period (chart, page 6).

As might be expected, direct military construction (barracks, Army and Navy hospitals, warehouses, and air bases) has accounted for a persistently larger proportion of outlays. From 7% in 1940, they rose to 20% in 1941, to 50% this year, and are destined to mount to 61% in 1943. Industrial facilities also have risen steadily though not as steeply, as the following table shows:

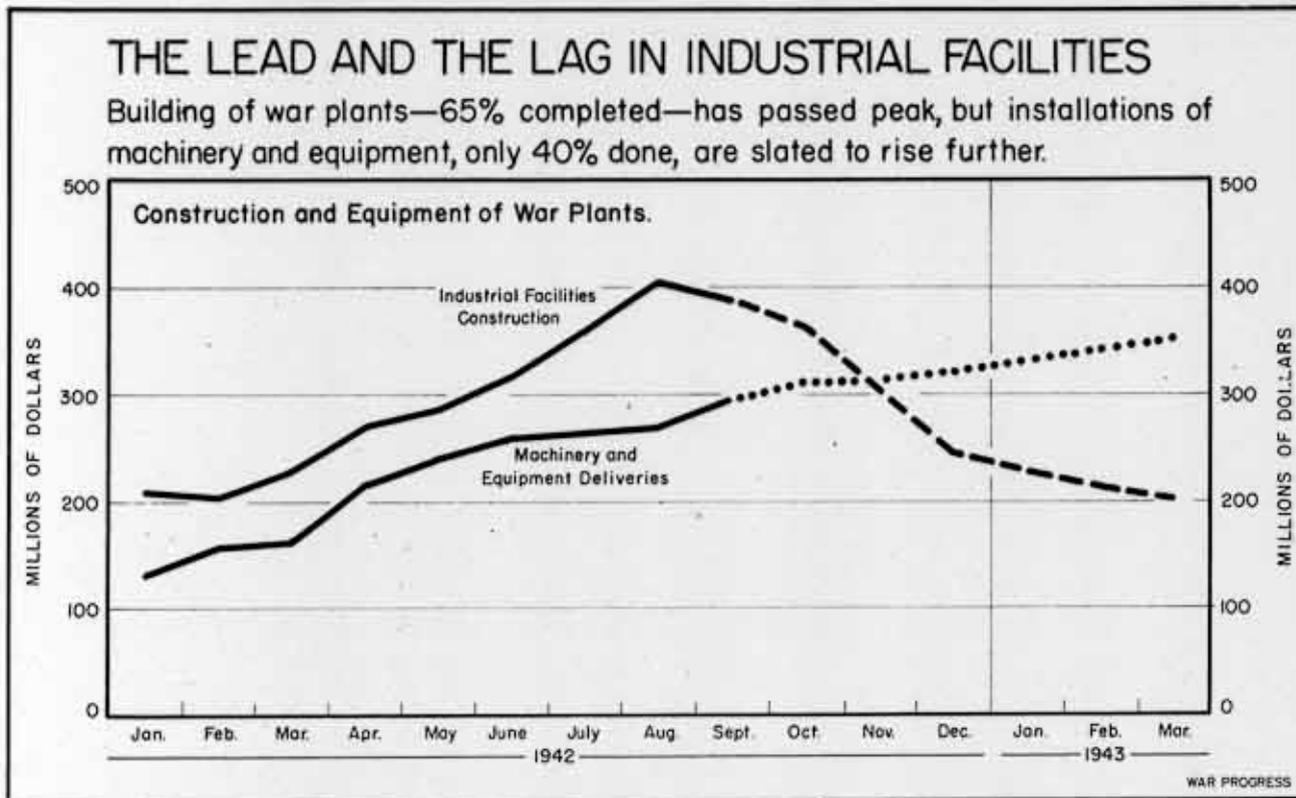
Group	% of Total Construction			
	'40	'41	'42 (Est.)	'43 (Est.)
Military....	7%	20%	50%	61%
Industrial..	8	20	24	17
Housing.....	37	27	13	13
All other...	48	33	13	9

"All other" construction, consisting

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program - Checks paid (millions of dollars) -----	1,254	1,922	1,070	894	343
War bond sales (millions of dollars) -----	166	96	164	136	45
Commodity prices (August 1939 = 100)					
28 Basic commodities -----	170.4	170.4	169.7	167.4	154.1
Controlled -----	162.0	162.1	162.1	161.3	154.9
Uncontrolled -----	191.4	191.4	188.7	183.6	152.1
Nonferrous metal scrap -----	117.5	117.5	115.8	131.2	132.8
Petroleum carloadings (no. of tank cars)					
Total -----	n.a.	51,689	54,747	57,264	49,707
Movement into East -----	25,675	25,145	27,675	21,295	3,756
Exports (no. of freight cars unloaded for export Friday)					
Atlantic Coast ports -----	1,236	1,222	1,292	1,607	1,678
Gulf Coast ports -----	292	356	317	601	385
Pacific Coast ports -----	1,025	961	783	406	179
Strikes affecting the war effort					
Number in progress -----	5	4	9	13	n.e.
Man-days lost -----	12,162	2,895	48,280	28,117	n.e.
Unused steel capacity (% operations below capacity) -----	1.3	0.4	-1.0	0.8	3.0

n.a. Not available.



FROM JANUARY THROUGH AUGUST, CONSTRUCTION OF WAR PLANTS—ORDNANCE, AVIATION, CHEMICAL, AVIATION GASOLINE, SYNTHETIC RUBBER, ETC.—ROSE FROM \$207,000,000 MONTHLY TO \$405,000,000. OVER THE SAME PERIOD, DELIVERIES OF MACHINERY AND EQUIPMENT EXPANDED FROM

\$129,000,000 TO \$265,000,000, BUT WERE CONSISTENTLY OUTPACED BY BUILDING. NOW, HOWEVER, THE BULK OF PLANT EXPANSION HAS BEEN COMPLETED, WHILE INSTALLATIONS OF MACHINERY ARE STILL INCREASING, SO POSITIONS WILL SOON BE REVERSED.

chiefly of nonwar items—commercial, public service, farm, sewer, water, conservation projects, etc.—reached its peak, in dollar value, a year ago and has been dropping ever since; similarly with housing. Military construction and industrial building, however, have only just begun to turn downward.

EQUIPMENT RISING

But installations of machinery and equipment in war plants, which have been the big bottleneck in our facilities program, are still in an uptrend. When the plant expansion program really got under way two years ago, the heavy demand for compressors, pumps, motors, heat exchangers, and machine tools was too much for producers to handle. And unsynchronized scheduling often resulted in new plants being idle or operating

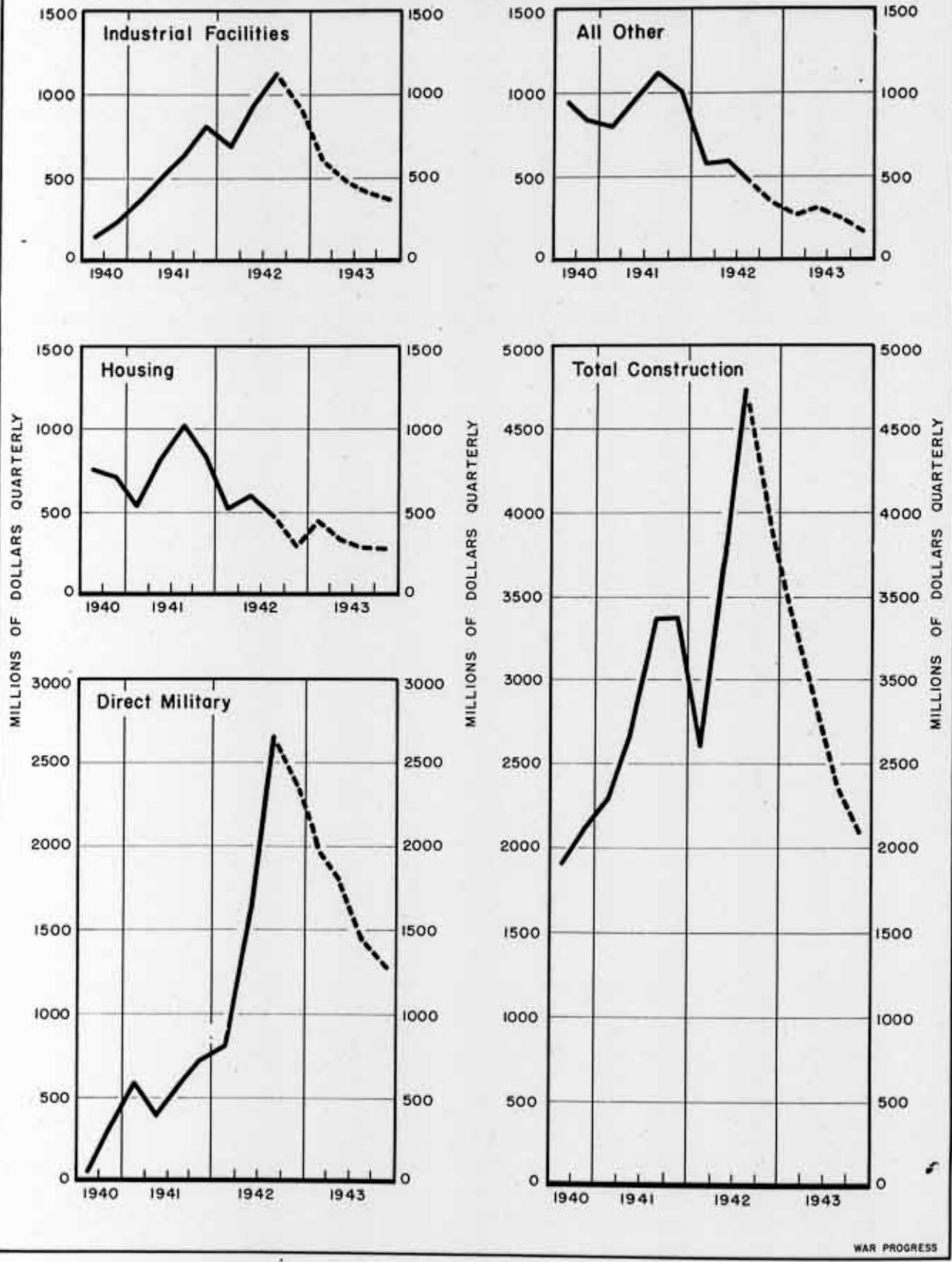
below capacity because a key piece of equipment hadn't been delivered.

Scheduling has since improved, while production of machinery has increased. In August, for example, machine tool deliveries began to top orders for the first time since Pearl Harbor (WP-Oct 23'42, pl0). This month, deliveries of machinery and equipment to war plants (\$312,000,000) will exceed the monthly value of construction (\$305,000,000); and the gap is slated to widen in 1943 as equipment deliveries continue to rise and industrial building falls (chart, above).

Although the 1942-43 drop in construction will approximate 29%, savings of critical materials will be higher as a result of (1) changed composition of the war construction program—military stuff (barracks, warehouses, etc.) takes

CONSTRUCTION HEADED DOWNHILL

Highs for industrial facilities and direct military building passed in third quarter. Housing and miscellaneous categories already less than half 1941 peak.



less heavy structural materials, (2) revised specifications, (3) simplifications of design, (4) substitutions, and (5) standardization, as follows:

Critical Material	% Cut in '43 Requirements
Cast iron.....	36%
Copper.....	31
Lumber.....	34
Steel plates.....	35
Structural shapes....	45
Zinc.....	30

Programmed construction next year will approximate only 10% of all war expenditures--construction, munitions, and nonmunitions. This year the proportion will be more than 20%; in 1941 it was almost 75%.

TOOLING-UP PHASE PASSING

As a consequence, competition for critical materials by construction on the one hand and munitions production on the other will be at the lowest point since the war program began. And this is a clear indication that the U. S. economy has completed its tooling-up phase and is in the war production stage.

Truck Troubles

SEVENTY THOUSAND TONS of natural rubber have been allocated to new truck and bus tires in 1943, but on the basis of current mileage, rubber is wearing away at a rate of 101,000 tons.

To reduce consumption to replacement possibilities, the Office of Defense Transportation is trying to cut mileage by 25% through the issuance of certificates of war necessity which restrict truck and bus operation. If this doesn't work, a more drastic plan may be tried.

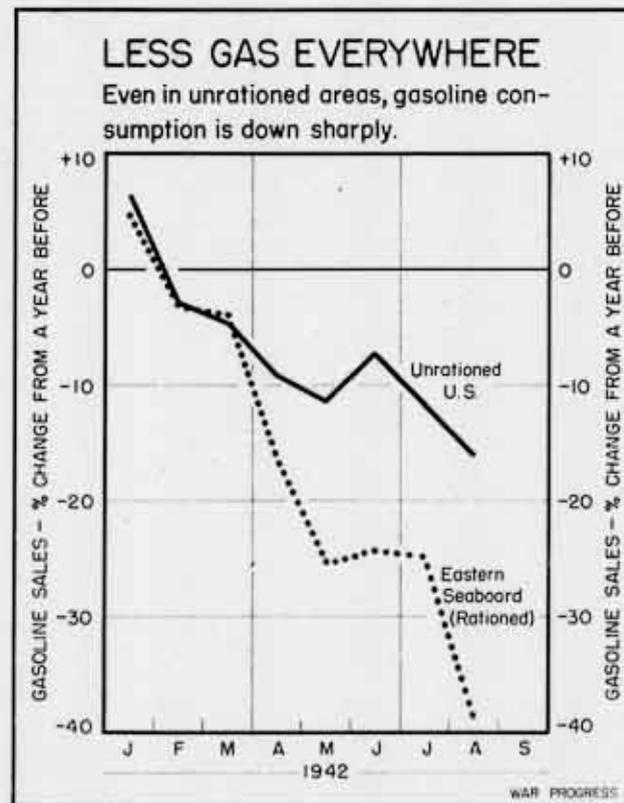
It would possibly (1) order 5½% of all commercial vehicles from the road,

(2) cut government-estimated mileage on remaining units 27½%, and (3) reduce total mileage 30.3%.

That plan would garage one out of 10 light farm trucks and petroleum and retail delivery carriers; one out of five miscellaneous delivery trucks; and one out of 20 heavy-tired public utility, farm and wholesale trade trucks.

BUSSES EXCEPTED

Mileage cuts as high as 50% on remaining conveyances are planned as follows: ice and coal vehicles, 5%; waste, scrap, and heavy mining trucks, 10%; sanitation trucks, 20%; mail trucks, 30%; petroleum carriers, 36%; retail delivery trucks, 45%; and miscellaneous delivery vehicles, 50%. Bus mileage is held at the 1941 level; firefighting truck mileage is not limited.



SUCCESSIVE MARCH, APRIL, MAY, AND JULY CUTS IN GASOLINE ALLOWANCES FOR EASTERN MOTORISTS HAVE FORCED CONSUMPTION DOWN 40% FROM LAST YEAR. TIRE CONSERVATION (SELF-IMPOSED AND OTHERWISE) EXPLAINS THE 16% DROP IN UNRATIONED AREAS.

African Arithmetic

With one-fifth of U.S. exports going to Middle East, control of Mediterranean would free shipping by bringing key ports two to six weeks closer.

ABOUT ONE out of every \$5 of American exports is affected by the North African campaign.

In the first nine months of 1942, total U.S. shipments abroad amounted to \$5,457,000,000. Of that amount, about \$1,000,000,000, or 18.5%, went to countries suppliable through the Mediterranean--Russia (via the Persian Gulf), Turkey, Egypt, India, etc. To Egypt went by far the largest amount of materials and supplies--\$375,000,000. Russia was next, getting through Persian Gulf ports about \$300,000,000 of its \$900,000,000 total shipments from the United States. (The rest went to Vladivostok, Murmansk or Archangel.)

AIDS RUSSIA, TURKEY

If the Allies control North Africa, a somewhat greater proportion of materials and equipment destined for Russia may go through the Mediterranean, thus (1) avoiding the dangerous northern route, and (2) increasing the strategic significance of the current campaign. But such an increase would depend on improving port and railroad facilities in Iran and Iraq.

Another possibility is that because of the shorter distance involved--it is only two-fifths as long to Alexandretta by way of Gibraltar as by going around the Cape (chart, page 9)--more supplies may be sent to Turkey for diplomatic purposes. In the first nine months this year, Turkey's imports from this country ran 84% over the total for the whole year 1941, largely the result of a sharp increase in lend-lease aid.

But the basic effect is to free a major quantity of shipping. The War Shipping Administration has estimated that opening the Mediterranean would be equivalent to saving two months' production of merchant vessels, or about 1,800,000 deadweight tons.

War Progress Notes

MANPOWER MATHEMATICS

BETWEEN NOW and the end of 1943, U. S. shipyards must raise their work rolls from 1,200,000 to 1,550,000 to meet schedules. But with one-tenth of the workers walking off the job each month, 2,400,000 new men would have to be taken

PLANE OUTPUT REBOUNDS

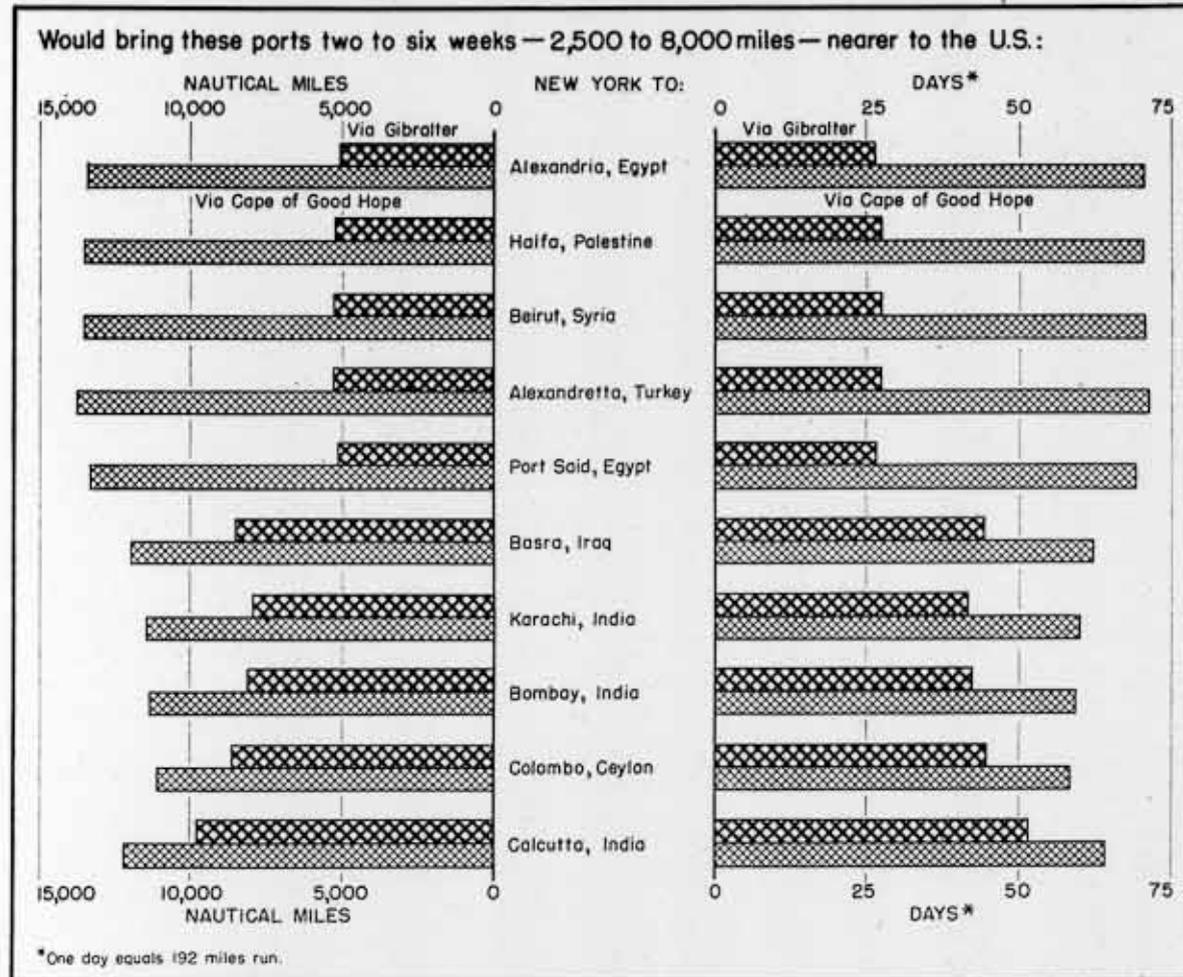
ACCEPTANCES of airplanes in the first 15 days of this month showed a 29% gain over the corresponding period in October. One of the sharpest gains on record, it suggests that the 5% drop in October (WP-Nov6'42,p7) was only a minor interruption in the longer-term uptrend.

Main factors in the November rise were fewer materials shortages and improved deliveries of Government Furnished equipment.

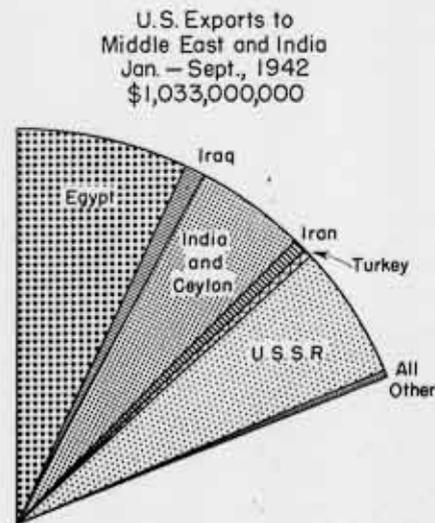
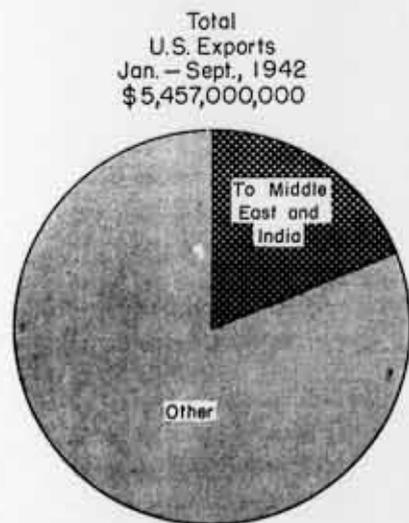
Combat planes were up 23%; service combat planes, 101%, and trainers, 65%. Despite these large gains, it is improbable that the November forecast will be attained; only one-third of the full-month schedule was achieved in the first half, leaving two-thirds to go.

However, the low October acceptance figure will undoubtedly be surpassed by a good margin this month; that seems probable even if the rate of increase should slacken off from the first 15 days.

UNLOCKING THE MEDITERRANEAN...



And that's an item, for: One-fifth of U.S. exports this year have gone to Middle East and Indian ports, headed for battlefronts on three continents:



on in the next 14 months to realize the needed net gain of 350,000 workers. Just to make good the present rate of losses in commercial shipyards through the draft and enlistments alone, 329,000 workers would have to be hired.

STEEL SAVING

COMPARED WITH 1940, the amount of steel used per \$1,000 of construction will be down some 44% next year--from .946 tons to .533 tons--as the table shows:

Year	Total Volume of Construction (in millions)	Tons of Steel Per \$1,000 of Construction
1940.....	\$ 7,085	.946
1941.....	11,380	.836
1942(est.)	14,998	.778
1943(est.)	10,725	.533

The drop reflects conservation--revised specifications, simplifications of design, substitutions, etc.--and changes in the composition of the war construction program.

THE NAVY CONVERTS

SINCE JUNE, 1940, the Navy has taken over and converted 902 vessels (excluding very small boats) not originally designed for naval use. Many were pleasure craft which do not have to be replaced during the war. However, other ships taken over, such as Liberty ships converted to aircraft escort vessels, and tankers converted to naval auxiliaries, are parts of important war programs and must be replaced.

Nevertheless, there is a tactical saving of time in conversion. During the last year it has been quicker to get an aircraft escort vessel by converting a newly built cargo hull than by starting to build an escort vessel from scratch. (In the time thus saved the escort vessel

might prevent the sinking of many cargo ships.)

From July, 1940, through September, 12.9% of the 6,985 vessels added to the Navy have been "conversions"; in some categories--such as aircraft escort vessels or gunboats--the proportion has been much higher, as the following table shows:

	Conversions as % of deliveries
Coastal convoy escorts and coastal defense vessels.....	28.5%
Minelayer.....	80.0
Aircraft escort vessels.....	100.0
Gunboat PG.....	100.0
Small subchaser 110' & 136' PC	5.5
Harbor defense vessels.....	88.7
Auxiliary vessels.....	53.6
Repair vessels.....	90.0
Tenders.....	35.3
Supply vessels.....	98.8
Transportation vessels.....	100.0
Other auxiliary vessels.....	43.2
Total (all ships)	12.9

Numerically speaking, harbor defense vessels (to a great extent former pleasure craft) lead the list in conversions. In value, conversions amount to 17% of additions to the Navy. But the proportion will decline from now on.

INDEX STABLE, COSTS UP?

MONTH BY MONTH, War Progress has been reporting rises in the cost-of-living index, caused chiefly by the rise of food prices. This may be the last of such notes. From September 15 to October 15, the index rose 1% while the food component rose 2%. But on October 5 the OPA greatly extended its control over food prices, and the index may finally be stabilized for the duration. This doesn't necessarily mean that the cost

of buying what you used to buy won't continue to rise. Deterioration of quality, elimination of low priced lines, restriction of variety, reduction of deliveries and other services, may continue to raise the real cost of living. But these increases won't show up in the index--necessarily.

SPLITTING THE DIFFERENCE

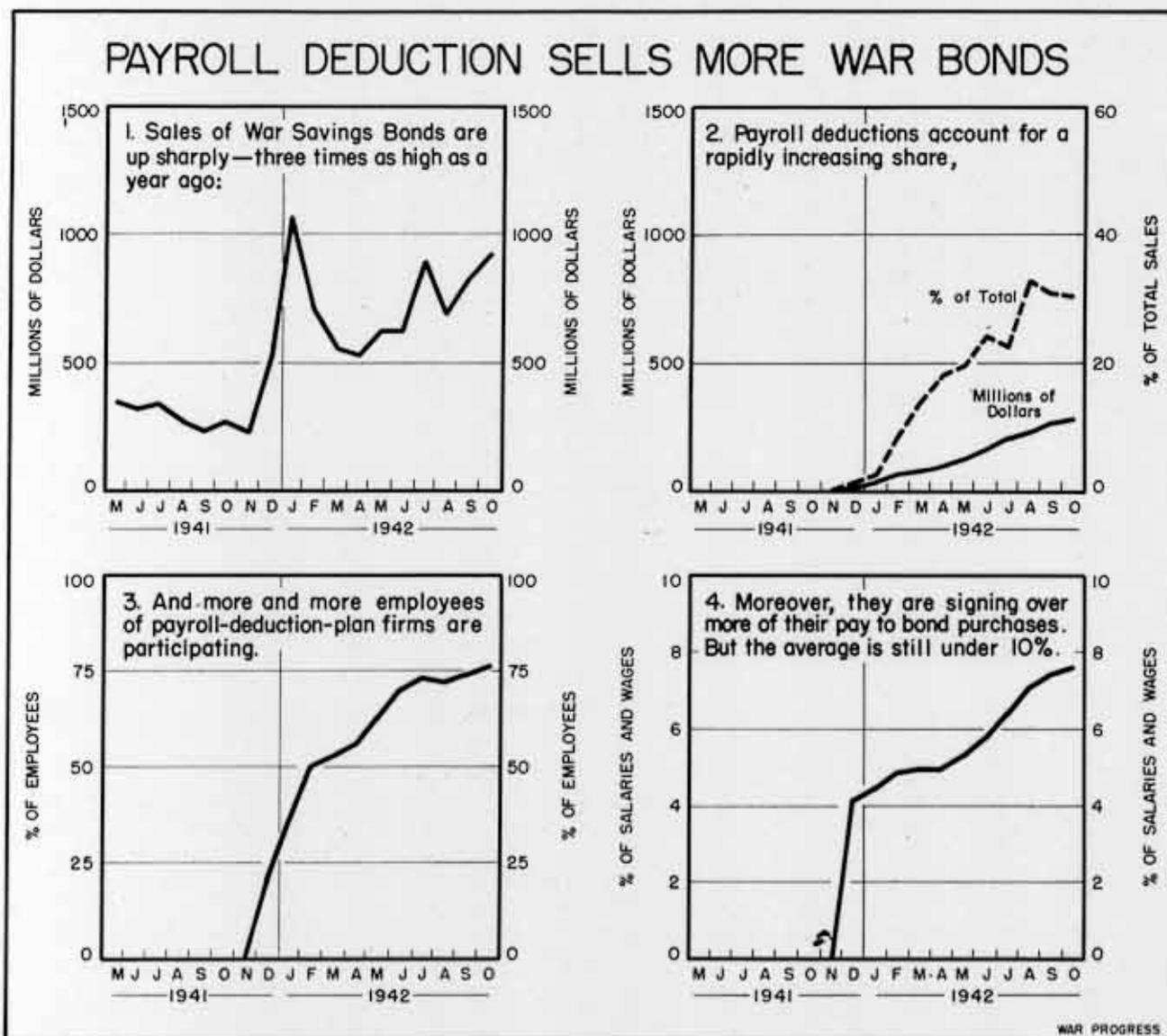
TYPICAL of what has been going on in standardization of construction materials is the new 3-inch Victory cast-iron soil pipe. Instead of three weights--standard (26 lbs.), medium (31 lbs.), and extra heavy (45 lbs.)--it has been standardized at 30 pounds per five feet.

Similar weight reductions have been made in other diameters, ranging from 2 to 15 inches.

MILLIONS OF BOND BUYERS

NEARLY 40% of the workers in the U.S.--21,300,000 in all--are now participating in payroll deduction plans for purchase of war bonds and account for 30% of total sales (chart, below). Although a 10% slice of weekly pay is the goal, the contribution of participating workers now averages only 7.7%.

Two million in the armed forces are also participants, bringing the total to 23,300,000. That's double what it was six months ago.



But stockpiling accounted for the biggest proportionate gain, as follows:

	% of Total Output	
	1939	1942 (Est.)
Railroads.....	19%	20%
Coke ovens.....	16	18
Electric utilities...	12	11
Other (including domestic).....	49	44
Exports.....	3	2
Increase in stocks...	1	5

As of September 1, consumers had some 82,700,000 tons of bituminous coal on hand, equivalent to 64 days' supply at the current rate of consumption--the

highest ever recorded (chart, page 6). And by November 1, a fresh peak of 90,000,000 tons is expected.

This stockpile will help to bridge local transportation difficulties, balance seasonal spurts in consumption, and offset possible shutdowns at the mines. But its value is essentially as an emergency stopgap.

Requirements for 1942 will probably be met with the current work week--7 hours a day, 5 days a week--chiefly because production was not interrupted by a strike last spring. (In 1941, as in 1939, renegotiation of a biennial labor agreement brought a shutdown of a month.) But to meet the record demand next year, hours will have to be increased and the labor loophole blocked.

WSA: Calling All Tars

Propaganda, psychology, and higher pay recruit men for expanding merchant marine. Skilled personnel a problem as engineers, mates, and radio operators are in demand.

SOMEWHERE ashore in the United States there are about 300,000 men with seafaring experience--five times the number now manning our existing merchant marine--but early this year, before the government stepped in, many American ships couldn't sail because of crew shortages. At one point 30 Allied ships laden with munitions, food and other vital supplies were tied up in New York harbor for lack of full crews to take them to sea.

For the most part, sailings were held up for want of specially skilled personnel--a third officer, or third assistant engineer, or radio operator. Nonetheless, the manifestation was important since the shipbuilding program was really just getting under way. In July of this year, our active merchant ships numbered

about 1,200 and employed something under 55,000 seamen. By October, deliveries of 130 new freighters and tankers were due and would require approximately 5,600 additional personnel, a jump of about 9%. And when our merchant fleet reaches its scheduled peak at the end of 1943, it will need 90,000 new men.

CASE HISTORY IN MANPOWER

The War Shipping Administration, through its Recruitment and Manning Organization, has made headway toward averting the shortage threat. And though the sea is a calling all its own, what WSA has done has some points of general application, indicating as it does how propaganda, psychology, apprentice training, and labor recruiting can be brought to bear against a manpower deficiency.

Merchant marine manpower in the U.S. has been declining for several years--many a first and second engineer retired to an apartment house boiler room

ECONOMIC TRENDS

Hours and Earnings

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
HOURS AND EARNINGS							
Average hours worked per week							
All manufacturing industries	42.4	42.8	42.4	42.5	40.9	38.0	37.5
Durable goods	44.6	45.2	44.7	44.7	42.3	38.2	38.8
Nondurable goods	39.6	39.9	39.6	39.8	39.5	37.8	36.3
Selected industries							
Aircraft	47.3	46.7	46.6	47.6	45.5	40.0	38.8
Aluminum	45.4	44.9	44.8	44.8	42.4	39.6	39.2
Automobiles	43.7	44.5	43.3	43.5	38.7	36.9	34.1
Bituminous coal	33.5	31.9	29.7	31.6	31.5	28.5	27.5
Brass, bronze, and copper products	45.7	46.0	45.9	45.3	43.8	40.9	38.1
Copper, lead, and zinc smelting and refining	41.5	41.2	40.9	40.1	39.1	36.9	40.2
Electrical machinery	46.0	46.1	46.0	45.8	43.6	38.9	38.4
Engines and turbines	n.a.	48.8	48.4	49.9	47.1	39.6	38.5
Explosives	p45.9	46.2	45.6	44.9	43.2	39.0	38.9
Foundry and machine shop	p47.7	49.0	48.4	48.6	45.4	38.9	40.4
Iron and steel	p40.0	40.1	39.2	41.1	38.9	35.2	37.5
Machine tools	50.9	52.8	52.7	54.6	51.4	43.0	44.2
Metalliferous mining	45.4	44.6	43.3	44.4	41.6	39.6	43.6
Railroad equipment	43.7	44.7	44.1	44.2	40.1	35.3	38.6
Rubber products	41.5	42.2	41.4	40.6	38.5	37.6	34.6
Shipbuilding--private yards	46.8	47.7	48.2	48.4	44.8	37.4	35.8
Steam railroads	46.8	46.6	47.1	46.9	45.7	44.2	42.8
Average hourly earnings (cents)							
All manufacturing industries	88.5	86.4	85.0	80.9	75.8	63.8	64.7
Durable goods	99.4	96.6	94.6	89.9	84.3	70.9	70.3
Nondurable goods	75.0	73.8	73.2	70.7	66.8	58.3	59.6
Selected industries							
Aircraft	100.8	99.3	99.1	95.6	84.7	74.2	69.6
Aluminum	95.7	93.6	92.0	89.7	85.7	70.3	68.2
Automobiles	118.6	114.5	114.4	113.6	107.9	93.4	91.4
Bituminous coal	107.0	109.7	108.7	106.2	103.4	89.6	89.0
Brass, bronze, and copper products	107.6	108.4	105.6	97.0	88.7	71.4	73.4
Copper, lead, and zinc smelting and refining	92.0	91.4	90.8	88.5	82.6	70.0	69.7
Electrical machinery	95.9	92.6	91.6	90.6	85.5	74.0	73.1
Engines and turbines	n.a.	118.9	117.5	115.3	101.7	78.7	77.1
Explosives	p101.3	97.1	97.6	97.3	90.5	80.7	79.5
Foundry and machine shop	p97.3	95.8	94.3	88.1	82.9	71.5	70.3
Iron and steel	p107.9	104.1	101.4	99.0	97.1	84.5	84.2
Machine tools	99.0	98.7	97.5	94.3	87.1	75.0	73.3
Metalliferous mining	89.7	91.4	92.2	86.5	82.1	70.1	71.6
Railroad equipment	106.8	104.9	103.6	97.9	87.8	75.0	75.0
Rubber products	94.9	93.6	93.3	90.1	85.9	76.8	78.6
Shipbuilding--private yards	124.8	118.9	113.8	107.8	104.3	82.5	83.2
Steam railroads	81.0	80.7	80.7	83.6	70.7	69.2	67.4

*September, except steam railroads, which are August. n.a. Not available. p Preliminary.

ECONOMIC TRENDS

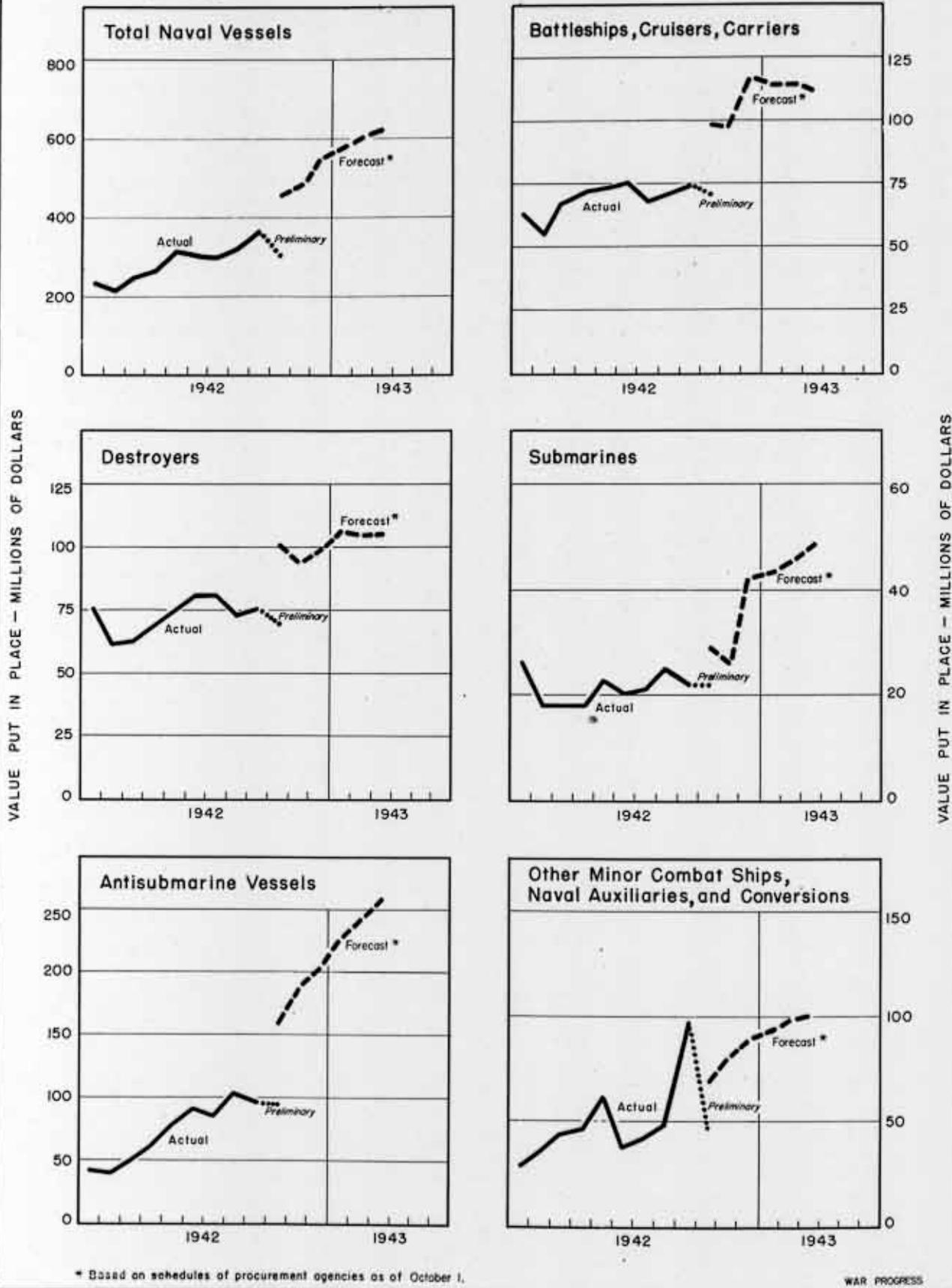
Hours and Earnings (cont.)—Cost of Living—War Employment

	Latest Month *	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
HOURS AND EARNINGS (continued)							
Average weekly earnings (dollars)							
All manufacturing industries	37.88	37.38	36.43	36.11	32.06	24.70	24.73
Durable goods	44.47	43.82	42.51	41.94	36.82	28.15	28.01
Nondurable goods	29.71	29.39	28.94	27.68	25.78	21.54	21.28
Selected industries							
Aircraft	47.19	46.24	46.01	45.24	38.23	29.07	26.62
Aluminum	43.44	41.97	41.20	40.10	36.31	27.94	26.69
Automobiles	51.85	51.76	49.79	49.34	41.72	34.41	31.18
Bituminous coal	35.64	34.13	32.18	33.20	32.75	25.51	24.37
Brass, bronze, and copper products	49.02	49.59	48.26	43.77	38.65	29.15	27.94
Copper, lead, and zinc smelting and refining	38.28	37.84	37.62	35.48	32.29	25.85	28.01
Electrical machinery	43.75	42.40	41.87	41.52	37.24	28.71	28.05
Engines and turbines	n.a.	58.13	56.91	57.49	47.59	30.97	29.29
Explosives	p46.23	44.83	44.51	43.68	39.04	31.52	30.89
Foundry and machine shop	p46.95	47.02	46.09	42.90	37.77	27.86	28.42
Iron and steel	p43.30	41.97	41.67	40.67	37.81	29.77	31.48
Machine tools	50.67	52.12	51.41	51.43	44.74	32.19	32.36
Metalliferous mining	40.69	41.22	38.90	38.37	34.04	27.60	31.22
Railroad equipment	46.72	47.10	45.74	43.36	35.28	26.49	28.93
Rubber products	39.23	39.46	38.88	36.12	32.65	28.93	26.64
Shipbuilding—private yards	58.63	56.93	55.11	52.35	46.82	31.41	30.34
Steam railroads	37.90	37.60	38.03	39.17	32.34	30.63	28.87
COST OF LIVING (1935-39=100)							
All items	119.0	117.8	117.5	115.1	109.3	100.3	104.0
Food	129.6	126.6	126.1	119.6	111.6	97.6	106.5
Other than food	113.6	113.3	113.2	112.9	108.2	101.7	102.7
Clothing	125.9	125.8	125.2	126.5	112.6	a100.3	a105.1
Rent	108.0	108.0	108.0	109.2	107.5	a104.4	a102.1
Fuel, electricity, and ice	106.2	106.2	106.2	104.3	104.0	a98.6	a100.0
Housefurnishings	123.6	123.6	123.0	121.9	114.4	a101.1	a106.7
Miscellaneous	111.7	111.4	111.1	110.6	106.9	a101.1	a101.7
WAR EMPLOYMENT (thousands)							
Federal civilian							
War Department—total	1,013	944	873	647	381	104	
Manufacturing arsenals	88	87	84	70	52	15	
Navy Department—total	514	501	476	376	255	92	
Ship construction and repair	342	338	319	265	177	65	
Office of Emergency Management	65	63	57	22	6	-	
Construction (noncontract)	35	35	34	24	12	n.a.	
War projects of WPA	140	168	242	317	335	n.a.	
War construction—private (contract)	1,205	1,302	989	643	435	7	

*Hours and Earnings, September, except steam railroads, which are August. Cost of Living, October. War Employment, September. a September figures; October, 1939 and 1937 not available. n.a. Not Available. p Preliminary.

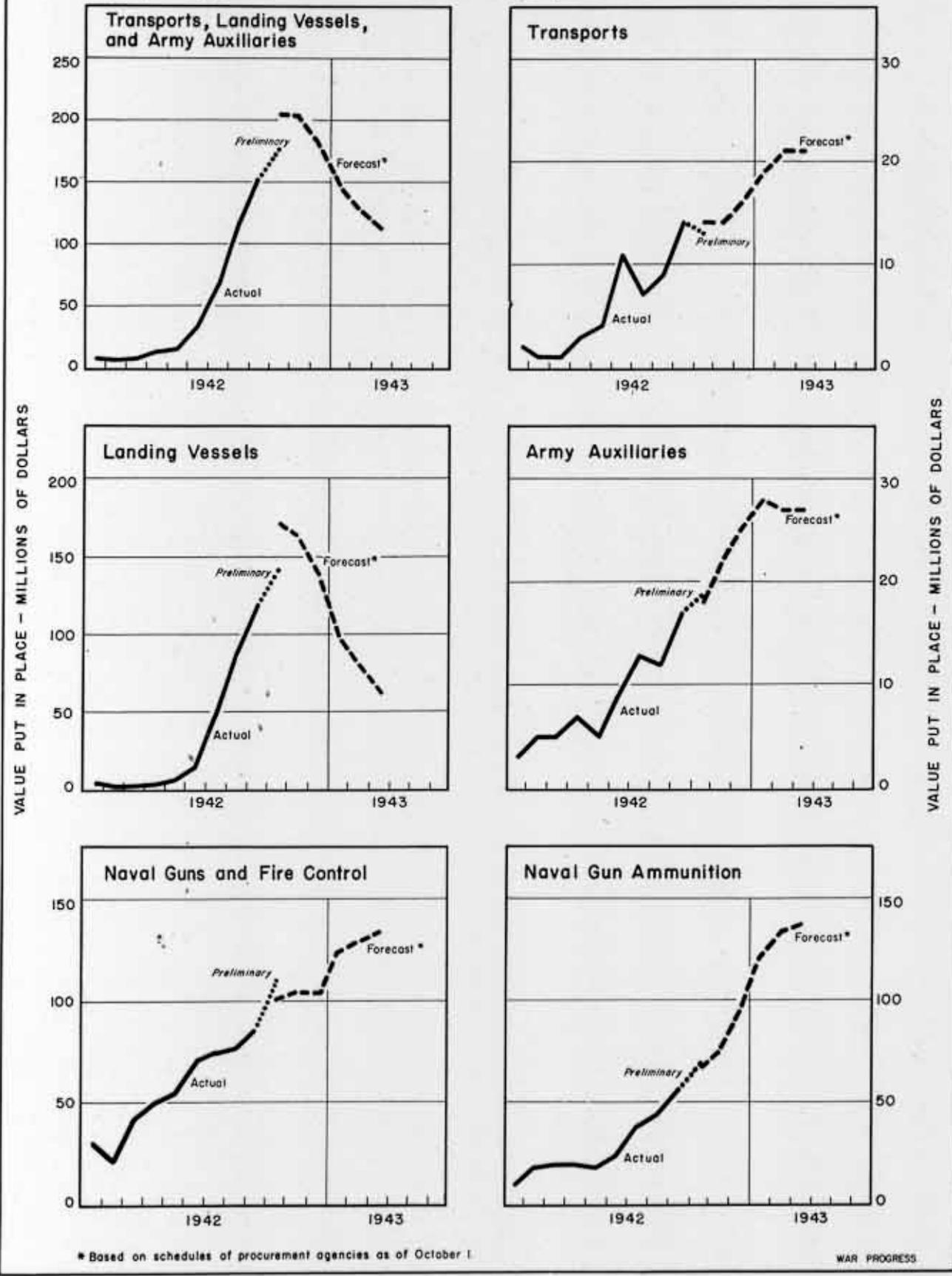
PRODUCTION PROGRESS

Naval, Army, and Merchant Ships and Equipment



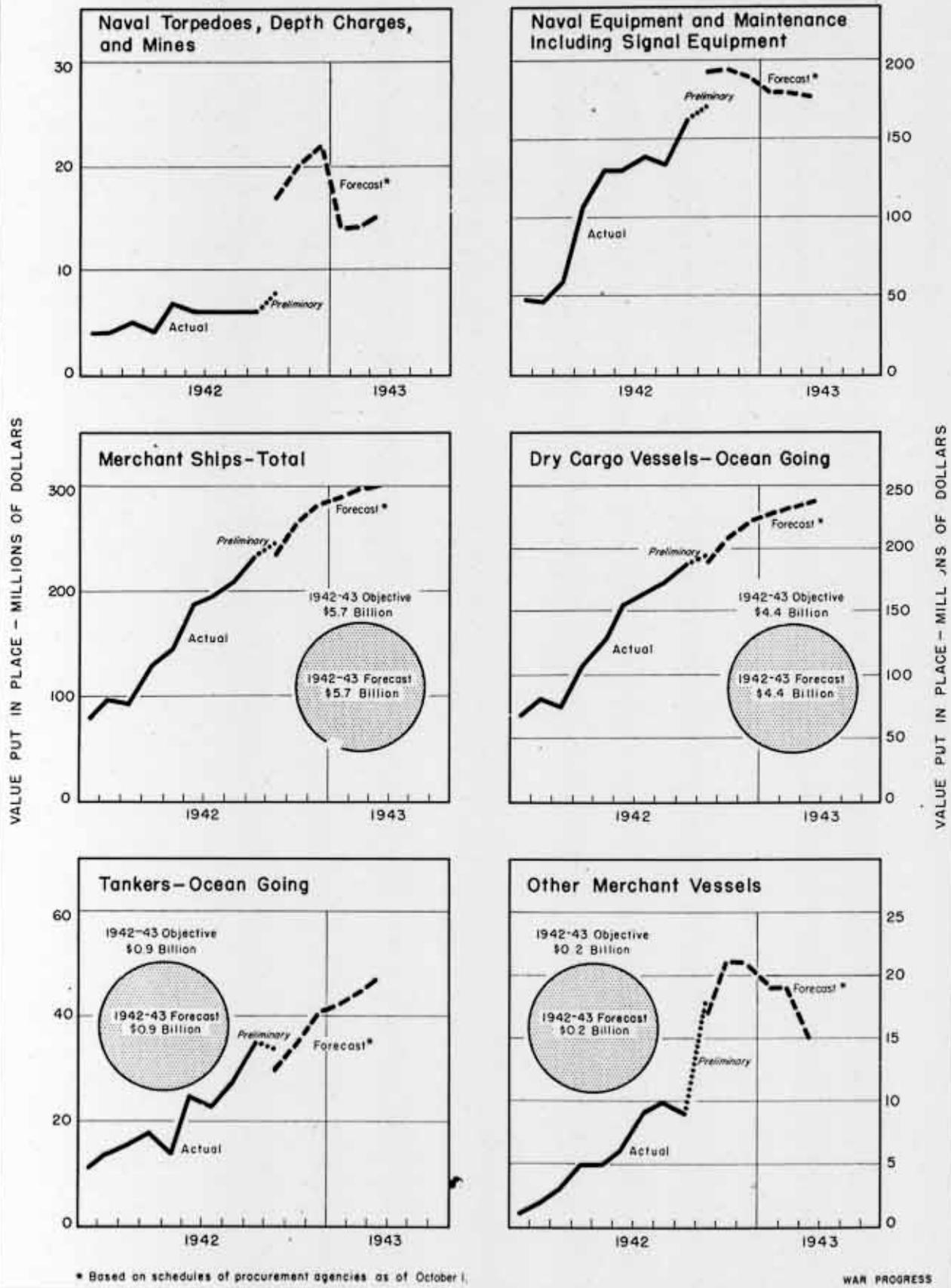
PRODUCTION PROGRESS

Naval, Army, and Merchant Ships and Equipment (Continued)



PRODUCTION PROGRESS

Naval, Army, and Merchant Ships and Equipment (Continued)



WAR PROGRESS

Confidential
(British Secret)

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Prospects for Aluminum (and Planes)

Fifth Straight Rise in Lend-Lease

Number 115

November 27, 1942

Plane Problem: Fabricated Aluminum

There are probably enough ingots to meet all needs. But shortages in facilities to work the hard alloys used in planes are in prospect for '43.

PRIOR TO 1939, less than one out of every 10 pounds of aluminum went into airplanes; today, 60 out of 100 pounds go into airframes, propellers, parts, etc.; and next year the proportion will be even higher--80% or so (chart, page 3).

FIVEFOLD INCREASE

With the expansion of the airplane program--from a few hundred planes a month in 1940 to thousands per month today--demand for raw aluminum (for all purposes) has increased more than fivefold. But supply has increased accordingly:

Year	Pounds
1940.....	600,000,000
1941.....	800,000,000
1942 (est.).....	1,700,000,000
1943 (est.).....	3,000,000,000

Indeed, before 1943 is out, supply will reach an annual rate of 3,300,000,000 pounds and throughout most of the year ought to come close to satisfying requirements for (1) greatly expanded airplane output, (2) other indicated military uses, and (3) essential civilian needs--unless plane schedules should shoot up sharply beyond the 8-K initial program.

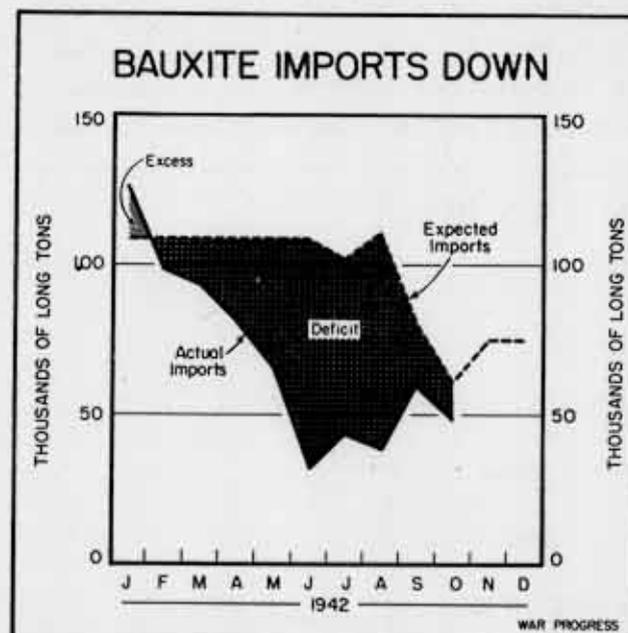
It's true there is a temporary pinch in raw aluminum now, but that will be alleviated when a big alumina plant comes into operation in January.

By and large, the real aluminum prob-

lem is in fabricating facilities, not in ingot capacity. For this there are two main reasons:

1. The fabricating facilities program started practically from scratch. Whereas prewar alumina and aluminum plant facilities were just as good for wartime as peacetime needs, fabricating plants had to be virtually built anew. They were designed for working soft aluminum alloys used in pots, pans, furniture, and other nonwar products. But wartime products, such as planes, require hard aluminum alloys almost exclusively. Retooling, converting, and new plants were necessary to satisfy mounting airplane and other war requirements.

2. Time lags in plant building automatically created shortages in fabricating facilities: It takes 15 months



IMPORTS OF HIGH-GRADE SOUTH AMERICAN BAUXITE HAVE LAGGED THIS YEAR, AND, TO MEET BIG ALUMINA DEMAND, LOW-GRADE DOMESTIC BAUXITE IS BEING USED IN PLANTS DESIGNED FOR HIGH GRADE. TWO ALUMINA PLANTS, BUILT TO HANDLE LOW-GRADE BAUXITE, WILL BE OPERATING BY NEXT JANUARY; AND DEPENDENCE ON IMPORTS WILL DECLINE.

to build a plant which converts bauxite into alumina, 9 months to erect a plant which converts alumina into pig aluminum; 15 months to build a sheet mill; 12 months for an extrusion mill; 15 months for a rod and bar mill.

DE-SYNCHRONIZATION

Each time the airplane program was raised, calling for increased quantities of aluminum ingots as well as extrusions, rods, bars, etc., the plant-building program was more or less de-synchronized, especially if, for example, construction of an alumina plant and a rod and bar mill were not--for some reason or other--begun simultaneously. And, oftentimes, difficulties in getting deliveries of heavy machinery for fabricating plants prolonged the construction period.

BALLOONED REQUIREMENTS?

In some cases, impending shortages of fabricated aluminum may prove to be more statistical than real. Stated requirements of airplane manufacturers have sometimes run considerably higher than actual consumption of fabricated products per plane. And that has tended

to balloon overall U. S. requirements.

Thus, though high-strength sheet consumption is now calculated beyond capacity, actually it is doubtful whether demand will exceed supply next year. That's partly because some plane manufacturers have substantial inventories, on which they could run without deliveries for several weeks; partly because experience has shown that the capacity of sheet mills can be raised substantially with comparatively small additions of capital equipment; and partly because plane makers' estimates of needs have been liberal.

AGGRAVATING SHORTAGES

But in extrusions, rods and bars, large and sma'l hammer forgings, and several other types of fabricated aluminum, requirements have already outrun supply, and plane output has been held up as a result (WP-Nov6'42,p7). Rapidly expanding plane production is apt to aggravate these shortages during the next few months--especially in extrusions. For plane output will have to more than double from current levels by mid-1943, if the 8-K initial (or some similar program) is to be realized.

After the middle of 1943, the squeeze will lessen somewhat, for new plants--construction of which started early this year after President Roosevelt's announcement of his plane objectives for 1942 and 1943--will then be coming into production.

SHIFTING BATTLE

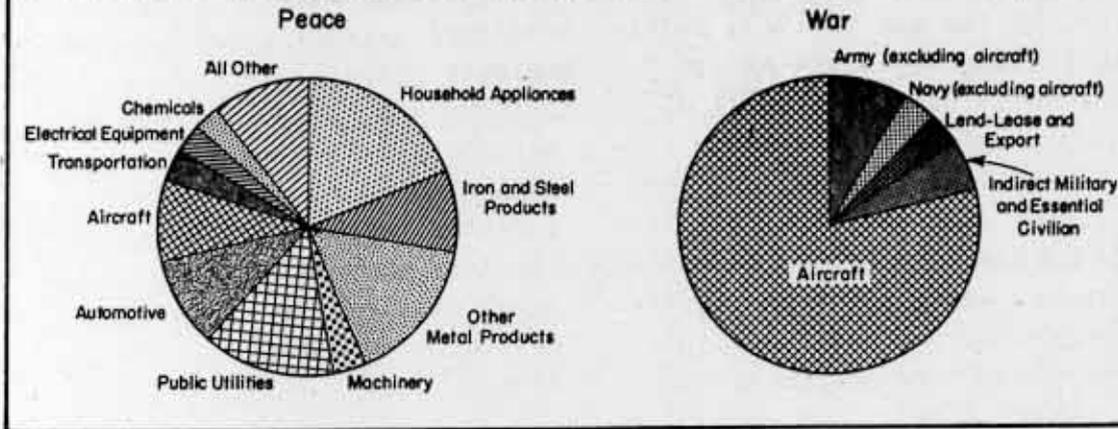
Even so, throughout 1943 the battle to keep the supply of fabrications up to demand will be a shifting one. If extrusions are short, say, and pressure is concentrated to build up capacity, then the increased extrusion output may cause rod and bar mills to become the bottleneck; when rod and bar capacity

IN THIS ISSUE:

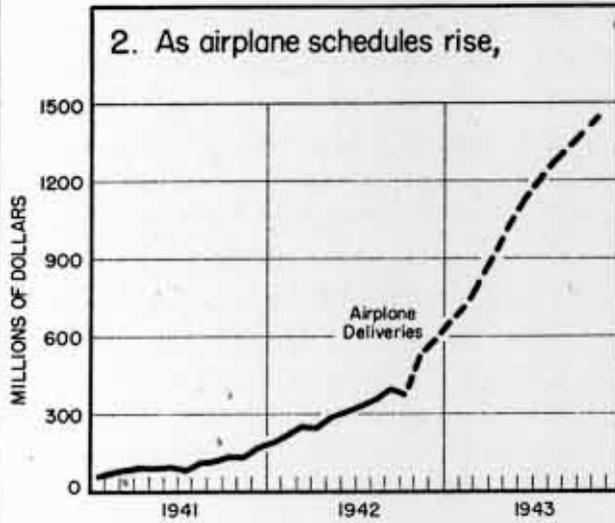
PLANE PROBLEM: FABRICATED ALUMINUM . . .	1
CUTS FOR GROUND ARMY	4
LEND-LEASE REACHES ANOTHER HIGH	5
BATTLE LESSON ON SPARES	7
WAR PROGRESS NOTES	8
KEY STATISTICS	9
ECONOMIC TRENDS (TABLES)	10,11
PRODUCTION PROGRESS (TABLES)	12,14,16
PRODUCTION PROGRESS (CHARTS)	13,15

AS PLANE OUTPUT GOES, SO GOES ALUMINUM

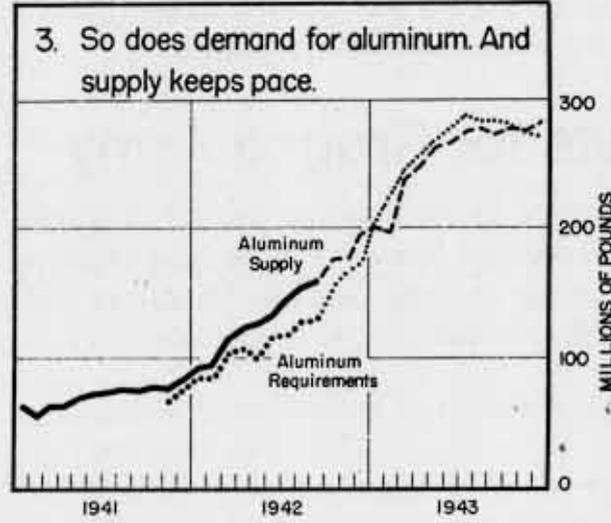
1. Demand for aluminum shifts from pots, pans, and miscellaneous items to airplanes.



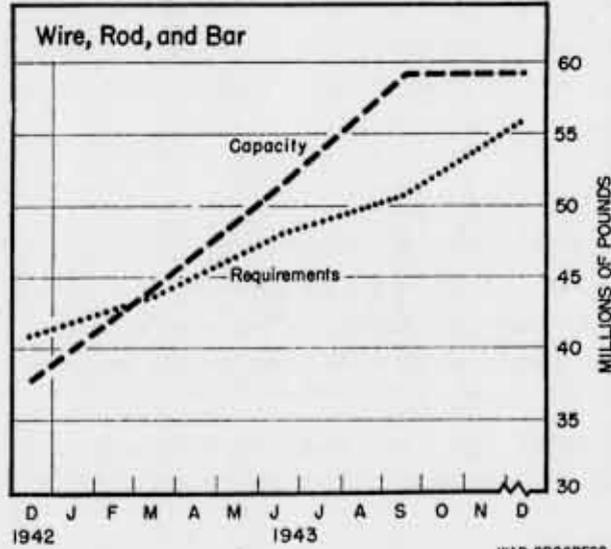
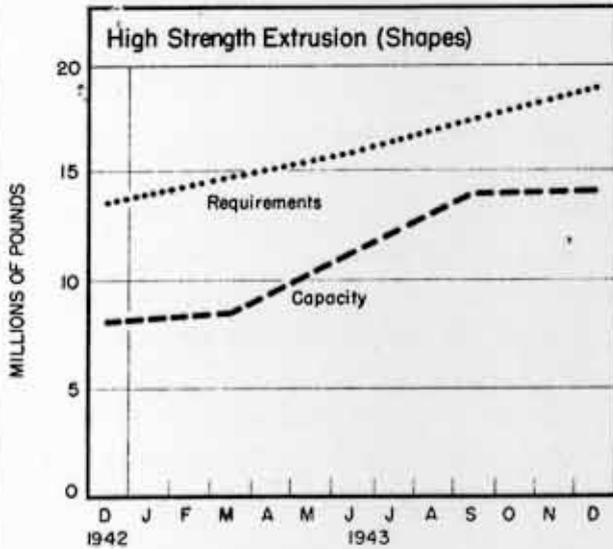
2. As airplane schedules rise,



3. So does demand for aluminum. And supply keeps pace.



4. But the real problem right now is not raw aluminum, but capacity of fabricating plants. For example:



is lifted, then the increased volume there may call for more forgings. Thus, the elimination of one shortage tends--circularly--to create another.

NEAR-TERM SQUEEZE

However, by the end of 1943, sufficient fabricating capacity--except for extrusions--will have been built up to meet monthly airplane requirements (under the 8-K initial program) and indicated military and essential civilian needs. In the meantime, better balancing of inventories among plane manufacturers, standardization and substitution (die castings for forgings, for instance) wherever possible, and closer scheduling of requirements to actual consumption would go a long way toward alleviating the squeeze immediately ahead.

Cuts for Ground Army

1943 goal for Section I of Supply Program is reduced about 22% and may be precursor of more feasible objectives and closer scheduling of production.

REQUIREMENTS for ground army equipment for 1943--Section I of the Army Supply Program--have been cut back about \$5,500,000,000, or 22%.

This reduction represents a decisive move toward bringing production objectives into line with available raw materials, and hence is a necessary first step toward making the Controlled Materials Plan work.

MEDIUM TANKS CUT

Nearly half of the cut--\$2,500,000,000--represents a reduction in the medium tank program (WP-Nov20'42,p1). And a large part of that comes out of International Aid.

Some of the more significant alterations in Section I of the Army Supply

Program by groups were as follows (preliminary):

	1942 Objective	1943 Objective
Combat vehicles.....	- 7%	-47%
Artillery.....	-27	-33
Engineer Corps.....	+ 5	-15
Antiaircraft materiel.....	- 4	-28
Small arms & infantry weapons...	nil	-13
Artillery ammunition	- 8	-18
Signal service.....	- 4	- 4
Small arms ammunition.....	- 6	-13

By no means can all of the cutback be regarded as "net." Even though the Army has revised the 1942 objective for Section I downward by \$400,000,000, the new objective of \$11,900,000,000 will exceed full-year output by about \$1,500,000,000. Presumably that \$1,500,000,000 deficit will have to be made up next year to meet the cumulated requirements of the Army at the end of 1943, in which case the apparent \$5,500,000,000 reduction in the 1943 objective becomes \$4,000,000,000, or only 16% instead of 22%.

TOWARD FEASIBILITY

In any case, the reduction is probably a precursor of other revisions in the 1943 overall objective for munitions production and war construction from the recent level of \$92,500,000,000 to a more feasible figure of, say, between \$75,000,000,000 and \$80,000,000,000 (WP-Nov13'42,p3). Also it is presumably a precursor of more careful scheduling of production; for, as 1943 objectives get down, it is logical to expect that the forecasts, or monthly schedules, will be more accurately attuned to feasibility.