WPB: "War Progess" Feb.-Aug. 1944

The President

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WAR PROGRESS

C. F.
War Production Board

Confidential

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No. 1 Trouble Area

Bringing the '44 Program up to Date

CMP: From Too Little to Enough

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February 26, 1944

WAR PROGRESS

Prepared in the War Production Board

Donald M. Nelson, Chairman

War Progress is a confidential report designed to provide a coordinated and continuing picture of the overall war program for the various war agencies. To this end, it presents, analyzes, and interprets basic statistical and economic information, and from time to time examines the pros and cons of controversial questions.

Although War Progress is an official publication of the War Production Board, statements in it are not to be construed as expressing official attitudes of the Board as a whole, or even of individual members. Conclusions, whenever reached, should be considered editorial conclusions.

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Los Angeles: Tightest Tight Spot

Enlargement of Army embarkation center and influx of war contracts boost labor requirements. Housing is short and in-migration has fallen. Something must give.

TO LOS ANGELES goes the dubious distinction of being the foremost manpower trouble spot in the United States.

Of 1,500,000 workers in the area, major war industries and transportation companies today employ over 400,000. But in the next 30 to 60 days, they indicate they'll need 33,000 more; and in six months, they'll need another 23,000. Thus all told, between now and the summer, 56,000 additional workers must be dug up; that's one worker for every seven now employed by these industries.

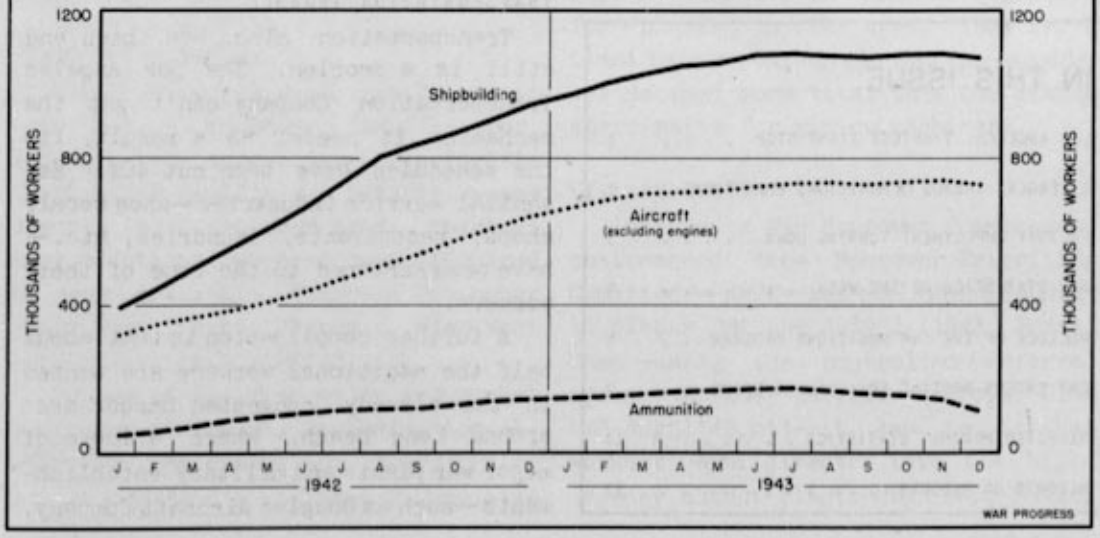
Nor is that the full measure of the recruitment problem. Unquestionably a large number of workers will be drafted. And those, too, will have to be replaced if war production schedules are to be met.

What makes the job so important is that Los Angeles is choking with high-urgency war orders: 78% of its war production is in aircraft; another 13% in ships or parts for ships; the remaining 9% includes 100-octane gasoline, synthetic rubber, and radio and radar. And these particular industries, together with the ship repair program, are asking for 75% of the additional workers. Further, manpower is needed for railroads and transportation facilities; for the enlargement of the Army embarkation center at Long Beach (first, construction workers are required; after that, permanent stevedores as well as other miscellaneous help).

Here is the demand side of the Los

DIVERGENT TRENDS IN MUNITIONS EMPLOYMENT

After steep rises, aircraft and shipbuilding rolls have held fairly steady. Ammunition plants, reflecting cutbacks, have been laying workers off since July.



Angeles ledger for major war programs:

Program	30-60 Days	Total 6 mos.
Aircraft & parts.....	14,121	14,121
Ship repair.....	1,535	12,545
Railroads.....	6,723	6,723
Tires.....	2,426	6,069
Army embarkation port.	—	5,400
Landing craft (incl. subcontracts).....	2,679	4,379
Maritime Commission...	2,990	2,990
Local transport.....	1,972	1,972
Radio & radar.....	317	910
100-octane gas.....	406	722
Synthetic rubber.....	388	388
Total.....	33,557	56,219

None of the usual solutions is available. Womanpower has been drawn on extensively throughout the Los Angeles area, and it is not likely that many more women can be induced to leave their homes for industry. Experience in recruiting workers from outside a labor shortage area has not been very fruitful, but even this avenue cannot be overlooked.

At one time, Los Angeles drew heavily on other regions for its labor supply. Wages were high, the work pleasant, and the climate a strong selling point. Copper miners, particularly, went west. But of late, in-migration has been virtually nil, and the few in-migrants who do come in are not skilled workers; usually, they're persons who haven't worked in years.

The problem, specifically, is housing and community facilities. Los Angeles, like many war-born production areas, is congested. And the war housing program is not up to schedule. The labor to build the houses for the workers to live in can't be found. Some 66,000 family units have been planned for the area; only 35,000 have been completed. And within the next two months, when the peak of the current demand for workers is to be reached, only 4,600 dwelling units are scheduled to be finished. It seems clear that 33,000 new workers, if brought from the outside, will not be able to squeeze into that number of new homes, plus the few available places vacated by nonworkers. However, Los Angeles will get a good share of the 10,500 units whose construction in that area and in San Diego is being expedited with an AA-1 rating. And as a further stopgap, 3,000 trailers are being moved into the area.

TRANSPORTATION TROUBLE

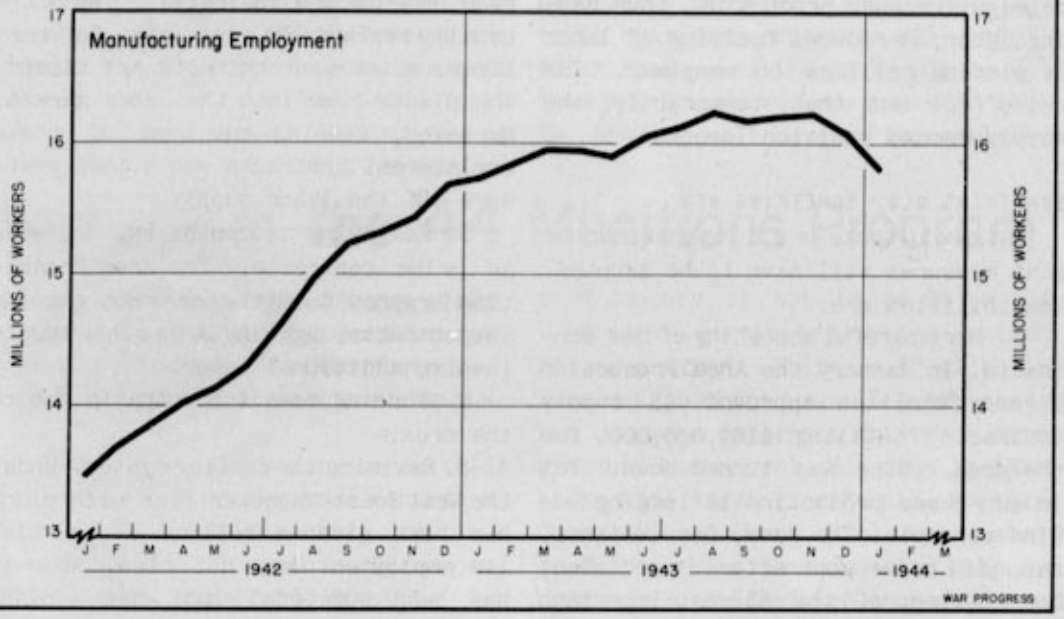
Transportation also has been and still is a problem. The Los Angeles Transportation Company can't get the mechanics it needs; as a result, its bus schedules have been cut 40%. Essential service industries—shoe repair shops, restaurants, laundries, etc.—have been stripped to the bone of their workers.

A further complication is that about half the additional workers are wanted in the already congested harbor area around Long Beach, where a score of major war plants and military establishments—such as Douglas Aircraft Company,

IN THIS ISSUE:

FACTORY EMPLOYMENT TURNING DOWN

In January, employment in all manufacturing plants dropped to the lowest level in a year, 2.5% below the August peak.



the Army's port of embarkation, and the Navy's Roosevelt (fleet) Base—are clustered. This area is about 20 miles from Los Angeles proper, and has its own transportation, housing, and service-trade problems. It is, therefore, a critical labor area within an already tight labor area.

PERSISTENT PROBLEM

Los Angeles has persistently had to cope with a manpower insufficiency. Indeed, last summer the whole Pacific Coast—from Seattle to San Diego—was one big labor shortage area. Twice as many additional workers were required as were available. Then—in September—the West Coast Manpower Plan went into effect (WP-Oct30'43,p1).

In each of the five major industrial areas on the coast, including Los Angeles, a War Production Board-chairmanned Area Production Urgency Committee—APUC—was set up to represent the Army, Navy, Maritime Commission, War Manpower Commission, etc. Its chief jobs were (1) to review all new prime contracts requiring additional workers and (2) to determine—under guidance of the WPB Production Executive Committee in Washington—relative production urgencies for plants in the area. That is, a plant turning out airplanes, for example, was decreed more vital than one making spare parts for mining machinery.

CEILING SYSTEM

In turn, a War Manpower Commission-chairmanned Area Manpower Priorities Committee—AMPC—set employment ceilings in plants at the July 1, 1943, level; then—using the controlled referral system of the Buffalo Manpower Plan (WP-Aug21'43,p1)—it saw to it that workers were directed into the high-urgency output plants which were having

difficulty in getting their employment up to their permitted ceilings.

The West Coast plan had a double effect: It shunted out of the Los Angeles area nonwar production, thus saving labor; it reduced hoarding of labor by placing ceilings on manpower. The net effect was that, temporarily, the supply-demand position loosened.

SOMETHING OLD, SOMETHING NEW

But now it looks as if further stringent measures will have to be adopted. Possibilities are:

1. More careful screening of new contracts. In January the Area Production Urgency Committee approved 43 supply contracts, totaling $169,000,000, for the area. None was turned down. Yet in many cases production is lagging behind schedule. The Navy, for instance, has 1,584 prime contractors in and about Los Angeles; of the 63 most important ones, 47 are behind schedule.

2. Review of all new contracts for the area. Under the present procedure, plants are permitted to accept contracts without review if no additional labor requirements are indicated. These are usually replacement contracts. But many times, after such contracts are placed, the plants come into the labor market. Moreover, keeping out some of these replacement contracts would take pressure off the labor supply.

3. Reviewing subcontracts, as well as prime contracts. The Area Production Urgency Committee does not examine subcontracts, and many large subcontracts involve additional labor.

4. Forcing some subcontracts out of the area.

5. Revising the ceiling system. Under the West Coast Manpower Plan each plant has been given a ceiling above which its employment may not rise. And it has been suggested that when a plant exceeds its production schedule, its

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program-Checks paid (millions of dollars)	1,653	2,104	1,477	1,777	1,527
War bond sales (millions of dollars)	676	589	322	165	212
Wholesale prices (1926 = 100)					
All commodities	103.3p	103.1p	103.0p	102.8	102.4
Farm products	122.8p	121.9	121.9	123.8	120.0
Foods	104.1	104.0	104.6	105.8	105.7
All other than farm products and foods	98.2p	98.1p	97.9p	97.3	96.4
Petroleum:					
Total carloadings	53,030	51,264	48,142	58,213	51,994r
Movement of cars into the East	23,631	22,272	21,811	30,111	26,152
Total stocks of residual fuel oil (thousands of barrels)	52,965	52,453	53,431	66,724	70,428
Bituminous Coal:					
Production (thousands of short tons, daily average)	2,158p	2,142	2,125	2,005	2,033
Freight cars unloaded for export, excluding grain (daily average)					
Atlantic Coast ports	2,540	2,788	3,183	2,584	1,226
Gulf Coast ports	358	310	436	353	398
Pacific Coast ports	1,348	1,182	1,328	1,444	980
Steel operations (% of capacity)	97.7	97.7	96.5r	99.4	98.9
Department store sales (% change from a year ago)	-9	-21	+15	+15r	+33

p. preliminary r. revised

ceiling be reduced. Contractors are loath, therefore, to beat schedules. They might lose labor. The net result is that the ceilings, though they forced dehoarding of labor initially, now tend to cause hoarding. A progressive reduction of ceilings each month has been offered as the answer. That would force the contractors to get the most out of their labor per given war contract.

In the final analysis, however, no single method will work. A general tightening up all along the line is necessary. Labor requirements will have to be cut; some contracts will have to be shifted out of the area; plants will have to use their workers more efficiently; housing will have to be completed.

Recheck of the '44 Munitions Program

New Army requirements do not change size of job substantially. Average monthly output must run 5% higher than December peak if $71,800,000,000 schedule is to be met.

THE SIZE of the production job for 1944 can now be assessed with some assurance. The Army Service Forces have just completed major revisions in requirements, lopping off about $2,500,000,000. But some of this had already been taken into account in actual schedules. The net result is that the total munitions program—embracing the Army, Navy, and Maritime Commission—comes to about $71,800,000,000 for this year. The shifts in the Army program were about as expected. Ground army items were generally cut rather sharply.

However, the reduction was not so great as some of the prophecies about it. And actually, a fairly substantial rise in total munitions output in 1944 is now called for. In December, the value of all munitions output was at an annual rate of $68,500,000,000. To meet the program, average monthly production this year will have to rise 5%. And the rise to the peak month is apt to be about 7% to 8%.

Moreover, output dropped in January —to an annual rate of $67,000,000,000. Thus average monthly production must advance 7% if the 1944 program is to be met; and the increase to the peak month from January is apt to be 9% to 10%.

Aircraft continues to be the dominant rising program. Ships go up slightly. Here the job is not to get big increases, but to make important shifts on types without losing volume. Thus the Navy is pushing landing craft, the Maritime Commission Victory ships and combat-loaded vessels. In ammunition, the increase in Navy schedules counterbalances the sharp Army cutback. Communication and electronic equipment drops from the December rate, largely because of reductions in radio requirements. But airborne radar (WP-Jan15'44,p9) still rises sharply.

The comparison of the December annual rate of production with the program as it now shapes up, follows:

	Annual Rate Dec. '43	1944 Program
	(billions)	
Total munitions.....	$68.5	$71.8
Aircraft.....	18.6	24.2
Ships.....	15.0	15.2
Guns & fire control	4.4	3.4
Ammunition.....	6.4	6.5
Combat & motor veh.	6.8	5.4
Commun. & elec.....	5.3	4.5
Other equip., etc..	12.0	12.6

In adjusting Army schedules to the new requirements, the tendency will be to reduce contracts in gradual stepdowns from recent levels. That will mean that ASF production will be higher in the

first half of 1944 than in the second half. It will also mean that overall munitions production probably will still reach a peak about the middle of the year. Further inference is that total labor requirements in munitions industries will not relax during the next four to six months.

The 1944 production prospect has important implications geographically. Programs which are stable or rising—aircraft and ships—are concentrated on the coasts. Programs which are declining—ammunition, combat vehicles, guns—are located largely in interior cities, especially the Middle West. Thus, some of the critical labor areas will become less critical as these cutbacks take effect. But that will not ease up the labor squeeze in such tight spots as Los Angeles (page 1).

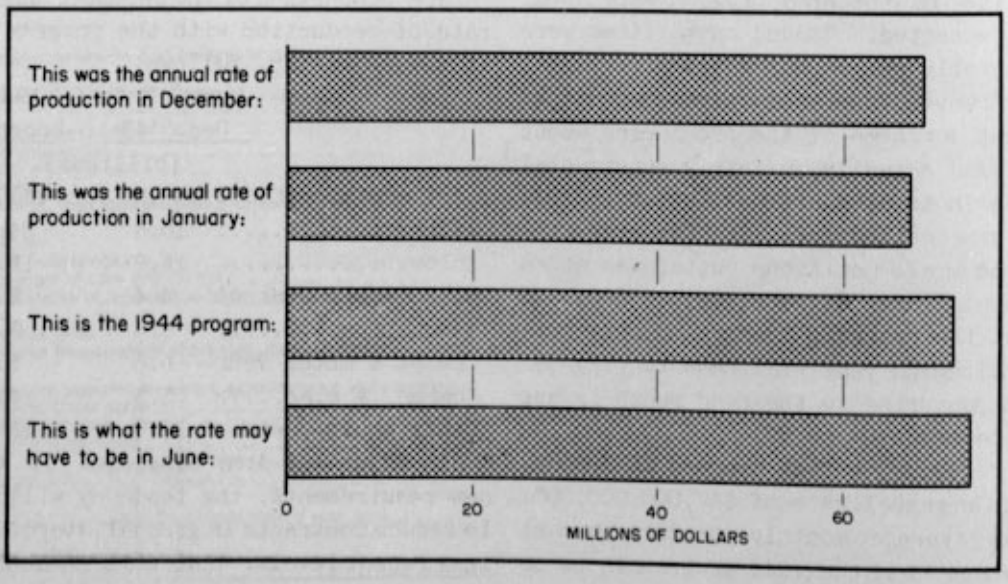
Some of the shifts in the Army Supply Program in the last six months are dramatic. Because of a heavy accumulation of inventories, ammunition requirements for this year, for instance, were reduced nearly 40% since August; and small arms ammunition is down about 70%. Among artillery ammunition, shells for the 37mm. gun and the 75mm. howitzer were cut 88%; the 105mm. howitzer shells were down about 15%. AA artillery ammunition was cut about 50%. On the other hand, ammunition requirements for the comparatively new 76mm. tank gun jumped 166%. The 76mm. gun is replacing the 75 on tanks. Requirements for 90mm. and 155mm. shells also rise.

NEW ROCKET LAUNCHER

The August-February reduction in guns is almost as large as that for ammunition—37%. Most of the drop is in anti-aircraft artillery. Requirements for the Bofors AA gun, for instance, dropped from 12,840 to 1,500. Among rifles, demand for the carbine was cut from 3,000,000 to 2,000,000. A new item is

THE 1944 MUNITIONS PROSPECT

Despite cutbacks in the ASP, average monthly output this year will have to rise 5% over the peak in December.



in the program: the three-tube, 4.5-inch rocket launcher is out of the experimental stage.

The composition of the Army Supply Program on August 1 and February 1 was:

	Aug. 1 1943	Feb. 1 1944
	(millions)	
Guns & fire control	$2,000	$1,250
Ammunition.....	6,700	4,200
Combat & motor veh.	5,500	4,800
Comm. & elec.....	3,600*	3,400†
Other equip., etc..	4,900	5,000

*Adjusted. †Preliminary.

The communication and electronic equipment program is still a tough one. Both the ground and airborne radar programs have been expanded in the new ASP, and include many new types of equipment still in the development stage.

In the case of motor vehicles, such as armored cars, scout cars, and trucks, the reduction in requirements was due largely to problems in production. The quantities wanted didn't seem feasible. For instance, heavy-heavy truck requirements were cut 28%, because of the shortage of components.

CMP Enters Routine Era: Demand Drops

Setting precedent, military claimants ask for less carbon steel than they were actually allocated in preceding quarter; get 42% of total, against 46% last time.

TWO FACTS stand out about the fifth round of CMP: the military claimants no longer need all the materials they can get, while the nonmilitary claimants cannot yet put to use all the materials that are available.

Cutbacks in military programs—especially the February 1 revision in the Army's Supply Program, which will cut deeply into production of artillery, small arms and ammunition, armored vehicles, trucks—have reduced military requirements for steel, copper, aluminum.

A contributing influence was the closer calculation of the unit weights, lead times, and inventory requirements. Thus the Navy cut the carbon steel requirements for its destroyer escort program by 17,700 tons to allow for an indicated excess inventory in shipyards building these vessels; while the Army deflated the unit weights for small arms ammunition by an additional 3%. For these reasons, total military requirements for carbon steel were some 11% lower this time than last. It was the first time that Army and Navy demands have been reduced from one quarter to the next. And even more significant, it was the first time that the military requests were less than the allotments for the preceding quarter.

CIVILIAN LIMITS

The limiting factors in civilian production are facilities, components, and especially manpower. Despite indicated surplus capacity for raw steel, copper, and aluminum in the second quarter, facilities for rolling steel plates and sheets, for casting aluminum, and for drawing copper wire will still be tight. Still tighter will be facilities and manpower for making civilian products. Thus, the National Housing Administration would have asked for and received more than 48,000 tons of carbon steel, but experience has taught that labor and lumber shortages would probably make it impossible for it to consume even what was allotted. Similarly, the Office of Civilian Requirements' requests were held down by continued

stringencies in components and manpower.

The table below compares carbon steel requests for the first and second quarters of 1944:

	1st Qtr. Requests (thousands	2nd Qtr. Requests of tons)	% Change
Total	17,343	16,459	-5.1%
Total milit..	8,455	7,373	-12.8
ARCO	156	130	-16.7
Army	3,446	3,157	-8.4
Navy	1,932	1,682	-12.9
Maritime	2,921	2,404	-17.7
Total foreign	1,684	1,572	-6.7
FEA	1,344	1,302	-3.1
Canada	340	270	-20.6
Nonmilitary..	7,204	7,514	+4.3
WFA	884	1,105	+25.0
NHA*	61	48	-21.3
PAW	447	472	+5.6
ORD	40	37	-7.5
ODT*	1,705	1,902	+11.6
OWU*	241	374	+55.2
OCR	175	271	+54.9
OVC	3,651	3,305	-9.5

*Includes reserves.

Because requests declined relative to supplies, it was possible to give claimant agencies almost all the steel, copper, and aluminum they asked for. Thus total requests for carbon steel ran only 5% above final allotments, as against 11% and 16% respectively in the preceding quarters.

ONE DAY VERSUS FOUR

And there was little controversy over particular allotments. Where, formerly, the Program Adjustment Committee would take three or four days to decide on its recommendations to the Requirements Committee, one day sufficed this time. And the Requirements Committee accepted the PAC recommendations without dispute or change.

The Requirements Committee allotments of carbon steel among claimant agencies, and their respective shares of the total, follow:

Claimants	2nd Quarter Allotments (net tons)	% of Total
Military	7,094,000	42.5%
ARCO	130,000	.8
Army	2,930,000	17.5
Navy	1,680,000	10.1
Maritime	2,354,000	14.1
Export	1,455,000	8.7
FEA (OLLA plus OEW)	1,195,000	7.1
Canada	260,000	1.6
Nonmilitary	7,048,200	42.2
WFA	975,000	5.8
NHA*	48,000	.3
PAW	465,000	2.8
ORD	35,700	.2
ODT*	1,812,000	10.8
OWU*	329,000	2.0
OCR	210,000	1.3
OVC	3,173,500	19.0
Other reserves.	1,103,300	6.6

*Includes reserves.

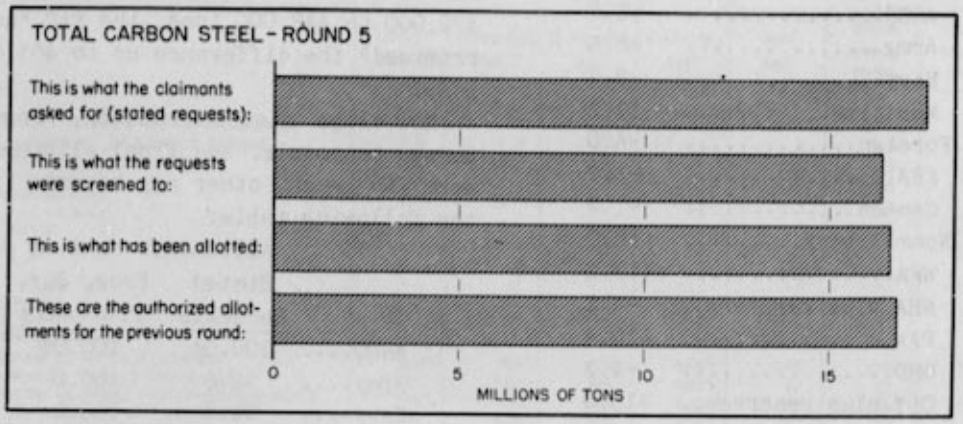
Total allotments were 16,700,000 tons. The military share was 42%, as against 46% in the first quarter. Maritime's allotment declined most from the preceding quarter, both percentage-wise (11%) and in actual tonnage (300,000)—because of the shift in its program. The Army's declined almost as much (277,000) and, consequently, it yielded first place to the Operations Vice Chairman, in whose "B" product allotments it will, however, continue to share indirectly.

ALLOTMENTS DOWN 1%

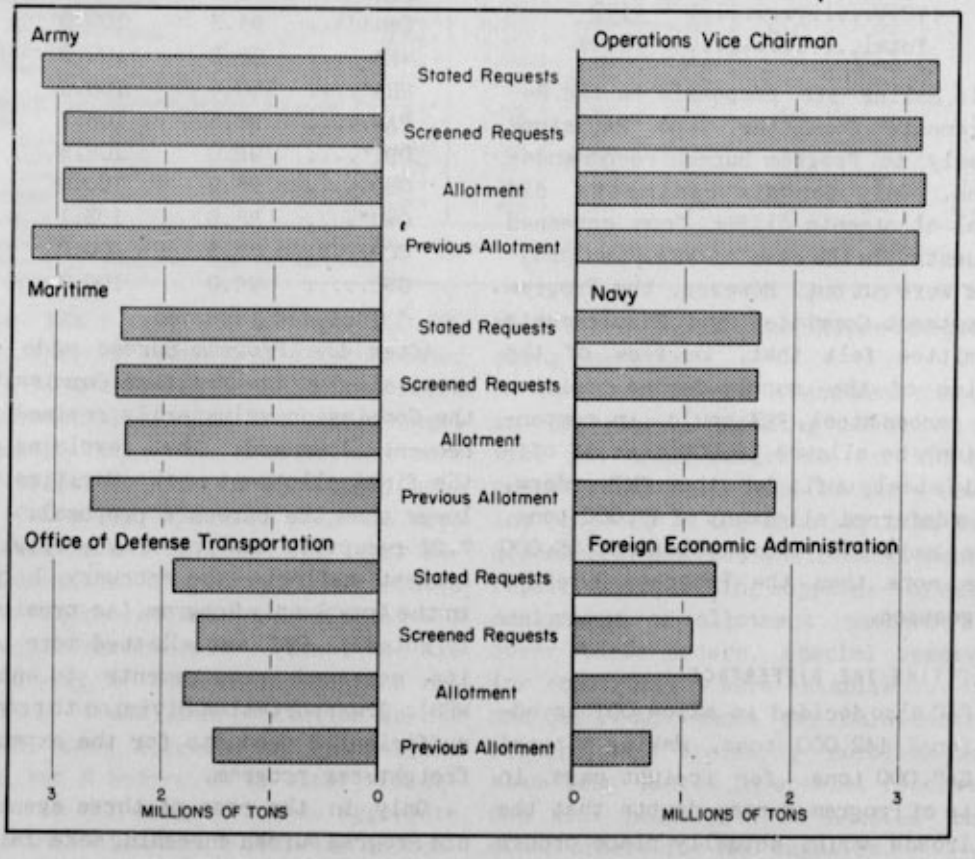
The export claimants received about 4% less than last time, while civilian claimants received 8.7% more, with OWU registering the largest increase and OCR running in second place. And total carbon steel allotments to claimants

ROUND 5 FOR CMP: IT'S ROUTINE

Claimant agencies get almost as much carbon steel as they ask for. Military requests drop below preceding quarter's allotments.



Here is how major claimants fared:



were 1% less than authorized allotments last time:

Claimants	% Change
Military.....	-9.0%
ARCO.....	+6.8
Army.....	-8.6
Navy.....	-8.7
Maritime.....	-11.3
Foreign.....	-4.0
FEA.....	-3.9
Canada.....	-1.9
Nonmilitary.....	+8.7
WFA.....	+13.2
NHA plus reserves..	-4.2
PAW.....	+10.4
ORD.....	-4.3
ODT plus reserves..	+18.0
OWU plus reserves..	+46.2
OCR.....	+28.6
OVC.....	+1.0
Total.....	-1.1%

In making its proposals to the Requirements Committee, the PAC stuck closely to Program Bureau recommendations. Only for six claimants did final allotments differ from screened requests. In the case of FEA, two projects were cut out. However, the Program Adjustment Committee and Requirements Committee felt that, in view of the easing of the supply-demand position for carbon steel, FEA could in compensation be allowed 60,000 tons of off-grade steel, unfit for other CMP orders, and a deferred allotment of 47,000 tons. This made its total allotment 85,000 tons more than the Program Bureau's suggestion.

SPLITTING THE DIFFERENCE

PAC also decided to allow ODT an additional 142,000 tons, making a total of 347,000 tons for freight cars, in spite of Program Bureau doubts that the railroads would actually place orders for that many cars. It was understood, however, that ODT would return to the General Reserve any part of this allotment not covered by firm orders. Though the Program Bureau recommended a cut in PAW's request for carbon steel from 472,000 to 448,000 tons, the PAC "compromised" the difference up to 465,000 tons.

How close stated requests, Program Bureau proposals, and final allotments were to each other can be seen from the following table:

	Allotments as % of Stated Requests	Allotments as % of Prog. Bur. Proposals
ARCO....	100.0%	100.0%
Army....	92.8	100.0
Navy....	99.9	100.0
Maritime	97.9	96.1
FEA.....	91.8	108.6
Canada..	96.3	100.0
WFA.....	88.2	100.0
NHA*....	100.0	100.0
PAW.....	98.5	103.8
ODT*....	92.0	108.5
ORD.....	95.9	100.0
OWU*....	88.0	103.1
OCR.....	77.5	100.0
OVC.....	96.0	100.7

* Includes reserves.

After the Program Bureau made its proposal for the Maritime Commission, the Commission voluntarily revised its request downward. That explains why the final allotment to the Maritime was lower than the bureau's proposal. The 7.2% reduction in the Army's original request reflects the February 1 cuts in the Army Supply Program (as previously noted). OVC was allotted more than its screened requirements to enable WPB's Transportation Division to program sufficient B products for the expanded freight-car program.

Only in the case of three agencies did Program Bureau screening make fairly serious inroads into stated require-

SELECTED MONTHLY STATISTICS

Federal Finance–Labor Disputes–Employment

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
FEDERAL FINANCE (GENERAL FUND)							
Expenditures–Total (billion dollars)	7.6	7.4	7.8	7.1	6.4	.6	.5
War	7.1	6.7	7.5	6.4	5.9	.1	-
Nonwar	.4	.7	.3	.7	.4	.6	.5
Revenues–Total	2.7	5.7	2.1	2.0	.8	.3	.3
Income taxes	1.7	5.0	1.4	1.2	.3	.1	.1
Other	1.0	.7	.6	.8	.5	.2	.2
War bond sales	1.7	.8	.8	.9	1.2	-	-
"E"	1.1	.7	.7	.7	.8	-	-
"F" and "G"	.6	.1	.1	.2	.4	-	-
Net debt	158.4	153.6	151.2	132.9	103.3	36.7	32.8
LABOR DISPUTES							
Number of strikes in progress	350p	330p	310	460r	169	222	333
Workers involved (thousands)	276p	510p	219	980r	62	37	61
Number of strikes beginning during month	325p	300p	290	425r	147	106	131
Workers involved (thousands)	241p	500p	215	975r	59	12	22
Man-days idle (thousands)	715p	2,825p	975	4,750	193	384	674
NONAGRIC EMPLOYMENT–TOTAL	37,229p	38,478p	38,298	38,364	37,862	28,364	n.a.
Manufacturing–Total	15,800p	16,078	16,299	16,136	15,743	9,535	
Durable Goods	9,575p	9,727	9,802r	9,617	9,178	4,148	
Nondurable Goods	6,225p	6,351	6,427r	6,519	6,565	5,387	
Government	5,791p	6,048p	5,861	5,848	5,689	3,896	
Other	15,638p	16,352	16,208	16,380	16,430	14,933	n.a.
FEDERAL CIVILIAN EMPLOYMENT (thousands)	3,240p	3,029	2,997	3,162r	2,956	n.a.	n.a.
War	2,168p	2,176	2,164	2,338r	2,049		
War Department	1,248p	1,258	1,263	1,440r	1,280		
Navy Department	702	700	682	665r	560		
Other War Agencies	219	218	219	233r	210		
Nonwar	1,072	853	833	824	907	n.a.	n.a.

* Federal Finance, Nonagricultural Employment, January; Labor Disputes, Federal Civilian Employment, December.
p Preliminary. r Revised. n.a. Not available.

ments. FEA's requests were cut 200,000 tons, largely because of a recommended shift of certain British Empire orders to Canada, which now has excess ingot capacity. (This cut, however, was more than offset in PAC, as previously noted.) OWU's supplementary programs were screened out and reserved for later reconsideration. The cuts in OCR's stated requirements reflect the developing WPB policy on reconversion. Steel was allotted only for such resumption and expansions of civilian production as had already been approved by relaxations of L and M orders or by other WPB actions. In all, Program Bureau aggregate cuts were the smallest ever—an indication that after three and one-half completed rounds, CMP operations are going along smoothly.

There were several significant changes in procedure. Building contractors will get their materials for WPB-approved construction and for NHA's housing projects in the same way that manufacturers now get their maintenance, repair, and operating supplies—by self-assignment of allotment numbers. To cover these orders, special reserves for construction were established. ODT and OWU requirements for maintenance, repairs, and operating supplies have also been placed in special reserves, and will henceforth be handled like other orders for MRO supplies.

More important, the Requirements

Committee announced that it might consider supplementary allotments to the nonmilitary claimants. Heretofore, supplementary allotments have been made only for urgent military programs. Readiness to make supplementary allotments tended to reduce the pressures from civilian agencies for larger quotas.

REPORTS ON REPORTS

When Recruiting Fails

All major warring countries—Great Britain, Russia, and Germany—have introduced national service measures when voluntary recruiting has failed to meet war production needs. Basic provisions, according to *Essentials of National Service Legislation* (confidential; pp. 45) are: (1) authority to collect labor-market information from employers and workers and to inspect plant labor utilization, (2) control of hirings and separations, (3) power to register workers and direct or transfer them into essential employment. Such legislation establishes administrative standards and safeguards both for workers (i.e., against substandard conditions) and employers (i.e., against incompetence and absenteeism).
(War Manpower Commission, Reports and Analysis Service)

Quinine Question

U.S. technical and financial assistance has considerably increased Latin American production of cinchona bark; before the war 90% of the world's supply came from the Netherland Indies. However, the postwar prospects of the industry are uncertain, reports *Cinchona* (restricted; pp. 16). For the last 30 years the price of quinine has been controlled by the Kina Bureau, a Netherlands cartel, which kept it too high for most of the world's population, but cost of large-scale production in Latin America cannot be measured at this time. Moreover, quinine may have to meet strong competition from such synthetic antimalarials as atabrine, which now sells for less than half as much.
(Coordinator of Inter-American Affairs, Research Division)

Popular Misconceptions

Only one person out of five realizes that we are nearing the limit of production from our petroleum resources; the majority attribute the need for gas rationing not to short supplies but to the needs of the armed forces, transportation difficulties, and rubber conservation. Another important informational gap, according to *Acceptance and Knowledge of Gas Rationing* (restricted; pp. 21), concerns car-sharing; only 17% of car owners know that this is nearly always a requisite for extra rations.
(Office of War Information, Bureau of Special Services)

Subcontracts There and Here

British procurement agencies have been regulating subcontracts and channeling them into areas of labor surplus, while most U.S. prime contractors have been free to let subcontracts without regard for tight labor markets. *Regulation of the Subcontractor in a War Production Program* (confidential; pp.4) suggests collecting information as needed on substantial subcontracts so that the placing (and cutting back) of subcontracts can be handled without needless and costly labor dislocation.
(War Manpower Commission, Reports and Analysis Service)

[This record is an attempt to select from the many documents coming to the attention of WAR PROGRESS those studies which would be of most interest to readers. The list is by no means comprehensive, and no attempt has been made to evaluate reports for accuracy. Whether reports are available depends on the policy of each individual agency.]

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Production Rises Slightly

UNRRA Plans for the Unknown

Radar — A New-Old Program

Number 187

April 15, 1944

WAR PROGRESS

Prepared in the War Production Board
Donald M. Nelson, Chairman

War Progress is a confidential report designed to provide a coordinated and continuing picture of the overall war program for the various war agencies. To this end, it presents, analyzes, and interprets basic statistical and economic information, and from time to time examines the pros and cons of controversial questions.

Although War Progress is an official publication of the War Production Board, statements in it are not to be construed as expressing official attitudes of the Board as a whole, or even of individual members. Conclusions, whenever reached, should be considered editorial conclusions.

War Progress is prepared in the Bureau of Planning and Statistics (Stacy May, Director) by the Munitions Branch (Morris A. Copeland, Chief).

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Does March Usher in Uptrend?

Munitions output rises 2% after three-month drop. Expanding programs fail to make schedule; declining ones overshoot mark. Employment shrinkage raises questions.

MARCH was one of those months which it's hard to say anything about. Munitions production was up 2%; the schedule called for a rise of 4%. But since output recently has consistently fallen somewhat short of the program, that's hardly news.

The upturn in March broke a three-month downtrend. That's hardly news either. The schedules called for decreases in January and February. March merely ushered in a rising trend in schedules from now through the summer. The real question is whether future gains will come up to those schedules.

It's true that the increases are comparatively small. However, the program splits into two pieces—rising programs (aircraft, airborne radar, heavy-heavy trucks, naval combatant ships, landing craft, etc.) and falling programs (most ground army items, destroyer escort vessels, Liberty ships, radio, etc.). The rising programs are due to rise 25% by the end of the year. That's not easy (chart, below).

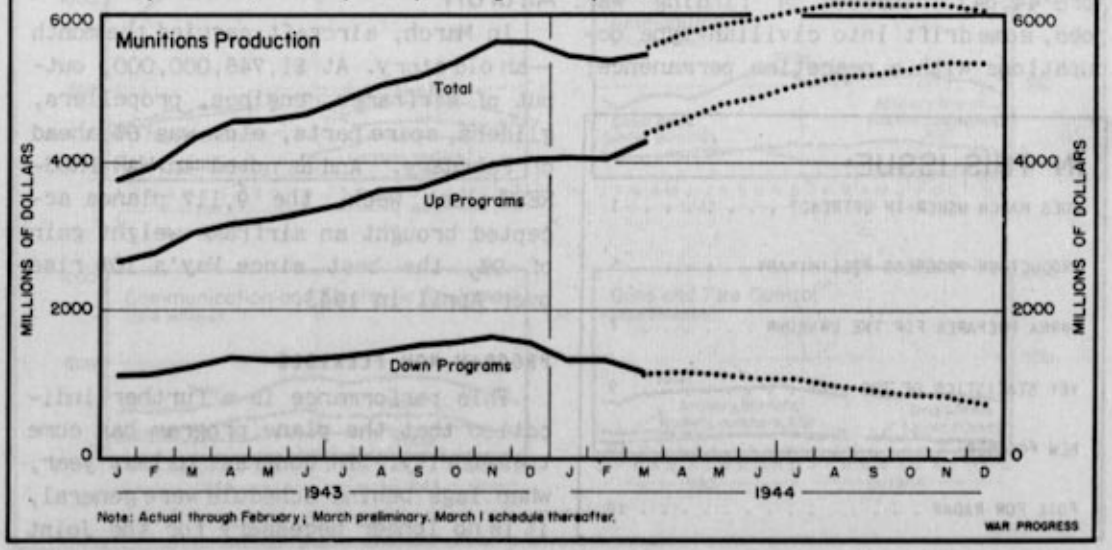
NOT UP HIGH ENOUGH

Last month, the increase in these "up" programs was 6%, but the required gain was 8%. Aircraft came through with one of its best performances, falling short of schedule by only 1%. And on an airframe-weight basis, planes delivered exceeded schedule (WP-Apr8'44,p8). But radar missed schedule by 5%.

As might be expected, declining programs did slightly better than schedule

THE PRODUCTION JOB AHEAD

Though some munitions programs decline (most ground army items, DEs, Libertys, etc.), the bulk (aircraft, radar, landing vessels, etc.) rise.



—evidence that there's always a lag between a cutback on paper and a cutback in the plant. What's significant, however, is that rising programs now constitute about four-fifths of the total. These programs have gone up steadily, while declining programs have been dropping steadily. (The divergence is similar to that between munitions and construction a year ago. Munitions schedules were rising sharply, while construction was going down.) Here are the figures:

	Rising Programs	Falling Programs	Total
	(millions of dollars)		
1943			
November...	$3,990	$1,650	$5,640
December...	4,050	1,570	5,620
1944			
January....	4,080	1,340	5,420
February...	4,055	1,325	5,380
March (p)..	4,280	1,190	5,470

(p) Preliminary.

This divergence poses a real problem, which cannot yet be fully evaluated. Layoffs are bound to continue in the declining programs, and layoffs result in evaporation of munitions workers (WP-Apr8'44,p4). Instead of finding war jobs, some drift into civilian-type occupations with a peacetime permanence; some (especially women) even quit the labor market. And that makes it just that much harder to recruit workers when necessary to meet the rising schedules.

TRENDS MAY BE MIXED

There is another consideration. WAR PROGRESS has noted in the past the trend toward increased efficiency in munitions industries. That trend is marked in the rising programs—in aircraft particularly. But some decline in productivity per worker is to be expected in declining programs—lower volume often results in lower output per man.

As yet it is too early to draw positive conclusions. The rising efficiency in the "up" programs may more than compensate for declining efficiency in "down" programs. The last five months are fairly suggestive: munitions production dropped 3%; munitions employment dropped 4%. Thus there was some increase in output per worker. But there's no getting away from the fact that, as schedules declined, so did the number of workers. And it's going to be hard to get those workers back into munitions plants, if and when they're needed.

Aircraft

In March, aircraft carried the month—an old story. At $1,746,000,000, output of airframes, engines, propellers, gliders, spare parts, etc. was 8% ahead of February. And as noted in WAR PROGRESS last week, the 9,117 planes accepted brought an airframe-weight gain of 9%, the best since May's 10% rise over April in 1943.

PROGRAM NOW FLEXIBLE

This performance is a further indication that the plane program has come to maturity. In contrast to last year, when lags behind schedule were general, it is no longer necessary for the Joint

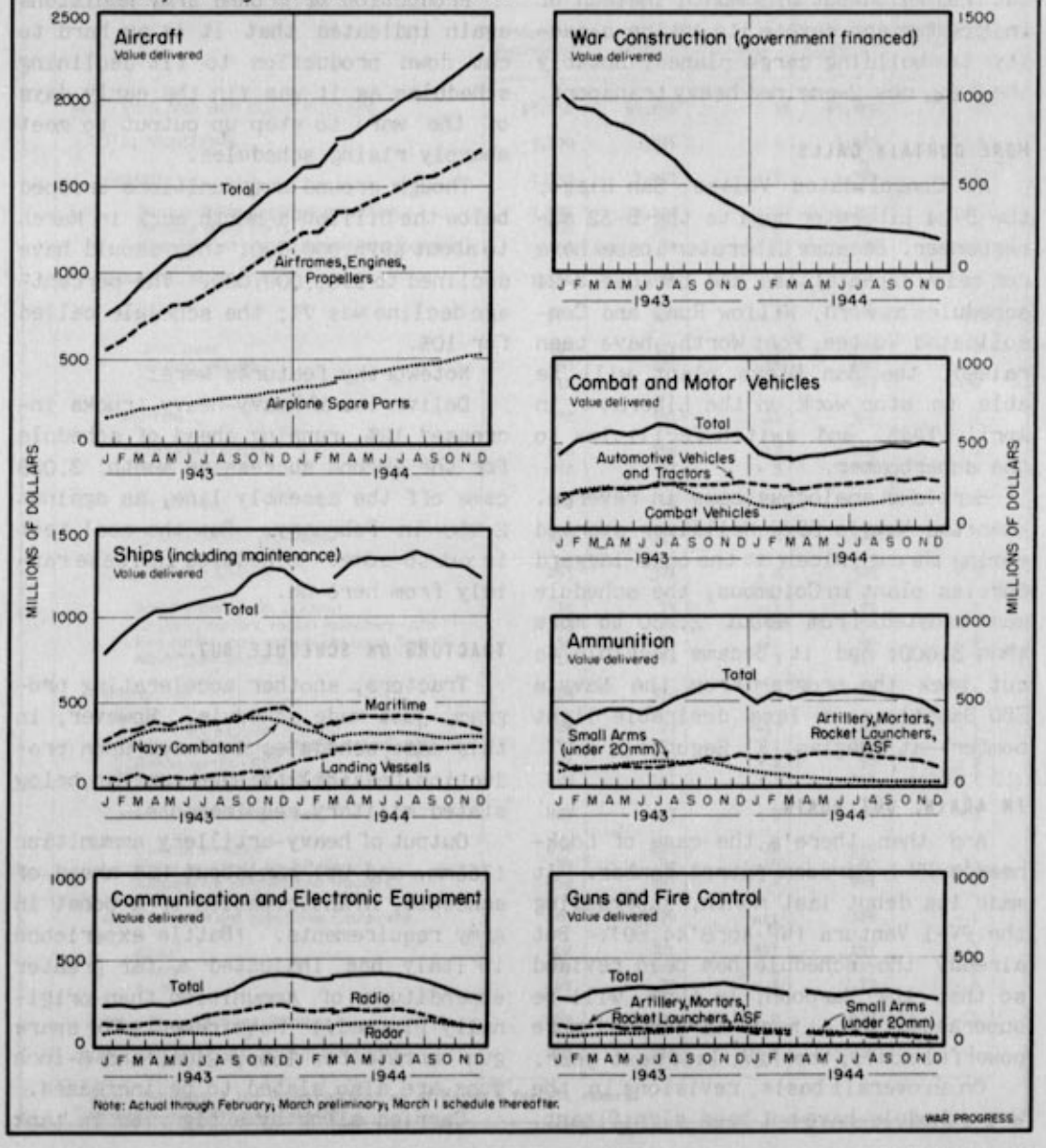
IN THIS ISSUE:

Aircraft Committee to concentrate on downward revisions each month. There is now sufficient flexibility to permit interim changes in schedules so as to boost the output of high-preference tactical models—this at the expense of less needed or obsolete types. In short, the program is now far beyond the stage where virtually every model is a must.

Trainer schedules make the point. During the year to date, they've been cut 15% in numbers, with this result:

MIXED MOVEMENTS IN MUNITIONS

Aircraft scores another big gain in March; ground army items generally down. Radar, landing vessels miss schedule.



Note: Actual through February; March preliminary; March 1 schedule thereafter.

WAR PROGRESS

At Downey, Calif., Consolidated Vultee will wind up production of the Valiant basic trainer in May instead of August, and shift to P-38 Lightning subassemblies sooner than originally planned. At Middletown, Ohio, Aeronca's primary-trainer and communications capacity is being adapted to subassemblies for the Lightning and Commando programs. And at Hagerstown, Md., Fairchild will close out trainer output this month instead of in December and devote its entire capacity to building cargo planes, notably the C-82, new 2-engined heavy transport.

MORE CURTAIN CALLS

At Consolidated Vultee, San Diego, the B-24 Liberator bows to the B-32 superbomber. Because Liberator losses have run below expectations and because B-24 schedules at Ford, Willow Run, and Consolidated Vultee, Fort Worth, have been raised, the San Diego plant will be able to stop work on the Liberator in April, 1945, and switch facilities to the superbomber.

Here's an analogous case in reverse. When the Navy's SB2C Helldiver started coming through nicely at the once-laggard Curtiss plant in Columbus, the schedule was boosted from about 2,750 to more than 3,000; and it became possible to cut back the program from the Navy's SBD Dauntless—a less desirable light bomber—at Douglas, El Segundo.

IN AGAIN, OUT AGAIN

And then there's the case of Lockheed's PV-2 Harpoon patrol bomber. It made its debut last month, superseding the PV-1 Ventura (WP-Apr8'44,p9). But already the schedule has been revised so that the Harpoon, in turn, will be superseded by a much larger and more powerful model, the P2V, late next year.

On an overall basis, revisions in the W-9 schedule have not been significant. In numbers as well as airframe weight, there is only a nominal change from the original version in January. But in individual groups and models, the changes re-emphasize the trend toward quality rather than quantity. That trend will be underlined in the new W-10 airplane schedule due next week.

Army Ordnance

Production of ground army munitions again indicates that it is as hard to cut down production to fit declining schedules as it was (in the early days of the war) to step up output to meet sharply rising schedules.

Though ground army munitions dropped below the billion-a-month mark in March to about $975,000,000, they should have declined to $950,000,000. The percentage decline was 7%; the schedule called for 10%.

Noteworthy features were:

Deliveries of heavy-heavy trucks increased 12%, running ahead of schedule for the second successive month; 3,028 came off the assembly line, as against 2,958 in February. But the real test is yet to come. Schedules increase rapidly from here on.

TRACTORS ON SCHEDULE BUT...

Tractors, another accelerating program, just made schedule. However, in this case schedules are based upon production feasibility; they run far below stated military requirements.

Output of heavy-artillery ammunition (155mm. and up) ran about 25% ahead of schedule, in anticipation of a boost in Army requirements. (Battle experience in Italy has indicated a far greater expenditure of ammunition than originally planned.) Requirements for spare gun barrels for 155s, 240s, and 8-inch guns are also slated to be increased.

Carried along by a big rise in tank

production, combat vehicle output in March was up 12% and beat schedule by 3%. Tank deliveries probably hit a bottom the previous month. However, the switchover in M4 medium tanks to 76mm. guns and 105mm. howitzers is not moving on schedule. Last month 221 M4s with 76mm. guns were made, as against 266 scheduled; by the end of the year, the schedule reaches 800 a month. Only 55 M4s mounting the 105mm. howitzer were delivered, as against 100 scheduled; a peak of 270 per month is called for during the summer. Incidentally, the M4

PRODUCTION PROGRESS — Preliminary

Value delivered or put in place — millions of dollars.

	March Preliminary	February Actual	% Change	March Schedule *	% Deviation March Prelim. vs. Schedule
MUNITIONS AND WAR CONSTRUCTION	$5,730	$5,646	+ 1%	$5,822	- 2%
TOTAL MUNITIONS	5,470	5,376	+ 2	5,562	- 2
Aircraft	1,745	1,623	+ 8	1,765	- 1
Total airframes, engines, propellers	1,341	1,238	+ 8	1,342	nil
Airplane spare parts	366	347	+ 5	384	- 5
Other aircraft and equipment (excl. commun.)	38	38	0	39	- 3
Ships (incl. maintenance)	1,150	1,134	+ 1	1,220	- 6
Navy	595	614	- 3	673	-12
Combatant	284	327	-13	290	- 2
Landing Vessels	200	172	+16	220	- 9
Other	111	115	- 3	163	-32
Maritime	388	351	+11	376	+ 3
Cargo and supply	290	258	+12	286	+ 1
Other	98	93	+ 5	90	+ 9
Army Vessels	42	46	- 9	46	- 9
Ship Maintenance and Repair	125	123	+ 2	125	†
Guns and Fire Control	295	321	- 8	305	- 3
Small arms (under 20mm.)	70	73	- 4	71	- 1
Artillery, mortars, rocket launchers - ASF	53	65	-18	58	- 9
Fire control and searchlight (excl. Radar)	58	65	-11	59	- 2
Naval guns and other	114	118	- 3	117	- 3
Ammunition	515	532	- 3	508	+ 1
Small arms (under 20mm)	64	77	-17	61	+ 5
Artillery, mortars, rocket launchers - ASF	172	173	- 1	161	+ 7
Aerial bombs - ASF	97	95	+ 2	90	+ 8
Naval ammunition and other	182	187	- 3	196	- 7
Combat and Motor Vehicles	420	407	+ 3	408	+ 3
Combat vehicles	134	120	+12	130	+ 3
Motor carriages for SP guns	34	40	-15	30	+13
Automotive vehicles and tractors	252	247	+ 2	248	+ 2
Communication and Electronic Equipment	380	379	nil	384	- 1
Radio	202	201	nil	197	+ 3
Radar	109	108	+ 1	115	- 5
All other	69	70	- 1	72	- 4
Other Equipment and Supplies	965	980	- 2	972	- 1
WAR CONSTRUCTION (GOV'T. FINANCED)	260	270	- 4	260	†

* As of February 1 for Construction; as of March 1 for all others.
† Schedule used for preliminary.

with a 75mm. gun ran far ahead of schedule—439 were delivered, versus 325 called for.

Aerial bomb output was up 2% over February and beat schedule 8%. Production of the 23-pound fragmentation (with and without parachute) reached an all-time high of 1,070,000, nearly double the February output. This was as scheduled, but this month the schedule drops sharply to 270,000. The 23-pounder is used against personnel and light materiel targets. Many are equipped with parachutes to enable planes to fly low, drop their bombs and get away before the explosion. They are expected to play an important role in the invasion. Production of the 1,000-ton GP bomb exceeded 42,000, as against a schedule of 15,000.

Signal Equipment

Communication and electronic equipment, according to preliminary estimates, continued at the February level of production but fell 1% short of the rising schedule. Radio, a declining program, overshot its mark by 3%. Otherwise the deficit would have been greater, for the all-important radar program was 5% below schedule. This was due to the failure of the new countermeasure equipment (designed to "jam" enemy radar devices) to come through.

For example, the schedule for AN/APQ-9 equipment (in the program for the first time) called for 135 sets but none was delivered. AN/APQ-2 (in the program since January) did only a little better; 23 sets were delivered out of 250 scheduled. Another delinquent was AN/APT-1 equipment; 126 sets were delivered, against a schedule of 175. The chief difficulty in all three instances was in getting transformers.

All these sets were for the Army airborne program, and schedules rise steeply in the next few months, nearly doubling by June. Ground radar declined about as planned.

Merchant Ships

The Maritime program snapped out of its two-month slump. March deliveries of 1,549,000 deadweight tons (preliminary) were 12% over February, 28% over January, and beat schedule by 2%.

All major types exceeded the program with the exception of the Victory ship, which is just getting under way. Four were completed last month—two fewer than called for. The first one came through in February. On the other hand, the 83 Libertys completed were one over schedule, five over February; but from now on this program is due to decline to a monthly total of 44 in September.

Military-type ships as a whole were also up to schedule. The two combat loaders (AKAs) delivered make a total of three for this new program to date. Minor-type ships ran 11% behind schedule.

Naval Ships

Navy shipbuilding in March held on an even keel. Deliveries of 209,000 displacement tons (preliminary) were the same as in February, but 22% behind schedule. Most of the deficit was in landing vessels, especially the LSTs (WP-Apr8'44,p10). However, smaller landing craft came through, and the group as a whole jumped 27% over February:

	Deliveries	% Change From Feb.	% Change From Sched.
All combatants.	63,000	-21%	-14%
Landing vessels	98,000	+27	-30
Patrol & mine..	11,000	-8	nil
Aux., all other	37,000	-5	-16
Total.....	209,000	nil	-22

In addition, the Navy converted 19 ships last month, but 41 were scheduled.

De-emphasis on destroyer escorts explains the 14% deficit in combatant ships. Only 21 DEs were completed in-

stead of the 32 called for. The important submarine program, after a series of laggard months, beat schedule with nine delivered, as against a first-of-the-month goal of seven. The Maritime Commission completed five aircraft carrier escorts for the Navy.

No battleships, carriers, or cruisers were slated for last month. However, big doings lie immediately ahead: 305,000 tons are scheduled in April and a peak of 381,000 tons in May—almost a 90% jump over March deliveries. Included are a 27,000-ton carrier this month and a 45,000-ton battleship and another 27,000-ton carrier in May.

UNRRA Prepares for the Unknown

United Nations set up machinery to provide relief for liberated countries after Army moves out. Will act only on invitation; won't undertake reconstruction.

GERMANY AND JAPAN have overrun some 35 countries and hundreds of islands, the homes of more than 500,000,000 people. Of these, perhaps 50,000,000 have been uprooted and displaced, the rest more or less impoverished. This has given rise to the paraphrase that never before in the field of human conflict have so many been despoiled in so few years. It also gives a rough idea of the magnitude of the job that lies ahead for the United Nations Relief and Rehabilitation Administration—a job for which UNRRA has to plan largely in the dark.

The Army will be responsible for relief and rehabilitation in liberated areas for about the first six months; its plans are necessarily tentative, dependent upon when and how Germany and Japan fall, whether or not the earth is scorched. Right now Europe is the main consideration (WP-Aprl'44,p8). UNRRA will take over only when it is invited by either the Army or the government of a liberated area, only to the extent that it is asked to help. Right now it can't know (1) just when it may have to assist a given country, (2) just what the needs of the country will be, or (3) whether it will simultaneously have to assist some or all other liberated areas.

Hence no exact estimates of requirements can be drawn up, no definite programs laid out. Yet one definite fact emerges: the necessary machinery is being set up beforehand—as it was not in the last war. UNRRA is already a functioning organization, with broad policies laid down and approved by the 44 member countries.

FINANCING ARRANGEMENTS

UNRRA will have an operating fund of from $2,000,000,000 to $2,500,000,000, built up by recommended contributions of 1% of the national income of unoccupied member countries for the year ending June, 1943. (Enemy-occupied countries are expected, however, to pay their assessed share of administrative expenses.) The U.S. contribution—$1,350,000,000—has been approved but not yet appropriated by Congress. The British Commonwealth quota will make up most of the rest of the fund. Some countries have already made full or partial payments toward UNRRA's administrative expenses; the Director General has been voted a budget of $10,000,000 for 1944.

Of the postwar three Rs—relief, rehabilitation, reconstruction—UNRRA's concern will be relief: food, medicine, fuel, clothing, emergency shelter. It will also provide such rehabilitation

supplies as may reduce relief requirements; thus a shipload of seed, fertilizer, farm machinery, industrial machinery and repair parts, etc. might save a dozen shiploads of food later on. But UNRRA is not to tackle the long-range problems of reconstruction. It has a suicidal lease on life. It's supposed to work itself out of a job as soon as possible.

EMERGENCY JOBS ONLY

Thus it may help to repair hospitals, possibly some vital factories; but it won't rebuild cities. Similarly, though it will provide food and emergency shelter for millions of refugees, it won't take on the job of repatriating them. This will be handled by such agencies as the Intergovernmental Committee on Refugees.

For its supplies, UNRRA will deal with the Combined Production and Resources Board, Combined Food Board, and the other U.S.-U.K. boards. The boards will determine (1) whether to grant UNRRA's requests in whole or in part and (2) from which countries supplies should be drawn. UNRRA has already put in requests for allocations of foodstuffs, textiles, clothing, shoes, leather, soap, and fertilizers.

Such allocations will not mean stockpiles for UNRRA's exclusive use. They represent simply potential claims or drafts on supplies, which meanwhile might be lifted by the Army for relief purposes. UNRRA's object is to get its probable needs before the boards well in advance. With overcoats, for example, it takes about six months from the time an allocation is granted until they're on hangers in warehouses—and you don't want to have overcoats reaching a liberated area in late spring.

To procure supplies in the U.S., UNRRA presumably will depend on the Foreign Economic Administration, in accordance with its policy of making use of established national agencies whenever possible. It will do no buying or contracting itself. The relationship between UNRRA and FEA has not yet been worked out in detail—for example, the question of to what extent, if any, FEA will determine the specifications of relief goods. However, they are already cooperating on basic plans.

Two regional committees—one for Europe, one for the Far East—will advise UNRRA's Director General on requirements and policies. But UNRRA will always operate under agreements with the recognized governments of liberated areas, and provide only the assistance they request. It might simply arrange to have relief supplies shipped into a country; it might also be asked to supervise their distribution. Holland, for example, may want no administrative help but may ask for the services of sanitation engineers, plague fighters, or other technicians. Other countries, such as Greece and China, are pretty sure to need all kinds of assistance.

NOT A SALVATION ARMY

UNRRA is not designed to be a world soup kitchen, however. All liberated areas will be expected to pay for relief imports to the extent of their ability; those unable to pay in suitable foreign exchange will turn over at least part of the local currency they receive from the sale of such imports. Although communal feeding and welfare services will often be necessary, especially for the many refugees, relief supplies will ordinarily be distributed through normal trade channels, under regulations prescribed by the local governments.

No definite arrangements have yet been made with the Russians regarding areas likely to be liberated by them—

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program-Checks paid (millions of dollars)	1,838	1,594	1,836	1,762	1,452
War bond sales-E, F, G (millions of dollars)	155	239	101	662	182
Money in circulation (millions of dollars)	21,191	21,037	20,963	18,883	16,353
Wholesale prices (1926=100)					
All commodities	103.7p	103.6p	103.4p	102.8	103.5
Farm products	124.1p	123.9p	123.4p	122.7	124.3
Foods	105.0	104.2	104.6	104.9	107.9
All other	98.5p	98.3p	98.2p	97.5	96.7
Petroleum:					
Total U.S. stocks* (thousands of barrels)	412,388	413,122	415,187	423,676	437,170
Total East Coast stocks* (thousands of barrels)	56,770	55,844	55,846	61,483	43,381
East Coast receipts (thousands of barrels, daily average)	1,733	1,750	1,711	1,508	1,331
Bituminous coal production (thousands of short tons, daily average)	2,054p	1,979	2,008	2,016	2,027
Steel operations (% of capacity)	98.7	99.5	99.1	102.2	98.8
Freight cars unloaded for export, excluding grain (daily average)					
Atlantic Coast ports	3,201	3,457	2,934	2,462	1,617
Gulf Coast ports	336	452	444	330	340
Pacific Coast ports	1,450	1,365	1,454	1,290	1,072
Department store sales (% change from a year ago)	+23	+32	+11	+9	+28

p. preliminary *excludes stocks owned by the military.

Czechoslovakia and Poland, for example—but presumably UNRRA will operate under the same conditions as elsewhere. Operations in ex-enemy areas, such as Rumania and Bulgaria, are not precluded but will require the approval of the UNRRA council, the military command, and the established authority in the area. These areas will be required to pay for all relief supplies.

DECIDING WHO GETS WHAT

The main problems, however, will stem from limited supplies and shipping space. UNRRA's aim is a just distribution on the basis of need, not ability to pay. It must also avoid overallotting to the countries first liberated; too-high relief standards for first-comers might result in too-low standards for other countries. Hence UNRRA is expected to act as a clearing house. When countries able to pay for relief supplies submit requests directly to the combined boards, UNRRA will present its recommendations or objections.

A further complication is the necessity for redistributing Europe's own supplies within and between liberated areas. UNRRA will seek to keep informed of such transactions, but will have no direct control over them.

Altogether, the very limits to UNRRA's responsibility and authority will also create its problems. It is responsible to the 44 member governments; it must cooperate constantly with the armed forces, war agencies, local governments. For UNRRA is a United Nations experiment: the first operating organization —not another conference or committee— established to carry out a world-wide job through concerted action. As such, it is assured of a paragraph in world history. If it succeeds, it will be worth volumes.

New Focuses

Four out of every five radar devices in '44 program are recent developments; obsolescence plays hob with old designs. That's why the job is difficult.

RADAR has been in the U.S. munitions program since the start of the war; yet it's a new program just the same. Four out of every five items of equipment on the schedule this year were not made in 1943. Reason: A high rate of obsolescence and a high rate of creation—old models change; new uses develop.

Radar (for RAdio Detection And Ranging) was utilized in the early days of the war largely as a ship- and plane-detection device. A refinement made it possible for the spotted friendly ship or plane to flash back an automatic countersign; this device is known as IFF—Identification, Friend or Foe. Also early in the game, radar was used as a fire-control device (WP-July2'43,p5)—it reveals the distance and direction of reflecting objects.

CONSTANT INNOVATIONS

Discoveries are now constantly being made, and these mean the development of new devices—many so highly secret that technicians working on them don't know their purposes. Thus, it is now possible to aim guns automatically through smoke and clouds; to drop paratroopers on a selected spot in the dark; to intercept night fighters; to deposit bombs accurately from high-speed bombers; etc.

Expenditures for radar development ($30,000,000 for 1944) top the 18-category list of the Office of Scientific Research and Development. Second is subsurface warfare ($19,000,000). Radar doesn't penetrate water, consequently can't be used against submerged submarines, but it spots them on the surface.

The advance in radar follows a familiar pattern; as soon as one weapon is perfected, another is introduced to combat it. Basic principles, of course, are known to all belligerents. The Germans and Japanese employ radar (although their equipment is generally believed inferior to Britain's and this country's). Much of the U.S. production emphasis today is on countermeasure equipment—devices not only to jam enemy radar, but also to jam their jamming equipment.

Because it is a youthful, expanding program and because improvements are constant, radar continues as one of the country's most difficult production jobs. Army and Navy schedules this year are up 53% to $1,500,000,000; this is four times the 1942 output and 10 times 1941's. Yet radar accounts for only one-third of total communication and electronic equip-

FOIL FOR RADAR

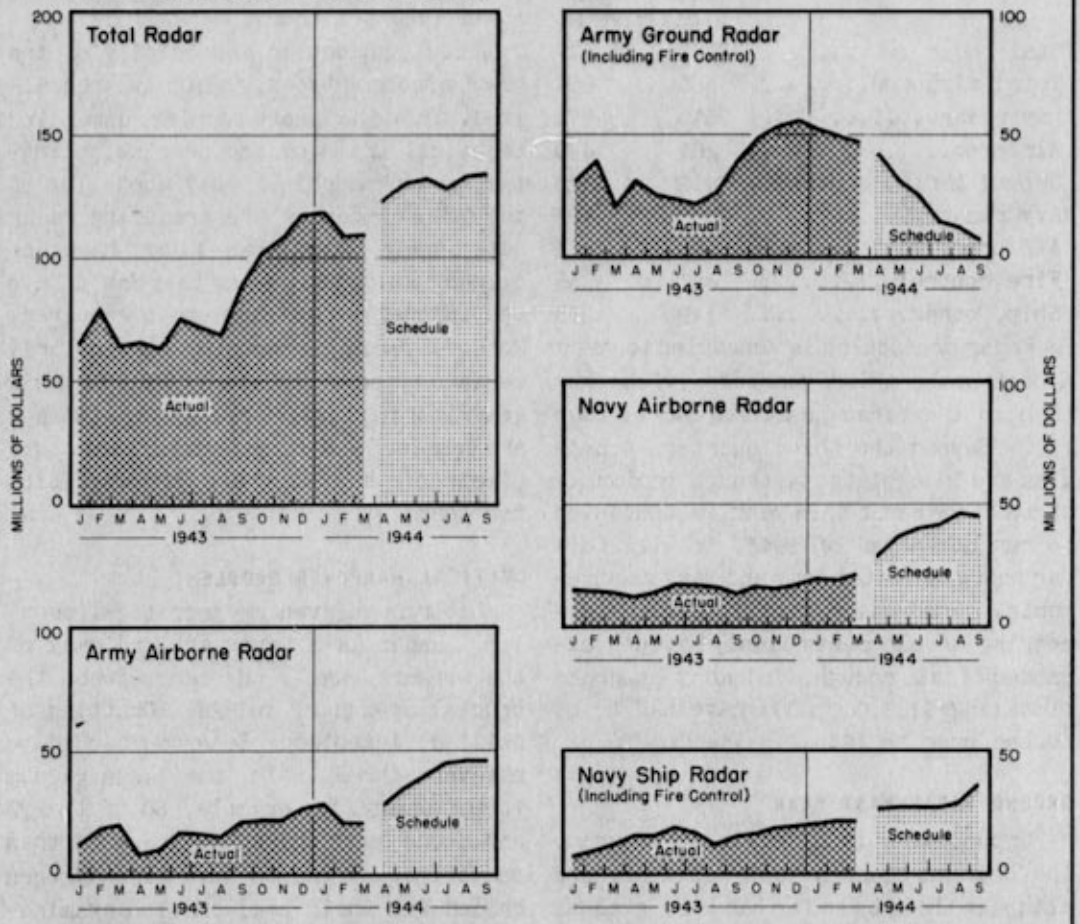
ALUMINUM FOIL production in the United States is nearly seven times greater than it was a year ago. Reason: When cut into small strips called chaff or windrow (resembling Christmas-tree tinsel) and dropped from raiding aircraft, it confuses enemy defenses. Radar devices can't separate the planes from the chaff.

Monthly output of foil is now about 2,000,000 pounds, as against 300,000 pounds a year ago. Foil production is no problem—there is excess rolling-mill capacity. Much of the chaff is mounted with paper, but there is plenty of capacity for this. However, there is a shortage of machines for cutting the foil into chaff. The chaff has a top priority rating along with capacitors for radar and other electronic equipment.

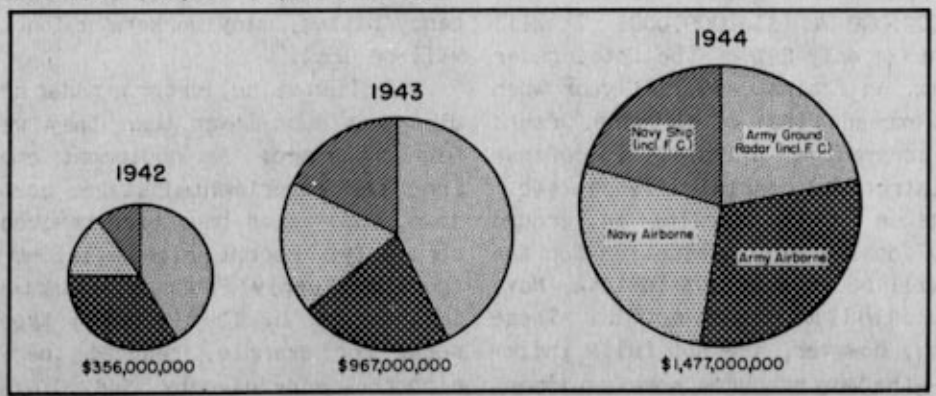
The Germans also use it.

SEEING EYES FOR THE ARMY AND NAVY

This year's radar program calls for a 53% rise. Army and Navy airborne more than double. Ground radar off (21%).



And here's the year-to-year picture:



Note: March preliminary. Schedules as of March 1.

WAR PROGRESS

ment, which in turn accounts for 6% of all munitions. Airborne radar dominates and is expanding most rapidly:

	1943	1944
	(millions)	
Total radar.....	$967	$1,477
Total airborne.....	385	854
Army radar.....	619	774
Airborne.....	207	449
Ground & fire control..	412	325
Navy radar.....	348	703
Airborne.....	178	405
Fire control.....	21	35
Ship, other.....	149	263

Radar production is scheduled to reach a peak in the third quarter—17% higher than in the first quarter (chart, page 11). Beyond the third quarter, schedules are incomplete. Although production of airborne radar this year is scheduled to run 122% ahead of 1943, it will fall far short of stated Army and Navy requirements. Production facilities and engineering developments simply haven't expanded fast enough, and many programs (totaling $133,000,000) have had to be pushed over to 1945.

GROUND RADAR PAST PEAK

Ground radar is a declining program. The peak was reached last December, and although the drop so far has been gradual (chart, page 11), between now and the third quarter it falls sharply from $146,000,000 to $36,000,000. It will account for only 22% of the total radar program, as against 43% last year when output exceeded that of airborne. Ground radar is employed primarily in defense —antiaircraft, coastal defense, etc.

Because of the decline in ground radar, total radar production for the Army will be up only 25% in 1944; Navy schedules will more than double. These figures, however, are not fully indicative—the Navy procures some equipment for the Army, and the Army, to a lesser extent, procures for the Navy. The peak for Navy radar also comes in the third quarter, with shipborne radar and fire control, as well as airborne, rising steadily until then.

Radar production, especially of the newer airborne types, is highly specialized. The devices are complex, demanding technical training and precise, painstaking workmanship. Only about 15% of the radio companies are producing radar sets; many well-known firms have declined contracts, saying they don't have the trained men and equipment required. Moreover, many components—particularly certain types of resistors, transformers, generators, plugs, sockets, and tubes—are scarce. Radio, television, and other electronic equipment are in competition for them.

CRITICAL MANPOWER PROBLEM

Labor is an even more critical problem. Radar is a young art and many of the workers are young men between the crucial ages of 21 and 26. Drafting of skilled, irreplaceable workers would be a severe threat. In one large vacuum tube company, for example, 60 of the 73 engineers are under 26, and more than one-third of the 60 have already been called for their preinduction examinations. And even though airborne radar has been given a Selective Service urgency rating, many workers undoubtedly will be lost.

In dollar value, airborne radar schedules are much lower than they were a few months ago. As equipment emerges from the experimental stage, costs go down, and prices have been revised accordingly. Recent price revisions from the Army Supply Program estimates of last August in 10 different types of sets, for example, reduced the 1944 airborne schedule by $467,000,000, or 35%.

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April 22, 1944

WAR PROGRESS

Prepared in the War Production Board
Donald M. Nelson, Chairman

War Progress is a confidential report designed to provide a coordinated and continuing picture of the overall war program for the various war agencies. To this end, it presents, analyzes, and interprets basic statistical and economic information, and from time to time examines the pros and cons of controversial questions.

Although War Progress is an official publication of the War Production Board, statements in it are not to be construed as expressing official attitudes of the Board as a whole, or even of individual members. Conclusions, whenever reached, should be considered editorial conclusions.

War Progress is prepared in the Bureau of Planning and Statistics (Stacy May, Director) by the Munitions Branch (Morris A. Copeland, Chief).

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NUMBER 188 WAR PROGRESS APRIL 22, 1944

Getting Out from under L and M Orders

Manufacturers' appeals to WPB average 300 a day; "hardship" is usual ground. Labor shortages cause most turndowns. Ruling on Group I and II labor areas is poser.

THE CHANGING CHARACTER of war production is neatly indicated by manufacturers' appeals from War Production Board L and M orders. And the sample is a big one; more than 300 cases come up per day.

In the early months of the war—when stop-production rulings were being hurriedly issued—manufacturers usually asked for inventory relief. They were caught loaded with goods in process. For instance, when Order L-33 cut off production of portable electric lamps, the Consumers Durable Goods Division was deluged with pleas from companies which had only final assembly work to do. Since no drain on critical metals was involved and since work already done would be wasted, the cutoff was postponed for three months. Here a whole industry gained relief.

PROXIES FOR GOVERNMENT

At about the same time, some manufacturers holding government contracts for certain goods became proxies for appeals. Because of restrictions, Board of Economic Warfare contracts for pots, pans, kettles, buckles, etc. (for distribution in North Africa and in neutral countries of Europe) were held up. The manufacturers pleaded that the restriction interfered with this country's preclusive selling policy.

Ever since last summer, when the Army first instituted program cutbacks on a substantial scale, appeals have been based increasingly on the easier position of once-critical materials and the release of facilities from war work. And the decision has usually turned on labor. Thus, recent requests to manufacture automobile parts were denied because plants were in shortage areas. But there are exceptions to the rule. A few months ago, when a Chicago firm's contracts for gun parts were canceled, it filed a request to return to the manufacture of portable electric lamps for civilians. Ordinarily, such an appeal would not be granted in a Group I area. But the company was able to show that it was slated for new military contracts; meanwhile it stood to lose most of its 135 workers if forced to shut down. Manufacture of 25,000 lamps as a "fill-in" was approved.

BUSINESS AS UNUSUAL

Competitive relationships oftentimes decide an appeal. Recently, a large manufacturer, anxious to get set for postwar markets, asked the Service Equipment Division for permission to make metal signs. No critical materials were involved; nor was he in a tight labor area. When the manufacturer has essential orders on hand, relaxations are often granted; but in this case the appellant intended to dispatch salesmen to bring in the orders. Since this was equal to "business as usual" for this manufacturer, the request was denied.

Then there's the case of a New York City piano manufacturer who was winding up a contract for gliders and had labor and materials to spare. In common with

other producers, he asked permission to resume piano output. Since the summer of 1942, when L-37-a halted production, demand has piled up, particularly from those in a position to provide wide community service: United Service Organizations, American Red Cross, religious and educational institutions, and members of the armed services. Authorization was granted, but was limited to 800 pianos, only 18% of his 1941 output —this to prevent the company from gaining a competitive headstart on other manufacturers lacking the materials or manpower to meet the New York Company's potential rate of piano production.

SMALL JACK POT

Appeals sometimes turn on distribution. When a midwest auto parts company asked to produce 600 hand-operated jacks for nonmilitary use, the appeal was approved—the jacks were part of original equipment for new tractors in the farm program. At the same time, however, another company's appeal to manufacture jacks for all comers was denied.

Perhaps the most common appeal at the present time is the one for resubstitution of a once-critical material to make a better product or save manhours or both. The volume of these has been so great that many L and M orders have been amended so as to give, in effect, blanket approval to such appeals (WP-Apr8'44,p3).

NICKEL SPECTACLES

The situation in spectacle frames is typical. The Safety and Technical Division has received numerous requests to allow nickel instead of steel, which not only corrodes but also wears out tools designed for work on softer nickel and nickel-silver. So Order L-214 is now being amended to dispose of those appeals.

As a result of the recent WPB ban against expansion in civilian production in Group I and II labor areas, a new factor enters the appeals equation. Heretofore, appeals have been considered on a case-by-case basis, manpower being weighed along with other factors. The new ruling, however, would seem to preclude such treatment for all requests in Group I regions and—save for exceptional circumstances—for appeals in Group II areas as well.

PROGRAMS HELD UP

Already several programs have been pulled up short by the new policy. Widest publicity has been given to the cutback in electric flatirons from 2,000,000 to 200,000. But there are other cases. A nonmilitary program for $11,000,000 of commercial laundry and dry-cleaning equipment for 1944 has been held up. And 700 large floor-finishing machines, which are in great demand in airports, aircraft modification centers, and war plants, can't be made as originally programmed: the manufacturers are located in Chicago and South Bend. The

IN THIS ISSUE:

MIDMONTHLY PLANE TALLY: ON SCHEDULE

PLANE production in the first 15 days of April was about on schedule. Although the 4,095 planes accepted were about 200, or 5%, behind the corresponding period of last month, in total airframe weight they equaled it. And in both number and weight output is scheduled 3% under March, chiefly because April has two fewer working days.

Fighter acceptances slightly outnumbered bombers—1,601 to 1,593—as they did for the first time last month. Within both categories, however, the story is familiar: a few trouble spots, some exceptional showings, but mostly good on-schedule performance.

Design changes have slowed up the P-51 Mustang, particularly at North American, Inglewood; only 130 Mustangs were accepted in the 15-day period, as compared with the corresponding figure of 235 for March and a full-month schedule of 507. Curtiss, Buffalo, continues to have trouble with the C-46 Commando transport; it cleared 32—twice as many as in the same half of last month, but far short of the 137 called for in April. And the B-29 Superfortress, which has been making schedule, may miss the goal of 75 this month; only 22 were accepted.

On the other hand, standard heavy bombers kept abreast of March, though slated to run 11% behind it. Ford, Willow Run, is having another good month, with 159 Liberators accepted already—37 more than in the first half of March.

Likewise Curtiss, Columbus, came through with 139 SB2C Helldivers, or more than two-thirds of the 190 scheduled for the month. Navy 1-engined bombers as a group, with 339 acceptances, were running 21% ahead of last month.

Production of the hard-to-make A-26 Invader is beginning to keep pace with the rising schedule. Seven were accepted; 20 are due.

machine, incidentally, is a laborsaver in its own right. It sweeps, scrubs, and cleans in one operation, reportedly does the work of from 10 to 20 persons.

NEW ORGAN STOPS

A variant of this involves a small Chicago plant with only seven workers. Around the turn of the current year, its appeal to produce 150 chaplains' reed organs in the first quarter was approved. Because of production trouble, only 20 of the instruments were completed, with the balance in process (most of them more than 80% complete). Recently, the firm asked for an extension. But under the new policy the extension would have to be denied.

Since the new policy was announced 10 days ago, industry divisions have been swamped with letters, wires, and telephone calls. It was 1942 all over again. Manufacturers from critical labor areas all over the country wanted clarification. Each one could prove "beyond a shadow of doubt" that his case was an exception. It was evidence of the difficulty of enforcing a sweeping regulation. When manufacturers complained that "you can't do that to us," many industry division men found themselves saying, "but we have!"

Now It's Sheets and Plates in Steel

However, it could be ingots that are short if prospective manpower losses are not replaced. Pinch in flat-rolled products should ease after this quarter.

RECENT relaxation of L and M orders to permit the re-use or increased use of carbon steel in certain products—baby carriages, loose-leaf book parts, furniture springs, etc.—has not imposed any great burden on furnaces or rolling mills. The very nature of the products assures that. Not until automobiles, refrigerators, and similar products open up will civilian takings of steel mount up.

But the relaxations have created an impression that steel is easy. That is not the case.

FIRST-QUARTER RECORD

Steel output is adequate to meet presently authorized programs (though manpower's an onrushing problem). Output of ingots in the first three months of this year set a record—22,588,000 tons, as compared with 22,525,000 tons in the third quarter of 1943, the previous high. Ingot capacity is adequate—about 93,000,000 tons a year, as compared with 86,570,000 at Pearl Harbor. In March the industry ran at slightly below capacity—98.4%.

TIGHTNESS IN ROLLING

However, rolling-mill facilities for converting ingots into some finished or semifinished shapes and forms—such as plates, sheet, and strip—are tight.

Orders promised for delivery in one month have had to be carried over into the already heavily loaded schedules of the next month. Thus, 1,192,000 tons of rolled products scheduled for delivery in November and earlier had to carry over into December; 1,258,000 tons into January; 1,412,000 tons into February. The carryover into March dropped to 1,366,000 tons, however; and with a record output of plates, sheet, and strip in March, the carryover in April is expected to drop further. More than one-third of the carryover—550,000 tons—is plates, sheet, and strip. The rest is distributed among tubing, bars, structural shapes, etc.

LANDING CRAFT DEMANDS

The current tightness in flat-rolled products began to develop last November when the Navy rushed through orders for 38,000 tons of plates for December delivery for its greatly expanded landing craft program. This came on top of an already heavily loaded mill schedule. However, the plate situation is already easing. First-quarter output—over 3,500,000 tons—set a record, and the rolling mills went into the second quarter with only about a one-week carryover—300,000 tons. Moreover, the Maritime Commission's requirements, which have run to 1,600,000 tons a quarter or a little under half the total output, will drop sharply in the third quarter—probably to about 1,100,000 tons. This is because of the shift from Liberty to Victory ships, with a decline in total construction.

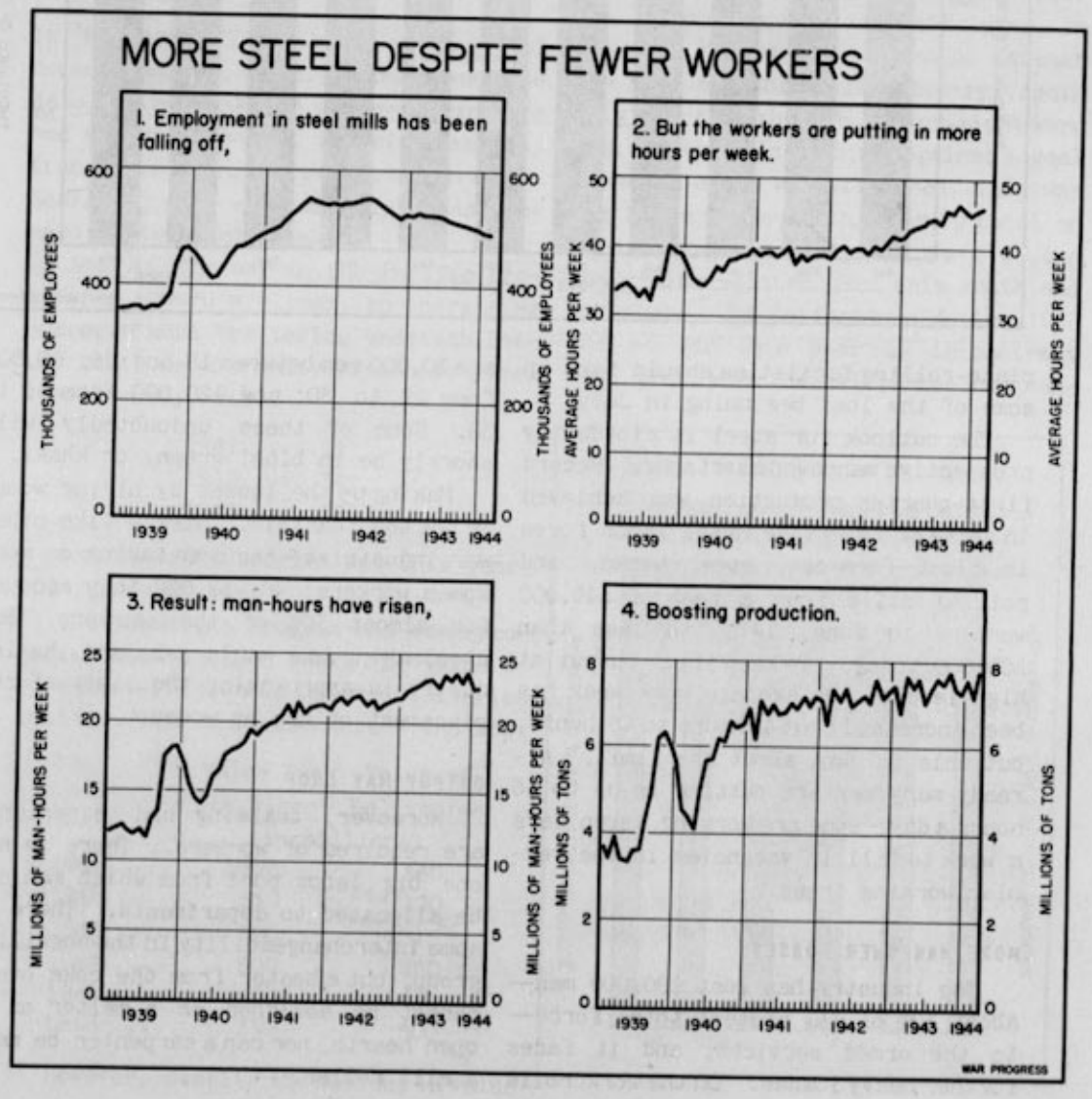
NEW FACILITIES DUE

Still further, new rolling facilities with a capacity of 255,000 tons a quarter are scheduled to come in before July. As a result, some strip mills—with a capacity of 100,000 tons a month—which

have been rolling plates, are expected to be diverted to sheet rolling in the third quarter. This will take some of the tightness out of the sheet and strip departments.

Like plate, sheet and strip were tight in the first quarter and will remain tight this quarter. First-quarter shipments—estimated at 2,800,000 tons—set a record. Nevertheless, the rolling mills are taking a carryover of past-due orders of 250,000 tons (about one-fourth of monthly shipments) into the second quarter.

The squeeze on the mills will be tighter during this quarter because of the decision to package artillery shells in individual waterproof steel casings instead of paperboard as protection against corrosion. These requirements, unanticipated when the second-quarter allotments were made, will add another 150,000 tons of sheet demand on the mills in the second quarter. Diversion of



OUT OF THE ROLLING MILLS

Increases in shipments of rolled carbon steel (plates, sheets, tubing, etc.) more than offset moderate drop in rolled alloy steel. Total rises.

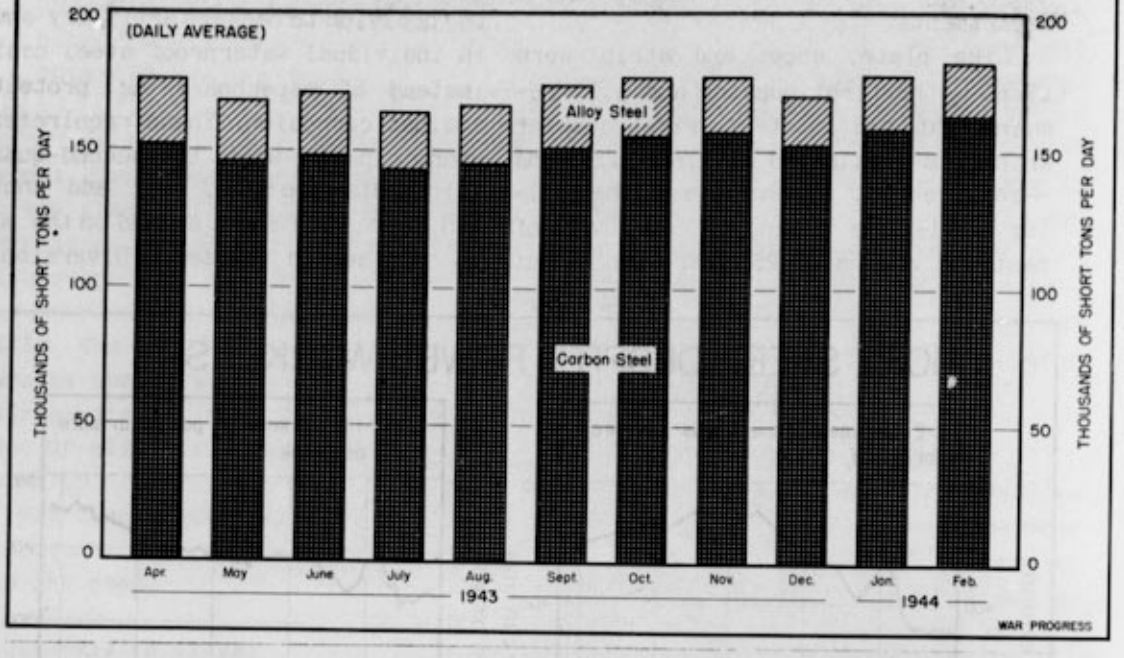


plate-rolling facilities should take up some of the load beginning in July.

The outlook for steel is clouded by prospective manpower shortages. Record first-quarter production was achieved in spite of a decrease in the labor force in blast furnaces, steel works, and rolling mills from a peak of 549,000 workers in June, 1942, to less than 500,000 today. To keep steel output at high levels, the average work week has been increased from 40 hours to 46 hours, but this is just about the limit. Already many men are putting in up to 16 hours a day; some are working seven days a week to fill in vacancies in the regular working crews.

MORE MANPOWER LOSSES

The industry has lost 180,000 men—about 30% of its present total force—to the armed services, and it faces further heavy losses. On the work rolls are 30,000 men between 18 and 26; 60,000 from 27 to 30; and 120,000 from 31 to 38. Some of these undoubtedly will shortly be in blue, green, or khaki.

Making up the losses by hiring women is not too feasible. Steel—like other war industries—has been taking on more women workers; at 50,000 they account for almost 10% of the workers. But steelmaking is a man's job, and the industry is approaching the limit of replacement of men by women.

OUTPUT MAY DROP

Moreover, training and experience are required of workers. There is not one big labor pool from which men can be allocated to departments. There is some interchangeability in the unskilled group, but a heater from the coke ovens cannot be assigned as a melter on an open hearth, nor can a carpenter be made a mill roller.

If the overall requirements of claimant agencies continue to run over 16,000,000 product tons as in previous quarters, then output will fall short of requirements.

As the steel situation shapes up today, manpower may limit output in the third quarter to between 90% and 95% of capacity. In that case, probable requirements could not be met.

Subs: 11% of '44 Combat Ship Program

Schedule calls for deliveries of 81 undersea craft, as against 56 last year. However, this year's completions have lagged despite March record. Peak due in '45.

IN THE ATTACKS on Japanese lines of communications, U.S. submarines, to date, have sunk 143 Japanese warships and 624 noncombatant vessels—tankers, transports, cargo carriers, tenders, etc. Nearly as many more are listed as damaged or "probably sunk."

And as the war in the Pacific progresses toward a climax, an increasing number of subs are taking undersea battle stations, for deliveries have risen consistently, viz.:

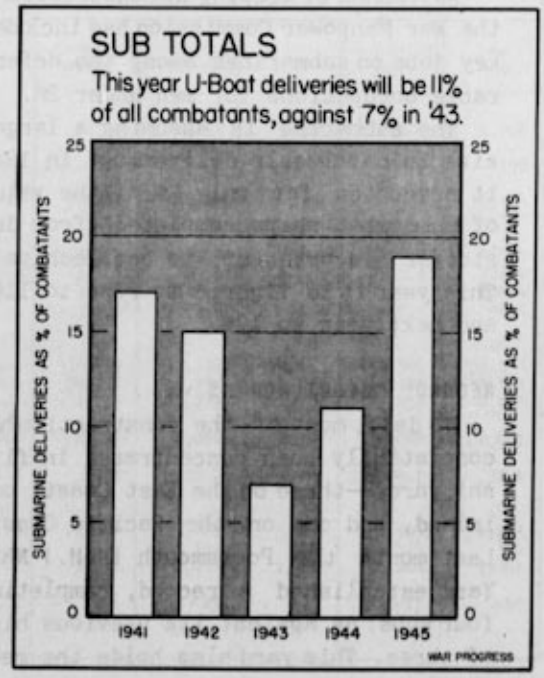
1941..... 11
1942..... 34
1943..... 56

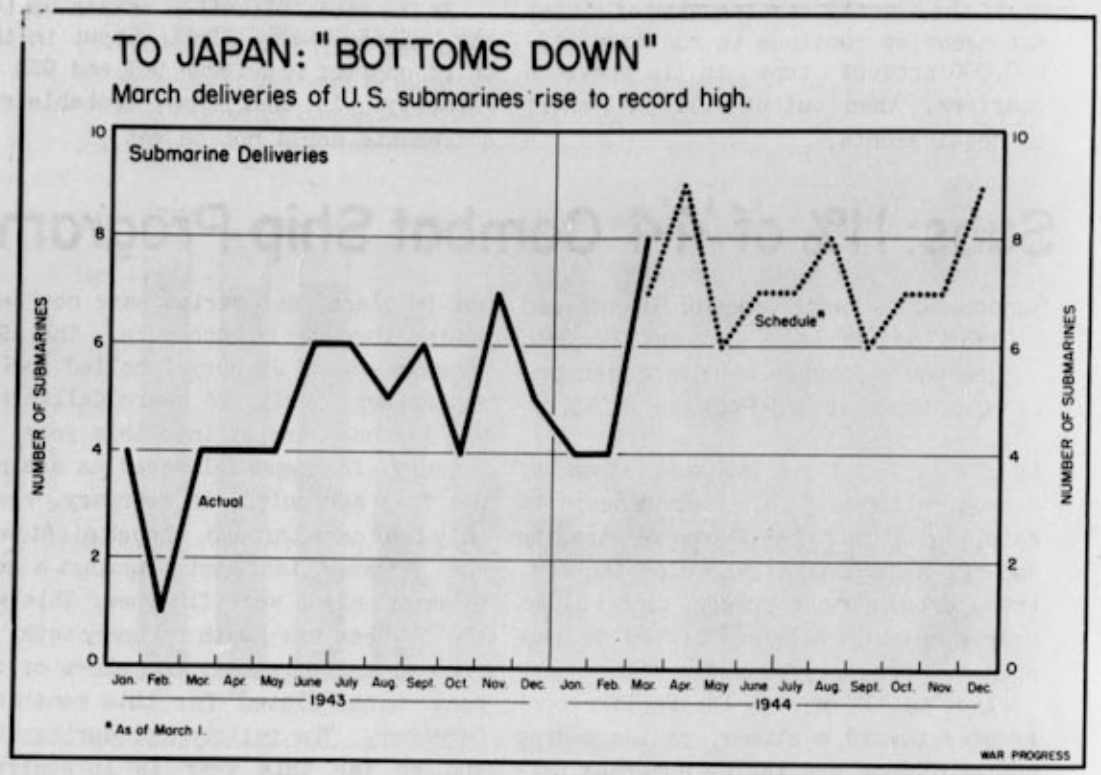
And 81 are scheduled for this year; 109 for next year.

The submarine program has been projected toward a 1945 peak. The value of work done will show up in peak deliveries late this year and next. Here's the log:

	Value Put in Place	Value of Deliveries
	(in millions)	
1941.....	$125	$60
1942.....	250	190
1943.....	380	315
1944.....	500	450
1945.....	500	610
Later.....	330	500

However, despite the buildup in value put in place, deliveries have not been coming through on schedule. The 1943 program as of January 1 called for 65 submarines: only 56 were delivered. The lag has carried into this year. In January, four were delivered as against the five scheduled; in February, again only four came through, though eight were due. However, last month, against a goal of seven, eight were finished. This was the highest one-month delivery total on record, and it is only one short of the peak—nine—slated for this month and December. The performance during 1943 and so far this year is in contrast with 1942, when the deliveries ran con-





sistently either on or ahead of schedule.

As a means of keeping up construction, the War Manpower Commission has included key jobs on submarines among the deferrable occupations for men under 26.

The submarine is assuming a larger size in naval ship deliveries. In 1943 it accounted for only 7% of the value of all combat ships completed (from destroyer escorts up to battleships). This year it is figured to rise to 11%, and next year to 19%.

RECORD: EIGHT MONTHS

To date, most of the construction has consistently been concentrated in five shipyards—three on the East Coast, one inland, and one on the Pacific Coast. Last month the Portsmouth (N.H.) Navy Yard established a record, completing four subs, as against its previous high of three. This yard also holds the record average building time—eight months from keel to completion.

The Cramp Shipbuilding Company, Philadelphia delivered its first sub last month, taking 22 months. Future building time is expected to be cut down.

The Electric Boat Company, Groton, Conn., contributed its usual two. The building time there is 12 months. The other March delivery was made by the Manitowoc Shipbuilding Company, Manitowoc, Wis. (average building time, 10 months). The Mare Island Navy Yard (average building time, 11 months) was not scheduled to complete a sub. It delivered one in February, none in January. A sixth, the Boston Navy Yard, is scheduled to deliver its first sub in December.

Since 1941, deliveries have been limited to only one type, of 1,526 displacement tons, but this has been sub-

ject to constant design changes. Now another larger and improved type, 1,576 tons, has come into the program and will eventually replace the smaller type. The first delivery is due in November.

Submarines are diesel-propelled, which places them in competition with landing craft, trucks, construction machinery, etc. Landing craft, of course, have top priority.

Announced American submarine losses rose from five in 1942 to 11 in 1943. And during the first three months of this year they amounted to six. This is evidence of the increasing effectiveness of Japanese antisubmarine tactics.

War Progress Notes

PERIPATETIC PARTS

A PRIME contractor for Army radio equipment needed 1,000,000 fastening eyelets for condensers. To produce them would have required three months. But a telephone call dug them out of idle inventories in a few hours. Another electrical contractor needed 2,500 potentiometers immediately to meet its production schedule. A supply of the item was located in excess warehouse stocks of a contractor 50 miles away. Within 24 hours, a sample was obtained, passed laboratory tests, and the assembly line kept moving.

Those jobs were the work of the Components Recovery Section of WPB's Radio and Radar Division. The section's business is to see that surplus stocks of critical radio and radar components—resistors, capacitors, potentiometers, relays, etc.—return to the production line. It secures lists of components held by the Army, Navy, and prime contractors, and distributes these among

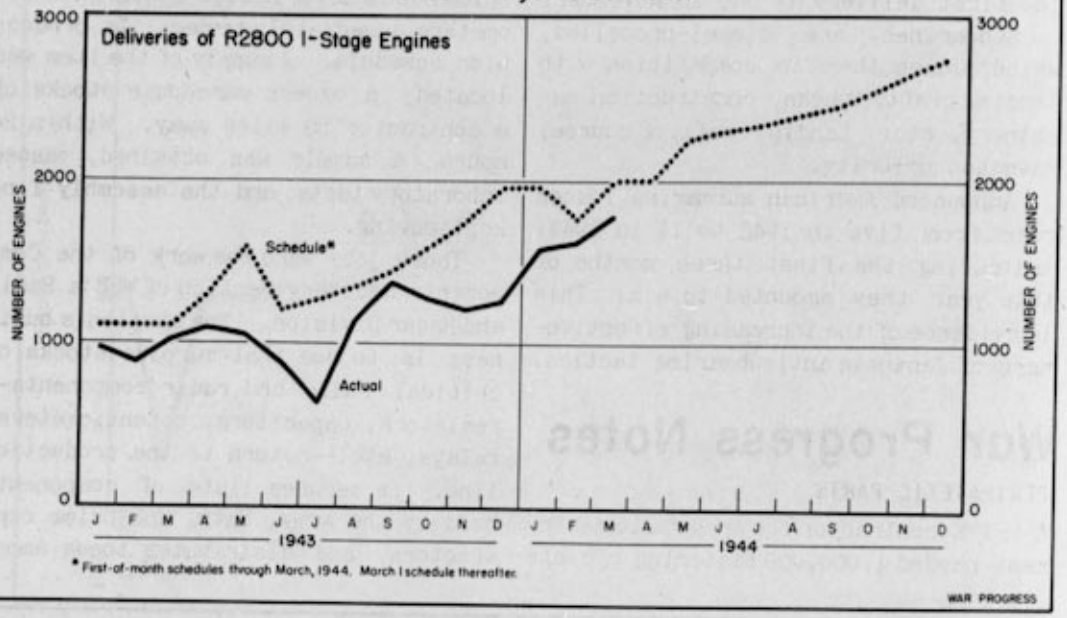
KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program-Checks paid (millions of dollars)	1,912	1,838	1,878	1,600	1,462
War bond sales - E, F, G (millions of dollars)	170	155	161	470	195
Money in circulation (millions of dollars)	21,295	21,191	21,006	18,978	16,424
Wholesale prices (1926=100)					
All commodities	103.8p	103.7p	103.6p	102.9	103.5
Farm products	124.5p	124.1p	124.5p	122.8	124.4
Foods	105.0	105.0	104.6	104.7	108.4
All Other	98.5p	98.5p	98.2p	97.5	96.8
Petroleum:					
Total U.S. stocks* (thousands of barrels)	410,489	412,338	414,225	422,569	436,544
Total East Coast stocks* (thousands of barrels)	56,732	56,770	54,751	62,791	43,568
East Coast receipts (thousands of barrels, daily average)	1,735	1,733	1,654	1,558	1,285
Bituminous coal production (thousands of short tons, daily average)	2,003p	2,086	2,035	2,008	2,067
Steel operations (% of capacity)	99.5	98.7	99.2	100.7	99.1
Freight cars unloaded for export, excluding grain (daily average)					
Atlantic Coast ports	2,866	3,201	3,091	2,505	1,834
Gulf Coast ports	334	336	388	335	396
Pacific Coast ports	1,600	1,450	1,462	1,284	1,061
Department store sales (% change from a year ago)	-11	+23	+17	+13	+15

p Prelim. r Revised *Excludes stocks owned by the military.

FORD, DEARBORN, ENGINE OUTPUT LAGS

Though March production of the Double Wasp hits new high, it falls 10% short of schedule. First-of-month schedule is yet to be made.



contractors requiring components to fill orders. It acts as a broker—brings buyer and seller together.

Dollar value of such recoveries—$750,000 since January 15—is relatively small. More important, they (1) help the Army and Navy get deliveries on urgent electronics contracts, (2) turn existing items back into production with a saving of man-hours, machine time, and materials, and (3) make it unnecessary to slap directives on already overcrowded order boards in component producers' plants.

DOUBLE WASP TROUBLE

FORD, Dearborn, is still having trouble with the R-2800 Double Wasp 1-stage aircraft engine (chart, above)—an 18-cylinder, 2,000hp job used in various important models, including the Thunderbolt, Commando, Invader, Marauder, Ventura, and Hellcat. Although output in March jumped 10% to 1,794, it was 10% short of the goal of 2,000; yet schedules have been set back repeatedly.

The Army is now dependent on Ford for its Double Wasps. Pratt & Whitney, East Hartford, has been turning out about 200 a month for Thunderbolts, but it is due to wind up production of them this month. And though Pratt & Whitney's Kansas City plant is getting under way on them, practically all its engines are slated to go into Navy planes. No other plants are making this model.

MARKED-DOWN PLANES

AIRPLANES are getting less expensive. Since August, 1943, the price of a B-29 Superfortress has been cut from $1,000,000 to $670,000; a Flying Fortress from $300,000 to $250,000; a Hellcat from $97,000 to $69,000.

And prices at different plants have become more nearly uniform. A Liberator

built at North American, Dallas, cost $360,000 last August; the same plane at Consolidated Vultee, San Diego, was $271,000, or $89,000 less. Reason for this spread was that North American was just coming into production, but Consolidated Vultee was a veteran; it had already turned out more than 2,500 Liberators. Now prices at both plants are close together: $259,000 at North American, $236,000 at Consolidated Vultee.

Mass production economies largely account for the downtrend. Other reasons are increased plant efficiency, more accurate cost accounting, and closer checks on costs by the procurement agencies. Moreover, the decline has been accelerating since mid-1943.

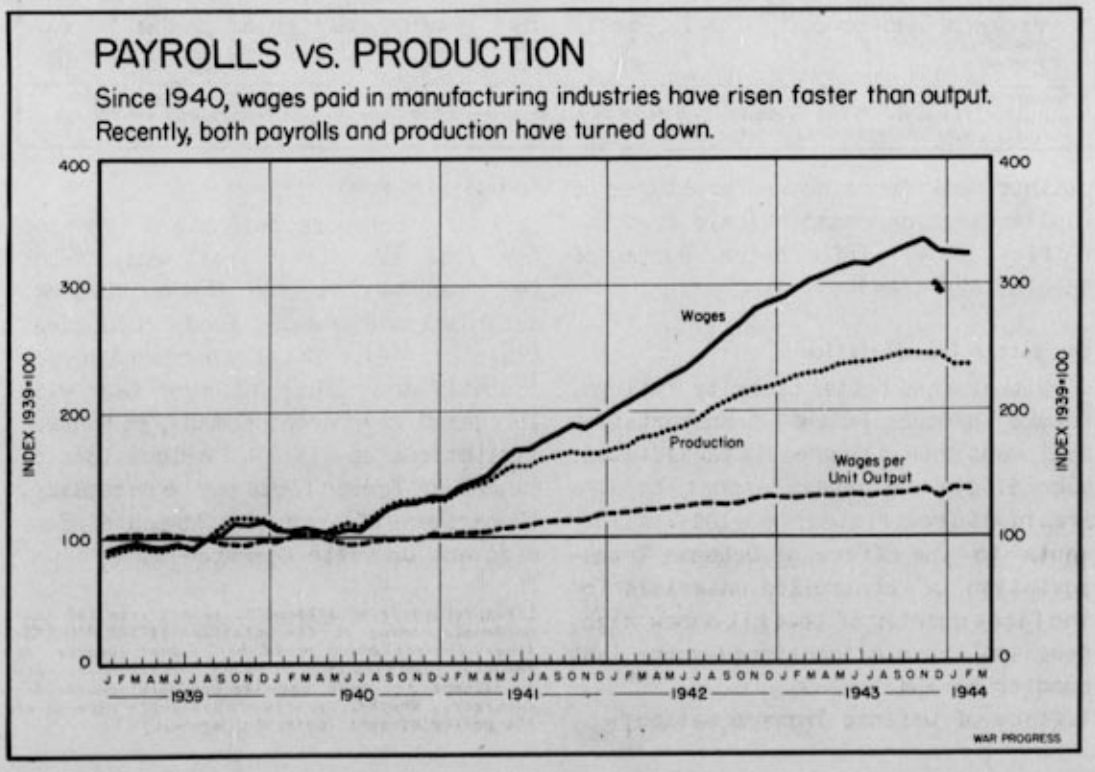
THE RISE IN LABOR COSTS

DURING 1939 and 1940, labor costs per unit of factory output held steady. Wage rates and prices were pretty stable and manpower had not yet become scarce. But by Pearl Harbor, payrolls had shot up much faster than production, and labor costs per unit of output were up 17% above 1939. After that, costs rose slowly through 1942, but flattened out last year. In November, both production and payrolls turned down, but production went down faster than payrolls (chart, below). Result: Costs rose.

REPORTS ON REPORTS

Home Front News

Fuel and gasoline allowances still hold the lead on all complaints concerned with rationing, as indicated in *Housewives Report: March* (restricted; pp. 14). The survey also reveals that scarcity of clothing, especially for children, remains high on the list of consumers' problems, and quality deterioration is particularly resented. However, com-



SELECTED MONTHLY STATISTICS

Employment – Labor Turnover – Expenditures – Sales – Transporation

	Latest* Month	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
NONAGRIC. EMPLOYMENT-TOTAL	36,946 p	37,123	37,257	38,227	38,115	28,836	n.a.
Manufacturing - Total	15,512 p	15,738	15,827	16,179	15,958	9,787	
Durable goods	9,400 p	9,537	9,607	9,659	9,415	4,248	
Nondurable goods	6,112 p	6,201	6,220	6,520	6,543	5,539	
Government	5,854 p	5,813	5,791	5,830	5,855	3,947	
Other	15,580	15,572	15,639	16,218	16,302	15,102	n.a.
LABOR TURNOVER IN MFG. INDUSTRIES† (rate per hundred employees)							
All manufacturing							
Accessions	5.34 p	6.47	5.19	7.62	7.87	3.06	4.71
Separations - Total	6.47 p	6.69	6.55	8.18	7.04	2.61	2.85
Quits	4.51 p	4.60	4.38	6.30	4.65	0.64	1.19
Military	0.49 p	0.53	0.50	0.67	1.23	n.a.	n.a.
Aircraft							
Quits	3.94 p	4.33	3.86	5.67	3.71	0.86	2.23
Military	0.55 p	0.62	0.48	0.79	1.66	n.a.	n.a.
Shipbuilding							
Quits	5.50 p	6.10	5.93	7.76	5.90	0.66	0.85
Military	0.69 p	0.81	0.76	1.00	1.84	n.a.	n.a.
CONSUMER EXPENDITURES (million dollars)	7,395 p	9,110	7,957 r	7,454	6,816	4,672	4,756
Goods	4,862 p	6,623	5,501	4,996	4,406	2,780	2,946
Services	2,533 p	2,486	2,456 r	2,458	2,411	1,892	1,809
RETAIL STORE SALES - TOTAL (million dollars)	4,828 p	4,926	6,716	5,088	4,459	2,749	2,783
Durable goods	632 p	636	898	777	582	611	679
Nondurable goods	4,196 p	4,290	5,818	4,312	3,877	2,138	2,104
TRANSPORTATION - COMMODITY AND PASSENGER (1935-39=100)††	220 p	213	215 r	226 r	202	97	111
Commodity	207 p	201	199 r	211 r	193	97	113
Passenger	261 p	254	266 r	275 r	232	97	106

* Non-agricultural Employment, March; Labor Turnover, Retail Store Sales, February; Consumer Expenditures, Transportation, January. † Rates beginning 1943 refer to all employees rather than to wage earners only and are not strictly comparable with earlier data. p Preliminary. †† Unadjusted. n.a. Not available. r Revised.

plaints and fears about shortages of food or other merchandise have dropped. (Office of War Information, Bureau of Special Services)

For Better Transportation

With new and better priority ratings, future production of transportation equipment should be greatly facilitated, according to *Progress Report to the President* (restricted; pp. 109). Allotments to the Office of Defense Transportation of controlled materials for the first quarter of 1944 hit a new high, rose 10% above allocations for the last quarter of 1943.
(Office of Defense Transportation)

Victuals are Vital

Food processors estimate a 10% rise for 1944 over their 1943 output but fear manpower may be the bottleneck, according to *Processed Foods* (confidential; pp. 16). Still, increased supply probably will fail to keep pace with increased government demand, so further limitations on civilian allocations of canned and frozen foods may be necessary. (Department of Commerce, Bureau of Foreign and Domestic Commerce)

[This record is an attempt to select from the many documents coming to the attention of WAR PROGRESS those studies which would be of most interest to readers. The list is by no means comprehensive, and no attempt has been made to evaluate reports for accuracy. Whether reports are available depends on the policy of each individual agency.]

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Machine Tools Now and When—Artillery Ammunition: Up, Down, Up—Still Toward Newer, Heavier Planes—Fractionals: Barrier to Reconversion

Number 189 April 29, 1944

WAR PROGRESS

Prepared in the War Production Board

Donald M. Nelson, Chairman

War Progress is a confidential report designed to provide a coordinated and continuing picture of the overall war program for the various war agencies. To this end, it presents, analyzes, and interprets basic statistical and economic information, and from time to time examines the pros and cons of controversial questions.

Although War Progress is an official publication of the War Production Board, statements in it are not to be construed as expressing official attitudes of the Board as a whole, or even of individual members. Conclusions, whenever reached, should be considered editorial conclusions.

War Progress is prepared in the Bureau of Planning and Statistics (Stacy May, Director) by the Munitions Branch (Morris A. Copeland, Chief).

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NUMBER 189 WAR PROGRESS APRIL 29, 1944

Machine Tools—First in Peace

Business is still above prewar period, but is down sharply from '42 peak, and newcomers are squeezed out. Government-owned equipment poses postwar problem.

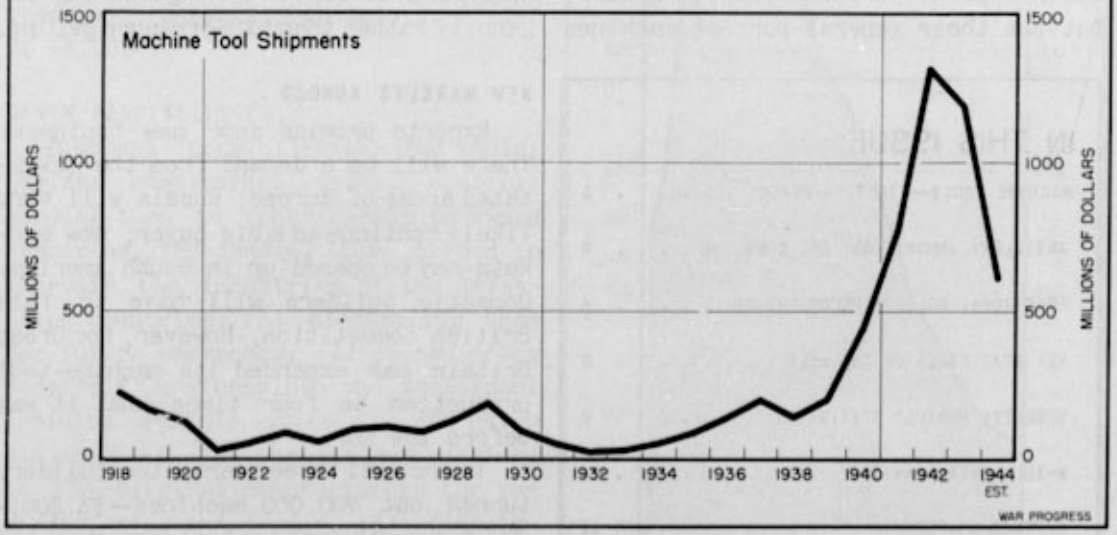
FIRST IN WAR, the machine-tool industry will also be first in peace. Before plants could turn out tanks, planes, ships, guns, shells, they had to have milling and boring machines, grinders, planers, broachers, lathes. So it will be in reconversion: before industry can turn back to civilian production, it will have to retool.

Right now, incoming business is largely from the few military programs on which facilities have not been completed or on which expansion is still under way, such as heavy trucks and trailers, airplane engines, and heavy artillery ammunition.

Shipments have dropped from a peak of $132,000,000 in December, 1942, to about $50,000,000 a month currently. Even so, these shipments are far above those of the prewar period. However, they are low enough to squeeze some of the war-born newcomers out of the industry. About 70 companies have quit, and 90% of the current volume of business is being turned out by some 260 prewar firms. And some plants have stepped down from three to two shifts a day. Employment has fallen from a 1942 peak of 120,000 to 75,000. To keep busy, some companies have gone directly into war work, producing shells, engine parts, bomb bays, radio and radar equip-

THE RISE AND FALL OF MACHINE TOOLS

Although this year's shipments of machine tools are 55% below the all-time high, they are still far ahead of the first World War peak.



ment, etc.; they have a $100,000,000 backlog in such contracts.

Machine-tool building has always been a feast-or-famine business. Output, for example, reached a peak of $220,000,000 in 1918, dropped to $22,000,000 in 1921, climbed to $185,000,000 in 1929, fell back to $22,000,000 in 1932, and rose again to $200,000,000 in 1939. Then output soared to $450,000,000 in 1940, $812,000,000 in 1941, and a new peak of $1,322,000,000 in 1942. Last year it slid off to $1,200,000,000, and this year output is expected to drop to $600,000,000.

In the meantime, machine-tool builders, having had an early taste of cutbacks, are looking forward to orders from old customers—railroad-car shops, the steel mills, the automobile industry, and the numerous manufacturers of farm equipment, refrigerators, vacuum cleaners, electric appliances, etc.

PENDING BUSINESS

Peacetime manufacturers, particularly the automobile industry, will undoubtedly need many new machine tools. When they turned to war production, they stored their special-purpose tools in grease, but put their general-purpose machines to work on war contracts. Inexperienced workers, 24-hour operation, neglect in repair and maintenance, have all imposed heavy wear and tear on these machines; some will not even be worth rebuilding.

Although tool builders at present can accept for production only priority orders, some motorcar manufacturers are reported to have placed orders for future delivery. And inquiries are coming in from customers in all fields. There will undoubtedly be new products in the postwar world—and these usually mean new machine tools.

DOLLARS AND SENSE

What these customers will buy cannot now be estimated. Toolbuilders will have to compete against their own products—produce more efficient ones. Except for expansion, a manufacturer invests in new machine tools only when they result in savings in operating costs. It's a dollars-and-cents proposition—and machine tools come high; they average $4,000 to $5,000 each, run up to as high as $325,000 for a drilling and tapping unit for machining aircraft engines, for example. Thus, the industry will have to depend on engineering ingenuity rather than high-pressure selling.

NEW MARKETS ABROAD

Exports promise some new business. There will be a demand from the devastated areas of Europe; Russia will very likely continue as a big buyer; new markets may be opened up in South America. Domestic builders will have to face British competition, however, for Great Britain has expanded its machine-tool production to four times what it was before the war.

In the last three years, toolbuilders turned out 700,000 machines—$3,200,000,000 worth, or more business than the

IN THIS ISSUE:

industry had done in the previous 25 years. About two-thirds—$2,000,000,000—went to the government, which owns well over one-fourth of the 1,700,000 in use in the U.S. today, and is far and away the biggest owner in the country. Moreover, it still continues to buy: it will take most of the $600,000,000 output in 1944.

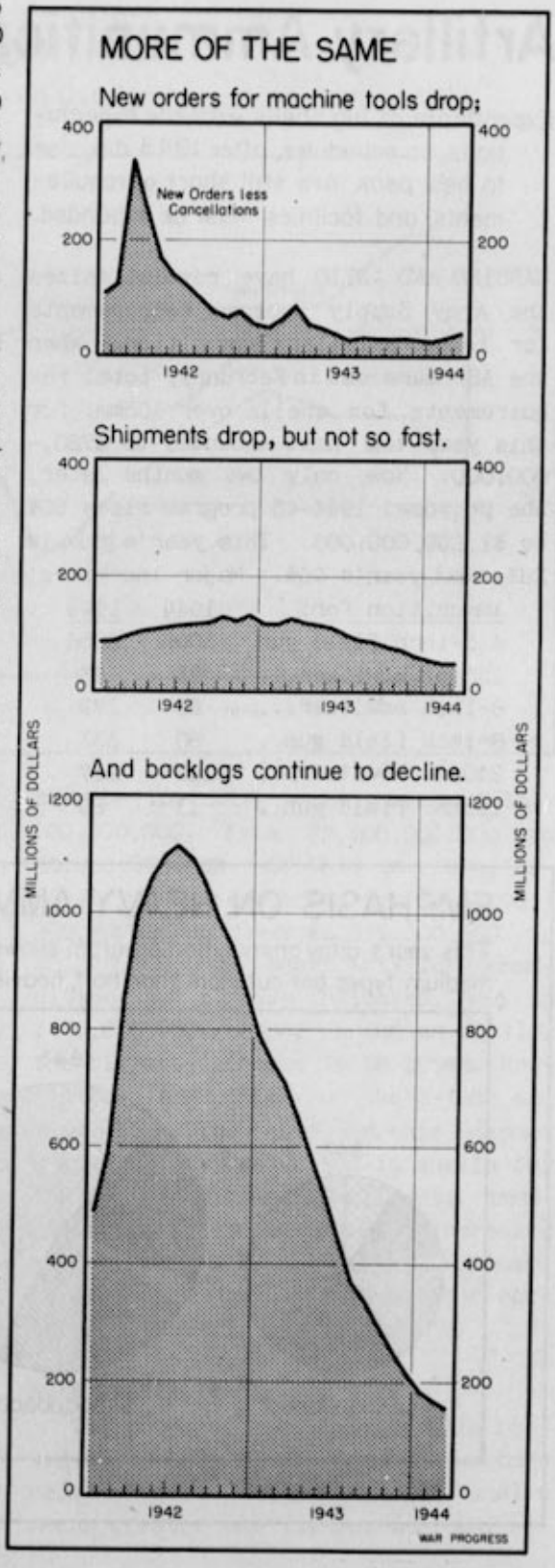
DISPOSAL POSES PROBLEM

How these machine tools are disposed of at the war's end is the most important single factor affecting the industry's future. One-fourth of their recent output has been in special-purpose types designed for particular operations—such as rifling a cannon bore; but three-fourths has been in general-purpose tools which can turn out peacetime products.

Some general-purpose machines are being disposed of to present users who hold purchase options. In contract renegotiations the plant-lot provision—buy all or none—has in some instances been relaxed. Rigid adherence to such a provision would limit sales. General Motors, for example, is said to be interested in only one-sixth of the 56,000 government-owned tools in plants it operates; Chrysler, in only one-fifth of 19,000.

SEVEN POSSIBILITIES

Disposal possibilities for tools, besides open-market sales, are: (1) sending them to industrially backward countries, (2) sending them abroad to re-equip the industries of the devastated countries, (3) stockpiling them for future emergency, (4) re-equipping nonprofit engineering and vocational training schools which are now using old equipment, (5) turning back machines to the original manufacturers for reconditioning and resale, (6) re-equipping arsenals using prewar machines.



Artillery Ammunition: Up, Down, Up

Expenditure of big shells exceeds expectations, so schedules, after 1943 dip, rise to new peak. Are still short of requirements, and facilities must be expanded.

CASSINO AND ANZIO have revolutionized the Army Supply Program requirements for heavy artillery ammunition. When the ASP came out in February, total requirements for shells over 105mm. for this year and next amounted to $780,000,000. Now, only two months later, the proposed 1944-45 program rises 60% to $1,250,000,000. This year's gain is 28%, next year's 96%. Major increases:

Ammunition for:	1944	1945
4.5-inch field gun	300%	205%
155mm. howitzer...	93	83
8-inch howitzer...	63	179
8-inch field gun..	80	333
240mm. howitzer...	145	217
155mm. field gun..	11	89

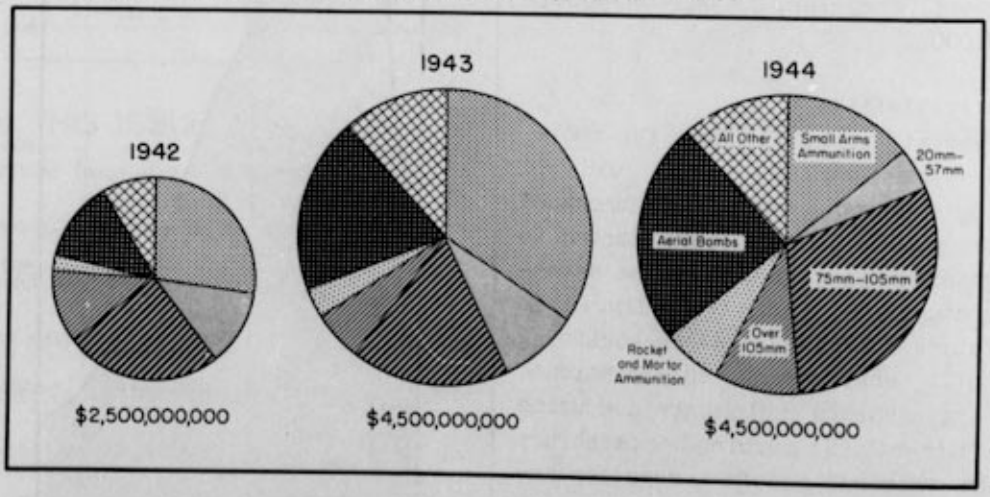
But production facilities are not adequate for some types. For example, the revised 1944 schedule for the 240mm. howitzer HE M-114 shell is only about 40% of the proposed requirements. To a lesser extent, facilities are also a bottleneck in 4.5-inch shells, the 155mm. howitzer HE M-107, the 155mm. field gun HE M-101, and the 8-inch field gun HE M-103. In the case of the 8-inch howitzer HE M-107 shell, the schedule is only 2% below requirements. Schedules will be revised upward as capacity is increased.

NEEDS SHIFT RAPIDLY

The upward revision in ammunition for big guns is one more indication of how rapidly military needs shift. Here is a program which has gone up, then down, and now it's up again. Thus during the last half of 1942, production

EMPHASIS ON HEAVY AMMUNITION

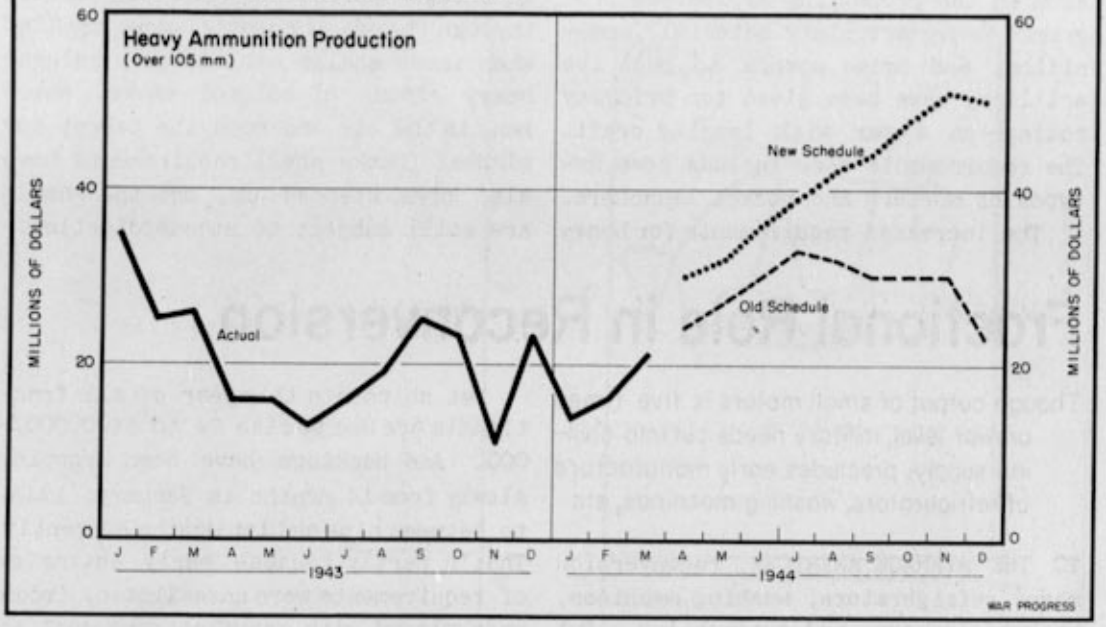
This year's army ammunition program shows no change from 1943, whereas small and medium types are cut more than half, heavier types rise 70%.



WAR PROGRESS

PASS THE HEAVY AMMUNITION

Army steps up program after Anzio and Cassino experience. Last quarter output to triple the first quarter's.



of shells for big guns ran at the rate of about $100,000,000 quarterly. But by 1943 large stocks had been built up and schedules were cut back sharply. The production rate dropped about 50%. That was on the basis of the going rate of expenditure at the time.

But in Italy, the rate of artillery fire exceeded expectations. And schedules as now revised, even though they do not fully reflect requirements, are at an all-time peak. The fourth-quarter goal is 50% higher than the 1942 peak, and 100% higher than the 1943 average rate of production (chart, above). The schedules for 1945 have not yet been set up. Since requirements rise even more steeply than in 1944, and facilities are being expanded, they will be still higher. In dollar value, the biggest increase is in shells for the improved 155mm. howitzer.

The two-year rise in ammunition as a whole (including bombs) was about $1,100,000,000, from $8,800,000,000 to $9,900,000,000. Of this increase, artillery shells accounted for $755,000,000, going up from $4,515,000,000 to $5,270,000,000. Heavy artillery ammunition, as already indicated, was up $470,000,000. Among the medium shells, the biggest increase is in 105mm. howitzers. Ammunition for the 3-inch and 76mm. gun is increased, but this is somewhat offset by a reduction in shells for the 75mm. howitzer. Small arms ammunition requirements also were increased slightly. Nearly all of this increase is in a new type of .50-caliber cartridge, the API.

MORE CANNON TOO

The proposed requirements also provide $148,000,000 for spare cannon barrels. Heavier expenditure of shells means greater wear on cannon. And re-

quirements for the 8-inch gun increase about 50% and for the 240mm. howitzer about one-third. Likewise, the increase in heavy ammunition will mean an expansion in the propelling explosives program. Heavy artillery materiel, ammunition, and prime movers to pull the artillery have been given top priority rating—on a par with landing craft. The requirements also include some new types of mortars and rocket launchers.

The increased requirements for heavy ammunition indicate a swing back to artillery fire to wipe out camouflaged gun nests, instead of relying heavily on bombing planes. Moreover, artillery is being employed to help out bombers through the use of colored smoke shells. When these shells explode they release heavy clouds of colored smoke, which hang in the air and mark the target for planes. Smoke-shell requirements have also been stepped up, but the shells are still subject to standardization.

Fractional Role in Reconversion

Though output of small motors is five times prewar level, military needs cut into civilian supply; precludes early manufacture of refrigerators, washing machines, etc.

TO THE AVERAGE AMERICAN, reconversion means refrigerators, washing machines, vacuum cleaners, and automobiles. But to the average manufacturer, reconversion means components; and high on the list of components are fractional-horsepower motors. Without them, refrigerators, washing machines, and countless other electrical gadgets just aren't. And because of that, reconversion—in the sense of more consumers' durable goods—is still off in the distance.

Military demands for fractional motors continue to absorb the great bulk of production—this despite the fact that production is five times prewar levels. Like everything else, a sharp expansion in output has had a hard time keeping up with the even sharper upsweep in military demand. Last year, for example, Army, Navy, and Maritime shipments accounted for some 90% of all the output. What was left for essential civilian programs (mostly AC motors) was short—and will continue so throughout this year.

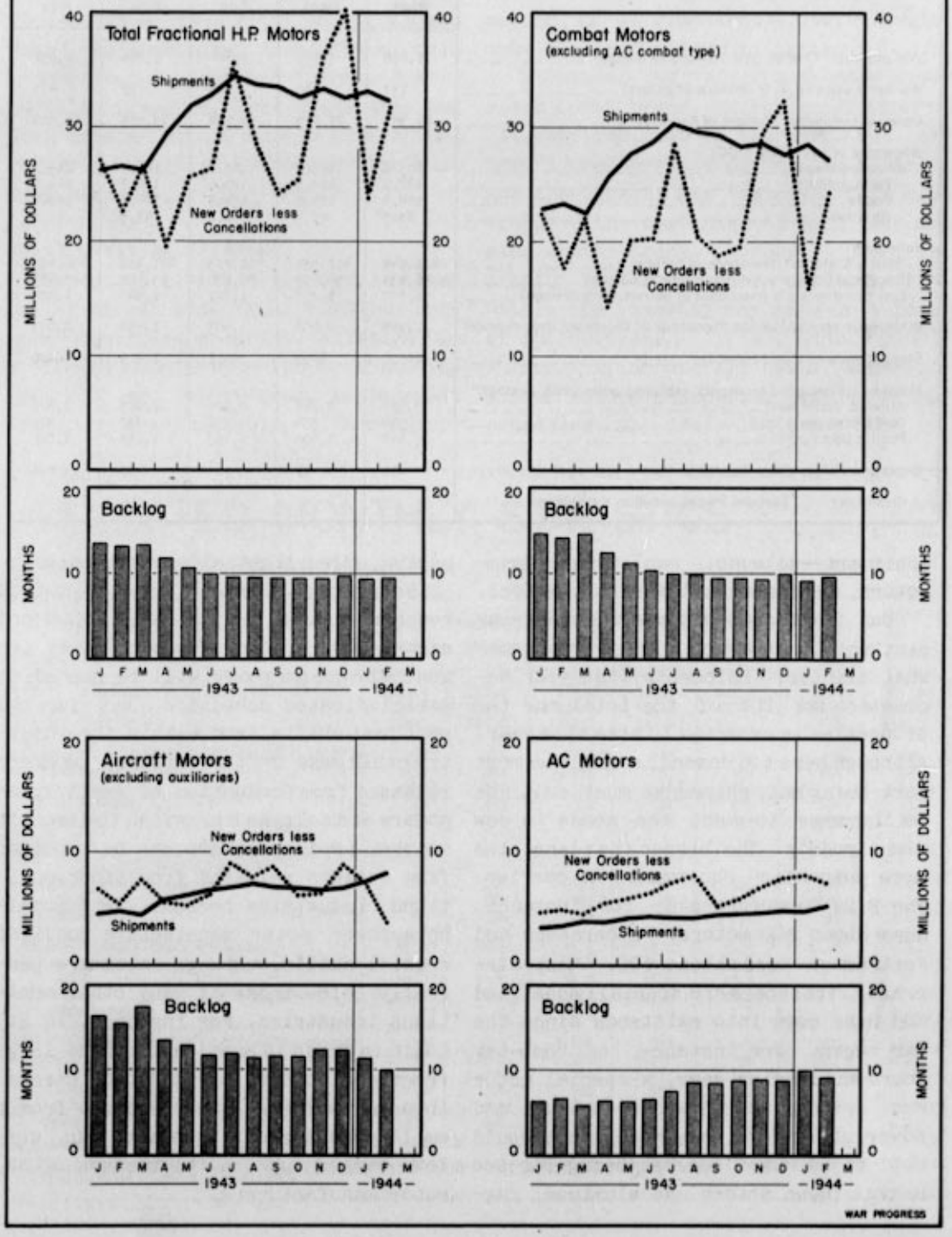
Yet shipments this year of all fractionals are due to rise 7% to $400,000,000. And backlogs have been dropping slowly from 14 months in January, 1943, to between nine and ten months currently. That's partly because early estimates of requirements were unrealistic. Orders were placed with manufacturers just in case. But it's also because ground Army and Navy requirements for fractionals have passed their peak, due to reductions in schedules for tanks, antiaircraft guns, some electronic items, etc. Indeed, deliveries have been exceeding new orders pretty consistently and, except in instances when a brand-new type of motor is called for on 30 to 60 days' notice, shipments have been close to schedule. The bugaboo, as with all such components, is a sudden switch in specifications which upsets the production lines.

CUTBACKS CUT DEMAND

Most combat-type motors are not tight. Demand has been dropping because of cuts in military needs, and deliveries have kept ahead of net new orders. Ground Army, Navy, and Maritime requirements take up about one-third of this group. Two-thirds is in aircraft auxiliary

TIGHT AND EASY FRACTIONALS

Most small motor backlogs are dropping, as shipments exceed new orders. AC types are the exception.



WAR PROGRESS

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program - Checks paid (millions of dollars)	1,630	1,912	1,524	1,616	1,452
War bond sales - E, F, G (millions of dollars)	157	170	170	137	413
Money in circulation (millions of dollars)	21,334	21,295	20,934	19,019	16,500
Wholesale prices (1926 = 100)					
All commodities	103.6p	103.8	103.6p	102.9p	103.4p
Farm products	122.9p	124.5	124.6p	122.7	123.9
Foods	104.4	105.0	104.5	104.8	108.5
All Other	98.5p	98.5	98.3p	97.5	96.8
Petroleum:					
Total U.S. stocks* (thousands of barrels)	411,242	410,489	411,983	421,488	436,425
Total East Coast stocks* (thousands of barrels)	56,439	56,732	55,874	63,458	43,653
East Coast receipts (thousands of barrels, daily average)	1,700	1,735	1,791	1,540	1,305
Bituminous coal production (thousands of short tons, daily average)	1,955p	2,003	1,987	1,954	2,003
Steel operations (% of capacity)	100.0	99.5	99.1	100.6	100.0
Freight cars unloaded for export, excluding grain (daily average)					
Atlantic Coast ports	3,115	2,866	2,979	2,423	1,816
Gulf Coast ports	316	334	456	335	370
Pacific Coast ports	1,690	1,600	1,493	1,288	1,080
Department store sales (% change from a year ago)	-11	-11	+17	+12	+29

p. Preliminary *Excludes stocks owned by the military.

equipment—selsyns, amplidynes, dynamotors, and fractional aircraft motors.

But fractional aircraft motors—as distinct from the auxiliaries—are somewhat tighter. Shipments last year accounted for 20% of the total and the proportion is expected to rise this year. Although here too demand is for the most part being met, shipments must continue to increase to meet the needs in new plane models. The bigger the plane, the more automatic equipment it carries. The B-29 Superfortress, for instance, uses about 300 motors. Liberators and Fortresses need about 100. Most aircraft fractionals are specially designed and have come into existence since the war began. For instance, on bomb-bay doors and landing gear, a special motor was devised which was both light and powerful. An ordinary motor just could not stand up, besides being far too heavy. These motors use aluminum, magnesium, other light alloys extensively.

February shipments of aircraft motors reached a new high at $8,000,000 and exceeded new orders. The backlog is ten months; more manpower will be needed to meet indicated schedules, but for the most part shifts from within the industry could make up the deficit. Workers released from production of small dynamotors and selsyns can switch to aircraft motors. Not much help can be expected from workers released from other munitions industries because fractional-horsepower motor manufacture requires special skills, and wage rates are generally below those of many other munitions industries. For instance, in St. Louis (a Group IV area) where three large fractional plants are located, several thousand workers were released from a small-arms ammunition plant, but very few turned up on the rosters of the motor manufacturers.

The really tight spot is in alternating-current motors, despite the fact that manufacture of motors for washing machines, refrigerators, electric fans, etc. is banned. Last year, AC motors accounted for 13% of total shipments and 90% of the shortages. About 30% of this type goes to the armed forces, 70% to civilian programs. Most of the Army and Navy orders for AC motors have an AA-1 priority. Again, these have for the most part been met.

SPLIT CIVILIAN PROGRAMS

Essential civilian industry has been having a tough time. Many civilian programs have split programs. Although farm equipment machinery has an AA-2 priority for all of its program, replacement machinery for household, office equipment, etc. is rated high for part of its program, low for the balance. And only the higher-rated portions have a good chance of being filled. Some plants now making larger motors are planning to switch to AC fractionals, which could make the load somewhat lighter.

Shipments of AC fractionals have risen steadily and, like aircraft motors, hit a wartime high in February. But new orders have been coming in even faster, and the backlog has increased from six months at the beginning of last year to nine months today. Manpower, too, is short, but here again shifting from within the industry may make up a part of the deficit.

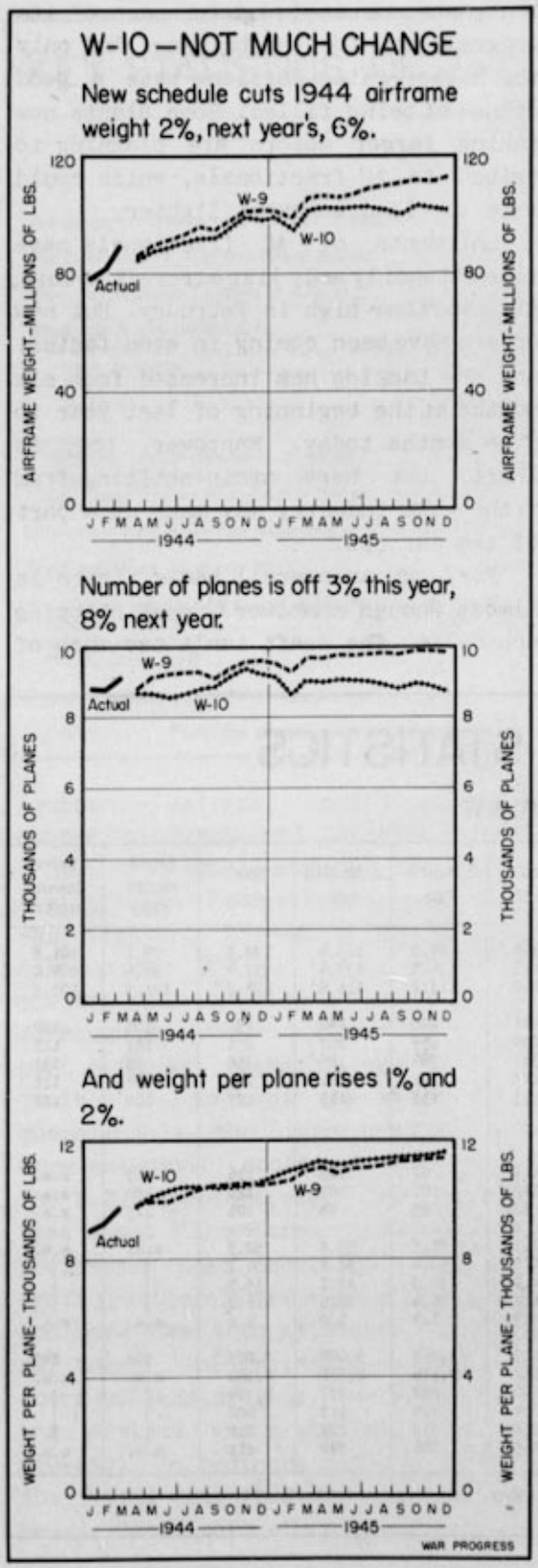
For, on an overall basis, there is almost enough manpower to meet shipping schedules. The draft isn't too much of

SELECTED MONTHLY STATISTICS

Cost of Living–Production–Employment

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
COST OF LIVING-ALL ITEMS (1935-39=100)	123.8	123.8 r	124.2 r	123.9	122.8	99.1	101.8
Food	134.1	134.5	136.1	137.4	137.4	94.6	105.0
Other than food	118.5	118.0	117.7	116.6 r	114.7 r	101.5	100.2
PRODUCTION INDEX-INDUSTRIAL (1935-39=100)†	239 p	241	240 r	248	232	101	120
Total Manufactures	258 p	259	259	267	251	101	121
Durable	364 p	367	366	366 r	350	98	133
Nondurable	171 p	173	172	181 r	171	104	112
Minerals	133 p	137	133	143	127	100	112
PRODUCTION OF CLOTHING AND SHOES FOR CIVILIANS (1935-39=100)†							
Clothing and shoes combined	111 p	107	97	105	116	119	n.a.
Clothing	117	112 r	101	107	120	120	n.a.
Shoes	89 p	88	83	94	101	115	n.a.
LABOR FORCE-TOTAL (millions)	51.4 p	51.1	51.5	53.8	52.9	n.a.	n.a.
Employment	50.5 p	50.2	50.4	52.8	51.7		
Male	34.0 p	34.0	34.0	35.2	35.5		
Female	16.5 p	16.2	16.4	17.6	16.2		
Unemployment	.9 p	.9	1.1	1.0	1.2	n.a.	n.a.
FEDERAL CIVILIAN EMPLOYMENT (thousands)	3,033 p	3,027	3,262	3,044	3,003 r	908	845
War	2,171	2,162	2,176	2,172	2,192	n.a.	n.a.
War department	1,238	1,240	1,258	1,277	1,374		
Navy department	714 p	704	700	677	600		
Other war agencies	219	218	218	218	218		
Nonwar	862	865	1,086	872	811	n.a.	n.a.

*Cost of Living, Production Index, Labor Force, March; all other, February. r Revised. †Unadjusted.
p Preliminary. n.a. Not available.



a threat, numerically. But there is a danger, as in all specialized industries, of losing key people to Selective Service. Of the 70,000 workers now engaged in the manufacture of fractional horsepower motors, 60% are women. Only a few thousand are men under 26 years of age. If manpower can be maintained or raised slightly over current levels there is every reason to expect that military requirements will continue to be met, with only the civilian portion of AC fractionals remaining tight. And better scheduling of production or increased efficiency might ease the pinch somewhat.

W-10: Ever Heavier

Average weight per plane continues up, even though total schedule is down. Program mature: gain to peak in October, 1945, is less than 1% per month.

FURTHER PROOF that the plane program has come of age is afforded by the new W-10 schedule, second in a series of quarterly revisions.

Changes are moderate—total airframe weight is down 2% this year, 6% next. And reductions in the direction of more realistic scheduling are few: the A-26 Invader at Douglas, Long Beach; the P-63 Airacobra at Bell, Buffalo; the C-54 Skymaster at Douglas, Chicago, are the most important of these.

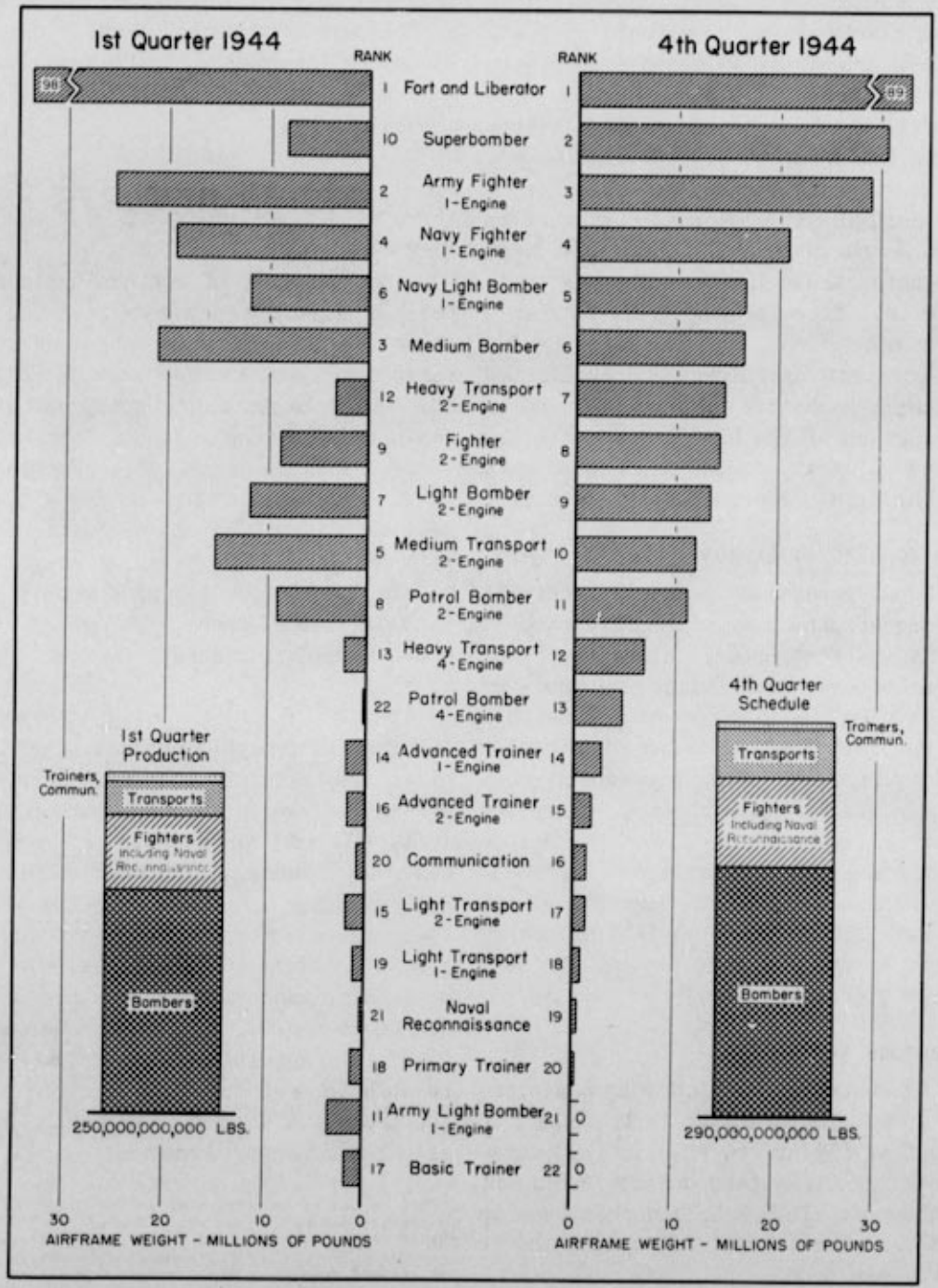
UPTREND TO CONTINUE

But the monthly trend of airframe weight is still upward; the peak of 102,500,000 pounds in October, 1945, is 15% above actual output last month (chart, left). This averages out to a gain of less than 1% a month—and the end of either the European or Pacific war would cut that.

The average weight per plane increases under W-10. This year it rises to 10,-

SHIFTING PATTERNS IN PLANE PRODUCTION

Forts and Liberators still lead the parade, but superbombers jump from 10th place in 1st quarter to 2nd place at year end. Army light 1-engine bombers, basic trainers pass out.



WAR PROGRESS

180 pounds, as against 9,980 pounds, and in 1945 it goes up to 11,420 pounds from 11,050. An important factor here is the cut in trainers, communications, and special-purpose planes. But more than that, plants making relatively obsolete models are being switched into newer, heavier planes.

Take the case of the A-30 Baltimore light bomber at Martin, Baltimore, one of the first planes contracted for by the British; it goes out of production next month instead of August, 1945, and subcontracts for the B-29 Superfortress move in. Likewise, the RA-35 Vengeance dive bomber has outlived its period of greatest usefulness; Consolidated Vultee's Nashville plant will wind up production of the RA-35 this month instead of next October and expand work on the high-preference P-38 Lightning.

BIG BOMBERS STILL 40%

Schedule against schedule, there is no significant change in heavy bombers —Flying Fortresses, Liberators, and superbombers; they still account for about 40% of the plane program by weight.

But all medium-bomber production halts in July, 1945, instead of continuing throughout the year. Since the program began, Glenn L. Martin, Baltimore, and North American's Inglewood and Kansas City plants have turned out almost 10,000 of our two leading medium bombers: the B-26 Marauder and the B-25 Billy Mitchell.

FIGHTERS SPEED UP

By contrast, the fighter group picks up speed. Outstanding is the boost in the fast-flying, swift-climbing, hard-striking P-51 Mustang at North American, Inglewood. This year's docket goes up 25% to some 4,300; next year's 40% to more than 5,000.

The W-10 reduction in planes was preceded by a cut in spare parts. Requirements for airframe spares were reduced from 21% to 14% of the value of airframes, engine spares from 42% to 18% of the value of engines. The new ratios are below recent spares output. Hence, increases in total aircraft production from here on will be less than previously scheduled.

REPORTS ON REPORTS

The Net Tightens

Japan's supply of certain basic materials necessary for the maintenance of domestic communications—telephone, telegraph, and radio—is tight, and stockpiles, especially copper, are being drawn on, according to *Japan: Communications* (restricted; pp. 108). Shortages of both materials and personnel are resulting in a neglect of maintenance with the result that costly, time-taking repairs are frequently necessary. (Army Service Forces, Office of the Provost Marshal General)

The Shoe Pinch

Although domestic production of most hides and skins in 1944 will probably exceed last year's output, leather products will run far short of prospective demands. Indeed, shoe production in 1944 will probably drop more than 10% below 1943, according to *Leather* (confidential; pp. 28). Added to the shortages of raw materials, tanneries and leather manufacturers are faced with manpower difficulties. Result: processors may not be able to meet military requirements. (Department of Commerce, Bureau of Foreign and Domestic Commerce)

[This record is an attempt to select from the many documents coming to the attention of WAR PROGRESS those studies which would be of most interest to readers. The list is by no means comprehensive, and no attempt has been made to evaluate reports for accuracy. Whether reports are available depends on the policy of each individual agency.]

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WAR PRODUCTION BOARD

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No. S- 84181

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(ROOM NUMBER) (BUILDING)

TO:
The President (NAME)
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WAR PROGRESS

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Cost-Plus Contracts: Still High
Too Many Claimants for Crawlers
Alligators, Buffaloes, Ducks
Scorecard on Merchant Shipping

x4735
x526

Number 190

May 6, 1944

WAR PROGRESS

Prepared in the War Production Board
Donald M. Nelson, Chairman

War Progress is a confidential report designed to provide a coordinated and continuing picture of the overall war program for the various war agencies. To this end, it presents, analyzes, and interprets basic statistical and economic information, and from time to time examines the pros and cons of controversial questions.

Although War Progress is an official publication of the War Production Board, statements in it are not to be construed as expressing official attitudes of the Board as a whole, or even of individual members. Conclusions, whenever reached, should be considered editorial conclusions.

War Progress is prepared in the Bureau of Planning and Statistics (Stacy May, Director) by the Munitions Branch (Morris A. Copeland, Chief).

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Cost-Plus Contracts: Case of Necessity

Although military policy is to procure on a fixed-price basis, the unknown quantity in new or changing programs often makes it impractical, particularly in aircraft.

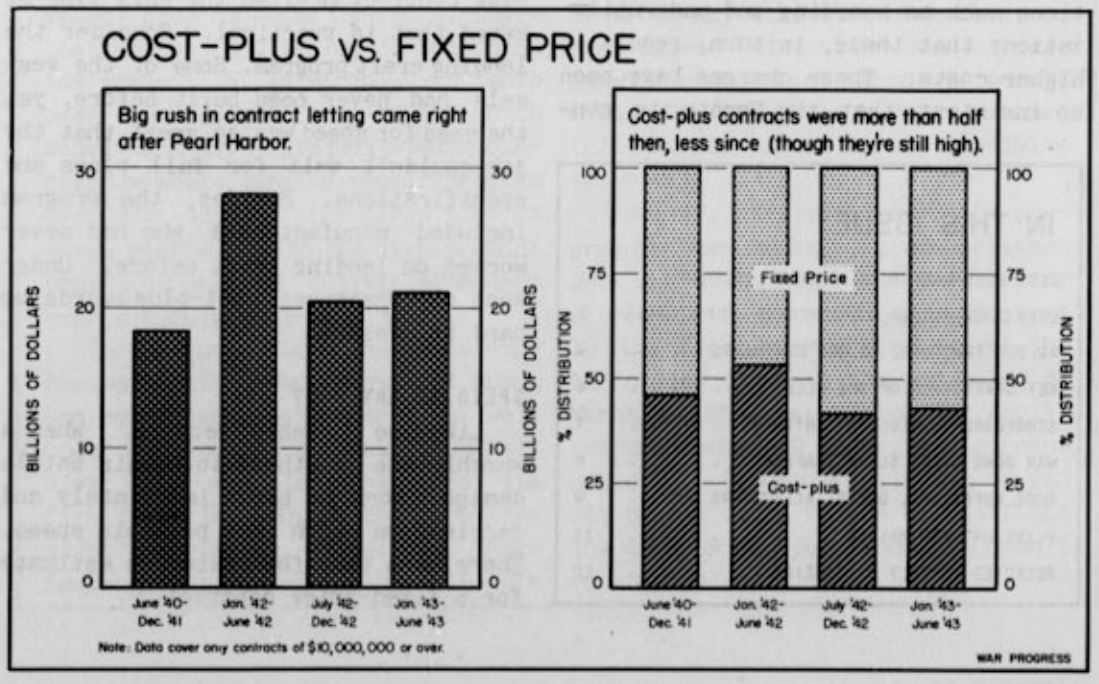
IN THE SIX MONTHS following Pearl Harbor —in the rush to tool up for war—more than half of all supply contracts of $10,000,000 and more were on a cost-plus-a-fee basis (chart, below). The idea was to get manufacturers started at a time when production costs were unpredictable.

During the final half of 1942, the ratio dropped to 42%. Around that time, the Army and Navy introduced a policy of procuring on a fixed-price basis wherever possible. Yet, in the succeeding six months, the proportion of cost-plus awards actually rose to 43%.

What happened was that new programs kept creeping into schedules. Landing craft, ship repair, and aircraft are striking examples of this. Indeed, eliminate Army Air Forces contracts from the total and the trend away from the cost-plus-a-fee contract is fairly distinct.

FEE IS FIXED FIRST

Under most cost-plus contracts, the manufacturer's fee is fixed before the work starts. It is calculated as a given percentage, usually 2½% to 4%, of the estimated cost. Suppose the Army awards a contract for 500 new aircraft engines and figures they will cost $15,000,000 to produce. If a 4% fee is agreed upon, then the manufacturer will receive $600,000. And this fee remains unchanged regardless of whether actual production costs are more or less than the estimate. In some cases, however, provision is made



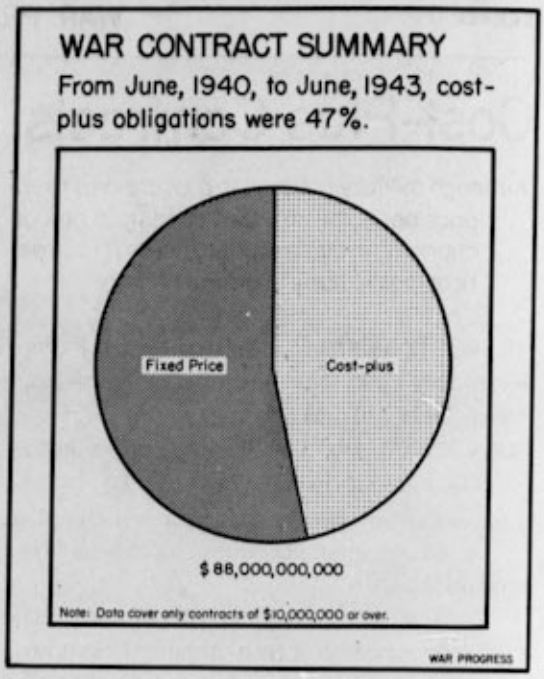
for an adjusted fee based on savings in cost.

The fixed-price contract is usually the result of negotiation between the contracting agency and the contractor. Say the Navy wants a certain quantity of valves and the Crane Company offers to produce them for $10,000,000. In setting that price, the company allows for a profit. If it manages to cut costs below the original estimate, profit rises; if costs are underestimated, profit is squeezed.

TOO MANY UNKNOWNS

Theory behind the cost-plus contract is that, in converting a peacetime economy to war, only a fraction of industry has had production know-how with munitions. Contractors must be protected against unforeseen engineering difficulties, errors in manufacture, unexpected delays in production, etc.

Because the cost-plus contract removes the customary incentives to keep a lid on costs, the charge is frequently made that it encourages wasteful labor practices such as hoarding and underutilization; that these, in turn, result in higher costs. These charges have been so insistent that the Senate is considering a joint resolution to prohibit the use of cost-plus contracting except under extraordinary circumstances.



However, even today—after more than two years of war production—the cost-plus contract is often the only type of award that is practical. Consider the landing craft program. Some of the vessels had never been built before, yet the need for speed was so great that the job couldn't wait for full plans and specifications. Besides, the program included manufacturers who had never worked on landing craft before. Under such circumstances, cost-plus awards are hard to avoid.

SPEED AT ANY COST

Likewise in ship repairs. When a warship is berthed to repair battle damage, work is begun immediately and carried on with all possible speed. There is no time for making an estimate for a fixed-price contract.

IN THIS ISSUE:

Aircraft is another example. It is the largest single munitions group, is still headed upward, and includes many new and larger planes (WP-Apr29'44,p10). In addition, subcontractors who never worked on aircraft before have joined the program. One manufacturer of a dive bomber, a supposedly "established" model, had to take on so many inexperienced subcontractors to meet his swiftly expanding schedule that subcontracting costs more than doubled his previous estimates. On top of that, modifications and design changes are frequent—and a continuing "unknown quantity" for a producer trying to calculate costs beforehand.

PLUS AND MINUS

It is for reasons such as these that the ratio of cost-plus awards didn't decline. If aircraft, ship repair, and landing craft awards are taken out, however, the trend has been downward.

Thus, Army Air Forces awards alone constitute more than one-third of all war supply contracts, and the proportion of cost-plus awards in this group rose sharply between the end of 1942 and the first half of 1943. If Army Air Forces contracts are excluded, the remaining total shows a decided drop in cost-plus contracting—from 37% in the last half of 1942 to 31% in the first six months of 1943.

Moreover, there are some preliminary statistical indications of an overall decline in subsequent months. Indeed, most of the small-arms ammunition, combat vehicle, and explosives contracts were on a cost-plus basis and these programs have been cut back sharply.

LSTs COME THROUGH, LANDING CRAFT TOP SCHEDULE

TANK LANDING SHIPS—chief reason for the consistent lag in the landing vessel program—came through strongly last month. Deliveries jumped to 50 (as against 28 in March), one ship over the reduced first-of-the-month schedule of 49. This performance carried the whole landing vessel program over the top for the first time in seven months. At 130,000 displacement tons (preliminary), deliveries were 3% over schedule, 35% over March.

Three big eastern builders—the Boston Navy Yard, Bethlehem Fall River, and Bethlehem Hingham—are now well under way on LSTs. Bethlehem Fall River, for example, delivered its first one late in March, completed eight last month. Together, these fast-building yards finished 16 LSTs in April; they are down for 26 in May.

The prospects now are that the goal of 62 for May will also be reached, or even passed. Admiral Robinson's short-term forecast (which has proved pessimistic for LSTs in the last few months) calls for 65. After May the schedules taper off.

However, the timetable for the program has been set back, since deliveries are still about 20 days behind schedule. Only 74 LSTs were delivered in the first quarter instead of the 103 called for; at the beginning of March, 56 LSTs were slated for April, compared with 49 under the current schedule. Hence the full goal of 260 set by the Joint Chiefs of Staff for the November-May period probably won't be reached until mid-June.

42,000 Tractors, 55,000 Claimants

Army takes 75%; not enough left for highly essential civilian needs—logging, strip mining, oil drilling, farming, etc. Campaign on to pull in idle equipment.

TRACK-LAYING TRACTORS—the first vehicles brought ashore at Hollandia—get a top priority rank on the Army's production urgency list. In all war theaters these crawlers have been clearing the ground, building and repairing airfields and roads, rescuing tanks, etc. (Put a curved blade on the front of one and you have the celebrated bulldozer.) But they also rank high on the civilian urgency list—and there aren't enough to go around. For the year beginning April 1 there will be five claimants for every four produced: output is scheduled at 42,000 units, requirements run up to 55,000.

Chief claimant is the Army (which also procures for the Navy). Army schedules for the year beginning April 1 call for 30,000 tractors. These schedules, however, are based on probable production; they don't take into account previous deficiencies or the calls for tractors pouring in from all theaters of operations. The Army figures that actual requirements are at least 35,000.

SQUEEZE ON CIVILIANS

The Army has been getting over 75% of track-laying production for the last two years. (Under War Production Board allocations it is entitled to a rule-of-thumb 85% share of every manufacturer's output, but hasn't been claiming its quota of some models—for example, the small Class V type.) Because of this large proportion, allotments have perforce been scant for civilian heavy work: pushing and pulling for loggers, miners, oil drillers, farmers, and other producers of war goods. Last year only 6,000 new track-laying tractors were released to civilians. For the year ahead, nonmilitary claimant agencies have put minimum needs at 20,500.

ALL SLICES TOO SMALL

And so WPB's Construction Machinery Division—following directives of the Requirements Committee—has had to cut a 42,000 production pie to satisfy a 55,000 appetite. The Army is again due to get about 75% of scheduled production, or some 31,000 tractors—a little more than its schedules now call for but less than it wants. Civilian agencies are down for 11,000, or little more than half of their stated requirements. Here are the allotments for the year ending March 31, 1945:

	'43-'44 Releases	'44-45 Requests	'44-'45 Alloc.
Army (inc.Navy)	21,361	35,548	31,300
Nonmilitary....	6,272	20,662	10,932
Maritime.....	—	17	9
FEA.....	1,533	5,036	1,947
WFA.....	1,806	4,744	2,890
Canada.....	332	671	551
OCR.....	546	448*	446
ODT.....		224*	227
OWU.....		36*	81
Gov. Div. (WPB)		1,775	359
PAW.....	242	1,193	400
WPB: Lumber & Pulpwood.....	1,199	5,081	2,550
WPB: Mining...	614	1,437	907
Reserve.....			565
Total.....	27,633	56,210	42,232

*Tentative estimate, or based on inadequate information.

These figures represent the pattern of distribution, not definite promises;

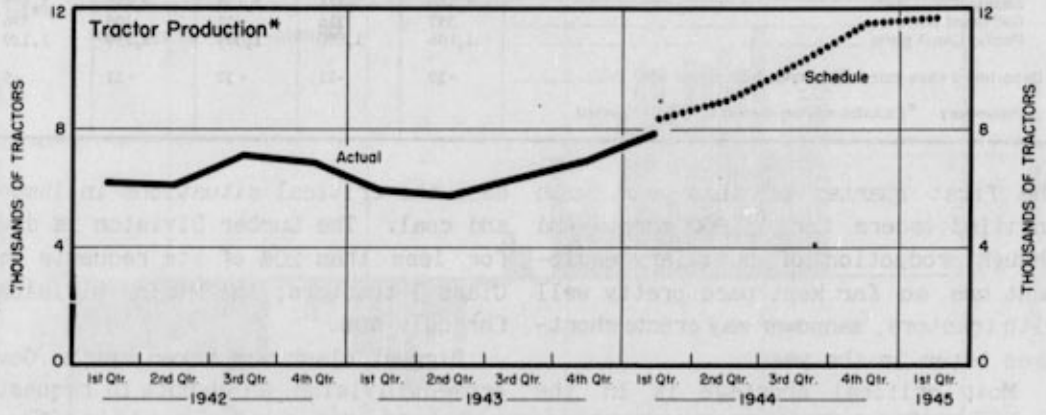
they're based on percentages of scheduled production. If schedules aren't met—and production has been lagging (chart, below) because of manpower and component shortages—allotments will be cut proportionately.

Furthermore, production of repair parts, in order to keep the limited supply of tractors going, has been a heavy drain on facilities. Parts output in 1943 ran to about $100,000,000, as compared with an estimated $110,000,000 for tractors. Civilians have been getting 60% of the parts, but because of heavy military demands their quota is being cut to 35%.

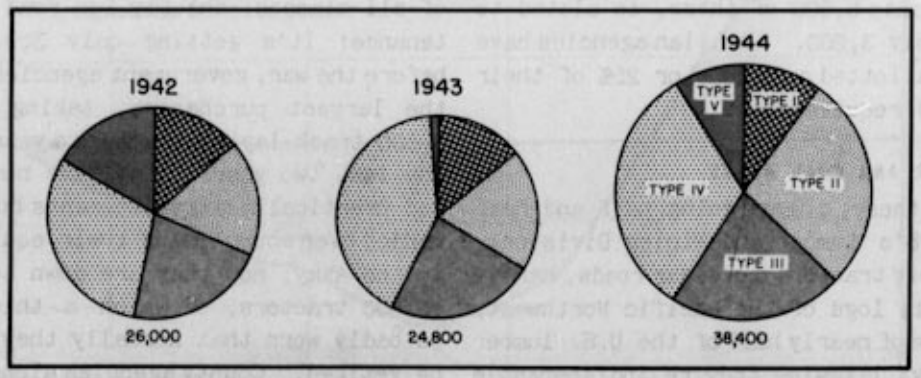
All but the smallest track-laying tractors also require allied equipment —dozers, shovels, cranes, winches, power-control units, etc.—and use more of it than they used to. Before the war, for example, about 15% of tractors were equipped with winches; now about 70% have them. Production of winches has accordingly jumped from 1,800 in the first quarter of 1943 to 4,500 in

KEEPING TRACK OF TRACK-LAYING TRACTORS

First-quarter output rose sharply, yet lagged 5% behind sharply rising schedule. Production must increase 46% in the last quarter of this year.



And here's how production of different types has shifted from year to year:



*Excluding agricultural, airborne, and tank-type models.

WAR PROGRESS

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program—Checks paid (millions of dollars)	1,710	1,630	1,594	1,536	2,112
War bond sales—E, F, G (millions of dollars)	245	157	239	194	720
Money in circulation (millions of dollars)	21,396	21,334	21,037	19,090	16,593
Wholesale prices (1926 = 100)					
All commodities	103.7 p	103.6 p	103.7	102.8	103.5
Farm products	123.1 p	122.9 p	123.9	122.2	124.3
Foods	104.7	104.4	104.2	105.0	108.7
All Other	98.5 p	98.5 p	98.3	97.5	96.9
Petroleum:					
Total U.S. stocks* (thousands of barrels)	410,660	411,718 r	413,122 r	424,503	436,337
Total East Coast stocks* (thousands of barrels)	56,568	56,439	55,844	64,336	43,445
East Coast receipts (thousands of barrels, daily average)	1,794	1,700	1,750	1,588	1,262
Bituminous coal production (thousands of short tons, daily average)	2,042 p	1,958	1,979	1,888	1,973
Steel operations (% of capacity)	99.5	100.0	98.7	100.0	98.2
Freight cars unloaded for export, excluding grain (daily average)					
Atlantic Coast ports	3,150	3,115	3,457	2,417	1,673
Gulf Coast ports	357	316	452	405	376
Pacific Coast ports	1,686	1,690	1,365	1,259	1,149
Department store sales (% change from a year ago)	+17	-11	+32	+11	-5

p. Preliminary *Excludes military-owned stocks r. Revised

the first quarter of this year, with unfilled orders for 13,600 more. And though production of auxiliary equipment has so far kept pace pretty well with tractors, manpower may create shortages later in the year.

Most critical shortage is in the biggest tractors: the 86hp-130hp Class I (especially the Caterpillar D-8). The Army wants 5,500 of these, is slated to get only 3,200. Civilian agencies have been allotted only 600, or 25% of their stated requirements.

LUMBER AND COAL NEEDS

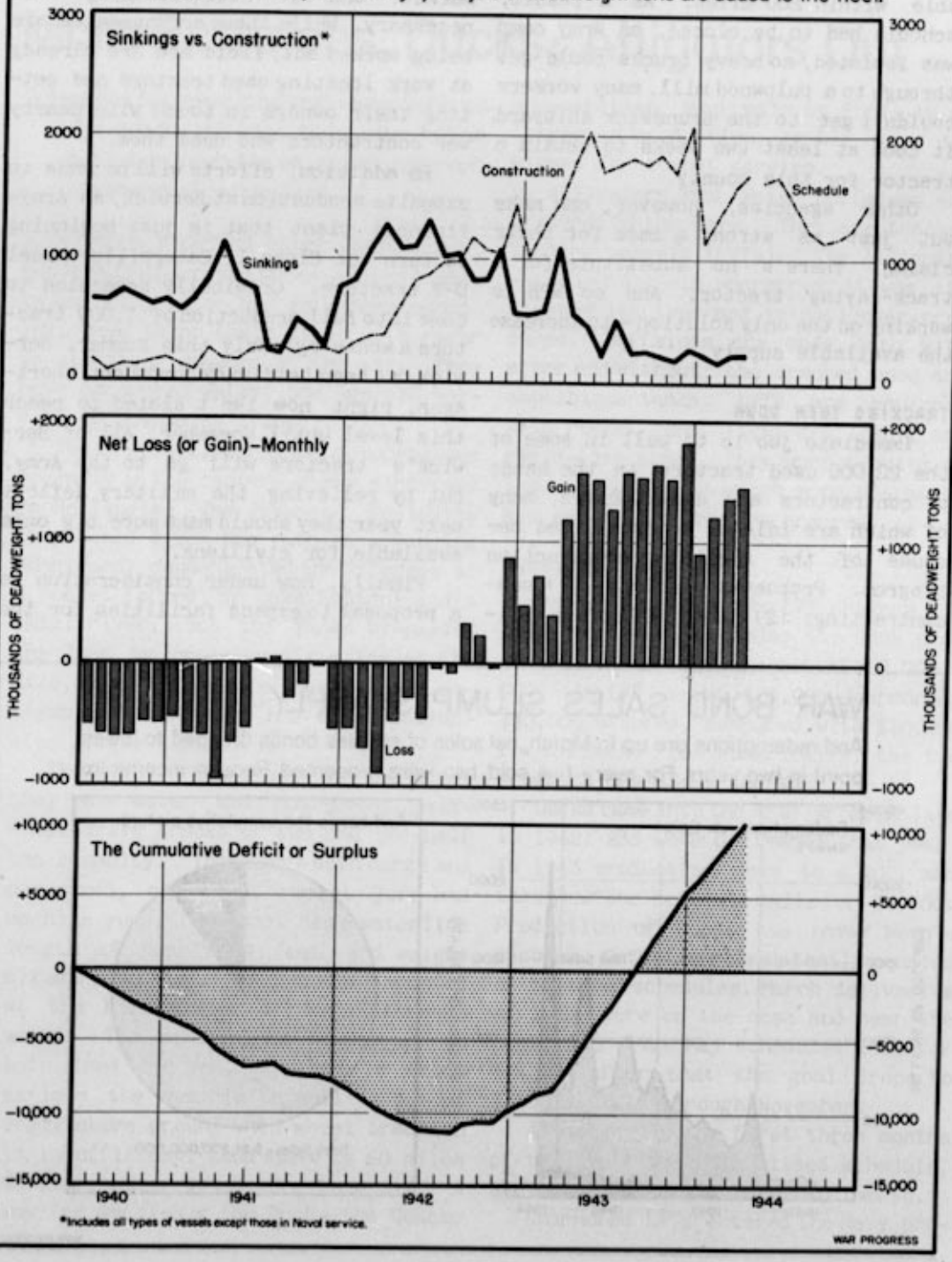
Of these, 410 are going half and half to WPB's Lumber and Mining Divisions. Only big tractors can clear roads, handle the big logs of the Pacific Northwest, source of nearly half of the U.S. lumber supply; likewise they're indispensable for strip coal mining. Nevertheless these allotments can't be expected to ease the critical situations in lumber and coal. The Lumber Division is down for less than 20% of its requests for Class I tractors; the Mining Division, for only 40%.

Biggest slash was taken by the Government Division, which puts in requests on behalf of federal, state, and local agencies. It asked for 1,775 tractors of all classes, chiefly for road maintenance; it's getting only 359. And before the war, government agencies were the largest purchasers, taking about 5,500 track-laying tractors a year. In the last two years, they have not only had practically no replacements but have handed over about 10% of their equipment to the Army; now they are down to some 15,000 tractors, of which a third are so badly worn that normally they would be retired. County agencies alone figure their requirements at 1,500.

What this means concretely is brought

SCORECARD ON MERCHANT SHIPPING

Sinkings of United Nations vessels in April hold at March level, deliveries rise for third successive month, and nearly 1,500,000 deadweight tons are added to the fleet.



out by a typical emergency call from a county in Georgia. A recent storm washed out roads; the county no longer had a serviceable tractor, nor was one available within 200 miles. As a result, schools had to be closed, an Army camp was isolated, no heavy trucks could get through to a pulpwood mill, many workers couldn't get to the Brunswick shipyard. It took at least two weeks to obtain a tractor for this county.

Other agencies, however, can make out just as strong a case for their claims. There's no substitute for a track-laying tractor. And so WPB is working on the only solution—to increase the available supply.

TRACKING THEM DOWN

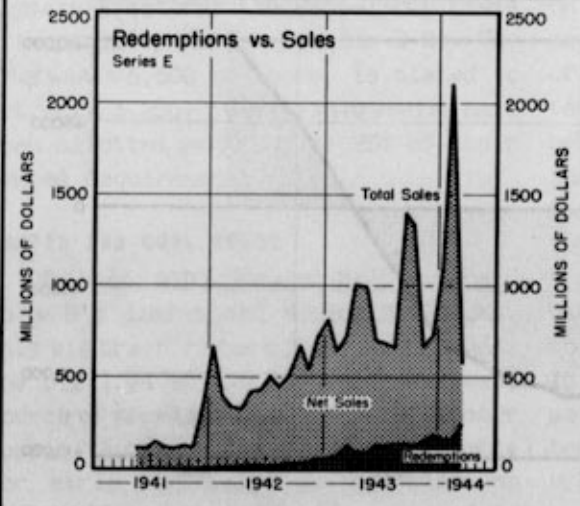
Immediate job is to pull in some of the 22,000 used tractors in the hands of contractors and distributors, many of which are idle or underutilized because of the declining construction program. Proposals include (1) subcontracting; (2) raising OPA price ceilings on used tractors, now 55% of the new price on all tractors sold "as is"; (3) purchases by the Defense Supplies Corporation when tractors come on the market; and (4) requisitioning when necessary. While these arrangements are being worked out, field men are already at work locating used tractors and getting their owners in touch with nearby war contractors who need them.

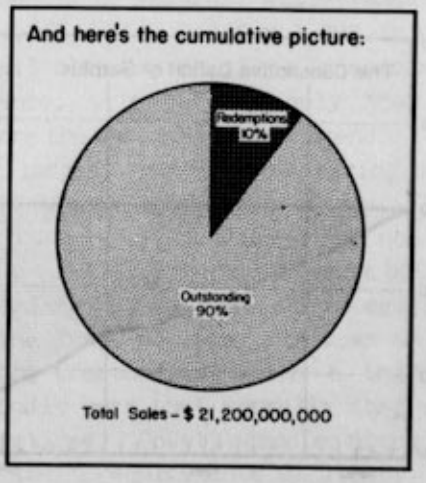
In addition, efforts will be made to expedite production at Berwick, an Army-financed plant that is just beginning to turn out Class II Caterpillar-Model D-7 tractors. Originally scheduled to come into full production of 1,000 tractors a month by early this summer, Berwick has been held up by component shortages, right now isn't slated to reach this level until November. All of Berwick's tractors will go to the Army, but by relieving the military deficit next year they should make more big ones available for civilians.

Finally, now under consideration is a proposal to expand facilities for the

WAR BOND SALES SLUMP SHARPLY

And redemptions are up. In March, net sales of people's bonds dropped to lowest point in two years. For every five sold, two were redeemed. Reason: income tax.





WAR PROGRESS

production of Class I tractors. This, however, would be a long-term project aimed at 1945 and 1946 requirements.

Meanwhile track-laying tractors are a healthy reminder that the maturing war program hasn't outgrown all its problems, still isn't old enough to take care of itself.

More Buffaloes, Ducks; Alligators Out

Schedules for these land-and-water vehicles rise steadily this year. Navy, after falling behind its timetable on unarmored craft, ran ahead of goal in April.

AMPHIBIOUS FIGHTING CRAFT—Alligators, Water Buffaloes, and Ducks—which lumber in and out of water and go ashore shooting, have taken their place with radar as storybook weapons of the war. They have conquered water, the age-old barrier of advancing troops.

Their effectiveness was demonstrated recently in the capture of key airdromes in Hollandia. The Japanese, believing they could block the path of advancing Americans, concentrated their forces at a pocket formed by Lake Sentani and a small river. But the Yanks by-passed the Japs by crossing six miles of the lake, and before the enemy could reorganize its defenses had taken possession of the airfields.

The Ducks are procured by the Army; they are water- and land-going, six-wheel-drive trucks of two and one-half ton capacity. They carry both cargo and personnel, and mount rocket guns and machine guns. The Duck has a waterline length of nearly 29 feet, and weighs six and a half tons. A propeller mounted at the hull's rear drives it through water. The same engine powers it on both land and sea. A winch in front assists the vehicle in pulling out of boggy shore ground when wheel traction is insufficient. Land speed is 60 miles an hour, water speed more than six. A smaller version of the Duck—the Quack, an amphibian jeep made by Ford—is no longer in production; it was never designed for combat service.

Alligators and Water Buffaloes are procured by the Navy. They are tracked landing vessels (LVTs). The Alligator—the LVT(1)—is unarmored; it was the first of its type and is no longer produced. Buffaloes are made both with armor and without; the armored ones are amphibious tanks. LVTs are equipped with rocket guns, light artillery, and rapid-fire arms. They are not quite so long as Ducks, but weigh more unarmored and several times more armored.

DUCKS COME CHEAP

In dollar value, the LVT program for this year nearly triples the Duck program—$342,000,000 as against $129,000,000. An LVT costs $26,000 unarmored, $30,000 armored, compared with $10,000 for the Duck. But numerically, the two programs are about the same.

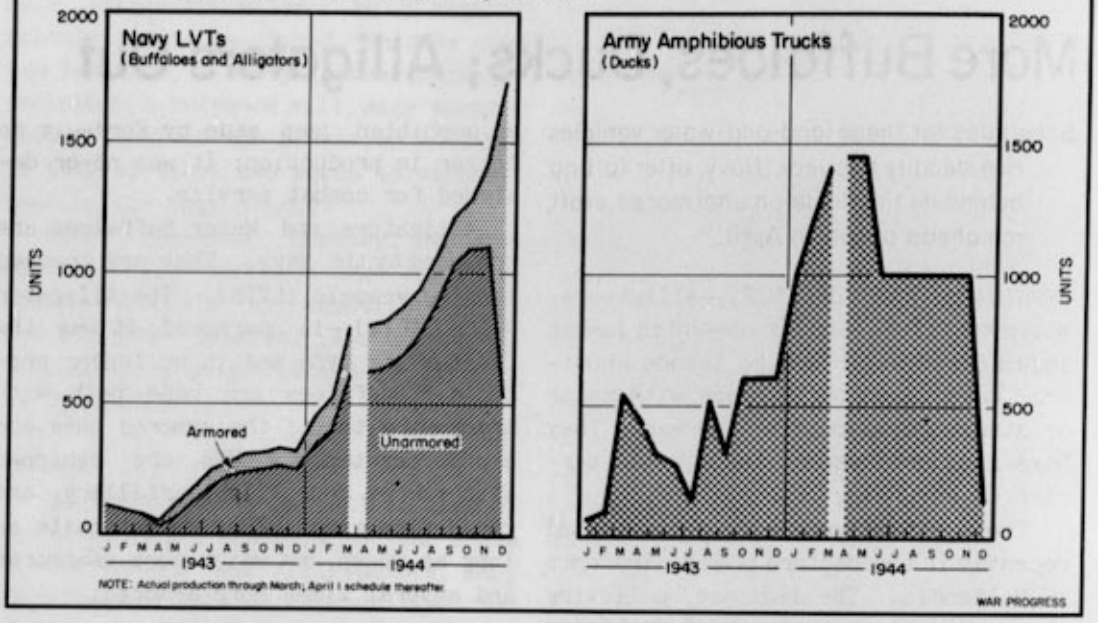
Ducks came into the Army program late in 1942; 235 were delivered that year. In 1943 production rose to 4,500, and this year the schedule calls for 12,600. Production of Ducks has never been a problem. Output has consistently equaled or bettered schedules. March deliveries of 1,400 were on the nose and near the peak. April and May schedules call for 1,450. After that the goal drops to 1,000 monthly through November.

Although in the first three months of this year the LVTs missed schedule, they were up to the mark last month.

Unarmored LVTs entered the Navy pro-

AMPHIBIOUS FIGHTERS

Production of Navy tracked landing vessels is due to rise 400% this year; Army-procured amphibious trucks, nearly 200%.



gram back in 1941 and output has been rising sharply ever since. On the other hand, the armored version didn't get into production until last year although three experimental models were turned out in 1942. Here are the figures:

	Unarmored LVTs	Armored LVTs
	(units)	
1941.....	72	0
1942.....	851	3
1943.....	1,854	488
1944.....	8,624	3,212

Two new models—LVT (3) and (4)—which replace the earlier version of the unarmored LVTs enter the program in the first quarter of this year; and production was not on schedule. Only 1,342 were delivered in the three months, against the January 1 materials planning schedules of 1,900. But output has been rising rapidly; deliveries in April (preliminary) were 680, against the April 1 schedule of 610. Schedules rise gradually to 1,090 in October, as follows:

1944	Unarmored Deliveries	Schedule*
January....	341	514
February...	397	675
March.....	604	725
April.....	680	610
May.....	—	630
June.....	—	680
July.....	—	752
August.....	—	875
September..	—	1,025
October....	—	1,090
November...	—	1,091
December...	—	526

*January 1 schedules through March; April 1 thereafter.

Schedules for armored LVTs have been considerably lower and deliveries beat schedules in three of the first four

months of this year. The goal for April had been stepped up sharply to 360, but changes in Army requirements as of March 28 resulted in the Navy lowering the schedule to 185. From now on through October the armored schedules remain near the March level of production—181. But from 185 units in October, the schedule rises to 329 in November.

A new and improved armored type—the LVT (A-4)—came into the program in March; 23 were delivered. The monthly schedule rises sharply from 95 in April to 185 in June. During the last half of the year it will be the only armored type produced.

Plane Uptrend Halted

Acceptances fall below March, fail to meet schedule first time this year. But deficit is largely in nontactical types; most of wanted models come through.

A 14-MONTH UPTREND in airplane production was interrupted last month. Not since January, 1943, when output slumped following the extraordinary end-of-the-year cleanup in December, have acceptances of planes failed to show an increase in weight over the preceding month. Moreover, the schedule was missed for the first time this year—by 3%—notwithstanding the fact that it largely took account of the five Sundays in April. During January, February, and March, production topped schedule by 2%.

April acceptances ran to 8,331 planes, 342 below schedule. (The press reported a total of 8,343, but that included 12 experimental planes accepted in previous months and not heretofore reported.) However almost three-fifths of the drop was in nontactical planes: the lighter-weight trainers, communications, and special purpose. And so production of 3,296,000 pounds per working day was practically even with March. The most-wanted models in the program came through according to plan or better, with the exception of the B-29 Superfortress and the P-51 Mustang.

MUSTANG IMPROVED

Because of a lag at Boeing, Wichita, only 51 Superfortresses were accepted as against the 70 called for. And because North American's Inglewood and Dallas plants were shifting to an improved version of the Mustang, the 407 turned out were 100 short of the goal; however, the deficit was confined to the first half of the month. Acceptances were picking up sharply toward the end. In Forts and Liberators, it was the same satisfying story. They were right on schedule, with 1,365 accepted.

On the whole, however, production of desired tactical planes increased enough to offset the drop in nontactical types and "dying" models. As a result of smart gains in the P-38 Lightning, P-47 Thunderbolt, F6F Hellcat, and the newly named P-63 Kingcobra, fighters as a group were on schedule. The complete record of changes by major groups is shown below (airframe-weight basis):

	April Acceptances as % of	
	March	W-10
All military planes	92%	97%
Combat planes	91	98
Superbombers	85	73
Heavy bombers ...	90	100
Patrol bombers ..	76	87
Medium bombers ..	93	101
Light bombers ...	92	95
Fighters (incl. naval reconn.) .	95	100
Transports	104	98
Trainers	89	86
Communications ...	85	91

Work on the hard-to-make A-26 Invader

SELECTED MONTHLY STATISTICS

Hours and Earnings – Food Production

	Latest* Month	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
AVERAGE WEEKLY EARNINGS (dollars)							
All manufacturing industries	45.54	45.15	44.58	43.52	41.12	23.54	23.63
Durable goods	51.48	51.32	50.50	49.61	47.12	25.72	26.16
Nondurable goods	36.33	35.91	35.61	34.55	32.47	21.83	21.54
Bituminous coal mining	52.99	52.52	52.72 r	46.15	41.49	24.29	24.65
Metalliferous mining	43.98	43.71r	44.01	45.31	41.61	27.38	28.89
AVERAGE HOURLY EARNINGS (cents)							
All manufacturing industries	100.3	100.1r	99.5	96.5	92.4	63.1	58.2
Durable goods	110.0	110.0r	109.3	106.0	102.0	69.5	62.0
Nondurable goods	84.1	83.7	83.2	81.1	77.3	58.2	54.8
Bituminous coal mining	117.8	119.6	118.8	115.0	111.3	88.4	79.7
Metalliferous mining	99.2	99.3r	99.2	98.3	94.7	69.0	65.9
AVERAGE HOURS PER WEEK							
All manufacturing industries	45.4	45.2	44.8	45.1	44.5	37.3	40.6
Durable goods	46.8	46.7	46.2	46.8	46.2	37.0	42.2
Nondurable goods	43.2	42.9	42.8	42.6	42.0	37.5	39.3
Bituminous coal mining	45.2	44.0r	44.7 r	40.3	37.0	27.6	31.4
Metalliferous mining	44.3	43.9	44.2	46.0	43.6	39.9	43.9
FOOD PRODUCTION							
Dairy products (million pounds)							
Butter, creamery	123.3e	s	s	s	140.1	142.6	121.1
Cheese	76.7e				74.3	51.0	45.7
Evaporated milk	267.8e				252.3	179.8	153.3
Meats – total (incl. lard, million pounds)	1,989.0				1,490.0	1,067.0	1,006.0
Beef and veal	609.7				534.1	439.6	453.7
Lamb and mutton	66.6				64.8	63.4	53.8
Pork, incl. lard	1,312.7				891.5	563.7	498.8
Lard	249.0	s	s	s	136.4	96.1	76.6
Poultry and eggs							
Eggs (millions)	6,763	5,346	4,436	3,304	6,462	4,624	4,492
Poultry (receipts of 5 principal markets, million pounds)	18.7	23.0	30.7	42.6	14.3	17.9	20.0

* Hours and Earnings, February; Food Production, March. r Revised. e Estimated. s Seasonal influences invalidate month-to-month comparisons.

light bomber is beginning to show up; not only did Douglas, Long Beach, meet its schedule of 10 planes, but with Beech at Wichita rolling on subassemblies, the Douglas plant at Tulsa turned out five, or three better than planned. In all, 15 Invaders were accepted last month compared with eight in March. Acceptances are still several months off from combat volume.

PICKUP IN TRANSPORTS

Although the C-54 Skymaster fell slightly behind schedule at Douglas, Chicago, production of transports is responding to the special drive to get them out of plants and into the air. One of the best showings was in the C-46 Commando at Curtiss, Buffalo; 91 were accepted as compared with 71 in March and a reduced goal of 90.

Debut of the month was the F7F—the Navy's only 2-engined fighter—at Grumman, Bethpage. One came through as scheduled. This year's docket calls for 120. Navy combat pilots who recently tried out a test model at the plant say it's sensational. Another newcomer was the SC Seahawk, at Curtiss, Columbus; three were accepted—one more than scheduled. The Seahawk is a long-range naval reconnaissance plane and packs three times the horsepower of its predecessor, the SC3C Seamew.

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A Stab at Postwar Surpluses

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May 20, 1944

WAR PROGRESS

Prepared in the War Production Board

Donald M. Nelson, Chairman

War Progress is a confidential report designed to provide a coordinated and continuing picture of the overall war program for the various war agencies. To this end, it presents, analyzes, and interprets basic statistical and economic information, and from time to time examines the pros and cons of controversial questions.

Although War Progress is an official publication of the War Production Board, statements in it are not to be construed as expressing official attitudes of the Board as a whole, or even of individual members. Conclusions, whenever reached, should be considered editorial conclusions.

War Progress is prepared in the Bureau of Planning and Statistics (Stacy May, Director) by the Munitions Branch (Morris A. Copeland, Chief).

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Sizing Up the Salable Surpluses

Widely used $50,000,000,000 to $75,000,000,000 estimate is far too high; $15,000,000,000 seems earthier — covers goods and stocks disposable in domestic market.

WHEN the war ends, the United States will have substantial surpluses. These surpluses range from pins to battleships, from underclothing to industrial facilities. And though they have to be disposed of, it does not follow that they are necessarily disposable, or salable, on the open market, or that they will be sold in this country.

Perhaps that explains why estimates of postwar federally owned surpluses have been so big. Figures of from $50,000,000,000 to $75,000,000,000 have been freely cited, have generally gone unquestioned. However, any estimate, to get that high, would have to include large quantities of war materiel—tanks, bombers, guns, ammunition, warships—hardly the type of stuff to cram civilian markets.

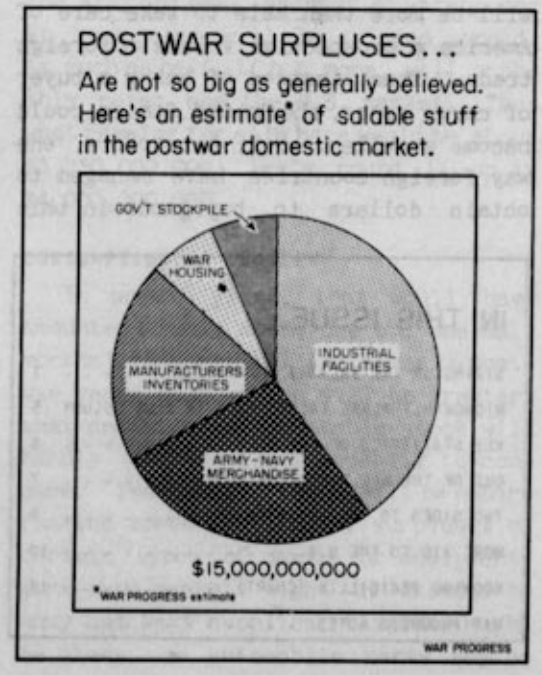
A more realistic figure of stuff which would have to be sold domestically —including plants and equipment but excluding merchant ships—would seem to be around $15,000,000,000. To be sure, such an estimate requires rough-and-ready figuring. It's impossible to nail down a postwar statistic when the war still awaits its all-out offensive phase. But at least an attempt can be made to bring the scary $50,000,000,000-to-$75,000,000,000 figure to book.

Seven main types of surpluses have to be considered, as follows:

1. Industrial facilities.
2. Merchant ships.
3. Military construction.
4. War housing.
5. Finished goods procured by the armed forces, such as blankets, shoes, motor vehicles, tanks, planes, ships, etc.
6. Stockpiles, procured by Reconstruction Finance Corporation subsidiaries and other war agencies. These would include copper, tin, industrial diamonds, mica, kapok, rubber, and so on.
7. Inventories in the hands of contractors, including raw materials, goods in process, and government-furnished equipment.

WAR PROGRESS has previously analyzed the composition of government-owned facilities (WP-Jan1'44,p4), and has come to the conclusion that about $9,600,000,000 of the $15,500,000,000 of plant and equipment could be put to peacetime use.

Not all of that $9,600,000,000 could



be readily sold. Some would be in out-of-the-way places—far from raw materials or civilian markets—many plants were constructed inland for security reasons. Also, some factories are in high-cost production areas—power may be expensive. Furthermore, some plants are probably too large for peacetime conversion. Probably less than two-thirds will actually come on the market in competition with prewar industrial plants. That would mean about $6,000,000,000.

INTERNATIONAL PROBLEM

Merchant ships are also to be regarded as facilities. However, in this case disposition depends almost conclusively on Congress: Shall this country maintain a merchant marine? If so, how? Shall it be subsidized? And how big shall the merchant marine be? Before the war, this country carried only a small proportion of its commerce in U.S. bottoms; but after the war this country will emerge with a fleet easily twice the size of Great Britain's. It will be more than able to take care of America's prospective volume of foreign trade. Thus, instead of being a buyer of cargo space, the United States could become a seller. Yet, heretofore, one way foreign countries have managed to obtain dollars to buy goods in this market was to sell shipping services. (Foreign ships have consistently operated at lower cost than U.S. ships.)

Obviously, the disposal of the merchant marine is an international problem. In the meantime, in the period immediately after the war, relief and rehabilitation requirements will keep most of the ships in the world busy for some time. Net additions to the U.S. merchant fleet during the war have run to about $10,000,000,000; from that, perhaps $3,000,000,000 should be deducted for depreciation. But that depreciated value possibly would not prevail in a postwar market. Moreover, the figure is mentioned here merely for perspective. Merchant ships are not being included in the WAR PROGRESS calculation of marketable surpluses. How they're disposed of will depend more on international negotiation than on economic values.

PENNIES ON THE DOLLAR

Military construction—air fields, camps, warehouses, etc.—is in a special category. What is disposable after the war depends on how big a military establishment the country maintains. Some air fields may be sold or leased to states or cities; some may be sold to commercial lines. Some will be abandoned. Some warehouses may be commercially useful. But many camps, not used for military purposes, will have to be junked. All told, $10,000,000,000 has been spent on this type of construction. But the commercial sale of such structures and equipment would have to be reckoned in pennies on the dollar and might not run to as much as $1,000,000,000. Certainly, it does not bulk large in postwar markets. Because the amount depends almost exclusively on the size of the postwar military establishment, no estimate of disposable value is included here.

IN THIS ISSUE:

In a different category is government war housing. About $2,000,000,000 has been spent on homes in war production areas. But a good part of this—more than 40%—consists of temporary structures, which probably will be scrapped. Somewhat less than $1,000,000,000 of these dwellings will be offered for sale, but probably at sharp discounts from cost. However, in the WAR PROGRESS computation, the figure carried is $1,000,000,000, though it overstates the case.

MILITARY STOCKS?

Hardest type of surplus to estimate is the size and dollar value of Army and Navy stocks on hand. Most of the stuff, however, will hardly be merchantable. To be sure, some transport planes built for war use may be sold for cargo after the war; some others may be used for passenger travel—but not many, compared with total supply. Tactical airplanes have been constructed for high speeds; they would be uneconomical and uncomfortable for peacetime use. Some, also, might be used for civilian teaching purposes. However, for the most part, war materiel, including planes, will be employed in training future soldiers, will be scrapped, or may be disposed of to foreign countries. Since obsolescence in combat equipment runs high, the inference is that for a long time this country will have plenty of high-grade steel, copper, aluminum scrap, and scrap components.

Once the strictly fighting stuff is excluded, Army and Navy holdings come down to distinctly manageable totals. On V-Day the services may have on hand about six months' production of miscellaneous military equipment—civilian-type goods, such as railroad equipment, construction machinery, shoes, clothing, petroleum, blankets, kitchen utensils, and so on. Currently such procurement runs to about $1,000,000,000 a month. In addition, an allowance must be made for certain types of combat items which will have a peacetime function—transport planes, motor vehicles, signal equipment. This is estimated to run to about $250,000,000 a month. It is true that some of these items—such as locomotives or planes—have a long life and can be sold as used equipment. But shirts, shorts, shoes, etc. have a shorter life and virtually no resale value, once used. So the six months' allowance, though admittedly rough, tends to iron out the differences. Thus the total in this category comes to $1,250,000,000 a month; so six months' supply would come to $7,500,000,000.

The United States will not have to absorb all of these surpluses. A large part of the stocks (especially of the durable-goods type) will be in Europe and the Far East when hostilities cease. Most of this will probably be used for relief and rehabilitation. Indeed, it is likely that a considerable part of the Army and Navy inventories warehoused at home also will be shipped abroad. As much as half, if not more, will probably never see the U.S. market. Thus what remains for sale here would be about $3,750,000,000; let's round it up to $4,000,000,000.

CONSUMPTION NO PROBLEM

In prewar years, that would have amounted to only about one and one-half months' consumption. And since in postwar years consumption will be greater, that amount of merchantable stock will hardly tax America's capacity to consume. Inevitably, there will be embarrassing concentrations of surpluses of certain types of goods or equipment. Work-shoe markets might be crowded by Army and Navy supplies; blankets might be cheap, or automobile parts may be

superabundant. Yet by and large the total seems readily digestible. Bearing on this, military officials are acutely conscious of their responsibility for possible postwar gluts and are trying to modulate inventories accordingly—yet without in any way skimping on what are considered useful requirements to carry on the war.

As to stockpiles, the Joint Chiefs of Staff have authorized the War Production Board to reduce reserves of critical war materials whenever, in the light of probable requirements, it seems safe to do so. Thus, aluminum potlines have been shut down to prevent piling up of the metal. Premium purchases of mercury and tungsten have been stopped, and restrictions on the use of molybdenum, vanadium, and other once-critical metals have been eased.

DIVERS STOCKS

All told, the government has built up stocks of about 100 commodities, including such metals as copper, lead, and zinc; minerals such as diamonds, quartz crystals, mica, and sapphires; drugs, such as ipecac, belladonna leaves, and quinine; chemicals, such as benzol and ethyl alcohol; textiles, such as burlap and cotton sheetings; fibers, such as hemp, jute, kapok; and such miscellany as crude rubber, asbestos, horsehair, and used silk hosiery.

Stockpile objectives have risen and fallen with the fortunes of war. But in the case of only a few commodities—such as bismuth, belladonna leaves, mercury, and iodine, for example—have the goals been reached (WP-Mar18'44,p8). At the outset, the need was to build up supplies to guard against all contingencies—such as sinkings and losses of territory. Today, however, sinkings are comparatively small, cargo space is increasing, and the United Nations are gaining, not losing, territory and resources. Hence, goals are being reexamined and frequently reduced.

In some cases, current stockpiles are large compared with peacetime consumption. In industrial diamonds, for example, government stocks amount to 6,000,000 carats against 1939 consumption of 2,000,000; in quartz crystals, 950,000 pounds of radio grade against 1939 consumption of 67,000. However, bare statistics tend to oversimplify—and hence exaggerate—the potential postwar problem. The marketing of diamonds is strictly controlled; the postwar surplus will be readily susceptible to orderly control, even if some stocks are not held as a permanent military reserve against future emergencies. And for quartz crystals, the promised era of electronics holds possibilities of greatly expanded consumption.

Even in materials in which large reserves have been built up, the postwar problem of disposal can be exaggerated. The nation will have a much greater capacity to produce and consume than in 1939 and 1940; hence stocks that look large by prewar standards may not be unwieldy in the postwar period.

RESERVES FOR FUTURE

Moreover, the prospect is that some raw materials will be immobilized—kept as permanent military stocks. These might include tin, manganese ore, industrial diamonds, sapphires, mica, and perhaps some ferroalloys. Indeed, the heart of the matter is not the stockpiles themselves, but rather the enormous capacity of the country to produce. How to dispose of surplus aluminum will be far less of a brain-tester than how to use the nation's new aluminum capacity. Though no exact total is available, WAR PROGRESS figures that the dollar value of stockpiles now amounts to about

$1,000,000,000. The probability is that between now and the end of the war this total will not get much larger. And how much is left over—to be sold after V-Day—depends on how much is held as a reserve for future wars.

MANUFACTURERS' INVENTORIES

In addition, inventories of manufacturers must be considered. Today those of munitions contractors run to about $10,000,000,000. But a large part of the stocks on hand are special purpose—even raw materials, such as steel, come in odd sizes or melts for munitions, and may not be suitable for peacetime production. Hence, it would be good only for scrap. No positive estimate can be made about how much of these inventories will be retained by the contractors for postwar production or will be salable to other manufacturers. But 30%, counting in government-furnished equipment, has been frequently used by persons in industry. It's not likely to be far off. That would run to $3,000,000,000, and would comprise raw materials, work in process, and finished components and parts.

Government agencies, such as the Army and Navy, the War Food Administration, and the Commodity Credit Corporation will also hold fairly large stocks of food. But the world, immediately after

MIDMONTHLY PLANE TALLY: BACK IN PLUS COLUMN

PLANE production should return to the plus column this month. Although the 4,043 planes accepted in the first 15 days were 52 fewer than in the like period of April, airframe weight was 2% ahead. The full-month schedule calls for an airframe-weight gain of 7% over April; but May has two more working days than April, and an on-schedule performance seems feasible.

All major tactical groups looked good at the end of the first 15 days with the exception of Army 1-engined fighters. Only 605 were accepted compared with 728 in the like period a month ago. The schedule rises 9%.

The May goal of 1,403 Forts and Liberators was well in hand at the mid-point, with more than half this total accepted. But the schedule of 82 Superfortresses looked somewhat out of reach despite the fact that acceptances of 31 ran ahead of last month's 22.

Likewise, the P-51 Mustang seems headed for its second successive off-schedule month. North American, Inglewood and Dallas, turned out only 142, versus the full-month docket of 583. Both plants are switching to an improved P-51. Although Detroit strikes included Packard, sole source of the Mustang's Merlin engine, this won't be a limiting factor in May's P-51 output. But it will intensify an already tight position—capacity in the last half of this year is some 5,000 engines short of requirements.

At Curtiss, Buffalo, the assembly line was slowed by additional modifications on the C-46 Commando; only 26 were accepted as against the full-month schedule of 124. However, other medium transports were responding nicely to the special production drive in that group; 289 C-47 Skytrains and Skytroopers rolled off the assembly line, 11% ahead of the first half of April. The May schedule is 530.

Three of Budd's stainless-steel Conestoga transports came through in the first 15 days. The Conestoga, a Navy plane, made its debut in March.

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program - Checks paid (millions of dollars)	1,826	1,776	1,912	1,937	1,593
War bond sales - E, F, G (millions of dollars)	169	169	170	188	131
Money in circulation (millions of dollars)	21,725	21,614	21,295	19,514	16,741
Wholesale prices (1926=100)					
All commodities	103.7 p	103.7 p	103.6 p	102.9	103.8
Farm products	122.4 p	123.3 p	124.5 p	122.1	125.7
Food	104.6	105.0	104.4	105.5	110.2
All Other	98.6 p	98.6 p	98.5 p	97.5	96.9
Petroleum:					
Total U.S. stocks* (thousands of barrels)	409,385	410,610	412,388	425,925	432,846
Total East Coast stocks* (thousands of barrels)	57,308	56,067	56,732	65,946	44,430
East Coast receipts (thousands of barrels, daily average)	1,606	1,762	1,735	1,558	1,299
Bituminous coal production (thousands of short tons, daily average)	2,025 p	2,060	2,003	499	1,695
Steel operations (% of capacity)	99.2	99.4	100.0	99.3	98.6
Freight cars unloaded for export, excluding grain (daily average)					
Atlantic Coast ports	3,234	3,440	2,866	2,624	2,104
Gulf Coast ports	381	348	334	398	380
Pacific Coast ports	1,609	1,536	1,600	1,226	1,202
Department store sales (% change from a year ago)	+31	+9 r	+23	+15	+16

p. Preliminary *Excludes military-owned stocks r. Revised

the war, will be short of foodstuffs; little or none is apt to be sold on this market.

In all, then, the probable size of surpluses which the domestic postwar market must absorb may look like this (with foodstuffs, merchant ships, and military construction deliberately excluded):

Industrial facilities	$6,000,000,000
War housing.....	1,000,000,000
Army-Navy merchandise	4,000,000,000
Government stockpiles	1,000,000,000
Manufacturers' inventories.....	3,000,000,000
Estimated total....	$15,000,000,000

However, it cannot be too specifically emphasized that the result was arrived at by rough-and-ready procedures. The estimate of Army-Navy surpluses may be too low; the allowances made for communications equipment, construction machinery, transport planes, or motor vehicles may be too small; it is possible that military stocks all along the line—from central reserves to reserves in camps and overseas bases—may prove to be far larger than the six months' estimate admits; it is also possible that a good deal more goods will be brought back from overseas than this analysis considers likely.

Those risks of error must be run in any calculation such as this. But errors on the downside may well be offset by errors on the upside. Moreover, the calculation does serve some purpose if it brings the $50,000,000,000 to $75,000,000,000 closer to reality. Certainly $15,000,000,000 is far closer to the surplus the nation will have to absorb domestically than the more prevalent figure that has been going the rounds. And it may serve as a starting point to get firmer information.

Out of the War, Into the Peace?

Labor-Management Committees have yielded more than 1,000,000 production ideas; may carry over after V-Day. Helps workers and bosses "get along together."

BEFORE THE WAR you could count on your fingers the number of industrial plants in which management and labor committees met and talked over production plans. Today, as a result of the War Production Drive started early in 1942, there are 4,500 joint committees, covering 7,000,000 workers in plants ranging in size from less than 100 to more than 40,000 employees. Moreover, what began as just another patriotic drive—with emphasis on slogans, posters, parades, rallies, speeches—has developed into a large-scale experiment in industrial relations.

1,000,000 AWARDS

Through the committees, more than 1,000,000 awards have been issued to employees for production ideas. A recent one, for example, went to a worker on invasion gliders who adapted a piano-action pinning machine to nailing glider strips, enabling one operator to do the work of four and saving 45,072 man-hours a year. Most suggestions are not such big savers, but all told they add up to many millions of man-hours gained.

In addition, the joint committees often push campaigns to conserve materials and tools, reduce absenteeism, turnover, accidents, spoilage, etc. Here are some typical returns:

Westinghouse's East Springfield plant: defective work reduced by 25% last year, saving more than 1,000,000 pounds of metal.

The American Stove Company's Aircraft Division: production boosted 67% in six months, chiefly by cutting down absenteeism and reducing defective work by 34%.

General Electric's West Lynn plant: spoilage reduced 20% in 1942, up to 10% more last year, saving an estimated equivalent in man-hours of 250 experienced workers.

ABSENTEEISM CUT 50%

Bell Aircraft, Buffalo: absentee rate cut from 10.8% in mid-1943 to 5.4% by the beginning of this year, meaning an increase of about 1,500 workers daily—in one of the most critical labor areas. (Incidentally, absences on the "graveyard" shift and among women workers dropped to close to the rate of men on the day shift: usually they run about double this rate.)

Many management-labor committees also promote nutrition and health programs, including in-plant feeding; make transportation and car-pooling arrangements (plants report reaching an average of almost four workers to a car); assist in housing and child-care problems: sponsor bowling leagues, plant newspapers, dances, etc.; aid in recruiting and training new workers; conduct war bond, salvage, blood-donor, and similar campaigns.

WORKER REWARDS

Chief function of most committees, however, is to encourage, review, and reward production ideas from employees. And their success depends largely on what the company agrees to do in rewarding workers. Some rely on patriotic incentives or purely honorary awards. Others pay hard cash: flat awards for every suggestion adopted, monthly prizes for the best suggestions, or a percentage (usually 10% or 15%) of the estimated annual saving that results. To quiet

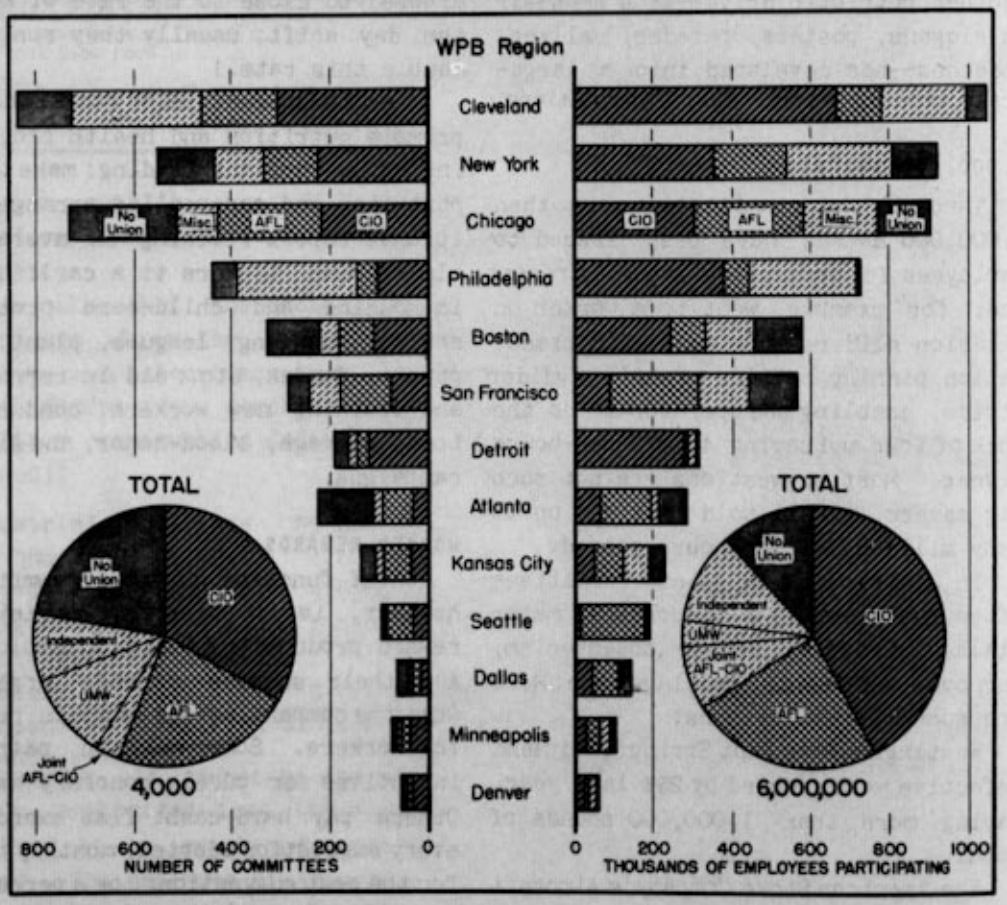
fears of workers, some companies give guarantees against loss of jobs or reduction in take-home pay as a result of labor-saving suggestions.

SPECIAL HONORS

Companies are encouraged to forward production ideas to WPB's War Production Drive Division, which singles out the best for special honors. (Some companies, interested in hoarding their ideas, don't report them.) Highest honor is a citation by the Chairman of the War Production Board, usually signed by the President as well; 16 employees have been cited so far for such accomplishments as the development of the self-sealing, bullet-proof gasoline tank; an ice-grip tire design for military aeroplanes; and a way to machine magnesium and its aluminum alloys which not only eliminated a serious fire hazard but speeded output by 400%. Other WPB awards to date include some 350 certificates—the next highest honor—and 1,500 honorable mentions.

HANDS ACROSS THE WORKBENCH

Here is how and where labor-management committees have been set up to speed production. Unions represent nearly 90% of the workers.

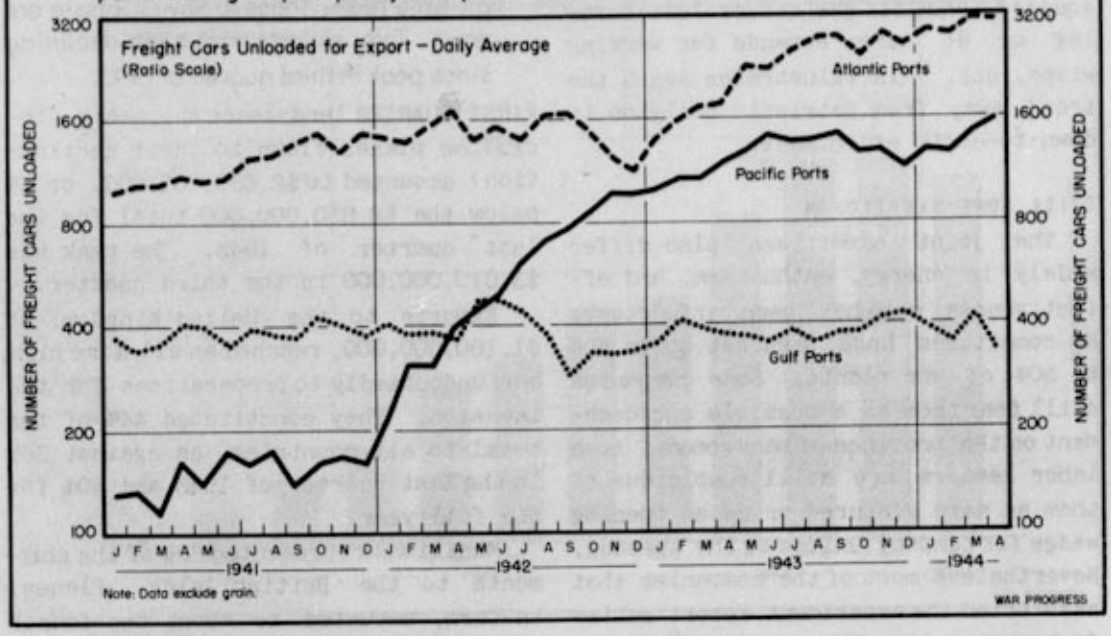


Note: Miscellaneous Committees include UMW and Independent Unions, and Joint AFL-CIO Groups.

WAR PROGRESS

TWO SIDES TO THE INVASION

Cars unloaded for export in Pacific ports last month hit an all-time high. Atlantic ports are right up to peak; Gulf ports level.



The division sends back bulletins about production ideas or devices to all registered management-labor committees, so as to "share the progress." Thus a welders' light designed at Marinship to focus on work in dark corners has been copied by 65 other war plants. A pick-up finger to insert primers in 30- and 50-caliber cartridges is now standard equipment in ordnance plants; it saved $50,000 a year at the plant where it was suggested.

JOINT ENTERPRISES

The division also supplies the committees with posters, pamphlets, films, and weekly news bulletins. Generally the committees work independently and individually. They're all alike in that they are joint enterprises, not company unions, bargaining agencies, or grievance committees. Questions of hours, wages, working conditions, and other matters covered by collective bargaining contracts are referred back to the unions—and about 80% of the committees are set up in unionized plants (chart, page 8). But otherwise they vary widely in set-ups, programs, methods.

An example of the variety—and frequent ingenuity—of their approach to common problems is absenteeism. A few companies still go in for the dunce-cap method—paying absentees in German marks, awarding Swastikas or Rising Suns, placing bright red AWOL cards in the time rack. But more offer rewards for good attendance records—gold pins, war bonds, theater tickets, rides on delivery cruises of new destroyers. Others take a still more positive approach, root out the natural causes of absenteeism instead of merely treating the symptoms. They try to eliminate forced loafing due to failures in the flow of materials and other delays that make workers regard

daily attendance as unnecessary: they may also install plant beauty parlors, provide plant medical care and visiting nurses, maintain household emergency squads to shut off gas stoves left burning or do other errands for working wives, etc. This illustrates again the trend away from patriotic ballyhoo to down-to-earth experiment.

STILL SOME SKEPTICISM

The joint committees also differ widely in energy, enthusiasm, and effectiveness; some have been perfunctory. No committees have been set up in 40% to 50% of war plants. Some companies still fear them as a possible encroachment on the province of management; some labor leaders are still suspicious of them as mere gestures or as an opening wedge for company unions or the speedup. Nevertheless most of the companies that have tried the experiment report satisfactory results. Many—especially those that face stiff competitive problems after the war—have already expressed their intention of continuing the committees, on the theory that if workers have ideas in wartime, they will also have them in peacetime.

IMPROVED RELATIONS

One point seems clear: The committees have worked best in plants in which management-labor relations were good to begin with. However, in some cases—and this was not unexpected—the committees have helped to improve relations. They have discovered new areas in which management and labor can cooperate to obvious mutual advantage, yet without infringement on their established rights.

As one observer put it, "We've known all along that management and labor cannot get along without one another; now we also know that they can get along with one another."

More Aid to the U.K.

Lend-lease shipments to British Isles reach all-time high; those to Soviet Russia are down. Total exports have been declining since peak in third quarter of 1943.

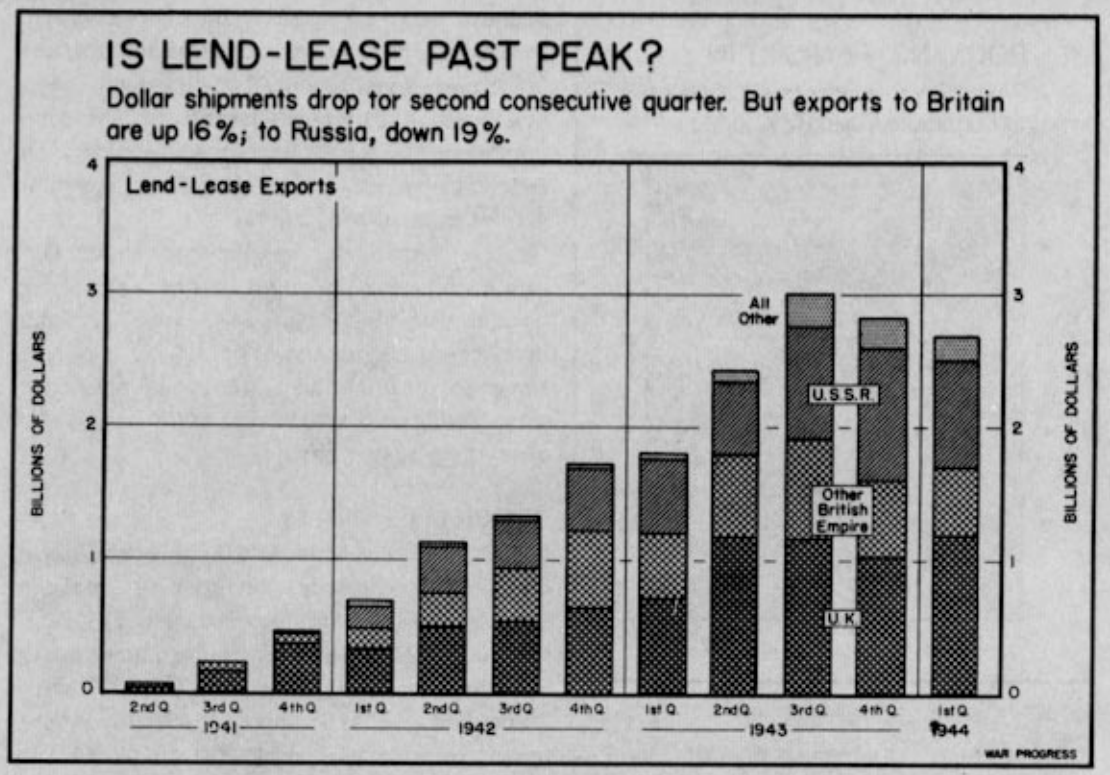
FIRST-QUARTER lend-lease shipments (including planes flown to their destination) amounted to $2,680,000,000, or 5% below the $2,830,000,000 total for the last quarter of 1943. The peak was $3,010,000,000 in the third quarter.

Exports to the United Kingdom, at $1,180,000,000, reached an all-time high, due undoubtedly to preparations for the invasion. They constituted 44% of the total to all countries, as against 36% in the last quarter of 1943 and 40% for the full year.

Munitions represented 60% of the shipments to the British Isles. Planes, in turn, amounted to about one-fourth of this, followed by guns and ammunition and combat and automotive vehicles. Of the remaining 40%, industrial products accounted for slightly more than half, food and other agricultural products for the rest.

In contrast with the U.K., shipments to Russia declined rather sharply from the fourth-quarter peak in 1943. However, the Soviet's ratio to total lend-lease exports is about the same as last year—30%, as against 29%—but is considerably lower than the 35% in the fourth quarter. Here's how shipments to the two principal recipients compare:

	U.K.	U.S.S.R.	Total L-L
	(millions of dollars)		
1943			
1st quarter	$715	$550	$1,810
2nd quarter	1,175	530	2,430
3rd quarter	1,160	845	3,010
4th quarter	1,020	990	2,830
1944			
1st quarter	1,180	805	2,680

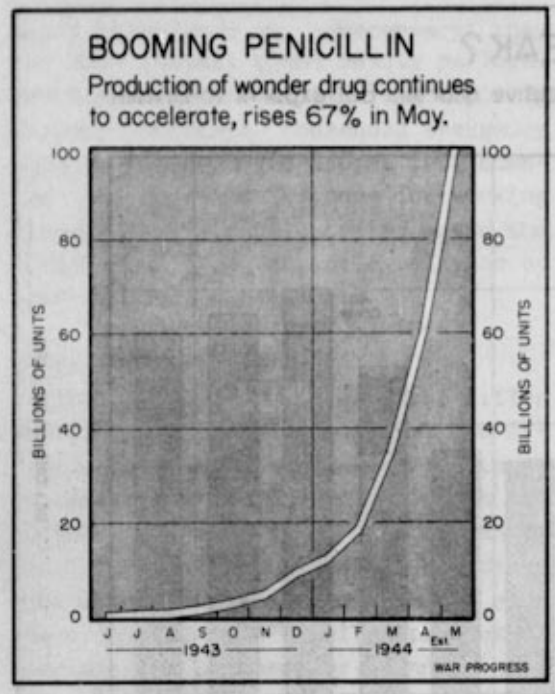


Munitions accounted for a little more than half of the shipments to the Soviet, as compared to 63% back in 1942. Guns and ammunition constituted only 9% of the munitions, nearly all the rest being planes and combat and automotive vehicles. Approximately one-third of the shipments to Russia were industrial products—the only category in which exports to the U.S.S.R. equaled those to the U.K. The Soviet needs industrial machinery, steel, chemicals, etc. to rehabilitate the industrial areas retaken from the Nazis. Food and other agricultural products accounted for 16%. The Red Army has recovered most of the croplands, the loss of which caused a severe food shortage in the Soviet Union.

Combined first-quarter shipments to the U.K. and the Soviet represented 74% of total lend-lease exports, as against 69% for all of 1943. In dollar value, total shipments to countries other than the U.K. and Soviet Russia have declined about a third since the peak in the third quarter of last year. Here's how first-quarter shipments compare with the fourth quarter of last year:

	1st Qtr. 1944	4th Qtr. 1943	% Change
	(millions)		
Grand total...	$2,680	$2,830	-5%
U.K.	1,180	1,020	+16
U.S.S.R.	805	990	-19
Egypt.....	132	202	-35
Australia....	78	100	-22
New Zealand..	17	15	+13
India.....	142	105	+35
Union of S.A.	25	25	nil
Algeria.....	20	90	-78
Turkey.....	6	11	-45
Brazil.....	18	11	+64
China.....	13	18	-28
All others....	244	243	nil

Next to the U.K., the biggest dollar



increase was to India, one of the few countries to show a gain. First-quarter shipments to the British Empire as a whole amounted to about $1,700,000,000, as against $1,600,000,000 in the last quarter of 1943.

War Progress Notes

SOMETHING NEW IN TANKS

A NEW TANK, the heaviest yet to go into mass production in this country, is out of the developmental stage. Now known as the T-26, it will shortly be given an M designation; it mounts a 90mm. gun.

About 100 are due to be produced this year, but next year the schedule rises sharply—2,645 are called for. In number, the new model will be the second largest in the Army program, exceeded only by the M4, mounting a 76mm. gun, of which 6,100 are on the docket for 1945.

As now outlined, production will gradually rise to 250 a month by the end of 1945. The tank, according to present plans, is a net addition to the program; it is not replacing other models.

Eight experimental T-26s have been produced, all by the General Motors Corporation at the Fisher Body plant in Detroit, which is expected to produce the standardized model.

The expanded requirements for the new tank have brought a corresponding demand for the 90mm. tank gun M3. None had been scheduled for 1945; now the program calls for 2,445, and accounts for 7% of the total army artillery program for next year.

PENICILLIN PROGRESS

PENICILLIN follows a historic economic pattern: as production goes up, prices go down. In May, approximately 100,000,000,000 units will be produced; six months ago, only 5,000,000,000 were produced (chart, left). Today, the government pays from $3.00 to $7.50 for every 100,000 units of penicillin; six months ago, the price was $7.50 to $15. Reason: improved manufacturing techniques. Output is rising so fast that it is difficult to make any future estimates—either on production or cost. If the current production rate continues, the original goal—146,000,000,000 units by July, 1944—may be reached sooner.

UNLOADS FOR INVASION

AS THE INTENSITY of Allied operations increases on all fronts, the tempo of shipments of food and munitions increases also. This is shown in the stepup in freight cars unloaded for export. Last month on the Pacific Coast they reached an all-time high (chart, page 9), 10% ahead of March and 34% greater than a year ago; unloading in Atlantic ports was 72% higher than a year ago. Unloads along the Atlantic Coast rose just before the North African invasion in November, 1943.

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WAR PROGRESS

Women: In and Out of War Work

Number 193

May 27, 1944

WAR PROGRESS

Prepared in the War Production Board
Donald M. Nelson, Chairman

War Progress is a confidential report designed to provide a coordinated and continuing picture of the overall war program for the various war agencies. To this end, it presents, analyzes, and interprets basic statistical and economic information, and from time to time examines the pros and cons of controversial questions.

Although War Progress is an official publication of the War Production Board, statements in it are not to be construed as expressing official attitudes of the Board as a whole, or even of individual members. Conclusions, whenever reached, should be considered editorial conclusions.

War Progress is prepared in the Bureau of Planning and Statistics (Stacy May, Director) by the Munitions Branch (Morris A. Copeland, Chief).

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Women Get Out Faster Than Men

Five out of every 100 women are separated from factories, as against only two per 100 men. Many return to homes, thus cutting down total labor supply.

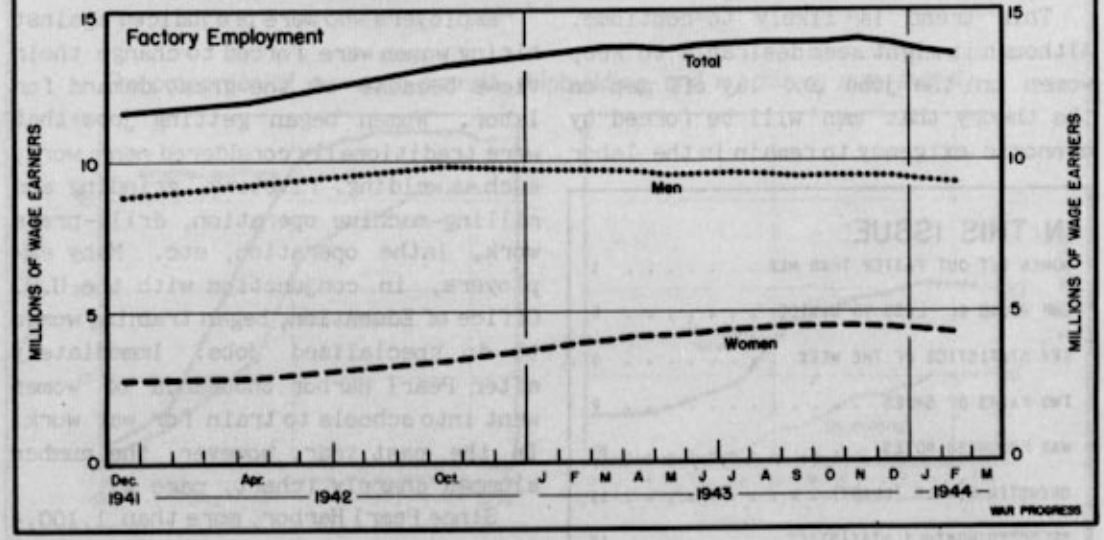
IN DECEMBER, more women were separated from munitions factories than took jobs. And that has happened every month since, shattering the steady increase in the number of women in war work since Pearl Harbor.

By itself, the decline is not too important; it fits into what has been happening the last six months. Employment in munitions industries has been falling off. However, when women are released, some pull out of the labor market. As WAR PROGRESS noted several weeks ago, a study in Syracuse showed that the evaporation of women was much greater than of men (WP-Apr8'44,p4).

Women who are under pressure to return to household duties are reluctant to shift jobs, especially if they have entered the labor market for the first time—induced either by high wages or patriotic motives or both. In the first place, a shift out of high-paying munitions industries may mean a lower rate of pay. In the second place, the patriotic stimulus for women to work in war plants is not so great as it was shortly after Pearl Harbor. In the third place, a change usually means making adjustments to a new plant, new foremen, and even new processes. Finally, a cancellation or cutback of production in which they happen to be engaged gives them the impression that they are no longer badly needed.

IN AND OUT OF FACTORIES

After steady gains since Pearl Harbor, the number of women in factories declined 5% from November to February. Employment of men dropped 2% in the same period.



Men, on the other hand, are accustomed to shifting jobs, and usually they have no choice, being responsible for the support of families. Thus, when women are laid off, the danger of a net decline in the available supply of workers is much greater than when men are laid off.

And it so happens that when cutbacks do occur, more women are laid off than men. Thus, during the four months from November through February, nearly five out of every 100 women employed were separated, only two out of every 100 men.

FOUR FACTORS

This was due to four factors: (1) workers are being released for the most part on the basis of seniority and productivity—the last-in, first-out rule governs, and women more often than not have been the last in; (2) about 6% of the releases took place in ammunition plants, where women constitute about half of the workers; (3) women are beginning voluntarily to leave factories in increasing numbers; and (4) to a lesser degree many employers still prefer to keep men rather than women, other things being equal.

This trend is likely to continue. Although it might seem desirable to keep women on the jobs and lay off men on the theory that men will be forced by economic exigency to remain in the labor market, as a practical matter such a policy or program would meet powerful opposition from unions, church groups, and even management. The policy of laying off a family man while keeping a single girl on the job hardly recommends itself socially.

CUTS MARGIN OF SUPPLY

In the meantime, however, the retirement of women from factories cuts down the margin of supply in the labor market. Ever since March, 1943, women constituted the entire net increase in employment in munitions industries. Without the substantial rise in employment of women, factory employment would have declined, and war production could never have attained its current high level.

Large-scale hiring of women began shortly after Pearl Harbor. At that time, there were some 2,700,000 women in factories, or about 23% of all wage earners. By November, 1943, the number had risen to 4,500,000, the proportion to 32%. Today, the proportion is still high, slightly under 32%, though the number has dropped to 4,300,000.

TRADITION UPSET

Employers who were prejudiced against hiring women were forced to change their views because of the great demand for labor. Women began getting jobs that were traditionally considered men's work, such as welding, riveting, grinding and milling-machine operation, drill-press work, lathe operation, etc. Many employers, in conjunction with the U.S. Office of Education, began training women to do specialized jobs. Immediately after Pearl Harbor thousands of women went into schools to train for war work. In the past year, however, the number slumped sharply (chart, page 4).

Since Pearl Harbor, more than 1,100,000 women have taken courses for voca-

IN THIS ISSUE:

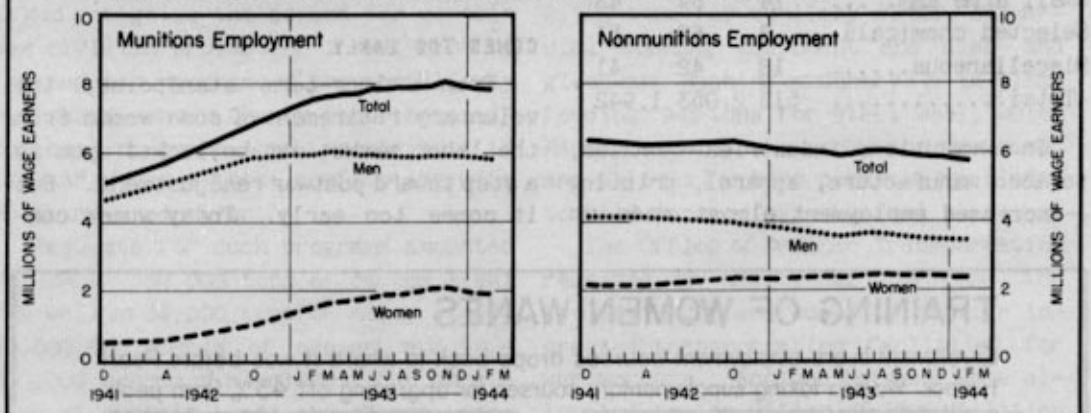
tional training in war plants. Nearly 500,000 were trained especially for work in aircraft plants; about 200,000 for machine-shop work; more than 150,000 for work in shipyards. In addition, 230,000 women were trained under college supervision for more technical jobs, such as engineering drawing, management, inspection, etc.

More than 90% of the women who took factory jobs since Pearl Harbor went into munitions plants. From 515,000 women in munitions industries at that time, the number grew to over 2,000,000 at the peak in November; since then, some 100,000 have been separated. In December, 1941, one out of 10 workers in a war plant was a woman; today the ratio is one in four.

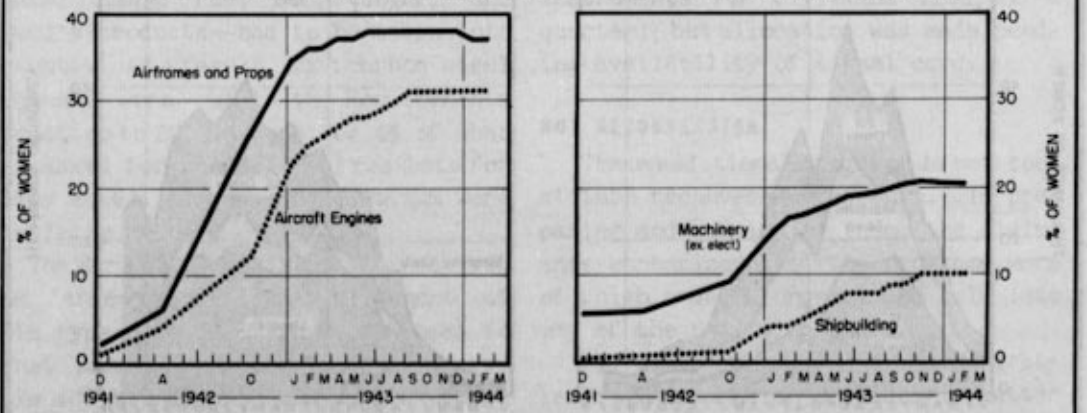
The big increases in women workers occurred in aircraft and shipbuilding. From about 6,000 women in December, 1941, the number of women wage earners in airframe plants had boomed to some 282,000 in November, 1943. Aircraft engine plants increased their women workers

WOMANPOWER—THE STORY OF MANPOWER

From March through November, sharp rise in employment of female workers more than made up for the decline in number of men in munitions plants.



The proportion of women in aircraft, shipbuilding, and machinery rose sharply.



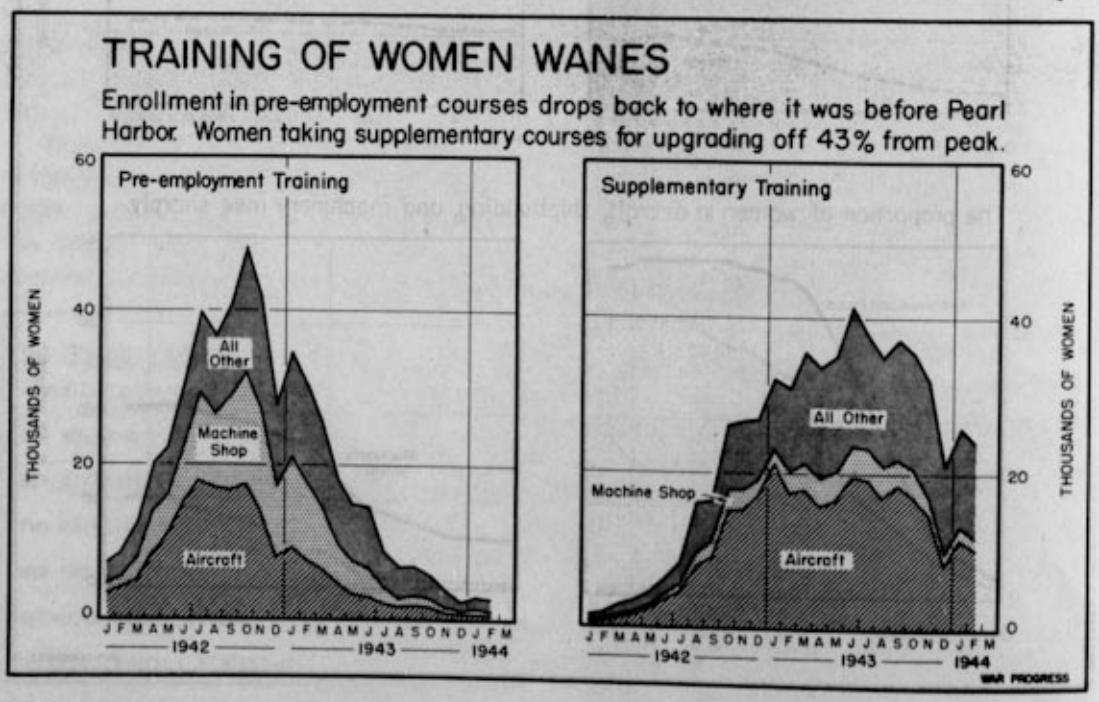
from about 1,000 to 80,000. In shipbuilding, the rise was from about 1,000 to 109,000. Here's how the number of women in some of the key munitions industries has changed:

	Dec. 1941	Nov. 1943	Feb. 1944
	(thousands of women)		
Airframes & props..	6	282	262
Aircraft engines...	2	80	81
Shipbuilding.....	1	109	104
Automobiles.....	28	196	177
Other trans. equip.	2	41	38
Iron, steel & prod.	109	372	357
Elec. machinery....	163	364	366
Mach. ex. elec. ...	56	263	253
Nonferrous metals..	62	97	93
Rubber.....	46	76	76
Small arms amm. ...	14	69	43
Selected chemicals.	8	62	51
Miscellaneous.....	18	42	41
Total.....	515	2,053	1,942

In nonmunitions industries—textiles, tobacco manufacture, apparel, printing—increased employment almost made up for the decline in men (chart, page 3). Here it was largely a case of replacing men who had left for the armed forces; however, the rise was small. In December, 1941, there were some 2,200,000 women out of a total of 6,400,000, or 34%. By August, 1943, the number had increased to 2,470,000 out of 6,100,000, or 41%. These industries traditionally employed such large proportions of women that the limit of expansion had been approached. For example, the ratio of women in apparel and other finished products rose a mere two points, from 76% in October, 1941, to 78% in August, 1943; printing and allied industries went up from 22% to 29%. In tobacco manufacture, the proportion actually dropped slightly, from 68% to 67%.

COMES TOO EARLY

From a long-term standpoint, the voluntary retirement of some women from the labor market can be looked upon as a step toward postwar readjustment. But it comes too early. Today women con-



stitute the country's main manpower reserve. Any reduction in that reserve cuts down the country's capacity to meet any sudden upward adjustment in war schedules. A better program needs to be developed to impress upon women able to work that they are still badly needed in war-supporting industries.

CMP Round 6: Less to Divide

Total allotments of carbon steel are at new low, but Requirements Committee authorizes additional materials for certain civilian products of high urgency.

IN MAKING allocations of steel, copper, and aluminum for the third quarter, the Requirements Committee continued to deny requests for materials for expanded civilian production as such. However, it did recognize the demand for certain new civilian production in addition to the regular programs of the nonmilitary claimants—on the theory that these additional programs would contribute to the war effort without conflicting with military production.

Requests for such programs amounted to about 530,000 tons of carbon steel (as well as 34,000 tons of alloy steel, 34,000,000 pounds of copper, and 98,000,000 pounds of aluminum). But shortages of certain types and shapes—carbon steel plates, sheets, strip, tin plate; copper rod, bar, tubing, and foundry products—had to be taken into account. As a result, such carbon steel requests were cut in the Requirements Committee to 22,200 tons, or 4% of what was asked for. Additional requests for alloy steel, copper, and aluminum were similarly reduced.

The War Food Administration received the largest additional allotment of this type—15,000 tons to be used to boost manufacture of farm machinery. This additional program was not expected to drain critical components and was to be put into effect only in loose labor areas. In all, the carbon steel allotment to farm machinery came to 310,000 tons. From present indications, 1944-45 output of machinery and repair parts may set a new all-time high for the second year in a row.

The Office of Civilian Requirements was allotted 6,473 tons: 3,000 tons for wire garment hangers, since cardboard and wood substitutes are becoming scarce; 2,128 tons for scullery sinks, commercial cooking equipment and dish- and glassware-washing machinery for in-plant feeding; 945 tons for steel wool, which has been denied housewives for some time; and 400 tons for more cordwood saw blades to help farmers increase fuel supplies.

The Office of Defense Transportation received an additional 524 tons for trolley cars and buses to provide increased transportation facilities for war workers. Another 244 tons were allocated to the Office of War Utilities for resuming manufacture of telephone instruments for civilians (200,000 a quarter); but allocation was made pending availability of tinsel cord.

NOT RECONVERSION

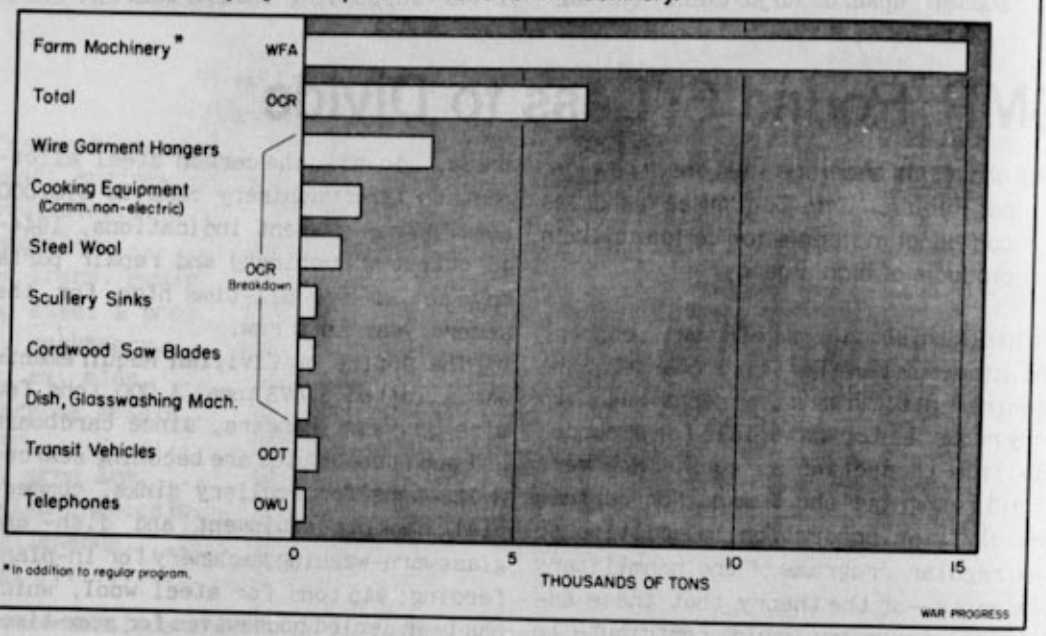
These additional programs do not constitute reconversion as such. In preparing and submitting them, the claimants emphasized that the programs were of a high order of urgency and fell into one of the following classes:

(1) Saved manpower, or saved critical materials, or provided a better product.

(2) Promoted the maintenance of es-

NEW CIVILIAN TOUCH FOR CMP

For the first time, supplementary allotments of carbon steel – 0.1% of total – have been made to nonmilitary agencies; two-thirds to farm machinery.



sential producers' goods and services, as, for example, increasing output of repair parts for food machinery, transportation equipment, public utilities, etc.

(3) Contributed to the efficiency of war production, such as in-plant feeding equipment, housing, community facilities, and local services in congested war production areas.

LOOKING TO FUTURE

At a later date, when present policy is relaxed, programs of a less urgent nature may be put into effect if they (1) eliminate "nuisance" restrictions; (2) improve the quality of existing production; (3) expand or resume output of essential civilian-type goods; (4) provide for essential construction and facilities of a second order of urgency; (5) permit retooling and reconstruction in preparation for postwar civilian production, provided these require preparation far in advance.

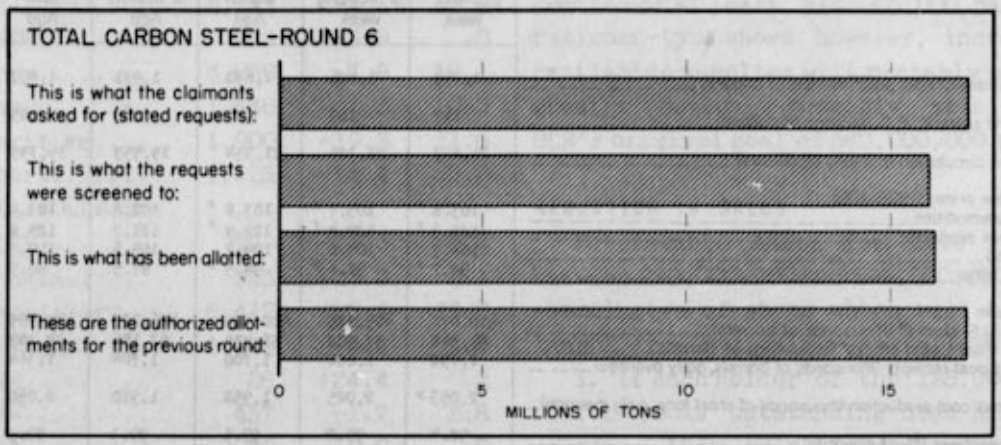
In the sixth round of CMP, the Requirements Committee was able to allot carbon steel to these additional civilian-type programs even though it had less to divide up than in any of the previous five rounds. Third-quarter supply was estimated at 14,111,000 net tons—3% less than the second quarter. Ordinarily, third-quarter output is down because of warm weather, but this time a shortage of manpower is the major reason for the expected drop. But regular program requests of claimant agencies, too, were lower—only 15,288,286 tons, also 3% under the previous quarter.

STEPUP FOR SHELLS

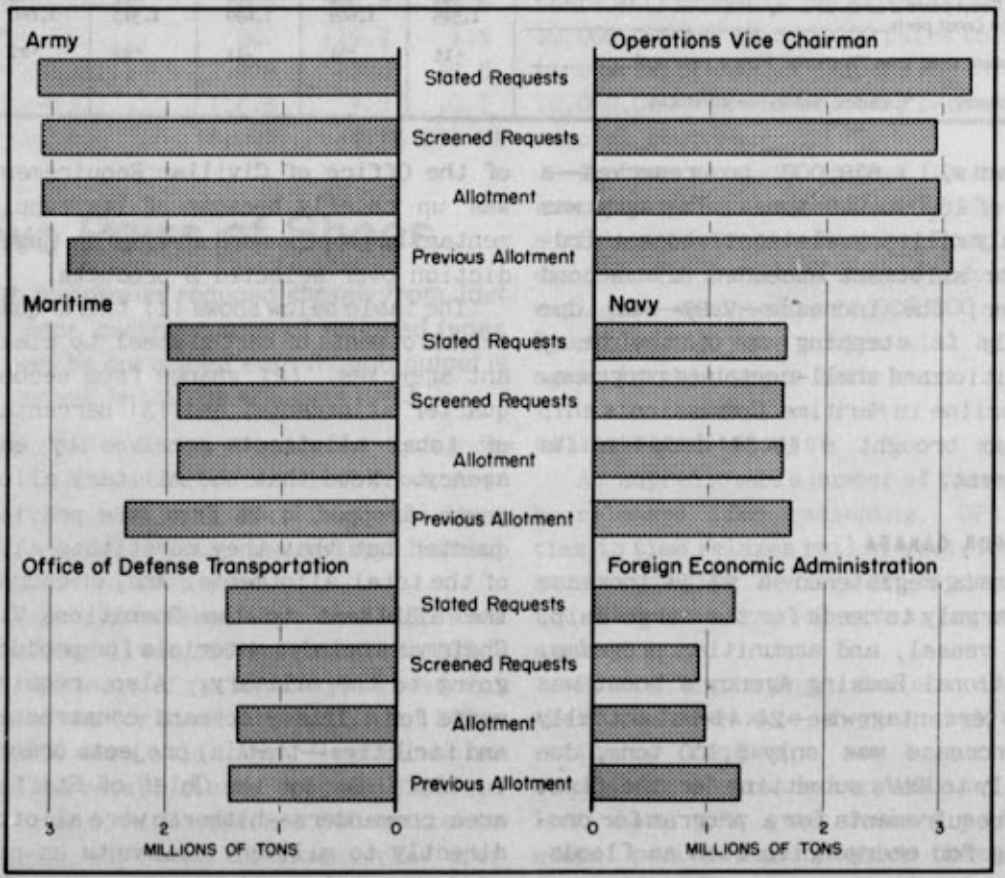
Since allotments are not all translated into actual mill orders, the Requirements Committee, as usual, overallotted supply: 14,478,000 tons went to

CMP: ROUND 6 ROLLS AROUND

Allotments of carbon steel to claimant agencies fall 5% behind second quarter; military quota drops 4%, but Army rises 8%.



And this is what the major claimants got:



WAR PROGRESS

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program-Checks paid (millions of dollars)	1,755	1,826	1,630	1,931	1,557
War bond sales-E, F, G (millions of dollars)	147	169	157	163	205
Money in circulation (millions of dollars)	21,847	21,725	21,334	19,559	16,795
Wholesale prices (1926=100)					
All commodities	103.8 p	103.7 p	103.8 p	102.8	103.8
Farm products	123.3 p	122.4 p	122.9 p	121.2	125.8
Food	104.7	104.6	104.7	105.6	110.3
All other	98.7 p	98.6 p	98.5 p	97.5	96.9
Petroleum:					
Total U.S. stocks* (thousands of barrels)	410,078	409,385	410,489	426,723	432,495
Total East Coast stocks* (thousands of barrels)	57,518	57,308	56,439	67,146	44,209
East Coast receipts (thousands of barrels, daily average)	1,758	1,606	1,700	1,704	1,364
Bituminous coal production (thousands of short tons, daily average)	2,093 p	2,025	1,958	1,910	2,050
Steel operations (% of capacity)	98.4	99.2	99.5	99.3	99.3
Freight cars unloaded for export, excluding grain (daily average)					
Atlantic Coast ports	3,456	3,234	3,115	2,859	2,433
Gulf Coast ports	461	381	316	477	388
Pacific Coast ports	1,589	1,609	1,690	1,313	1,260
Department store sales (% change from a year ago)	+15	+31	-11	+22	+21

p Preliminary *Excludes military-owned stocks

claimants, 1,618,000 to reserves—a total of 16,096,000 tons. The Army was the only military claimant whose third-quarter allotment exceeded the second quarter; the increase—7.8%—was due largely to stepping up of the heavy ammunition and shell-container programs. The decline in Maritime Commission's ship program brought a 19.3% drop in its allotment.

MORE FOR CANADA

Canada registered a 23.3% increase due largely to needs for its cargo ship, naval vessel, and ammunition programs.

National Housing Agency's boost was large percentagewise—24.4%—but actually the increase was only 5,100 tons, due largely to NHA's submitting for the first time requirements for a program for providing for emergencies such as floods, fires, demolition, etc. The allotment of the Office of Civilian Requirements was up chiefly because of its supplementary allotments and changes in jurisdiction over selected B products.

The table below shows (1) third-quarter allotments of carbon steel to claimant agencies, (2) change from second-quarter allotments, and (3) percentage of total allotments received by each agency. Note that the military allotments dropped 4.4% from the previous quarter but that they constitute 41.9% of the total allotments. And, of course, the allotment to the Operations Vice Chairman includes materials for products going to the military. Also, requirements for military command construction and facilities—that is, projects ordered in the U.S. by the Chief of Staff or area commanders—hitherto were allotted directly to military claimants as part of their regular allotments, but in this

round a reserve—100,000 tons—is set up for this purpose.

Claimants	Allotments (1,000 net tons)	% Change	% of Total
Military.....	6,743	-4.4%	41.9%
ARCO.....	125	-3.9	.8
Army.....	3,080	+7.8	19.1
Navy.....	1,638	-4.3	10.2
Maritime....	1,900	-19.3	11.8
Export.....	1,323	-14.4	8.2
FEA (OLLA & OEW).....	990	-22.3	6.1
Canada.....	333	+23.3	2.1
Nonmilitary..	6,412	-2.4	39.8
WFA.....	1,041	+4.6	6.5
NHA.....	26	+24.4	.2
PAW.....	457	-1.7	2.8
ORD.....	36	-6.0	.2
ODT.....	1,379	-4.6	8.5
OWU.....	255	-16.3	1.6
OCR.....	240	+10.4	1.5
OVC.....	2,978	-3.5	18.5
Reserves.....	1,618	+.7	10.1
Total.....	16,096	-4.7%	100.0%

Two Pairs of Shoes

With inventories reduced sharply from last year, civilian quotas of rationed types will be cut a third even though output is scheduled to rise 6% over 1943.

THIS YEAR'S output of rationed-type shoes for civilians will exceed 1943 production by at least 6%, yet civilians will have to get along with two new pairs, instead of three as last year.

Here's the reason why: In 1943, shoe consumers lived off inventories; 295,309,000 pairs of rationed-type shoes were turned out for civilian supply, but 348,703,000 were sold. Accordingly, wholesale and retail stocks dropped 53,394,000 pairs, from 254,238,000 pairs to 200,844,000 pairs. If inventories drop much further, consumers are bound to have increasing difficulty in getting needed types and sizes.

The 1944 program of the Office of Civilian Requirements contemplates production of at least 314,000,000 pairs of rationed-type shoes; however, increased cattlehide supplies will probably permit greater output, possibly as high as OCR's original goal of 360,000,000 pairs.

REDUCTION IN SALES

Foreseeable sales for 1944 run to between 290,000,000 and 295,000,000 pairs —exclusive of shoes which will be released from rationing—as follows:

1. If each holder of the 128,000,000 ration books outstanding uses his two coupons, then sales to consumers will run to 256,000,000 pairs. In addition, there will probably be sales of between 10,000,000 and 15,000,000 pairs to civilians on supplemental coupons and of about 10,000,000 pairs to military personnel on special coupons.

2. Last year, purchases for ration-exempt government agencies—Foreign Economic Administration, Maritime Commission, etc.—and by institutions and industrial employers amounted to 14,000,000 pairs. Possibly the same number will be sold again in this group this year.

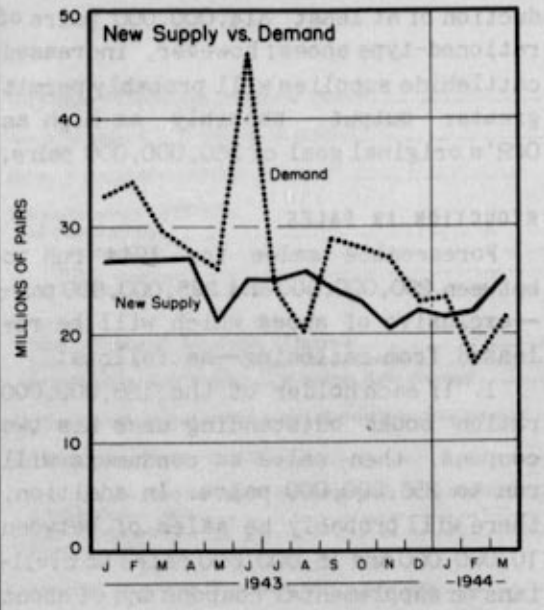
RATION-FREE CLEARANCE

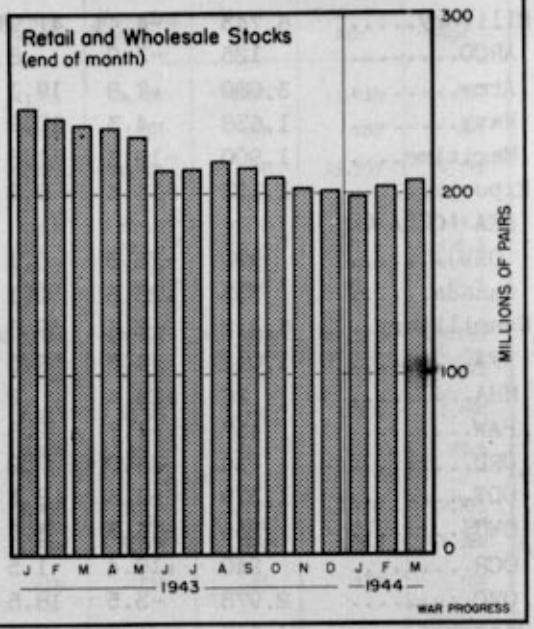
An unpredictable number of pairs will be released from rationing. OPA from time to time relaxes ration restrictions so as to give dealers an opportunity to clear out unusual sizes, unpopular styles, etc.

Before rationing, dealers cleared their shelves twice a year, but under rationing consumers won't surrender stamps for clearance merchandise. And last June, OPA gave dealers a three-weeks' period during which they could

SHOE INVENTORIES UP

During February and March, new supply of rationed-type shoes exceeded demand, after trailing most of last year.





sell a small percentage of their inventories ration-free. Early this year OPA permitted dealers to sell, ration-free, a certain percentage of their inventories of women's low-priced novelty shoes which were not moving on ration-stamp sales. Again in May, OPA allowed the ration-free sale of children's low-priced shoes.

NONRATION OUTLOOK

For consumers who need more shoes than they can get with ration stamps, OCR's program calls for production of 41,000,000 pairs of nonrationed street types—fabric-upper shoes with plastic, composition, rope, duck, and other substitute soles—but actual output will come close to the 85,000,000 pairs made last year. These types are low-priced merchandise; 90% of them are sold below $4.00, the majority below $3.00.

In the meantime, any early lifting of rationing restrictions on shoes is unlikely. Though the present outlook for cattle hides is much better than it was at the close of 1943 (WP-Dec4'43,p4), the requirements of the United Nations continue to exceed supply. Any sudden end of shoe rationing would pose a problem: Consumers would buy rationed types, and dealers would be stuck with stocks of substitute types which they'd have to mark down.

War Progress Notes

MORE SPARE BARRELS

AS A RESULT of experience on the Italian battlefront, the 1944 program for spare cannon barrels for heavy artillery has been stepped up sharply and is now more than 10 times the 1943 output.

Largest increases are in spares for the 155mm. gun and the 155mm. howitzer. Here's how the schedule, as revised,

compares with last year's production:

	1943 Prod.	1944 Sched.
	(units)	
4.5-inch gun.....	89	477
155mm. howitzer....	72	1,496
155mm. gun.....	190	1,271
8-inch howitzer....	3	232
8-inch gun.....	0	92
240mm. howitzer....	1	86
Total.....	355	3,654

The expansion involves more than procuring additional tubes; it includes the manufacture of more breech assemblies and some smaller parts. (The breech assembly of an old tube is sometimes transferred on guns under 90mm., but a new assembly must be built for each new tube in larger artillery.) Furthermore, more towing and auxiliary vehicles are required.

Present facilities are being expanded and new ones are being added to produce the tubes and breech mechanism. New facilities include the Chain Belt Company, Rock Island Arsenal, Watertown Arsenal, and the Dixin Gun Plant. But even with this, procurement will not be easy because of prior allocation of materials, machine tools, and manpower.

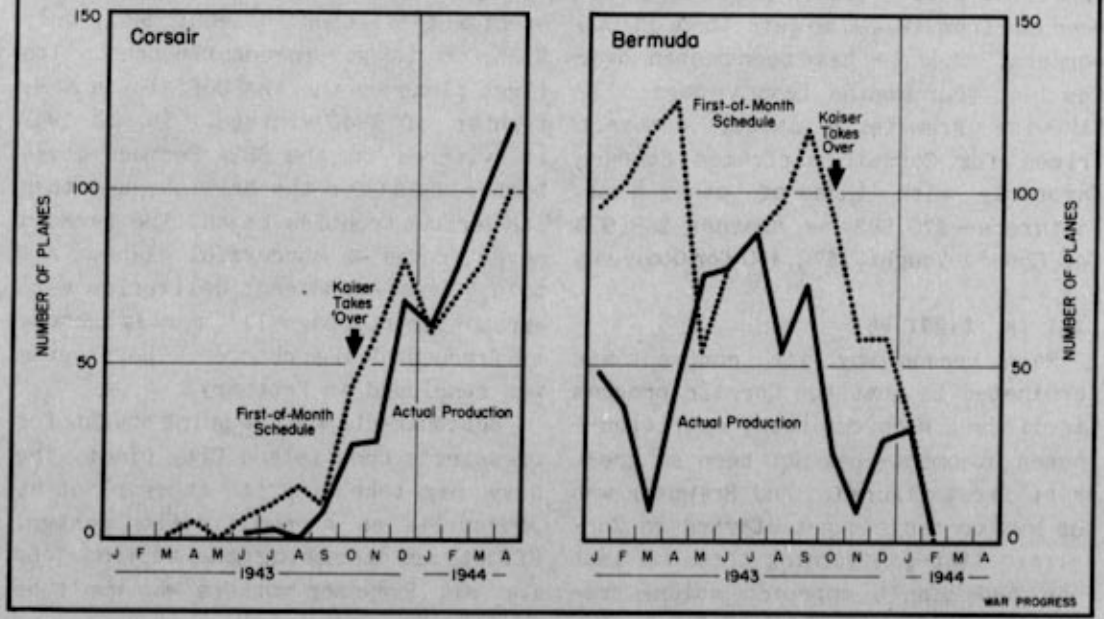
THE STORY OF BREWSTER

LAST FALL Brewster Aeronautical Corporation received a lot of publicity, all of it bad; headlines spread the story of its poor production record. Now the Navy has written finis to the story, terminating its contract for the F3A Corsair. Brewster will wind up production next month instead of the end of the year.

But Brewster is ending with a bang, not a whimper. Its record has improved steadily since Henry Kaiser was made

BREWSTER FINALE

Strike-ridden plants wind up program in rush. Corsair schedule beaten four times in row. Production of the Bermuda was consistently laggard.



SELECTED MONTHLY STATISTICS

Cost of Living-Production-Income Payments-Expenditures-Transportation

	Latest* Month	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
COST OF LIVING-ALL ITEMS (1935-39=100)	124.5	123.8	123.6	124.4	124.1	99.0	102.1
Food	134.6	134.1	134.5	138.2	140.6	94.2	105.1
Other than food	119.3	118.5	118.0	117.0r	114.9r	101.5	100.6
PRODUCTION INDEX-INDUSTRIAL (1935-39=100)†	239p	239	241	249	236r	98	121
Total Manufactures	257p	258	260r	269	255	100	124
Durable	362p	366r	368r	375r	356	96	137
Nondurable	171p	171	173	183r	173	102	113
Minerals	138p	133	136r	140	127	88	106
INCOME PAYMENTS-TOTAL (million dollars)	12,804p	12,097r	12,426	12,452	11,404	5,809	5,996
Salaries and wages	8,982p	9,028r	8,889r	8,614	8,042	3,716	3,837
Comm., distr, and serv. industries	6,863p	6,947r	6,812r	6,743	6,320	2,998	3,194
Government	2,119p	2,081	2,077	1,871	1,719	530	484
Military	1,118p	1,119	1,115	949	810	35	31
Nonmilitary	1,001	962	962	922	909	495	453
Other	-	-	-	-	3	188	159
Other income payments	3,822p	3,069	3,537	3,838	3,362	2,093	2,159
Income payments, annual rate (adjusted for seasonal, billion dollars)	154.1p	155.1r	152.1r	144.5	138.4	69.3	73.0
CONSUMER EXPENDITURES (million dollars)	7,272p	7,401r	9,110	7,388	6,796	4,519	4,609
Goods	4,742p	4,862	6,624r	4,954	4,404	2,652	2,806
Services	2,530p	2,539r	2,486	2,434	2,392	1,867	1,803
TRANSPORTATION-COMMODITY AND PASSENGER (1935-39=100)†	222p	220	213	226r	204	98	115
Commodity	208p	207	201	213r	194	98	118
Passenger	267p	260r	254	269r	234	98	107

*Cost of Living, Production Index, April; Income Payments, Transportation, March; Consumer Expenditures, February. r Revised. †Unadjusted. p Preliminary.

president last October. Employment has been cut from 19,000 to less than 13,000 workers; schedules have been beaten over the last four months (chart page 11). Likewise Brewster's latest contract prices for Corsair airframes compare favorably with those of other manufacturers—$70,583 as against $68,900 for Chance-Vought, $72,450 for Goodyear.

LAST IN, FIRST OUT

Main reason why its contract was terminated is that the Corsair program itself has been cut back; attrition—losses in combat—has not been so great as at first figured. And Brewster was the last company to get started on Corsairs. It began turning them out last June and didn't approach volume production until the end of 1943.

Of the $10,700,000 that Brewster has spent on facilities and equipment, only $136,000 is government financed. Its first plane was the F2A Buffalo, a Navy fighter of 1940 vintage. In mid-1942 it switched to the SB2A Bermuda dive-bomber, built for the British—and then its serious troubles began. The Bermuda never proved a successful plane. All told, 770 were produced; deliveries were erratic (chart, page 11), partly because of frequent design changes. The program was concluded in February.

Subcontracts are now being sought for Brewster's Long Island City plant. The Navy may take over its other plant at Johnsville as a modification center. Efforts are also being made to find jobs for all Brewster workers who won't be needed.

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The Long and Short of Manpower

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Number 194

June 3, 1944

WAR PROGRESS

Prepared in the War Production Board

Donald M. Nelson, Chairman

War Progress is a confidential report designed to provide a coordinated and continuing picture of the overall war program for the various war agencies. To this end, it presents, analyzes, and interprets basic statistical and economic information, and from time to time examines the pros and cons of controversial questions.

Although War Progress is an official publication of the War Production Board, statements in it are not to be construed as expressing official attitudes of the Board as a whole, or even of individual members. Conclusions, whenever reached, should be considered editorial conclusions.

War Progress is prepared in the Bureau of Planning and Statistics (Stacy May, Director) by the Munitions Branch (Morris A. Copeland, Chief).

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Manpower—Matter of Pulls and Pushes

Though labor is no longer (if it ever was) an overall production bottleneck, workers are badly needed in some industries. Sense of war urgency diminished.

ON THE BASIS of recent trends, it is all too easy to assume that the manpower problem is solving itself. Here are the salient facts:

1. In contrast to the hectic days following Pearl Harbor, not all munitions industries are clamoring for workers. On the contrary, layoffs dominate. For five successive months employment in war plants has declined—from 10,365,000 workers in November to 9,830,000 in April. And May will unquestionably add a sixth month to that succession.

2. Despite this 535,000 decrease in munitions workers, output of planes, tanks, guns, ships, and other munitions has managed to keep within 1% and 2% of schedule each month. And the drop since November's peak production of $5,640,000,000 has been nominal. In March, production came to $5,600,000,000; in April it receded to $5,450,000,000; but in May, according to preliminary indications, production was up again.

3. Unemployment is at an all-time low, dropping from 900,000 in November to about 800,000 in April. Obviously laid-off workers have been absorbed by the armed forces, have found jobs in nonwar industries, or have retired from the labor market.

Out of those facts, it is possible to fashion a story that runs something like this: Munitions production is running along on a fairly even keel; plants are becoming more efficient, therefore they do not need to replace all workers who quit. Indeed, some are laying off workers and still meet schedules. At the same time, released workers have been readily absorbed into other segments of the economy—miscellaneous manufacturing, the railroads, public utilities, retailing, laundries, and other service industries. In short, hidden, unplanned reconversion has taken place.

NO FOREGONE CONCLUSION

However, when you try to carry the story farther, you run into complications. You cannot be sure that recent trends will persist. Consider what has taken place in productivity per worker since December, 1942:

	Monthly Munitions Output per Worker
December, 1942...	$419
April, 1943.....	460
August, 1943.....	495
December, 1943...	547
April, 1944.....	555

The table speaks for itself. From December, 1942, through December, 1943, productivity increased rather steadily. Munitions output was expanding rapidly for most of the period, and production per worker reflected the improvement in operating techniques in munitions industries; it rose at the rate of about $10 per worker per month.

But after December, 1943, the rate of increase changed abruptly—it was only $2.00 per month. And even this increase may be a partial overstatement

of the trend. It was due in large part to layoffs in numerous munitions industries. Plants began to "dehoard" workers—to get rid of the chronic absentees, the stallers, and the inefficient (WP-Mar11'44,p1). The reason was that the scope of the overall war program had been delineated. For the most part, individual manufacturers knew where they stood on war contracts; they could lay their future production plans with some assurance that sudden large contracts would not be sprung on them.

And as they squeezed the water out of their working force, idle hands were released. Thus, in effect, there were just as many workers "working," but there were fewer workers on the pay rolls and hence in the productivity statistics. Clearly, therefore, gains in productivity at the end of 1943 are suspect and cannot be taken at face value. They are to be looked upon—at least in part—as a labor dividend from past hoardings, strictly a nonrecurrent item in the manpower profit-and-loss account.

DECREASING DIVIDENDS

A good case can be made out for this lower productivity expectation. In the first place, manufacturers are getting down closer to the hard core of their labor force, so dehoarding dividends are apt to be fewer and smaller. In the second place, cutbacks in munitions programs tend to make workers self-protective. They want to keep their jobs. They stretch out work. And if this trend persists, then the number of workers released between now and the end of the year (leaving out, for the moment, the impact of the invasion) will be comparatively modest. Most of these will be absorbed by the armed forces; and only about 200,000 will be released for nonwar work. These will be readily absorbed in the economy.

MORE IFS AND BUTS

However, if the higher productivity trend is projected, then about 800,000 workers will become available for civilian production (after allowing for Army-Navy net inductions). And these will not be too readily absorbed. Some will disappear from the labor market—especially women (WP-May27'44,p1; Apr8'44, p4). Some will find jobs quickly in both war and nonwar industries. But some temporary unemployment will result. Inevitably, businessmen, labor unions, and chambers of commerce will demand that civilian-goods production be resumed.

Since this last is the graver of the two prospects, it's the one the War Production Board, the War Manpower Commission, and the armed forces must be prepared for. And the formation of an advisory staff to the Production Executive Committee, with responsibilities to make recommendations for both long- and short-term dovetailing of civilian output with cutbacks in munitions, is a step in the right direction (page 7).

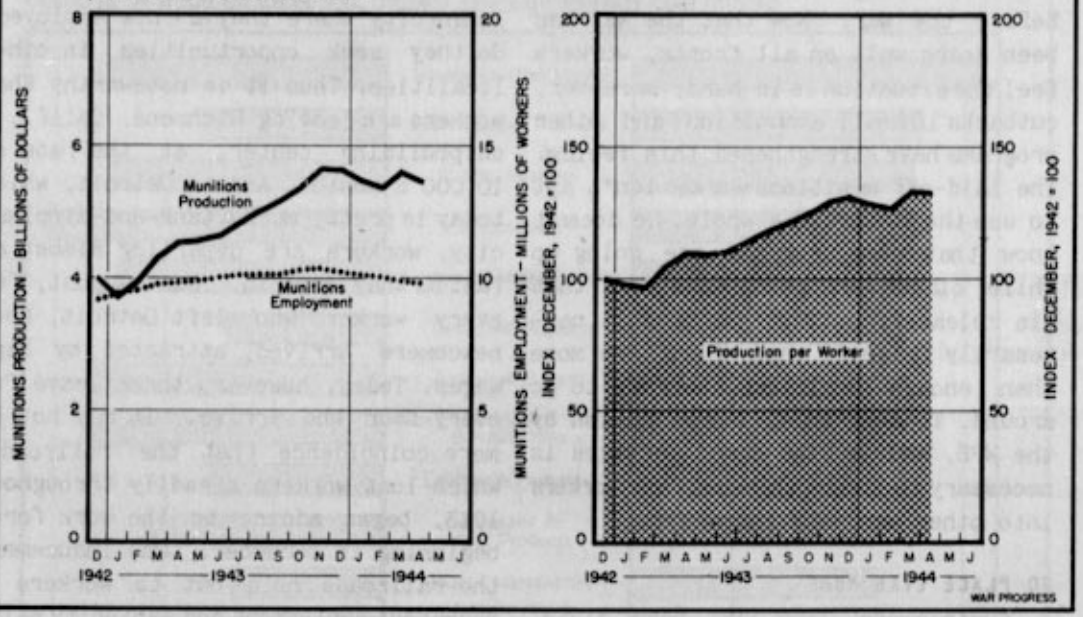
OF MICE AND MEN

One point cannot be gainsaid, however. The best-laid plans must wait on the invasion:

IN THIS ISSUE:

PRODUCTIVITY POINTER

With munitions output no longer sharply expanding, rate of rise in production per worker slackens off.



1. If the invasion is instantly successful, then military requirements will undergo fairly sharp reductions. And the new PEC staff will have to work day and night to solve the numerous problems that will arise. Which plants should be cut back first? Which industries shall we start up first? WPB will have another taste of the rush-rush operations of 1942 and early 1943.

2. If the invasion is not instantly successful, yet goes along fairly smoothly, the current period of watchful waiting will be prolonged, though certain programs may be stepped up in the light of combat experience in the invasion. In that case, plans will have to be ready to absorb possibly 800,000 workers if high rates of productivity prevail, or only about 200,000 or 300,000 if the trend of the last few months prevails.

3. But if the invading force meets reverses, then all reconversion plans will be thrust into reverse. The Army may boost requirements for tanks, guns, ammunition all along the line. Bombing raids of 2,000 and 3,000 planes daily—which now seem large in comparison with what has gone before—may seem ineffectual, or at least "not enough." And production of munitions, instead of backing and filling, as it has for the last five months, will be pushed up sharply, bringing new demands for manpower.

STILL SOME BOTTLENECKS

In the meantime, pending the invasion and its aftermath, the immediate manpower problem is to provide workers in a few key industries, which now bottleneck such important programs as landing craft, heavy trucks, radar, etc. (page 11).

The manpower problem has shifted. After Pearl Harbor, the job was to get

workers into war plants; now it's to keep them there. The turnover rate in munitions industries continues high. Quits run at the rate of five per 100 workers, as against only one per 100 before the war. Now that the war has been going well on all fronts, workers feel the situation is in hand; moreover, cutbacks in small ammunition and other programs have strengthened this feeling. The laid-off munitions worker isn't apt to see the picture as a whole. He doesn't know that some programs are going up while others are going down, and that his release from one job doesn't necessarily signify that there are more than enough munitions workers to go around. To meet this, prompt action by the WPB, WMC, and the armed services is necessary to direct released war workers into other war jobs (page 7).

NO PLACE LIKE HOME

Furthermore, war jobs have disadvantages. Munitions centers tend to be overcrowded; they lack adequate housing, and school and community facilities. After a certain length of time, women become dissatisfied, feel that the children deserve a better way of life, and the husbands, despite high pay, are under pressure to return to the place they came from. Several agencies—Committee for Congested Production Areas, WMC, Federal Works Agency, etc.—have been trying to improve living conditions in such areas as Los Angeles, Calif., Norfolk, Va., Orange, Tex., Brunswick, Ga.. (WP-Oct2'43,p4), Detroit, etc. But it is slow work. Many boom towns will just begin to get livable when the war's over.

OUTWARD BOUND

The tendency to quit, while job-getting is still good is particularly high in munitions industries which have little or no postwar future. This prevails in most government arsenals, in some shipyards, in some airplane centers. Workers are afraid that when the big cuts come they'll be out of work with small chance of getting another job in the city where they are now employed. So they seek opportunities in other localities. Thus it is noteworthy that workers are leaving Richmond, Calif., a shipbuilding center, at the rate of 10,000 a month. And in Detroit, which today is pretty much a tank-and-airplane city, workers are departing almost as fast as they come in. Last August, for every worker who left Detroit, four newcomers arrived, attracted by high wages. Today, however, three leave for every four who arrive. It may not be mere coincidence that the railroads, which lost workers steadily throughout 1943, began adding to the work force beginning in December. One inducement the railroads hold out to workers is permanent employment and seniority privileges. And of course, during reconversion the railroads will still be railroading; they won't have to stop for retooling.

INVASIAN JITTERS

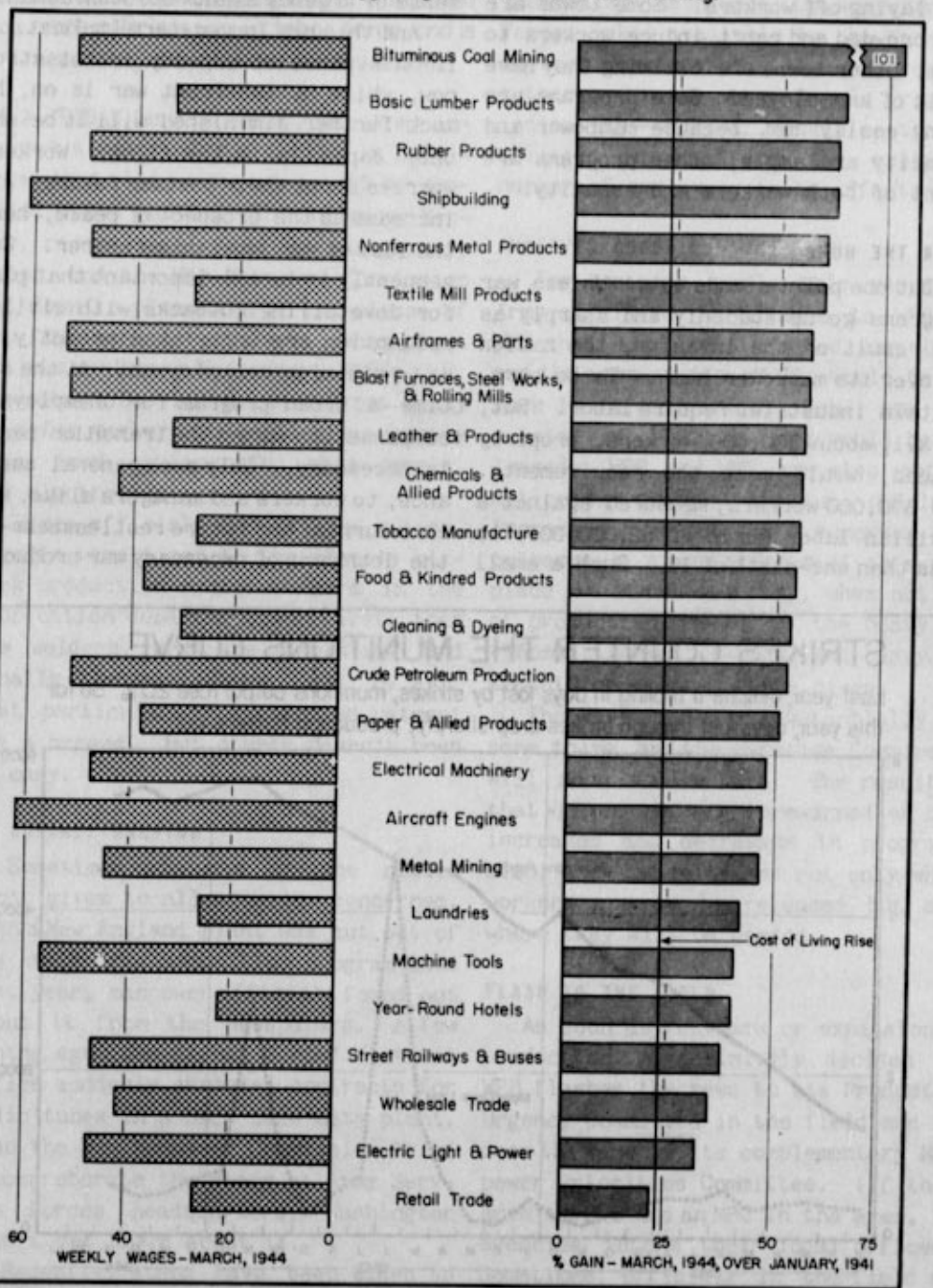
The recent outbreak of strikes may also be ascribed to the current watchful-waiting phase of the war. Here also the accumulated fatigue and strain of long hours has made workers jumpy (page 13).

They know that after Germany falls labor will not be in the seller's market it now is. Therefore, it is inevitable for some labor leaders or groups of workers to worry about how they will fare after Germany falls. It is part of the times. It is inevitable that many persons—and this goes for management as well as labor—should start winning the peace even before the war has been won.

It all goes back to the diminished

HIGH COST OF LIVING, HIGHER WAGES

Since January, 1941, weekly wages in nearly all industries are ahead of the rise in living costs; retail trade an exception. Biggest gain: Bituminous coal mining.



WAR PROGRESS

sense of urgency, and it all adds up to a troublesome manpower problem—full of mixed stresses and strains. Some industries are begging for workers; others are laying off workers. Some towns are overcrowded and can't induce workers to come; other towns are claiming they have pools of unemployed. Some programs are being easily met because manpower and capacity are ample; other programs are short of both workers and capacity.

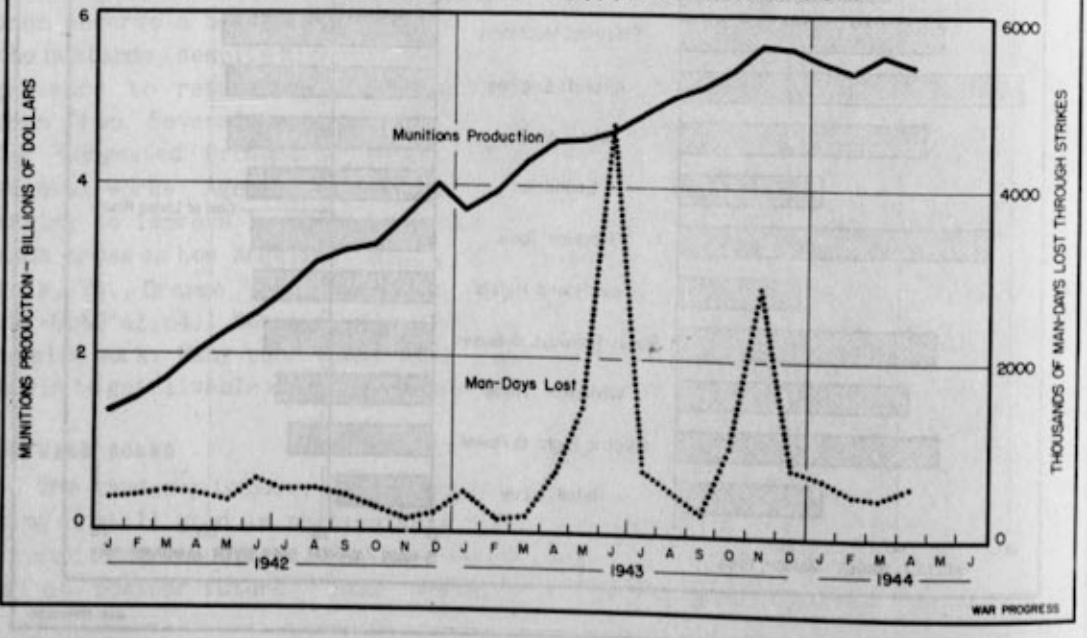
OVER THE HUMP

But one point stands out: Unless war programs go up suddenly and sharply as the result of the invasion, the nation is over its manpower hump. To be sure, certain industries require labor. But, in all, about 300,000 workers, properly placed, would meet the requirements. And 300,000 workers, measured against a civilian labor force of 52,000,000, is less than one-sixth of 1%. Such a small fraction, though sufficiently large to keep war executives awake nights, is not large enough to make its mark on the great mass of workers and give them the sense of urgency a quick solution demands.

And this has longer-term implications. If the sense of urgency is not strong now, while a two-front war is on, how much further diminished will it be when only Japan is in the fight? Workers' worries about their postwar futures will increase as the prospect of peace, hence the loss of war jobs, comes nearer. Consequently it is all-important that plans for dovetailing cutbacks with civilian resumption are undertaken promptly, so as to minimize unemployment. At the same time a broad program for unemployment compensation during the transition period is necessary. Only such general assurance, to workers and managers alike, will curb current and future restlessness—to the detriment of necessary war production.

STRIKES COUNTER THE MUNITIONS CURVE

Last year, despite a tripling in days lost by strikes, munitions output rose 20%. So far this year, days lost through strikes drop sharply; production flattens out.



Wanted: Fewer Surprises

Army and Navy get set to give WPB and WMC notice of impending cutbacks. Will permit more efficient use of labor force, and is necessary step toward reconversion.

ON A FRIDAY last December, the Army informed a maker of gun mounts in Baltimore that its contract would be canceled in two months. The following Monday, representatives of the management, labor, and the War Manpower Commission sat down to plan an orderly release of the 750 workers involved. When plant notices went up on Wednesday, WMC's U.S. Employment Service was on the spot ready to refer workers to local high-urgency jobs, such as aircraft, ship repair, and electronics.

Since officials had advance notice, layoffs were timed to the plant's six-week production cycle: workers in the fabrication department went first, then the welders, next the machinists, and finally the assemblers. All in all, that particular production adjustment was a breeze. But others haven't been so easy.

NO ADVANCE WARNING

Sometimes adequate advance notice isn't given to all agencies concerned. When a New England plant was cut out of the small-arms ammunition program late last year, manpower officials found out about it from the newspapers. A few months ago, the Signal Corps' district office suddenly canceled contracts for radio tubes in a Salt Lake City plant. When the War Manpower Commission tried to corroborate the story at Army Service Forces headquarters, Washington hadn't yet heard about it.

Recently, steps have been taken to eliminate such examples of faulty coordination in reporting production adjustments. Each week, the Army Service Forces makes available to the War Production Board and WMC a list of proposed cutbacks in the Army Supply Program, indicating—wherever possible—the facilities involved and the estimated number of employees to be affected.

IMPROVED COORDINATION

For instance, early this year, the Army signified in advance to WPB and WMC that the light armored car (M-8) and the command car (M-20) would be cut back in Chicago and St. Paul, and that a total of 1,500 workers would be released. WPB and WMC are also put on notice when expansions occur. (Of late, increases have been more numerous than cutbacks.) A good example of this took place in March and May, when notices of production boosts in the heavy gun (155mm., 240mm., 8-inch) and heavy-gun ammunition programs were given.

The Navy is doing substantially the same thing, and the Maritime Commission will soon follow suit. The result is that WPB and WMC are forewarned of both increases and decreases in programs; also, they can determine not only where workers are to be released but also where they will be needed.

FLASH TO THE FIELD

As soon as a cutback or expansion in production is definitely decided on, WPB flashes the news to its Production Urgency Committee in the field and WMC does the same for its complementary Manpower Priorities Committee. (If there aren't a PUC and an MPC in the area, the agencies inform their local offices.) Sometimes, officials in the field may already know of the change. Suppose

it's a cut in tanks. The Chief of the Ordnance Department in Washington notifies the Tank Automotive Center in Detroit; in turn, TAC tells the manufacturer, at the same time informing the proper WPB and WMC regional offices.

As soon as the news is out, local representatives of the Army, Navy, WPB, and WMC plan the adjustment in the light of local conditions: If it's a cutback, can new war production be placed in the plant? If not, where will the released workers be sent? If subcontractors are involved, who are they—and where? If it's an expansion, where will the additional manpower be obtained? And so forth.

VANISHING WORKERS

But while government officials may propose, workers usually dispose of themselves.

Consider the case of a Massachusetts ordnance plant whose contracts were canceled last November. It was the only war plant in town, and about 90% of the 3,500 workers were local residents or commuters. Offers from employers working on high-urgency munitions such as landing craft, electronics, and heavy guns poured into the local office of the USES. Some firms even had physicians on the spot to determine the physical fitness of prospective workers. But most of the jobs were outside the area and only 800 persons accepted referrals. The local Chamber of Commerce didn't help USES; it promised workers that "jobs would open up soon."

In a small Pennsylvania town, a tinplate mill closed down and some 200 workers—virtually all local residents—were released. Here again job offers poured in. However, though most of the workers were willing to go to nearby Pittsburgh, they insisted on limited certificates of availability; if the home-town mill were to start up again, they wanted to go back. Relatively few Pittsburgh employers were willing to hire on that basis.

Time and again, however, released war workers can be used for top-priority production right in the same community. A good example of this took place in Evansville, Ind., when two ordnance works began to reduce output last fall. At about the same time, schedules of two large Evansville plants—one of them working on landing craft, the other on airplanes—were expanding sharply. The USES had a field day. In four months, it switched more than half of 9,000 released workers from small-arms ammunition to LSTs and Thunderbolts.

One of the toughest problems is how to keep war workers from evaporating, from leaving the munitions industries once a plant curtails or shuts down (WP-Apr8'44,p4). The following experience at a powder-bag loading plant in Virginia is not unique: almost half of the 2,200 workers laid off over a nine-months' period just "faded out of sight."

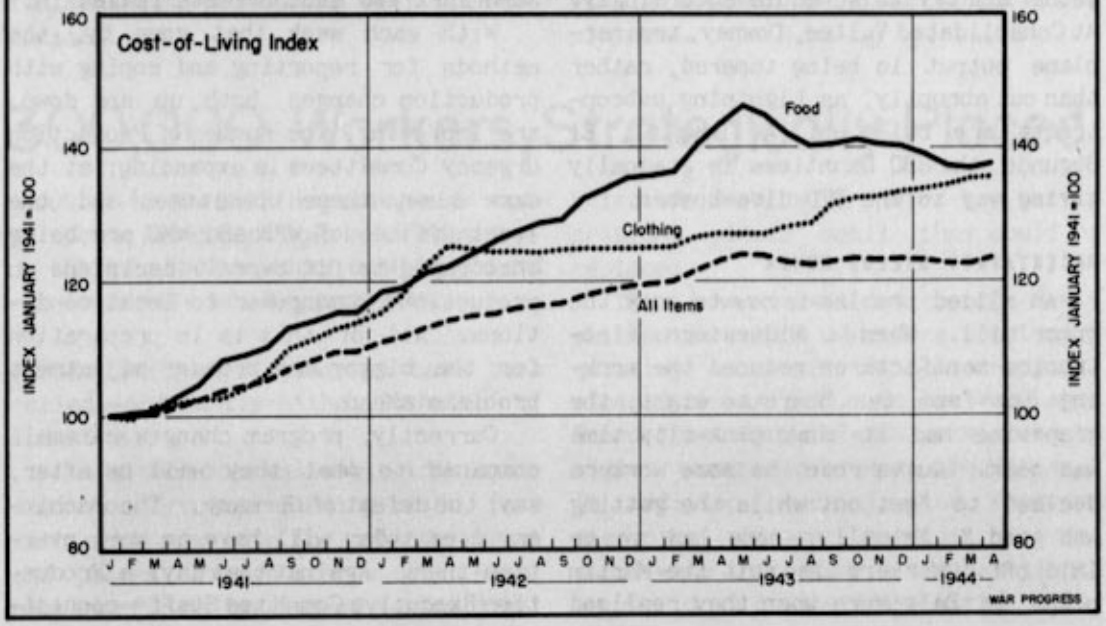
GONE FOR GOOD

Under such circumstances, if a plant gets additional contracts and wants to hire, recruitment becomes doubly difficult. Late in 1943, a steel mill in Ohio shut down half its furnaces and laid off 700; USES placed half of them, but the remainder "disappeared." Then, when additional contracts were received early this year, the company hunted high and low for 300 new workers.

In such instances, the presumption is that they took a vacation, went into nonwar jobs, or, in the case of women with families, returned to full-time duty in the kitchen. An estimated 1,000 women swapped munitions making for home making in the Lowell Ordnance closing; another 1,000 did the same thing at

ONE YEAR OF STABLE LIVING COSTS

In April, the cost-of-living index moved up slightly to the level of April, 1943. Food prices are below those of last year; clothing up.



Evansville; likewise with some 2,000 more when cutbacks hit a group of ordnance plants around St. Louis; and ditto with 1,200 others at Twin Cities Ordnance.

Of all released workers, it is especially difficult to persuade housewives to re-enter the labor market once they've left. During the middle of last summer, 200 women in an Alabama leading works were laid off. When the plant received a large new order in the fall, only a handful of these women could be talked into returning. The others were housewives again!

TAKING WORK TO WORKERS

In cooperation with the services, WPB and WMC try to keep a plant's labor organization intact wherever possible. In fact, one of the big jobs in the field —whether it concerns a Production Urgency Committee, Manpower Priorities Committee, or a WPB or WMC local office —is to find ways and means of taking the work to the worker before taking the worker to the work. Experience shows that it is much better for the employee to remain where he or she is accustomed to the management, has a home established, a regular transportation routine, etc.

A particularly neat example concerns a former maker of fishing tackle in Akron, a critical manpower area. When one of its war contracts ran out, the company was given permission to keep 120 employees together by making fishing reels out of finished-parts inventory—these to be sold in Army post exchanges. Here, the idea was to avoid breaking up a highly efficient, well-knit labor force. Not long after, an Akron tire manufacturer sent out a rush call for workers to produce self-sealing gas tanks. The local WMC representative got him off to a good start by seeing

that a subcontract was placed with the fishing-tackle firm.

The Army and Navy recognize the advantages of holding the work force together and try to schedule accordingly. At Consolidated Vultee, Downey, trainer-plane output is being tapered, rather than cut abruptly, as Lightning subcontracts are built up. At Douglas, El Segundo, the SBD Dauntless is gradually giving way to the BTD dive-bomber.

UNCERTAINTY BREEDS RUMOR

An allied problem is how to buck the rumor mill. When a Midwestern electronics manufacturer reduced the working day from ten hours to eight, the grapevine had it that pink-slip time was near. Quits rose, as some workers decided to "get out while the getting was good." Actually, none had to be laid off. Workers also quit the Martin plant in Baltimore when they realized that the A-30 light bomber was going out of the plane program. The story was that 8,000 workers were going to get notice. But there were no layoffs; Superfortress subcontracts filled in.

With each week that goes by, the methods for reporting and coping with production changes, both up and down, are improving. The number of Production Urgency Committees is expanding; at the same time, these committees and the local offices of WPB and WMC are being encouraged to fit overall decisions on production and manpower to local conditions. All of this is in preparation for the bigger and broader adjustment problems ahead.

Currently, program changes are small compared to what they will be after, say, the defeat of Germany. The machinery used today will have to work overtime then. Against that day, a Production Executive Committee Staff—consist-

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program - Checks paid (millions of dollars)	1,664	1,755	1,710	1,392	1,932
War bond sales - E, F, G (millions of dollars)	163	147	245	189	277
Money in circulation (millions of dollars)	21,911	21,847	21,396	19,726	16,902
Wholesale prices (1926=100)					
All commodities	103.9 p	103.8 p	103.7 p	102.6	104.0
Farm products	123.7 p	123.3 p	123.1	121.2	126.7
Food	104.9	104.7	104.7	105.8	110.7
All Other	98.7 p	98.7 p	98.5 p	97.5	96.9
Petroleum:					
Total U.S. stocks* (thousands of barrels)	410,984	410,078	411,718	428,791	434,012
Total East Coast stocks* (thousands of barrels)	57,832	57,518	56,568	67,525	44,476
East Coast receipts (thousands of barrels, daily average)	1,777	1,758	1,794	1,704	1,314
Bituminous coal production (thousands of short tons, daily average)	2,050	2,093	2,042	2,117	1,936
Steel operations (% of capacity)	97.5	98.4	100.0	99.5	98.4
Freight cars unloaded for export, excluding grain (daily average)					
Atlantic Coast ports	3,436	3,456	3,150	2,579	2,396
Gulf Coast ports	425	461	357	366	354
Pacific Coast ports	1,648	1,589	1,686	1,216	1,274
Department store sales (% change from a year ago)	+11	+15	+11	+13	+43

p. Preliminary *Excludes military-owned stocks.

ing of Army, Navy, Maritime Commission, WPB, and WMC representatives—has been set up in Washington to coordinate all data on program changes with proposals for expanding or resuming civilian production.

In that way, increases in civilian programs can be synchronized with cuts in war output—and released war workers can be channeled into peacetime jobs with a minimum of transitional unemployment.

300,000 Workers, Strategically Placed

Would go far toward lifting nation over manpower hump. Shortages in few industries—logging, lumber, radar, coal, forges and foundries—slow key programs.

FORGE SHOPS and foundries have been called—and aptly—"the foxholes of industry."

Out of them come malleable iron castings for trucks, landing craft, farm machinery; gray iron for cylinder heads and blocks, freight car wheels; steel castings for railway cars, locomotives; drop forgings for landing-craft, plane, tank, and heavy-truck engines. And they're the Number One manpower problem today. For want of 20,000 workers—constituting 2% of all workers in the munitions industries—schedules of some critical items are in danger of not being met.

FOUNDRIES LOSE OUT

This is no sudden problem. Back in January, 1943, the high-paying, glamorized war industries such as aircraft and shipbuilding were expanding sharply. And the sweaty, muscle-demanding forge-and-foundry industry—with its comparatively low starting wage—came out second best in the race for manpower. Then, the heavy-truck and landing-craft programs came through, with their big demands for malleable castings and gray iron. Manpower difficulties multiplied. By September, 1943, the War Production Board and War Manpower Commission asked Selective Service to defer key men in critical plants until they could be replaced.

This, however, was not enough. Semi-skilled and common labor were constantly quitting in favor of better-paying, pleasanter war jobs. So the War Labor Board granted some plants permission to adjust wages "to remove inequities." In addition, mechanization programs (conveyer systems, handling methods, etc.) were introduced in certain plants to cut down on the heavy work and laborious handling; and ventilating and sanitary conditions were improved. At the same time, recruitment drives were instituted—movies, posters, speeches—to persuade workers to take jobs in the industry.

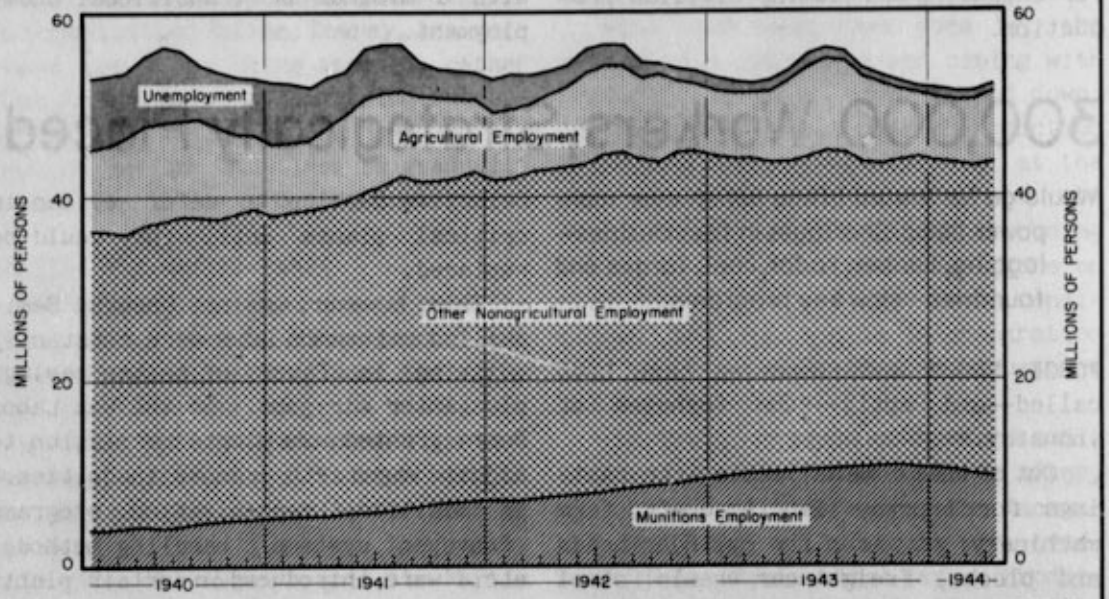
But if getting new workers was difficult, holding them was even more difficult. Recent experience shows that only about one out of every four new workers stays on the job three months or more. Nevertheless, between November and March, employment in 225 critical plants rose about 2%; at the same time, production increased approximately 15%. But April broke the uptrend; tonnage in these plants was down an estimated 10%.

SEASONAL LOSSES

The drop is attributed to (1) the customary return of seasonal labor to agriculture and (2) the inevitable migration to cooler work before the hot

UNEMPLOYMENT REACHES RECORD LOW

Despite cutbacks in munitions plants, joblessness declined 11% in April. Civilian labor force is dropping slightly (losing out to armed forces).



weather. On top of that, the draft of younger men was speeded up. Of 5,600 forge and foundry workers under 26 in critical plants, only 730 have been endorsed for deferment. And even that 730 is an overstatement—the final figure may be less than half that number.

SKILLED WORKERS DRAFTED

Meanwhile, the current experience of a Detroit forge shop is typical of what's happening: Six skilled workers under 26 (three diesinkers, one drop-hammer operator, one heater, and one die setter) have been called for induction. Minimum time to train replacements ranges from six months to three years. The plant has been turning out 200 tons per month of highly specialized forgings for Army Ducks, trucks, and Water Buffaloes.

The estimated 10% drop in April didn't cut down on munitions production. Average lead time in the industry is about three months; that's the period between manufacture of forgings, castings, gray iron, etc. and their use in end products such as tanks, trucks, landing craft, and construction machinery. July will tell the story.

Today's situation in the forge-and-foundry industry is symptomatic rather than unique. Other industries hard put to meet critical programs for want of labor include coal mining, lumber, radar, and tire cord. And this is in spite of the series of layoffs in munitions industries. In all, about 300,000 workers, if strategically placed, would go far toward eliminating the manpower pinch in rising programs.

Requirements of individual industries are comparatively small, ranging from 2,000 workers for dry-cell batteries to 65,000 for logging. And the figure of 20,000 for "forge and foundry" covers several industries not on the list:

heavy-heavy trucks, landing craft, construction equipment for the Corps of Engineers, farm machinery. Here's where the workers are needed—and how many:

Critical Industry	Est. of New Workers Needed
Antifriction bearings...	4,000
Coal mining.....	37,000
Cotton broad-woven goods	25,000
Dry-cell batteries.....	2,000
Forge & foundry.....	20,000
Logging.....	65,000
Lumber manufacturing....	63,000
Radio & radar.....	50,000
Rubber heels & soles....	3,000
Rubber tires & tubes....	14,500
Tire cord.....	4,500
Total	288,000

The big demand is for unskilled workers. But not all of these jobs can be described as "dirty and tough." In some instances, it's a clear case of wage differentials. A chap who remembers starting in a shipyard at 80 cents an hour might consider a plane plant paying about the same, but he's apt to steer clear of a bearing plant paying 65 cents to beginners. A woman who made 60 cents an hour in an ordnance plant—"right off"—thinks twice before accepting a job at 50 cents in a cotton-goods factory.

NO SIMPLE SOLUTION

As far as wages are concerned, it might seem a simple matter to solve the difficulty by raising them. But under the national stabilization policy, that's easier said than done. It is the War Labor Board's job to stabilize wages as part of the hold-the-line price policy. So even though industries which existed in substantially their present form before the war—coal, lumber, tires, cotton goods, metal mining, transportation—may have been granted wage increases, their rates are still behind those of "new" war industries such as aircraft and shipbuilding. Indeed, jobs which in peacetime were looked on as high-paying are now considered low—despite the fact that wages for some of them have even gone above the "Little Steel" formula.

INFLATION THE BUGBEAR

Thus, there is pressure to increase wages in basic industries so as to stimulate production: but this, in turn, would raise costs of manufacturing munitions and other goods all along the line. It would result in the well-known inflationary spiral: wages pushing up manufacturing costs; manufacturing costs pushing up prices; higher prices (and the cost of living) creating new pressures to boost wages.

That No-Strike Pledge

On the record, labor has heeded it. Recent outbreaks are due to overfatigue, jumpiness, worry over losing jobs. Time lost is far below that of prewar years.

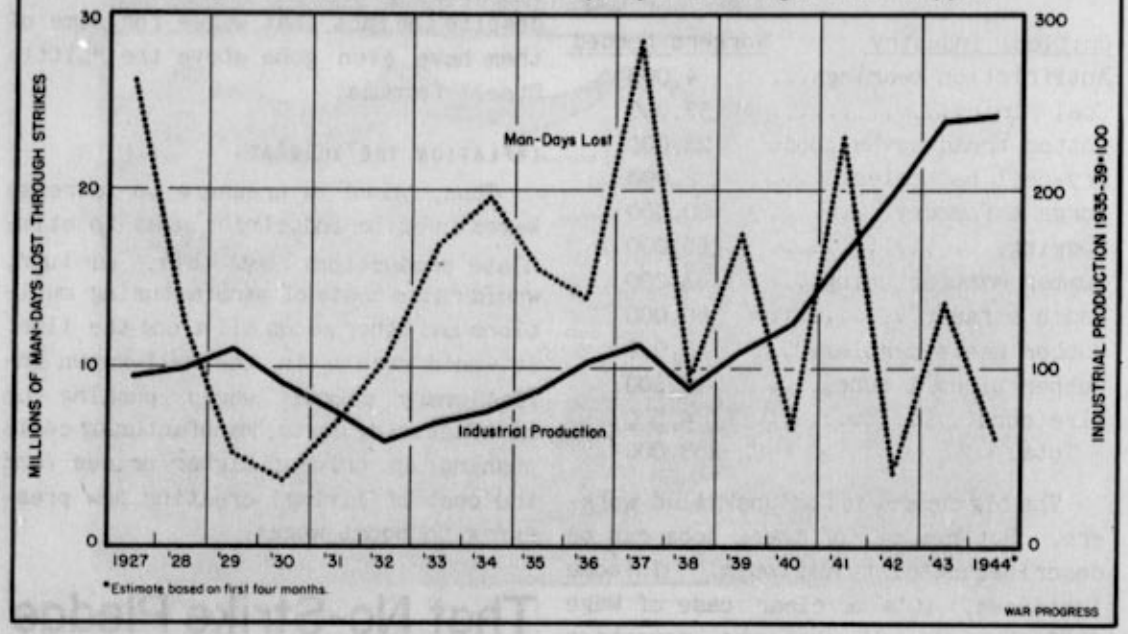
STRIKES make bigger headlines than statistics on war production; yet war production, despite sporadic work stoppages due to strikes, has gone up fairly consistently month after month since Pearl Harbor. And today, munitions output is virtually at an all-time high (chart, page 3).

LITTLE TIME LOST

Compared with industrial accidents or absenteeism, strikes have cost a negligible loss of time. Though there were 1,500 strikes in the first four months of this year, costing 2,000,000 man-days, this came to less than 0.1% of total working time. You can charge up to absenteeism more than 50 times

STRIKES AND INDUSTRIAL PRODUCTION

Generally speaking, work stoppages and industrial activity tend to move together. But during the war, production rose steadily, days lost through strikes dropped.



as many man-days; to industrial accidents, two or three times.

But absenteeism or industrial accidents are popularly considered part of the day's work, like the weather. Strikes, however, are man-made; they are more or less deliberate, consequently are regarded—by and large—as reprehensible, avoidable interferences with the war effort.

PLEDGE TAKEN SERIOUSLY

To soldiers at the front, strikes look particularly bad. Nevertheless, the fact remains that labor has taken its no-strike pledge seriously. Historically, strikes occur most frequently when industrial activity is extremely high. Labor leaders know that when business is good, their chances of getting wage increases are good. Hence, the big strike years have customarily been big business years like 1937. Yet last year when business volume was more than twice as great as in 1937, man-days lost because of strikes were only half as great (chart, above).

CHIEF ISSUE IS WAGES

The basic issue in most wartime strikes has been wages and hours, reflecting labor's dissatisfaction with the wage stabilization policy and high cost of living (chart, page 9). Wage and hour disputes accounted for 51% of all strikes in 1943 and 80% of the time lost. Union organization issues, which were responsible for more than half of the strikes before the war, were the major issue in only 16% of last year's. About 30% were called because of other working conditions, and jurisdictional or intraunion disputes—perhaps the least defensible kind of strike in wartime—accounted

for 4%. Here was the pattern for 1943:

Major Issue	% of Strikes	% of Man-Days Idle
Wages & hours.....	51%	80%
Union organization..	16	6
Other working conditions.....	29	11
Inter- or intraunion	4	3

Workers won substantial gains in about 30% of these strikes. A quarter of the settlements represented partial gains or compromises, another quarter little or no gain, and about 20% are indeterminate or still pending. Workers' successes were chiefly in union organization issues; more than half the strikers for this reason got what they wanted (union recognition, maintenance of membership, etc.), but only 10% who struck for wage boosts realized substantial gains, and these primarily in cases in which the War Labor Board agreed to iron out inequities in the wage structure.

Reasons for the present wave are various. One is, no doubt, that workers feel less sense of urgency about war production; cutbacks naturally cause a psychological reaction.

A central reason is the accumulated fatigue and strain, due to relatively

SELECTED MONTHLY STATISTICS

Employment*–Hours and Earnings

	Latest Month**	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
NONAGRIC. EMPLOYMENT–TOTAL	38,383 p	38,550	38,707	39,603	39,708	29,470	n.a.
Manufacturing–Total	16,137 p	16,386	16,607	17,079	16,758	9,787	
Durable goods	9,779 p	9,930	10,064	10,264	9,937	4,296	
Nondurable goods	6,358 p	6,456	6,543	6,815	6,821	5,491	
Government	5,905 p	5,871	5,830	5,847	5,945	3,927	
Other	16,341 p	16,293	16,270	16,677	17,005	15,756	n.a.
LABOR FORCE–TOTAL (millions)†	52.0 p	51.3	51.1	53.0	52.5	n.a.	n.a.
Employment	51.3 p	50.5	50.3	52.2	51.6		
Male	34.4 p	34.0	34.0	34.8	35.5		
Female	16.9 p	16.5	16.2	17.4	16.1		
Unemployment	.8 p	.9	.9	.9	.9	n.a.	n.a.
AVERAGE WEEKLY EARNINGS (dollars)							
All manufacturing industries	45.62	45.44r	45.29r	44.39	41.75	23.76	24.45
Durable goods	51.52	51.37r	51.21r	51.01	47.79	25.93	27.39
Nondurable goods	36.55	36.37r	36.03r	34.73	33.08	22.00	21.90
Bituminous coal mining	52.24	52.99	52.50r	45.96	43.13	23.49	26.22
Metalliferous mining	44.59	44.04r	43.70r	44.76	41.61	27.66	30.57
AVERAGE HOURLY EARNINGS (cents)							
All manufacturing industries	100.6	100.3	100.2 r	99.3	93.4	63.2	59.5
Durable goods	110.2	110.0	109.9 r	109.7	103.0	69.7	64.0
Nondurable goods	84.6	84.1	83.7	82.3	78.2	58.2	55.3
Bituminous coal mining	117.6	117.8	119.5 r	116.8	111.9	88.4	78.6
Metalliferous mining	99.9	99.2	99.3	99.5	94.9	69.3	68.1
AVERAGE HOURS PER WEEK							
All manufacturing industries	45.3	45.3 r	45.2	44.7	44.7	37.6	41.1
Durable goods	46.7	46.7 r	46.6 r	46.5	46.4	37.2	42.8
Nondurable goods	43.2	43.2	43.0 r	42.2	42.3	37.8	39.6
Bituminous coal mining	44.5	45.2	44.0	39.4	38.6	26.5	33.8
Metalliferous mining	44.5	44.3	43.9	44.8	43.7	40.2	45.0

*Entire series revised. **Employment, April; Hours and Earnings, March. p Preliminary. n.a. Not available. r Revised. †Figures are rounded and do not necessarily add to total.

long hours, congested living conditions, wartime dislocations generally. This explains why the great majority of strikes have been spontaneous and without union authorization, why there's no clear pattern or specific cause for the recent wave. Workers find all kinds of excuses for letting off steam, some of them trivial. Recently a group quit because a company stopped serving coffee in the afternoon. Such hothead strikes are usually settled quickly and are small.

WARTIME INSTABILITY

Also, the war has introduced a certain degree of instability into relations between employers and employees and union leaders and union members which tends to increase strike volatility. For one thing, experienced labor leaders—not of top rank but of secondary rank, who hold the men in line—have been drafted. For another thing, the migration of large numbers of workers to new plants brings in a group of workers who are (1) unacquainted with the plant labor leaders, hence are apt to go off on their own, and (2) do not have their roots in the community, hence feel less responsible about quitting work. Add a shortage of experienced supervisors too, and there are plenty of chances for things to go wrong.

TOO MANY COOKS

As a further factor, so many agencies are concerned in various ways with manpower—the War Manpower Commission, the War Production Board, the Army, the Navy, the Department of Labor, the War Labor Board, the National Labor Relations Board, etc.—that a consistent, coordinated labor policy has been difficult to attain. Overlapping jurisdiction and conflicting interests—one agency concerned with holding the line, another with getting out production—add to the uncertainties of labor leaders, the unrest of workers.

Although the number of strikes has been on the increase during the war, the great majority have been settled promptly; the average duration has fallen steadily from 23 days in 1939 to five days in 1943. Hence working time lost because of strikes has been well under the prewar rate. In the ten years before Pearl Harbor, man-days lost averaged over 16,000,000 a year, ranging from 28,400,000 in 1937 to a low of 6,700,000 in 1940. In 1942—despite a big increase in employment and industrial activity—the total fell to 4,200,000. It held at this rate during 1943 except for the big coal strikes; these boosted the total to 13,600,000 man-days, representing .15% of total working time. The rate for this year so far is about 6,000,000—a 50% jump over 1942, though still under the lowest figure in the prewar decade.

COMPARISON NOT ODIOUS

This record compares favorably with that of Great Britain, which has a national service act administered by a labor leader. In Britain, the number of man-days lost because of strikes has been rising steadily since 1940. (The same is true in Canada and New Zealand, which also have national service legislation.) In 1942 the total time lost was proportionately higher than in the U.S. Last year, because of the coal strikes here, the relationship was reversed; but this year coal strikes have in turn carried Britain well over the U.S. rate. In both countries coal mining is the only industry that has been hit by industry-wide strikes. No other industry has lost as much as 1% of annual working time.

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UNITED STATES OF AMERICA
WAR PRODUCTION BOARD

COURIER SERVICE CONTROL RECORD

No. S- 89776

FROM:
STATISTICS DIVISION
(NAME)
R. C. S.
(TITLE)
(ROOM NUMBER) (BUILDING)

TO:
The President
(NAME)
(TITLE)
The White House
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WAR PROGRESS

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C. F.
War Production Board

Preinvasion Production: Emphasis on Planes, Landing Craft

Scorecard on Merchant Shipping

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Number 195

June 10, 1944

WAR PROGRESS

Prepared in the War Production Board

Donald M. Nelson, Chairman

War Progress is a confidential report designed to provide a coordinated and continuing picture of the overall war program for the various war agencies. To this end, it presents, analyzes, and interprets basic statistical and economic information, and from time to time examines the pros and cons of controversial questions.

Although War Progress is an official publication of the War Production Board, statements in it are not to be construed as expressing official attitudes of the Board as a whole, or even of individual members. Conclusions, whenever reached, should be considered editorial conclusions.

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Invasion Weapons Set Production Pace

Munitions output up 2%. Planes set record in airframe weight and ship deliveries hit all-time high, landing craft rising 50%. Heavy guns show big gain.

WAR PRODUCTION in May was a fitting preface to invasion. At $5,545,000,000 (preliminary), munitions output was right on schedule, 2% over April. And the weapons that spearheaded the invasion—aircraft, landing vessels, naval ships, heavy artillery—also led the way in production.

Dollarwise, the aircraft program made the scheduled $100,000,000 gain over April (table, page 5). On an airframe-weight basis, planes rose 9% to reach an unscheduled new peak. Heavy bombers did particularly well, but all major combat types met or exceeded expectations.

RECORD MONTH IN SHIPS

The Navy had the biggest month in its construction history. Ship completions jumped to an all-time high of 400,000 displacement tons, or almost 100,000 over the previous peak of last November. Most spectacular performers were the all-important landing vessels. Running about 10% ahead of a stiff schedule, deliveries reached a total of 198,000 tons, more than 50% over the record set in April.

Heavy artillery came through with a bang, 27% over April and 12% over schedule. All types of big guns shared in the gains, none fell short of the goal. Output of spare cannon—quantitatively a small item but strategically an important one—also ran well ahead of forecast. Heavy artillery ammunition was on schedule.

For the rest, there was the usual mixed showing. Airborne radar climbed 24%, but still missed the goal by a slight margin; combat and motor vehicles declined but still did slightly better than plan. Some difficult programs, such as heavy-heavy trucks, remained difficult and didn't quite come up to expectations. But altogether, the last preinvasion month made plain that we're getting substantially what we set out to get. That production is still under the peak reached last November is a sign of success, not of failure; the pipelines are full, the strategic requirements are now replacement requirements.

RISE IN PRODUCTIVITY

Moreover, the gain in output last month was made despite an estimated drop of another 100,000 in munitions employment. This indicates a rise in productivity over the rate of recent months (WP-Jun3'44,p1).

Hence the rising schedules in the months ahead raise few grave or urgent questions. They should be substantially met—if need be. The central question now, on which all others hinge, remains the outcome of the invasion.

A serious setback or a quick victory would obviously bring changes in current production schedules. In any event we can expect some spotty increases and decreases as battle experience proves that we have more of some weapons than we need, less of others. But estimating the size and shape of the munitions program at the end of the year is now an academic pastime.

Meanwhile, however, May also dramatized the new chapter in the old manpower story. On the one hand, labor shortages

in several basic industries, notably forge-and-foundry, may slow up key programs (WP-Jun3'44,p11). On the other hand, the Brewster affair headlined the problem of laid-off workers and "cutback jitters." Both point to what's likely to be the main problem from now on in: keeping enough war workers on the job, maintaining high productivity and morale while some war programs are rising, others falling, and almost all subject to drastic revision.

Altogether, it can't be repeated too often that victory in Europe—not to mention the Pacific—hasn't been won yet: there's still a big war production job to do. Nevertheless the fact remains that management and labor have an understandable tendency to beat the gun, to look to their peacetime prospects. And if it's a nice question which is harder—preparing for the worst or preparing for the best—the basic problem right now is that we have to be ready for either.

Aircraft

May was a great month for planes. The 8,902 accepted ran 559 ahead of April; and with heavy bombers making a brilliant showing, airframe weight scored a gain of 9%. Indeed, at 89,829,000 pounds, it surpassed by more than 700,000 pounds the record set in March, when acceptances hit a numerical peak of 9,117 planes.

Monthly gains were well distributed throughout the list and more models were precisely on the mark than ever before, indicating that the program has reached a new high in realistic scheduling. And in contrast to April, when schedule was missed by 3%, May was 2% ahead.

Acceptances of 88 B-29 Superfortresses overshot the goal by six planes. Boeing at Wichita accounted for five of these, turning out 65 Superforts against a slate of 60; the other was chalked up by Martin, Omaha. In April, it was Boeing, Wichita, that pulled the overall total of B-29 acceptances down to 51, or 19 planes below schedule. That's when the plant began to make modifications directly on the assembly line instead of at modification centers. More modifications are on the way; but considering the job done by Wichita in May, they should be taken in stride.

400 SUPERFORTRESSES

Including three experimental models, more than 400 Superfortresses have already been accepted since their debut in July, 1943; here's where they came from:

Boeing, Wichita.....	332
Bell, Atlanta.....	50
Boeing, Renton.....	17
Martin, Omaha.....	6
Total.....	405

All Fort and Liberator plants were up to or ahead of schedule, their combined output running to 1,488 planes, 6% better than called for. Boeing, Seattle, which came through with 300 Flying Fortresses compared with a goal of 270, is being rescheduled at 300 per month to get into full B-29 production by the end of the year instead of in February, 1945.

Paralleling the performance in heavy bombers, May left little to be desired

IN THIS ISSUE:

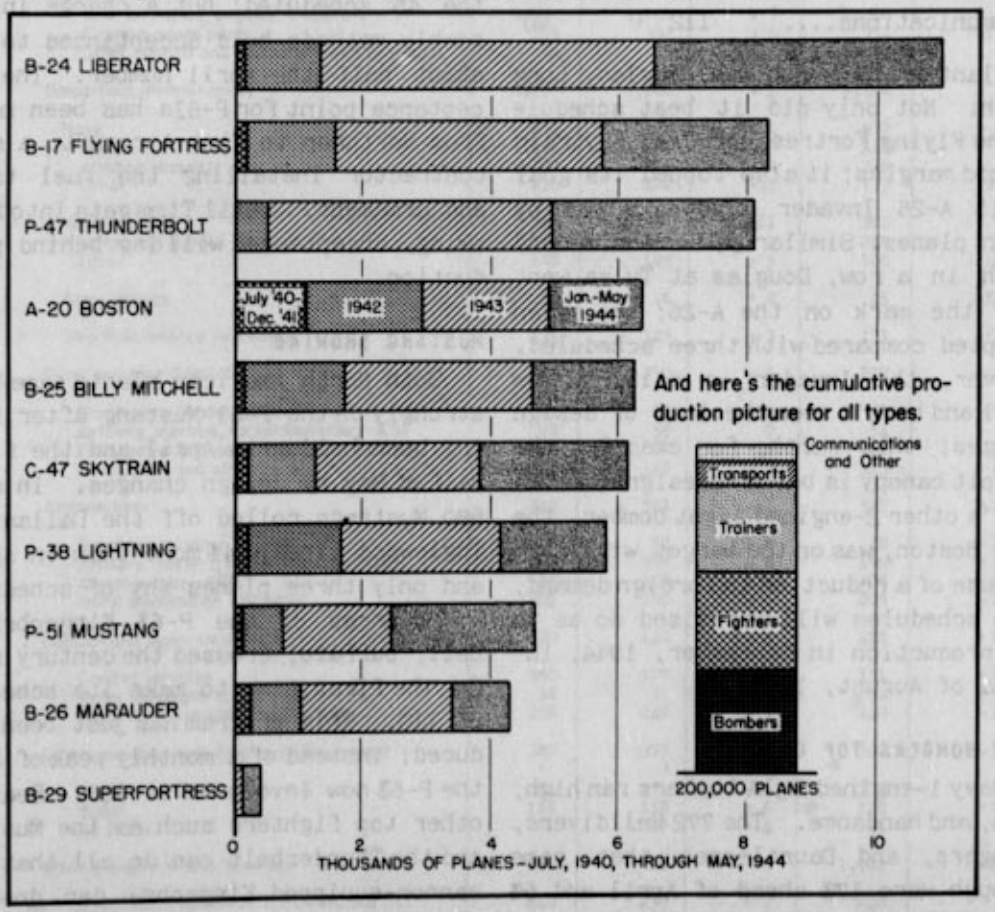
in medium bombers, light bombers, and fighters. Also, more transports were turned out than ever before: 992 of all types. Even Douglas, Chicago, was a strong spot, acceptances of 16 C-54 Skymasters beating schedule for the first time—by one plane. But chiefly because of a deficit in the C-46 Commando, transports were 6% off schedule on an airframe-weight basis.

In all, 81 Commandos were accepted, 35% short of the plan. At Curtiss, Buffalo, it was the old story of "more modifications for the assembly line." Here, P-40 Warhawk production was even shut down for a spell to release workers for the Commando, but inexperience made them more of a hindrance than a help; besides, the flow of "bits and pieces" got out of control. So the final count at Buffalo was 78 Commandos instead of 118. The Curtiss plant at Louisville, a newcomer to the Commando program, came through with three out of a schedule of six.

Changes in major groups against April

THE "BIG TEN" OF THE INVASION

Here are the planes which will play the major role in blasting enemy fortifications, transporting men and materiel, and covering Allied landings in France.



and the W-10 schedule follow (airframe-weight basis):

	May Acceptances as % of	
	April	W-10
All military planes	109%	102%
Army procured...	110	103
Navy procured...	107	97
Combat planes.....	109	103
Superbombers.....	173	107
Heavy bombers....	109	106
Patrol bombers...	109	87
Medium bombers...	101	104
Light bombers....	109	108
Fighters (incl. naval reconn.)..	103	98
Transports.....	112	94
Trainers.....	102	117
Communications....	112	90

Plant of the month was Douglas, Long Beach. Not only did it beat schedule on the Flying Fortress and C-47 Skytrain by good margins; it also topped its goal of 15 A-26 Invader light bombers by seven planes. Similarly, for the second month in a row, Douglas at Tulsa went over the mark on the A-26; the seven accepted compared with three scheduled. However, the Invader is still a new model and hasn't seen the last of design changes; this month, for example, the cockpit canopy is being redesigned. The Army's other 2-engined light bomber, the A-20 Boston, was on the target with 297. Because of a reduction in foreign demand, A-20 schedules will be revised so as to end production in September, 1944, instead of August, 1945.

NAVY BOMBERS TOP GOAL

Navy 1-engined light bombers ran high, wide, and handsome. The 772 Helldivers, Avengers, and Dauntlesses that came through were 17% ahead of April and 5% above schedule. Gains would have been greater still except that Douglas, El Segundo, is spreading out work on the SBD Dauntless dive bomber in order to help keep its labor force together until work on the new BTD dive bomber picks up. By contrast, the Army completed its dive-bomber program last month as 29 RA-35 Vengeances came through at Consolidated Vultee, Nashville; this clears the plant for work on the P-38 Lightning.

Only one P-59 Aircomet, the Army's 2-engined jet-propelled fighter, was ticketed for May at Bell, Buffalo, but six were accepted. And at Lockheed, Burbank, the Lightning—favored fighter in the Pacific because of its two engines—was on the beam at 352. Production of Northrop's night-fighting, 2-engined P-61 Black Widow came close to the 45 scheduled; but a change in assembly methods held acceptances to 15, about half the April number. The acceptance point for P-61s has been moved from Northrop to Timm Aircraft, a subcontractor installing the fuel tanks and armament. Until Timm gets into full swing, acceptances will lag behind production.

MUSTANG SHOWING

Both North American plants came back strongly on the P-51 Mustang after having been held up in April and the first half of May by design changes. In all, 580 Mustangs rolled off the Dallas and Inglewood lines, 44% more than in April and only three planes shy of schedule. Acceptances of the P-63 Kingcobra at Bell, Buffalo, crossed the century mark for the first time to make its schedule of 110. This program has just been reduced; instead of a monthly peak of 450, the P-63 now levels out at 300. Reason: other top fighters such as the Mustang and the Thunderbolt can do all that the cannon-equipped Kingcobra can do—and more.

Because Brewster turned out 122 Corsairs as against a schedule of 117, Navy

fighters beat their schedule of 1,391 Corsairs, Wildcats, and Hellcats by five planes. Brewster, Johnsville, is slated for use as a Navy modification center following the plant's cut-off date in July. At Long Island City, Brewster may make some parts for Goodyear, Akron, and Chance Vought, Stratford, the remaining Corsair producers; but this work is unlikely to fill up the plant.

Naval Ships

The record-breaking 403,000 displacement tons (preliminary) completed by the Navy last month were 56% over April, 1% over schedule. Landing vessels ac-

PRODUCTION PROGRESS – Preliminary

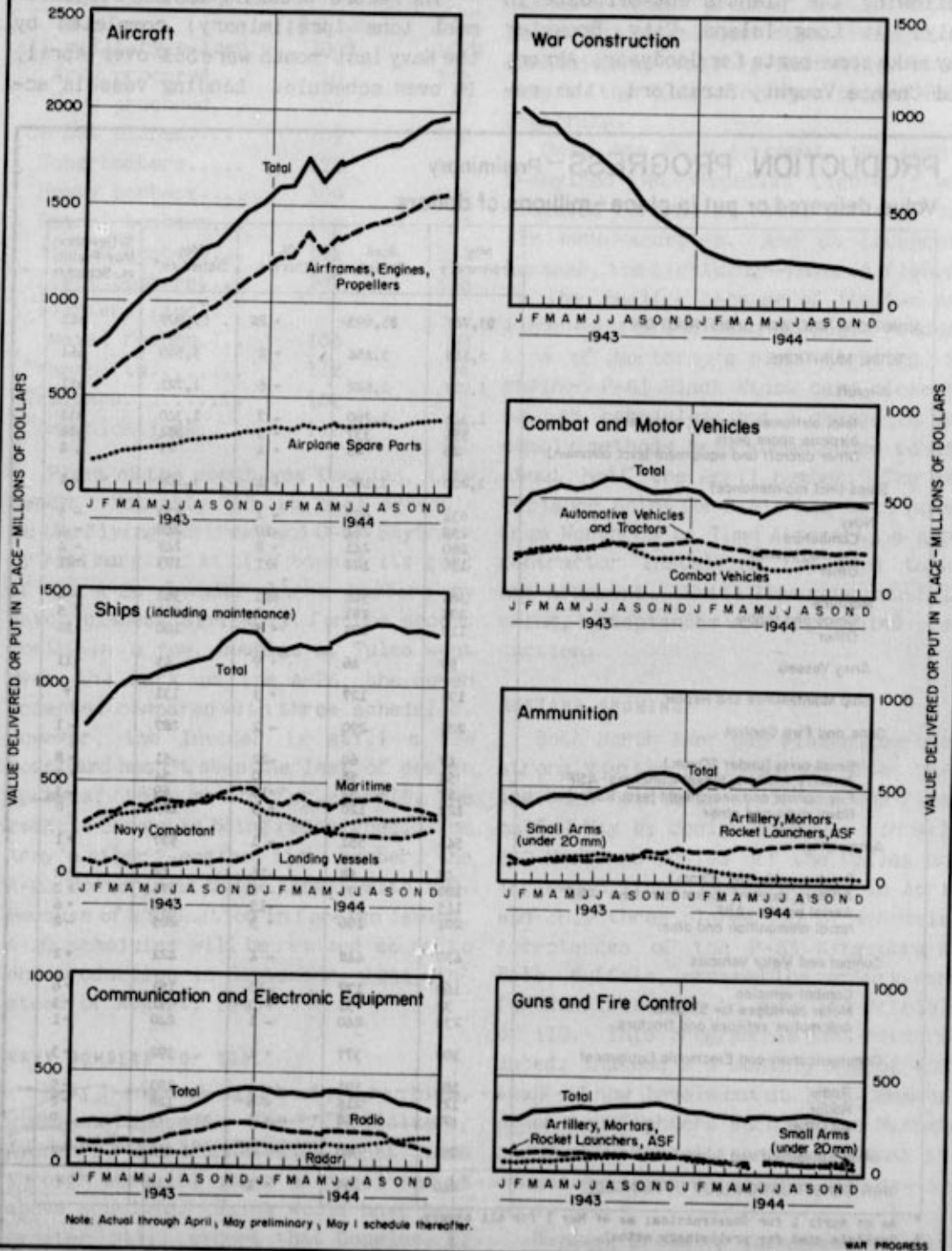
Value delivered or put in place – millions of dollars

	May Preliminary	April Actual	% Change	May Schedule*	% Deviation May Prelim. vs. Schedule
MUNITIONS AND WAR CONSTRUCTION	$5,785	$5,693	+ 2%	$5,809	nil
TOTAL MUNITIONS	5,545	5,454	+ 2	5,569	nil
Aircraft	1,725	1,622	+ 6	1,721	nil
Total airframes, engines, propellers	1,344	1,260	+ 7	1,340	nil
Airplane spare parts	355	337	+ 5	354	nil
Other aircraft and equipment (excl. commun.)	26	25	+ 4	27	- 4
Ships (incl. maintenance)	1,200	1,186	+ 1	1,208	- 1
Navy	634	627	+ 1	670	- 5
Combatant	238	264	-10	248	- 4
Landing Vessels	260	241	+ 8	249	+ 4
Other	136	122	+11	173	-21
Maritime	385	386	nil	362	+ 6
Cargo and supply	275	281	- 2	262	+ 5
Other	110	105	+ 5	100	+10
Army Vessels	50	46	+ 9	45	+11
Ship Maintenance and Repair	131	127	+ 3	131	†
Guns and Fire Control	285	290	- 2	287	- 1
Small arms (under 20mm.)	47	60	-22	51	- 8
Artillery, mortars, rocket launchers - ASF	58	58	0	54	+ 7
Fire control and searchlight (excl. Radar)	57	52	+10	59	- 3
Naval guns and other	123	120	+ 3	123	0
Ammunition	545	551	- 1	537	+ 1
Small arms (under 20mm.)	49	58	-16	48	+ 2
Artillery, mortars, rocket launchers - ASF	180	195	- 8	176	+ 2
Aerial bombs - ASF	115	102	+13	108	+ 6
Naval ammunition and other	201	196	+ 3	205	- 2
Combat and Motor Vehicles	430	448	- 4	422	+ 2
Combat vehicles	160	177	-10	151	+ 6
Motor carriages for SP guns	32	31	+ 3	31	+ 3
Automotive vehicles and tractors	238	240	- 1	240	- 1
Communication and Electronic Equipment	380	377	+ 1	392	- 3
Radio	184	191	- 4	193	- 5
Radar	125	118	+ 6	128	- 2
All Other	71	68	+ 4	71	0
Other Equipment and Supplies	980	980	0	1,002	- 2
WAR CONSTRUCTION (GOV'T. FINANCED)	240	239	+ 1	240	†

* As of April 1 for Construction; as of May 1 for all others.
† Schedule used for preliminary actual.

MUNITIONS OUTPUT RESUMES CLIMB

Aircraft moves back into plus column after April dip; ships and communication equipment also gain. Guns, ammunition, and combat vehicles decline as planned.



Note: Actual through April, May preliminary, May 1 schedule thereafter.

WAR PROGRESS

counted for about half the tonnage, but three big ships also came through to swell the total: the 10,000-ton cruiser "Astoria," the 27,000-ton aircraft carrier "Ticonderoga," and the 45,000-ton battleship "Wisconsin." All major categories shared in the gains, and only auxiliary and minor craft fell appreciably short of schedule (thousands of displacement tons):

	Deliveries	% Change From April	% Change From Schedule
Combatants.....	142	+69%	-1%
Landing vessels.	198	+51	+9
Patrol & mine...	13	nil	-7
Aux. & all other	50	+61	-11
Total.....	403	+56%	+1%

The spectacular closing rush of the November-May landing-vessel program carried it within an ace of the 750,000-ton goal set by the Joint Chiefs of Staff (chart, below); it wiped out all but 12,000 tons of the deficit accumulated over the first five months of the program, and this was presumably made up in the first week of June. All types made the original goal except the LSTs and LVTs. And the LSTs have been going at a terrific clip; 82 were completed in May—seven more than scheduled—compared with 28 as recently as March. They missed by only nine the seven-month goal of 260 ships.

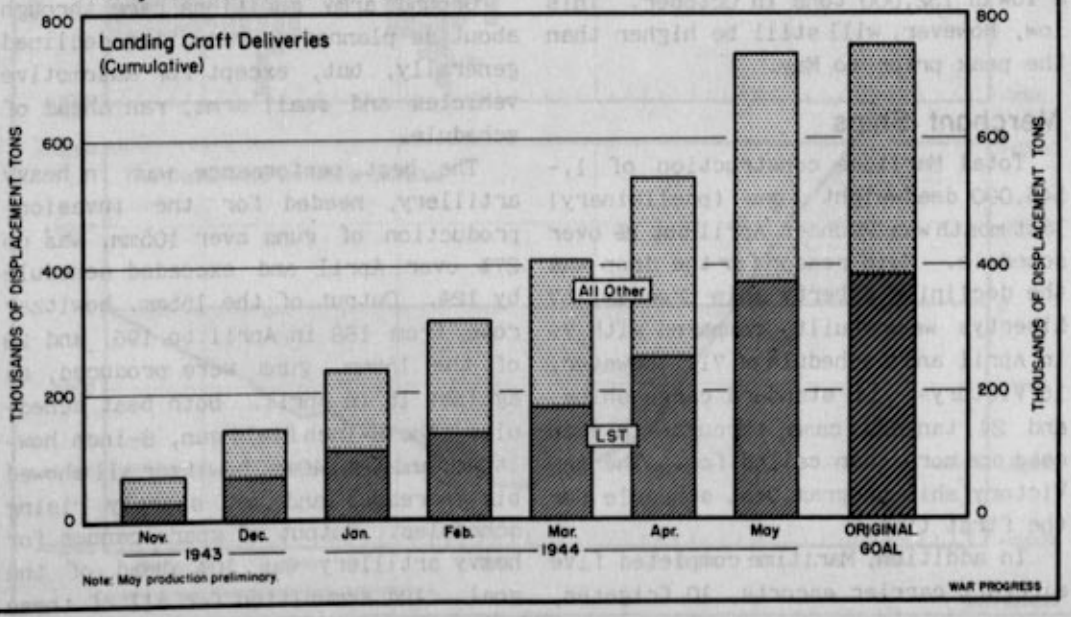
NEW LSMs GOING STRONG

Also notable was the new medium landing ship—a 490-ton seagoing type, the first three of which were completed in April. This proved one of the very few exceptions to the rule that new programs have trouble getting under way. The 39 LSMs delivered last month carried the program more than 60% over the original goal of 26 for the seven-month period.

The May peak in total ships completed will probably remain the Navy's all-time

BIG PUSH IN MAY FOR BIG PUSH IN JUNE

Last month, deliveries of landing craft shot up, almost meeting the original goal set by the Joint Chiefs of Staff.



KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program-Checks paid (millions of dollars)	1,601	1,664	1,776	1,802	1,604
War bond sales-E, F, G, (millions of dollars)	274	163	169	211	117
Money in circulation (millions of dollars)	22,112	21,911	21,814	19,940	17,196
Wholesale prices (1926=100)					
All commodities	103.9p	103.9p	103.7p	102.8	103.9
Farm products	123.9p	123.7p	123.3p	121.8	126.3
Foods	104.2	104.9	105.0	105.6	110.6
All other	98.7p	98.7p	98.6	97.6	96.6
Petroleum:					
Total U.S. stocks* (thousands of barrels)	410,434	410,926	410,660	429,328	434,712
Total East Coast stocks* (thousands of barrels)	59,537	57,831	57,067	66,840	44,943
East Coast receipts (thousands of barrels, daily average)	1,786	1,777	1,762	1,412	1,301
Bituminous coal production (thousands of short tons, daily average)	2,096	2,050	2,060	2,147	1,990
Steel operations (% of capacity)	97.8%	97.5%	99.5%	99.3%	97.5%
Freight cars unloaded for export, excluding grain (daily average)					
Atlantic Coast ports	3,200	3,436	3,440	2,922	2,314
Gulf Coast ports	543	425	348	393	340
Pacific Coast ports	1,666	1,648	1,536	1,311	1,344
Department store sales (% change from a year ago)	n.a.	- 11%	- 9%	-7%	- 2%

p. Preliminary *Excludes military-owned stocks

high for the war. The landing-vessel program, for example, now turns downward. Schedules call for a sharp drop to 157,000 tons in June, then a tapering off to a low of 132,000 tons in October. This low, however, will still be higher than the peak prior to May.

Merchant Ships

Total Maritime construction of 1,545,000 deadweight tons (preliminary) last month was 3% under April but 1% over schedule. Main reason for the drop was the declining Liberty ship program; 67 Libertys were built, compared with 79 in April and a schedule of 71. However, 16 Victorys, 14 standard cargo ships, and 24 tankers came through—in each case one more than called for. The new Victory ship program beat schedule for the first time.

In addition, Maritime completed five aircraft carrier escorts, 10 frigates, and five transports. Military types as a whole ran 28% ahead of schedule.

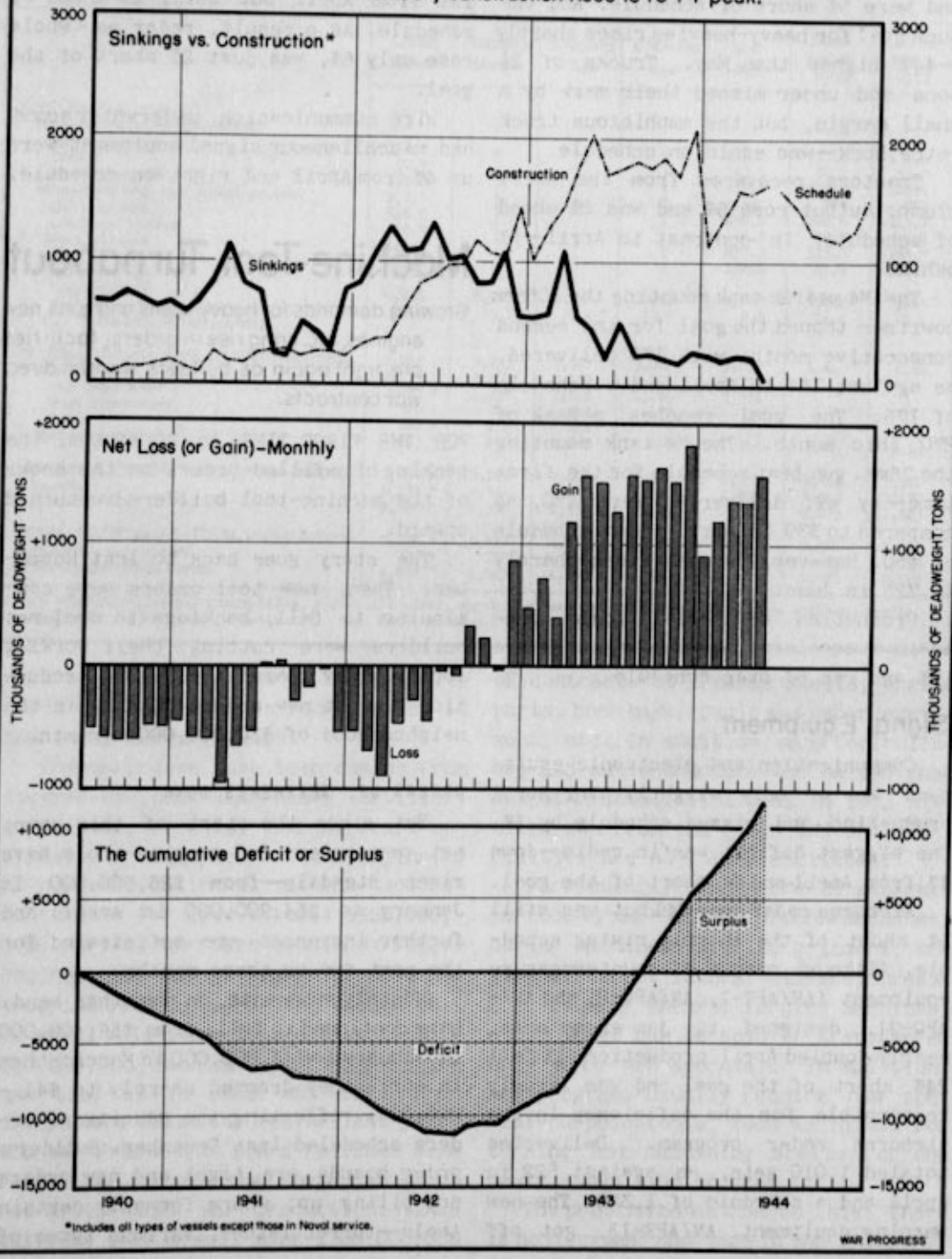
Army Ordnance

Ground army munitions came through about as planned. Production declined generally, but, except for automotive vehicles and small arms, ran ahead of schedule.

The best performance was in heavy artillery, needed for the invasion; production of guns over 105mm. was up 27% over April and exceeded schedule by 12%. Output of the 155mm. howitzer rose from 168 in April to 196, and 28 of the 155mm. guns were produced, as against 15 in April. Both beat schedule. The 8-inch field gun, 8-inch howitzer, and the 240mm. howitzer all showed big increases and met sharply rising schedules. Output of spare cannon for heavy artillery was 10% ahead of the goal. And ammunition for all of these

SCORECARD ON MERCHANT SHIPPING

Sinkings of United Nations vessels in May drop to lowest level of the war – 82% under the previous low in November; construction rises to 1944 peak.



*Includes all types of vessels except those in Naval service.

WAR PROGRESS

guns came through right on schedule.

The failure of automotive vehicles to meet schedule was due primarily to heavy-heavy trucks, which dropped 3% and were 5% short of schedule. And the June goal for heavy-heavies rises sharply —44% higher than May. Trucks of 2½ tons and under missed their mark by a small margin, but the amphibious truck —the Duck—was again on schedule.

Tractors recovered from the April slump; output rose 5% and was 2% ahead of schedule, in contrast to April—5% behind.

The M4 medium tank mounting the 105mm. howitzer topped the goal for the second consecutive month, with 179 delivered, as against 154 in April and a schedule of 175. The goal reaches a peak of 270 this month. The M4 tank mounting the 76mm. gun beat schedule for the first time—by 4%; deliveries were 470, as compared to 339 in April and a schedule of 450. However, the goal rises sharply to 725 in June.

Production of aerial bombs, once again an accelerating program, increased 13% and ran 6% over schedule.

Signal Equipment

Communication and electronic equipment was up only slightly over April production and missed schedule by 3%. The biggest deficit was in radio—down 4% from April and 5% short of the goal.

Airborne radar rose 24% but was still 3% short of the sharply rising schedule. Although output of countermeasure equipment (AN/APT-1, AN/APQ-2, and AN/-APQ-9), designed to jam enemy sets, nearly doubled April production, it fell 24% short of the goal and was largely responsible for the deficiency in the airborne radar program. Deliveries totaled 1,010 sets, as against 522 in April and a schedule of 1,325. The new warning equipment, AN/APS-13, got off to a good start: 62 sets were delivered against a schedule of 40.

In sharp contrast to airborne, ground radar—a declining program—was down 19% from April but still 2% ahead of schedule. As a result, radar as a whole rose only 6%, was just 2% short of the goal.

Wire communication, underwater sound, and miscellaneous signal equipment were up 4% from April and right on schedule.

Machine-Tool Turnabout

Growing demands for heavy shells and guns, new engines, etc. bring rise in orders; facilities are tight again as builders work on direct war contracts.

FOR THE FIRST TIME in 20 months, the backlog of unfilled orders on the books of the machine-tool builders has turned upward.

The story goes back to last November. Then, new tool orders were continuing to fall, backlogs to decline; builders were cutting their working forces. They geared their 1944 production to net new orders running in the neighborhood of $30,000,000 a month.

ORDERS UP, SHIPMENTS DOWN

But since the start of this year, net new orders for machine tools have risen steadily—from $26,500,000 in January to $54,900,000 in April; and further increases are anticipated for the next two or three months.

Monthly shipments, on the other hand, have continued to fall, from $56,400,000 in January to $51,800,000 in March; then in April they dropped sharply to $41,-200,000, reflecting the paucity of orders scheduled last December. Builders' order boards are tight and new orders are piling up; where formerly certain tools—turret lathes, various types of

SELECTED MONTHLY STATISTICS

Food Production – Employment – Expenditures – Retail Store Sales

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
FOOD PRODUCTION							
Dairy products (million pounds)							
Butter, creamery	130.8	s	s	s	150.2	147.5	131.4
Cheese	87.9	|	|	|	83.6	58.3	52.3
Evaporated milk	318.2	|	|	|	288.9	203.9	185.0
Meats-total (incl. lard, million pounds)	1,746	|	|	|	1,384	955	957
Beef and veal	546.9	|	|	|	466.9	390.6	443.7
Lamb and mutton	58.7	|	|	|	64.1	50.8	54.2
Pork, incl. lard	1,140.1	|	|	|	853.3	513.2	458.7
Lard	221.8	s	s	s	132.8	85.6	66.1
Poultry and eggs							
Eggs (millions)	6,978	6,763	5,346	2,957	6,727	5,042	5,005
Poultry (receipts of 5 principal markets, million pounds)	19.7	16.7 e	20.4 e	53.2	9.5	16.2	18.6
FEDERAL CIVILIAN EMPLOYMENT (thousands)	3,048 r	3,033	3,027	3,000	3,049	n.a.	n.a.
War agencies	2,175 r	2,171	2,162	2,171	2,234	|	|
War department	1,277 r	1,238	1,240	1,276	1,394	|	|
Navy department	720 r	714	704	677	619	|	|
Other	222 r	219	218	218	221	|	|
Nonwar agencies	873 r	862	865	829	815	n.a.	n.a.
CONSUMER EXPENDITURES (million dollars)	7,958 p	7,272	7,402	7,672	7,250	5,042	5,300
Goods	5,432 p	4,742	4,862	5,237	4,826	3,169	3,477
Services	2,526 p	2,530	2,539	2,435	2,424	1,873	1,823
RETAIL STORE SALES-TOTAL (million dollars)	5,408 p	5,592	4,827	5,721	5,212	3,471	3,647
Durable goods stores	720 p	750	631	807	792	885	1,098
Nondurable goods stores	4,688 p	4,843	4,196	4,914	4,420	2,586	2,549

*Food Production, Retail Store Sales, April; all other, March. s Seasonal influences invalidate month-to-month comparisons. r Revised. e Estimated. n.a. Not available. p Preliminary.

drills, automatic screw machines, etc.—could be delivered in four months, it now takes seven or eight.

The new orders have been coming from stepped-up programs—heavy artillery ammunition, rockets, and aircraft engines, for example. At the beginning of the year, estimated machine-tool requirements for 1944 totaled $325,000,000; now they have been boosted to $600,000,000 and may go higher if more new programs come through. And though this is still well under 1943 output of $1,180,000,000, machine-tool facilities are now tied up in other war work. When orders were low at the end of last year, the War Production Board released some facilities, urged the companies to go out after other war production. Thus builders took on well over $100,000,000 of contracts to produce shells, engine parts, bomb bays, radio and radar equipment, etc. In addition, many toolbuilders and subcontractors who helped push output to an all-time peak in 1942 have withdrawn from the field and their facilities are no longer available.

Particularly tight are 20 general-purpose types—automatic screw machines, boring machines, drills, grinders, engine and turret lathes, millers, pressers, shapers, shears, forging machines, etc. These can be sold or transferred only with WPB approval. In addition, new programs usually require new special-purpose tools, such as lathes for turning and machining shells for the heavy ammunition program.

The problem comes down to this: There is no manpower shortage in the industry,

but workers and facilities formerly devoted to toolbuilding are now employed in munitions production. WPB is accordingly trying to get the Army and Navy, wherever it is practicable, to pull munitions contracts out of the machine-tool plants and place them elsewhere. Otherwise delayed deliveries and increasing backlogs of machine tools will continue.

War Progress Notes

NEW LOW IN SINKINGS

LAST MONTH, for the first time since the war began, not a single United States merchant ship was lost—this despite the fact that Atlantic and Pacific ports have been handling record volumes of freight in preparation for the invasion (WP-May20'44,p9). Only five merchant vessels in all—some 35,000 deadweight tons—were lost by the United Nations. One of these, a small ship, sank in an accident. Thus sinkings dropped to the lowest level of the war—82% under the previous low of last November.

For the first five months of this year, sinkings amounted to some 920,000 deadweight tons, as against 3,300,000 tons in the same period last year. Indeed, sinkings have dropped so low that ordinary perils of the sea—accidents, collisions, etc.—loom large in comparison with sinkings by enemy action. "Ordinary perils" accounted for 25% of all sinkings so far this year; in April they were responsible for more than 40%.

On the other hand, United Nations construction in May rose to more than 1,600,000 deadweight tons (excluding conversions) for the 1944 high. Indeed, construction has been over the million-ton-a-month mark ever since September, 1942 (chart, page 9). As a result, the United Nations-controlled merchant fleet (including military and neutral merchantmen) rose to some 67,000,000 deadweight tons at the end of March, as against 43,000,000 tons in the summer of 1942, the lowest point during the war.

FORD TO BE FIRST

LAST YEAR the 20-odd plants in the U.S. produced aircraft engines with a total of 339,500,000 horsepower. Pratt & Whitney, East Hartford, led, with Buick, Melrose Park, second, and Wright Aeronautical, Cincinnati, third. Seven plants turned out more than 30,000,000 horsepower each, as follows:

Plant	Horsepower (000s)
Pratt & Whitney, East Hartford	52,500
Buick, Melrose Park	39,000
Wright Aeronautical, Cincinnati	37,800
Allison, Indianapolis	36,300
Chevrolet, Tonawanda	35,100
Studebaker, South Bend	34,500
Ford, Dearborn	32,000

According to the current WE-9 schedule (now being revised)—and giving effect to actual production in the first quarter—Ford jumps into the Number 1 spot this year with a virtually doubled goal of 62,500,000 horsepower, and Pratt & Whitney drops to third place with 48,300,000 horsepower. Wright, Cincinnati, is second (60,800,000), displacing Buick, which falls to sixth place (44,400,000).

Ford, Dearborn, and Wright Aeronautical, Cincinnati, are each slated for greater aircraft engine output this year than the entire industry produced in 1941: 50,700,000 horsepower.

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