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DEFENSE PROGRESS

NUMBER 51

AUGUST 15, 1941



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

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DEFENSE PROGRESS

BRIEFS OF CONTENTS



BUREAU OF RESEARCH AND
STATISTICS • STACY MAY, CHIEF

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

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- The Japanese war effort, now almost 30 percent of her national income, cannot approach the magnitude of the current defense efforts of the major Western Powers. Price rises, flagging production, mounting debt, and a national income close to the margin of subsistence all hinder Japan's war effort. 2
- The index of the monthly rate of production of military airplanes during July was 34, one point behind the June rate. At 12.1 the index of total production of military airplanes at the end of July was close to the 12.4 scheduled total production index for that date. 8
- Half of the machine tool deliveries by United States producers, as measured in terms of value, in 1940 were for export. The down trend of exports since October 1940, coupled with the large scheduled increase in 1941 deliveries will make it possible in current months to retain in the United States a much larger proportion of machine tool deliveries. 11
- Fewer employees were involved in the 15 major industrial strikes in effect in July than in the 11 major strikes in June. The number of man-days idle, however, rose from 103 thousand in June to 160 thousand in July. Of the 97 labor disputes followed by the Labor Division of OPM during July, 56, involving approximately 74 thousand workers, were settled during the month. 15
- Employment in 18 major defense industries has increased 80 percent since 1939. Employment in all manufacturing rose 28 percent over the same period. The accession rate for workers in all industries combined rose in June 1941 to the highest point for any June since 1933 and the Lay-off rate for all manufacturing fell to a new all-time low. 17
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THE JAPANESE WAR EFFORT

The Japanese war effort, now almost 30 percent of her national income, cannot approach the magnitude of the current defense efforts of the major western powers. Price rises, flagging production, mounting debt, and a national income close to the margin of subsistence all hinder Japan's war effort.

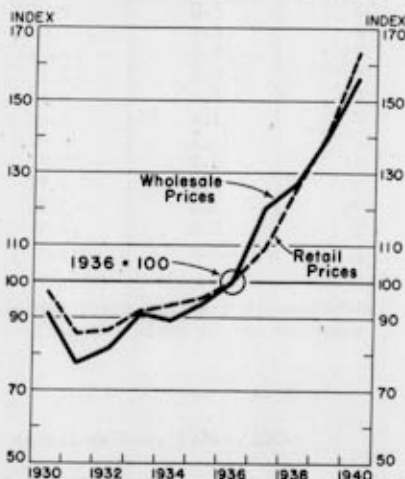
In the light of her present productive power and financial position, Japan cannot equal the war effort launched by the more important Western Powers, although she is straining her resources to the limit of their capacity. It is extremely unlikely that the Japanese can equal the proportionate efforts of the leading Western Powers because of the smaller surplus of income over subsistence characteristic of the Japanese economy.

War expenditures in Japan, it is estimated, are now absorbing somewhat less than 30 percent of the national income. This compares with an estimated 7 percent for the period 1933-1936, just prior to the beginning of the "China Incident," (as the Sino-Japanese War is called in Japan), and 26 percent in 1939, two years after the outbreak of the "Incident." For the years 1933-1936 Great Britain's military expenditures averaged about 3 percent of her national income, Canada less than 1 percent, Germany about 11 percent, and the United States about 1 1/2 percent. The current Japanese effort may be contrasted with the estimated 45-50 percent for Great Britain, 40 percent for Canada, 50-60 percent for Germany, and 20 percent for the United States.

Military expenditures in Japan, as shown in the accompanying table, rose from 400 million yen ^a in 1930 to 1.1 billion yen in 1936, the year

^a The yen has varied in price from 49 cents in 1930 to 23 cents currently.

CHART 1-JAPANESE RETAIL AND WHOLESALE PRICES



before the China Incident, i.e., almost tripled. By 1939 they had risen to 6.5 billion yen, a rise of 500 percent since 1936. In the same period, 1936-1939, national income rose from 16.3 billion yen to 25.5 billion yen, or a rise of 60 percent. However, this rise in national income and military expenditures re-

flects in large part the influence of soaring price levels since 1936, as shown in Chart 1. On the other hand, the sharp increase in military expenditures has been a factor in raising prices.

The Japanese national income and military expenditures for the

JAPANESE NATIONAL INCOME AND MILITARY EXPENDITURES ^a
1930-1941

Year	National Income	Military Expenditures ^b	National Income Adjusted for Changes in Purchasing Power ^c	Military Expenditures Adjusted for Changes in Purchasing Power ^c	Military Expenditures as Percent of National Income
	(billion yen)			(percent)	
1930	10.6	.4	10.9	0.5	4
1931	9.2	.5	10.7	0.5	5
1932	10.0	.7	11.6	0.8	7
1933	12.1	.9	13.1	1.0	7
1934	13.0	.9	13.9	1.0	7
1935	14.5	1.0	15.2	1.1	7
1936	16.3	1.1	16.3	1.1	7
1937	20.5	2.8	18.7	2.6	14
1938	22.5	5.3	17.9	4.2	24
1939	25.5	6.5	18.1	4.6	26
1940	n.a.	7.8	n.a.	4.8	^d
1941	n.a.	8.1	n.a.	n.a.	^d

^a National income figures are for the calendar year; military expenditures for the fiscal year ending three months after the close of the calendar year.

^b Estimated expenditures.

^c Adjustment by Bank of Japan's index of retail prices, 1936 = 100.

^d Probably not in excess of 30 percent of national income.

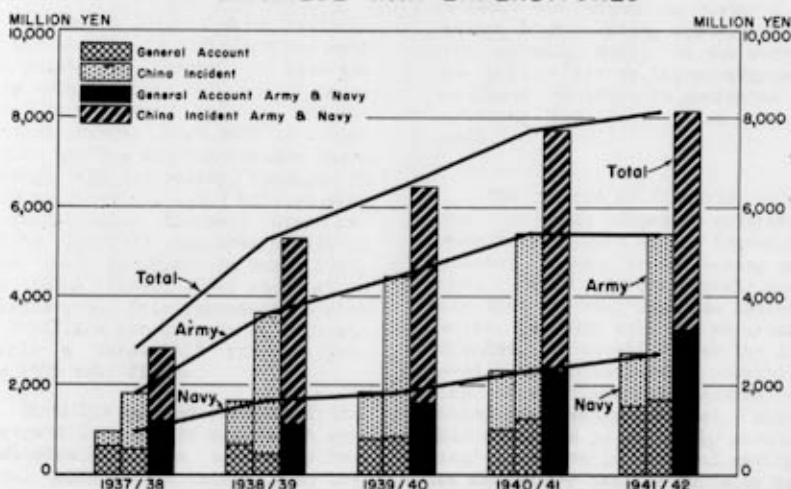
n.a. Not available.

period in terms of 1936 prices are also given in the table. As can be seen, national income in real terms reached a peak in 1937 and then declined. In view of the slump experienced in 1940, it is likely that a reduced national income in terms of 1936 prices was true for that year also. On the other hand, military expenditures have continued to rise steadily.

The major factor in the rise of military expenditures has been the China Incident. Since the outbreak of this "Incident" the Japanese government has segregated its military expenditures in two accounts: the General Account, which includes the ordinary recurring expenditures of the military establishment, and the China Incident Special Account, which consists of funds designated

for the military establishment in the China War. Since only authorized but not actual expenditures have been disclosed, some difficulty arises in determining the total actual costs of the Sino-Japanese War and the general rearmament program. However, by referring to the allocation of authorized expenditures for the Army and Navy in both accounts a close approximation to total actual expenditures by service arms may be made. These are shown in Chart 2. General Account expenditures which presumably go largely to rearmament have increased significantly since the start of the European War. It is evident also that the Army has been fairly consistently the recipient of the lion's share of the military appropriations and expenditures.

CHART-2 ... ESTIMATED DISTRIBUTION OF JAPANESE WAR EXPENDITURES



The China Incident Special Account has been the source of most of the funds used for the prosecution of the Sino-Japanese War. This account has derived most of its resources from the issuance of China Incident Bonds. About 80 percent of the total authorized expenditures of 22.3 billion yen for this account for the period 1937-1941 has been met by borrowing. The balance of the resources has come partly from tax revenues, and partly from transfers from other accounts. The China Incident financing, therefore, has been largely responsible for changing the Japanese fiscal position from that of the fiscal year 1936-1937, when nonborrowed revenues composed about 80 percent of government expenditures, to the one in fiscal year 1940-1941 when borrowed revenues were much greater despite important increases in nonborrowed revenues.

Financing the Program

In March 1940 a major revision of the entire tax structure was made in which the income tax base was made much broader; consumption taxes were more widely applied and important changes were made in corporation profits and inheritance taxes. Through this tax policy, receipts in 1939 amounted to 2,607 million yen, a half-billion increase over receipts for 1938 and over a billion more than in 1936. In March 1941, the total funded debt stood at 30 billion yen. This represents a rise of 7 billion yen over March 1940 and nearly a three-fold increase over the 1936 debt figure.

Much the largest portion of the aggregate increase in government expenditures has been covered by internal bonds issued initially to the Bank of Japan and the Treasury De-

posit Bureau. The funds of the latter consist of savings of the masses. In 1940 the public proper held about 15 percent of the total bond issues as compared with 25 percent for the United States. That the Bank of Japan has been experiencing difficulty in disposing of the bond issues to private institutions is indicated by the substantial increase in the amount held by the Bank since 1937, until in 1940 approximately 4 billion yen in bonds were included in the Bank's portfolio.

The unsold portion of the national bond issues which had to be taken over by the Bank of Japan was 21.5 percent in 1940 as compared with 10.8 percent in 1939. The factors contributing to this increase in the unsold portion of national bond issues may be summarized as the heavy demand for industrial funds, the general tightness of the money market, the slump in business activity, higher living costs, and, to some extent, doubt on the part of the public as to the government's continued ability to guarantee the servicing and face value of the bonds.

The method of financing relied upon by the Japanese government leans heavily upon either increasing national income or increasing savings. Since current reports indicate that the real Japanese national income for 1940 will not be greatly expanded, if at all, over the 1939 level, the inflationary possibilities of the financial measures described are greatly enhanced, unless this condition is offset by substantial increases in national savings. The demand for capital funds by both government and industry has made

necessary the marshalling of all capital funds and the limiting of access to these funds except to essential war industries.

Price Control

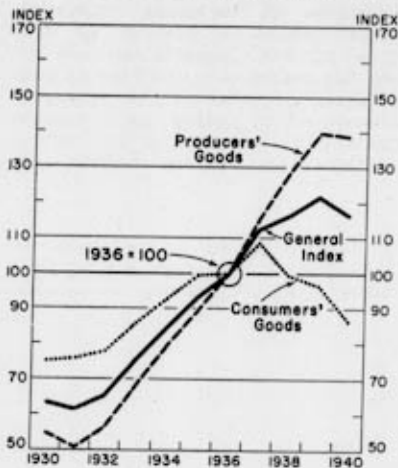
At the advent of the European War in September 1939, haphazard price control over a few selected commodities, such as rubber and gasoline, gave way to an ambitious program that involved the freezing of all prices, wages, and rents (with few exceptions) at the levels prevailing at that time. That this program embodied in the Price Stop Decree of September 1939 was not very successful is portrayed by the fact that a year after the Decree was issued even the official index of retail prices showed a more than 15 percent rise.

As can be seen from Chart 1, the effects of financing a large part of military expenditures by deficit borrowing involving large note issues and mounting debt, coupled with the diversion of resources to the military effort, have been reflected in a large increase in prices. The rise of the price level has been about 66 percent between 1936 and 1940 despite the imposition of government price controls. These price rises meant not only encroaching upon consumer living standards, but, insofar as they entered into the picture of war material purchases, also inhibiting to some extent the war effort. Price rises, it may be observed, reduced a nominal seven-fold increase in military expenditures to an effective armament effort of only about three or four times the level at the time of the outbreak of the China Incident.

Production

Japanese industrial production in 1940 and the early months of 1941

CHART 3-JAPANESE INDUSTRIAL PRODUCTION BY GROUPS



proceeded at a decreased rate, as may be seen in Chart 3. This has occurred despite rationalization schemes designed to eliminate high cost and inefficient producers. Subsidies and priority measures for private industry, imposed in order to accelerate flagging production, have apparently been unable to accomplish this objective. Important contributing factors have been the obstacles interposed by customary foreign suppliers of basic raw materials (especially the Anglo-American-Dutch bloc), bottlenecks in trans-

portation, rising wage-levels, lack of precision tools and skilled labor, money market tightness, and the general political atmosphere conducive to uncertainty of industrial action. Steel production has been especially hard hit by United States mineral and metal restriction policies.

In the past four years Japan has spent about 25 billion yen, equal to about \$8 billion United States, upon rearmament. While this may not appear to be a tremendous sum to be spread over a period of

four years, in terms of real sacrifices involved and in view of the wage and price structure in that country as compared with Western nations, the amount spent represents a considerably larger effort than the \$8 billion indicates. Even then, however, the magnitude of war effort currently exhibited by countries such as Britain or Germany dwarfs the Japanese attempt. Yet the early lead in military preparation and the advantage of already possessing an economy long geared to the demands for war add up to a cumulative effort that should not be underestimated.

Note: For comparative discussions of the magnitude of the war efforts of Great Britain and Canada see Summary of Defense Progress, Issue Number 39, May 9, 1941, pages 9-17, and Issue Number 40, May 16, 1941, pages 2-8, respectively.

PRODUCTION OF MILITARY AIRPLANES, JULY, 1941

For July 1941 the weighted index of monthly production of military aircraft was 34.^a This, as seen from Chart I, compares with the June 1941 index figure of 35 and a scheduled index of 40 for July based on OPM report 8E.

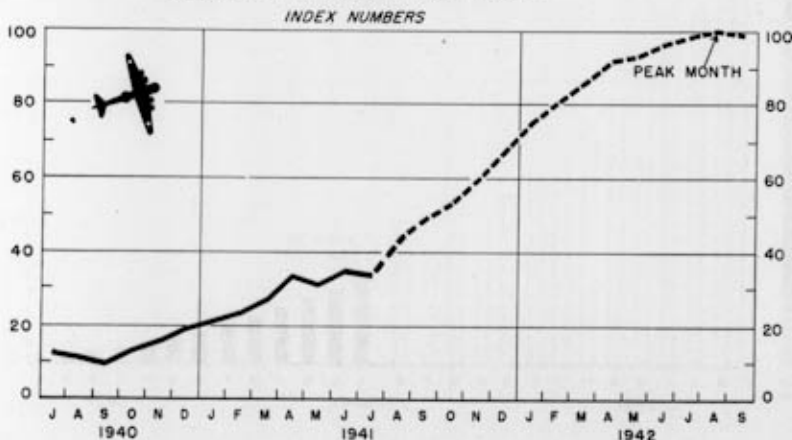
This decline of one point in the July index under the June 1941 index reflects the failure of several aircraft types to reach the production levels established in June. Notably failing to meet June production levels were 4-engine and 1-engine bombers, and 1-engine pursuit planes. The production of these same types, except for 1-engine bombers, was greatly below OPM scheduled July levels of output. The large decline in the output of the 4-engine bombers and 1-engine pursuit

planes in July was due in large part to the switchover to the production of new models by important producers.

On the other hand production of basic training and transport planes maintained the steady upward pace characteristic of these types for the past few months. Both basic training and transport aircraft exceeded OPM schedules for July. The output of 2-engine pursuit planes was substantial for the first time since the start of the defense program.

^a The expected peak month, August 1942, represents the base of 100 for this series.

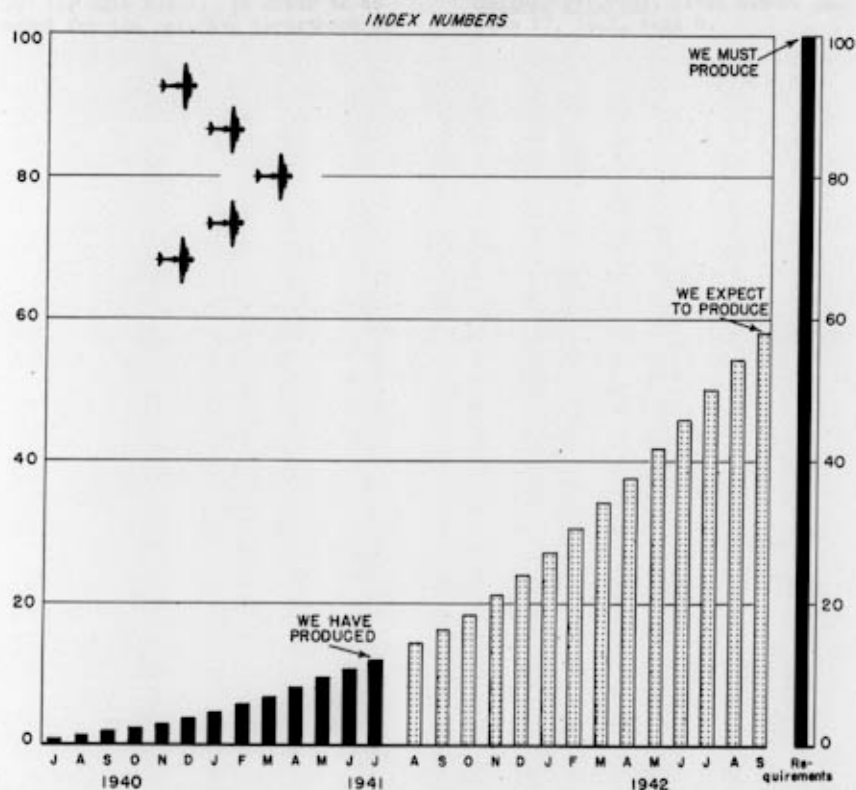
CHART I - MILITARY AIRPLANES
MONTHLY PRODUCTION RATE



Relatively large increases in basic training and transport plane production offset losses in the other types mentioned and kept total aircraft production of 1,476 for the month of July close to the June level

of 1,460 planes. The July output included such nontactical types of aircraft as trainer planes which have been meeting scheduled requirements satisfactorily in recent months.

CHART 2-MILITARY AIRPLANES
TOTAL PRODUCTION



The index of total airplane production since the start of the defense program in July 1940 was 12.1 in July 1941. The June 1941 index was 10.7 and the scheduled July index was 12.4. The total number of planes to be produced under current program with respect to United States, Lend-Lease, British and other foreign governments' requirements represents the base of 100 for this index. In order to account for the relative importance of

various types of planes, this index has been weighted.

Chart 2 shows that according to OPM schedule SE, cumulated deliveries are expected to equal 50 percent of requirements by July 1942.^b

^b For a presentation of the weights used in computing the indexes of airplane production see Summary of Defense Progress, Issue Number 46, June 27, 1941, page 6.

MACHINE TOOL EXPORTS

Half of the machine tool deliveries by United States producers, as measured in terms of value, in 1940 were for export. The down trend of exports since October 1940, coupled with the large scheduled increase in 1941 deliveries will make it possible in current months to retain in the United States a much larger proportion of machine tool deliveries.

Half of the machine tools delivered by United States producers in 1940, as measured by value, (\$213 million out of total deliveries of \$423 million) were exported. Moreover, the value of 1940 machine tool exports almost equalled the total value of United States deliveries in 1939, amounting to \$220 million.

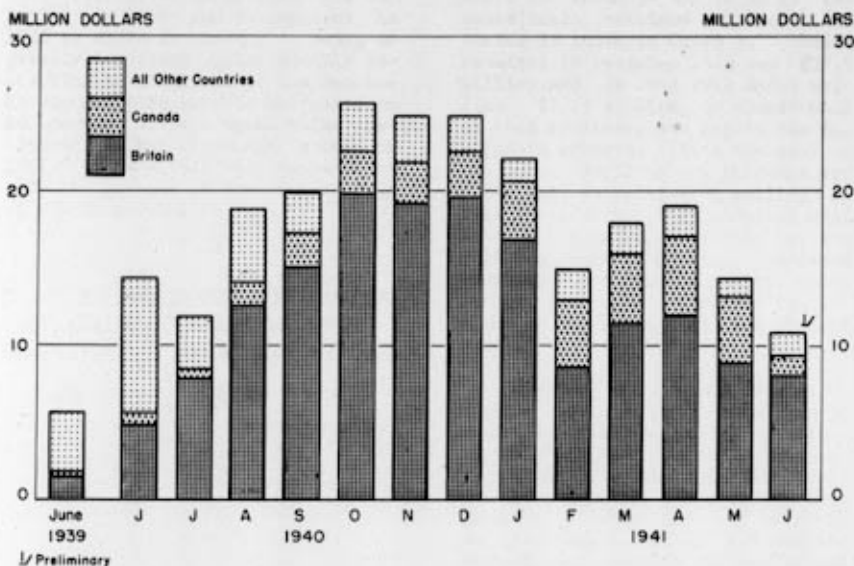
The large proportion of exports during 1939 and the first half of 1940 can be attributed to the active demand for machine tools in Britain and France stimulated by their defense programs, and to the slow market for machine tools in the United States. However, almost coincident with the launching of the United States defense program requiring large amounts of machine tools for the production of planes and ordnance, foreign demand was further stepped up by leaps and bounds. The strain imposed on the United States machine tool industry by these rapidly increased foreign demands was an important factor in creating a machine tool bottleneck in this country.

Chart 1 shows the value of exports of machine tools by months for June 1939 and from June 1940 to July

1941 and indicates the value of the tools sent to Britain and Canada. The exports to Britain and Canada combined increased from \$8.6 million in July 1940 to \$22.6 million in October 1940. Exports to Britain reached a peak of \$19.9 million in October 1940 and have fallen off to \$8.1 million in June 1941, the lowest of any month since July 1940. Exports to Canada increased almost continuously from month to month until May 1941, which showed a slight decline from April. The value of June 1941 exports to Canada, amounting to \$1.4 million, was the lowest of any month since July 1940 and showed a drop of almost 70 percent from May 1941.

The falling off of exports to Britain may be largely attributed to two factors. First, the increasing shortage of merchant ships has made difficult the transportation of these bulky and heavy goods. Secondly, Britain has been in the process of tooling for the production of defense equipment for many months and has probably passed the peak of her new tool requirements and is putting the emphasis now on the full utilization of equipment already in British plants.

CHART I—VALUE OF EXPORTS OF MACHINE TOOLS BY DESTINATION
JUNE, 1939 AND JUNE, 1940 THROUGH JUNE, 1941



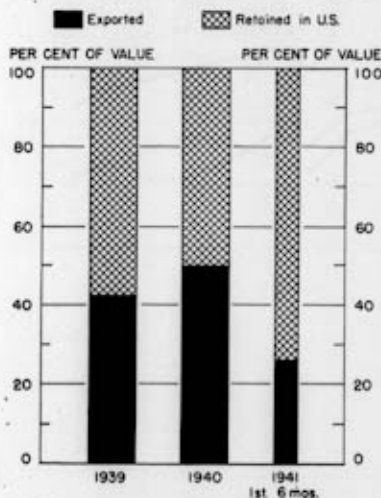
The sharp decline in exports to Canada is not due to a lack of transportation but probably indicates that many of the defense facilities of that country have most of the machines required for maximum production.

The down trend in exports for countries other than Canada and Britain is due to constantly increasing export restrictions. Japan and Russia, two of the largest buyers of United States machine tools, have been cut off almost en-

tirely during the last twelve months. In June 1940 their combined purchases amounted to about \$2 million and in June 1941 nothing went to Japan and only a few thousand dollars worth to Russia. With Russia now allied with Britain this situation may be changed considerably during the next few months. Russia urgently needs machine tools but the extent to which she will make up for the falling off of exports to other countries will depend largely on the availability of shipping facilities.

Of the total value of machine tool deliveries 42 percent was exported in 1939 and 50 percent in 1940 as shown in Chart 2. Owing to greatly increased total monthly deliveries in 1941 and to the decline in exports, the exports decreased to 26 percent of the total value delivered in the first six months of 1941. In June 1941 they represented only 15 percent of the total value of all deliveries.

CHART 2-PERCENTAGE DISTRIBUTION OF VALUE OF MACHINE TOOL DELIVERIES AT HOME AND ABROAD



The tremendous increase from month to month in the value of machine tools retained in the United States is shown in Chart 3. Value retained in December 1940 was \$27.5 million and in June 1941 \$58.5 million. \$14.5 million, or almost half of that increase, was due to the decline in exports. With the rate of production still on the increase and estimated to reach \$800 million in 1941 the machine tool industry will be able to make available in the next few months greatly increased quantities of machine tools, especially if exports continue to decline or even remain at the present level.

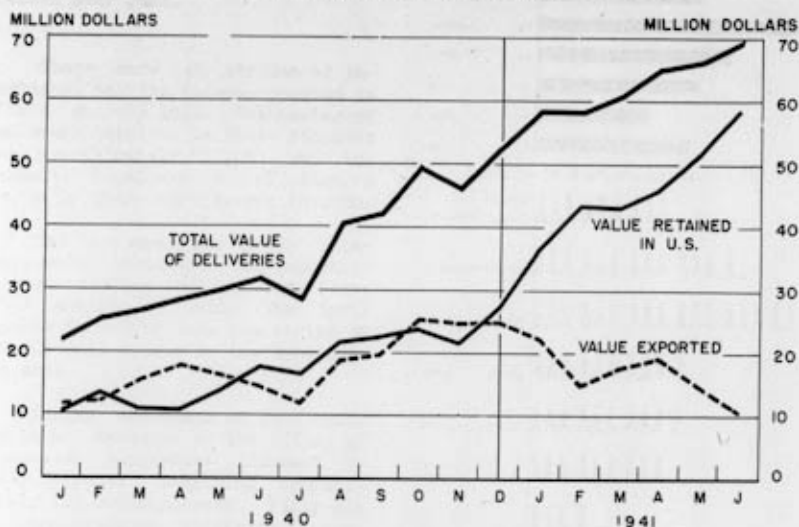
However, the problem created by machine tool export requirements cannot be fully expressed in terms of total dollar values. The requirements for some types of tools are easily met by the machine tool industry. Other types of machine tools in heavy demand for defense production, are much further behind the requirement schedules than the average. For example, 28 percent of the deliveries of one type of machine for which unfilled orders in United States plants are equivalent to ten months' capacity, went to Britain and Canada. This is almost twice the proportion of value of exports to total value of deliveries in the same month.

Since the types of machines exported are largely for defense production they are to a great extent the types urgently needed by United States defense industries, so that it is not surprising to find that exports are heavily weighted with so-called bottleneck machines.

The decline in the export requirements of these critical types will permit the machine tool industry to make available to United

States defense plants much greater quantities of the critical types than is indicated by the total dollar decline of exports.

CHART 3 — VALUE OF MACHINE TOOL DELIVERIES
AT HOME AND ABROAD



INDUSTRIAL DISPUTES DURING JULY 1941

Strikes of serious concern to the defense program in July 1941 involved fewer employees than any other month of this year, although the number of man-days lost as a result of these strikes increased over June.

There were 15 strikes of importance to the defense program in effect in July 1941. The number of employees involved in these disputes was approximately 13,000 and the estimated total man-days of idleness caused by these strikes was 160,000.

The accompanying graph shows comparable statistics on important defense strikes during the first seven months of 1941. The April figures do not include the strike of 400,000 coal miners in the Appalachian Area.

During the month of July 1941, the Labor Division of the Office of Production Management followed 97 labor disputes involving approximately 129,000 employees. Fifty-six of these disputes, involving approximately 73,800 were settled during the month. Of the total, 23 disputes, involving approximately 12,400 workers, were actual stoppages while 33, involving 61,400, were disputes without stoppage.

On August 1, 1941, 41 labor disputes, involving approximately 55,200 employees, were being watched by the Labor Division of the Office of Production Management. Of these, 16 were actual stoppages affecting approximately 10,400 workers. The

IMPORTANT LABOR DISPUTES
IN DEFENSE INDUSTRIES

EMPLOYMENT AND LABOR TURNOVER IN PRIVATE DEFENSE INDUSTRIES

most significant of these were the following:

Rockford Drop Forge Company,
Rockford, Illinois (Work
resumed August 4) 300

Todd Galveston Dry Docks,
Galveston, Texas 2,000

U. S. Gypsum Company,
Chicago, Illinois, (four-
teen plants) 3,000

Twenty-five cases, involving
approximately 44,800 employees, were
disputes without stoppage on August
1. The most important of these were:

Aluminum Company of America,
Los Angeles, California
(Dispute before National
Defense Mediation Board) 1,750

Atlantic Basin Iron Works,
Brooklyn, New York (Dispute
settled August 4) 800

Federal Shipbuilding Corpora-
tion, Kearney, New Jersey
(Dispute before National
Defense Mediation Board) 16,000

Mechanics Universal Joint
Company, Rockford, Illinois
(Dispute before National
Defense Mediation Board) 700

Goodyear Rubber Company, St.
Marys, Ohio 900

Timken Detroit Axle Company,
Detroit, Michigan (Dispute
settled August 3) 5,100

Note: Previous articles in industrial disputes in defense industries ap-
peared in Defense Progress, Issues 31, pages 2-6; 39, pages 34-38;
43, pages 18-19; 44, pages 10-13; and 47, pages 12-13.

EMPLOYMENT AND LABOR TURNOVER IN PRIVATE DEFENSE INDUSTRIES, JUNE 1941

Defense employment in June 1941 continued the steady upward trend which has been unbroken since June 1940. Eighteen private defense industries which handle a major part of the defense production orders show an employment increase since 1939 amounting to 79.5 percent. Most of these defense industries are classified as producers of durable goods. Durable goods manufacturing as a whole has shown an increase since 1939 of 49.3 percent but non-durable goods employment has increased only 10.6 percent. Employment in all manufacturing combined has risen 27.7 percent since 1939. In terms of the aggregate number of workers employed, the 18 selected defense industries have been responsible for an increase of approximately 1,100,000 wage earners since 1939 while the increase for all manufacturing combined has amounted to 2,200,000 workers.

Total civil nonagricultural employment rose substantially in June to reach a new all-time peak of 38,790,000. This represents an increase of 484,000 workers over the May total and a rise of 3,365,000 workers since June 1940. The current June figure was more than 1,900,000 above the level of June 1929. In addition to the expansion over the past year in civil employment resulting directly from defense activities, substantial increases have occurred in construction employment (489,000), trade (268,000) and transportation and public utilities (202,000). The Federal, State,

and local Government services employed 307,000 more workers than at this time last year. These estimates do not include persons employed on W.P.A., N.Y.A., or enrollees in C.C.C. camps. Neither do they include the armed forces of the nation in which there has been an increase of 1,266,000 since last June.

The accompanying table indicates that among the 18 selected defense industries the greatest percentage gains from May to June occurred in explosives, 9.2 percent; firearms, 8.6 percent; aeroengines, 6.7 percent; machine tool accessories, 6.4 percent; and ammunition, 6.0 percent. The airframe industry with an average addition to the wage earner labor force of 10,000 per month during the past three months has shown a remarkable capacity to take on new workers. The North American plant at Dallas, Texas has recently come into production, and several new bomber plants are expected to begin active operations this fall. The increase in aeroengine employment has been accelerated recently with the entering into production of Wright Aeronautical Corporation plant at Cincinnati, and the Packard aeroengine plant in Detroit. Three large smokeless powder plants have recently begun production at Charles-town, Indiana; Radford, Virginia; and Millington, Tennessee. Aluminum manufactures was the only industry to show a drop in employment between May and June. This was caused by a further curtailment of production in

aluminum-ware plants owing to shortages of aluminum. Other types of

aluminum manufactures showed a slight increase in employment.

INDEXES OF EMPLOYMENT IN 18 SELECTED DEFENSE INDUSTRIES, JUNE 1941

(1939=100)

	June 1941	May 1941	June 1940
Eighteen Selected Defense Industries.....	179.5	173.6	119.9
Blast Furnaces, Steel Works, and Rolling Mills.....	140.6	137.6	112.1
Foundry and machine-shop products.....	162.5	156.9	113.5
Electrical machinery, apparatus, and supplies.....	175.7	171.1	114.8
Smelting and Refining--copper, lead, and zinc.....	130.8	129.8	110.4
Brass, bronze, and copper products.....	167.8	162.9	112.3
Aluminum manufactures.....	147.3	151.8	118.4
Machine tools.....	223.5	215.8	151.8
Machine-tool accessories.....	224.8	211.2	134.7
Abrasives.....	183.0	178.1	115.8
Screw-machine products.....	189.9	183.6	115.3
Airframes.....	469.4	444.3	205.7
Aero Engines.....	574.2	538.2	268.8
Shipbuilding.....	262.3	250.3	132.7
Firearms ^a	317.1	292.1	151.3
Ammunition ^a	361.3	340.9	132.7
Explosives ^a	214.8	196.7	135.8
Optical goods.....	166.4	160.1	118.3
Instruments.....	186.1	175.8	113.3

^a Figures are strictly confidential and not to be published.

Labor Turnover

Accessions of new workers in defense industries continued at a high rate during June 1941. The shipbuilding industry reported the highest accession rate (12.12 per 100 workers) among the defense industries. However, the current rate in that industry is considerably smaller than those reported in April (14.34) and January (18.21). The aircraft

industry has shown a steadily increasing rate of accessions since February, but has not yet recovered to the peak January 1941 rate. Machine tools, foundries and machine shops, electrical machinery, and iron and steel acquired workers at a higher rate in June than in May. The only defense industries to show lower rates of accessions in June than that for all manufacturing were iron and steel, brass, bronze and

copper products, and machine tools. The hiring rate for workers in all manufacturing industries combined rose in June 1941 to the highest point for any June since 1933. (Data on turnover in the shipbuilding, aircraft, and machine tool industries, manufacturing as a whole, and seven major defense industries as a group may be found at the close of Defense Progress Series in this Issue).

The quit rate for all manufacturing (which reached an all-time high of 2.20 in May) declined to 2.06 in June, the first monthly decrease since December 1940. All of seven major defense industries re-

ported lower quit rates in June than in May. Foundries and machine shops, shipbuilding, and aircraft showed higher quit rates than the average for all manufacturing. The lay-off rate for all manufacturing fell to a new all-time low, indicating more stable production schedules in most industries. The shipbuilding industry, which is usually characterized by a high lay-off rate, reported a lower lay-off rate in June (2.71 per 100 workers) than in May (3.62).

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

Note: A discussion of employment trends in 18 private defense manufacturing industries and indexes of employment for these industries from January 1939 through May 1940 appeared in Defense Progress, Issue 46, pages 10-13.

DEFENSE PROGRESS SERIES

TOTAL UNITED STATES DEFENSE PROGRAM

	1940	1941				
	July	January	May	June	July	Week Ending Aug. 9
UNITED STATES ARMED FORCES		(Thousands, officers and enlisted men)*				
Army	289	694	1,354	1,449	1,506	1,532
Navy and Marine Corps	196	272	311	327	342	
Total active strength	485	966	1,665	1,776	1,848	

FINANCIAL PROGRAM*

PROGRAM	(Million dollars to date) *					
Total	E 6,687	24,100	42,362	E 49,742	E 51,744	E 51,744
Ex British orders	5,404	20,674	38,670	E 46,073	E 48,087	E 48,087
CONTRACTS**						
Total	3,358	15,732	21,606	26,910		
Ex British orders	2,076	12,303	17,911	23,239		
Plus pay, sub., travel, etc.	3,434	16,406	22,974	28,499		
CASH DISBURSEMENTS						
Ex pay, sub., travel, etc.	E 518	E 3,515	E 6,689	E 7,550	E 8,475	
Ex British orders, pay, sub., travel, etc.	101	E 1,977	E 4,695	E 5,475	E 5,325	
Total	594	E 4,183	E 8,045	E 9,115	E 10,250	
OBJECTS						
AIRPLANES, ENGINES, ETC.						
Program	1,634	4,697	8,493	11,728	E 12,223	E 12,223
Contracts**	889	3,854	4,658	6,829		
Cash disbursements	E 150	E 856	1,331	E 1,467	E 1,610	
NAVAL SHIPS & PARTS						
Program	668	6,071	6,796	6,796	E 7,729	E 7,729
Contracts**	1,207	4,486	4,548	5,000		
Cash disbursements	29	317	588	E 693	E 800	
ORDNANCE (Incl. Naval Ordnance)						
Program	793	4,429	7,939	8,225	E 8,243	E 8,243
Contracts**	367	2,489	3,990	4,978		
Cash disbursements	62	432	838	E 937	E 1,040	
OTHER MUNITIONS						
Program	375	873	1,530	2,098	E 2,145	E 2,145
Contracts**	46	542	667	953		
Cash disbursements	17	E 169	E 362	E 412	E 510	
TOTAL MUNITIONS						
Program	E 3,470	16,070	24,758	28,847	E 30,349	E 30,349
Contracts**	2,509	11,371	13,863	17,760		
Cash disbursements	258	E 1,774	E 3,119	E 3,509	E 3,960	

* Data are as of the close of the month or week nearest available date. E Revised data.

R Preliminary data. n.a. Data not available. (Continued on next page)

** Past and current data on contracts are being revised.

DEFENSE PROGRESS SERIES (Continued)

	1940	1941				
	July	January	May	June	July	Week Ending Aug. 9
<u>MERCHANT SHIPS</u>						
		(Million dollars to date) *				
Program	144	267	1,459	1,559	R 1,559	R 1,559
Contracts	29	153	968	1,462		
Cash disbursements	39	151	R 230	R 250	R 280	
<u>INDUSTRIAL FACIL.-CONS., EQUIP., & REAL ESTATE</u>						
Program	558	1,929	5,381	5,884	R 5,935	R 5,935
Contracts**	110	1,513	2,384	2,761		
Cash disbursements	51	269	R 682	R 824	R 1,000	
<u>INDUSTRIAL FACIL.-CONSTRUCTION ONLY</u>						
Program	n.a.	880	1,338	1,607	R 1,607	R 1,607
Value in place	n.a.	176	377	575	R 766	R 819
<u>POSTS, DEPOTS, & FORTIFICATIONS</u>						
Program	712	1,498	3,137	3,659	R 3,715	R 3,715
Contracts**	230	802	1,879	2,212		
Cash disbursements	8	521	1,297	R 1,448	R 1,610	
<u>HOUSING</u>						
Program	32	282	443	442	R 593	R 593
Contracts**	0	131	252	275		
Cash disbursements	n.a.	n.a.	n.a.	n.a.		
<u>STOCKPILE PROGRAM</u>						
Program	60	588	954	984	R 984	R 984
Contracts**	52	276	458	470		
Cash disbursements	2	65	151	R 180	R 200	
<u>OTHER EQUIPMENT & SUPPLIES</u>						
Program	591	1,579	3,383	3,632	R 3,639	R 3,639
Contracts**	428	1,352	1,608	1,749		
Cash disbursements	160	735	1,210	R 1,339	R 1,425	
<u>PAY</u>						
Total						
Program	638	1,047	1,583	2,808	R 2,858	R 2,858
Cash disbursements	61	531	1,043	R 1,192	R 1,275	
Army						
Program	349	729	729	1,954	R 1,954	R 1,954
Cash disbursements	34	303	641	R 743	R 820	
Navy						
Program	283	285	750	750	R 758	R 758
Cash disbursements	26	205	354	R 394	R 400	
<u>SUBSISTENCE, TRAVEL, MISC.</u>						
Program	482	840	1,264	1,927	R 2,121	R 2,121
Cash disbursements	15	R 137	R 313	R 373	R 500	

* Data are as of the close of the month or week nearest available date. R Revised data.

P Preliminary data.

n.a. Data not available.

(Continued on next page)

** Past and current data on contracts are being revised.

DEFENSE PROGRESS SERIES (Continued)

	1940	1941				
	July	January	May	June	July	Week Ending Aug. 9
<u>VALUE OF FACIL. ON APPLIC. FOR CERT. OF NECESSITY</u>						
				(Million dollars to date) *		
Total				1,271	1,424	
Approved, private funds				774	829	
Approved, public funds				199	201	
Pending				291	387	
<u>DEFENSE HOUSING</u>						
				(Number of dwelling units) *		
Fund allocations	1,460	54,083	106,053	110,298	123,433	123,433
Cons. contracts awarded	624	34,791	72,334	78,820	89,223	90,248
Construction completed	0	1,314	14,414	21,768	31,299	33,993
<u>AGENCIES</u>						
<u>U. S. MILITARY</u>						
				(Million dollars to date) *		
ARMY - Program	2,617	8,377	13,135	20,346	R 20,352	R 20,352
** Contracts + pay,						
sub., travel, etc.	584	5,978	8,703	9,992		
Cash disbursements	78	1,345	3,332	R 3,862	R 4,400	
NAVY - Program	2,083	9,986	13,524	13,524	R 15,058	R 15,058
** Contracts + pay,						
sub., travel, etc.	1,514	6,034	8,181	9,916		
Cash disbursements	87	1,031	2,023	R 2,321	R 2,650	
TOTAL - Program	4,700	18,363	26,659	33,870	R 35,410	R 35,410
** Contracts + pay,						
sub., travel, etc.	2,098	12,012	16,884	19,908		
Cash disbursements	165	2,376	5,355	R 6,183	R 7,050	
<u>DEFENSE AID (Lend-Lease)</u>						
Program			7,000	7,000	R 7,000	R 7,000
Allocations			4,277	5,177		
Contracts			n.r.	n.r.		
Cash disbursements			7	R 26	R 75	
<u>MARITIME COMMISSION</u>						
Program	154	154	749	749	R 749	R 749
Contracts	n.a.	n.a.	810	810		
Cash disbursements	8	83	R 142	R 164	R 190	
<u>RFC AND SUBSIDIARIES</u>						
Program	0	1,166	2,767	2,808	R 2,813	R 2,813
Contracts	0	715	1,130	1,142		
Cash disbursements	1	72	271	333	R 390	

* Data are as of the close of the month or week nearest available date. R Revised data.
 R Preliminary data. n.a. Data not available n.r. Data not released.
 ** Past and current data on contracts are being revised.

(Continued on next page)

DEFENSE PROGRESS SERIES (Continued)

	1940	1941				Week Ending Aug. 9
	July	January	May	June	July	
<u>BRITISH ORDERS</u>		(Million dollars to date) *				
Program	1,283	3,426	3,692	3,669	R 3,657	
Contracts **	1,283	3,426	3,692	3,669		
Cash disbursements	417	1,538	1,994	R 2,075	R 2,150	
<u>OTHER AGENCIES</u>						
Program	550	991	1,495	1,646	R 2,115	
Contracts	54	251	454	502		
Cash disbursements	3	114	R 276	R 334	R 395	

DEFENSE EQUIPMENT INDEXES *

<u>PRODUCTION RATE INDEXES</u>	(Indexes, production in scheduled peak month=100)				
Military airplanes	13.0	21.7	31.4	R 34.9	34.0
Combat vehicles	n.a.	10.1	25.2	R 31.8	
Combat vessels	16.7	22.8	31.2	R 33.9	
Army-type guns, total	n.a.	22.0	36.4	R 38.7	
Field artillery	n.a.	7.1	14.3	R 15.0	
Antiaircraft guns	n.a.	19.7	28.1	R 38.1	
Infantry-supporting guns	n.a.	21.6	36.0	R 36.2	
Merchant ships	10.3	14.4	20.3	24.0	
<u>TOTAL PRODUCTION INDEXES</u>	(Indexes, cumul. since July 1940, program requirements=100)				
Military airplanes	0.5	4.4	9.2	R 10.7	12.1
Combat vehicles	n.a.	3.4	7.3	R 9.2	
Combat vessels	5.8	9.3	12.4	R 13.4	
Army-type guns, total	n.a.	6.6	13.8	R 16.0	
Field artillery	n.a.	2.0	4.7	R 5.7	
Antiaircraft guns	n.a.	4.2	8.7	R 10.6	
Infantry-supporting guns	n.a.	9.2	19.2	R 22.0	
Merchant ships	0.5	4.0	7.2	8.3	
<u>U. S. INVENTORIES</u>	(Indexes as of 1st of month, U. S. requirements=100)				
Military airplanes	7.0	8.6	n.a.	12.6	R 14.2
Combat vehicles	n.a.	4.4	n.a.	8.0	8.8
Combat vessels, delivered	37.7	36.0	n.a.	36.4	37.6
Army-type guns, total	n.a.	5.7	n.a.	10.4	11.8
Field artillery	n.a.	6.4	n.a.	9.2	9.7
Antiaircraft guns	n.a.	6.9	n.a.	8.5	11.2
Infantry-supporting guns	n.a.	4.6	n.a.	12.0	13.1
Merchant ships	54.1	n.a.	n.a.	n.a.	49.0

* Data are as of the close of the month or week nearest available date. R Revised data.
 R Preliminary data. n.a. Data not available.

July inventories data are as of 1st of month.

** Past and current data on contracts are being revised.

(Continued on next page)

DEFENSE PROGRESS SERIES (Continued)

		1940	1941					
		July	January	May	June	July	Week Ending Aug. 9	Total Program
STOCKPILE *								
<u>ANTIMONY</u>	- Purchases	0	9,556	29,330	29,637	29,637	29,637	1,800
(short tons)	Deliveries	0	2,351	6,989	7,295	7,796	8,166	
<u>CHROME ORE</u> (thous.-	- Purchases	95	383	656	647	679	679	1,300
long tons)	Deliveries	27	104	151	173	192	194	
<u>INDUS. DIAMONDS</u>	- Purchases			768	771	713	717	2,000
(thous. carats)	Deliveries			4	4	10	610	
<u>MANGANESE</u> (thous.-	- Purchases	225	2,400	3,183	3,218	3,341	3,342	1,800
long tons)	Deliveries	65	156	318	328	333	333	
<u>MANILA FIBER</u>	- Purchases	25,590	59,496	91,496	99,546	111,546	111,546	395,257
(bales)	Deliveries	23,490	39,346	55,702	70,696	83,746	89,710	
<u>MERCURY</u>	- Purchases	0	5,000	5,000	5,000	5,000	5,000	10,000
(flasks)	Deliveries	0	1,050	2,050	2,050	2,050	2,050	
<u>MICA</u>	- Purchases	0	1,188	5,194	5,581	5,581	5,684	10,800
(thous. lbs.)	Deliveries	0	238	1,581	2,288	4,579	4,579	
<u>QUARTZ CRYSTALS</u>	- Purchases	19,700	104,170	99,270	99,270	99,270	99,270	702,000
(lbs.)	Deliveries	13,224	28,465	48,985	52,469	52,469	52,469	
<u>QUININE SULPHATE</u>	- Purchases	723	7,223	7,200	7,200	7,200	7,200	6,400
(thous. advp. oz.)	Deliveries	723	2,523	5,400	6,485	6,600	6,600	
<u>RUBBER</u>	- Purchases	55,878	187,121	241,143	262,685	344,791	359,893	517,000
(long tons)	Deliveries	32,437	134,465	185,344	206,002	219,029	219,736	
<u>TIN</u>	- Purchases	10,348	64,420	100,420	100,420	105,420	105,420	159,400
(long tons)	Deliveries	5,861	26,864	40,060	42,285	45,345	45,620	
<u>TUNGSTEN</u>	- Purchases	782	26,227	65,444	67,294	72,987	79,587	13,000
(short tons)	Deliveries	809	6,647	6,758	5,871	5,875	5,885	
<u>ESTIMATED TOTAL COST</u>		(Thousand dollars to date) *						
Purchases			288,218	455,286	459,866	523,016	540,858	
Purchases without excess			250,276	329,122	338,752	380,315	388,314	
Deliveries			110,385	159,428	173,369	184,652	188,062	
Deliveries without excess			0	0	0	184,531	187,941	

* Data are as of the close of the month or week nearest available date.
 R Preliminary data.

n.a. Data not available.

I Revised data.
 (Continued on next page)

DEFENSE PROGRESS SERIES (Continued)

ECONOMIC ACTIVITY RELATED TO DEFENSE *

	1940	1941				Week Ending Aug. 9
	July	January	May	June	July	
<u>FED. RES. BD. PRODUCTION INDEXES</u>						
		(Indexes 1935-39=100)				
Total industrial production	121	140	150	E 156		
Durable manufactures	132	170	176	E 188		
Nondurable manufactures	112	122	136	E 137		
Minerals	120	118	127	E 132		
<u>BUR. FOR. & DOM. COM. MFGS.</u>						
<u>ORDERS, SHIPMENTS, INVENTORIES</u>						
		(Indexes)				
New orders, total (1/39=100)	127	176	207	E 236		
Shipments, total (1/39=100)	117	148	180	E 190		
Inventories-total (12/31/38=100)	109.2	120.8	126.3	E 128.3		
Durable (12/31/38=100)	111.9	129.7	137.4	E 139.3		
Nondurable (12/31/38=100)	106.4	111.2	114.4	E 116.6		
<u>BLS PRICE INDEXES</u>						
		(Indexes)				
Strategic materials (8/39=100)	123.6	126.1	138.7	138.5	n.a.	141.1
Critical materials (8/39=100)	107.5	111.7	113.5	114.8	n.a.	115.1
Basic commodities (8/39=100)	108.5	120.5	142.5	146.3	140.7	151.7
Machine tools (8/39=100)	108.7	114.6	117.3	117.7	n.a.	n.a.
All commodities (1926=100)	77.7	80.8	84.9	87.1	n.a.	89.6
<u>BLS COST OF LIVING INDEX</u>						
	100.3	100.8	(1935-39=100)			
			102.9	104.6		
<u>TRANSPORTATION AND ELECTRIC POWER</u>						
		(Averages)				
Freight cars						
Loadings (thous. per wk.)	707	684	832	E 878	854	878
Unloads for export (cars dly.)	1,502	1,352	1,479	E 1,441	1,614	1,751
Surplus, total (thous. daily)	133	110	72	71	62	
Box cars	57	43	34	34	25	
Coal cars	47	42	16	17	18	
Power prod. (mil. kwh. wkly.)	2,731	3,080	E 3,075	E 3,189	E 3,206	3,196
<u>NATIONAL INCOME</u>						
		(Billion dollars, annual rate)				
Total income payments	75.2	81.7	86.0	88.0		
<u>FEDERAL DEBT</u>						
		(Billion dollars, end of month)				
Net public debt	41.5	43.9	45.8	46.3	46.9	
<u>LABOR DISPUTES</u>						
		(Monthly figures)				
<u>PLANTS WITH IMPORTANT DEFENSE CONTRACTS</u>						
Number strikes in progress	n.a.	13	16	11	15	
Workers involved (thousands)	n.a.	26	29	28	E 13	
Man-days idle (thousands)		146	182	103	E 160	

* Data are as of the close of the month or week or nearest available date.

E Revised data.

E Preliminary data.

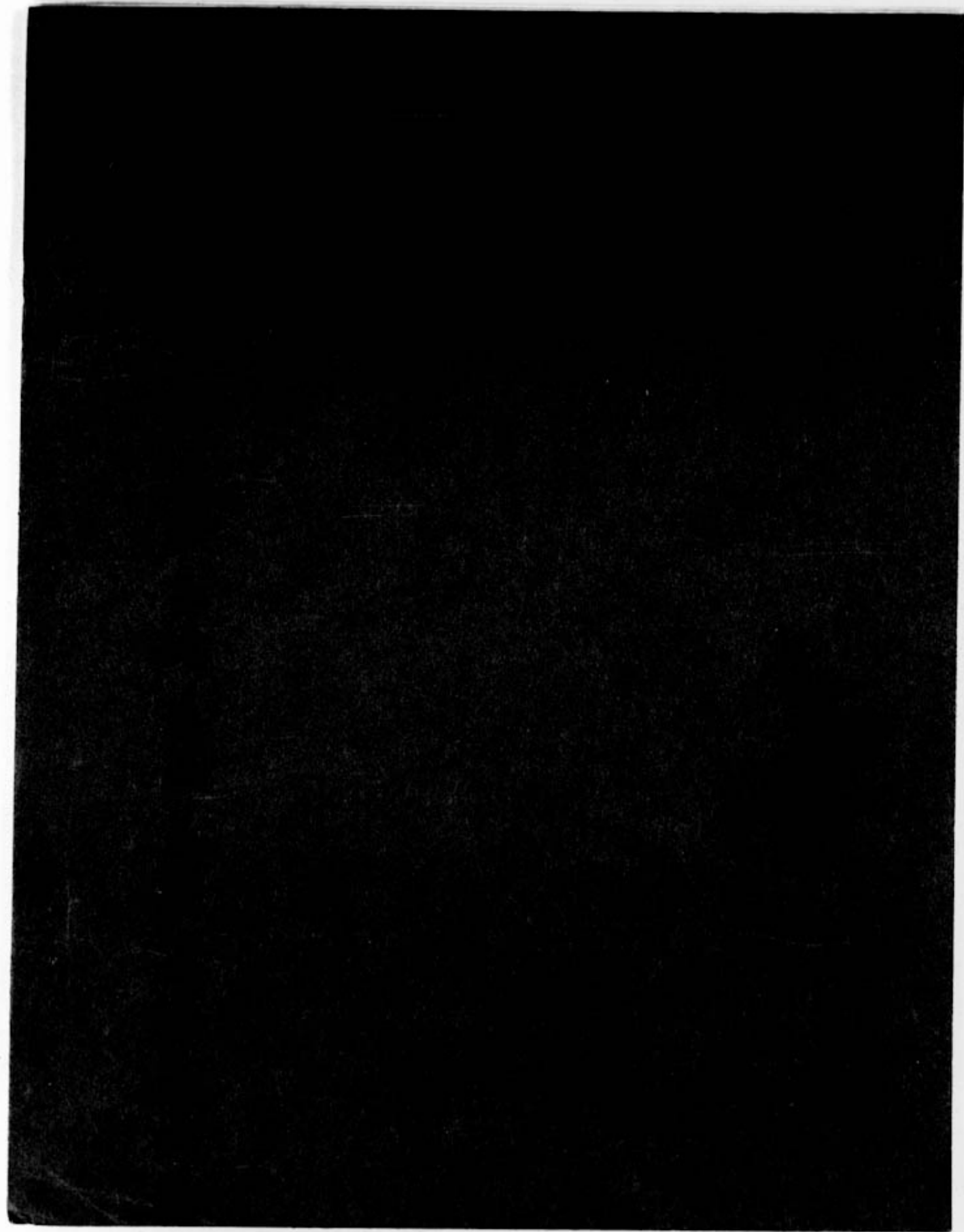
n.a. Data not available.

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DEFENSE PROGRESS SERIES (Continued)

	1940	1941				Week Ending Aug. 9
	July	January	May	June	July	
ALL INDUSTRIES		(Monthly figures)				
Number strikes in progress	£ 390	330	725	£ 670		
Workers involved (thousands)	£ 83	109	415	£ 216		
Man-days idle (thousands)	529	665	2,250	£ 1,375		
EMPLOYMENT		(Thousand workers) *				
Total civil nonagricultural	35,454	36,621	£ 38,278	38,790		
Total WPA employment	£ 1,655	£ 1,890	£ 1,489	£ 1,410	£ 1,055	£ 1,041
Defense						
Private, 18 major industries	1,660	2,036	2,332	£ 2,417		
Priv. contractors, pub. constr.	13	448	362	382		
Public	£ 155	£ 203	220	227		
Total direct defense	1,828	2,687	2,914	£ 3,026		
Deep-sea merchant vessels	51	49	52	51		
UNEMPLOYMENT (NICE Estimate)		(Monthly total)				
Number of unemployed	8,566	7,367	£ 3,848	£ 2,536		
LABOR TURNOVER #		(Rate per 100 employees)				
ALL MANUFACTURING						
Total accession	4.77	5.54	5.95	6.31		
Total separation	3.35	3.41	3.86	3.71		
Quit	0.85	1.31	2.20	2.06		
Layoff	2.25	1.61	1.08	1.03		
Discharge	0.14	0.18	0.24	0.26		
Military separation	n.a.	0.19	0.21	0.26		
7 MAJOR DEFENSE INDUSTRIES						
Total accession	5.09	7.10	6.76	6.93		
Total separation	1.85	2.70	3.23	3.09		
Quit	0.84	1.24	1.85	1.73		
Layoff	0.73	0.79	0.71	0.62		
Discharge	0.15	0.22	0.30	0.29		
Military separation	n.a.	0.23	0.23	0.27		
AIRCRAFT						
Total accession	12.40	12.17	10.46	10.77		
Total separation	3.57	3.65	3.89	3.21		
Quit	2.96	2.44	2.59	2.33		
Layoff	0.15	0.53	0.54	0.32		
SHIPBUILDING						
Total accession	13.00	18.21	13.24	12.12		
Total separation	5.40	7.91	6.95	6.00		
Quit	1.14	1.93	2.38	2.37		
Layoff	3.71	4.78	3.62	2.71		
MACHINE TOOLS						
Total accession	3.05	6.68	5.83	6.28		
Total separation	2.09	2.44	3.01	2.82		
Quit	1.28	1.77	2.22	1.99		
Layoff	0.21	0.09	0.10	0.15		

* Data are as of the close of the month or week or nearest available date. £ Revised data.
 £ Preliminary data. # Bureau of Labor Statistics. n.a. Data not available.



DEFENSE PROGRESS

BRIEFS OF CONTENTS

THE STATE OF THE DEFENSE OF THE UNITED STATES. The state of the defense of the United States is presented in this report. It is a summary of the progress of the defense of the United States during the year 1954. It is a summary of the progress of the defense of the United States during the year 1954.

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BUREAU OF RESEARCH AND
STATISTICS • STACY MAY, CHIEF

ECONOMIC ANALYSIS BRANCH
MORRIS A. COPELAND, CHIEF

LESTER S. KELLOGG,
ASSISTANT CHIEF & EDITOR

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CONFIDENTIAL

NUMBER 52 DEFENSE PROGRESS AUGUST 22, 1941

BRIEFS OF CONTENTS

	<u>Page</u>
● THE INDEX OF THE MONTHLY RATE OF PRODUCTION for major combat ships for July was 37.3, showing no change from June. At 15.1 the index of total production of major combat ships at the end of July was 1 point higher than at the end of June.	2
● ANOTHER \$7.5 BILLION FOR DEFENSE PURPOSES has been recommended to the Congress by conference report. Largest portions of the new recommendations are for ordnance and merchant ships.	5
● DEFENSE PROGRESS SERIES	6

PRODUCTION OF COMBAT VESSELS

JULY, 1941

The monthly production rate index for major combat ships stood at 37.3 for July 1941. ^a This index represents no change from the June index as can be seen from Chart 1. Monthly peak production for this series, which is now expected to be reached in November 1942, equals the base of 100 for this index.

Tonnage laid during the month of July on battleships, aircraft carriers, and light cruisers was less than that laid for the same types of vessels in June. The greatest changes in monthly rates of production from June to July were made by destroyers, cruisers, and subma-

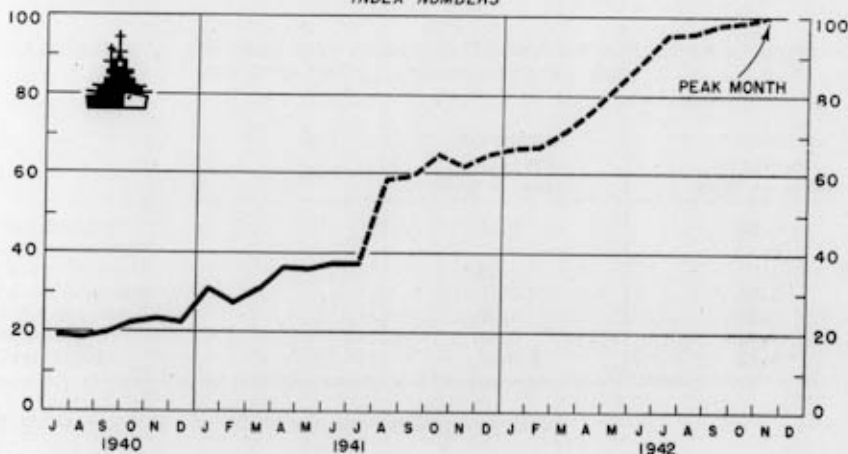
rines respectively.

A review of the naval expansion program indicates that the most rapid progress in increasing monthly tonnage laid has been made in the construction of light cruisers and destroyers. Battleship tonnage laid has fluctuated from month to month and in July 1941 was near that of July 1940. Tonnage for large cruisers in the new program was first laid in March 1941 and has shown

^a This index has been revised in accordance with new production schedules.

CHART I - COMBAT SHIPS MONTHLY PRODUCTION RATE

INDEX NUMBERS



little change in monthly production since then. Tonnage laid per month on light cruisers has increased more rapidly than corresponding figures for the other cruiser types or battleships. Aircraft carrier tonnage has shown no steady monthly increase but has fluctuated closely about the tonnage laid during July 1940. Submarine tonnage per month has risen by small but steady increments since the start of the program in June 1940. Destroyer tonnage varied little from the figure for July 1940 during the first six months of the new construction program, but in January 1941 showed a hundred percent increase over the December 1940 level. Since that time the figures for monthly destroyer tonnage produced, fluctuated about the January 1941 level until July when another significant increase was registered.

Continuing its slow but steady upward trend, the index of total combat ship production moved up from the end of June one point to an in-

dex of 15.1 as of July 31, 1941. The progress of this series is shown in Chart 2 and indicates that about 50 percent of the expansion program requirements is scheduled to be met by December 1942.

A picture of the present status of the two-ocean Navy may be secured from an examination of the progress with respect to each type of vessel. The relevant data are presented in the accompanying table.

As of July 1, 1941 all major combat ships in the expansion program were in process of construction or had been delivered with the exception of six battleships and eleven destroyers. It should be noted, however, that ships "in process of construction" does not necessarily mean that keels have been laid for all these vessels. To a significant extent, work may be done towards the construction of these vessels away from the ways.

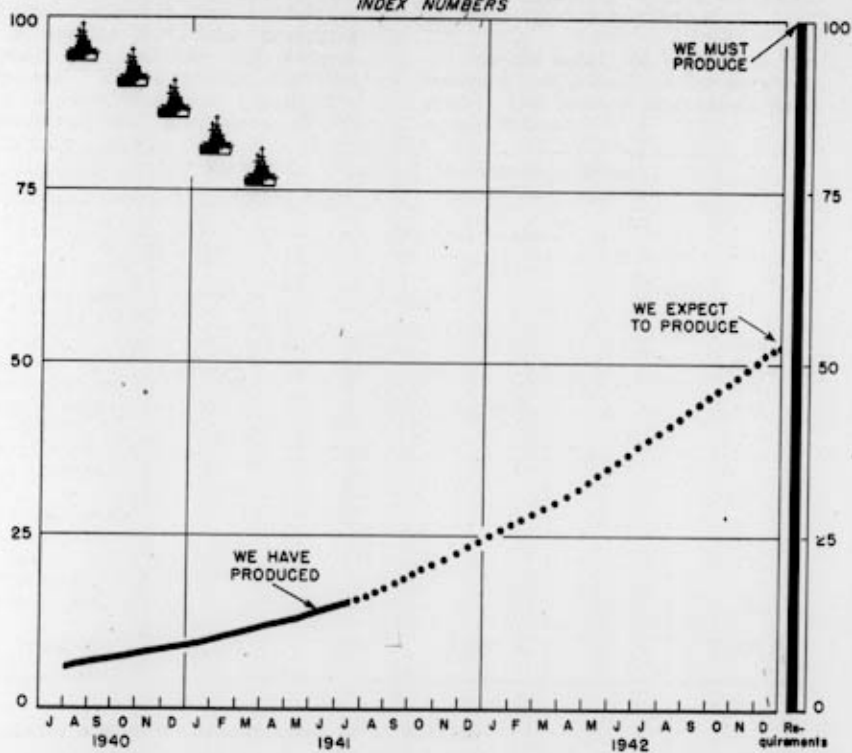
PERCENTAGES OF TWO-OCEAN NAVY TONNAGE REQUIREMENTS FOR MAJOR COMBAT SHIPS COMPLETED JULY 1, 1940 AND JULY 31, 1941

	Percentage Completed July 1, 1940	Percentage Completed July 31, 1941
Battleships	44.0	52.0
Large Cruisers	0	.5
Heavy Cruisers	61.5	62.4
Light Cruisers	31.0	38.0
Aircraft Carriers	31.2	34.3
Submarines	48.0	58.2
Destroyers	36.6 ^a	43.6

^a Allowance made for transfers and reclassification.

CHART 2 - COMBAT SHIPS
TOTAL PRODUCTION

INDEX NUMBERS



PENDING DEFENSE LEGISLATION

On August 15, both Houses of Congress approved the conference report on H.R. 5412 providing another \$7.5 billion for defense purposes. At the present time the bill is awaiting the President's signature. The provisions of the

bill classified by object are shown in the following tabulation.

Of the total, \$1 billion is for contract authorizations for merchant ships; the balance represents cash appropriations.

	War Department	Navy Department	Maritime Commission	Other Agencies	Total
	(Million Dollars)				
Airplanes, Engines, Etc.	204	90			294
Naval Ships and Parts		380			380
Ordnance	2,889	248			3,137
Other Munitions	535	163			698
Merchant Ships			1,699 ^a		1,699
Industrial Facilities		160			160
Posts, Depots, Etc.	173	308			481
Other Equipment and Supplies	454	61			515
Pay Roll		139			139
Subsistence, Travel, Etc.		21		12	33
Total	4,255	1,570	1,699 ^a		7,536 ^a

^a Includes contract authorizations of \$1 billion.

ECONOMIC ACTIVITY RELATED TO DEFENSE

Production. Total industrial production continued to increase during the month of July. The Federal Reserve Board index of total industrial production rose from 157 in June to 162 in July. The increasing extent, to which rising industrial production is affected by defense activity, is indicated by the rise in durable manufactures, heavily weighted with defense items, from 188 in June to 198 in July, while nondurable manufactures increased only one point from 141 in June to 142 in July. Production of minerals declined slightly.

Transportation and Electric Power. Both freight car loadings and electric power production were up substantially for the week ending August 16.

Prices. Materials of strategic and critical importance to the defense program show a slight upward tendency in prices for the week ending August 16.

DEFENSE PROGRESS SERIES

TOTAL UNITED STATES DEFENSE PROGRAM

	Monthly				Total—6/11/40* to	
	July 1940	January 1941	July 1941	August 1941	January 1 1941	August 16 1941
UNITED STATES ARMED FORCES	(Thousands, officers and enlisted men)					
Army	289	75	57	39	619	1,545
Navy and Marine Corps	196	14	15	R 6	258	R 348
Total active strength	485	89	72	R 45	877	R 1,893
FINANCIAL PROGRAM *						
PROGRAM	(Million dollars)					
Total	**	**	**	**	**	**
Ex British orders	**	**	**	**	**	**
CONTRACTS **						
Total	3,358	1,482	n.a.	n.a.	14,249	n.a.
Ex British orders	2,076	1,247	n.a.	n.a.	11,055	n.a.
Plus pay, sub., travel, etc.	3,434	1,608	n.a.	n.a.	14,797	n.a.
CASH DISBURSEMENTS						
Ex pay, sub., travel, etc.	518	791	924	R 575	2,722	9,050
Ex British orders, pay, sub., travel, etc.	101	612	849	R 525	1,364	6,850
Total	594	916	R 1,135	R 750	3,266	R 11,000
OBJECTS						
AIRPLANES, ENGINES, ETC.						
Program	1,634	84	R 495	0	4,613	R 12,223
Contracts **	889	511	n.a.	n.a.	3,343	n.a.
Cash disbursements	150	219	R 143	R 100	636	R 1,710
NAVAL SHIPS & PARTS						
Program	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Contracts **	1,207	48	n.a.	n.a.	4,438	n.a.
Cash disbursements	29	62	R 107	R 60	255	R 860
ORDNANCE (Incl. Naval Ordnance)						
Program	793	70	R 18	0	4,359	R 8,243
Contracts **	367	186	n.a.	n.a.	2,303	n.a.
Cash disbursements	62	70	R 104	R 60	362	R 1,100
OTHER MUNITIONS						
Program	375	1	R 47	0	872	R 2,145
Contracts **	46	103	n.a.	n.a.	439	n.a.
Cash disbursements	17	36	R 98	R 50	132	R 560
TOTAL MUNITIONS						
Program	3,470	155	R 1,502	0	15,915	n.a.
Contracts **	2,509	848	n.a.	n.a.	10,523	n.a.
Cash disbursements	258	387	R 452	R 270	1,385	R 4,230

For footnotes see page 11.
Table continued on following pages.

DEFENSE PROGRESS SERIES (Continued)

	Monthly				Total—6/11/40* to	
	July 1940	January 1941	July 1941	August 1941	January 1 1941	August 16 1941
(Million dollars)						
<u>MERCHANT SHIPS</u>						
Program	144	7	0	0	260	P 1,559
Contracts **	29	7	n.a.	n.a.	146	n.a.
Cash disbursements	39	17	P 28	P 20	134	P 300
<u>INDUSTRIAL FACIL.-CONS., EQUIP., & REAL ESTATE</u>						
Program	558	173	P 51	0	1,756	P 5,935
Contracts **	110	361	n.a.	n.a.	1,152	n.a.
Cash disbursements	51	68	P 176	P 100	201	P 1,100
<u>INDUSTRIAL FACIL.-CONSTRUCTION ONLY</u>						
Program	n.a.	P 50	0	0	P 830	P 1,607
Value in place	n.a.	52	P 191	P 106	124	P 872
<u>POSTS, DEPOTS, & FORTIFICATIONS</u>						
Program	712	0	P 56	0	1,498	P 3,715
Contracts **	230	88	n.a.	n.a.	714	n.a.
Cash disbursements	8	175	P 162	P 100	346	P 1,710
<u>HOUSING</u>						
Program	32	0	151	0	282	P 593
Contracts **	0	26	39	P 8	105	322
Cash disbursements	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<u>STOCKPILE PROGRAM</u>						
Program	60	85	0	0	503	P 984
Contracts **	52	28	n.a.	n.a.	248	n.a.
Cash disbursements	2	15	P 20	P 20	50	P 220
<u>OTHER EQUIPMENT & SUPPLIES</u>						
Program	591	63	P 7	0	1,516	P 3,639
Contracts **	428	106	n.a.	n.a.	1,246	n.a.
Cash disbursements	160	129	P 86	P 65	606	P 1,490
<u>PAY</u>						
Total						
Program	P 638	0	P 50	0	1,047	P 2,858
Cash disbursements	61	97	P 84	P 95	434	P 1,370
Army						
Program	349	0	0	0	729	P 1,954
Cash disbursements	34	58	P 57	P 60	245	
Navy						
Program	283	0	P 8	0	285	P 758
Cash disbursements	26	34	P 26	P 30	171	
<u>SUBSISTENCE, TRAVEL, MISC.</u>						
Program	482	5	194	0	835	P 2,121
Cash disbursements	15	28	P 127	P 80	110	P 580

For footnotes see page 11.
Table continued on following pages.

DEFENSE PROGRESS SERIES (Continued)

	Monthly				Total--6/11/40*to	
	July 1940	January 1941	July 1941	August 1941	January 1 1941	August 16 1941
<u>VALUE OF FACIL. ON APPLIC. FOR CERT. OF NECESSITY</u> (Million dollars) †						
Total			149			1,573
Approved, private funds			70			899
Approved, public funds			16			217
Pending			8			8
<u>DEFENSE HOUSING</u> (Number of dwelling units) †						
Fund allocations	1,460	7,772	13,135	0	46,311	123,433
Cons. contracts awarded	624	6,264	10,403	1,975	28,527	91,208
Construction completed	0	709	9,531	4,087	605	35,386
<u>AGENCIES</u>						
<u>U. S. MILITARY</u> (Million dollars)						
ARMY - Program	2,617	0	£ 6	0	8,377	£ 20,352
Contracts + pay,						
sub., travel, etc.**	584	1,062	n.a.	n.a.	4,916	n.a.
Cash disbursements	78	472	£ 538	£ 350	873	£ 4,750
NAVY - Program	**	**	**	**	**	**
Contracts + pay,						
sub., travel, etc.**	1,514	168	n.a.	n.a.	5,866	n.a.
Cash disbursements	87	206	£ 329	£ 200	825	£ 2,850
TOTAL- Program	**	**	**	**	**	**
Contracts + pay,						
sub., travel, etc.**	2,098	1,230	n.a.	n.a.	10,782	n.a.
Cash disbursements	165	678	£ 867	£ 550	1,698	£ 7,600
<u>DEFENSE AID (Lend-Lease)</u>						
Program			0	0		£ 7,000
Allocations						
Contracts			n.r.	n.r.		n.r.
Cash disbursements			£ 49	£ 30		£ 105
<u>MARITIME COMMISSION</u>						
Program	**	**	**	**	**	**
Contracts	n.a.	n.a.	**	**	**	**
Cash disbursements	8	13	£ 26	£ 20	70	£ 210
<u>RFC AND SUBSIDIARIES</u>						
Program	0	254	£ 5	0	912	£ 2,813
Contracts	0	103	**	**	612	**
Cash disbursements	1	20	£ 57	£ 50	52	£ 440
<u>BRITISH ORDERS</u>						
Program	1,283	234	£ -12	0	3,192	£ 3,657
Contracts **	1,283	234	£ -12	0	3,192	£ 3,657
Cash disbursements	417	179	£ 75	£ 50	1,358	£ 2,200
<u>OTHER AGENCIES</u>						
Program	550	0	469	0	991	2,115
Contracts	54	40			211	
Cash disbursements	3	26	£ 61	£ 50	88	£ 445

For footnotes see page 11. Table continued on following pages.

DEFENSE PROGRESS SERIES (Continued)

		Monthly				Total--6/11/40*to		Total Program
		July 1940	January 1941	July 1941	August 1941	January 1 1941	August 16 1941	
STOCKPILE ¹								
<u>ANTIMONY</u>	- Purchases	0	3,306	0	0	6,250	29,637	18,000
(short tons)	Deliveries	0	0	501	370	2,351	8,166	
<u>CHROME ORE</u>	- Purchases	95	1	32	0	384	679	1,300
(thous. long tons)	Deliveries	27	24	19	2	80	194	
<u>INDUS. DIAMONDS</u>	- Purchases			0	3,648		716,691	2,000
(thous. carats)	Deliveries			5,388	605,727		615,280	
<u>MANGANESE</u>	- Purchases	225	150	123	7	2,250	3,348	1,800
(thous. long tons)	Deliveries	65	43	6	8	113	341	
<u>MANILA FIBER</u>	- Purchases	25,590	8,000	12,000	4,625	51,496	116,171	395,257
(bales)	Deliveries	23,490	6,750	13,051	6,113	32,596	89,860	
<u>MERCURY</u>	- Purchases	0	750	0	0	5,750	5,000	10,000
(flasks)	Deliveries	0	500	0	0	550	2,050	
<u>MICA</u>	- Purchases	0	642	0	103	547	5,684	10,800
(thous. lbs.)	Deliveries	0	238	2,290	0		4,579	
<u>QUARTZ CRYSTALS</u>	- Purchases	19,700	0	0	0	104,170	99,270	702,000
(lbs.)	Deliveries	13,224	7,989	0		20,476	52,469	
<u>QUININE SULPHATE</u>	- Purchases	723	0	0	0	7,223	7,200	6,400
(thous. advp. oz.)	Deliveries	723	1,400	115,000	0	1,123	6,600	
<u>RUBBER</u>	- Purchases	55,878	20,035	82,106	34,109	167,086	378,900	517,000
(long tons)	Deliveries	32,437	29,186	13,027	1,317	105,279	220,346	
<u>TIN</u>	- Purchases	10,348	29,330	5,000	0	35,090	105,420	159,400
(long tons)	Deliveries	5,861	6,055	3,060	867	20,805	46,222	
<u>TUNGSTEN</u>	- Purchases	782	0	5,693	6,600	26,227	79,587	13,000
(short tons)	Deliveries	809	280	4	447	6,927	6,322	
<u>ESTIMATED TOTAL COST</u>		(Thousand dollars)						
Purchases		288,218	53,150	26,619		240,317	549,635	
Purchases without excess		250,276	41,562	16,626		207,159	396,941	
Deliveries		110,385	11,283	5,410		87,147	190,006	
Deliveries without excess		0	0	5,354		0	198,885	

For footnotes see page 11.

Table continued on following pages.

DEFENSE PROGRESS SERIES (Continued)

	1940	1941		
	July	January	June	July

DEFENSE EQUIPMENT INDEXES ¹

PRODUCTION RATE INDEXES (Indexes, prod., scheduled peak month=100)

Military airplanes	13.0	21.7	34.9	34.0
Combat vehicles	n.a.	10.1	31.8	
Combat vessels	£ 19.0	£ 31.0	£ 37.3	37.3
Army-type guns, total	n.a.	22.0	38.7	
Field artillery	n.a.	7.1	15.0	
Antiaircraft guns	n.a.	19.7	38.1	
Infantry-supporting guns	n.a.	21.6	36.2	
Merchant ships	10.3	14.4	24.0	

TOTAL PRODUCTION INDEXES (Indexes, cumul. since 7/40, prog. req.=100)

Military airplanes	0.5	4.4	10.7	12.1
Combat vehicles	n.a.	3.4	9.2	
Combat vessels	5.8	£ 9.5	£ 14.1	15.1
Army-type guns, total	n.a.	6.6	16.0	
Field artillery	n.a.	2.0	5.7	
Antiaircraft guns	n.a.	4.2	10.6	
Infantry-supporting guns	n.a.	9.2	22.0	
Merchant ships	0.5	4.0	8.3	

U. S. INVENTORIES (Indexes as of 1st of month, U. S. req.=100)

Military airplanes	7.0	8.6	12.6	£ 14.2
Combat vehicles	n.a.	4.4	8.0	8.8
Combat vessels, delivered	37.7	36.0	36.4	37.6
Army-type guns, total	n.a.	5.7	10.4	11.8
Field artillery	n.a.	6.4	9.2	9.7
Antiaircraft guns	n.a.	6.9	8.5	11.2
Infantry-supporting guns	n.a.	4.6	12.0	13.1
Merchant ships	54.1	n.a.	n.a.	49.0

¹ Data are as of the close of the month^a July inventories are as of the 1st of the month.

* Totals include defense program legislation beginning with June 11, 1940, British orders and disbursements in this country since November 1939, and those parts of the Army, Navy, Maritime Commission, and other agency authorizations and appropriations prior to June 11, 1940 which can be allocated to the defense program.

** Current and past data on program and contracts are being revised.

D Preliminary estimate. n.a. Not available n.r. Not released £ Revised.

(Table continued on next page).

DEFENSE PROGRESS SERIES (Continued)

ECONOMIC ACTIVITY RELATED TO DEFENSE/

	1940		1941			
	July	January	June	July	Week Ending	
					Aug. 9	Aug. 16
<u>FED. RES. BD. PRODUCTION INDEXES</u>						
			(Indexes 1935-39=100)			
Total industrial production	121	140	E 157	E 162		
Durable manufactures	132	170	E 188	E 198		
Nondurable manufactures	112	122	E 141	E 142		
Minerals	120	118	132	E 131		
<u>BUR. FOR. & DOM. COM. MFGS.</u>						
			(Indexes)			
<u>ORDERS, SHIPMENTS, INVENTORIES</u>						
New orders, total (1/39=100)	127	176	E 236			
Shipments, total (1/39=100)	117	148	E 190			
Inventories-total (12/31/38=100)	109.2	120.8	E 128.3			
Durable (12/31/38=100)	111.9	129.7	E 139.3			
Nondurable (12/31/38=100)	106.4	111.2	E 116.6			
<u>BLS PRICE INDEXES</u>						
			(Indexes)			
Strategic materials (8/39=100)	123.6	126.1	138.5	140.3	141.1	141.6
Critical materials (8/39=100)	107.5	111.7	114.8	115.2	115.1	115.5
Basic commodities (8/39=100)	108.5	120.5	146.3	140.7	151.7	150.7
Machine tools (8/39=100)	108.7	114.6	117.7	119.0	n.a.	n.a.
All commodities (1926=100)	77.7	80.8	87.1	88.0	89.6	89.6
<u>BLS COST OF LIVING INDEX</u>						
	100.3	100.8	104.6			
<u>TRANSPORTATION AND ELECTRIC POWER</u>						
			(Averages)			
Freight cars						890
Loadings (thous. per wk.)	707	684	E 878	854	878	
Unloads for export (cars dly.)	1,502	1,352	1,441	1,614	1,751	
Surplus, total (thous. daily)	133	110	71	62	59	
Box cars	57	43	34	25	22	
Coal cars	47	42	17	18	19	
Power prod. (mil. kwh. wkly.)	2,731	3,080	3,189	E 3,206	3,196	3,201
<u>NATIONAL INCOME</u>						
			(Billion dollars, annual rate)			
Total income payments	75.2	81.7	88.0			
<u>FEDERAL DEBT</u>						
			(Billion dollars, end of month)			
Net public debt	41.5	43.9	46.3	46.9		

/ Data are as of the close of the month or week or nearest available date.
 E Revised data. E Preliminary data. n.a. Data not available.
 (Table concluded on following page).

DEFENSE PROGRESS SERIES (Continued)

	1940	1941			
	July	January	June	July	Week Ending
					August 9 August 16
<u>AVERAGE HOURS WORKED PER WEEK #</u>				(Hours)	
Machine tools	47.5	50.4	51.9		
Aircraft	42.0	44.7	44.7		
Shipbuilding	39.3	41.8	45.3		
<u>AVERAGE HOURLY EARNINGS #</u>				(Cents)	
Machine tools	76.8	79.6	83.6		
Aircraft	73.8	77.6	79.9		
Shipbuilding	86.2	89.7	94.3		

/ Data are as of the close of the month or week or nearest available date.

Σ Revised data.

Δ Preliminary data.

n.a. Data not available.

Data furnished by the Bureau of Labor Statistics.

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The President 1

DEFENSE PROGRESS

NUMBER 53

AUGUST 29, 1941



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

This summary contains CONFIDENTIAL information affecting the defense of the United States. Revision of its contents in any manner to unauthorized persons is prohibited by the Espionage Act.

Ans. Brady

DEFENSE PROGRESS

Issue Number 53

Errata

Page 10, Table at bottom of page, boxhead in column 1 should read:
"Comparison with 1941"

Defense Progress Series

Total 6/11/40^B to
Aug. 31
1941
(est.)
(Million Dollars)

Page 20, Ordnance - Program should read:

11,681

Page 22, Other Equipment and Supplies - Program
should read:

4,154

DEFENSE PROGRESS



BUREAU OF RESEARCH AND
STATISTICS • STACY MAY, CHIEF

ECONOMIC ANALYSIS BRANCH
MORRIS A. COPELAND, CHIEF

LESTER S. KELLOGG,
ASSISTANT CHIEF & EDITOR

This summary contains CONFIDENTIAL information affecting the defense of the United States. Revelation of its contents in any manner to unauthorized persons is prohibited by the Espionage Act.

BRIEFS OF CONTENTS

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● PRODUCTION OF COMBAT VEHICLES, ANTI-AIRCRAFT GUNS, AND INFANTRY-SUPPORTING WEAPONS exceeded expectations during July 1941 and showed marked increases over June as reflected by the production rate indexes. Production of field artillery, however, dropped sharply and was only about one-third of the scheduled amount.	2
● NONDEFENSE AUTOMOTIVE EMPLOYMENT WILL DECLINE 265 THOUSAND by July 1942, due to the scheduled reduction in automobile output, if the 40-hour week continues in the industry. Defense employment in automobile firms is expected to increase by 123 thousand by that date. Further adaptation and utilization of the automotive industry to defense work will speed up defense production and will help to reduce unemployment resulting from curtailed passenger car production.	11
● MACHINE TOOL PLANTS HAVE MADE LITTLE PROGRESS SINCE MARCH in increasing employment on second and third shifts according to a June survey. In June 69 percent of wage earners were employed on the first shift compared with 71 percent in March. The largest plants have made the best showing but data indicate that substantial opportunity for more intensive operation still exists.	13
● THE SMALL INCREASE OF 1.4 PERCENT IN THE VALUE OF UNITED STATES EXPORTS in the first six months of 1941 compared with the corresponding period in 1940 indicates that United States aid to democracies has not reached expectations. About 80 percent of all exports are now subject to license control. Imports of strategic and critical materials have been more important in the first six months of 1941 than in the corresponding period of 1940; they comprised 36 percent of the total value in 1941 compared with 29 percent during the first six months of 1940.	16
● DEFENSE PROGRESS SERIES	19

ORDNANCE PRODUCTION

JULY, 1941

PRODUCTION OF COMBAT VEHICLES, ANTI-AIRCRAFT GUNS, AND INFANTRY-SUPPORTING WEAPONS exceeded expectations during July 1941 and showed marked increases over June as shown by the production rate indexes. Production of field artillery, however, dropped sharply and was only about one-third of the scheduled amount. The production rate indexes for airplanes and major combat ships were below schedule and about the same level as in June.^a

The indexes presented in this article correctly portray July production rates, total production through July 31, and July 31 inventories in relation to figures for earlier dates and in relation to the program as it was at the end of Fiscal Year 1941. They understate the present increased schedules and the present increased objectives of the defense program.

The funds appropriated in the Supplemental Appropriation Act of 1942 approved on August 25, 1941 will increase the production requirements for Army-type ordnance items above those shown in the total production index numbers here presented. These revised schedules and objectives will be presented in index number form in the near future. At this time, also, tactical requirements are being increased from a 3-million man basis, shown as 100 percent in the inventory indexes here presented, to a 3.2-million man basis. The production schedules presented in this article are as of June 1. There are increases in the August 1 schedules and it is likely that there will be further increases shortly.

Combat Vehicle Production: The production rate index, compared with estimated production in the peak month (October 1941) as 100, now stands at 60, almost twice the June level and 6 points above the schedule in effect on June 1, 1941. The speed at which monthly production of combat vehicles has increased, particularly since March 1941 and the increase of the actual rate over the scheduled rate may be seen in Chart 1. The increase over actual pro-

duction in June and scheduled production in July has been mainly due to high output of personnel carriers (half-track armored vehicles). Over 800 of these carriers were produced while production of less than 700 was scheduled. Output of medium tanks was also above schedule.

^a For a fuller discussion of production of planes and ships in July, see *Defense Progress*, Number 50, pp. 8-10, and Number 51, pp. 2-4.

CHART 1 - COMBAT VEHICLES
MONTHLY PRODUCTION RATE

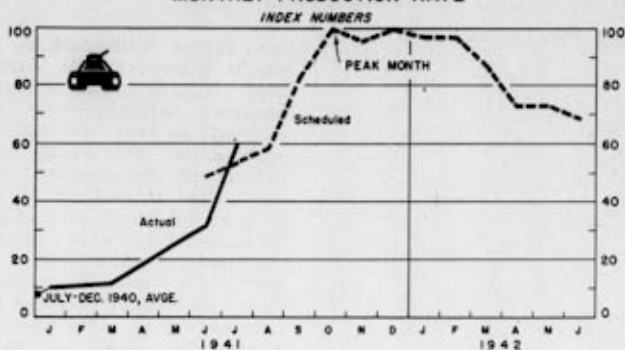


CHART 2 - COMBAT VEHICLES
TOTAL PRODUCTION

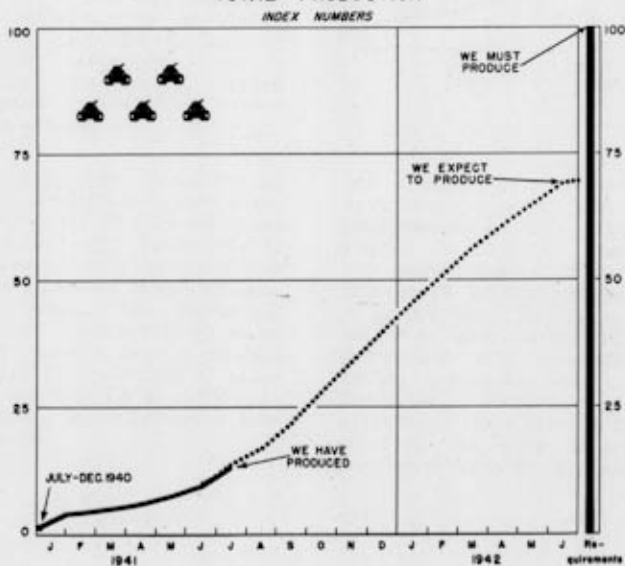


CHART 3 - COMBAT VEHICLES
U. S. INVENTORY INDEX

Total production of combat vehicles since the beginning of the defense program is now slightly over one-eighth of production requirements, as can be seen in Chart 2. Due to low production during June 1941, total accumulated production is behind schedules in effect on June 1, 1941. The index for July is 12.8 compared with the schedule of 13.5, and total production requirements of 100. If August production is as good as July production, this deficit will be made up inside of a month. On the basis of present plans, over half of the United States and British needs will be produced by the end of another six months.

About two-thirds of the combat vehicles produced in July were sent to Great Britain with the result (shown in Chart 3) that the index of United States inventory increased only slightly, from 9 to 10 percent of the amount needed for a three-million-man effort.

Field Artillery: No new 155 mm guns or 105 mm howitzers were produced in July (over 50 were scheduled for production) and production of carriages for modernizing old 155 mm guns was only half of scheduled output. As a result, the production rate index for field artillery shown in Chart 4 dropped from 15 in June to 8 in July. If production of these large guns had been up to the schedules of June 1, the index would have advanced to 26.

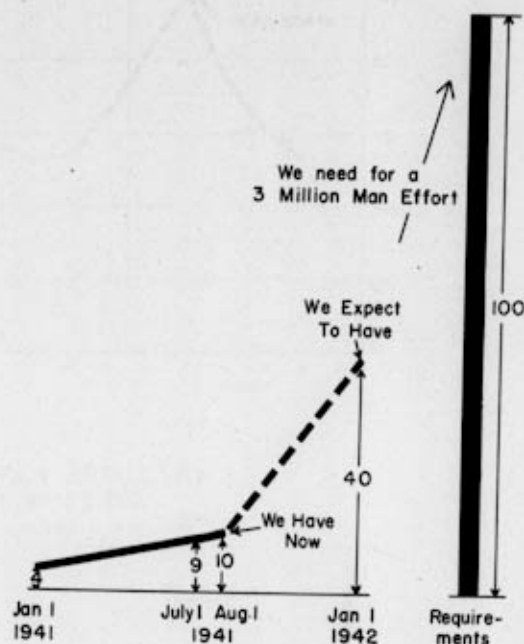


Chart 5 shows the index of total accumulated production of field artillery compared with production requirements as 100. The index now stands at slightly over 6, and at 1.5 points behind schedule reflects the result of the reduced July rate of production. It will be May 1942 before as much as half of total requirements will be produced if existing schedules are maintained hereafter. Production of field artillery at this time is the slowest of any of the items in the ordnance program covered by the indexes.

CHART 4-FIELD ARTILLERY
MONTHLY PRODUCTION RATE

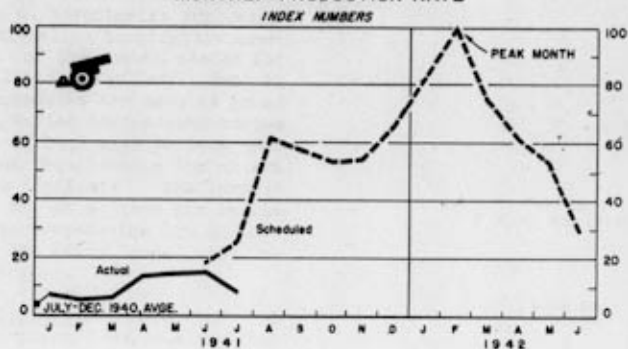
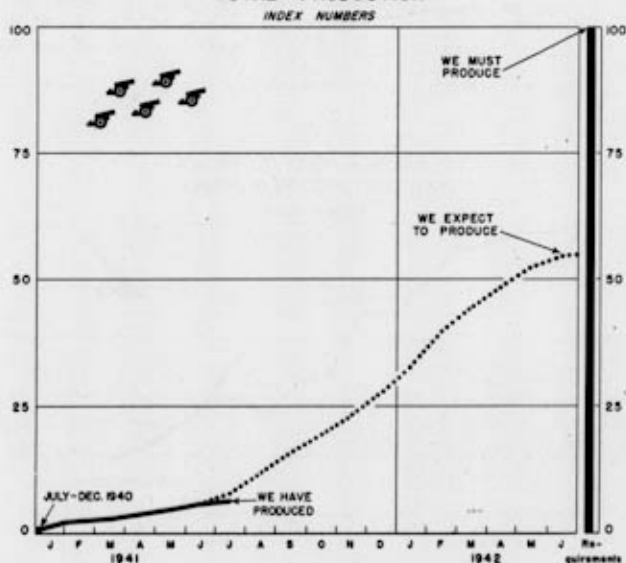


CHART 5 - FIELD ARTILLERY
TOTAL PRODUCTION



Despite the retention in this country of the major portion of July production of field artillery, the index of U. S. inventories increased only fractionally to slightly over 10 percent of the amount needed for a three-million-man effort. Even if existing schedules are met, as shown in Chart 6, United States inventories at the end of 1941 will be less than one-third of requirements for an all-out defense effort. The largest shortages at this time are in the new standard weapon—the 105 mm howitzer—and the heavy guns (155 mm guns and larger).

Antiaircraft: Production of light antiaircraft weapons declined during July, but production of the heavier guns increased markedly. The output of 3" and 90 mm guns in July was about three times the output in June and over twice as great as the output which had been planned on June 1. As may be seen in Chart 7,

CHART 6 - FIELD ARTILLERY
U. S. INVENTORY INDEX

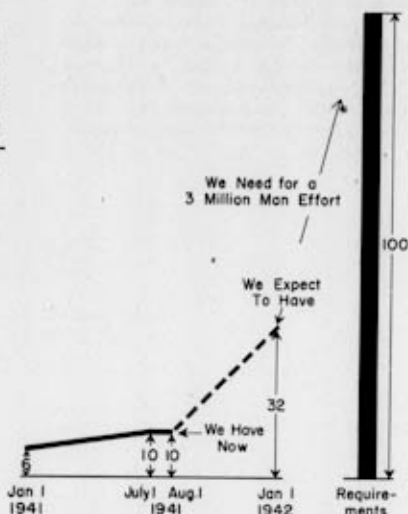
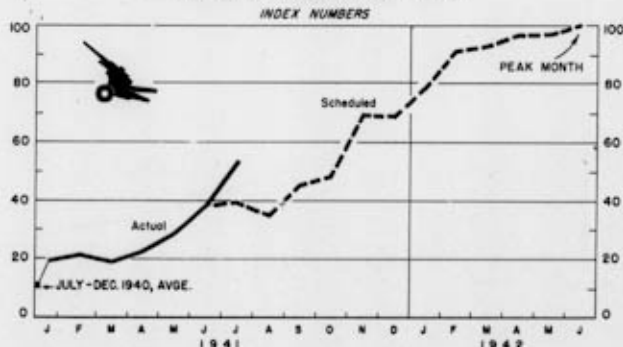


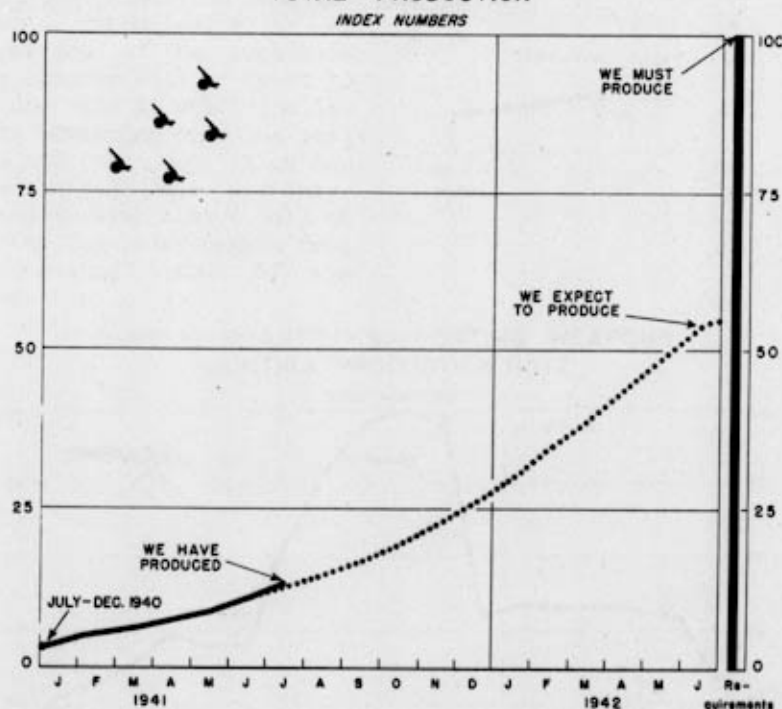
CHART 7 -ANTI- AIRCRAFT
MONTHLY PRODUCTION RATE



the production rate index jumped from 38 in June to over 52 in July, compared with production in June 1942 (peak month) as 100. It is also evident from the chart that the July index was well above schedule. This excess is due entirely to production of large guns.

The index of total production of antiaircraft weapons now is about half a point ahead of schedule at 13 percent of United States and British production requirements. If this rate is maintained, over half of present requirements will be produced by May 1942, or earlier.

CHART 8 - ANTI-AIRCRAFT
TOTAL PRODUCTION



Not over a third of the July output of antiaircraft weapons was sent abroad and the United States inventory climbed to nearly 13 percent of requirements. If this rate of production should continue in the future, and if only the present scheduled share of output is used for defense aid, then it is possible that more than the indicated 22 percent of needs will be on hand by the end of 1941.

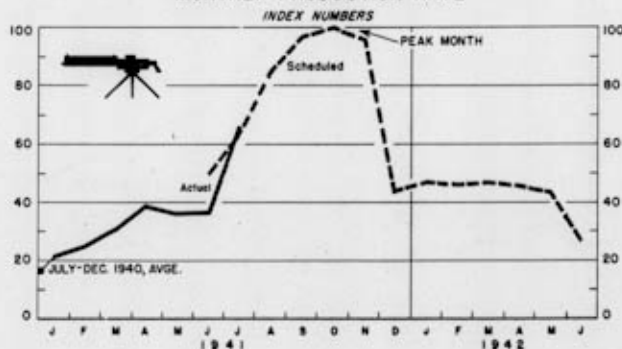
Infantry - Supporting Weapons.

Production of Thompson sub-machine guns during July exceeded output of Garand rifles (which were slightly ahead of schedule) and was enough above schedules in effect on June 1, 1941 to push the production rate index up from a scheduled 63 to an actual 65 percent of the peak rate expected in October 1941. Chart 10 indicates the rate at which the index has been advancing over the past few months and the jump which has taken place between June and July. At the present time almost all of the changes in the index result from rapidly increasing output of the Thompson gun.

CHART 9 -ANTI-AIRCRAFT WEAPONS
U. S. INVENTORY INDEX



CHART 10-INFANTRY-SUPPORTING WEAPONS
MONTHLY PRODUCTION RATE



Total accumulated production of infantry-supporting weapons is now over one-fourth of requirements. Although the index in July at 27 is 1 point behind scheduled total produc-

tion as shown in Chart 11, it should increase rapidly in the next few months, so that by October or November of this year, over half of present requirements will have been filled.

CHART II - INFANTRY-SUPPORTING WEAPONS
TOTAL PRODUCTION

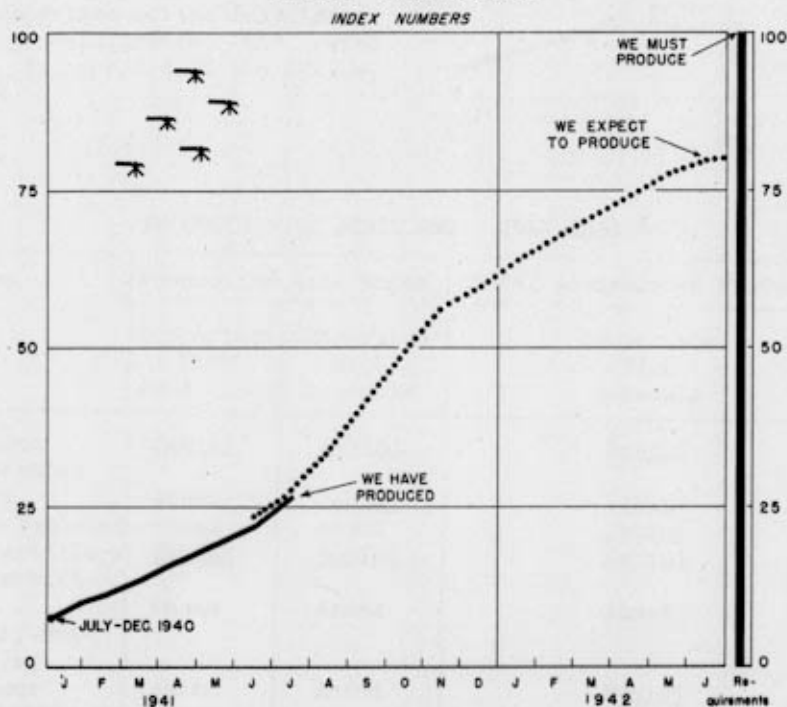
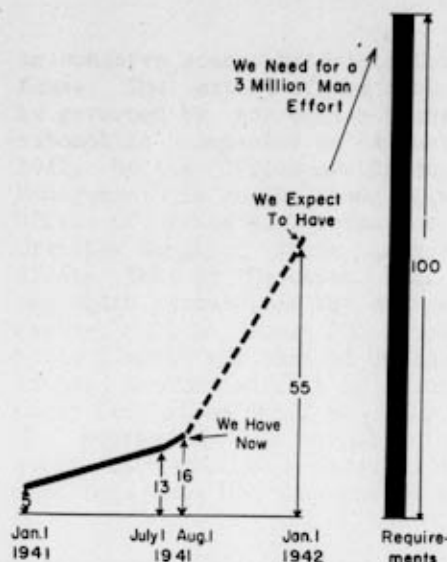


CHART 12-INFANTRY SUPPORTING WEAPONS
U.S. INVENTORY INDEX

The index of United States inventories of infantry-supporting weapons (which does not include Springfield rifles) has increased during the month from 13 percent to nearly 16 percent of the amount required for a 3-million-man Army and a full Navy. This increase occurred despite the shipment to Great Britain of about 60 percent of the total output of this type weapon. Chart 12 shows that on the basis of existing schedules, well over half of United States requirements for smaller weapons should be on hand by the end of another five months.

A comparison of the July indexes with the June indexes and with schedule is provided in the following table.

PRODUCTION OF MUNITIONS - JULY 1941 ^a

Item	Production Rate Index		Total Accumulated Production
	Comparison With June 1940	Comparison With Schedule	Comparison With Schedule
Airplanes	<u>Behind</u>	<u>Behind</u>	<u>Behind</u>
Major Combat Ships	<u>Ahead</u>	<u>Behind</u>	<u>Behind</u>
Combat Vehicles	<u>Ahead</u>	<u>Ahead</u>	<u>Behind</u>
Field Artillery	<u>Behind</u>	<u>Behind</u>	<u>Behind</u>
Antiaircraft Guns	<u>Ahead</u>	<u>Ahead</u>	<u>Ahead</u>
Infantry-Supporting Weapons	<u>Ahead</u>	<u>Ahead</u>	<u>Behind</u>

^a For data see pp. 23 of this issue.

Note: For a discussion of the series and weights used in constructing the indexes, see Defense Progress, Issue 46, p. 6 and Issue 47, p. 8.

DISPLACEMENT OF LABOR BY REDUCTION IN AUTOMOBILE OUTPUT

The scheduled reduction in the output of automobiles in the United States will reduce nondefense automotive employment by July 1942 by 232 thousand, on the basis of a 32-hour week, and by 265 thousand on the basis of the existing 40-hour week. ^A On the other hand, current estimates indicate that defense employment in the automobile companies will increase 51 thousand over July by December 1941 and an additional 72 thousand by July 1942.

The purpose of the scheduled reduction in passenger car output is

to conserve scarce materials for defense. The extent of the reduction is governed by the quotas issued to automobile companies on August 21, 1941, by the Office of Production Management in conjunction with the Office of Price Administration and Civilian Supply. These quotas indicate that by December 1941 the aggregate output for the entire industry will be about 200 thousand units a month and that in subsequent months production will be increasingly curtailed until by July 1942 the average monthly output of passenger cars will be reduced to somewhat more than 100 thousand units.

TABLE 1 - ESTIMATED REDUCTION OF NONDEFENSE AUTOMOTIVE EMPLOYMENT (HOURLY WORKERS ONLY)
AT ALTERNATIVE PROJECTED RATES OF PRODUCTION FOR 1942 MODEL YEAR
IN PLANTS OPERATED BY AUTOMOBILE MANUFACTURERS

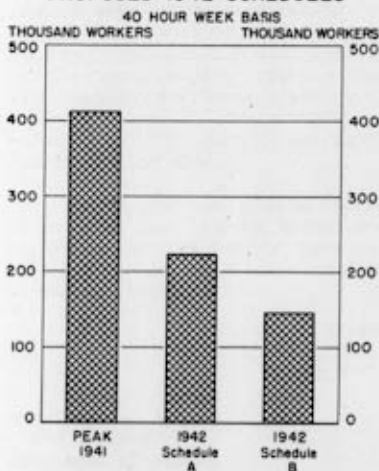
Company	Peak 1941 Automotive Employment	Estimated Reduction in Automotive Employment			
		Schedule A		Schedule B	
		Large Companies - 50% of 1941 Prod. Small Companies - 70% of 1941 Prod.		Large Companies - 25% of 1941 Prod. Small Companies - 50% of 1941 Prod.	
		32 Hours Weekly	40 Hours Weekly	32 Hours Weekly	40 Hours Weekly
Chrysler	64,658	17,130	26,635	32,756	39,137
Ford	114,913	37,729	50,742	61,524	70,594
General Motors	199,409	77,208	101,664	127,183	141,649
Hudson	11,131	4,291	5,431	5,631	6,031
Nash-Kelvinator	5,600	2,000	2,716	2,940	3,458
Packard	5,648	561	1,410	1,239	1,974
Studebaker	7,718	811	895	2,419	3,479
Willys	2,206	1,728 ^A	1,340 ^A	1,175 ^A	898 ^A
T o t a l	411,283	136,380	188,153	232,517	265,424

^A Includes 2,000 wage earners to be engaged in production of Military Reconnaissance Cars. Order for 16,000 military units to be completed December 31, 1941.

Nondefense employment in plants operated by passenger car manufacturers will be reduced from a 1941 peak of 411 thousand to 223 thousand at a monthly output of 200 thousand units, if the industry continues to operate a 40-hour week, and to 146 thousand at a monthly production rate of 100 thousand units. ^A

The estimated effects on nondefense employment of the reduction in automobile production are shown by companies in Table 1 and the accompanying Chart.

AUTOMOTIVE EMPLOYMENT
IN 8 FIRMS, 1941 PEAK AND
PROPOSED 1942 SCHEDULES



Estimates of employment were obtained on the basis of a 32-hour week and a 40-hour week so as to indicate the maximum and minimum of the reduction in employment. It must be remembered, however, that in

TABLE 2 - PROJECTED INCREASE IN NONAUTOMOTIVE DEFENSE EMPLOYMENT IN PLANTS OPERATED BY AUTOMOBILE MANUFACTURERS

Company	Actual Defense Employment July 1941	Projected Increase in Nonautomotive Defense Employment From July 1941 to -	
		December 1941	July 1942
Chrysler	1,189	6,200	6,200
Ford	3,397	10,323	40,323
General Motors	23,325	24,325	43,094
Hudson	489	2,186	5,845
Knott-Kelvinator	390	750	5,350
Packard	3,861	4,365	11,191
Pontiac	0	2,300	9,900
Willys	420	780	1,580
Total	31,071	50,879	123,084

cities experiencing extensive expansion of defense production, automobile plants would have difficulty in holding key personnel at 32 hours per week because of competition for men from adjacent plants offering 48 hours or more per week in defense work. In other localities where defense employment opportunities do not exist the impact of automotive curtailment can be minimized by reducing hours to 32 per week.

Nonautomotive defense employment, as shown in Table 2, has been considered exclusively in this survey. The adaptation of equipment now devoted to passenger car production to additional defense work is already resulting in new defense contracts and subcontracts. It is planned to utilize even further the capacity of the automotive industry in order to accelerate defense production and to help reduce unemployment resulting from the curtailment of passenger car production.

^A Based on surveys and estimates made by the Bureau of Labor Statistics with the cooperation of the automotive industry for the use of the OPM Automotive Division in setting its quotas.

SHIFT OPERATIONS IN THE MACHINE TOOL INDUSTRY *

A survey of the June operations in the machine-tool industry shows that little progress has been made in building up employment on the secondary shift as compared with March 1941.^A

Thus, there still exists substantial opportunity for more intensive operations. In the plants surveyed in March, 71 percent of the wage earners were employed on the first shift. In the June survey this proportion dropped to 69 percent. The percentage distribution of wage earners by shifts for all plants surveyed in March is compared with the June distribution in the accompanying chart. The distribution for three plants having the largest percentages of workers on the second and third shifts is also shown.

The machine-tool plants included in the June survey listed the following factors which have restricted expansion of operations on second and third shifts:

	Number of Plants Listing This Factor ^B
Shortages of skilled workers	61
Shortages of supervisory personnel	24
Difficulties in securing sufficient materials, parts, and supplies	20
Inadequate equipment	11
Legal restrictions	6

This emphasizes in striking fashion the importance of speeding training programs for skilled workers.

In general, the proportion of workers on the first shift will be larger than those on the second and third shifts even when a plant is obtaining maximum utilization of productive machines. Thus, in many of the plants surveyed in June, all productive machines were running full time with the same number of machine operators on each shift. In these plants 60 percent or more of the total plant force was engaged on the main shift, the preponderance of workers on this shift resulting from the secondary staff of workers for purposes of assembly, maintenance, and supply. These secondary workers, on one shift per day, are sufficient in most instances, to handle this type of work for all three shifts of the machine workers. However, the concentration of workers in the first shift is still so great for many plants that undoubtedly opportunities exist for increasing output by building up oper-

^A For a detailed report on the results of the survey of March 1941 operations, see "Defense Progress" Issue 34, May 9, 1941.

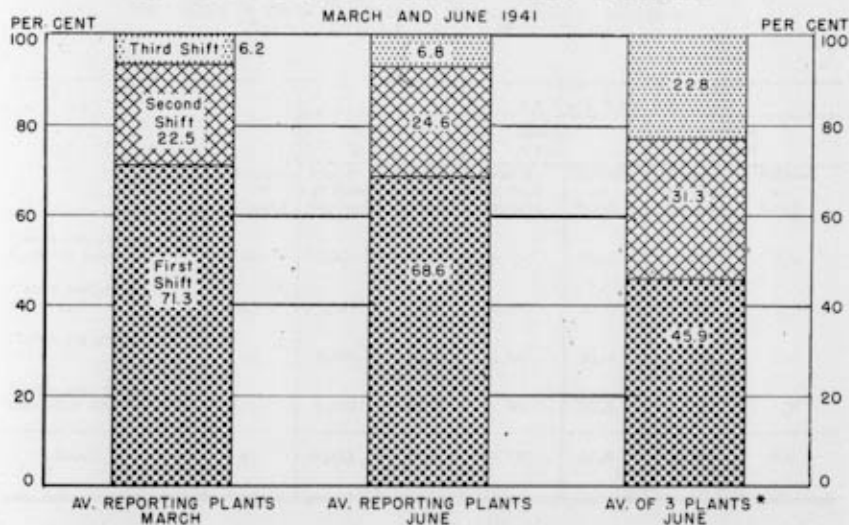
^B 85 plants were included in this survey but a number of these plants listed more than one factor.

ations on the second, and particularly the third shift.

Eight plants employing 20,200 wage earners indicated that they were operating their shifts at the maximum with present facilities. In these eight plants, 42 percent of the workers were employed on the second and third shifts.

The largest plants in the industry have gone farther in increasing operating schedules on second and third shifts than the small plants. In plants with 1,000 employees or over, 35 percent of the workers were employed on added shifts as compared with less than 20 percent for plants employing between 100 and 250 workers.

CHART 1-PERCENTAGE DISTRIBUTION OF WAGE EARNERS BY SHIFTS IN MACHINE TOOL PLANTS



*Average of 3 plants surveyed in June with largest percentage on 2nd and 3rd shifts.

These small companies may require special aid in helping them to solve this, as well as other problems.

Although employment in the 76 plants included in both the March and June surveys increased by 6,200 or 10 percent during the three months' period, average hours worked per man have shown a tendency to level off at around 52 hours per

week indicating practically no increase in overtime. Since this leveling off has prevailed since the first of the year, it suggests that, as the British experience has indicated, somewhere around 50 to 55 hours per week represents the maximum effective working period for the average worker.

* Prepared by the Bureau of Labor Statistics.

DISTRIBUTION OF NUMBER AND PERCENTAGE OF WAGE EARNERS IN MACHINE-TOOL PLANTS BY SHIFT AND SIZE OF PLANTS, JUNE 1941

	Number of Plants	EMPLOYMENT					
		First Shift		Second Shift		Third Shift	
		Number of Wage Earners	Percent of Total	Number of Wage Earners	Percent of Total	Number of Wage Earners	Percent of Total
Plants employing 1,000 or more	19	31,103	64.7	12,736	26.5	4,259	8.8
Plants employing 500 - 1,000	13	7,165	76.6	2,052	21.9	140	1.5
Plants employing 250 - 500	22	5,726	74.2	1,640	21.2	356	4.6
Plants employing less than 250	31	4,217	82.2	901	17.6	10	.2
Total	85	48,211	68.6	17,329	24.6	4,765	6.8

FOREIGN TRADE OF THE UNITED STATES

JANUARY, 1940 TO JUNE, 1941

The following table shows the total foreign trade of the United States for the first six months of 1937 to 1941.

FOREIGN TRADE FOR THE FIRST
SIX MONTHS 1937-1941

Year	Exports (Million Dollars)	Imports
1937	1,537	1,622
1938	1,591	942
1939	1,416	1,072
1940	2,064	1,244
1941	2,093	1,512

The total exports of \$2,093 million for the first six months of 1941 show an increase of 1.4 percent over the value of exports for the corresponding months of 1940. This slight increase indicates that United States aid to democracies has not been as great as was anticipated. The imports for consumption, valued at \$1,512 million, shows an increase of about 21 percent over the corresponding period of 1940. Both the kind and direction of trade have significantly changed since 1940. Total exports of the United States during 1941 have been dominated by military equipment and war effort materials. During the first half of 1940 the principal agricultural exports were raw materials such as cotton and tobacco, while during recent months of 1941 concentrated food products have become more important. Exports to Continental

Europe during the first half of 1941 amounted to only 15 percent of the total, or about \$400 million less than for the corresponding period of 1940, while exports to the United Kingdom increased by nearly 90 percent.

Imports of Strategic and Critical Materials. Imports of the principal strategic and critical materials represented 36 percent of the total value of imports during the first half of 1941 as compared with 29 percent for the corresponding period of 1940.^A Because of the shortage of materials for the defense program, the imports of these materials will constitute a still larger proportion of the total imports if overseas shipping facilities are available.

The accompanying Chart shows that the value of imports of the principal strategic and critical materials during the first half of 1941 exceeded those for the corresponding months of 1940. Imports of these materials are subject to wide monthly fluctuations due to the irregularity of ocean shipping facilities.

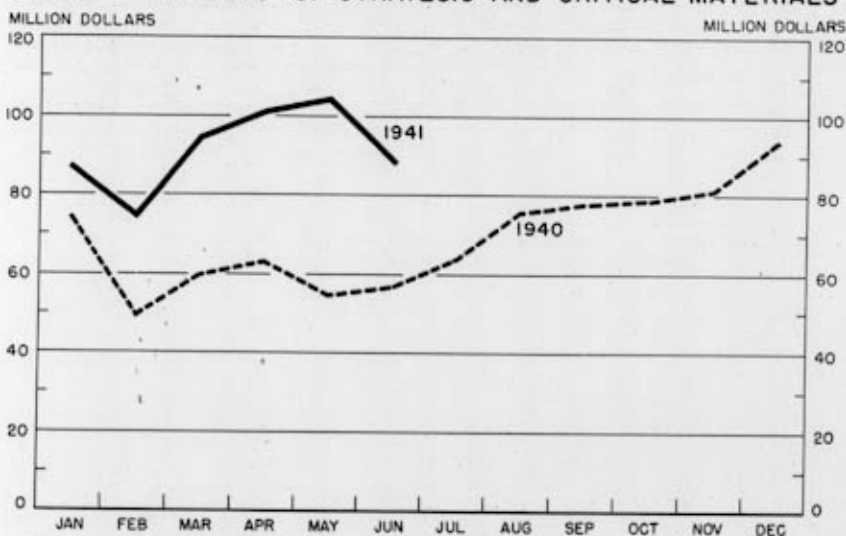
^A Strategic and Critical Materials as listed by the United States Tariff Commission in Current Imports of Strategic and Critical Materials, August 1940, with the addition of copper and nitrates.

ties. In the first half of 1941, in spite of shipping difficulties, the value of these imports amounted to \$552 million, exceeding the value of the imports for the first half of 1940 by \$193 million. Part of the increase in the value of imports resulted from higher prices, but there was an increase in the quantities of 22 of the 29 imported commodities.

Exports Under Control. In January 1941 about 37 percent of the total exports were subject to the

licensing system. In April the licensed exports increased to 47 percent and at the end of June, according to the latest data available, 39 percent was subject to control. It is estimated that more than 80 percent of the exports from the United States will be subject to the licensing system by the first of September 1941, due to the recent publication of additional Schedules and the Proclamation of July 17, 1941, making hundreds of additional items subject to export control.

CHART I - IMPORTS OF STRATEGIC AND CRITICAL MATERIALS



The following Table shows the value of exports by commodity groups for the six month period January to June 1941 and the percentage under export licenses for June.

	Exports For The First 6 Months of 1941	Percent Under Export License June 1941
	(Million Dollars)	
Animal and animal products, edible	54	4.5
Animal and animal products, inedible	22	17.8
Vegetable food products and beverages	77	6.3*
Vegetable products, inedible (except fibers and wood)	83	26.2*
Textile fibers and mfgs.	113	7.3
Wood and paper	74	88.2
Nonmetallic minerals	194	37.6
Metals and mfgs. (except machinery and vehicles)	346	79.9
Machinery and vehicles	851	41.3
Chemicals and related products	123	40.2
Miscellaneous	156	31.7
TOTAL, ALL GROUPS	2,093	39.2

* In Defense Progress No. 50, the Annual Review number, the percentages in these groups under license for May were inadvertently reversed.

DEFENSE PROGRESS SERIES

DEFENSE PROGRESS SERIES

On August 25 the President approved the first Supplemental 1942 National Defense Bill making available additional appropriations and authorizations amounting to \$7,536 million. The provisions of the bill by object and agency were shown last week on page 5 of Issue Number 52 of Defense Progress. At the present time there are no additional proposals before the Congress although it is expected that a supplemental Defense-Aid recommendation will be made shortly.

The total authorized defense program in the United States at the end of August totals \$60,017 million. The following chart shows the program, contract awards (as of June 30, the latest date available), and cash disbursements, estimated through the month of August. These indicators of progress in the defense program are classified by object and agency in "Defense Progress Data" on pages 19 through 23 of this issue.

Revisions in program data which are shown in this issue are due mainly to adjustments in the estimated costs of naval tonnage authorizations.

UNITED STATES ARMED FORCES

The armed forces of the United States are shown in the following table:

	1940		1941			
	June 30	Dec. 31	March 31	June 30	July 31	Aug. 31
	(Cumulative, thousands, officers and enlisted men)					
ARMY	266	619	1,143	1,449	1,506	1,576
Navy	186	258	293	327	£ 341	£ 356
TOTAL	452	877	1,436	1,776	£ 1,847	£ 1,932

FOOTNOTES

DEFENSE PROGRESS SERIES

See Opposite Page

P Preliminary

R Revised

n.a. Not available

n.r. Not released

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

b August estimates based on latest data available.

c Data are as of June 30. Revisions are now in process which it is reported will bring the contract award data up to date by the end of September 1941.

d Data as of July 31, 1941.

e Data as of August 23, 1941.

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

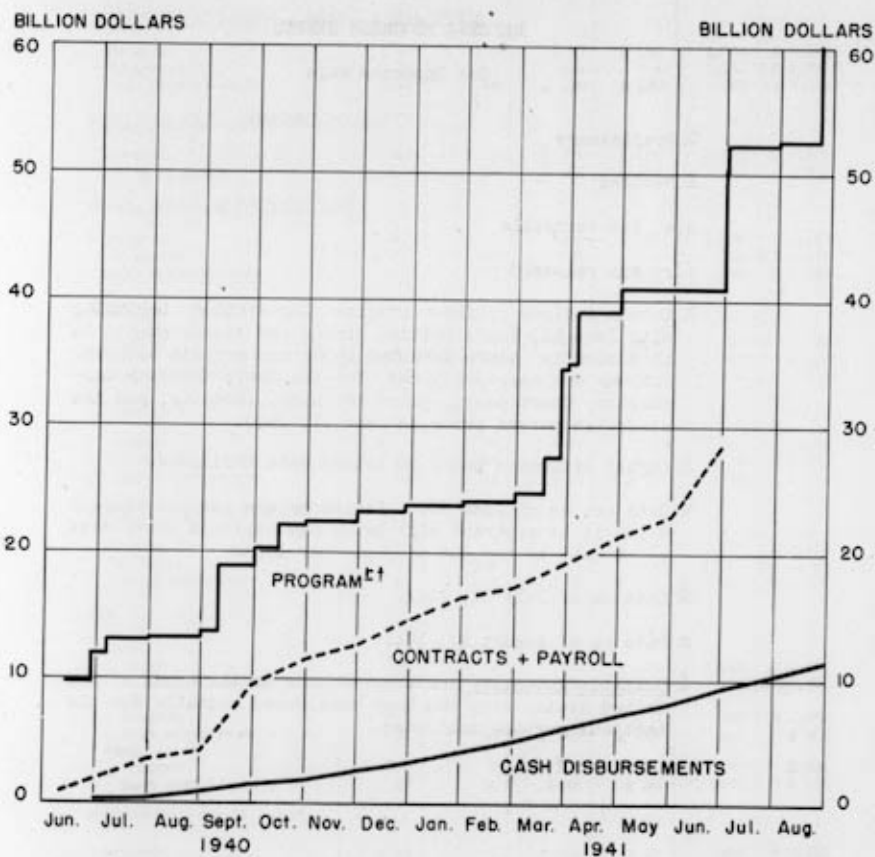
DEFENSE PROGRESS SERIES

TOTAL UNITED STATES DEFENSE PROGRAM

	Monthly				Total—6/11/40 ^a to	
	July 1940	January 1941	July 1941	Est. Aug. 1941	January 1941	August 31 1941 (Est.)
FINANCIAL PROGRAM						
(Million dollars)						
<u>PROGRAM</u>						
Total	£ 404	488	£ 2,601	£ 7,536	£ 23,658	£ 60,016
Ex British orders	£ 65	254	£ 2,612	£ 7,536	£ 20,467	£ 56,357
<u>CONTRACTS</u>						
Total	£ 1,541	1,482	n.a.	n.a.	14,249	£ 226,910 ^c
Ex British orders	£ 1,202	1,247	n.a.	n.a.	11,055	£ 223,239 ^c
Plus pay, subs., travel, etc.	£ 1,617	1,608	n.a.	n.a.	14,797	£ 228,499 ^c
<u>CASH DISBURSEMENTS</u>						
Ex pay, subs., travel, etc.	£ 310	791	911	£ 1,000	2,722	£ 9,462
Ex British orders, pay, subs., travel, etc.	£ 103	612	836	£ 930	1,364	£ 7,242
Total	£ 384	916	£ 1,138	£ 1,237	3,266	£ 11,490
<u>OBJECTS</u>						
<u>AIRPLANES, ENGINES, ETC.</u>						
Program	£ 193	84	495	£ 294	4,613	£ 12,518
Contracts	£ 358	511	n.a.	n.a.	3,343	£ 6,829
Cash disbursements	£ 105	219	£ 150	£ 170	650	£ 1,787
<u>NAVAL SHIPS & PARTS</u>						
Program	£ 0	0	£ 978	£ 380	6,071	£ 8,154
Contracts	£ 487	48	n.a.	n.a.	£ 4,438	£ 5,000 ^c
Cash disbursements	£ 30	62	£ 105	£ 105	255	£ 903
<u>ORDNANCE (Incl. Naval Ordnance)</u>						
Program	£ 8	70	£ 318	£ 3,137	£ 4,360	£ 11,601
Contracts	£ 203	186	n.a.	n.a.	2,303	£ 4,978 ^c
Cash disbursements	£ 41	70	£ 110	£ 120	362	£ 1,166
<u>OTHER MUNITIONS</u>						
Program	£ 6	1	£ 48	£ 698	872	£ 2,842
Contracts	£ 41	103	n.a.	n.a.	439	£ 2,953
Cash disbursements	£ 14	36	£ 70	£ 80	£ 132	£ 562
<u>TOTAL MUNITIONS</u>						
Program	£ 207	155	£ 1,839	£ 4,509	£ 15,916	£ 35,195
Contracts	£ 1,089	848	n.a.	n.a.	10,523	£ 17,760
Cash disbursements	£ 190	387	£ 435	£ 475	£ 1,385	£ 4,418

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

ENACTED DEFENSE PROGRAM,* CONTRACT AWARDS AND CASH DISBURSEMENTS



* United States and British Programs

† Revised

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

FOOTNOTES

DEFENSE PROGRESS SERIES

See Opposite Page

P Preliminary

R Revised

n.a. Not available

n.r. Not released

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

b August estimates based on latest data available.

c Data are as of June 30. Revisions are now in process which it is reported will bring the contract award data up to date by the end of September 1941.

d Data as of July 31, 1941.

e Data as of August 23, 1941.

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

DEFENSE PROGRAM SERIES (Continued)

	Monthly				Total--6/11/40 ^a to	
	July 1940	January 1941	July 1941	Est. Aug. 1 1941	January 1 1941	August 31 1941 (Est.)
(Million dollars)						
<u>MERCHANT SHIPS</u>						
Program	E 1	7	0	E 1,699	E 305	E 3,304
Contracts	E 1	7	n.a.	n.a.	146	E 1,462
Cash disbursements	E 19	17	E 30	E 35	134	E 317
<u>INDUSTRIAL FACIL.-CONS., EQUIP., & REAL ESTATE</u>						
Program	E 65	173	E 57	E 160	1,756	E 6,104
Contracts	E 80	361	n.a.	n.a.	1,152	E 2,761 ^c
Cash disbursements	E 26	68	E 170	E 180	201	E 1,174
<u>INDUSTRIAL FACIL.-CONSTRUCTION ONLY</u>						
Program	n.a.	E 50	E 350	E 193	E 830	E 2,150
Value in place	n.a.	52	E 161	E 225	124	E 945
<u>POSTS, DEPOTS, & FORTIFICATIONS</u>						
Program	E 0	0	E 62	E 481	1,498	E 4,181
Contracts	E 192	88	n.a.	n.a.	714	E 2,212
Cash disbursements	8	175	E 170	E 170	346	E 1,788
<u>HOUSING</u>						
Program	E 0	0	E 150	E 0	282	E 602
Contracts	0	26	39	E 17	105	E 331
Cash disbursements	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<u>STOCKPILE</u>						
Program	0	85	E 85	E 0	503	E 1,068
Contracts	52	28	n.a.	n.a.	248	E 470
Cash disbursements	2	15	E 20	E 30	50	E 230
<u>OTHER EQUIPMENT & SUPPLIES</u>						
Program	E 91	63	7	E 515	1,516	E 5,154
Contracts	E 127	106	n.a.	n.a.	1,246	E 1,749
Cash disbursements	E 65	129	E 86	E 110	606	E 1,535
<u>PAY</u>						
Total						
Program	E 0	0	50	E 139	1,047	E 2,997
Cash disbursements	61	97	E 155	E 159	434	E 21,504
Army						
Program	E 0	0	0	E 0	729	E 1,954
Cash disbursements	34	58	E 108	E 111	245	E 962
Navy						
Program	E 0	0	E 7	E 139	285	E 896
Cash disbursements	26	34	E 40	E 40	171	E 474
<u>SUBSISTENCE, TRAVEL, MISC.</u>						
Program	E 40	5	E 351	E 33	835	E 2,411
Cash disbursements	E 13	28	E 72	E 78	110	E 523

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

FOOTNOTES

DEFENSE PROGRESS SERIES

See Opposite Page

P Preliminary

R Revised

n.a. Not available

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DEFENSE PROGRAMS SERIES (Continued)

	Monthly				Total--6/11/40 to	
	July 1940	January 1941	July 1941	Est. Aug. 1941	January 1941	August 31 1941 (Est.)
AGENCIES						
<u>U. S. MILITARY</u>						
(Million dollars)						
ARMY - Program	£ 0	0	6	£ 4,255	8,377	£ 24,607
Contracts	£ 452	590	n.a.	n.a.	4,619	£ 9,050
" + pay, subs., etc.	£ 495	1,062	n.a.	n.a.	4,916	£ 9,992
Cash disbursements	£ 78	472	£ 538	£ 510	873	£ 23,868
NAVY - Program	£ 0	0	£ 1,883	£ 1,570	£ 9,987	£ 16,978
Contracts	£ 698	128	n.a.	n.a.	5,661	£ 9,445
" + pay, subs., etc.	£ 729	168	n.a.	n.a.	5,866	£ 9,916
Cash disbursements	£ 87	206	£ 329	£ 350	825	£ 2,322
TOTAL- Program	£ 0	0	£ 1,889	£ 5,825	£ 18,364	£ 41,585
Contracts	£ 1,150	1,118	n.a.	n.a.	10,280	£ 18,495
" + pay, subs., etc.	£ 1,224	1,230	n.a.	n.a.	10,782	£ 19,908
Cash disbursements	£ 165	678	£ 867	£ 860	1,698	£ 6,190
<u>DEFENSE AID (Lend-Lease)</u>						
Program	-	-	n.a.	n.a.	-	£ 7,000
Allocations	-	-	n.a.	n.a.	-	£ 5,177
Contracts	-	-	n.a.	n.a.	-	n.p.
Cash disbursements	-	-	n.a.	n.a.	-	£ 26
<u>MARITIME COMMISSION</u>						
Program	£ 40	0	0	£ 1,699	£ 200	£ 2,494
Contracts	0	n.a.	n.a.	n.a.	n.a.	£ 810
Cash disbursements	8	13	n.a.	n.a.	70	£ 156
<u>REC AND SUBSIDIARIES</u>						
Program	0	254	£ 253	£ 0	912	£ 3,061
Contracts	0	103	n.a.	n.a.	612	£ 1,142
Cash disbursements	1	20	n.a.	n.a.	52	£ 333
<u>BRITISH ORDERS</u>						
Program	£ 339	234	-11	£ 0	3,192	£ 3,659
Contracts	£ 339	234	-11	£ 0	3,192	£ 3,659
Cash disbursements	207	179	n.a.	n.a.	1,358	£ 2,081
<u>OTHER AGENCIES</u>						
Program	£ 25	0	£ 470	£ 12	991	£ 2,217
Contracts	£ 52	40	n.a.	n.a.	211	£ 502
Cash disbursements	3	26	n.a.	n.a.	88	£ 345
OTHER DEFENSE INDICATORS						
VALUE OF FACIL. ON APPLIC. FOR CERT. OF NECESSITY (Million dollars)						
Total	-	-	149	-	-	£ 1,573
Approved, private funds	-	-	70	-	-	£ 899
Approved, public funds	-	-	16	-	-	£ 217
Pending	-	-	61	-	-	£ 448
DEFENSE HOUSING (Number of dwelling units)						
Fund allocations	1,460	7,772	13,135	£ 1,957	46,311	£ 125,390
Cons. contracts awarded	624	6,264	10,403	£ 2,820	28,527	£ 92,043
Construction completed	0	709	9,531	£ 6,190	605	£ 37,489

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

FOOTNOTES

DEFENSE PROGRESS SERIES

See Opposite Page

P Preliminary

R Revised

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DEFENSE PROGRESS SERIES (Continued)

	1940			1941		
	July	September	December	March	June	July
DEFENSE EQUIPMENT INDEXES (See pages 2-10 of this issue)						
PRODUCTION RATE INDEXES (Scheduled peak month production=100)						
Military airplanes	13.0	10.0	19.6	27.0	34.9	34.0
Combat vehicles	n.a.	n.a.	n.a.	11.9	31.8	59.8
Combat vessels	19.0	20.0	22.7	31.1	37.3	37.3
Army-type guns, total	n.a.	n.a.	n.a.	28.4	38.7	61.9
Field artillery	n.a.	n.a.	n.a.	6.3	15.0	8.3
Antiaircraft guns	n.a.	n.a.	n.a.	19.1	38.1	52.5
Infantry-supporting guns	n.a.	n.a.	n.a.	30.3	36.2	65.0
	June 30	Sept. 30	Dec. 31	March 31	June 30	July 31
TOTAL PRODUCTION INDEXES (Production requirements=100)						
(Production since 7/40 cumulated to end of indicated month)						
Military airplanes	0.5	1.5	3.5	6.5	10.7	12.1
Combat vehicles	n.a.	n.a.	2.8	4.8	9.2	12.8
Combat vessels	5.8	6.9	8.7	11.1	14.1	15.1
Army-type guns, total	n.a.	n.a.	5.3	5.6	16.0	19.5
Field artillery	n.a.	n.a.	1.5	2.8	5.7	6.2
Antiaircraft guns	n.a.	n.a.	3.2	5.2	10.6	13.2
Infantry-supporting guns	n.a.	n.a.	7.6	13.5	22.0	26.9
U. S. INVENTORIES (U. S. tactical requirements=100)						
Military airplanes	7.0	n.a.	8.6	n.a.	13.4	14.5
Combat vehicles	n.a.	n.a.	4.4	n.a.	8.8	10.2
Combat vessels, delivered	37.7	n.a.	36.0	n.a.	36.6	36.6
Army-type guns, total, suitable f	n.a.	n.a.	5.7	n.a.	11.8	13.6
Field artillery, suitable f	n.a.	n.a.	6.4	n.a.	9.7	10.3
Antiaircraft guns, suitable f	n.a.	n.a.	6.9	n.a.	11.2	12.8
Infantry-supporting guns, suitable f	n.a.	n.a.	4.6	n.a.	13.1	15.6

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

FOOTNOTES

DEFENSE PROGRESS SERIES

See Opposite Page

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DEFENSE PROGRESS SERIES (Continued)

STOCKPILE

Commodity and Units	Two Year Program	Status of Orders	Monthly				Total--6/11/40 to	
			July 1940	January 1941	July 1941	Aug. 1-23 1941	January 1 1941	August 23 1941
<u>ANTIMONY</u> (short tons)	18,000	Purchases Deliveries	0 0	3,306 0	0 501	0 370	6,250 2,351	29,637 8,166
<u>CHROME ORE</u> (thou. long tons)	1,300	Purchases Deliveries	95 27	1 24	32 19	58 2	384 80	737 194
<u>INDUS. DIAMONDS</u> (thous. carats)	2,000	Purchases Deliveries	- -	- -	0 5,388	3,646 605,727	- -	716,691 615,280
<u>MANGANESE</u> (thou. long tons)	1,800	Purchases Deliveries	225 65	150 43	123 6	7 17	2,250 113	3,348 350
<u>MANILA FIBER</u> (bales)	395,257	Purchases Deliveries	25,590 23,490	8,000 6,750	12,000 13,051	4,675 6,113	51,496 32,596	116,171 89,860
<u>MERCURY</u> (flasks)	10,000	Purchases Deliveries	0 0	750 500	0 0	0 0	5,750 550	5,000 2,050
<u>MICA</u> (thous. lbs.)	10,800	Purchases Deliveries	0 0	642 238	0 2,290	178 0	547 0	5,759 4,579
<u>QUARTZ CRYSTALS</u> (lbs.)	702,000	Purchases Deliveries	19,700 13,224	0 7,989	0 0	0 0	104,170 20,476	99,270 52,469
<u>QUININE SULPHATE</u> (thous. avdp. oz.)	6,400	Purchases Deliveries	723 723	0 1,400	0 115	0 0	7,223 1,123	7,200 6,600
<u>RUBBER</u> (long tons)	517,000	Purchases Deliveries	55,878 32,437	20,035 29,186	82,106 13,027	61,500 1,407	167,086 105,279	406,291 220,436
<u>TIN</u> (long tons)	159,400	Purchases Deliveries	10,348 5,861	29,330 6,055	5,000 3,060	0 867	35,090 20,805	105,420 46,222
<u>TUNGSTEN</u> (short tons)	13,000	Purchases Deliveries	782 809	0 280	5,693 4	6,600 189	26,227 6,927	79,587 6,064

ESTIMATED TOTAL COST								
				(Thousand	dollars)			
Total program	n.a.	0	0	0	0	484,572	561,872	
Purchases	n.a.	47,901	53,150	40,044	240,317	563,061		
Purchases without excess	n.a.	43,117	41,562	30,052	207,159	410,367		
Deliveries	n.a.	23,238	11,283	5,295	87,147	189,947		
Deliveries without excess	n.a.	23,238	11,212	5,295	87,147	189,826		

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

DEFENSE PROGRAMS SERIES (Continued)

ECONOMIC ACTIVITY RELATED TO DEFENSE

	1940	1941			
	July	January	June	July	Week Ending August 14 August 23
<u>FED. RES. BD. PRODUCTION INDEXES</u>					
			(Indexes 1935-39=100)		
Total industrial production	121	140	157	E 162	
Durable manufactures	132	170	188	E 198	
Nondurable manufactures	112	122	141	E 142	
Minerals	120	118	132	E 131	
<u>BUR. FOR. & DOM. COM. MFGS.</u>					
<u>ORDERS, SHIPMENTS, INVENTORIES</u>					
			(Indexes)		
New orders, total (1/39=100)	127	176	E 229		
Shipments, total (1/39=100)	117	148	E 191		
Inventories-total (12/31/38=100)	109.2	120.8	E 128.5		
Durable (12/31/38=100)	111.9	129.7	E 139.1		
Nondurable (12/31/38=100)	106.4	111.2	E 117.1		
<u>BLS PRICE INDEXES</u>					
			(Indexes)		
Strategic materials (8/39=100)	123.6	126.1	138.5	140.3	141.6 142.1
Critical materials (8/39=100)	107.5	111.7	114.8	115.2	115.5 115.5
Basic commodities (8/39=100)	108.5	120.5	146.3	148.7	150.7 150.7
Machine tools (8/39=100)	108.7	114.6	117.7	119.0	n.a. n.a.
All commodities (1926=100)	77.7	80.8	87.1	88.0	89.6 90.0
<u>BLS COST OF LIVING INDEX</u>					
			(1935-39=100)		
	100.3	100.8	104.6	105.2	
<u>TRANSPORTATION AND ELECTRIC POWER</u>					
			(Averages)		
Freight cars					
Loadings (thous. per wk.)	707	684	878	854	890 900
Unloads for export (cars dly.)	1,502	1,352	1,441	1,614	1,683 1,566
Surplus, total (thous. daily)	133	110	71	62	51
Box cars	57	43	34	25	21
Coal cars	47	42	17	18	12
Power prod. (mil. kw. wkly.)	2,731	3,080	3,189	E 3,206	3,201 3,193
<u>NATIONAL INCOME</u>					
			(Billion dollars, annual rate)		
Total income payments	75.2	81.7	88.0	89.1	
<u>FEDERAL DEBT</u>					
			(Billion dollars, end of month)		
Net public debt	41.5	43.9	46.3	46.9	

E Revised data.

E Preliminary data.

n.a. Data not available.

(Table concluded on following page).

DEFENSE PROGRESS SERIES (Continued)

	1940	1941				
	July	January	June	July	Week Ending	
					August 16	August 23
<u>EMPLOYMENT</u>						
		(Thousand workers)				
Total civil nonagricultural	35,454	36,621	38,790	39,241		
Total WPA employment	1,655	1,890	1,410	1,055	1,042	1,043
Defense						
Private, 18 major industries	1,660	2,036	2,417	P 2,523		
Priv. contractors, pub. constr.	13	448	382			
Public	155	203	227			
Total direct defense	1,828	2,687	3,026			
Deep-sea merchant vessels	51	49	51	50		
<u>UNEMPLOYMENT (WPA Estimate)</u>						
		(Million workers)				
Number of unemployed	9.3	7.6	5.9	5.6	5.3	
<u>LABOR DISPUTES</u>						
		(Monthly figures)				
<u>PLANTS WITH IMPORTANT DEFENSE CONTRACTS</u>						
Number strikes in progress	n.a.	13	11	15		
Workers involved (thousands)	n.a.	26	28	P 13		
Man-days idle (thousands)	n.a.	146	103	P 160		
<u>ALL INDUSTRIES A</u>						
Number strikes in progress	390	330	P 670	P 700		
Workers involved (thousands)	83	109	P 216	P 235		
Man-days idle (thousands)	529	665	P 1,375	P 1,300		

A Data furnished by the Bureau of Labor Statistics.

n.a. Data not available.

P Preliminary data.

R Revised data.