

War Expenditures and National Production

By Milton Gilbert

FROM the initiation of the rearmament program in the middle of 1940 to the attack on Pearl Harbor, the American economy experienced a phenomenal increase in activity. The adjusted index of industrial production rose from 116 in May 1940 to 167 in December 1941 and the index of income payments from 110 to 149 over the same period. Civilian nonagricultural employment increased by 5,500,000, concurrent with an increase in the armed forces of more than 1,500,000, and the average factory workweek rose from 37 to 40.5 hours. The national income was expanded over this period from an annual rate of 75 billion dollars in the middle of 1940 to an annual rate of about 104 billion at the end of 1941.

This tremendous spurt in economic activity not only allowed a substantial start to be made in the rearmament effort, but produced record output of many types of civilian goods, including those for both consumption and capital formation. In other words, the increase in military expenditures from under 3 billion dollars in 1940 to over 13 billion in 1941, far from being associated with a reduction in civilian consumption, was actually accompanied by the highest level of consumption in our history.

Since the attack on Pearl Harbor and our entrance into war in both Europe and Asia, the military program has been increased substantially so as to provide the overwhelming superiority necessary to insure complete victory. The President announced in his budget message that military expenditures of 56 billion dollars would be required in the fiscal year 1943. It has been generally recognized that the expenditure of this huge sum for equipping and maintaining a large armed force and for assisting the Allied Nations will necessitate sweeping changes in our economy. The nature of these changes, however, have not been fully understood. While many details of the supply situation a year hence cannot possibly be foreseen today, we can inquire into the general character of the economic requirements of total war and into the implications of those requirements for present policy.

Comparison of National Income and War Expenditures.

It may prove of assistance to some readers to discuss briefly one of the sources of confusion concerning the impact of the war program upon the economic structure; namely, that which has arisen from inappropriate comparisons of war expenditures and national income.¹

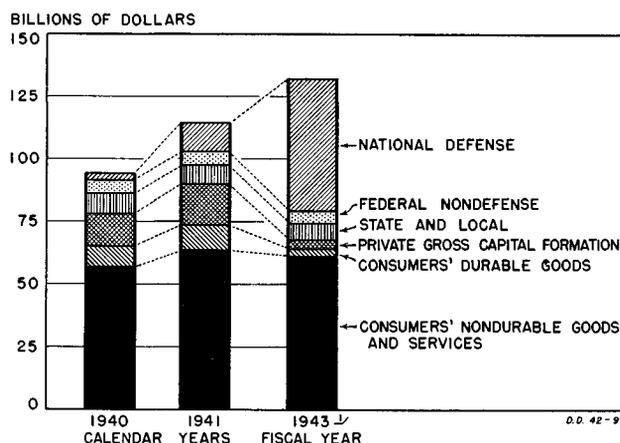
The total of war expenditures expressed as a percentage of national income, can be used to symbolize the

¹ For a more complete discussion of this problem, see: "Measuring National Income as Affected by the War," a paper presented by the writer at the annual meeting of the American Statistical Association, December 27, 1941.

general magnitude of the war effort, or its changes over time. However, the projected war program of 56 billion dollars frequently has been subtracted from a forecasted national income total for the fiscal year 1943, in the belief that the remainder would represent the output of goods and services available for civilian consumption. This remainder is then contrasted with one calculated for 1941 and a conclusion is drawn as to the extent of curtailment of consumption required to realize the war program.

For example, projected war expenditures of 56 billion dollars have been subtracted from an assumed

Figure 5.—Utilization of Gross National Product, 1940-41, and Requirements of the War Program for the Fiscal Year 1943



¹ Calculated in 1941 prices. Represents calculated requirements, not a forecast. Source: U. S. Department of Commerce.

national income total for fiscal 1943 of 110 billion, leaving a residual of 54 billion. In 1941, on the other hand, defense expenditures were 13.2 billion and national income 94.5 billion, leaving a comparable residual of 81.3 billion. It is then concluded that goods for consumers must be cut by a third if the real resources required for the war program are to be made available.

Such a use of national income and war expenditure statistics does not produce useful or significant results. It does not show the real character of the economic problem and cannot yield proper directives for economic policy. It does not show the disposition of economic resources required for the fulfillment of the war program, the changes that are necessary in the structure of production, nor the nature or magnitude of the fiscal problem involved.

The reason is that the national income is a type of aggregate which is not strictly comparable with the total of war expenditures. The latter figure represents, largely, purchases of the current output of goods and

services, measured in terms of market prices paid. Therefore, the statistical quantity with which it can legitimately be compared is the aggregate of all final goods and services produced within a given period, valued at their market prices. The national income, on the other hand, measures the *net* value of current output as the sum of the net returns to the various factors of production in the form of wages, salaries, interest, rents and royalties, and *net* profits earned.

Further incomparability arises because total war outlays include several types of expenditure which do not utilize current output, and which cannot, therefore, be compared with or subtracted from current output.

There are two major changes which must be made in order to convert national income into a measure of the aggregate of goods and services at market prices.² In the first place, a significant proportion of the proceeds realized from the sale of privately produced goods and services accrues directly to the Government in the form of corporation income taxes, excise taxes, and other business taxes and does not ever appear in the income accruing to any of the factors of production. Thus, it does not appear in the national income. The Government, itself, in other words, may be said to be the recipient of a distributive share of the income paid out by business. Clearly, the amount it receives in this fashion must be added to the national income if a total is to be built up which measures the value *at market prices* of all final output. In the second place, it is desirable, in analyzing the impact of war expenditures upon the national economy, to consider the *gross* output of capital goods.³ But in computing the national income, current depreciation and depletion are deducted from gross capital formation in order to yield a *net* figure. Therefore, these amounts, too, must be added back in order to yield an aggregate of the type required. The quantity derived by making these two additions to national income may be designated as the *gross national product or gross national expenditure at market prices*.⁴

Gross national expenditure (or product), as thus defined, consists of two elements. First, it must contain the value of the output of private enterprise at market prices. This component could be obtained by summing the sales of all business units, adjusting for changes in inventory, and then deducting interbusiness purchases. The figure for the value of output of private enterprise that would be obtained by this computation

² It may be pointed out that the incomparability between national income and war expenditures can be eliminated by converting war expenditures to a factor cost basis, as well as by the method used here. The writer believes that for general analysis the method used here is both easier to grasp and presents fewer statistical difficulties.

³ For some purposes, of course, it is desirable to compare war expenditures with net national product. That procedure might bring into sharper focus, perhaps, the fact that net capital consumption is an important source of war finance in real terms. However, the accounting measure of depreciation and depletion is so faulty an indication of capital consumption—particularly in war time when rates of obsolescence become fairly negligible—that it was considered less ambiguous to use gross product for the purpose of this article.

⁴ The terms "gross national product at market prices" and "gross national expenditure" are used interchangeably in this article. Those accustomed to using the gross national product estimates of Professor Kuznets will recognize that his concept differs materially from that presented here, because the two measures were designed for different purposes.

can best be visualized as the income from sales that would be shown on a consolidated income statement for all private business, with adjustment for changes in inventory holdings. In addition, the gross national product aggregate must contain the value of the goods and services produced directly by the Government in terms of their cost to the Government. This sum could be obtained by adding the various payments made to factors of production employed directly by Government. The sum of these two components could then be broken down by various categories of expenditure so as to show the relation of war expenditures to those for other types of goods and services.

Direct estimates of this concept of gross national expenditure at market prices, derived by multiplying the various quantities of goods produced by their market prices, are not available. However, indirect estimates can be derived through the national income statistics and certain other available data. The results must, of course, be tentative but it is believed that sufficient accuracy can be obtained to clarify the economic problems associated with the conversion to a war economy. The additions to national income that are required to approximate the concept of gross national expenditure defined above are shown in table 1.

Table 1.—Derivation of Gross National Product at Market Prices From National Income (at Factor Costs)

[Billions of dollars]			
Item	1939	1940	1941 ¹
Gross national product at market prices.....	86.3	94.3	114.7
National income.....	70.8	77.2	94.5
Corporation income, excess profits, and capital stock taxes ²	1.6	2.4	6.4
Other business taxes ³	7.8	8.2	9.4
Depreciation and depletion charges.....	5.2	5.4	5.9
Other charges and reserves ⁴	1.1	1.0	1.5
Inventory revaluations.....	-.2	+.1	-3.0

¹ Preliminary.

² Federal and State taxes, accrual basis.

³ Excise, sales, and other direct business taxes, plus 75 percent of State and local property taxes. Excludes pay-roll taxes, which are included in national income estimates.

⁴ Emergency and contingency reserves and bad debt allowances.

Source: U. S. Department of Commerce.

At the cost of some repetition a few comments may be added to clarify the relation between these two concepts. National income is equal to the net value of economic goods produced as represented by the sum of the returns paid or accruing to the various factors of production. It consists of salaries and wages, various supplements to labor income, entrepreneurial withdrawals, interest, dividends, net rents and royalties, and undistributed profits after taxes but before capital gains and losses. The national income, therefore, already contains the cost value of Government production which forms one component of the gross national product. So far as the output of private enterprise is concerned, however, the national income does not contain the whole of the income from sales that would be shown on the consolidated income statement of all private business. It contains only such revenues that are transferred or that accrue to the various

factors of production. And, while this total represents the bulk of business revenues, it does not equal them. The major charges against business revenues which must be added to factor incomes to approximate the sales value of private enterprise output are, as indicated previously, all taxes paid by business and accounting depreciation and depletion.

There are also other categories of reserves which can be estimated only in part at this time. The addition of "business taxes" and "other charges" to the national income are required in order to convert the sum of the factor returns to the sales value of output at market prices. The addition of depreciation and depletion charges is required because of the desirability of considering the gross output of capital goods in this analysis.

An adjustment for revaluation of inventory has also been made in deriving the estimates of gross national product at market prices. It is of a different character than the other additions. The purpose of this adjustment is to eliminate that part of the change in the book value of inventories which represents essentially a capital gain or loss so as to leave only the current value of the physical change in inventory holdings in the gross national product.

It should be pointed out that the estimates of "business taxes" that have been added to national income in table 1 have nothing to do with the *incidence of taxation*. They consist of those taxes which are paid by or through business firms as a matter of administration, whether they are passed on to the consumer in the form of higher prices or not. The first component of business taxes includes corporate income, excess profits, and capital stock taxes. This figure does not include income taxes paid by owners of unincorporated businesses since these are not deducted from business income in the estimates of the national income. The second component contains estimates of all other taxes paid by business units to all Government units with the exception of pay-roll taxes paid by employers under the Social Security system. The latter are included in the national income as a supplement to labor income.

Distribution of Gross National Expenditure.

In table 2 is presented a breakdown of the gross national expenditure as defined above, showing, in part, the type of purchaser and, in part, the type of product purchased. So far as the purchases of Government are concerned, these are shown only as either defense or nondefense. In the sphere of private purchases, some of the details of capital expenditure and consumption expenditures are set forth. Before proceeding with an analysis of the data, it may be helpful to introduce a few words in explanation of the various items shown.

The first item of expenditures in table 2 is national defense expenditures. The figure consists of the amount shown in the Daily Treasury Statement plus

changes in the assets of the various national defense corporations, apart from changes in their cash balances. This defense expenditures total, however, does not all represent utilization of current output as measured by the gross national product. Consequently, it is necessary to deduct that part which makes no draft on current output. This is the explanation of the negative figures shown as the second item in table 2. The major components of this adjustment are net advance payments made to holders of war contracts for which no goods have as yet been received, purchases of land and other existing capital assets, apart from inventories, and offshore expenditures, apart from goods for import into the United States.

Similarly, in the case of Federal nondefense and state and local expenditures, the items included in the table are not gross budgeted expenditures but only such parts of Government outlays as are used to purchase current output of goods and services. Budgeted expenditures have been adjusted to eliminate such outlays as inter-governmental transfers, direct relief, Social Security benefits, veterans' pensions, purchases of land, etc., since none of these appear in the estimate of gross national expenditure. The figures include all Government production of goods and services utilized by Government, as well as that part of the current output of private enterprise which was purchased by Government.

Table 2.—Composition of Gross National Expenditure, 1939-41, and Estimated Requirements for Fiscal Year 1943

[Billions of dollars]

Item	1939	1940	1941	1943 ¹
Gross national expenditure (or product).....	86.3	94.3	114.7	132.0
Government expenditures for goods and services.....	15.3	16.2	24.7	64.5
National defense expenditures ²	1.4	2.8	13.3	56.0
Prepayments, land, etc. ³	—	—	-1.5	-3.0
Federal nondefense ⁴	6.0	5.7	5.1	4.5
State and local ⁵	7.9	8.0	7.8	7.0
Private output for private use ⁶	71.0	78.1	90.0	67.5
Private gross capital expenditures.....	10.0	13.1	16.2	3.5
Construction:				
Residential.....	2.0	2.3	2.7	.5
Factory and public utility.....	.8	1.1	1.4	.8
Other.....	.9	1.0	1.1	.2
Equipment.....	4.2	5.6	6.5	3.0
Net change in foreign claims ⁷8	1.3	1.5	.5
Net change in inventories ⁸	+1.3	+1.8	+3.0	-1.5
Consumers' purchases ⁹	61.0	65.0	73.8	64.0
Durable goods.....	7.2	8.4	10.5	3.0
Nondurable goods and services ⁹	53.8	56.6	63.3	61.0

¹ Fiscal year. All values in 1941 prices. Represents calculated requirements, not a forecast.

² Daily Treasury Statement total, plus changes in assets of national defense corporations (except for changes in cash balances).

³ Adjustment to eliminate expenditures which are not against items included in the gross national product.

⁴ Excludes transfer expenditures not included in the national income estimate.

⁵ Based upon tax estimates plus changes in long-term debt. Excludes transfer expenditures.

⁶ Includes output of public service enterprises for private purchase.

⁷ Does not include lend-lease shipments.

⁸ Current value of physical change in inventory holdings. Does not include Government stock piles.

⁹ Residual.

Source: U. S. Department of Commerce.

Increase in Output in 1941.

The data in table 2 show the changes in the output of goods and services which occurred in 1941. The total increase in gross national expenditure was approximately 20 billion dollars in comparison with an increase

of the national income of 17 billion. The latter increase in the national income, however, makes no allowance for the upward revaluation of inventory holdings for which an adjustment was made in the gross national expenditure. If this adjustment were made in the national income estimate, there would be shown an increase in 1941 of 14 billion dollars in contrast to the gross national expenditure increase of 20 billion.

In part, the substantial rise in the current value of the gross national product was accounted for by rising prices. The change in the level of prices of the goods and services which were paid for by net national defense outlays is not known. In the civilian sector of the economy, however, the price index appropriate to the national income rose 6 percent. This would indicate a real increase in the gross national expenditure in the neighborhood of 14 billion dollars as against the current dollar increase of 20 billion.

There was, consequently, a very impressive rise in the real output of total goods and services. It may be seen from the table that, apart from the current output of goods and services utilized by government units for nondefense purposes, every category of expenditure shown in table 2 increased. In addition to the net rise in defense expenditures of almost 10 billion dollars, private gross capital formation was expanded by 3.1 billion and consumer purchases by almost 9 billion.

Several factors account for the sizeable expansion of real output in 1941. In the first place there was a large rise in man-hours employed in nonagricultural pursuits. On the average, 3 million more persons were employed in 1941 than in 1940. Furthermore, the average length of the work-week increased from 38.5 in 1940 to 40.5 in 1941. In all probability, there was also an increase in labor productivity, always particularly marked in periods of expanding productive activity. Moreover, another factor contributed to the expansion of real output (as customarily measured) which is often overlooked. That is the shift in the percentage composition of total output from industries of relatively low value of output per man-hour to industries of high value of output per man-hour. Such a shift occurs in every period of business expansion as the output of durable goods industries increases relative to that of nondurable goods. This shift is particularly significant during the transition to a war economy since the value of output per man-hour in war industries is very high.

Economic Requirements of the War Program.

We may now attempt to map out the fundamental changes in the gross national product that are essential for achieving the war production program in the fiscal year 1943. It must be emphasized at the outset that the requirements set forth in the discussion to follow do not represent a forecast of the gross national product or its actual distribution among the various categories of expenditures. They are intended to indicate objectives—objectives which can be reached

but which cannot be merely assumed into being. Their attainment will only be assured by clear vision and strenuous effort on the part of Government, industrial management, labor, and agriculture. It should be particularly evident that the values used below are *not forecasted values as they are based upon average prices of 1941.*

The basic and primary objective of economic policy must be the fulfillment of the production schedules contained in the war program of 56 billion dollars set forth in the President's budget message. Of this total expenditure projected for the fiscal year 1943 it may be anticipated that a possible minimum of 3 billion dollars will represent outlays which do not utilize currently produced goods and services. This sum will consist of prepayments on defense contracts, purchases of existing capital assets, and offshore expenditures for labor, materials, and services. This last item, in particular, can be expected to be much larger than it was in 1941. Therefore, the net utilization of the gross national product for war purposes, including such civilian needs as defense housing, is taken as 53 billion dollars. In contrast, the net expenditure in 1941 was approximately 11.3 billion dollars. Thus, our primary objective is an increase in net war expenditures of almost 42 billion dollars. From what real resources must this increase be obtained?

At the present stage in the transition to a war economy there are two readily apparent facts of outstanding importance. The first is that the full economic potential of the Nation has not yet been reached. The labor force can still be expanded considerably by a reduction of unemployment and by drawing additional persons into the labor market. The average work-week is still far from its maximum. The use of industrial facilities can undoubtedly be further expanded by more continuous operation. Furthermore, capacity will be increased as new production facilities are brought into operation.

On the other hand, it is just as evident that the huge war program outlined for the coming fiscal year cannot be realized by an expansion of production alone, in view of existing shortages of productive facilities and raw materials. The production of many sorts of goods must be discontinued to make way for the production of materials of war. These two facts mean that the success of the war program is dependent upon both an expansion of total output and a shift in the composition of output from civilian to war goods.

Expansion Required.

In broad outline, the disposition of resources required to meet the war program in the fiscal year 1943 is shown in table 2. As previously stated, this is not a forecast; it is intended to show the total output which must be achieved and the distribution of that output which is necessary to yield the scheduled increase of war goods and services.

In terms of average 1941 prices, it is calculated that, to meet the war production goals, the gross national

product must rise to 132 billion dollars in the fiscal year 1943, as against the 1941 total of a little less than 115 billion. In part, of course, this expansion has already occurred, since the present rate of gross output on an annual basis is much above that recorded for 1941. The order of magnitude of the expansion to date might be surmised from the change in the Federal Reserve index of industrial production, the present level of the index being about 171 compared with the 1941 average of 156. The gross national product estimate of 132 billion dollars implies an increase in the industrial production index to an average of 190 for the fiscal year 1943. Inasmuch as continued expansion must be made in the face of curtailment of civilian output, and from a position of more complete utilization of capacity, however, the difficulty of the task ahead cannot be minimized.

This increase in real output is not merely desirable in the sense that the higher the output of civilian goods can be pushed, the better off we will be. It is an increase which is necessary to achieve the production goals contained in the war program. It is sometimes thought that greater diversion of production from civilian to war goods is an alternative to a total increase in production. But this is not the case with the program we have undertaken. In the estimates of requirements presented here all civilian output that competes with the war industries for either scarce materials or convertible facilities, apart from the bare essentials, has been eliminated. This conversion alone, however, is inadequate to yield the scheduled output of planes, tanks, ships, and ordnance called for by the war program.

The resources for achieving this volume of total production are available. They do require, however, effective mobilization and use. It will be necessary to increase total civilian employment by well above 2 million persons from the 1941 level, in addition to replacing those drawn off to the armed services. The magnitude of the labor training task that this implies is hardly yet realized, except in the agencies directly concerned with the labor problem. Besides more persons at work, a lengthening of the average factory work-week from the 1941 figure of 40.5 hours to something approaching 43 hours will be needed.

On the side of industrial facilities, the requirements are more continuous operation of machinery and equipment, particularly in the war industries and industries producing scarce material; extensive rationalization and pooling of facilities; conversion of the bulk of plants producing durable goods to war production, and the erection of such new facilities as are needed to meet the various goals for military and naval equipment.⁵

In addition to the greater utilization of labor and industrial facilities, the estimated potential increase in the gross national product reflects the increased value

of output that will be derived from the substantial shift in production from civilian to war goods—even though calculations are made without allowing for a price rise in either category. This means that there will occur, or rather that there must occur, what might be called an upgrading of the factors of production, or an inflation of factor costs, as the shift is made from civilian to war production. Whatever it may be called, however, it is something quite apart from an increase in the prices of products. This will occur not only with labor, but with other factor costs as well, higher managerial and depreciation costs being obvious instances of the latter. Furthermore, it is quite probable that the war industries will be carrying a larger tax load in proportion to dollar output than civilian industries, thus having the same effect upon a measure of total output in constant prices as upgrading of factors of production.

Table 3.—Changes From 1941 Required to Meet War Production Program in Fiscal Year 1943¹

Item	Billions of dollars
Net increase in projected war expenditures.....	41.2
To be derived from—	
Increase in gross product.....	17.3
Decrease in Government nondefense expenditures for goods and services.....	1.4
Decrease in private construction expenditures.....	3.7
Decrease in private equipment expenditures.....	3.5
Reduction in increase in foreign claims.....	1.0
Reduction of absorption into inventories.....	4.5
Decrease in consumers' purchases of durables.....	7.1
Decrease in consumers' purchases of nondurables.....	2.7

¹ Prices as of 1941.

Source: U. S. Department of Commerce.

Conversion Required.

The other source from which requirements of the war program must be met is the conversion or transfer of nonwar output to war goods and services.⁶ It is calculated that in the neighborhood of 23 billion dollars of the equivalent civilian goods output of 1941 could be converted or transferred to the war production program. To put the matter another way—the war program calls for a net expenditure of 53 billion dollars out of a gross national product of 132 billion, leaving, therefore, only 79 billion dollars of product for all other uses—Government nondefense, private gross capital formation, and consumers' expenditures for durable goods and nondurable goods and services. This compares with the 1941 figure of 102.5 billion dollars.

It must be recognized for all aspects of economic policy that the restriction of civilian output from 102 to 79 billion dollars (without allowance for price increases) cannot be made in accordance with the peace time preference for various sorts of goods. There are, in other words, severe technical limitations on the composition of the total of goods and services that can be left for civilian uses. This is only the complement of the prop-

⁶ Expansion has been discussed before diversion merely to aid the reader in following the data in tables 2 and 3. No implications for "policy" are intended by this order of treatment. In fact, the substance of the argument is that, after all diversion possible within the coming fiscal year, we will still need expansion to meet the production program as now outlined.

⁵ See "Impact of Defense Upon Industrial Capacity and Investment," by M. Joseph Mehan, March 1942 issue of the *Journal of the American Statistical Association*.

osition that there are technical limitations on the conversion possibilities of the output of civilian goods and services. In order to make it possible to achieve the war program, drastic restriction of the output of all types of nonwar durable goods will be necessary. This will be dictated alike by the scarcity of the basic raw materials required in the production of durable goods, and by the conversion of plant facilities from civilian to war uses. In itself, therefore, the success of the war program implies that the vast bulk of durable goods and construction which went for civilian uses in 1941 must be cut from all categories of nonwar expenditures.

The approximate effect of the diversion of materials and productive facilities to war uses is shown in the changes in nonwar expenditures for the fiscal year 1943 in table 2 and table 3. Quite apart from budgetary or fiscal considerations, it is estimated that Federal non-defense and State and local government utilization of currently produced goods must decline about 1.4 billion. A very heavy curtailment must come in private gross capital formation and in consumers' durable goods. Residential construction on private account will undoubtedly be sharply curtailed both because of shortage of material and because a large quantity of defense housing will be financed by Government funds. Private expenditures for nonresidential construction and for purchases of equipment shown in the table do not represent purely civilian uses of this output, but rather costs of conversion and new facilities for war purposes which are financed by private funds. The projected figure of 3 billion dollars for private expenditures on equipment represents, in part, necessary replacements in essential civilian industries.⁷ An exceedingly large decline in the output of consumers' durable goods is, of course, inevitable. A possible total of 3 billion dollars for the fiscal year 1943, as shown in the table, merely represents such types of output as do not compete for materials with war production.

From the standpoint of economic requirements alone, it is necessary that the upward trend of inventories over the past three years be stopped and that an actual decline in the physical stock be achieved in the coming fiscal year. It was for this purpose that the provision requiring that inventories be restricted to minimum practicable working levels was included in Priorities Regulation No. 1.

Obviously, stocks of scarce materials must be fully utilized if the maximum output of finished instruments of war is to be reached. This is already one of the primary objectives of the priorities and allocations program. It may be expected, too, that the existing stocks of a fairly wide variety of civilian durable goods will move out from business hands as current output is either shut off or sharply reduced. In civilian non-durable lines where shortages are particularly acute,

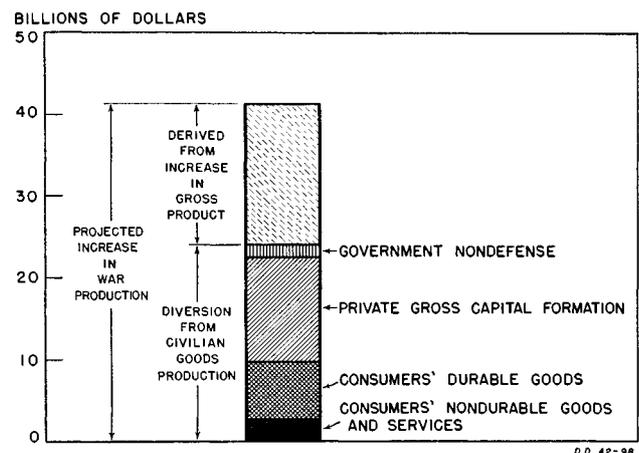
⁷ If this figure appears low, it should be recognized that maintenance costs are implicitly carried at their 1941 figure in these calculations.

too, a reduction of outstanding stocks can be secured as a result of direct price control.

It should be the aim of direct inventory control and of qualitative credit control to ease the strain on the productive and price system as much as possible by continuous lowering of outstanding inventories. There would seem to be little technical difficulty in the way of a reduction of a billion and a half dollars a year for three or four years, in view of the present record level of inventory holdings. This course also recommends itself from the standpoint of facilitating post-war adjustment.

A reduction in the net increase in foreign claims of 1 billion dollars from 1941 to fiscal 1943 is shown in tables 2 and 3. This estimate does not imply that any careful forecast of imports and exports on private account can be made in the face of the present uncertainties in the shipping situation. However, a substantial shift from direct purchases in this country by the United Nations to lend-lease shipments can be

Figure 6.—Changes from 1941 Required to Meet the War Production Program in the Fiscal Year 1943¹



¹ Calculated in 1941 prices.

Source: U. S. Department of Commerce.

assumed and this will have the effect of reducing the yearly increase in net foreign claims. It may be mentioned that curtailment of imports arising out of the shipping shortage, will be offset to some extent by curtailment of exports (apart from lend-lease shipments).

Consumers' Goods Curtailment.

It is calculated that total consumer expenditures for privately produced goods and services must decline at least from 74 billion dollars in 1941 to 64 billion in fiscal 1943, valuing the goods and services in the latter year at 1941 prices. A sharp curtailment in the availability of durable commodities purchased by consumers is already implicit in the orders issued by the War Production Board and further diversion of materials and facilities can be expected. For non-durable goods and services, however, it is calculated that total supply will be restricted much less severely from the 1941 volume.

As the extent of the decline indicated for fiscal 1943 is markedly different from other forecasts of quick and drastic deterioration of the standard of living, a few additional comments may be desirable. The requirements of the situation with regard to durable goods are generally recognized and can be passed over. In the field of consumers' nondurable goods and services, it is evident that there will be some conspicuous curtailments. There are additional items in which the continuation of present supplies is far from certain. The sum of these inevitable and possible curtailments, however, do not constitute a major portion of the consumers' budget for purchases of nondurable goods. It should be remembered in this connection that, while a large volume of nondurable goods will be required for the armed forces and for lend-lease shipments, it is expected that these will be provided for largely by an increase in agricultural production.

On the other hand, there are some kinds of consumer expenditures for which available supplies can and will be increased as the pressure of demand rises. It is to be expected that some substitutes will be found, that consumers' demand will spill over into areas where expansion is possible, and that a fairly substantial increase in consumers' expenditures for services will occur. Furthermore, deterioration of quality in some lines, which will tend to maintain quantities and yet not show up as a price rise, is more than probable.

This view of the matter rests, obviously, on the belief that the limiting factors in nondurable goods and services will be raw materials and productive facilities—not a general shortage of labor. The fact that a skilled labor shortage is already upon us is much more serious for the prospects of war production than it is for consumers' goods and services output.

Predictions of curtailment of consumption by a third or more would appear, therefore, to overestimate the possibilities of conversion and diversion for the entire gamut of consumers' nondurable goods and services achievable within a period so brief as a year or two. They are based on an arithmetic handling of national income and war expenditures figures which, as has been shown earlier, rest upon a misconception of the meaning of these data. It may seem that the rather strained conditions in consumers' goods markets at the present time contradict the conclusion that consumers' expenditures in constant prices need not decline more than has been indicated above by 1943. The present strains, however, are due more to constantly rising demand, including inventory demand, and not principally to general and widespread decline in supply.

It is not contemplated here that output of consumers' goods and services be maintained at any detriment to the war program. Any materials or facilities needed for war production must be diverted. It can safely be left to the ingenuity of both producers and consumers to secure whatever increase in the production of consumers' goods and services that is possible. The essential

government policy that is required is that of inventory control in order that the potential output of final products should not be retarded by hoarding of materials.

It might also be pointed out that the reduction in the current output of durable consumers' goods greatly overstates the sacrifice that is imposed upon current consumption in a real sense. Current consumption is derived not only from the current output of these goods but from the vastly larger stock of durables already in the hands of the public. The services that will be derived from the existing stock of consumers' durables such as owner-occupied homes, automobiles, radios, household equipment, etc., is not given a value in estimates of current production. In any consideration of the standard of living, however, these services must have a heavy weight.

The contribution to the war effort that must be made during the period here discussed (through fiscal 1943) by the civilian population as a whole, therefore, is not one of seriously impairing its standard of living. This situation will prevail so long as the size of the armed forces is not so large as to strain our total labor potential and to actually curtail the food supply and a wide range of services available to civilians. Of course, the necessary cut in consumption cannot be applied equally to all consumers, since an increase in employment means that some persons will be better off than formerly. Then too, all civilians must expect to have a somewhat different assortment of goods and services in 1943 than they had in 1941—an assortment which excludes some of the most desirable items. It should be possible to make these adjustments without great difficulty. The vital contribution which the civilian population must make, therefore, is that of working harder and longer so that the production goals of the war program can be achieved.

This appraisal of the supply potential for total consumers' goods is necessarily tentative and need not be debated. Shortages of nondurable materials or army requirements of nondurables may well prove to be much greater than now seem probable. There is one important conclusion, however, that must not be overlooked. That is, that the conversion possibilities in consumers' goods industries of both facilities and materials are strictly limited and can yield only a limited quantity of instruments of war. For the rest, there must be conversion of capital goods industries as well as overall expansion.

The point to be made is just this. The major decisions regarding conversion of consumer durable goods industries such as automobiles, electrical appliances, etc., have by and large been made. It can be assumed, also, that the armed forces and Britain will get what food and clothing is necessary or can be shipped. Beyond that, however, the consumers' goods industries have little to offer that can be of assistance to the war program. If, therefore, railroad equipment, farm machinery, trucks, or other capital goods are produced

instead of tanks and guns, we cannot expect to secure the resources for the armaments by cutting items of consumption which are physically incapable of contributing to armaments. We must recognize that all resources are not shiftable. Consequently, the same standards of necessity must be imposed upon capital goods output as are being invoked in the case of consumers' durables if our war potential is to be realized.

As a corollary it may be mentioned that continuous upward revision of the war expenditures total cannot be made on the assumption that the only necessity for its fulfillment is further restriction of consumption. Regardless of where one may put the point, there is necessarily a point below which resources devoted to consumption cannot contribute to the war program. Higher figures for war expenditures after that (assuming maximum conversion of capital goods industries) imply either overall expansion or inflation.

Estimation of Fiscal Requirements.

Just as inappropriate use of the national income concept can lead to misconceptions regarding the prospects for consumers' goods output, so it can lead to a vast exaggeration of the fiscal program needed to prevent inflation. Errors are common on both the supply and demand sides of this question. On the supply side, as has been pointed out earlier in this article, the quantity of consumers' goods likely to be available is often greatly underestimated by direct subtraction of war expenditures from national income.

On the demand side, several common pitfalls may be mentioned. The national income cannot be used as if it measured income in the hands of the consuming public. The measure of Income Payments to Individuals is the more appropriate concept for this purpose. Even with this measure, however, it should be kept in mind that the tax liabilities of individuals must be deducted to arrive at disposable income of consumers.

As to the magnitude of consumers' income in fiscal 1943, errors are frequent because of a failure to offset the leverage of war expenditures by the reduction of private capital formation which the war program requires. The business funds that are made redundant

through the limitation on investment possibilities, thereby lose their income creating effect. By and large, this offset will come about automatically if plant and equipment investment is prevented by priority and allocation control. For the flow of investment funds into inventory purchasing, however, contraction is far from certain until direct controls of both inventory holdings and retail prices are instituted.

In calculating the volume of spending that is likely to reach the market it is also necessary, of course, to take account of individuals' savings out of disposable income. The amount of such saving will tend to increase substantially because of two factors. The first and most important will be the non-availability of durable goods usually purchased by consumers. It cannot be expected that the whole of the purchasing power not spent for such goods will be saved. However, the necessity of continuing payments on outstanding consumer debt at a time when new debt creation will be curtailed simply because sales are curtailed, will absorb a substantial amount of buying power. Consumer credit outstandings may decline by more than 4 billion dollars this year, and by as much as 3 billion during the coming fiscal year.

A second factor tending to increase the volume of individual saving is the Defense Savings Bond campaign. While all sales of bonds and stamps do not represent a net addition to saving, they are undoubtedly having their effect in limiting consumers' expenditures.

It need hardly be emphasized that there are important factors tending to increase consumers' income that should be considered. The possibilities with regard to upward adjustments of wage rates and farm income, quite apart from the increase that will flow from greater employment and production, are too apparent to need elaboration.

There has been no intention here, therefore, to minimize the inflationary danger. The index of income payments has risen over the past 7 or 8 months at the phenomenal average rate of almost 3 points per month. Against this, we face an inevitable reduction in the supply of consumers' goods. The cold facts should be sufficiently impressive, without any exaggeration of the magnitudes involved.

(Continued from p. 8)

manufacturing corporations. Thus, large-scale producers of durables, including automobiles, other transport equipment, iron and steel, machinery, and the like, had somewhat heavier gains than did the producers of most nondurables.

Several reasons may be offered for the smaller profit rise in the larger corporations. Taxes generally bear more heavily on them, both locally and in the case of Federal levies. Moreover, the expansion in output possible for these companies last year was less than that realized by some of the smaller firms, and, in general, the smaller concerns operated in an unusually favorable market.

Sharp Advance in Transport Earnings.

In percentage terms, the most substantial increase in earnings recorded by any of the broad industrial groups during 1941 was in transportation. The steam railways accounted for the bulk of this expansion, but from a rather low total in 1940. The carriers have an exceptionally large proportion of costs remaining

relatively fixed in the face of heavier operations. Hence, the much larger volume of business they were called upon to perform last year (freight carloadings rose 16 percent and passenger car-miles were up 22 percent) increased their net return by about seven-eighths over the 1940 volume. A large advance in earnings also was reported for water transport companies, both seagoing and inland.

On the other hand, profits of power and gas companies were down approximately a tenth from 1940. Most of these companies have rate schedules that are graduated downward with increased sales. While sales were up 18 percent, rising labor, fuel, and tax costs were not offset by an upward revision in rate schedules; so earnings were reduced.

Profit gains reported by those engaged in wholesale and retail trade compared favorably with manufacturing, the increase for the trade group as a whole being estimated at the average for all corporations, or about 30 percent.

NEW OR REVISED SERIES

Table 7.—EMPLOYMENT AND PAY ROLLS IN OHIO¹

[1935-39=100]

Month	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941
Manufacturing employment																			
January	98.2	101.3	99.4	105.3	103.0	101.3	115.7	105.6	85.5	74.5	65.0	85.1	94.9	99.8	110.0	90.7	91.0	102.5	116.6
February	101.5	103.7	100.7	106.0	106.9	106.0	119.8	106.4	86.8	75.1	65.9	91.5	99.3	99.8	114.7	90.2	92.1	102.1	120.0
March	105.7	104.7	102.4	106.9	108.9	108.3	121.1	106.9	88.3	73.4	61.5	96.0	101.0	97.4	116.5	89.1	93.4	101.1	123.0
April	105.8	103.2	103.0	107.6	108.6	107.9	122.0	108.2	89.0	71.2	64.9	98.5	100.8	103.3	117.9	86.4	92.7	99.8	125.9
May	107.0	98.1	103.5	106.7	108.1	109.2	123.0	107.2	88.6	69.8	70.4	100.5	99.4	104.6	120.5	83.6	91.3	99.5	129.0
June	107.9	92.0	103.4	107.1	107.4	110.2	123.5	103.4	87.1	68.9	77.7	100.0	97.2	103.8	109.7	81.5	91.5	100.8	131.8
July	104.6	90.2	103.0	106.4	103.9	109.8	121.9	98.7	83.8	66.4	83.4	95.5	95.0	104.6	116.0	80.7	90.8	102.0	134.6
August	105.1	91.8	104.1	108.1	103.9	112.4	120.6	95.7	82.4	63.1	87.8	93.9	96.5	106.0	116.1	83.2	93.4	104.4	136.6
September	103.1	94.3	106.6	110.5	103.9	114.2	119.5	94.5	80.9	64.6	89.7	90.5	99.5	108.5	117.1	86.5	97.7	108.1	138.6
October	102.6	95.1	107.4	110.4	102.6	113.9	117.9	91.2	79.0	65.8	89.2	87.8	100.8	110.5	116.1	88.2	102.6	111.0	137.5
November	101.9	93.8	107.0	106.8	99.9	112.9	109.3	88.0	76.3	65.9	86.3	89.3	100.5	111.1	107.8	91.0	104.0	112.9	137.2
December	100.3	95.5	105.9	104.6	99.3	112.7	105.1	87.8	75.5	65.1	85.9	91.4	100.5	112.9	101.4	92.5	104.7	114.8	136.9
Monthly average	103.6	97.0	103.9	107.2	104.7	109.9	118.3	99.5	83.6	68.7	77.3	93.3	98.8	105.2	113.7	87.0	95.4	104.9	130.6
Manufacturing pay rolls																			
January										63.7	45.2	66.7	79.7	92.6	113.8	79.3	93.5	114.2	142.9
February										64.8	44.5	71.2	89.3	91.6	123.9	79.4	96.9	111.5	152.7
March									90.5	61.7	40.4	81.0	90.3	93.0	130.8	79.5	99.2	111.4	159.8
April									90.7	56.8	46.5	82.9	91.0	101.1	136.8	76.8	95.5	109.0	167.0
May									89.5	54.2	56.7	87.4	84.4	104.4	136.9	75.5	93.7	110.1	176.6
June									83.7	54.1	64.5	82.9	83.2	104.3	119.6	73.0	97.2	114.3	186.3
July									79.5	46.3	66.6	74.3	78.7	100.9	126.3	71.8	93.2	112.7	188.3
August									74.9	45.4	70.7	72.4	84.1	104.3	131.2	79.2	100.9	121.0	190.4
September									69.8	46.8	67.3	66.3	89.7	104.9	126.3	84.9	105.0	126.5	190.9
October									68.2	47.4	67.2	72.0	92.5	112.6	125.6	90.3	119.4	132.5	195.7
November									62.7	46.6	63.4	70.5	93.8	116.2	109.3	95.0	119.7	135.1	194.9
December									63.0	45.0	63.4	74.3	98.3	121.2	96.6	98.6	123.2	142.8	202.8
Monthly average									77.3	52.7	58.0	75.2	87.9	103.9	123.1	81.9	103.1	120.1	179.0
Construction employment																			
January	145.2	160.0	158.1	158.9	200.9	172.3	166.6	190.7	116.6	75.3	56.4	55.7	54.8	67.0	109.8	94.6	67.7	74.5	111.3
February	137.8	158.1	162.4	158.1	205.4	165.9	170.4	192.1	123.9	67.0	50.3	49.6	56.2	57.6	120.8	87.1	67.5	73.2	114.6
March	155.1	170.9	180.6	151.3	223.5	180.8	196.9	191.2	126.8	63.0	47.4	47.7	59.2	76.5	122.3	86.2	76.5	73.6	116.8
April	182.0	189.5	219.3	181.7	247.4	216.0	227.8	217.9	141.6	73.2	52.2	57.8	74.1	88.0	136.2	88.7	82.6	84.3	139.8
May	207.5	228.2	246.9	217.2	281.8	250.0	267.9	220.7	144.7	78.6	56.6	74.8	84.0	108.3	147.3	91.3	101.5	101.1	150.8
June	233.4	245.7	265.1	259.6	309.7	269.6	299.3	220.2	149.4	85.7	63.5	89.7	82.6	122.7	153.7	86.9	104.3	112.3	163.0
July	243.1	266.2	274.0	273.8	323.4	291.5	316.1	236.7	148.2	89.2	63.3	72.0	77.4	108.3	157.7	86.2	118.7	116.5	166.5
August	253.7	266.7	274.3	289.9	336.8	326.7	321.5	228.0	141.6	89.5	68.7	62.8	80.7	108.3	165.0	85.2	112.4	122.4	167.7
September	242.4	262.0	265.5	317.7	331.4	321.7	310.9	207.0	137.6	96.3	66.8	62.3	83.6	112.4	169.0	84.3	112.6	122.8	164.7
October	235.1	258.2	261.1	298.6	300.7	316.3	313.2	195.0	129.3	84.3	66.3	59.2	87.8	116.4	165.9	81.7	113.1	129.3	162.3
November	223.1	231.8	234.4	283.0	263.4	285.4	277.1	169.9	106.7	71.8	68.7	58.3	82.4	123.0	155.8	83.1	104.3	121.1	157.2
December	194.0	191.9	210.8	242.6	212.4	228.7	223.5	141.1	88.3	58.5	64.4	51.0	72.7	116.1	106.9	75.5	97.5	116.0	146.4
Monthly average	204.4	219.1	229.4	236.0	269.7	252.1	257.6	200.9	129.6	77.7	60.4	61.7	74.6	100.4	142.5	85.9	96.6	103.9	146.8

¹ Compiled by the Bureau of Business Research, Ohio State University. Construction employment covers only general private building construction. The employment indexes are the same that were formerly published in the Survey with the exception that the base period has been shifted from the average month 1926=100 to the average month 1935-39=100 (for description of the series see note 6 to p. 36 and note 1 to p. 38 of the 1940 Supplement). The description for manufacturing employment is also applicable to the index of pay rolls, which is a new series. Data for January 1942 appear on pp. S-9 and S-10 of this issue.