



---

Taxes and National Income

Author(s): Simon Kuznets

Source: *Proceedings of the American Philosophical Society*, Jun. 16, 1944, Vol. 88, No. 1, Symposium on Taxation and the Social Structure (Jun. 16, 1944), pp. 10-21

Published by: American Philosophical Society

Stable URL: <https://www.jstor.org/stable/985184>

---

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <https://about.jstor.org/terms>



JSTOR

American Philosophical Society is collaborating with JSTOR to digitize, preserve and extend access to *Proceedings of the American Philosophical Society*

## TAXES AND NATIONAL INCOME

SIMON KUZNETS

University of Pennsylvania

(Read February 18, 1944, in the *Symposium on Taxation and the Social Structure*)

### TAXES AND OUTLAYS

THE individual and the business firm tend to view taxes as drafts upon their stock of economic claims, as a surrender of part of the power which they could otherwise exercise in the markets of economy. Since, with few exceptions, payment of a tax is not connected with specific service to the payor and is backed by legal sanctions rather than by economic attractions, the individual and the firm do not usually view taxes as charges for goods purchased. There is thus lack of association in the citizen's mind between the hand that pays taxes and the hand that receives benefits from the government. Nor is there clear realization that taxes are only one of the ways by which the government can withdraw from individuals and firms part of their economic power; that it can do so, for example, by borrowing, by printing money, or by so affecting the production system as to diminish the supply of goods available for free purchases.

This tendency to view taxes as a necessary evil which, like death, one must bow to but avoid as long as possible; to disregard their role as a prelude to some useful government activity; and to overlook the fact that they are only one of several methods by which diversion of resources to government use can be accomplished, is of great practical importance in policy decisions. It sets limits to the kind and amount of taxes that can be collected at any given time; and it permits, altogether too easily, recourse to other methods of government financing that are less unpleasant to the individual payors but perhaps more dangerous to the welfare of the country. And it has its advantages in stimulating critical scrutiny of the uses that the government proposes to make of resources withdrawn from direct control of individuals and business firms.

But in considering the relation of taxes to national income, as part of a general discussion of their bearing on social structure, we must perforce take a broader view than the one just attributed to the taxpayer. We must keep in mind *all* the methods by which government can

reduce consumption or investment by individuals and firms; and recognize that the way the government spends money it collects can raise national income not only by the direct addition of the government's own production of commodities and services, but also by indirect influence upon consumption and investment propensities of individuals and firms. The problem is thus one of trying to ascertain the *net* balance of the depressive effects of taxes and other government collections and the expansive effects of their disposal upon the magnitude, structure, and trends of national income.

In addition to taxes, government may also receive revenues that are a charge for specific services rendered, for example, the 3-cent stamp for mailing a letter. Such non-tax revenues are of relatively minor importance in this country, but loom large in others where the government owns and manages a good proportion of the country's industries. In addition to total revenue, the sum of tax and other collections, government can of course borrow money; and it does so on a substantial scale even in peacetime, let alone during the years of a major war. We may designate the sum of revenues and borrowing the total monetary intake of government.<sup>1</sup>

With the proceeds of this total monetary intake the government incurs expenditures that are essentially of two types—the classification being economic in character. The first, commonly designated transfer expenditures, comprises cases in which the government pays the money collected or borrowed from one group of the population, to another group within the country or

<sup>1</sup> We should note the exclusion here of other types of government collections which have relatively little use in this country. The government can, of course, print money; and it can extract resources from members of the nation by confiscation, sometimes on the pretext that one or another group in the body national is not entitled to the possession of its economic goods. The reason for excluding such policies from consideration here is that they are not in consonance with the basic assumptions of the society we are discussing; although some types of borrowing are not much different in their economic effects from printing paper money.

outside, *without at the same time requiring these recipients to deliver to the government either their services or their products*. Typical illustrations are the payment by the government of interest on government debt, and of pensions to veterans. The second type, which we may designate purchase payments, includes outlays by governments either for services of people, to work directly under government auspices, or for products of private firms to be used by the government in its operation. Typical illustrations are payments of salaries to government employees or for materials to be used by government offices, the Army, the Navy, etc. Finally, in addition to these two types of expenditures, governments can use the money to repay debt or to set up credit balances. These are not expenditures in the ordinary meaning of the term; but from the economic standpoint they are quite similar to transfer expenditures as defined above.

The distinctions frequently made between transfer expenditures and purchase outlays are that: (a) a transfer payment is not evidence of any real production corresponding to the payment, and the transaction is mere shuffling of economic claims; (b) a transfer payment means no withdrawal of real resources from use by the private sector of the economy. Evidence either of real production or of withdrawal of real resources is supposed to be true of purchase payments. A close analysis, however, reveals that neither distinction is fully valid. Some types of transfer payment may be evidence of real production, that is, of yield of real factors. Thus, payment of interest on public debt, like payment on any investment of capital in the past, is evidence, at any rate for the purpose of income measurement, of the current yield of such capital (the balancing item being the net profit or loss of enterprise using that capital). Hence, payment of interest on public debt, while a transfer expenditure as ordinarily classified, is, in income measurement in this country, taken as evidence of real production occurring in the economy.<sup>2</sup> Similarly, it may be disputed that transfer expenditures cannot involve withdrawal of real resources. A payment by the government to a group of pensioners or debt-holders may put them in an economic position in which

<sup>2</sup> In other countries (e. g., England) past practice has been to consider some part of public debt as "deadweight" (particularly debt incurred on account of war outlays), and to treat interest on it as "pure" transfer.

they are not forced, as they would otherwise be, to offer their services on the labor market. In that sense, transfer expenditures may mean withdrawal of *potential* real resources from possible control by private enterprise. The true kernel of the distinction lies in the fact that transfer outlays do not mean the placing of *existing* real resources within the control of the government for direct use under government auspices; whereas purchase outlays necessarily mean that the government absorbs products of business enterprises and services of people.

The purchase outlays by government begin to approximate, but are still different from, the value of government's contribution to the national product. What is the net addition to goods at the disposal of the nation which the governments make *directly*? The outlays by government on commodities and services are obviously too large for the purpose of measuring the *net* contribution of government, since they include *products of other industries*, the yield of productive factors engaged in these other industries on their specific tasks. The true contribution of government or its net value product is either the value of services rendered by productive factors engaged in the government industry proper, or such yield of productive factors in the economy as cannot be traced to any specific industry but can best be allocated to past investment by the government for the benefit of the country at large. Thus, the contribution of government to net national product is defined as the sum of: (a) the compensation of the productive factors directly engaged in work for the government, largely payments to its employees; (b) net interest on government debt; (c) by analogy with private enterprise, the net profits or loss of the government viewed as an industry, that is, its net savings measured by a comparison of the change in its debt with the change in its real assets.<sup>3</sup>

<sup>3</sup> Where such measurement of government savings is undertaken, all payments by governments to individuals are included, so that in addition to (a) and (b) the estimates include also pensions, relief payments, etc. Otherwise, the net value product of government would be underestimated, under (c), by the possible increase in debt associated with such payments.

The effect of this procedure is to value current activities of government (total ex. additions to real assets) at the amount of taxes paid for them. This has been the author's practice, and represents an attempt to resolve the vexing problem of valuation of government activity on a basis that is most comparable with the market valuation basis of the private sector of the economy. Other procedures, em-

## COMPARISONS WITH NATIONAL INCOME

We have distinguished, in the flow of means of payment to the government, taxes, other revenues, and borrowing; in the outflow from government, repayment of debt or addition to balances, transfer payments, and purchase outlays; and we have defined the net value product of government activity. The totals that can thus be derived—taxes, total revenue, total monetary intake, total monetary disbursement, total expenditures, transfer outlays, purchase outlays, net value product—may each be conceived as part of a larger country-wide total; as the numerator for which an appropriate denominator should be secured, in order to permit us to measure the relative weight of government, either as collector and disbursing of funds, or as claimant upon real resources and producer of real goods.

To simplify the discussion, we shall reduce the number of numerators for which to seek appropriate denominators in some variant of national income. We propose to deal below with only four totals expressive of government transactions: (a) taxes; (b) total money intake, modified to include *net* rather than gross borrowing; (c) purchase outlays; (d) net value product of government.<sup>4</sup> What are the appropriate measures of country-wide total activity with which these four summaries of government activity can properly be compared? In answering this question, we shall have to specify in each case the basic problem upon which the comparison is assumed to shed light; and to select a denominator of which the numerator can logically be considered a constituent part.

(a) The total of taxes is of particular interest as a measure of the draft which the government

employing a *cost* basis of valuation of government activity and different assumptions concerning the distinction between government services to individuals and to business firms, are in wide use. On this subject see extensive discussion in the several volumes of *Studies in Income and Wealth* (Nat. Bur. Econ. Research) 1, 1938; 3, 1940; 6, 1943.

<sup>4</sup>We may note briefly the reasons for omitting from further discussion the other totals just distinguished. Total revenues in this country are quantitatively not greatly different from taxes, since other revenues form only a minor proportion of all government receipts. Total expenditures are equal to total monetary intake of government, when only net borrowing is included, *i. e.*, only the difference between gross borrowing and additions to balances plus reduction of debt. The omission of both total monetary intake and total monetary disbursement is largely for the purpose of disregarding the "wash" transactions, even though some effects of these are suggested in the discussion below.

makes upon incomes of individuals and business firms, without providing each with a specific *quid pro quo*. In so far as these incomes of individuals and business firms are received by them in return for useful economic activity, and in so far as they provide incentives for whatever economic contribution the individuals and enterprises make, reduction of such incomes by taxation may involve a reduction in stimuli. In this light the proper total with which the amount of taxes collected by the government should be compared is obviously the sum of net incomes of individuals and private enterprises. Net incomes of individuals in this connection may be defined as their total income, minus specific occupational expenses incurred in the pursuit of economic activity. Net income of enterprises may be defined as net revenue, after covering all the fixed and current costs but before payment of income and profit taxes and of dividends.<sup>5</sup> The aggregate, which is statistically quite close to national income as ordinarily measured, may be designated the net private income aggregate.

(b) The total monetary intake of government comprises, in addition to taxes, other revenues which on a net basis are, at least in this country, a minor proportion of total government intake at any time; and net borrowing, which at times forms a large share of the flow of means of payment to the government. It must be noted that in the long run, in terms of decades, net borrowing is only a limited share of the total flow of money to the government.<sup>6</sup> Hence, a distinction between taxes and the total monetary intake as here defined is significant only for the shorter run; primarily for years in which extraordinary needs of the government make it impossible to finance a large proportion of government outlay from any source except through borrowing from individuals and enterprises.

What is the total at the disposal of individuals and enterprises upon which total monetary intake of government represents a draft? At any given time, the sources from which government can finance whatever outlay it wishes to incur,

<sup>5</sup> The implication is that the income and profit taxes of corporations are not transferred to individuals—an assumption widely accepted in taxation theory but subject to some exceptions. To the extent that such taxes are so transferred, they are already covered under individuals' incomes and should not be included once again in the net private income aggregate.

<sup>6</sup> See the appropriate ratios in table 5 of National Income and Taxable Capacity, *Am. Econ. Rev.*, suppl.: 72, March, 1942.

include (i) net incomes of individuals as defined above; (ii) net incomes of enterprises, again as described above; and, in addition, (iii) such returns of current activity as in the short run do not have to be re-invested to replace capital consumed. This third category comprises the part of final product value that covers depreciation and depletion of durable goods sustained in the productive process. If necessary, re-investment can be delayed and the funds made available to the government, without any necessarily deleterious effects upon the productive performance of the economy for the short run. We may designate the corresponding total the gross private income aggregate, gross with respect to depreciation and depletion of fixed assets.<sup>7</sup>

(c) The particular interest attaching to the total of purchase outlays lies in the fact that it measures the value of commodities and services consumed by the government in the process of its activity. As distinct from the two totals already discussed, which are on the level of monetary flows, purchase outlays emphasize treatment in terms of real goods and resources.

Two approaches may be taken to this total. In the first, we may wish to know the comparative magnitude of government activity as measured by its real cost; in the same way as we may wish to measure the magnitude of construction activity by the amount of materials and labor that it consumes. The wider total with reference to which the relative weight of government activity should then be measured is a total that would add, for the various industries distinguished, the respective values of commodities and resources consumed. The difficulty is that the size of any such total would depend upon the character of the industrial classification used: the larger the number of industrial divisions, the larger the total because the more extensive the duplication caused by repeated counting of

<sup>7</sup> There is common misunderstanding to the effect that government can borrow not only out of current savings, but also out of past savings in the sense of using proceeds of conversion of privately held existing assets into government bonds. Actually, of course, previous investments by individuals or enterprises can be transferred to government only if the latter purchases already existing assets from private parties. Another channel of possible utilization of past savings, activation of balances otherwise held idle, may also be mentioned, although it again is limited. The possibilities of both methods of financing of government out of past savings are exceedingly narrow, so that no major error is involved in the statement that the sole source of government borrowing is current savings, gross or net. See, however, second paragraph of footnote 8.

products of one industry consumed by another. In this sense, there is no uniquely determined country-wide total, in comparison with which the relative weight of government activity can be established.

This difficulty may be overcome by a second approach, which compares the real cost of government activity, all classified as "finished" production, with the total of finished products turned out by the economy. To make the denominator comparable with the numerator, as a source upon which the latter may be viewed as a draft, we must treat all government production (measured at purchase outlays) as finished output; and thus include it fully with the two other major components of finished output—consumers' goods flowing to households and individuals, and private gross capital formation. The total is then national product gross of: (a) consumption of private durable capital; (b) consumption of government products, *i. e.*, that part of purchase outlays that is covered in the value of consumers' outlay and private gross capital formation. It is with this total that we may compare governmental expenditures on goods and services.<sup>8</sup>

<sup>8</sup> This obviously is a peculiar national product total, taken gross in a specific way corresponding to the area for which the volume of activity is taken gross (*i. e.*, measured by expenditures on commodities and services, rather than by net value product). Were we to deal with the purchase outlays of the steel industry, rather than of government, the denominator would be national product gross of: (a) consumption of durable capital outside the steel industry; (b) consumption of steel industry's product, *i. e.*, that part of the industry's purchase outlay that is covered in the value of consumers' outlay or gross capital formation outside the steel industry. In other words, instead of making national product gross with reference to *all* industries in the industrial classification, we do so only with reference to the particular industry whose purchase outlays are studied in the numerator. The significance of such a denominator and of the resulting ratio clearly depends upon the propriety and meaning of emphasizing the gross volume of activity in a given industry, as measured by its total expenditures on commodities and services; and accordingly of treating this gross value as "finished" production.

Another point to be noted is that if purchase outlays include large drafts upon already *existing* assets, the denominator cannot be confined to *current product* even if including the consumed part of durable capital. In this case, it may well be better to derive two ratios—one for draft upon current products, the other for draft upon capital (see suggestion by Dr. Raymond Goldsmith in *Studies in Income and Wealth* (Nat. Bur. Econ. Research) 6: 62–67, 1943. This problem, however, does not arise in this country where little draft is made by government purchase outlays upon capital stock (beyond the currently consumed part of durable capital).

(d) The net value product of government is its contribution to the net national product, commonly designated national income. The proper definition of this denominator, in terms of final goods, is the value of all commodities and direct services produced, minus the value of *commodities* consumed in the process of production. This national product total differs from the total just suggested under (c), by its being net of the consumption of durable capital and of the consumption of the products of government activity. At the payments level, national income is equal to the sum of all payments by enterprises to individuals, undistributed net profits of business enterprises after all taxes, and net savings of governments. This national income total differs from the net private income aggregate defined above in two respects: (i) it excludes income taxes paid by business firms; (ii) it includes net savings of government.

With the four numerators and the corresponding denominators established, and the resulting four ratios described, we are in a position to summarize the available statistical evidence concerning the magnitude of these ratios, their longer term trends, and their levels and changes during recent years. A few preliminary comments are in order to place the evidence within the proper framework.

First, the over-all ratios described are in and of themselves summaries that may conceal aspects of the comparison more important than the ratios themselves. For example, the proportion of taxes in the net private income aggregate may be equal in two countries, or in the same country in two different years, and yet the structure of the tax system in its impact upon different classes of individual recipients or different classes of enterprises may be vastly different. Indeed, one of the most intricate and fruitful groups of studies in public finance is that of different types of taxes, designed to minimize their restrictive impact upon the economy and to permit at the same time the draft upon current incomes that is necessary to sustain indispensable government activities. Similarly, the ratios of total monetary intake to gross private income aggregates, or of purchase outlays and net value product to the corresponding national product totals, fail necessarily to reveal possible differences that may be decisive in any thorough causal analysis.

Second, there is a significant difference between comparisons that treat both government

and over-all activities on the level of monetary flows (such as those under (a) and (b)) and those that treat them in terms of real goods, whether they be productive resources or finished products (such as in (c) and (d)). In those that deal with monetary flows, it is perfectly legitimate to compare dollar totals without worrying about the fact that the prices that governments on the one hand, and private enterprises and individuals on the other, pay for real goods, may differ markedly. In comparisons of real goods, the differences in the structure of markets and pricing schemes between government and private purchases are both significant and exceedingly difficult to correct for.

Finally, the definitions given above of national product and of the income aggregates slide over many thorny problems in distinguishing and measuring certain components. The difficulties of defining, let alone measuring, such components as "net savings of business enterprises" or "net savings of governments" have been the subject of long and none-too-conclusive technical discussions. They cannot be treated here, even though they must be briefly mentioned in connection with some of the statistical comparisons that follow.

#### PRE-WAR TRENDS

Table 1 summarizes movements in the ratios of taxes and outlays to income and product aggregates for as long a period before the present war as can be roughly measured with available data. Granted the approximate character of both the numerators and the denominators, the broad indications of relative levels and of trends are clear and beyond doubt. They show: first, that prior to World War I the relative magnitude of government activity, measured in the several totals distinguished, was quite minor, well below 10 percent; second, that after World War I there was an appreciable rise in the percentage which the various totals expressive of government activity formed in the income and product aggregates, but even so the shares were moderate, running slightly above 10 percent for taxes and expenditures, and well below 10 percent for purchase outlays and net value product; third, that the depression that followed 1929 was accompanied by an increase in the ratios of taxes, expenditures, and net value product to the country-wide income or product aggregates; fourth, that the recovery from the depression, in so far as such recovery took place before the

TABLE 1

LONG-TERM PRE-WAR TRENDS IN RATIOS OF TAXES, GOVERNMENT OUTLAYS, AND GOVERNMENT NET VALUE PRODUCT TO CORRESPONDING NATIONAL INCOME DENOMINATORS

| Years | Percentage of Tax Collections to National Income | Percentage of Total Expenditures to |                        | Percentage of Purchase Outlays to |                             | Percentage of Net Value Product to National Income |
|-------|--|-------------------------------------|------------------------|-----------------------------------|-----------------------------|--|
|       |  | National Income                     | Gross Income Aggregate | National Income                   | Corresponding Gross Product |  |
|       | (1)  | (2)                                 | (3)                    | (4)                               | (5)                         | (6)  |
| 1860  | 4.3  | N. D.                               | N. D.                  | N. D.                             | N. D.                       | <sup>2</sup> 2.3                                   |
| 1870  | 10.0   | N. D.                               | N. D.                  | N. D.                             | N. D.                       | <sup>4</sup> 4.0                                   |
| 1880  | 8.7  | N. D.                               | N. D.                  | N. D.                             | N. D.                       | <sup>4</sup> 3.9                                   |
| 1890  | 7.3  | 6.0                                 | 5.4                    | N. D.                             | N. D.                       | <sup>4</sup> 4.5                                   |
| 1902  | 5.8  | <sup>1</sup> 6.0                    | <sup>1</sup> 5.4       | <sup>1</sup> 4.2                  | <sup>1</sup> 3.4            | 5.1  |
| 1913  | 6.5  | 7.6                                 | 6.8                    | 5.7                               | 4.6                         | 5.2  |
| 1922  | 12.3   | <sup>2</sup> 12.4                   | <sup>2</sup> 11.2      | N. D.                             | N. D.                       | 8.5  |
| 1928  | 11.6   | 13.5                                | 12.1                   | <sup>3</sup> 9.4                  | <sup>3</sup> 7.5            | 7.9  |
| 1934  | 17.1   | 26.5                                | 23.8                   | N. D.                             | N. D.                       | 12.3   |
| 1938  | 22.7   | 25.8                                | 23.2                   | <sup>4</sup> 14.9                 | <sup>4</sup> 11.9           | <sup>6</sup> 11.5                                  |

<sup>1</sup> Comparison for 1903.<sup>2</sup> Comparison for 1923.<sup>3</sup> Based upon ratio for 1929.<sup>4</sup> Based upon ratio for 1937.<sup>5</sup> Comparison for preceding years, viz. 1859, 1869, 1879, 1889.<sup>6</sup> Comparison for 1937.*Sources:*Col. 1 and 2: From the author's article in *American Economic Review*, Supplement, National Income and Taxable Capacity, table 1, p. 63, March, 1942.

Col. 3: Col. 2 reduced by one-tenth.

Col. 4: Derived by applying to column 2 percentages of "other" to total expenditures, *ibid.*, table 4A, p. 68.

Col. 5: Col. 4 reduced by two-tenths.

Col. 6: From Robert F. Martin, *National Income in the United States, 1799-1938* (New York, 1938), table 40, p. 87. Represents ratios of production income from government to total realized national income.

outbreak of World War II, did not result in an appreciable lowering of the ratios of taxes, or expenditures, or net value product, so that in a sense we entered this war with the government activities playing a part in the country-wide income or product totals close to their secular peak levels.

Against these broad tendencies common to the ratios presented in table 1, differences in the respective trends are quite minor; the main differences are in the levels. The percent of tax collections (the total comprising all taxes, direct and indirect, customs, excises, etc.) moves from the very low pre-Civil War levels of 4 percent to 23 percent in 1938. The ratio is taken to national income (exclusive of government savings) rather than to the net private income aggregate; but the difference in the denominators is quite minor, would not affect the trend of the ratio, and would modify the level itself by only one or two percent in recent years. The rise in the ratio is due to a fairly steady increase in the relative shares of state and local taxes, accelerated after World War I, and to a less consistent

rise in Federal taxes, in which the war periods give rise to prominent cycles, the peak associated with the war and the ratio declining somewhat after the war but never returning to pre-war levels. The only significant addition to this picture is that the depression following 1929 had the same effect on the Federal tax ratios as the wars, causing a rise in the ratios similar to those noted after 1860 and after 1915.

The second ratio in table 1, that of total expenditures to national income, is quite close to that of taxes in the years before the recent two decades (column 2). This ratio should properly be taken to the gross private income aggregate; and a rough reduction by one-tenth from column 2 to column 3 takes account of the order of difference in the denominators. The trend, in so far as the available data permit its establishment, is quite parallel to that of the ratio of taxes to national income.

Purchase outlays should be related to national product gross of consumption of durable capital and of government products, a total that tends to run about 20 percent larger than national in-

come as ordinarily measured; hence the crude adjustment from column 4 to column 5. The level of the ratio of outlay expenditures is naturally lower than that of the ratio of total expenditures, because the former account for roughly two-thirds of the latter, the other third being accounted for by transfer outlays. Over the three and a half decades preceding the present war, the ratio in column 5 almost quadruples, a rise only somewhat smaller than that of the ratio for total expenditures in column 3.

On the percentage of net value product to national income, we have data extending all the way back to the beginning of the nineteenth century. The available estimates of national income exclude government savings. But the item is relatively minor barring years of exceptional prosperity or depression, or of extraordinary outlays in connection with major wars; and the effect of its omission on the long-term comparison is thus likely to be negligible. The available series shows that the rising trend in the ratio of government net value product to national income is of even longer standing than is indicated by table 1, which covers a period of eight decades. The trend is almost continuous from ratios which are at 1 percent in the beginning of the nineteenth century, to roughly  $2\frac{1}{2}$  percent by 1860, to 5 percent by the beginning of the twentieth century, and to 12 percent in the years immediately preceding the present war.

The particular point that calls for comment is the large difference in the level of this percentage, which measures the relative contribution of government activity to net national product, and the percentage that is roughly twice as large that measures the draft of tax collections upon the net private income aggregate. The reason, of course, is that tax collections are designed to finance not only payments by governments to the productive factors under its own auspices, but also transfer expenditures of the type that means shuffling of economic claims among various groups of income recipients, and payments for products of other industries consumed in carrying on government activity. For any other industry there would also be a similar difference in the ratios to national income between the total *charge* of the industry for its product, *i. e.*, total sales value of its finished articles and the *net value product*, *i. e.*, compensation of the productive factors engaged in that industry. The

peculiar characteristic of government, as compared with other industries, is that more than others it incurs transfer expenditures, *i. e.*, reduces the purchasing power of some groups of the population for the benefit of others, without a corresponding market exchange of economic goods. In any consideration of the effects of the secular rise of government's share in total economic activity, either past or prospective, this double function of government, both direct production of goods and rearrangement of the income distribution, must be clearly kept in mind.

#### RATIOS FOR THE WAR YEARS

It may be asked whether the trends observed in the decades up to the present war towards an increasing proportion of taxes, outlays, and government net value product, are likely to continue in the post-war future. No certain answer can be given to this question; but reasonable hypotheses can be advanced. Before discussing them, however, it is of interest to consider the ratios of taxes, outlays, and government net value product to the relevant over-all denominators during the recent war years.

Table 2 presents a comparison between taxes and total outlays and the corresponding income aggregates, annually from 1939 through the first half of 1943. For these years, particularly 1942 and 1943, it becomes important to measure more precisely the proper denominators, *i. e.*, the net and gross private income aggregates, since they differ materially from national income as ordinarily measured. Thus, for 1942 the net private income aggregate is larger than national income, as customarily measured, by 7 billion dollars or 6 percent. The gross private income aggregate, which includes in addition depreciation and depletion and net business tax accrual, is, in 1942, larger than national income by 20 billion dollars or well over 15 percent.

Two conclusions stand out clearly in table 2. First, the ratio of taxes to the net private income aggregate shows no great rise, the percentage increasing moderately from 18 in 1939 to 20 in 1942 and 23 in the first half of 1943. Thus the draft represented by total taxes upon the income receipts of individuals and net undistributed profits of corporations (before tax) has kept pace with or only moderately exceeded the rise in the volume of these income receipts. This is contrary to the popular impression that the magnitude of taxes, relative to the incomes of indi-



TABLE 2  
PRIVATE INCOME AGGREGATES, TAXES, AND OUTLAYS, 1939-1942  
(Billions of Dollars)

|   | 1939 | 1940 | 1941  | 1942  | 1st Half<br>1943 <sup>1</sup> |
|---|------|------|-------|-------|-------------------------------|
| 1. Income payments to individuals   | 70.8 | 76.5 | 92.2  | 115.5 | 137.6                         |
| 2. Contributions to social insurance <sup>2</sup>                           | 2.0  | 2.1  | 2.6   | 3.3   | 3.8                           |
| 3. Corporate savings, adjusted  | 1.5  | 3.2  | 2.6   | 4.0   | 6.0                           |
| 4. Adjustments for statistical discrepancies                                | —    | -0.9 | -0.8  | -0.3  | +3.8                          |
| 5. Business income and profits tax  | 1.1  | 1.5  | 2.8   | 7.3   | 8.0                           |
| 6. Net private income aggregate (1+2+3+4+5)                                 | 75.4 | 82.4 | 99.4  | 129.8 | 159.2                         |
| 7. Depreciation and depletion   | 6.2  | 6.4  | 6.9   | 7.8   | 8.0                           |
| 8. Net business tax accrual   | 0.3  | 1.3  | 4.6   | 5.3   | 5.8                           |
| 9. Gross private income aggregate (6+7+8)                                   | 81.9 | 90.1 | 110.9 | 142.9 | 173.0                         |
| 10. Tax collections (budget receipts)                                       | 13.6 | 14.9 | 18.3  | 26.1  | 36.4                          |
| 11. Total outlay (budget expenditures)                                      | 17.8 | 18.3 | 27.6  | 64.0  | 96.0                          |
| 12. Percentage of taxes to net private income aggregate (lines 10 and 6)    | 18.0 | 18.1 | 18.4  | 20.1  | 22.9                          |
| 13. Percentage of outlay to gross private income aggregate (lines 11 and 9) | 21.7 | 20.3 | 24.9  | 44.8  | 55.5                          |

<sup>1</sup> Seasonally adjusted annual rate.

<sup>2</sup> Included fully, although part is contributed by employers; and this part, while entering the gross private income aggregate, should not be included in the net private income aggregate.

Sources:

- Line 1: *Survey of Current Business*, March, 1943, table 12, p. 21, line 5, and *Survey*, August, 1943, table 3, line 1.  
 Line 2: *Survey*, August, 1943, table 7, p. 13, line 4.  
 Line 3: Corporate savings from *Survey*, August, 1943, table 6, p. 13, line 11. Adjustments for additions to business reserves, capital outlay charged to current expense, and inventory revaluation from *Survey*, August, 1943, table 4, p. 12, lines 4, 5, 6.  
 Line 4: *Survey*, August, 1943, table 4, p. 12, line 7.  
 Line 5: For 1939-1942, *Survey*, March, 1943, table B, p. 25—sum of Federal corporate income tax receipts (line 2) and state and local corporation income taxes (line 31). For 1943, the 1942 total multiplied by the ratio of business tax and non-tax liabilities in first half of 1943 (doubled to annual total) to annual total of same item in 1942 (see *Survey*, August, 1943, table 4, p. 12, line 2).  
 Line 7: *Survey*, August, 1943, table 4, p. 12, line 3.  
 Line 8: *Survey*, March, 1943, table 6, p. 19, line 3. For 1943 assumed at the same ratio to line 5 as in 1942.  
 Line 10: For 1939-1942, sum of Federal net budget receipts (*Survey*, March, 1943, table B, p. 25, line 13) and total state and local budget receipts (*ibid.*, line 36). For 1943, based on ratio of 1943 first half total of (business tax plus non-tax liabilities minus net business tax accruals plus individual taxes) to similar total in 1942, the ratio applied to entry for 1942 in line 10. For entries underlying the ratio see *Survey*, August, 1943, tables 4 and 7, and line 8 of present table.  
 Line 11: For 1939-1942, sum of Federal expenditures (*Survey*, March, 1943, table A, p. 25, line 10) and state and local budget expenditures (*ibid.*, line 23). For 1943, ratio of government expenditures on goods and services in first half of 1943 (doubled to cover year) to total in 1942 (*Survey*, August, 1943, table 5, p. 13, line 2) applied to entry for 1942 in line 11.

viduals and net earnings of corporations, has increased strikingly during the war years.<sup>9</sup>

By contrast, the proportion of total outlay to the gross private income aggregate rose markedly,

<sup>9</sup> This conclusion is reinforced if we distinguish between taxes falling on individuals' incomes and the corporate income and excess profit taxes. Omitting the latter, the tax bill rises from 12.5 billion dollars in 1939 to 28.4 billion dollars (annual rate) in the first half of 1943. (See lines 10 and 5 of table 2.) The ratio to income receipts of individuals (lines 1 and 2) is at 17.2 percent in 1939 and at 20.1 percent in the first half of 1943—a rise in the ratio smaller than that shown for all taxes in line 12 of table 2.

from 22 percent in 1939 to 55½ percent in the first half of 1943. This ratio measures the relative draft of both government taxes and borrowing upon incomes of individuals and corporations, inclusive of their depreciation and depletion and other reserve accumulations during the year. In combination with the first conclusion, this rise in the outlay-to-gross-income-aggregate ratio clearly shows that the financial burden of increased government needs was carried not by any appreciable increase of the *relative* tax burden; but rather by an increase in the relative draft by

the government, via borrowing, upon the savings of individuals and firms.

The attempt to calculate the same ratios, not for money flows such as are represented by taxes, outlays, and income payments, but for real resources or goods (even if valued in terms of money), is difficult in a war year, because of two basic problems: (a) that of measuring real net product of government activity, particularly government net savings; (b) that of correcting for the differences in level between prices paid by government and those paid by individuals and

business enterprises. The first problem requires an assumption as to what part of war production can be treated as additions to the government inventory of real assets, to be used as an offset against the increase in government debt. The second is really a question as to the relative efficiency of resources in government production, compared with those in private production.

The upper part of table 3 presents a comparison of purchase outlays with the corresponding variant of gross national product, *i. e.*, one gross of consumption of durable capital and of

TABLE 3  
NATIONAL PRODUCT, PURCHASE OUTLAYS, AND GOVERNMENT NET VALUE PRODUCT, 1939-1942

|   | 1939 | 1940 | 1941  | 1942  | 1st Half 1943 <sup>1</sup> |
|---|------|------|-------|-------|----------------------------|
| 1. Consumers' outlay  | 61.7 | 65.7 | 74.6  | 82.0  | 89.7                       |
| 2. Private gross capital formation  | 10.9 | 14.7 | 19.0  | 8.0   | -0.7                       |
| 3. Government purchases of goods and services   | 16.0 | 16.7 | 25.7  | 61.7  | 92.3                       |
| 4. National product, gross of consumption of durable capital and of government product (1+2+3)                                      | 88.6 | 97.1 | 119.3 | 151.7 | 181.3                      |
| 5. Ratio of purchase outlays to national product gross of consumption of durable capital and of government products (lines 3 and 4) | 18.1 | 17.2 | 21.5  | 40.7  | 50.9                       |
| 6. Direct government services to individuals  | 3.1  | 3.0  | 2.8   | 2.7   | 2.4                        |
| 7. Flow of goods to consumers (1+6)   | 64.8 | 68.7 | 77.4  | 84.7  | 92.1                       |
| 8. Non-war capital formation, private, net  | 4.7  | 8.3  | 12.1  | 0.2   | -8.7                       |
| 9. Net construction, public, non-war  | 1.3  | 0.9  | 1.0   | 0.3   | -0.4                       |
| 10. Net non-war capital formation (8+9)   | 6.0  | 9.2  | 13.1  | 0.5   | -9.1                       |
| 11. Additions to inventory of war products  | 0.9  | 1.6  | 7.5   | 29.5  | 48.8                       |
| 12. Net national product (7+10+11)  | 71.7 | 79.5 | 98.0  | 114.7 | 131.8                      |
| 13. Government income payments  | 10.0 | 10.3 | 11.5  | 18.4  | 26.8                       |
| 14. Net additions to government capital (9+11)  | 2.2  | 2.5  | 8.5   | 29.8  | 48.4                       |
| 15. Net budget deficit, all governments   | 4.3  | 3.4  | 9.2   | 38.0  | 59.6                       |
| 16. Net value product of government (13+14-15)  | 7.9  | 9.4  | 10.8  | 10.2  | 15.6                       |
| 17. Ratio, government net value product to net national product (lines 16 and 12)   | 11.0 | 11.8 | 11.0  | 8.9   | 11.8                       |

<sup>1</sup> Seasonally adjusted annual rate.

Sources:

Line 1: *Survey*, August, 1943, table 5, p. 13, line 16, and table 1, p. 12, line 14.

Line 2: *Ibid.*, table 5, line 8, and table 1, line 8.

Line 3: *Ibid.*, table 5, line 2, and table 1, line 2.

Line 6: Valued at 1939 direct taxes paid by individuals, modified for later years by ratio of Federal non-war, state and local expenditures in the given year to the corresponding total in 1939. Expenditure data for 1939-1942 in *Survey*, March, 1943, table 10, p. 20, lines 5 and 6; for 1943, in *Survey*, August, 1943, table 1, p. 12, lines 5 and 6.

Line 8: Gross private capital formation (see line 2 above) minus depreciation and depletion (see *Survey*, August, 1943, table 4, p. 12, line 3).

Line 9: See *National Product, War and Prewar*, etc. (Nat. Bur. Econ. Research, pap. 17): table 1, February, 1944.

Line 11: Based on subtracting from gross war production current consumption of war products—see table 3, line 8, in *Treatment of War Production in National Product* (to be submitted to April, 1944, meeting of Conference on Research in Income and Wealth).

Line 13: From *Survey*, March, 1943, and from Department of Commerce (for 1943 first half). Figure for 1942 raised by 2 billion dollars to allow for subsistence of members of armed forces (average of 4 million men multiplied by a crude estimate of \$500 per capita). Similar adjustment for 1943 at 3 billion dollars.

Line 15: For 1939-1942—sum of budget deficits and surpluses for Federal, state, and local governments (see *Survey*, March, 1943, table 6, p. 19, lines 12 and 15). For 1943, from lines 10 and 11 of table 2 above.

government products. All the totals are taken directly from the Department of Commerce data, and, to avoid confusion, they follow its concepts.<sup>10</sup> This particular comparison avoids the problem of measuring government savings involved in that of net value product of government with net national product, a problem resolved in the lower part of table 3. Net additions to war capital inventory are calculated by subtracting from total war production current consumption based upon assumed life periods for broad categories; and these together with the value of net public construction (again gross minus depreciation) yield total additions to the real assets of government—to be used as offsets against the increase of public debt in the calculation of government net savings. Both comparisons in table 3 neglect the problem of differences in level between prices paid by government and those paid in the private sector of the economy, by using totals in current, unadjusted prices.

The ratio of purchase outlays to the corresponding variant of gross national product increases from 18 percent in 1939 to 51 percent in the first half of 1943. This rise, concentrated in the years that follow 1941, is clearly associated with war outlay and is quite similar to that of the ratio of total expenditures to the gross private income aggregate in table 2.

By contrast, the ratio of government net value product to net national product shows relative stability over the period, with a slight drop in 1942. The reason is that the basic measure of government net value product in current prices is the volume of taxes. With the taxes increasing only slightly in proportion to net national product, and with an increasing share of taxes going to pay for the current consumption of war goods, which does not enter the net value product of government, the latter would naturally show a stable or declining ratio to total national product. To state the result somewhat differently: as valued by society in terms of taxes that society was willing to pay, the net contribution of government to the total heap of net production increased at a rate barely equal to that of the increase in the total heap itself.

Clearly, this ratio, like the ratio for purchase outlay, is affected considerably by differences in the price level between the numerator and the

denominator. It is fair to say that in the comparison of purchase outlays with the corresponding variant of gross national product, the numerator is valued at higher price levels than the denominator, especially in years like 1942 and 1943; so that in terms of comparable price levels, the ratio in 1943 would not be at 51 percent, but lower by perhaps a quarter, bringing it down to roughly 40 percent. In the comparison of government net value product and net national product, as measured here, the implicit price index of the numerator is probably lower than that of the denominator. No rough adjustment can be suggested; but it is not likely to modify the indication of stability of the ratio for 1939–1943, as compared with the rise in the ratio of purchase outlays to the corresponding variant of gross national product.

#### PROSPECTS FOR THE FUTURE

In considering whether the pre-war trends will persist in the post-war future, with a consequent further rise in the shares of taxes, government outlays, and net value product in country-wide income and product aggregates, certain hypotheses can be safely adopted as plausible.

There seems little question that the *absolute* levels of the several totals expressive of government activity will, in the first post-war decade or two, be much higher than they were before the outbreak of the present war. Some of the factors that made for a rise in the absolute volume of government activity in the past will, if retarded during the war years, tend to return when peace comes. The rise in outlays by cities on various types of urban service, in outlays by states in connection with highway systems and education, and in expenditures by the Federal government in connection with social security and public works, is likely to be resumed in the post-war future. In addition, the war itself will leave its usual residue of increased obligatory Federal expenses, in larger interest payments on public debt, disbursements to veterans, and most likely a much larger outlay on peacetime military expenditures than was customary in this country in the pre-war years.

The magnitudes of the post-war government budget cannot be estimated precisely now. But even rough guesses suggest that owing to larger interest payments on debt, larger peacetime military expenditures, larger payments to veterans, and a wider social security system, the Federal budget in the first post-war decade is

<sup>10</sup> Although the total it uses for expenditures of government on commodities and services is too large from our viewpoint in its inclusion of interest on public debt. The correction, however, would be relatively minor.

likely to be from two and a half to three times as large as the pre-war budget of 8 billion dollars, with a rough level of 25 billion dollars per year. We may also expect some increase in the state and local budget from the 9 billion dollars level, prevailing during the pre-war years, to 10–11 billion dollars. This, in very rough terms, yields a post-war government budget of about 35 billion dollars per year, twice as large as that in the last years before the present war. Under the assumption of no deficit financing, this would also mean a tax bill of equal magnitude, disregarding any possible liquidation of public debt; or a tax bill two and a half times as large as that immediately preceding the war.<sup>11</sup>

Whether the *ratios* for the various totals expressive of government activity, as distinguished from the absolute volumes themselves, will reach in the post-war decades a higher secular level than before the war, depends, of course, upon whether or not the denominators, *i. e.*, the various income and product aggregates, are likely to rise at the rates suggested for total outlays and taxes. The budget and tax comparisons just made between pre-war and post-war do not take account of any price rises. It is unlikely that the income and product aggregates, at constant prices, will reach a level in the post-war decades two or two and a half times as high as the level in 1939. Even the most optimistic assumptions do not suggest an increase between 1939 and the post-war decade of more than 50 percent, *i. e.*, a national income of 120 billion dollars; and a more moderate estimate would probably allow a rise of only 25 percent. This means that the various ratios expressive of the proportion of government activity in national income are likely to rise in the post-war decades to levels appreciably higher than those in the immediate pre-war years. Since these levels ranged at close to 20 percent for tax collections and expenditures, 10 and 15 percent for outlay expenditures and net value product, one may guess roughly that they would rise to at least 30 percent for taxes and outlays, well over 20 percent for purchase outlays, and close to 20 percent for net value product.<sup>12</sup>

<sup>11</sup> We may expect purchase outlays and net value product to show a relative increase similar to or slightly lower than that suggested for total outlays and taxes. It must not be overlooked that interest on public debt is in the government net value product; and that military expenditures are preponderantly outlay purchases.

<sup>12</sup> This statement applies to the one or two decades immediately following the end of the war. The prospects for a longer post-war period depend upon assumptions con-

#### THE NATURE OF THE PROBLEM

The statistical measures of the ratios for the past, as well as the projection of their trends for the post-war decade, are necessarily crude; and as already indicated, such over-all ratios can barely suggest the complex lines of relationship between government and other economic activities in the nation. It would be impossible to discuss adequately here the significance of the trends observed and of their continuation in the future. But a few general comments on the nature of the problem which they raise are perhaps in order.

In considering the relation between government activity and national income, we may frame two questions. Is secular growth in the total product of the economy accelerated or retarded by the increased scope of government activity, as compared with alternative ways of sharing payments and productive resources between the private and the public sectors? Have shorter-term variations in government activity been used and can they be effectively used to reduce undesirable fluctuations in the total performance of the economy?

These questions are of practical significance if we assume that society has a choice in determining the scope of government activity, both for the longer and the shorter run; so that conclusions as to the net effects of government activity can serve to influence the choice in the right direction. They also assume implicitly that maximizing total national product in the long run and stabilizing it in the short run are desirable goals, in terms of which to judge trends and variations in the relative scope of government activity. This second assumption may be denied in favor of some concept of social welfare that goes beyond maximizing a stable national product. Yet, we accept it here as at least a proximate goal.

It would be misleading to state that the questions just framed can be answered in the present state of our knowledge. But we should distinguish two different types of difficulty. The first is that our quantitative knowledge of the processes of interaction between government activity and operations in the private sector of the economy is meager, because only in recent decades has society become aware of the importance of the problem and, therefore, willing to spend

cerning longer-range trends in national product and government activity, assumptions that cannot be ventured upon in this paper.

resources to ascertain even the basic economic magnitudes. Even now, there are important gaps in our information that effectively bar objective answers to many factual questions. For example, we don't know even today the income distribution by size among individuals and families; nor do we know the pattern of allocation of income between expenditures and savings at various consumer income levels. Furthermore, since often the collection of important information becomes a matter of social conflict, with considerable pressure against extending the area of economic measurement lest it becomes a basis for centralized government action, it is unlikely that all the necessary data for an adequate study of the interrelations between government activity and national income will ever be secured.

However, progress has been rapid; and the accentuation of problems commonly recognized as of importance to society will lead in the future to further increase of information on the effects, both expansive and retarding, of government activity upon the economy at large. In this measurable part of the problem, there is every reason to expect an extension of factual knowledge and a consequent narrowing of the areas within which conjecture and partial viewpoints can run rampant.

The second difficulty is much more recalcitrant, because it involves finding commonly accepted objective criteria for value judgments. If the analysis of the relation between government activity and activity in the private sector goes beyond the monetary flows into a consideration of *real* costs and returns, we encounter the difficulty of putting government and private activities on an identical value base. That such a base is not provided by the actual rates of pay can be clearly seen by comparing the salaries of the President or the Supreme Court Justices with the compensation of executives or lawyers of equal caliber undertaking similar responsibilities in private business; or, to take the other side of the shield, by comparing the compensation of the holders of political plums or pork-barrel posts with that paid in private business to people of comparable skill and application. The fact is that many activities are in the public sector because it wouldn't be possible to have them carried on within the private sector of the economy on the basis of rules laid down by the market place; just as many activities in our social structure can be carried on within the

family but not within the market sector. The actual monetary costs or prices of many government activities are not on the same base as prices in the private sector; and their inclusion in the national product total, as in the tables above, is based upon an arbitrary decision to value government activities by rules that are valid only in the larger and dominating private sector of the economy.

This arbitrary decision is quantitatively and analytically tolerable so long as government activity involves a relatively small proportion of real resources and is producing only a small volume of real goods, no matter how valued. But extension of the scope of government activity means a growing challenge of the validity of continuing to value its real contents at prices actually paid or charged for it—as if these prices were similar to costs and prices on the private markets. A genuine question arises as to whether a new system of valuation is not needed that could effectively translate resources and goods, both in the private and the public sectors, to comparable magnitudes. What that system of values should be, one cannot foresee at present. Perhaps it should relate the performance of both sectors to some notion of social welfare, so that the genuine contribution of private business could be measured while removing some of its dross (such as advertising, patent medicines, etc.); as well as the genuine contribution of the government, again minus some of its waste and inefficiency. Such a commonly agreed upon system of valuation does not exist at present, revealing the absence of an accepted set of social purposes with reference to which both private and public economic activity could be valued. For lack of it, the commonly employed reduction of government and private economic activities to terms of *real* goods is necessarily arbitrary.

This difficulty is clearly distinct from that created by scarcity of data, since it means lack of the very foundation for quantitative measurement. The purpose of stressing it here is to emphasize that the basic questions in the relation of government activity to national income are not answerable in terms of present economic measurement and theory. Evaluation of the significance of these relations requires a set of criteria that transcend the present basis of economic analysis, and is contingent upon formulation of a broader system of social values.