Chapter II

ANNUAL ESTIMATES OF OUTLAY AND INCOME

THE main business of the present chapter will be to review existing annual estimates of outlay and income, to complete them where necessary, and to bring them into as comparable a form as possible. A comparison and critique of the measures of the product which result will be found in Chapter III, and their quarterly interpolation in Chapters IV and V. But before we can turn to the estimates themselves, a more precise description must be given of the conceptual framework employed throughout this book.

§1. *The Two Sides of the Account*

We shall begin by attempting to relate data for consumers' outlay and net investment, together with the net contribution of the government to outlay, on the one hand, to estimates of the income to which these give rise, on the other. It is desirable from several points of view to make such a comparison. In the first place an independent determination of the national product from the side of outlay (or expenditure) provides a useful check upon the estimation of national income from income statistics. More important, however, the simultaneous measurement of the product by the two methods is the first step on the way toward a unique series for national income, broken down simultaneously (a) by source, i.e. by type of economic activity and of economic agent;

and (b) by disposal, i.e. according to the way in which this income is currently distributed between different kinds of consumption and investment. Furthermore, as indicated in the preceding chapter, a comprehensive set of annual estimates serves as the starting point for the measurement of components of the product on a quarterly basis.

In principle the task involves the construction of series for the national product by different methods with different breakdowns, the various methods yielding identical totals. Even for the United States, where statistics of income, consumption and investment are already more highly developed than elsewhere, it is not yet possible to do this with anything approaching the degree of accuracy one might desire. All that we can do in a survey such as the present is to construct series for the two sides of the account, for outlay on the one hand and for income on the other, derived by methods that have the minimum of source material in common, and then observe how closely they conform to each other. At this point the problem becomes one of reconciliation.

In the following pages, I shall present on an annual basis two separately derived series—one for income and one for outlay—each consisting of what appears to me to be the best estimate available at present. From these two, substantially independent, estimates of the national product, a compromise can be arrived at, if a single series is desired as a starting point for further analysis.

§2. *Concepts*

From the viewpoint of statistical method, such an investigation as the following—that is, an investigation of the manner in which spending becomes income—must be distinguished sharply from the closely associated question as

to how income, once earned, is spent. In a sense this distinction is an artificial one, for the two questions have the same answer. Outlay by consumers represents a draft upon current income; what is left over constitutes accumulation. During any given interval of time the community's income is none other than its consumption plus its accumulation; and the same is true of the community's outlay. Neither income nor outlay can claim priority in point of time or causal sequence: both are aspects of a single phenomenon, the national product. The suggested distinction is therefore purely methodological in character, and is made on grounds of convenience. These grounds require elucidation.

The material we have to handle is most conveniently regarded (from the statistical viewpoint) as a set of actual or imputed money flows. In essence such flows are circular in character—from the consumer to the producer, and back again to the consumer. In order to make any set of measurements, we have to interrupt this cycle of payments at some predetermined point. The choice of this point is not a matter of indifference, for it settles to some extent the character of the subsequent statistical procedures. The need to make this choice is responsible for the distinction outlined above. There are two obvious alternatives. Either we may select for examination all those transactions in which consumers make purchases from producers: this procedure implies (so to speak) that outlay gives rise to income, and it is the approach followed here. Or we may prefer to consider a different set of transactions, those in which income accrues to consumers in their capacity as income receivers: in which case we start with income and examine how it gives rise to outlay. In both cases the process has to be regarded as instantaneous. If the first approach is adopted, we observe the distribution of the entire proceeds from the sale of current output

in the form of current income. If we choose instead the second approach, the inquiry relates to the current disposal of income at the moment this income is received. So far as concerns the measurement of the national product the two procedures lead of course to the same result. Indeed there would be no need to contrast them were it not for the fact that our thought processes in these matters run in terms of money flows and consequently confer a conventional priority upon outlay or upon income, according to the particular set of money flows in view. Moreover there is a practical consideration: the first approach treats the community's accumulation from the side of investment, while the second requires an estimate of the volume of saving. It is this consideration which necessitates a choice between them.

If we adopted the second approach we should have to measure consumption, and add to it savings by individuals and businesses. Such a procedure would, however, carry us somewhat beyond our everyday notions concerning the process of saving. According to these notions we are accustomed to regard income received (or accruing) in any given period of time as spent or saved in some succeeding period. But the income of this second period may or may not equal the income whose outlay we wish to examine. In order, then, to compare income with the outlay derived from that income, we have to face this difficulty, namely that it becomes necessary to relate the transactions of two separate and distinct periods of time to one another. This is true at least if we use the terms income and outlay in a manner which conforms to everyday thinking on the subject. Saving is yesterday's income minus today's consumption, investment is today's income minus today's consumption, and the two are not necessarily equal. Thus, if the income of day One is spent or saved on day Two, and if the income of a given day is equal to

that day's consumption and investment, we have (denoting days by subscripts):

$$\text{Income}_1 = \text{Consumption}_2 + \text{Investment}_2 + (\text{Income}_1 - \text{Income}_2).$$

The difference between the portion of the first day's income that is saved, and investment on day Two, is of course

$$\text{Income}_1 - \text{Income}_2.$$

In other words, the amount saved out of the first day's income cannot be related to the volume of investment on the day (Two) on which that income is spent, except by the introduction of a term involving the difference between the respective incomes of the two days. Statistically speaking, this would involve great practical difficulty.[1]

An alternative solution, likewise discarded, would be to assume that decisions governing the disposal of income take place the moment such income accrues. For if we wish to regard outlay as derived from income, instead of the other way round, we are forced to consider as saved any income which is not immediately spent. Otherwise a time lag appears which prevents conceptual agreement between income on the one hand and outlay on the other. To assume that saving is continuously equal moment by moment to the difference between income and consumption, that the saving of any period is exactly equal to the investment of the same period, un-

[1] While the definitions considered in this paragraph are difficult to interpret statistically, even if a "year" is substituted for a "day," their utility for analytical purposes is well established. They form the basis of what has come to be known as "period analysis," the classical example of which will be found in D. H. Robertson's "Saving and Hoarding," *Economic Journal*, XLIII (September 1933), pp. 399–413, reprinted in the same author's *Essays in Monetary Theory* (P. S. King, London, 1940). For an excellent survey of alternative definitions of saving and investment, see Henry H. Villard, *Deficit Spending and the National Income* (Farrar and Rinehart, 1941), Ch. III.

doubtedly makes sense when economic activity is viewed as a whole.[2] But it is a long step from the everyday view of saving as the product of a series of conscious decisions by individuals to place income on one side. Saving as we are forced to define it in this context, regarded as a constituent of outlay, becomes rather the product of an absence of decisions—an absence, that is, of decisions to use income for purposes of consumption. The conceptual awkwardness of such a treatment of saving by individuals, if not by the community, is matched only by the statistical difficulty of making any direct estimate of its volume.[3]

In this study, on the other hand, the procedure will be to investigate how spending gives rise to income, rather than how income is spent (or not spent). The same results should of course be obtained. But an investigation of how spending becomes income, instead of the other way round, has the advantage that it escapes the difficulties outlined above. In the first place the problem of ensuring that our twin summations really relate to the same time interval is considerably simplified. To assume that outlay becomes income instantaneously is much less unrealistic than the first assumption. This is because investment expenditures immediately form part of the gross income of the recipients, whereas the division of income

[2] This is of course the meaning given to saving by Keynes when he claims that saving and investment are "always equal." (See John Maynard Keynes, *The General Theory of Employment, Interest and Money*, Macmillan, 1936.) It is also the meaning we shall adopt when we come to regard our data for investment as a measure of the community's saving (cf. Appendix F below).

[3] Along these lines various evaluations of outlay, regarded as consumption plus saving, rather than as consumption plus net investment, have been attempted for the United States, although it is by no means clear that the authors have always been fully aware of the conceptual problems involved. See, especially, William H. Lough, *High-Level Consumption* (McGraw-Hill, 1935). Clark Warburton has made estimates by both methods; see his "Value of the Gross National Product and its Components 1919–29," in *Journal of the American Statistical Association*, XXIX (December 1934), especially Table IV, p. 387. These estimates are discussed further in Appendix F below.

between consumption and saving is difficult to conceive of, and especially to measure, when regarded as an instantaneous process. In the second place we do not need to estimate saving directly, a task which is complicated enough even apart from the question of timing. Moreover, investigation along the lines projected here—evaluing the nonavailable portion of the product from the side of capital outlay rather than from the side of income saved —has been rendered much easier by the publication of Kuznets' estimates of the gross output of producers' goods, and of Solomon Fabricant's data on the cost of depreciating fixed equipment.[4]

If such a plan is to be carried out, the first step is to make sure that the concepts for outlay and income respectively, to which it is proposed to give numerical content, really cover the same ground. Only so will the results of the two calculations coincide, or, if they do not agree, at least provide a check upon each other and give some valid indication of the margin of error to be found in work of this sort. The statement that every item of outlay immediately becomes income for someone tells us no more than that there are two sides to every transaction. It is often a difficult problem to decide whether a given transaction should or should not be included on one side or the other. The really serious ambiguities arise when the two halves of a transaction become separated by a long series of intermediate transactions within the business system. The cases (for example, domestic service) in which elements of outlay become income automatically, without intermediate transactions, and substantially without deduction for expenses, are few indeed. Often considerable thought is needed to deter-

[4] Simon Kuznets, *Commodity Flow and Capital Formation*, Vol. I (National Bureau of Economic Research, 1938), and *Bulletin 74* (National Bureau of Economic Research, June 1939); Solomon Fabricant, *Capital Consumption and Adjustment* (National Bureau of Economic Research, 1938).

mine whether the income yielded by a given element of outlay has or has not been included, in whole or in part, in the scope of the income summation. A few of the more difficult cases will be discussed as they arise. Meanwhile the problem, particularly as it concerns government transactions, can be clarified in large measure by the construction of a kind of income account for the community as a whole.[5]

Outlay is the value of final output and may be obtained by summing the gross value product of all enterprises insofar as they contribute directly to final output. This last is a severe restriction, for of course many enterprises make no immediate contribution to final output on their own account, but sell their product exclusively to other enterprises. Nevertheless, those enterprises which do produce final output commonly make contributions to outlay greatly in excess of their own net value products; such contributions have naturally to be included gross of cost payments which these enterprises make to other enterprises. It is in this sense that outlay may be regarded as a gross value product.

By contrast, income, also indirectly the value of final output, is obtained by summing the net value products—net of cost payments made to other enterprises—of all enterprises without exception. We may also regard it as the sum of the distributive shares accruing to income receivers in respect of current output.

These two alternative ways of looking at the national product must now be used to formulate concepts, as precise as we can make them, which are suitable for statistical treatment. The value of final output may be

[5] In this connection, see especially Gerhard Colm, "Public Revenue and Public Expenditure in National Income," *Studies in Income and Wealth*, Vol. I (National Bureau of Economic Research, 1937); also J. E. Meade and R. Stone, "The Construction of Tables of National Income, Expenditure, Savings and Investment," *Economic Journal*, LI (June-September 1941), pp. 216–33, and Jakob Marschak, "The Branches of National Spending," *Econometrica*, Vol. 1 (October 1933), pp. 373–86.

represented (a) as outlay by private consumers plus private net investment, and (b) as the income to which (a) gives rise. Such a statement, although formally complete, calls for considerable amplification.

It will be noticed that we refrain, for the moment, from including any direct contribution by the government to final output, except in respect of output sold to consumers directly by government. In other words we assume, with this exception, that all governmental services are rendered to business and not to the final consumer as such. This choice of treatment is purely a matter of convenience. Allowance for a direct contribution to the product by government could easily be made, but any such allowance could not but be arbitrary, and simplicity suggests that we omit it altogether, at least at the present stage of our analysis. The question of taxes cannot, however, be dismissed so lightly. Are we to value final output gross of taxes, or should they be excluded from the calculation? Again the choice is made on grounds of convenience. It happens that any attempt to value the output of goods and services on a basis which excludes the taxes included in the proceeds from their sale, i.e. on a basis of net factor prices, is beset with statistical difficulties which fortunately need not concern us. By choosing to value output gross of taxes, we reckon it at the prices actually paid by the consumer or investing enterprise, which is of course the basis commonly found in business records. But insofar as taxes represent cost payments, the income to which our outlay gives rise will consist in part of governmental revenues. It is convenient in this context to regard all taxes as cost payments, i.e. as deductions from the net incomes accruing to enterprises or to individuals. Since, however, they are a component of outlay, these payments must be

reckoned as income, and the government regarded for the moment, in respect of its tax revenues, as an income receiver. At this stage we do not need to insert any allowance for income distributed to individuals by governmental units, for income so distributed is derived only indirectly from the sale of output, and allowance has been made for it in the treatment of tax revenues.

The treatment suggested may be summarized in the following identity:

Outlay by all ultimate consumers on all goods and services (including such services of governmental units as are paid for specifically[6]), at prices including all taxes + net investment on the account of all private (i.e. nongovernmental) enterprises and individuals, at prices including all taxes.	=	Gross income from the sale of services, all governmental units + indirect taxation + direct taxation (except on incomes distributed by Government) + incomes (net of all taxation) earned, directly or indirectly, in the private production of such finished goods and services as are consumed and invested privately.

This particular scheme is not, of course, set up as the ideal way of measuring the product. It is merely a convenient starting point for the derivation of outlay and income concepts which are not only suitable for statistical interpretation, but are also as strictly comparable as it is possible to make them.

It happens to be more convenient to take account of the income resulting from governmental transactions at the moment when this income comes to be distributed, rather than as it is received by the government. Only if we do this can we take proper account of the income-creating effects of deficit financing in periods when the budget is unbalanced. We have already included the

[6] E.g., carriage of mails, and sale of electricity by municipal undertakings.

entire receipts of the government on the right hand side. When the aggregate net deficit of all governmental units is added to both sides, the items for governmental receipts can be rewritten as governmental expenditure, with the following result:

Consumers' outlay (as above) + private net investment (as above) + excess of expenditure (including capital expenditure; but excluding debt repayment, and the purchase of existing assets) over receipts (excluding receipts from borrowing), all governmental units.

=

Expenditure (including capital expenditure; but excluding debt repayment, and the purchase of existing assets), all governmental units − direct taxes assessed on income distributed by government + income (net of all taxation) arising in the private production of goods and services consumed or invested privately.

If we regard as income all forms of relief payment (whether cash or work relief), and reckon benefit or subsidy payments by the government as income to the individual or corporate recipients, then all government expenditure (other than that used to repay debt, or to purchase existing assets) must become income in one form or another. Part of this expenditure is distributed directly by the government as income to individuals; the remainder is spent on the products of business enterprises, and becomes income to, or is distributed to individuals by, these enterprises. When this remainder is added to the income arising from the production of goods and services for private use, we obtain the income arising from the private production of all goods and services. The excess of expenditure over receipts of all governmental units, which appears on the left hand side of the above identity, will be called net public outlay.

On this understanding, the latter identity can be rewritten as follows:

OUTLAY		INCOME
Consumers' outlay (as above) + private net investment (as above) + net public outlay.	=	Income distributed by Government, gross of relief payments, but net of all taxation + income originating in private industry, gross of subsidies and benefit payments, but net of all taxation.

These are the two basic concepts to which it is proposed to give statistical content in the present study. I hope that they are reasonably unambiguous as set out above. On one or two points, however, further elucidation may be called for. Since capital gains are nowhere included in outlay, it is appropriate that they should be excluded from income. This statement applies equally to profits and losses arising through the revaluation (deliberate or unconscious) of inventories held by business enterprises, and to profits and losses realized by individuals or by enterprises through the sale of capital assets. Furthermore, the deduction for depreciation, required for the computation of net investment on the outlay side of the account, must clearly be undertaken on the same basis as that on which this item figures as a deduction in computing income. Thus if, in measuring outlay, we choose to deduct depreciation on a current, instead of a book value, basis—the more realistic procedure—we must do the same in measuring income. It happens that, in the case of most income data commonly available, depreciation has been deducted on a book value basis; the necessary adjustment to the income totals on this account is not difficult to make.

There are of course any number of ways of setting up such an identity as that shown above; some more inclusive, some less inclusive; some more, some perhaps less

appropriate, as a measure of social income. For instance it might be preferable for some purposes to exclude relief payments, and perhaps also interest paid on deadweight public debt, from both sides of the account. One might wish, for other purposes, not to deduct depreciation from gross outlay, in which case it would have to be added back to the income totals. Or one might prefer to treat governmental transactions differently. We are here concerned, however, less with the problem of finding the ideal expression for the dollar equivalent of the social product than with discovering a given flow of payments (actual or imputed) that has two aspects, both of which are capable of statistical interpretation. If subtractions or additions are desired in order to represent more accurately the true output of the community, net or gross, these can of course be introduced at will, provided the additions are made simultaneously to both sides of the account.

For example it might be convenient for certain purposes to present an estimate for public investment as a discrete component of outlay, but for our comparison a balancing item showing the excess of expenditure over revenue of all governmental units is sufficient. Estimates of public investment as such are subject to special types of statistical difficulty. Moreover the volume of public investment is influenced by factors so very different from those which determine the level of private investment that an aggregate figure for total investment, though interesting from the social point of view, is of doubtful utility in the study of industrial fluctuations. Furthermore the effects of public investment upon economic activity at large are better judged from a consideration of deficit financing, or of what has sometimes been called the "net income-increasing expenditure" of the government, than of public investment as such. For this reason

it seems justifiable to disregard public investment, and to consider instead different types of private investment (assumed to be more or less subject to the profit motive) on the one hand, and the excess of governmental expenditures over governmental revenues (determined by political considerations in the widest sense) on the other.

Again, the treatment adopted here assumes that all governmental revenues either partake of the nature of monopoly payments, or else are obtained in return for services to *business*. If we are looking for the perfect expression of the dollar volume of social income, it may be preferable to separate out a certain amount of government revenue, and to treat this as the equivalent of a corresponding volume of services rendered to consumers.[7] There would be no difficulty in altering our scheme to conform to such a plan. But the fraction of governmental activity which directly benefits consumers is essentially an arbitrary quantity. To repeat, we are interested rather in comparing estimates for two reasonable, and identical, concepts (of outlay and income respectively), than in finding the ideal expression for social income. Moreover, any concept supposed to conform to the ideal becomes less and less tractable statistically the more it is elaborated. For our purpose, therefore, there seems little point in making arbitrary adjustments of the kind indicated.

Similarly, it makes no difference in principle whether or not quasi-governmental agencies (e.g. the Reconstruction Finance Corporation) are treated as "governmental units." The size of outlay and the size of income will of course be affected by the decision reached, but they

[7] As Gerhard Colm has proposed; see his "Public Revenue and Public Expenditure in National Income" in *Studies in Income and Wealth*, Vol. I (National Bureau of Economic Research, 1937); also comment by Kuznets, *ibid.*, pp. 230–38. See also Clark Warburton, "Three Estimates of Output" in *Studies in Income and Wealth*, Vol. III (1939).

will both be affected in the same direction and to the same extent. In the statistical treatment which follows, the term "governmental unit" has been interpreted as consistently as possible to include the Federal government, the States, and political subdivisions of the continental United States. Publicly owned utilities and governmental agencies and corporations have in general been included among governmental units for reasons of statistical convenience.

The treatment of international transactions remains to be discussed. Provided that evaluations of the balance of payments may be considered reliable, the problem is a fairly simple one. It is necessary merely to see to it that the volume of debits to international account included in outlay is equal to the volume of credits included in income. In any evaluation of the balance of payments, total credits must exactly equal total debits, if nothing has been omitted. For our purpose, therefore, all we have to do is to include in outlay those debits and in income those credits which lie outside the concepts so far discussed—debits and credits, that is, which are not already included, explicitly or implicitly, elsewhere in the totals. The figures for income already include substantially all current account credits.[8] On the outlay side the commodity totals are net of exports and gross of imports, so that no correction is needed on this score. Moreover, debits in respect of tourist expenditures made abroad, and noncommercial remittances to foreign countries, have been included in the totals for services rendered directly to consumers.[9] We have, however, to deduct tourist expenditure by foreigners in the United States, and this is done in Table 3.

As for capital transactions, the most convenient pro-

[8] With the exception of noncommercial remittances to this country, a very minor item. See Table 5.

[9] See Appendix A.

cedure, and the one followed here, is to include the net balance on current account as a component of private investment (Table 3). None of the international items mentioned is quantitatively of great importance in the case of the United States, although for some countries they would constitute substantial components of the outlay and income totals.

§3. *Consumers' Outlay*

In deriving estimates for outlay which conform to the scheme sketched above, it is convenient to begin by assembling the data for consumption. For commodities I shall rely entirely upon Kuznets' estimates, although they allow a breakdown into three broad groups only—durable, semidurable and perishable goods. A more detailed breakdown would have certain advantages, but since in this study we are interested mainly in totals the defect is not a serious one. For consumers' services, on the other hand, there exists no complete set of estimates covering the period in which we are interested. It is true that Kuznets presents an estimate for services to consumers[10] which could easily be extended through 1938, but since it is obtained as a residual by the subtraction of consumers' outlay for commodities plus net capital formation from national income, it is no direct help to us. We have had, therefore, to construct independently an estimate of the amount spent by (or, as in the case of the net rentals of dwellings occupied by their owners, to be imputed to) consumers in respect of services rendered to them directly.

The new estimate is shown in the first line of Table 1,

[10] Simon Kuznets, *National Income and Capital Formation, 1919–35* (National Bureau of Economic Research, 1937), Appendix Table VIII; also *National Income and Its Composition, 1919–38* (National Bureau of Economic Research, 1941), pp. 136–37, 283–87.

and its derivation is described in detail in Appendix A. Calculations made some years ago by W. H. Lough for the period ending in 1931 were taken as the starting point.[11] New sources not available to Lough, and some differences in concepts and coverage, are indicated in Appendix A. Since the data were intended to be complementary to Kuznets' figures for the value of commodities passing into the hands of consumers, the criterion was naturally what had (or what had not) already been included by Kuznets. The rather detailed breakdown given in Table 22 (Appendix A) will permit modification of the estimates to fit other conceptual schemes if desired.

The independence of the derivation of the outlay totals from that of the income totals is inevitably compromised in this field to a slight extent through the use of a certain amount of material common to both. Some forms of outlay, for example for domestic service and for medical care, are so closely related to the income to which they give rise that independent evaluation of outlay and income becomes impracticable. For such items it seemed desirable to recognize this, and to integrate the outlay estimates as closely as possible with the corresponding estimates for income. Until consumer expenditure in the aggregate becomes measurable on some different principle, perhaps through the study of consumer budgets, estimation of such items from common source material remains unavoidable.[12] Nevertheless, the fraction of income and outlay as a whole to which these remarks apply is quite small. Little qualification is necessary on this

[11] W. H. Lough, *High-Level Consumption* (McGraw-Hill, 1935). In spite of its misleading title, this pioneer work is to be recommended; the estimates it contains have proved of the greatest value as a basis for those offered in the present study.

[12] The National Resources Committee has made estimates of consumers' outlay for 1935–36, using budget studies (see *Consumer Expenditures in the United States*, Washington, 1939). While these estimates do not segregate commodities and services, and are therefore in a form which prevents any direct use of them in the present study, some comparisons will be found in Appendix F.

account to the statement that the two series presented and compared in Table 6—for outlay and for income respectively—are derived from two sets of data which are substantially independent.

The commodity components of consumers' outlay, shown in Table 1, are taken directly from Kuznets and require little comment at this point. *Durable* commodities ordinarily have a life of more than three years (furniture, automobiles, etc.); *semidurable* last from six months to three years (clothing, automobile tires, etc.); and *perishable* commodities are usually consumed within six months of purchase (food, tobacco, etc.).[13] The basic data from which all such estimates are derived are of course provided by the biennial Census of Manufactures. The Census figures have been adjusted by Kuznets for imports and exports, and then written up appropriately to include the costs of transportation and of retail and wholesale distribution. After adjustment for changes in distributive inventories, they represent as closely as possible the value of actual commodities passing into the hands of the consumer during any year. For a more detailed discussion of the sources and methods used by Kuznets the reader is referred to his *Commodity Flow and Capital Formation*.

In Table 2 the expenditure groups in Table 1 are shown as percentages of the total. This arrangement throws some light upon the relative importance of commodities and services, as well as upon the behavior of consumption during the eighteen-year period.

The main impression produced by Table 2 is one of extraordinary stability from year to year in the share of the consumer's dollar devoted to different groups, despite wide changes in the dollar volume of the totals. As one might expect, a slight but distinct cyclical movement

[13] See Simon Kuznets, *Commodity Flow and Capital Formation*, Vol. I, p. 6.

TABLE 1

CONSUMERS' OUTLAY, ANNUALLY 1921–38

Millions of current dollars

	1921	*1922*	*1923*	*1924*	*1925*	*1926*	*1927*
A. Services[a]	19,499	20,318	22,286	23,510	24,345	25,181	25,804
B. Commodities[b]	37,353	37,614	42,234	42,385	45,821	48,469	47,594
1. Perishable[c]	22,047	21,410	22,967	23,750	25,404	27,107	26,672
2. Semidurable	9,736	10,023	11,324	10,735	11,361	11,917	12,032
3. Durable[d]	5,570	6,181	7,943	7,900	9,056	9,445	8,890
C. Consumers' outlay (A + B)	56,852	57,932	64,520	65,895	70,166	73,650	73,398

[a] See Appendix A, Table 22. It should be noted that these figures include several items no always covered by estimates of domestic consumption: (1) All taxes (other than income, estate, in heritance and gift taxes) collected from consumers; services to consumers are valued after payment o indirect taxes collected from traders. (2) Imputed rentals of owned homes. (3) Purchase of foreig exchange for tourist expenditure abroad and immigrant remittances to foreign countries. (4) Ne cost of life insurance.

[b] For 1921–35, the data are taken from Simon Kuznets, *National Income and Capital Formation 1919–1935* (National Bureau of Economic Research, 1937), Appendix Table VIII, p. 85; for 1936–38

TABLE 2

PERCENTAGE COMPOSITION OF CONSUMERS' OUTLAY, ANNUALLY 1921–38

Based on Table 1

	1921	*1922*	*1923*	*1924*	*1925*	*1926*	*1927*
A. Total Services	34.3	35.1	34.5	35.7	34.7	34.2	35.1
B. Total Commodities	65.7	64.9	65.5	64.3	65.3	65.8	64.9
1. Perishable	38.8	37.0	35.6	36.0	36.2	36.8	36.4
2. Semidurable	17.1	17.3	17.6	16.3	16.2	16.2	16.4
3. Durable	9.8	10.7	12.3	12.0	12.9	12.8	12.1
C. Total Consumption	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1928	*1929*	*1930*	*1931*	*1932*	*1933*	*1934*	*1935*	*1936*	*1937*	*1938*
26,382	27,164	25,890	23,377	19,704	17,671	18,186	19,283	20,954	22,416	22,285
48,715	50,845	44,676	36,253	28,675	28,528	32,954	37,164	41,905	44,090	39,904
27,348	28,550	26,395	21,481	18,147	18,133	20,756	23,095	25,363	26,706	25,502
12,193	12,382	10,731	9,024	6,722	6,513	7,512	8,151	9,200	9,720	8,992
9,174	9,913	7,550	5,748	3,806	3,882	4,686	5,918	7,342	7,664	5,410
75,097	78,009	70,566	59,630	48,379	46,199	51,140	56,447	62,859	66,506	62,189

from *Bulletin 74* (National Bureau of Economic Research, June 1939). The same figures through 1933 will also be found, together with their derivation, in Kuznets' *Commodity Flow and Capital Formation*, Vol. I (National Bureau of Economic Research, 1938), Table V-10. The estimates shown are gross of indirect taxation.

[c] Includes the imputed value of commodities produced and consumed on farms, but excludes the consumption of gas (natural and manufactured) which is treated as a service and is therefore included in line A.

[d] Excludes servicing (e.g. of automobiles) which is already included in line A.

1928	*1929*	*1930*	*1931*	*1932*	*1933*	*1934*	*1935*	*1936*	*1937*	*1938*
35.1	34.8	36.7	39.2	40.7	38.2	35.6	34.2	33.3	33.7	35.8
64.9	65.2	63.3	60.8	59.3	61.8	64.4	65.8	66.7	66.3	64.2
36.4	36.6	37.4	36.0	37.5	39.2	40.6	40.9	40.3	40.2	41.0
16.2	15.9	15.2	15.1	13.9	14.1	14.7	14.4	14.6	14.6	14.5
12.2	12.7	10.7	9.6	7.9	8.4	9.2	10.5	11.7	11.5	8.7
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

in percentage shares is noticeable. Depression appears to hit consumption roughly in proportion to the durability of the goods concerned. Thus the shares of durable and semidurable goods were each at a minimum in 1932; the share of perishables was hardly affected by the depression; while services (which may be regarded as commodities whose durability is nil), normally around one third of the total, rose in that year to over 40 percent, if our estimates are to be trusted. Put otherwise, dollar expenditure on durable goods fell 62 percent between 1929 and 1932, compared with a decline of 27 percent for services, and of 38 percent for consumption as a whole. Although we have no definite evidence on this point, it may be guessed that these shifts reflect a greater stickiness in the prices of services than of commodities, coupled with a greater elasticity of demand in relation to income (at any rate over short periods) for durable goods than for any of the other goods mentioned.

The slump of 1921 was of short duration; perhaps that is why it does not seem to have been characterized by the shifts so clearly discernible during the depression of the early nineteen-thirties. The share of the consumer's dollar given over to services, for example, does not appear to have been abnormally high during 1921–22, although the proportion allocated to consumers' durable goods in those years was well below the level reached later in the decade.

By 1935 the shifts in relative importance which took place between 1929 and 1932 had been largely reversed. The percentage share of services in the consumer's dollar had fallen again, and the share of commodities had risen, returning roughly to the level of the nineteen-twenties. A more striking development of these recent years, however, appears to have been a fairly definite shift from more to less durable commodities. During 1934–38 expenditure on consumable commodities as a whole ran

just below two thirds of total consumption, very much as it had done ten years earlier. On the other hand—and we are still comparing the last five years of the period under discussion with the situation ten years earlier—consumers' durable goods had dropped roughly from 12 to 10 percent, and semidurable from 16 to 14 percent, of total consumption. The perishable group had meanwhile risen from 36 to 40 percent, apparently occupying a larger place than ever before, at any rate in the recent history of this country. It is true that the commodity totals for 1934–38 are in effect an extrapolation of the earlier data,[14] but the difference appears too marked to be explicable on this ground alone. It may be that larger incomes in the lower brackets have led to relatively greater consumption of such perishables as foodstuffs; or that the average life of individual semidurable and durable goods has increased, so that less frequent replacement is necessary. But these are mere speculations about a problem which can be solved only by more detailed inquiry than is possible here.

Most of the changes in percentage shares observable in Table 2 can be related to cyclical movements; there is little evidence of the existence of longer term trends. The increase in the importance of the perishable group has already been noted, and there is some sign of a more or less steady decline in the relative share of semidurable goods, although the validity of any conclusion on this score is conditioned by the reliability of the commodity classification used. A more surprising feature, to the author at any rate, is the absence of evidence of secular increase in the relative importance of services, as compared with commodities. The productivity of the service industries must surely have increased much less rapidly

[14] See *Bulletin 74*, National Bureau of Economic Research.

than the efficiency of the commodity-producing industries, and the income elasticity of the demand of the final consumer for services must be, one would suppose, much greater than that of his demand for commodities. In combination these considerations would lead one to expect a slow but steady increase in the fraction of consumer expenditure devoted to services. The absence of such a trend is noticeable in Table 2, and is confirmed by Lough's estimates for earlier years: 34.1 percent for 1909, 33.0 percent for 1914, 28.3 percent for 1919, and 33.0 percent for 1921.[15]

The absence of any trend toward services and away from commodities is probably due mainly to defects in our treatment of the private automobile.[16] Suppose we were to regard the automobile not as a durable consumption good but as a form of capital wealth. In that case, purchases of automobiles would have to be removed altogether from consumers' outlay, and treated like residential construction, as a form of investment. Although the commodity totals would be reduced in this fashion, the imputed annual value of the services rendered by automobiles to their owners would, of course, have to be inserted among the service items in Table 1. The increase in the importance of the automobile during the last thirty years is a commonplace. It is obvious that the amounts we should have to transfer from the commodity totals to the service totals, if we adopted such a procedure, would be larger in later than in earlier years. A

[15] W. H. Lough, *op. cit.*, p. 28. Data for these early years strictly comparable with our own would probably run slightly higher (the 1921 figure for services as a fraction of total consumption given in Table 2 is 34.3 percent) but this does not affect the point at issue.

[16] Mr. George Soule has suggested to me that it may be due also to the substitution of household equipment for domestic service, and of free public services (e.g. health and education) for purchased private ones. A detailed consideration would require both a study of the relative price changes of goods and services, and an examination of the changing relation between free and purchased services. Such a consideration lies outside the scope of the present volume.

decision to regard the private automobile as a form of capital wealth would probably therefore lead to the emergence of a rising trend toward services—a trend whose absence from our estimates was remarked above. But why should we stop with automobiles? Why not treat other consumers' durable goods also as capital wealth? This line of thought of course leads into a statistical quagmire. It serves nonetheless to underscore the arbitrary character of all measures of consumption, including our own.

The general impression gained from Table 2 is that the distribution of the community's outlay on consumption among broad classes of expenditure is remarkably stable, and changes only very slowly. A treatment which regarded durable consumption goods as capital wealth would probably serve merely to strengthen this impression; for in that case the most unstable component—consumers' durable goods—would be removed from the total, and a much more stable figure—for services imputed to durable goods—would be substituted. Whether this means that people's tastes are themselves stable, or that changes of taste are obscured (so far as concerns our data) by changing income distribution or changing relative prices, it is not possible to determine here. The figures in Tables 1 and 2 relate entirely to current dollar values. A distribution worked out in terms of constant dollars, in order to eliminate the effect of changing relative prices, might show a rather different picture. My guess would be that commodity prices have fallen in recent years in comparison with the prices of services. Estimates for the consumption of commodities in constant dollars, intended to reflect movements in physical volume, are readily available.[17] It would be worth a good

[17] See Simon Kuznets, *Commodity Flow and Capital Formation*, Vol. I, Table VIII-1, pp. 478–80.

deal if estimates for the value of services rendered to consumers, such as those given here, could be accorded similar treatment. Any attempt to deflate current dollar totals for services must, however, encounter substantial obstacles. Such an inquiry lies outside the scope of the present study.

§4. *The Derivation of Total Outlay*

We are now ready to complete our annual estimates for outlay, in order that we may proceed to relate these to comparable data for income in terms of the concepts discussed in §2. The completion of the outlay estimates is undertaken in Table 3. From the figures for consumers' outlay derived in Table 1, we first subtract a small allowance for tourist expenditure by foreigners (line B). This step is required by our treatment of international transactions. Among the services in Table 1 tourist expenditure abroad by Americans is included on a gross basis;[18] consequently, in order to avoid an overstatement of outlay, we have to make a corresponding adjustment here. The item is admittedly insignificant, and the only purpose of the adjustment is to keep the record straight from the conceptual viewpoint.

To the figures for domestic consumption (line C) we have to add the value of private net investment. Five components of gross investment are distinguished in the table. With the exception of the net change in business inventories, which is derived in Appendix C, the data come either from Kuznets, or from Department of Commerce estimates. From the gross investment total (line D) we subtract an allowance for depreciation, or the amount of fixed capital consumed in the productive process (as estimated by Fabricant). This deduction relates

[18] See Table 22, Appendix A.

only to the first three elements of gross investment, for the capital formation embodied in the inventory change and the foreign balance is already net of capital consumption. Although Fabricant gives separate data for the depreciation of residences, the depreciation of business capital cannot be broken down as between fixed structures and other equipment. It is for this reason that the deduction (line E) is applied to gross investment as a whole, rather than individually to each constituent.

The depreciation allowances made in measuring income are generally on a book value, or original cost, basis. In order to obtain estimates of investment net of depreciation (line F) which are on a current price basis, the deduction for the consumption of capital in line E has been adjusted to represent the current cost of replacing the amount of capital consumed.[19] In any comparison between outlay and income, it is, of course, necessary to adjust the income totals in exactly the same fashion.

The resulting series for net investment in line F of Table 3 is subject to errors both in the estimation of gross investment and in the data for depreciation. It is subject, in other words, to all the qualifications which surround residual estimates. If the level of gross investment is too high (e.g. through the inclusion of capital expenditures charged to current account), or the level of depreciation too low (e.g. through unforeseen obsolescence, leading to write-downs which we have no means of including),[20] net investment is overstated in Table 3. If, on the other hand, the level of gross investment is too low (e.g. through our omission of installation expenses

[19] For a discussion of the method of adjustment the reader is referred to Solomon Fabricant, *Capital Consumption and Adjustment* (National Bureau of Economic Research, 1938), Ch. 10. The adjustment itself is shown in Table 4, line E.3.

[20] In returns for income tax purposes depreciation is apparently sometimes reported under "cost of operations" or "cost of goods sold" (cf. *Statistics of Income for 1935*, Part 2, p. 10). Since there is no way of including amounts reported in this fashion in the depreciation estimates we use, these estimates are to this extent an understatement.

TABLE 3

DERIVATION OF TOTAL OUTLAY, ANNUALLY 1921–38

Millions of current dollars

	1921	*1922*	*1923*	*1924*	*1925*	*1926*	*1927*
A. Consumers' outlay (Table 1)	56,852	57,932	64,520	65,895	70,166	73,650	73,39
B. Foreign tourist exp. in U.S.[a]	60	68	78	92	102	139	15
C. Consumers' outlay, adj. (A − B)	56,792	57,864	64,442	65,803	70,064	73,511	73,24
D. Gross private investment	10,282	9,478	15,318	12,682	15,363	15,879	15,10
1. Producers' durable goods[b]	3,569	3,550	4,986	4,695	5,021	5,434	5,13
2. Residential construction[c]	1,760	2,833	3,757	4,300	4,584	4,591	4,28
3. Business construction[c]	2,312	2,485	3,125	3,286	3,666	4,219	4,29
4. Net increase in inventories[d]	1,227	32	3,126	−467	1,631	1,413	80
5. Foreign balance[e]	1,414	578	324	868	461	222	57
E. Depreciation (current prices)[f]	7,693	7,508	8,388	8,345	8,482	9,176	9,16
F. Net private investment (D − E)	2,589	1,970	6,930	4,337	6,881	6,703	5,93
G. Net private outlay (C + F)	59,381	59,834	71,372	70,140	76,945	80,214	79,18
H. Net public outlay	488	387	−136	41	100	−293	−21
1. Federal deficit[g]	−524	−504	−860	−939	−730	−1,072	−1,08
2. State and local deficit[h]	898	802	649	934	824	753	82
3. Increase in gold stock[i]	48	34	20	40	2	21	4
4. Increase in silver stock[j]	66	55	55	6	4	5	
I. Total outlay, as defined in text (G + H)	59,869	60,221	71,236	70,181	77,045	79,921	78,96
J. Consumers' outlay (C) as percent of private outlay (G)	95.6	96.7	90.3	93.8	91.1	91.6	92.
K. Consumers' outlay (C) as percent of total outlay (I)	94.9	96.1	90.5	93.8	90.9	92.0	92.

[a] For 1922–33, R. O. Hall, *International Transactions of the United States* (National Industri Conference Board, 1936); 1921 and 1934–38, *Balance of International Payments of the United State* published annually by United States Department of Commerce.

[b] Including ships, excluding investment in capital livestock on farms. For 1921–33, Kuznet *Commodity Flow and Capital Formation* Vol. I (National Bureau of Economic Research, 1938 Table V-6, p. 309; 1934–38, extension of same data, from unpublished worksheets underlying *Bullet 74* (National Bureau of Economic Research, 1939), by the same author.

1928	*1929*	*1930*	*1931*	*1932*	*1933*	*1934*	*1935*	*1936*	*1937*	*1938*
75,097	78,009	70,566	59,630	48,379	46,199	51,140	56,447	62,859	66,506	62,189
161	179	156	114	71	75	86	117	139	160	166
74,936	77,830	70,410	59,516	48,308	46,124	51,054	56,330	62,720	66,346	62,023
13,776	17,188	12,489	6,272	1,117	1,838	3,400	6,316	9,175	12,889	7,471
5,465	6,487	5,116	3,276	1,826	1,889	2,955	3,713	5,135	6,521	4,846
3,961	3,424	2,195	1,396	641	314	272	533	1,101	1,393	1,390
4,219	4,459	3,746	2,316	1,126	777	960	1,072	1,450	1,933	1,542
−658	2,291	712	−916	−2,711	−1,436	−1,223	1,151	1,816	3,138	−1,084
789	527	720	200	235	294	436	−153	−327	−96	777
9,413	10,003	9,532	8,421	7,256	6,818	7,178	7,380	7,676	8,501	8,572
4,363	7,185	2,957	−2,149	−6,139	−4,980	−3,778	−1,064	1,499	4,388	−1,101
79,299	85,015	73,367	57,367	42,169	41,144	47,276	55,266	64,219	70,734	60,922
123	11	469	2,271	3,031	2,258	4,463	3,589	4,743	1,271	1,850
−724	−912	−409	1,631	2,635	2,543	3,948	2,942	4,326	1,021	1,274
811	898	844	597	353	−338	179	152	116	−32	265
34	23	32	42	42	41	180	148	102	118	112
2	2	2	1	1	12	156	347	199	164	199
79,422	85,026	73,836	59,638	45,200	43,402	51,739	58,855	68,962	72,005	62,772
94.5	91.5	96.0	103.7	114.6	112.1	108.0	101.9	97.7	93.8	101.8
94.4	91.5	95.4	99.8	106.9	106.3	98.7	95.7	90.9	92.1	98.8

[c] For 1921–31, Lowell J. Chawner, *Construction Activity in the United States 1915–37* (United States Department of Commerce, 1938); 1932–37, estimates by Samuel J. Dennis, *Survey of Current Business* (August 1939); 1938, *ibid.* (February 1940). The Chawner-Dennis estimates of the value of new construction have been used instead of those by Kuznets because, although both series are largely based on Dodge contracts data, the former appear to be compiled with special regard to actual expenditure during the year in question (see Chawner, *op. cit.*, pp. 3–4). "Business" includes farm and privately owned public utility construction.

Footnotes to Table 3 continued on next page.

Footnotes to Table 3, continued.

[d] See Appendix C, Table 35.

[e] After war debt receipts and silver movements, but before gold movements. The assumption is that the former items enter the outlay and income streams elsewhere in the estimates, whereas the latter do not. For 1922–34, R. O. Hall, *op. cit.* For 1921 and 1935–38, *Balance of International Payments of the United States*, published annually by United States Department of Commerce. The "residual item" in the account is assumed to arise from the underreporting of capital transactions. See *ibid.*, 1939, pp. 36–39.

[f] For 1921–35, from basic data to be found in Solomon Fabricant, *Capital Consumption and Adjustment* (National Bureau of Economic Research, 1938), Table 31, pp. 170–71: totals differ from those shown there owing to our use of revised Bureau of Agricultural Economics series for depreciation of farm equipment. For 1936–38, from unpublished data supplied by Fabricant. The item includes depreciation of business and residential property, and in the case of mines, depletion and development costs charged to current expenses; it covers also provision for fire and marine losses but excludes decrease in value of capital livestock on farms. Depreciation has been included here on a basis of current prices, rather than on an original cost or accounting basis, in order to give significance to the estimates for net investment in line F. Since, however, estimates of income are normally derived with depreciation on an accounting basis, it will be necessary, in the comparison of outlay and income in Chapter III, to use an income series which makes allowance for the difference between the two methods of reckoning depreciation. Since no allowance has been made in our figures for gross private investment (line D) for expenditure on the repair and maintenance of capital equipment, it is not necessary to include this item in our figures for depreciation (line E).

[g] See *Annual Reports of the Secretary of the Treasury*. The data have been placed as far as possible on a calendar-year basis with the use of the monthly summation of daily Treasury statements (unrevised). Debt retirements are excluded throughout from the totals for expenditure. Up to June 1934 the figures relate to general and special accounts only, and do not include payments into and out of trust accounts, or the transactions of independent agencies, except that expenditures by the Reconstruction Finance Corporation are included. With the New Deal, and particularly with the passage of the Social Security Act, however, it becomes impossible, in computing the net cash deficit of the Federal government, to neglect the movement of trust funds. Since July 1934, therefore, the series shown includes the excess of expenditure (excluding moneys invested) over receipts (excluding increment in the value of gold and seigniorage from the issue of silver certificates) for trust accounts of governmental agencies. The importance in recent years of movements in these funds, due especially to the old-age reserve account, is indicated by the following data, which relate to calendar years:

	1934	*1935*	*1936*	*1937*	*1938*
		millions of current dollars			
Excess of expenditure over revenue, general and special accounts	4,065	2,986	4,161	1,877	2,447
Excess of expenditure over revenue, trust funds and governmental agencies (computed as above)	−116*	−44	165	−856	−1,173
Total cash deficit, as shown in Table 3 (sum of above items)	3,948	2,942	4,326	1,021	1,274

* July to December only.

Footnotes to Table 3, continued.

The treatment adopted here is not entirely satisfactory. We cannot be certain that absolutely all expenditures (excluding debt retirement) from the general fund are really "income-creating," any more than we can be certain that all receipts represent true deductions from income, in the sense discussed in the text. We should, for example, exclude expenditure for the purchase of existing property, and also receipts resulting from property revaluation. The net deficit of trust funds, and of agencies other than the Reconstruction Finance Corporation, not included before 1934, cannot have been large in earlier years. But even though an attempt is made to take account of the transactions of trust funds and independent agencies during the last five years of the period considered, there is no certainty that the computation outlined above is an appropriate way of doing so. Some expenditure—by the Home Owners' Loan Corporation, for example—is used to repay debt, and does not result in income. A precise evaluation for our purposes of the net contribution of the Federal government to outlay would have required a more detailed analysis than could be undertaken in the present study, and would have been of doubtful value in view of the rough character of some of the other estimates—for example that for the net deficit of State and local governments—with which it has to be combined.

[h] For 1921–28, Oscar L. Altman, *Saving, Investment and National Income*, Temporary National Economic Committee Monograph 37 (Washington, 1941), Appendix II, p. 111. This series is a revision of that presented in evidence by Laughlin Currie (TNEC Hearings, Part 9, pp. 3528 and 4011), and is derived from Treasury estimates of State and local indebtedness. For 1929–38 I have preferred to use the data in Henry H. Villard, *Deficit Spending and the National Income* (Farrar and Rinehart, 1941), Table 15, p. 293. This series was also derived from a study of changes in indebtedness, although Villard does not claim complete coverage of local short term debt. The two series agree tolerably well for 1929 ($931 and $898 million respectively), but disagree markedly for later years. The series derived from Treasury data fluctuates much more violently than, and in recent years differs in sign from, the Villard data. Unlike the Treasury, Villard publishes his method, and moreover makes serious criticisms of the Treasury's estimates (*op. cit.*, Appendix II). For these reasons I have chosen to use Villard's data in preference to the TNEC series for 1929 and later years. A reconciliation of the two estimates is urgently needed.

The series measures the net cash deficit of State and local governments rather than their net income-increasing expenditure as Villard would define it (*op. cit.*, pp. 288–89). This, however, is an advantage, since the conceptual framework I have used treats all governmental receipts (except receipts from borrowing) as a deduction from income and all governmental expenditure (except for debt repayment and the purchase of existing assets) as a contribution to income. As noted in the text there is no means of allowing for the purchase of existing assets, and this series, like that for the Federal deficit, runs too high on this account.

[i] Data from *Annual Reports* of the Board of Governors of the Federal Reserve System. Item represents net increase in gold stock (excluding revaluation) less net imports and releases from earmark, and roughly measures domestic output used for monetary purposes. Net imports of gold are included in the foreign balance elsewhere in the table, and so are excluded here. The same applies to changes in earmarked gold.

[j] *Annual Reports* of the Director of the Mint. Data represent purchases of silver bullion by the Bureau of the Mint from all sources, domestic and foreign, valued at the price actually paid for such bullion.

for machinery), or the level of depreciation too high (e.g. through excessive deductions on this account, perhaps later disallowed by the Bureau of Internal Revenue), then net investment is understated. Moreover, accounting measures of depreciation are usually based upon the straight line method. Consequently, in so far as actual capital consumption is correlated with output, the cyclical variability of net investment is exaggerated by our measures.[21]

Subject to these qualifications, the data in line F suggest a remarkable picture of the ravages wrought by depression upon the American economic system—or at any rate that major segment of it represented by private industry—during the nineteen-thirties. For each of the five years 1931–35 net investment was negative, if these figures are approximately correct; in none of these years was capital fully maintained. The same situation would have prevailed in 1936, but for the large increase in business inventories which took place in that year. In 1937 net investment for the first time regained a level comparable with its annual value during the nineteen-twenties, but once more only because of heavy inventory accumulation. In 1938, with a sharp decline in the level of inventories, net investment was apparently again negative.

The net investment data presented here are not complete enough to provide a true measure of the annual addition to, or subtraction from, the capital wealth of the United States as a whole. They make no allowance for investment by public authories. Estimates of the volume of public construction are available,[22] but there

[21] For a more extended discussion of the precision of these measures, see Ch. III, §2, below.

[22] Lowell J. Chawner, *Construction Activity in the United States, 1915–1937* (Department of Commerce, 1938).

appears to be no way of reaching an adequate measure of the depreciation of governmental equipment, and no estimates for net public investment are included in this volume. But if proper allowance could be made for the investment activities of governmental agencies, the picture disclosed by our data on private net investment would probably appear somewhat more favorable.

Fortunately, neither the qualifications made above concerning the measurement of capital consumption, nor our inability to estimate public investment, can seriously affect the comparison between outlay and income in Chapter III, to which the foregoing is by way of introduction. For while estimates of depreciation, and therefore also of private net investment, are surrounded by a substantial margin of uncertainty, precisely the same is true of the measurement of income. When outlay and income are compared the two uncertainties cancel out. Thus net income (for example, as reported for corporations in the *Statistics of Income*) is obtained by deducting depreciation from gross income, just as net investment (as a constituent of outlay) is obtained by deducting depreciation from gross investment. And since the same accounting procedures are used in both operations, ignorance of the appropriate deduction, or arbitrary deduction of the allowance for depreciation, affects the income and outlay totals in the same manner.

Nor does our inability to measure net public investment vitiate our comparison of outlay and income: public investment was not among the basic concepts selected in §2 for subsequent statistical treatment. It will be recalled that in the discussion of that section it was replaced by an item called net public outlay, which is roughly equal to the combined net deficit of all governmental agencies. This quantity, which is subject to some uncertainty owing to the difficulty of transition from a

fiscal to a calendar year basis, is shown in line H of Table 3. The gold stock referred to (in line H.3) was, of course, held by the Federal Reserve System until 1934, and has been held by the Treasury since that time. Purchases of foreign gold are excluded from public outlay because they are included in the foreign balance elsewhere in the table. This treatment, which is not entirely consistent, results from a desire to confine public outlay as far as possible to disbursements which result from deliberate governmental policy, and to include in the foreign balance not only the whole of the net change in claims against foreigners but also imports of the money metal.

The sum of consumers' outlay, net private investment and net public outlay yields total outlay (line I). The last two lines of Table 3 show the percentage ratio of consumers' to net private outlay and to total outlay, respectively. Net private outlay and total outlay offer alternative measures of the national product, and the percentages shown in lines J and K provide a rough indication of the fraction of the product which in any year is currently consumed. When these percentages run above 100 they suggest that capital consumption is taking place, or—in a certain sense—that the community is living beyond its means. However, neither ratio can be called a perfect measure of the manner in which the community divided its income between consumption and investment during the years in question. For two important elements of the community's income—services rendered directly to consumers by the government on the one hand, and public investment on the other—are omitted from the table. Or, to be strictly accurate, they are represented, but in an entirely inadequate fashion, by the entry for net public outlay. The reason for this treatment has already been explained. Apart from the facts that

both forms of governmental contribution are subject to influences quite different in character from those governing private consumption and investment, and that both offer peculiar difficulties in the way of statistical estimation, the repercussions of governmental activity on private business are best accounted for by some such item as that shown for net public outlay in Table 3. The solution of the difficulties, conceptual and other, which stand in the way of satisfactory estimation of the net contribution of government, is a task which the student of the business cycle may safely leave to the social historian.

§5. *Income*

Having now completed our estimates of outlay, we turn to the income side of the picture. We shall use as basic materials for the study of income the comprehensive measures compiled by Simon Kuznets and published by the National Bureau of Economic Research. A summary of these data, with breakdowns appropriate to our purpose, is reproduced in Appendix D.[23] The National Bureau totals appear in line A of Table 4. Lines B and C show Kuznets' estimates for employers' social security contributions and for savings by government which, for reasons given in Chapter I, we do not wish to include: the slightly less comprehensive total, basic for this study, appears in line D, and is reproduced in line A of Table 5.

The remainder of Table 4 is given over to a breakdown of the basic total, shown in line D, into components suitable for quarterly interpolation. This basic total comprises four constituents which are very dissimilar in character

[23] For further detail, and for a full discussion of coverage, concepts and methods of estimation, see Simon Kuznets, *National Income and Its Composition*. No description of the National Bureau income estimates will be given in the present study, except that which is incidental to questions raised by the use made of them here.

TABLE 4

INCOME, ANNUALLY 1921–38[a]

Millions of current dollars

	1921	*1922*	*1923*	*1924*	*1925*	*1926*	*19*
A. National income, National Bureau estimate[b]	59,412	60,707	71,626	72,095	76,047	81,551	80,(
B. Employers' social security contributions (incl. in A.)[c]	..	..	..	..	..	..	
C. Savings by governmental units (incl. in A.)[c]	958	854	1,611	1,717	1,614	2,151	2,:
D. National income, excl. B and C (A − B − C)	58,455	59,853	70,015	70,378	74,433	79,400	77,
E. Adjustments (incl. in D)	+5,478	−1,683	−1,443	−1,129	−2,148	+443	−.
1. Capital revaluation[d]	−131	−399	−433	−601	−1,198	−705	−'
2. Inventory revaluation[e]	+6,370	−877	−156	+157	−350	+1,695	+'
3. Depreciation[f]	−761	−407	−854	−685	−600	−547	−.
F. Dividends and interest from abroad (incl. in D)[g]	69	86	94	129	154	110	:
G. Income distributed by Government (incl. in D)[h]	5,248	5,282	5,431	5,561	5,751	5,963	6,:
H. Income originating in private industry, unadjusted (D − E − F − G)[i]	47,660	56,168	65,933	65,817	70,676	72,884	71,'
1. Short term income[j]	38,216	40,422	47,866	48,132	50,856	53,655	53,.
2. Long term income[k]	7,078	7,551	8,040	8,726	8,761	8,558	8,
3. Residual income[l]	2,366	8,195	10,027	8,958	11,058	10,671	9,

[a] All items in this table are derived from Simon Kuznets, *National Income and its Composit* or from worksheets upon which that study is based.

[b] *Ibid.*, Table 1, column 1 and Table 58. These figures have been obtained by summa of the aggregate of income payments to individuals, the net value of imputed residential rents, value of farm products consumed by farm families, the net savings of enterprises (corporate and n corporate), the net savings of governmental units, and employers' social security contributi The savings of enterprises include the adjustments shown in line E. While Kuznets excludes cor ate income taxes he does not deduct direct taxes paid by individuals.

[c] *Ibid.*, Tables 45, 50 and 57. These items have been removed from the total because explained in the text, it is more convenient to regard as basic the slightly less comprehensive mea shown in line D.

1928	*1929*	*1930*	*1931*	*1932*	*1933*	*1934*[m]	*1935*	*1936*	*1937*	*1938*
,678	87,234	77,319	60,300	42,932	42,183	49,548	54,406	62,864	70,494	65,461
..	..	..	..	..	..	3	7	299	950	1,119
,897	2,225	2,104	344	−906	−113	−575	−1,736	−2,196	497	−175
,781	85,009	75,215	59,956	43,838	42,296	50,120	56,135	64,761	69,048	64,517
,658	−668	+4,174	+4,728	+3,384	−487	−1,266	−910	−688	−1,302	+505
,262	−817	+345	+1,507	+1,560	+1,422	+177	−171	−339	−95	−75
+60	+702	+4,115	+3,230	+1,471	−2,273	−1,487	−724	−164	−635	+1,104
-456	−553	−286	−9	+353	+364	+44	−15	−185	−572	−524
149	183	224	301	264	220	108	41	−23	−76	−44
,393	6,649	6,816	7,066	7,081	7,617	8,763	9,240	10,412	10,227	10,991
,897	78,845	64,001	47,861	33,109	34,946	42,515	47,764	55,060	60,199	53,065
,406	57,523	50,844	41,056	30,442	28,974	34,380	37,648	42,177	46,929	42,177
,974	9,258	8,719	7,461	6,242	5,652	5,185	5,303	5,258	5,587	5,479
,517	12,063	4,438	−656	−3,575	319	2,949	4,813	7,625	7,683	5,409

Ibid., Table IV. Adjustment already has been made to the totals in lines A and D above in r to exclude profits and losses realized by business enterprises from the sale of capital assets. actual profits and losses realized are as shown, but with opposite sign.

Ibid., Table VII. Adjustment already has been made to the totals in lines A and D above in r to exclude profits and losses accruing through the revaluation (deliberate or otherwise) of ness inventories. The actual profits and losses accruing are as shown, but with opposite sign.

Ibid., Table VIII. Adjustment already has been made to the totals in lines A and D above to y for the calculation of depreciation and depletion on a reproduction cost instead of a book value

Ibid., Table Ms. 1.

Ibid., Table 49. This item includes wages, salaries, and pensions; work relief and direct relief; and

Footnotes to Table 4 continued on next page.

Footnotes to Table 4, continued.

interest. For breakdown see Table 41 below.

[i] The figures shown in this line represent income accruing in private business as measured by ordinary accounting procedure, i.e. before the adjustments shown in line E.

[j] Agriculture—wages, residential rentals (paid and imputed), withdrawals of individual entrepreneurs, dividends and savings; Mining, Public Utilities, Manufacturing, Construction, Other Transportation, Trade, Finance—wages and salaries; Railroads, Communication—total employee compensation; Service, Miscellaneous—wages, salaries and withdrawals and savings by individual entrepreneurs. See Table 39 below.

[k] Agriculture, Mining, Public Utilities, Manufacturing, Construction, Railroads, Other Transportation, Communication, Trade, Service, Miscellaneous—interest; Finance—interest and net nonfarm rentals, paid and imputed. See Table 40 below.

[l] Agriculture, none; Mining, Public Utilities, Manufacturing, Construction, Other Transportation, Trade—dividends, withdrawals by individual entrepreneurs and savings; Railroads, Communication, Finance—dividends and savings; Service, Miscellaneous—dividends and corporate savings. See Table 38 below.

[m] Many components of the totals in this table rest upon data from the *Statistics of Income*. Abolition in 1934 of the privilege, previously granted to corporations, of filing consolidated returns, results in alternative totals for that year in many industrial groups. In theory this difficulty should disappear when summation is made over all such groups, but methods of estimation do not allow perfect agreement for the two totals in 1934. Where slight disagreements remain, the above data represent the mean of the two values obtained.

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and very unequal in importance, and which raise quite different problems in interpolation.

First, in line E, are shown the adjustments which Kuznets very properly makes in order to convert the measures of income which result from the ordinary operations of accounting practice to a form corresponding more closely to the concepts of economic analysis. Clearly the same adjustments are appropriate if the income totals are to be compared with the measures of outlay presented in Table 3. These adjustments are intended, respectively, to exclude profits and losses realized from the sale of capital assets; to exclude profits and losses accruing through the revaluation (deliberate or otherwise) of business inventories; and to place the deduction for depreciation, already made by business in computing its income, upon a basis of current rather than of original cost.

Second, investment income received from abroad appears in line F.

Third, income distributed to individuals by government is shown in line G. This includes wages, salaries, pensions and relief payments, and long term interest.

Fourth, the remainder, line H, comprises the whole of income originating in private business. This, the chief component of our basic total shown above, is further broken down into short term, long term, and residual income, along lines explained in Chapter I, §2. The precise composition of each of these elements and their industrial distribution are shown in Appendix D. Table 4, like Appendix D, is itself a mere regrouping of material to be found in *National Income and Its Composition.*

No estimates for aggregate income distributed to individuals, or "income paid out," are shown here, or indeed anywhere else in this volume. The reasons for this omission have been explained in Chapter I. The income originating, shown in line H, comprises the sum of cash income distributed by all agencies except the government, together with agricultural income distributed in kind or consumed on the farm, rentals[24] imputed to owners who occupy their own homes, and the savings of enterprises, corporate and noncorporate. The business savings included in income originating, as shown in line H, are measured according to current accounting practice, since the adjustments appropriate to the measurement of social income have been segregated, and are given separately in line E.

The threefold breakdown shown for income originating in private industry forms the basis for subsequent interpolation in Chapter V. We may briefly recall its character. Short term income is intended roughly to measure the remuneration of labor. Long term income corresponds as closely as possible to ordinary notions of rents and interest payments as received by individuals.

[24] Net of taxes, mortgage interest, and other expenses of occupancy.

TABLE 5

ADJUSTMENT OF INCOME, ANNUALLY 1921–38

Millions of current dollars

	1921	*1922*	*1923*	*1924*	*1925*	*1926*	*19*
A. National income, National Bureau estimate (Table 4)[a]	58,455	59,853	70,015	70,378	74,433	79,400	77,
Deduct:							
B. Direct taxes paid by individuals[b]	1,507	1,171	1,100	1,118	1,138	1,191	1,
C. Employees' social security contributions[c]	..	..	..	..	..	..	
Add:							
D. Social security benefits[d]	..	..	..	..	..	..	
E. Veterans' bonus[e]	..	..	..	..	..	..	
F. Noncommercial remittances from abroad[f]	30	32	59	29	29	35	
G. Income, as defined in text (A − B − C + D + E + F)	56,978	58,714	68,974	69,289	73,324	78,244	76,

[a] Excluding employers' social security contributions and savings by governmental agenc see Table 4.

[b] Estate, inheritance, gift, poll and individual income taxes collected by States for their account or for the account of local units; estate, gift and individual income taxes collected by Federal government. For States summary data on a comparable basis are not easily available. United States totals shown in *Financial Statistics of States* (Bureau of the Census) appear to exc State collections on behalf of local units. This difficulty affects mainly individual income tax lections, for which item data obtained for the fiscal year 1928 from *State Income Taxes*, Vol. II (tional Industrial Conference Board, 1930), Chapter 12, and for the fiscal years 1936–39 from *Yields, 1939* (Tax Policy League, 1940), were treated as basic. In the case of individual income ta data from *Financial Statistics of States* were used only as interpolating media; for the other S taxes, data from this source were used directly. For the fiscal years 1933–35 there are no Ce Bureau data; for these years individual income tax yields were interpolated on the basis of co tions in New York (which represent more than half the total), while estate, inheritance, gift and tax collections were interpolated along a straight line. Federal estate, gift and individual income collections obtained for fiscal years from *Annual Reports of the Secretary of the Treasury*; indivi

1928	*1929*	*1930*	*1931*	*1932*	*1933*	*1934*	*1935*	*1936*	*1937*	*1938*
9,781	85,009	75,215	59,956	43,838	42,296	50,120	56,135	64,761	69,048	64,517
1,309	1,480	1,334	918	640	673	864	1,149	1,528	1,911	1,916
..	..	..	..	..	..	..	..	..	246	237
..	..	..	..	..	..	..	..	..	1	407
..	..	..	..	..	..	..	..	1,673	..	..
24	25	19	9	7	7	8	5	24	25	40
,496	83,554	73,900	59,047	43,205	41,630	49,264	54,991	64,930	66,917	62,811

me taxes for 1921–24 were assumed to comprise the same fraction of total income tax collections n 1925.

Most, but not all, States have fiscal years which end, like that of the Federal government, on e 30th. Calendar-year totals were derived by averaging adjacent fiscal years.

[2] *Bulletin* and *Annual Reports* of the Social Security Board. The item consists entirely of old-age collections by the Federal government. A few States collect small amounts of unemployment s from employees, but no allowance has been made for such collections here.

[3] *Bulletin* and *Annual Reports* of the Social Security Board. Both old-age (lump sum) and unloyment benefits are included. The latter, disbursed by States, constitute the major part of this n.

[4] *Annual Report of the Secretary of the Treasury*. Only the bonus of 1936 is inserted here, other ments to veterans being already included in the income totals.

For 1935–38, *Balance of International Payments of the United States*, published annually by United States Department of Commerce. For 1922–34, R. O. Hall, *op. cit.* The item consists nly of funds brought in by immigrants. Immigration into the United States was somewhat less 921 than in 1922, and the extrapolation for the former year is made on this basis.

Residual income is designed to represent those highly variable elements in the product which accrue to the entrepreneur (individual or corporate) in the form of profits. The net income of entrepreneurs in Agriculture, and in the Service and Miscellaneous industrial divisions, is, however, included in short term rather than in residual income, for reasons given in Chapter I.

The whole of Table 4 below line D is in the nature of a digression. The immediate purpose in hand is the comparison of the outlay totals of Table 3 with a comparable set of income totals. To obtain such income totals we must return to the basic series in line D of Table 4, which will be found reproduced as the first line of Table 5. This series has already been adjusted to exclude profits from the sale of assets and inventory profits, and to place depreciation upon a current cost basis; except for the exclusion of savings by government and of social security contributions by employers it is identical with the most comprehensive of the National Bureau totals published in *National Income and Its Composition*. The concept which this basic series seeks to interpret still differs slightly, however, from that outlined in §2 for purposes of comparison with outlay. It will be recalled that income was to be measured after the payment of all taxes. While the National Bureau totals exclude corporate income taxes, Kuznets makes no deduction for direct taxes paid by individuals, preferring to consider these a form of outlay disbursed in return for services rendered by government to individuals.[25] Social security taxes paid by employees are subject to similar qualification. Accordingly, the first operation in Table 5 is to deduct estimates for both these items. On the other hand the National Bureau totals do not include social security benefits or

[25] See *National Income and Its Composition*, Ch. 1; also *Studies in Income and Wealth*, Vol. I (National Bureau of Economic Research, 1937), pp. 236–38.

the veterans' bonus voted in 1936.[26] Both of these are constituents of net public outlay in Table 3, and both must therefore be inserted as an adjustment in Table 5. Finally, since noncommercial remittances to foreign countries (mainly by immigrants) were included among consumers' services in Table 1 at their gross value, the much smaller counterpart, consisting of similar remittances by foreigners to this country, has to be included here.[27]

The final estimate of income reached in Table 5 is now comparable, as far as it can be made so, with the outlay series in Table 3. The next chapter will discuss these two sets of estimates in an attempt to show how they reflect the level of the national product.

[26] The totals already include all other payments to veterans, however.

[27] Quantitatively, the item is of no significance whatever, but is inserted to complete the conceptual picture. Insofar as it consists of capital brought with them by immigrants, account might be taken of it, perhaps more appropriately, through a deduction from the net foreign balance (Table 3).