

# NATIONAL INCOME, 1929-32

## CHAPTER I

### CONCEPT, SCOPE, AND METHOD

#### 1. NATIONAL INCOME PRODUCED AND NATIONAL INCOME PAID OUT

Year in, year out the people of this country, assisted by the stock of goods in their possession, render a vast volume of work toward the satisfaction of their wants. Some of this work eventuates in commodities, such as coal, steel, clothing, furniture, automobiles; other takes the form of direct, personal services, such as are rendered by physicians, lawyers, Government officials, domestic servants, and the like. Both types of activity involve an effort on the part of an individual and an expenditure of some part of the country's stock of goods. If all commodities produced and all personal services rendered during the year are added at their market value, and from the resulting total we subtract the value of that part of the nation's stock of goods which was expended (both as raw materials and as capital equipment) in producing this total, then the remainder constitutes the net product of the national economy during the year. It is referred to as national income produced, and may be defined briefly as that part of the economy's end-product which is attributable to the efforts of the individuals who comprise a nation.

In return for these efforts, the individuals receive some compensation, either in money or in kind. If such money receipts and the money equivalents of the receipts in kind are added, the resulting total constitutes national income paid out.<sup>1</sup> This latter would equal national income produced, in total and in parts, only if every distinguishable group of services rendered were at once compensated at the money value which the result of these services fetches in the market. This condition, however, rarely materializes. A manufacturing corporation whose net product (gross product minus the cost of materials and allowance for use of durable equipment) amounts to \$1,000,000, may pay out only \$900,000 in wages, salaries, rents and royalties, dividends, and interest, and retain \$100,000 as corporate savings; or, on the contrary (as happened in 1930 and later years), it may pay out in the forms listed above a sum in excess of its net product, thus sustaining a loss (negative savings). Similarly, a proprietor of an unincorporated establishment, e.g., a retail store, may withdraw as his income an amount larger or smaller than his net product, thus incurring a negative or positive saving. In general, the difference

<sup>1</sup> In the case of most payments, for example, wages and salaries, income paid out measures the flow of money or goods to individuals directly. But in the case of interest and dividends, especially the former, we had to measure under income paid out not only payments made directly to individuals as such, but also receipts of interest and dividends by savings organizations, which may be treated as associations of individuals for the purpose of better management of their property incomes. Among such associations are life insurance companies, foundations, savings banks and savings departments of commercial banks, building and loan associations. The volume of property income received by these organizations in 1929 may be estimated as running between 2.5 and 3.0 billion dollars. (See also ch. IV, pp. 35-36.)

between national income produced and national income paid out is that the former does, and the latter does not, include savings by business establishments.

In the estimates presented below an attempt is made to measure both national income produced and national income paid out.

## 2. THE CLASSIFICATION OF NATIONAL INCOME

The efforts of individuals in producing commodities or rendering personal services to other individuals differ in type as well as in the field of application. The efforts of a manual worker in a steel plant, compensated by wages, obviously differ in character from those of a bond-holding investor compensated by an interest payment on the bond. Such distinctions of the type of activity yield a classification of the national income by types of payment, i.e., wages, salaries, dividends, interest, etc. Another distinction, that of activities of similar type (e.g., manual labor) by the industrial fields in which they are rendered (e.g., manufacturing, mining, etc.), is also important, since the different weight in the nation's end-product of the various industries constitutes an important characteristic of the national economy. Such distinctions of the industries in which services are rendered result in a classification of national income by industrial sources. The details of each of these two classifications are determined largely by the relative importance of the categories distinguished and by the availability of data for each of the categories. As adopted in the present study, these two classifications are as follows:

### A. Classification by types of payment.

#### I. Labor incomes.

1. Wages (money and money value of food, board, and other perquisites and gratuities).
2. Salaries (same as 1, including also commissions).
3. Other labor income.
  - (a) Compensation for injury (paid to employees).
  - (b) Pensions.

#### II. Property incomes (paid to individuals).<sup>3</sup>

4. Interest.
5. Dividends.

#### III. Entrepreneurial incomes.

6. Withdrawals by individual entrepreneurs.
7. Business savings (positive or negative).
  - (a) Individual entrepreneurs.
  - (b) Corporations.

Items 1 through 6 constitute national income paid out; by adding 7 we obtain national income produced.

### B. Classification by industrial sources:

#### I. Agriculture.

1. Total.

#### II. Mines, quarries, and oil wells.

2. Bituminous coal.
3. Anthracite coal.
4. Metalliferous mines.
5. Oil wells and natural gas.
6. Quarrying and nonmetallic mines.

<sup>3</sup> Net rents and royalties usually classified as a type of property income were defined by us as an entrepreneurial income from the industry of real estate inclusive of individual holdings (thus falling under item 6). Since in most cases the receipts of rents and royalties are connected with the obligation of managing the property in question, a great deal is to be said for classifying them not as a functional income type, but on a par with other functional types of income originating in a specific industrial field.

## B. Classification by industrial sources—Continued.

- III. Electric light and power and gas.
  - 7. Electric light and power.
  - 8. Manufactured gas.
- IV. Manufacturing industries.
  - 9. Food, beverages, and tobacco.
  - 10. Textiles and leather.
  - 11. Paper, printing, and publishing.
  - 12. Chemicals and petroleum refining.
  - 13. Construction materials and furniture.
  - 14. Metals and metal products.
  - 15. Miscellaneous manufacturing.
- V. Construction.
  - 16. Total.
- VI. Transportation.
  - 17. Railroads (including Pullman and express).
  - 18. Water transportation.
  - 19. Street railways.
  - 20. Motor transportation.
  - 21. Other transportation.
- VII. Communication.
  - 22. Telegraphs.
  - 23. Telephones.
- VIII. Distributive trades.
  - 24. Wholesale trade.
  - 25. Retail trade.
- IX. Finance.
  - 26. Banking.
  - 27. Insurance.
  - 28. Real estate, inclusive of individual holdings.
- X. Government.
  - 29. Federal.
  - 30. State and county.
  - 31. Municipal.
- XI. Service.
  - 32. Amusement and recreation.
  - 33. Professional service.
  - 34. Personal service.
  - 35. Domestic service.
  - 36. Business service.
  - 37. Miscellaneous service.
- XII. Miscellaneous.

## 3. SCOPE AND CONTENTS OF NATIONAL INCOME FURTHER DEFINED

The above detailed classifications provide a fair description of the various groups of services which are included, at their market value, in the national income. But they are far from an exhaustive account of the possible contents and scope of the national income measurement. The boundaries of a "nation" in "national" income are still to be defined; and a number of other services, in addition to those listed above, might also be considered a proper part of the national economy's end-product. The brief discussion below attempts to define more precisely the scope and character of the national income measures presented in this report.

(a) *The boundaries of a nation.*—The available data do not permit a strictly uniform definition of the territorial scope for the diverse parts of the national income. But, by and large, the estimates presented below refer to income produced by the inhabitants and corporations of the continental United States. To this total is added property income received by the inhabitants of this country from securities and direct investments in foreign enterprises, and from it is subtracted the property income received by foreigners from securities or

direct investments in enterprises domiciled in the United States. This adjustment for the international flow of property incomes can be made only for the national income total and not separately for its various constituent parts.

(b) *Services of housewives and other members of the family.*—The volume of services rendered by housewives and other members of the household toward the satisfaction of wants must be imposing indeed, when totaled for the 30 million families comprising the population of this country; and the item is thus large enough to affect materially any estimate of national income. But the organization of these services render them an integral part of family life at large, rather than of the specifically business life of the nation. Such services are, therefore, quite removed from those which gainfully occupied groups undertake to perform in return for wages, salaries, or profits. It was considered best to omit this large group of services from national income, especially since no reliable basis is available for estimating their value. This omission, unavoidable though it is, lowers the value of national income measurements as indexes of the nation's productivity in conditions of recent years when the contraction of the market economy was accompanied by an expansion of activity within the family.

(c) *Services of owned durable goods.*—Durable goods, such as houses, automobiles, furniture, etc., yield some net service, i.e., income, to their possessors which is not enjoyed by a person who must hire these goods whenever he desires to use them. There would seem to be some ground, therefore, for including the value of such services in the national income total. On the other hand, the net yield from the possession of durable goods is not exactly equivalent, as most incomes are, to a receipt of purchasing power, capable of being spent by the recipient in any way he pleases. A still weightier objection to the inclusion of the value of these services in our income totals is the fact that, as a rule, such durable goods (with the possible exception of houses), are not bought by the household with the idea of a net yield in mind, in the same way as bonds would be purchased. It would be erroneous to treat the net income from durable goods as if it were equivalent to investment income. For these reasons, and because of difficulties in arriving at a reliable estimate of the items involved, the net yield of all durable goods owned by the households was disregarded.

(d) *Earnings from odd jobs.*—Odd jobs are numerous, and the returns they bring may amount to a substantial sum. Some of the people engaged on such odd jobs are reported in the Census as gainfully occupied, others are not. At any rate, the available data permit only a most inadequate estimate of the earnings from odd jobs; and these earnings are largely omitted from the national income totals presented in this report. This omission results in our estimates somewhat exaggerating the relative decline in national income from 1929 to 1932; if, as appears from all indications, the number of people engaged on odd jobs has increased materially during the depression and the earnings from these jobs have either increased or failed to decline as deeply as the other constituent parts of the national income total.

(e) *Relief and charity.*—The distribution of money or goods as relief and charity does not usually imply the performance of any service by the recipients; although if relief is confined only to the groups formerly employed, it may be treated as a species of compensation for

past services and thus a belated bona fide income. Usually, however, relief and charity, distributed primarily according to need, may be considered a pure draft upon other incomes and cannot be included as part of the national income total. The one exception to this rule, however, is the portion of relief and charity that is paid out of corporate or business earnings (from which they are usually deducted as contributions in arriving at the net income figure). In such a case, relief and charity form one of the unaccounted for parts of the net product of the national economy, and should be added into the national income total, preferably at the source where the funds originate. This, however, is not possible, since existing data do not allow us to ascertain the precise source of relief and charity funds.

(f) *Changes in the value of assets.*—Changes in the value of assets, that are not handled in a professional capacity arise as a reflection of a change in net income, whether actual or forecast, of a change in the riskless rate of return, or as a result of some general changes unrelated to the basic course of economic life. The inclusion of gains and losses yielded by such changes in asset values would therefore be either a duplication, since it would amount to counting both a change in net income and the change in capitalization of that income, or a distortion of the national income estimate as a measure of the economic system's end-product. On the other hand, incomes derived from such changes in asset value as are caused by professional handling, are a compensation for such professional services, and thus properly a constituent part of the national income total. The estimates in the present report include such incomes derived by groups professionally occupied in the handling of assets. But in all other cases gains and losses on sale of assets have been eliminated, insofar as the data permitted.

(g) *Earnings from illegal pursuits.*—In determining which efforts of individuals may or may not be classified as services for the purpose of including their value in the national income total, the estimator must perforce follow the overt expression of social opinion as embodied in the nation's legal code. That many illegal acts are of some benefit to one group or another and are being paid for, is no proof that these acts constitute a service from the social point of view. On the contrary, their very illegality, allowing for the lag of the legal statute behind public opinion, implies their disserviceability to society at large. The investigator, unless he wishes to impose his own scale of values, cannot, therefore, treat earnings from such illegal pursuits as burglary, theft, illicit drug traffic, bootlegging, etc., as bona fide parts of the national income. Such exclusion does not imply, of course, that all lawful pursuits are necessarily serviceable from the social viewpoint, when the latter is defined in terms of some specific criteria. It does mean that legality is understood as an absence of distinct social condemnation, and that all lawful activities are to be given that benefit of doubt which the market place is eager to bestow upon anything that succeeds in fetching a price.

#### 4. USES AND ABUSES OF NATIONAL INCOME MEASUREMENTS

The valuable capacity of the human mind to simplify a complex situation in a compact characterization becomes dangerous when not controlled in terms of definitely stated criteria. With quantitative measurements especially, the definiteness of the result

suggests, often misleadingly, a precision and simplicity in the outlines of the object measured. Measurements of national income are subject to this type of illusion and resulting abuse, especially since they deal with matters that are the center of conflict of opposing social groups where the effectiveness of an argument is often contingent upon oversimplification.

From the definition of national income presented and discussed above it is obvious that a measure of income produced sheds a good deal of light on the productivity of the nation; that income received measures the same productivity as reflected in the flow of means of purchase to the nation's members; and that when total income paid out is adjusted for changes in the value of money and apportioned per capita, the result is illuminating of movements in the nation's economic welfare. Comparison of such income measurements for different nations, or for the same nation for different years, yields valuable indications of spatial and temporal differences in national productivity and economic welfare. Moreover, various single groups of services or drafts may be compared with the country's total to indicate their relative weight in or draft upon the latter.

These constitute highly valuable uses of national income measurements, but only if the results are interpreted with a full realization of the definition of national income assumed, either explicitly or implicitly, by the measurement. Thus, the estimates submitted in the present study define income in such a way as to cover primarily only efforts whose results appear on the market place of our economy. A student of social affairs who is interested in the *total* productivity of the nation, including those efforts which, like housewives' services, do not appear on the market, can therefore use our measures only with some qualifications. Secondly, the present study's measures of national income, like all such studies, estimates the value of commodities and direct services at their market price. But market valuation of commodities and especially of direct services depends upon the personal distribution of income within the nation. Thus in a nation with a rich upper class, the personal services to the rich are likely to be valued at a much higher level than the very same services in another nation, characterized by a more equitable personal distribution of income. A student of social affairs who conceives of a nation's end-product as undistorted by the existing distribution of income, would again have to qualify and change our estimates, possibly in a marked fashion. Thirdly, the present study's estimate of national income produced is based in part, like most existing estimates, upon the prevalent legal and accounting distinction between gross and net income of business enterprises. To a student of social affairs whose concept of net productivity does not agree with the prevailing practices of separating net from gross income, especially by corporations, our estimates will obviously present a somewhat distorted picture of the nation's net product.

All these qualifications upon estimates of national income as an index of productivity are just as important when income measurements are interpreted from the point of view of economic welfare. But in the latter case additional difficulties will be suggested to anyone who wants to penetrate below the surface of total figures and market values. Economic welfare cannot be adequately measured unless the personal distribution of income is known. And no income measurement undertakes to estimate the reverse side of income, that is, the

intensity and unpleasantness of effort going into the earning of income. The welfare of a nation can, therefore, scarcely be inferred from a measurement of national income as defined above.

The abuses of national income estimates arise largely from a failure to take into account the precise definition of income and the methods of its evaluation which the estimator assumes in arriving at his final figures. Notions of productivity or welfare as understood by the user of the estimates are often read by him into the income measurement, regardless of the assumptions made by the income estimator in arriving at the figures. As a result we find all too commonly such inferences that a decline of 30 percent in the national income (in terms of "constant" dollars) means a 30 percent decline in the total productivity of the nation, and a corresponding decline in its welfare. Or that a nation whose total income is twice the size of the national income of another country is twice "as well off", can sustain payments abroad twice as large or can carry a debt burden double in size. Such statements can obviously be true only when qualified by a host of "ifs."

A similar failure to take into account the investigator's basic assumptions underlies another widely prevalent abuse of national income measures, involved in estimating the draft or "burden" which this or that particular type of expenses (e.g., government expenses, payments on bonded debt, etc.) constitutes of the country's total end-product. Every payment included in the national income is ipso facto a draft or a "burden" upon national income. For example, net receipts by physicians from medical practice, are both an addition to national income and a draft upon individual incomes from which such receipts originate. Since we estimate the value of personal services or commodities at their market value it follows that any payment for productive services contributes just as much to the national income total as it takes away from it. No items included in national income can, therefore, be conceived as "pure" draft.

The full meaning of a statement that such payments as interest on bonds or taxes for government services are a "burden" or draft upon national income is that actually no services are being rendered in return for these payments. That an increasing weight in the national income of payments on fixed debt or of salaries of government officials is not hailed as an increased contribution to national income lies in the implicit assumption, not always true, that the services contributed by creditors or government officials have not increased proportionately, and that, therefore, a heavier burden was added upon other income recipients without an increased benefit.

Such assumptions are accepted all too easily because they are based upon a natural but erroneous identification of national income with business or personal income. From the standpoint of a business firm or person, the income of employees, private or public, is likely to appear as a draft. But from the vantage point of national economy as a whole, which is used by a national income investigator, no payment that is included in national income can be considered as a pure draft upon the country's end-product. This can be true only of payments not included, such as charity, earnings from illegal pursuits, and the like. All that the national income estimator can say is that this or the other part of the national total has increased or declined more than the others. That this rise or decline implies a larger or smaller burden upon the national economy can be established

only on the basis of such additional assumptions as have been formulated above, assumptions which are not a proper part of the national income estimate and which are far from being self-evident.

##### 5. METHODS OF ESTIMATE, SOURCES, AND ACCURACY OF NATIONAL INCOME FIGURES

The discussion above has shown that measures of national income are clearly conditioned by the estimator's idea of productivity and valuation; and that consequently one must be careful in interpreting the results. In order to make intelligent interpretation possible, national income estimates must distinguish clearly the component parts of the total, breaking down the latter in as great detail as the available data permit. Such a break-down will enable any student to recast the totals and to obtain new combinations, most satisfactory for the interpretive purpose at hand.

The desire to present the national income figures in full detail and the lack of availability of data have largely determined the method of estimating followed in the present report. Since a classification by industrial sources and types of payment was requested, it was decided to build up the estimate of income created in each industry as the sum total of the component parts of its net product, that is, wages, salaries, interest and dividend payments, etc., taking care to restrict the figures only to the payments which were directed to individuals and not to other business establishments. Such an estimate of income originating in each industry by types of payment could, theoretically, be arrived at in one of three ways: By studying commodities and services produced; by tabulating incomes received by individuals; by measuring consumption and saving by individuals. Since data are available primarily on the production of commodities and services and on payments incurred in the process of such production, the first method was followed for the most part, supplemented by the second whenever need arose. This procedure was thus similar to that followed by the National Bureau of Economic Research,<sup>3</sup> except that a more detailed break-down was made possible in the present report by additional data available for recent years. The procedure is also quite similar to that adopted by the Federal Trade Commission,<sup>4</sup> but with a substantially more complete division by types of payments and industrial categories and a more precise elimination of a possible duplication of some of the items.

The method followed and sources of data employed in deriving each of the numerous items composing the national total are described concisely in appendix A. As may be seen at a glance, a list of the most important sources would include all the recent censuses, especially those of Agriculture (1929), Mining (1929), Manufacturing (1929 and 1931), Distribution (1929), Construction (1929), Occupations (1929 and 1919), Electrical Industries (1927 and 1932), Education (1930); the reports on Statistics of Income of the Internal Revenue Office, supplemented by special tabulations requested for the purpose of this report; the annual reports of the Comptroller of the Currency and the Federal Reserve Board's reports on member bank expenditures; the reports on Receipts and Expenditures of the Federal Government, as well as the annual volumes of the Financial Statistics

<sup>3</sup> The latest publication is *The National Income and Its Purchasing Power*, by W. I. King, New York, 1930.

<sup>4</sup> See *National Wealth and Income*, Washington, D. C., 1926.



of States and Financial Statistics of Cities; the Bureau of Labor Statistics indexes of employment and pay rolls in a number of industries; the Department of Agriculture estimates and supporting data on income from agriculture; the reports of the Interstate Commerce Commission on railroads and other public utilities accounting to it; State data on employment and compensation, especially those of Pennsylvania, New York, and Ohio; and a multitude of other sources too numerous to mention.

For some of the constituent parts of the total, indicated in the classifications above, the available data are abundant and reliable; for others both direct and indirect information is quite scanty and the resulting estimate is subject to a wide margin of error. It is of importance to note the areas of the national economy in which formidable difficulties were encountered for lack of precise data:

(a) For the fields of construction, water transportation and motor transportation, trade, almost all of finance, and of service, and even for government proper, data are on the whole scanty. And, of course, the miscellaneous field is by its very nature a confession of the limitations which the data impose on the national income estimator.

(b) Even for those industrial fields for which data were comparatively good, there was difficulty in measuring property income on a basis comparable to that of labor incomes. This was due to the fact that the industrial classification of Statistics of Income (the richest source of data on property incomes) is necessarily quite different from the classifications of our industrial data.

(c) There was general paucity of data on entrepreneurial incomes, and the estimates relating to this income type are the ones most subject to doubt.

(d) The estimates for 1932, especially those for property incomes, are preliminary in character and may be revised somewhat when final data for 1932 become available.

The national income total is thus an amalgam of accurate and approximate estimates rather than a unique, highly precise measurement. This difference in reliability of estimates of various parts is one more reason why those parts should be carefully distinguished and presented separately, rather than thrown together into a gross total with a resulting obfuscation of the degree of accuracy to which such a total is subject. It is recognized that in a number of the many industrial fields distinguished in this report, the estimates are at best only well-considered guesses. But it was thought preferable to carry the industrial classification to the utmost possible detail, and thus reveal, even if approximately, the different movements which are likely to be concealed in larger group totals.

In view of the approximate character of the national income figures caution should be exercised in interpreting differences or changes shown by these figures. Small differences or changes in national income estimates should not be taken as an unequivocal indication that differences actually exist or that changes have actually occurred. It is practically impossible to evaluate precisely the possible error involved in each of the numerous partial estimates. But anyone who is desirous of using the figures submitted in this report is urged to familiarize himself with the methods and sources employed in arriving at the estimates. Only then will he be able to form a considered judgment of the technical adequacy of the estimates from the point of view of the prospective use to which they are to be put.