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CHAPTER I

INTRODUCTION

Income Studies First Work of National Bureau.

When the National Bureau of Economic Research was organized in 1920, the first task which it set for itself was to ascertain the approximate size and distribution of the total income of the people of the United States. In 1921 and 1922, the National Bureau published a two volume report presenting its estimates of income for the years 1909 to 1918 inclusive. Because there had been much controversy concerning the facts relating to income, it was deemed advisable to have the income totals estimated independently by two different investigators, each using a different method, and, to a considerable extent, different data.

When the two series of totals were compiled, it was found that they were closely in accord. This general agreement was believed to indicate that neither was widely in error,—and nothing which has developed since has upset the original conviction that the totals presented in 1921-22 are approximately correct, even though the constituent items have been modified in many respects.

Purposes of Present Study of Income.

The first findings, when published, aroused such widespread interest and general approval that it was felt worth while to pursue further investigations in this field, these investigations being directed toward two major goals:—

1. To make more trustworthy estimates of those items, which in the original study were but ill-supported by data.
2. To extend the inquiry into new fields.

Since 1920, the investigation of income in the United States has been carried on almost continuously. As a result, many concepts which were still somewhat hazy when the first report was published, have become clarified. New methods of attack have been developed. Most of these new concepts and new methods are discussed in the "Preliminary Statement" of the National Bureau's publication, entitled *Income in the Various States, 1919-1921.*

Reliability of Present Estimates.

Because of the large amount of additional work that has been done, it can confidently be asserted that the revised estimates now set forth are far more firmly buttressed than were those presented in Volumes 1 and 2.

However, even in these latest estimates, the various subdivisions vary greatly in dependability. Some items are so thoroughly supported by evidence that one feels little hesitancy in asserting that the errors probably do not exceed one or two per cent. For other items, satisfactory underlying data may be practically non-existent, and, in such cases, possible errors of 10, 20, or even 30 or 40 per cent may be present.

Gains of Individuals from Corporate Profits.

Much of the National Bureau's further study of income since 1922 has been devoted to the investigation of new fields. The most important unknown area is that of profits. Considerable information has been available concerning the reported profits of corporations, but it has been impossible to say to what extent these published figures represent anything real or tangible and to what extent they record merely nominal gains. Corporations are, of course, merely legal entities. In reality, they represent individual owners associated together for a particular end. Corporate profits are, then, significant as individual income only when they materialize in such a way as to affect the income of the individual owner. With a view to ascertaining how the combined individual owners who have invested in the securities of corporations operating in the respective industries have fared, a great volume of data has been analyzed, and the outstanding results of this inquiry are here presented.

The Mercantile Industry.

Another almost uncharted field is that of the mercantile industry. Although this has long been one of the major fields of activity in the United States, it has all but escaped the attention of both Federal and State statistical bureaus. True, an occasional effort has been made to estimate the total volume of goods sold by mercantile enterprises, but most of these estimates have been based upon nothing firmer than a few slight computations. The estimates here set forth represent the fruit of several years' work. Nevertheless, because of the difficulty of securing adequate data, the figures must, even yet, be presented as distinctly tentative in nature.

Necessity of Defining Income.

Before measuring the income of the people of the United States, it is obviously desirable to know what the term "income" signifies. As it happens, this word has been used to cover a variety of concepts, many vague, but some fairly clear-cut. In this series of income studies, the Bureau has naturally been compelled to confine its investigations to types of income translatable into terms of money units. Items upon which no money value can be placed have, necessarily, been omitted. Furthermore, some items having a definite money value have not been considered because it has proved impossible to estimate their total money value, even roughly. Among such omissions are the value of the services of persons to themselves and to their families. Several critics have urged the inclusion of an estimate of the value of the service of the housewife. If such services are evaluated, it is, of course, logical to include also the value of the services of the head of the household when he manages the family business and when he performs such physical labor as building fires, caring for the lawn, and shaving himself instead of going to the barber. The value of such home services is tremendous. Furthermore, in estimates like ours, in which the values of such services are not included, every transfer to the factory of work, formerly done at home, as for example, dressmaking and breadmaking, gives an artificial and misleading upward slope to the curve representing estimates of the national income. Yet, because the difficulty of correctly evaluating such services is so very great, they have been excluded.

Another important item which has likewise been excluded from our totals consists of expense allowances to employees. Such income is received by many persons, in the form of board, room, laundry, travel, etc. Thus, for example, a salesman stays at a good hotel and perhaps takes his prospective customer to the theater—all at the expense of the company. There is no question but that income of this type is an important item, but it is extremely difficult even to approximate its total.

A third important type of income omitted from our estimates is that consisting of earnings from odd jobs. Presumably millions of persons earn a few dollars, and a considerable number many dollars each yearly, by performing such tasks as assisting with housework, caring for children, teaching, typing, cutting lawns, tending furnaces, selling newspapers and magazines, shining shoes, delivering packages, draying, cutting timber, and canvassing—all

outside of their regular duties. Some of these persons are reported by the Census as "gainfully occupied" and others are not, but in neither case is the income from odd jobs likely to find its way into any of the statistical data upon which the estimates of national income are based; hence it does not appear in the national totals, even though it is an item of possibly great importance.

Total Book Income.

The concept of income which, from the statistician's standpoint, is the simplest, is that of total book income. It represents the income which would be shown by a correctly kept set of books if all of the entries in these books were made in terms of money of constant purchasing power.

Computation of Total Book Income.

To compute the total book income for any year, the first step is to add to the net value of the property used in the business at the beginning of the year the value of new investments in the business during the year. The resulting sum is next subtracted from the sum obtained by adding the value of money or property withdrawn from the business during the year to the net value of the property used in the business at the end of the year.

The fact must not be overlooked that, in times when the price level is changing rapidly, results obtained by this form of computation are meaningless unless all quantities are reduced to terms of money of constant purchasing power. That such is the case may readily be demonstrated by the use of a numerical example.

Suppose that the index of the general price level stands on January 1 at 0.90, and, at that date, a man buys a block of stock for $18,000. He receives during the year dividends amounting to $990. The average price level for the year is 1.10. By December 31, the price level has risen to 1.30. He sells the stock at the close of the year for $23,400.

To find his profit or loss we proceed as follows:—

$18,000 ÷ 0.90 = 20,000 constant dollars
$23,400 ÷ 1.30 = 18,000 constant dollars
Loss on principal = 2,000 constant dollars
$990 ÷ 1.10 = 900 constant dollars
Net loss on operation = 1,100 constant dollars.

The fact should be noted that it is as impossible to secure intelligible results by subtracting nominal dollars of January 1 from

nominal dollars of December 31 as it is to subtract cows from horses. Comparison is only possible when all quantities have been expressed in like units.

Book Income a Business Concept.

Book income is a business concept. The individual's book income is the measure of his gain from business operations. The typical employee receives most of his income from businesses directed by others, his wage or salary constituting his income from the business. The investor, on the other hand, draws interest on the money he has loaned or rent from the property he has leased. The entrepreneur gets his profits out of possible differentials between expenses and selling values.

Book Income Affected by Changes in Property Values.

In all entrepreneurial operations, changes in property values play important rôles. In many cases, it is impossible to segregate gains from changing property values from gains arising from other sources. For example, a merchant's income is, in the main, the result of selling goods for more than he pays for them. It is impracticable for the statistician to say what part of the merchant's gain is due to a rise in the prices of the goods sold, and what part has its origin in the amount of mark-up permitted by the usual conditions of competition. The merchant's profit cannot well be estimated without valuing his goods both at the beginning and at the end of the period under study. The statistician cannot tell whether any changes in inventory thus arrived at represent changes in the volume of physical stock on hand or changes in the values of the various goods on the shelves.

To a large extent all entrepreneurs are merchants, for all are engaged in buying and selling. For every enterprise, then, both an initial and a final valuation are necessary in computing the profit for a given period.

Many businesses, however, possess very valuable "fixed" assets such as land, mines, roadways, canals, buildings, machinery, and the like. These objects cannot be sold piecemeal and their values at any given moment must be matters of opinion rather than of fact. It is very difficult, therefore, to include such values in any inventory of the assets of a business. Nevertheless, these objects must be evaluated or a balance sheet cannot be completed and the income of the business calculated. The conservative business man

usually values such objects at cost—less a somewhat arbitrary allowance for depreciation. Since increases in the value of fixed assets can rarely be used to pay dividends, it is quite generally agreed that sound business practice often requires the marking down of such values but rarely calls for marking them up.

When, however, all or part of a business enterprise is sold, it is often discovered that the fixed assets have tremendously increased in value. From the standpoint of the business man, the date of sale is usually the logical time to take cognizance of this increase in value. Experience shows also that this is the date at which the government can most conveniently step in and collect income tax on the increased value. However, one must differentiate carefully between the procedure which is logical from the standpoint of business and the fiscal authorities and the facts which the statistician, engaged in measuring income, must set forth if he is to give a true picture of the changes that have occurred.

It often happens, for example, that the value of a piece of land trebles in amount within a year or two and then remains stationary for a score of years. If the land is sold at the close of such a period of quiescence, it is obviously absurd to locate the change in value at a point two decades after it really occurred.

The correct goal of the measurer of income is easily discerned. He should give a true picture of the value of all assets, fixed or otherwise, at the beginning and at the end of each income period. These values should all be translated into terms of money of constant value, and the change in value of total net assets should be taken into account in computing the income for the period.

The procedure just outlined is sometimes attacked on the ground that a gain in the value of assets one year is offset by a loss the next, and that, therefore, there is no reason for taking the change into consideration. The answer to this objection is, that what may happen in the future is of no concern whatever to the accountant or statistician estimating the income of an enterprise for a given period. The books for the calendar year close on December 31. The year constitutes a unit in itself, and there is no legitimate reason for including in the measurements of income for the given year transactions or value changes taking place in some other year.

Estimating Property Values at Specified Dates.

While it is easy enough to outline the correct procedure for the statistician to follow, it is very difficult to secure the information

necessary to put this logical procedure into practice. To do so, it is necessary to have a correct statement of the net value of all assets at the beginning of and at the end of each period. Where are such statements to be obtained?

For reasons previously mentioned, one can place practically no faith in the published reports showing the net worth of a corporation at the end of its fiscal year, for the valuations placed upon fixed assets are at best rough approximations to the truth. In periods like 1915 to 1921, when the value of money was changing rapidly, the approximations became so rough as to take away all significance from the reported property values. The obvious result was to cast grave doubt on the reported net earnings, for the reported earnings were evidently dependent upon the property valuation. How to measure the income of corporations during such periods was, then, a puzzling question.

Corporate Property Value Assumed to Equal Value of Corporate Securities.

After much consideration, it was decided that the only feasible way to attack the problem of evaluating net assets was to fall back upon the recorded values of corporate securities. After all, the valuation put by interested parties upon the entire property of a corporation is represented by the aggregate market value of its stock and funded debt. Shares of stock and bonds are frequently sold, and, by assuming the sales as representative, a total value figure is easily arrived at by multiplying the market value per share by the number of shares outstanding.

Critics of this procedure have pointed out that, if an attempt were made to sell all of the stock outstanding at the market price, that price would be greatly depressed. True, but experience also shows that, when an attempt is made to buy the entire issue, the market price rises sharply. There is, then, apparently no sound reason for condemning the customary practice of evaluating all units at the prevailing market price of those units sold.

Calculating the Income of a Corporation-Controlled Industry.

The procedure used in calculating the income of an industry controlled by corporations is indicated by the following example.

Factories	Millions of Current Dollars	Index of Prices	Millions of Dollars of 1913	
Value of all common stock Dec. 31, 1919	30,336	1.7224	17,613	
" " " preferred stock " " "	7,561	1.7224	4,390	
" " " funded debt " " "	3,596	1.7224	2,088	
Value of all securities Dec. 31, 1919			24,091	
Value of all common stock Jan. 1, 1919	24,663	1.4958	16,488	
" " " preferred stock " " "	6,950	1.4958	4,646	
" " " funded debt " " "	3,637	1.4958	2,431	
Value of all securities Jan. 1, 1919			23,565	
Change in value of all securities				+526
New money invested in common stock	1,542	1.5814	975	
" " " " preferred stock	252	1.5814	159	
" " " " funded debt	75	1.5814	47	
New money invested in all securities			1,181	
Gain to owners from value changes				−655
Dividends on common stock	1,330	1.5814	841	
" " preferred stock	456	1.5814	288	
Interest on funded debt	206	1.5814	130	
Total dividends and interest			1,259	
Total income to owners of industry				604

It will be observed that three index numbers are required in this process of computation. Values of December 31 must be deflated by means of a price index for that date; values of January 1 require the use of the price index for that date; while, for deflating new money and also dividend and interest payments, an index representing average prices for the year is essential, since these payments are made at various times throughout the year.

Consumers' Price Indices Used as Deflators.

As in the study recorded in *Income in the Various States*, index numbers of the prices of consumers' goods have been used as

deflators. The quantities recorded as values in terms of 1913 dollars represent, then, the relative amounts of direct or consumers' goods which could have been purchased at the various dates with the money available.

Other index numbers might have been used and would have given different results, but, as we are dealing with income from the individual standpoint, and as all individuals consume direct goods, such an index seems the most generally applicable of any.

It will be noted that the data in the table just given are sufficient to enable us to compute separately the incomes of the common stockholders, the preferred stockholders, and the bondholders.

Property Values Very Unstable.

Values of securities are based primarily upon the anticipated future earnings of corporations. Anticipations are changed not only by changes in conditions affecting the industry but also by currency inflation or contraction, by rumors, and by waves of pessimism and optimism. As a result, the value of the total net assets of the security holders fluctuates greatly from year to year and the total book income of the owners of the industry is anything but stable, for the value of the assets, as compared to the annual net earnings, is so large that a small percentage change in the value of the former has a very large percentage effect upon the net income.

Effect Upon Owners of Changes in the Value of Their Property.

In the United States, vast quantities of securities change hands annually; hence the changes in market value affect the every day life of a large proportion of all stockholders. There are, however, a considerable proportion of all stockholders, and a larger proportion of bondholders, who retain their securities year after year and are not particularly interested in changes in the market price. To this latter class, dividends or interest are of much greater significance than changes in market value.

In industries not dominated by corporations, the turnover of fixed assets is presumably much slower than in the corporate field. While farmers are materially affected by changes in livestock values, farms change hands only occasionally, hence the typical farmer's mode of living is affected but slightly by shifts in land values. It follows, then, that large changes in total book income may occur without affecting to any great extent the consuming habits of the owners of an industry.

For Some Fields, Estimates of Property Values Are Very Unreliable.

In the industries controlled by corporations, it is possible to estimate, with some degree of confidence in the results, the total value of the industry at the beginning and at the end of the year. Thanks to the Bureau of the Census and the Bureau of Agricultural Economics, it is also possible to arrive at a moderately accurate statement of the value of farm property at yearly intervals. In other important fields, however, data are almost completely lacking, hence the values placed upon the business property utilized in such industries are nothing but guesses. This state of affairs prevails notably in the mercantile and unclassified industries.

Because many individuals are but slightly affected by temporary changes in the value of their property; because property values are so much affected by transitory psychological influences, and hence are so unstable; and, finally, because the net value of the assets in important industries cannot be estimated with any approach to precision, the figures for *total book income* appearing in this volume cannot legitimately be interpreted to represent current changes in the economic welfare of the people of the nation. It has, therefore, been deemed necessary to make the principal analyses of this book deal with another type of income, namely *realized income.*

Realized Income.

The term *realized income* covers exactly the same concept referred to in *Income in the Various States* as "current income," or that part of the aggregate income of individuals which remains if we eliminate income due to changes between January 1 and December 31 in values of inventories or property of any kind. *Realized income* like *total book income* is a concept based upon accounting practices as well as upon economic reasoning. It will be observed, however, that it applies solely to the income of individuals and not to that of business enterprises. Furthermore, it must be remembered that aggregate realized income includes only those types of money or commodity income the value of which can be estimated with some hope of success.

Realized income consists, in the main, of the amounts received by individuals in the form of wages, salaries, pensions, compensation for injuries, interest, dividends, rents, royalties, services of durable consumers' goods, and profits withdrawn from business.

All except the last two categories may be estimated with a reasonable degree of precision.

Chief Weaknesses in the Estimate of Total Realized Income.

The net value of the services rendered by durable consumers' goods such as owned homes, estates, automobiles, and the like can, at best, be only roughly approximated, and the amount of profits withdrawn from their own businesses by individual entrepreneurs is necessarily in a large degree a matter of conjecture. But, with the assistance of the Federal Income Tax reports, it is possible to estimate this last quantity within a margin of error believed to be not greater than 20 or 30 per cent.

Totals Refer to Individual Income.

Again the reader is reminded that, throughout this volume, although income has been classified by industries, the point of view is always that of the individual income recipient. The question is never how much does the industry earn, but how much income does the individual part-owner of the industry draw from it. Thus, for example, the manufacturing industry receives interest and dividends from other industries and itself pays out interest and dividends. It is, however, credited only with the excess of the latter over the former, in other words with the interest and dividends going to individuals which have been made possible by manufacturing activities.