A Study of
THE CONCEPT OF NATIONAL INCOME

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Definitions

Economics:

The science of the nature, production, and distribution of wealth.

Production:

The making, growing, transporting, exchanging, or otherwise modifying by human exertion, of any material object (other than man himself) having exchange value, whereby it is fitted for, or better fitted for, or is brought nearer to the final consumer.

Land:

The whole universe except man and the things produced by man which have exchange value.

Labor:

Human energy, mental and physical, applied to land or its products, to produce material things having exchange value.

Wealth:

Any material thing produced by man from land or the products of land, which has exchange value.

Capital:

Wealth, by the use of which labor is applied to other wealth, or to land in the production of more wealth.

A Study of
THE CONCEPT OF NATIONAL INCOME

Make for thyself a definition or description of the thing which is presented to thee, so as to see distinctly what kind of thing it is, in its substance, in its nudity, in its complete entirety, and tell thyself its proper name, and the names of the things of which it has been composed, and into which it will be resolved.

MARCUS AURELIUS ANTONINUS

What is Wealth?

In a general way we all know what "wealth" is. When it comes to defining that meaning with precision for the purposes of economics, one is apt, however, to become conscious of some indefiniteness and perplexity. This is not unusual, unique, or strange. Indeed, it is the natural result of the transference to a wider economy of a term which we are accustomed to use daily in a narrower economy. We must keep in mind that precision in the meaning of words and terms is the first essential in the development of a science in any area whether that area be mathematics, chemistry, psychology, or economics.

"Wealth" is the name given to the subject matter of economics. That is, economics is the science which seeks to discover the laws of nature concerning the production and the distribution of wealth. It is, therefore, *the* economic term of first importance. Unless one knows what wealth is, one can have little hope of discovering its nature, how it is produced, and the natural laws which cover its distribution.

Study of Charles B. Spahr

In 1896, Dr. Charles B. Spahr, presented the first, overall co-ordinated study of available data on national income in the volume, *The Present Distribution of Wealth in the United States.* In the introduction of this early study the author touched briefly on the tremendous increase in the public debt of Great Britain to £860,000,000 in the time of William Pitt. In this discussion he carefully pointed out the fact that this public debt was worth much to the holders of the securities, "but to the nation at large it was worth nil, and to the working-classes it was a mortgage upon future wages." * Nineteen years later Dr. Willford I. King elaborated a little further. "Individuals are said to be wealthy," he wrote, "when they possess bonds, notes, mortgages, or stock in corporations. These evidences of title are, however, no part of the riches of the nation. If every paper of the sort were destroyed, the country, as a whole, might be little, if any, poorer. Its factories, stores, residences, farms, and mines would still exist." †

Likewise, it is a simple economic fact that if all the paper currency and demand deposits were destroyed overnight in some strange manner, there would be no less national wealth in the United States. In that process, those who owned claims on wealth in the form of paper currency and demand deposits would have those claims destroyed. Some individuals would become less wealthy and some more so. As a result of that destruction, our method of exchanging wealth and services might well become cumbersome overnight, but exactly the same amount of national wealth would be in existence after as before that strange event. The same stockpile of things would be in existence.

In his original and fascinating study, Spahr gave no definition or explanation of what he meant by the term *wealth.* While the omission is unusual, it is not unique as many of the earlier, great writers on economics who had a great deal to say about wealth, also failed to define it. Among those writers were Ricardo, Chalmers, Thorold Rogers, Cairnes, Marx, and Böhm-Bawerk. The absence of such a definition or explanation in *The Present Distribution of Wealth in the United States,* however,

* p. 13 (Thomas Y. Crowell & Co., New York, N. Y., 1896).
† King, Willford I., *The Wealth and Income of the People of the United States,* pp. 5-6 (The Macmillan Co., New York, N. Y., 1915).

is a matter of some considerable interest for two reasons. One reason is the confusion which had existed in the writings from the time of Adam Smith in the *Wealth of Nations* to the time of Dr. Spahr, and which, in fact, continues to exist to this very day as to what is wealth.* The second reason is the fact that a definition or explanation would seem to be a prerequisite so that the reader would know what distribution was being considered in this particular study.

Initial Study of Willford I. King

The third† well-known study in the area of national income appeared in 1915. This volume was written by Dr. Willford I. King, who at the time was an Instructor in Statistics in the University of Wisconsin and who since that time has had a most honored and eminent career in academic and economic research circles. The volume appeared under the title of *The Wealth and Income of the People of the United States.* Unlike Spahr, the question of what was wealth was of very real concern to Dr. King. The second chapter of eight pages in this fascinating volume is primarily a discussion of the meaning of "wealth." The chapter was opened with the following statement:

> Before beginning any investigation, it is absolutely essential that the problem to be solved shall be stated in such a form as to be perfectly clear and definite. What are the facts about which we wish to secure information? Since a number of problems are to be considered in the following pages, each will be stated separately in its proper place. These problems will deal mainly with wealth and income. Just what is wealth? How does it differ from income? Different authorities define these terms in various ways. The exact definition is not so important as is the necessity of adopting some clear-cut description of each term and then consistently adhering throughout to this meaning. The ideas embodied in the definitions which follow are intended to be as nearly as possible in accord with the best usage of the leading present-day economists. Since these economists do not agree on any set form of stating their ideas, the wording is that of the present author.‡

This introductory statement would seem to have outlined a most original combination of, shall we say, the scientific and unscientific methods. It begins with a sentence stating that "it is absolutely essential that the problem to be solved shall be stated

*See pages 121-128 of *The Science of Political Economy* by Henry George, 1897 (reprinted by the Robert Schalkenbach Foundation, New York, N. Y., 1946), for a wide variety of definitions of wealth by writers on economics from J. B. Say to J. S. Nicholson. Twenty-six writers are quoted including Say, Malthus, Senior, John Stuart Mill, Fawcett, Jevons, De Laveleye, Francis A. Walker, Newcomb, Alfred Marshall, and J. S. Nicholson. Similar wide variations exist in the writings of more modern economists such as Taussig, Seligman, Ely, and Corey.

† The second study, *The Distribution of Incomes in the United States*, by Frank H. Streightoff, will be mentioned later in our consideration of "What is Income?"

‡ *The Wealth and Income of the People of the United States*, p. 5.

in such a form as to be perfectly clear and definite." That is certainly the method which has been used in the most logical of all sciences, that branch of mathematics known as geometry which has changed so little since Euclid prepared the *Elements* in thirteen Books approximately 2200 years ago.

But now the technique changes. Dr. King continues: "Just what is wealth? How does it differ from income? Different authorities define these terms in various ways." Unfortunately, that is only too true. One wonders, however, how it is possible to make a science out of economics, that is, to discover its natural laws, when authorities have been unable to define its basic terms so that they will be recognized and understood, at least by all authorities in that field, as universal truths. What chance would there have been of making a science—that is, of discovering the natural laws which have existed from the beginning of time—in chemistry without exact detailed knowledge as to what comprises an element or a compound. Facts which are undeniable to all who work in a field of knowledge are the first requisites in developing a science in that field. Perhaps that is one of the basic underlying reasons—maybe the basic underlying reason—why relatively little progress has been made in a science of economics since the days of Adam Smith, while seven league boots have been used in astronomy, biology, physics, and chemistry.

Then comes the sentence in which we have great interest. It reads, "The exact definition is not so important as is the necessity of adopting some clear-cut description of each term and then consistently adhering throughout to this meaning." Is that not equivalent to saying in physics that the exact definition of a hydrogen atom or a plutonium atom is unimportant. Could one physicist define a hydrogen atom or a plutonium atom in one way, and another physicist in another way? If that were done there would be no science in physics. Every particle, every element, every compound can have one and only one definition, and that definition, if it is the true definition, must be the same yesterday, today, and tomorrow, and the same in the United States, Indonesia, and Morocco.

The necessity of exact definitions in all reasoning in all science, and in all philosophy has come down to us through the ages. Today, it has resulted in the study which has come to be known as semantics. In his priceless booklet *In Quest of Jus-*

tice, Francis Neilson finds the necessity to discuss this very subject. This is what he wrote:

The old masters of philosophy considered definition an essential part of discussion, and most of them spared no pains to explain clearly the meaning of the terms they used. Roger Bacon said: "The mixture of those things by speech which are by nature divided is the mother of all error." Roger Bacon was the great Franciscan mathematician of the thirteenth century who wrote what Whewell called the Encyclopedia and Organum of that time. The philosophers of the nineteenth century claimed this work to be the basis of our science.*

Recall the pages and pages of dialogues which Plato wrote to arrive at definite meanings for justice, courage, and temperance. Imagine Epinoza attempting to write the first four parts of his *Ethics,* parts which begin with the most carefully worded and weighed definitions, and saying to himself, "The exact definition is not so important." Under such relaxation in rigid thought one wonders if the *Ethics* could have been written. Or imagine Kant attempting to write his *Philosophy of Law* toward the end of his great life of contemplation under similar circumstances. If a definition is to be built upon in any science, it must indeed be a universal truth, and that would seem to call for the ultimate in exactness.

Dr. King distinguishes three kinds of wealth, namely, private wealth, public wealth, and social wealth and gives fairly elaborate explanations of them. Let us quote parts of these interesting explanations in order that we may obtain whatever help we can in our quest for the meaning of wealth. The explanations of private wealth and public wealth read as follows:

Private wealth consists of material goods, claims to such goods or to services, or evidences of those claims possessed by an individual or group of individuals at a given time. Thus, a man may own a farm, a store with an established business and good will, stock in a corporation, and greenbacks in his cash drawer. All these articles are part of his individual wealth. The United States Steel Corporation possesses mines, railways, ships, and factories, as well as stocks and bonds of other corporations, monopoly privileges, etc. All these constitute the corporate wealth of the organization. Both individual and corporate wealth are forms of private wealth. The United States Government possesses thousands of public buildings, the great canal at Panama, fleets of ships, and vast quantities of valuable minerals and growing timber. In addition, it may own stocks, bonds, mortgages, and securities and it always has quantities of money of various kinds. All these things constitute the public wealth of the United States Government. Similarly, states, counties, cities and townships possess many valuable things all included in a list of their public wealth. Evidently, public wealth differs from private wealth only in the point of ownership. We may, therefore, define public wealth thus: Public wealth consists of material goods, claims to such goods, or to services, or evidences of these claims possessed by some government body or organization.†

Both private wealth and public wealth, according to Dr.

* Neilson, Francis, *In Quest of Justice,* p. 6 (Robert Schalkenbach Foundation, New York, N. Y., 1944).

† *The wealth and Income of the People of the United States,* pp. 6-7.

King, consist of three classes of wealth, material goods such as buildings, houses, ships, furniture, food, clothing; claims to such goods or services such as paper currency or deposits in a bank, money which can be used to acquire goods or services; and evidences of claims to goods or services such as warehouse receipts, trust receipts, promissory notes, open accounts receivable, stocks, and bonds. As "public wealth differs from private wealth only in the point of ownership," that is, they represent the same kinds or species of things, we might classify them as one type of wealth.

In our ordinary thought and speech, referring as it most frequently does, to the everyday affairs and the relations of individuals, and the various forms of business enterprises, the economy with which we are usually concerned is an individual economy. In this sense the unit is an individual, a family, a business enterprise, not the economy whose standpoint is that of the social whole or the nation. So, to simplify this discussion, we may term private wealth and public wealth just individual wealth.

Dr. King proceeds to define and explain social wealth, or as we would say today, national wealth, in somewhat greater detail:

The concept of social wealth is easy to define, not hard to grasp, but decidedly difficult to subject to measurement. The idea is thus set forth: Social wealth consists of the aggregate stock of material goods possessed at the given time by the given segment of society. . . .

Only economic goods have value, that is only those goods which are too scarce to satisfy all wants for them. At the present time, this is, doubtless, a very important part of all goods, but it does not constitute the whole of social wealth by any means. Social wealth includes not only houses and lands, mines and livestock, farms and factories, clothing and furniture, but also the great mass of useful things generally known as free goods. Under this heading, we place seas, rivers, harbors, forests, climate, and scenery. Many of the richest treasures of mankind are free goods; that is, they exist so abundantly that all can share therein. A large fraction of the commerce of the world is carried upon the high seas, but there is no toll for the use of the ocean pathway. How much would the Mississippi valley be worth if its climate were arid? Yet, there is no charge for the rainfall. There is no price set upon Colorado sunshine or ocean bathing, but both have been important factors in contributing to American well-being.

Many authors have included as part of the social wealth the great stock of accumulated knowledge handed down to us by our forefathers and the intricate industrial, commercial, and governmental organization of society at the present time. The importance of these things cannot be overestimated. Without them, we should be compelled again to toil up the long tiresome incline from barbarism to modern civilization; yet it seems best to classify these not as wealth but as conditions making the accumulation of wealth possible. A man may be learned in the extreme and live amongst books representing the wisdom of the ages; he may dwell in a great industrial nation with a thoroughly modern form of organization; but if he owns no property he would not ordinarily be considered wealthy. Wealth, whether of persons or of nations, refers rather to actual accumulations of tangible things than to the power of amassing such riches.

Social wealth is commonly divided into three great categories which may be designated: (1) Productive Natural Resources, (2) Capital, (3) Consumption Goods. Productive Natural Resources are varied in nature and character. Under this head, may be placed land including not only area, but soil, fertility, location, climate, and topography. Likewise, forests, stores of mineral resources, water- and wind-power, rivers, seas and oceans are all free gifts of nature which aid man in producing further wealth.

Social Capital includes all those products of past industry used in the further production of social wealth. It differs from productive natural resources in that labor has been involved in its production. It is not a free gift of nature for man has been compelled to use his brain and hands in assisting nature in order to make modern civilization possible. Capital is an intermediate product in the process of obtaining goods to satisfy human wants. It varies in nature and complexity from the sharpened stick with which the Indian woman planted corn to the giant press that prints a modern newspaper. As John Stuart Mill pointed out, all capital is the result of saving and in turn all capital is used up, but it is never used for the purpose of satisfying human wants directly. In so far as it does this, it loses its character as capital and becomes a consumption good, thus placing the article in the third category of social wealth.

Consumption Goods are those concrete goods at the service of the final consumer and intended for use in the satisfaction of human wants. Some consumption goods are free gifts of nature as the wild flowers on the hillside, the song-birds in the tree tops, the lakes, the mountains, and the waterfalls which make the landscape beautiful. Other consumption goods are the products of human toil cooperating with the forces of nature. Our houses and clothing, books and furniture, carriages and automobiles, food and fuel, all are the result of man's efforts and all yield directly an income of gratifications.*

In this rather lengthy quotation there is basic truth but, as explained in the footnote, there also seems to be some basic confusion. The basic truth is in that part of the second sentence which defines social wealth, "Social wealth consists of the aggregate stock of material goods possessed at any given time by the given segment of society," or from the viewpoint of a nation, national wealth consists of the aggregate stock of material goods of the country. For final precision all we need is a definition of "material goods." On page 5 of this brochure we have quoted a simple but precise definition of wealth: "Wealth is any material thing produced by man from land or the prod-

* *The Wealth and Income of the People of the United States*, pp 8-11. (This quotation of six paragraphs is rather unusual. In the first paragraph social wealth, or as the term has since evolved, national wealth, is said to consist "of the aggregate stock of material goods possessed at the given time by the given segment of society." But no precise definition is given of "material goods." National wealth certainly includes many of the items mentioned in the second paragraph such as houses, livestock, buildings, clothing and furniture, and other items mentioned in the last sentence in the sixth paragraph, such as books, carriages, automobiles, food, and fuel. But national wealth does not include lands, mines, seas, rivers, harbors, exclusive of man-made improvements, and forests mentioned in the second paragraph, water- and wind-power and oceans mentioned in the fourth paragraph, and "the wild flowers on the hillside, the song-birds in the tree tops, the lakes, the mountains, and the waterfalls which make the landscape beautiful," mentioned in the sixth paragraph. There are three factors in the production of wealth, namely, land, labor, and capital. The term land, as a factor in the production of wealth, is the entire "universe except man and things produced by man which have exchange value." Land was here eons before man arrived, and will be here millions of years after the last vestiges of man have disappeared from this planet. Man did not produce

ucts of land, which has exchange value." Here is the aggregate of the material goods of the country.

Individual Wealth and National Wealth

From this discussion, it has become evident that we have two kinds of wealth, individual wealth, and social, or as we say today, national wealth. In the economy of the individual, everything is regarded as wealth the possession of which tends to give command of external things that satisfy desire to its individual possessor, even though it may involve the taking of such things from other individuals. In the social economy, however, nothing can be regarded as wealth that does not add to the wealthiness of the whole. What, therefore, may be wealth to the individual may not be wealth from the viewpoint of society. An individual, for example, may be wealthy by virtue of obligations due to him from other individuals; but such obligations constitute no part of the wealth of society, which includes both debtor and creditor. An individual may be wealthy because he has substantial holdings of Federal securities but no nation ever became rich by issuing debt obligations. Even primitive peoples realized they could not become wealthy by taxing themselves!

"The original meaning of the word wealth," carefully elaborated Henry George many years ago, "is that of plenty or abundance; that of the possession of things conducive to a certain kind of weal or well-being. Health, strength, and wealth express three kinds of weal or well-being. Health relates to the constitution or structure, and expresses the idea of well-being with regard to the physical or mental frame. Strength relates to the vigor of the natural powers, and expresses the idea of well-being with regard to the ability of exertion. Wealth relates to the command of external things that gratify desire, and expresses the idea of well-being with regard to possessions

the land, mines, seas, rivers, harbors, forests, water- and wind-power, the oceans, the wild flowers, song-birds, lakes, mountains, and waterfalls. Such improvements as man has made on land, in the mines, on the shores of seas, rivers, harbors, and oceans, roads which have been built in forests, such trees in the forests which have been felled by labor, and machinery so placed as to capture the energy of waterfalls, all these are wealth because they result from the application of labor to land in its broad but precise economic sense. There also seems to be some confusion between satisfactions or as the term is used in the last paragraph of this quotation, "income of gratifications," and wealth. Satisfactions may be obtained from a beautiful sunset, from the music of a symphonic orchestra, from a radio or television program, from wild flowers, song-birds, lakes, mountains, and waterfalls. But none of these particular "rich experiences" are items of wealth; none are material things produced by man from land or the products of land which have exchange value. They give happiness by pleasing our senses and our mind, but happiness may be obtained from experiences other than from the consumption of wealth. As Dr. King writes at the end of the third paragraph, "Wealth, whether of persons or of nations, refers rather to actual accumulations of tangible things . . . . ")

or property. Now, as social health must mean something different from individual health; and social strength something different from individual strength; so social wealth, or the wealth of the society . . . must be something different from the wealth of the individual."*

All things which have an exchange value are, therefore, not national wealth. Only such things can be national wealth the production of which increases and the consumption or destruction of which decreases the aggregate of material wealth. If we consider what these things are, and what their nature is, we have no difficulty in defining national wealth. "When we speak of a community increasing in wealth—as when we say that England has increased in wealth since the accession of Victoria, or that California is a wealthier country than when it was a Mexican territory—we do not mean to say that there is more land, or that the natural powers of the land are greater, or that there are more people, for when we wish to express that idea we speak of increase of population; or that the debts or dues owing by some of these people to others of their number have increased; but we mean that there is an increase of certain tangible things, having an actual and not merely a relative value —such as buildings, cattle, tools, machinery, agricultural and mineral products, manufactured goods, ships, wagons, furniture, and the like. The increase of such things constitutes an increase of wealth; their decrease is a lessening of wealth; and the community that, in proportion to its numbers, has most of such things is the wealthiest community. The common character of these things, is that they consist of natural substances or products which have been adapted by human labor to human use or gratification, their value depending on the amount of labor which upon the average would be required to produce things of like kind."

Thus wealth, as a term in economics, "consists of natural products that have been secured, moved, combined, separated or in other ways modified by human exertion, so as to fit them for the gratification of human desires. It is, in other words, labor impressed upon matter in such a way as to store up, as the heat of the sun is stored up in coal, the power of human labor to minister desires. Wealth is not the sole object of labor, for labor is also expended in ministering directly to desire; but

* *The Science of Political Economy*, pp. 118-119.

it is the object and result of what we call productive labor—that is, labor which gives value to material things. Nothing which nature supplies to man without his labor is wealth, nor yet does the expenditure of labor result in wealth unless there is a tangible product which has and retains the power of ministering to desire."

We hope that our early indefiniteness and perplexity as to the meaning of wealth has now disappeared. There are two kinds of wealth, individual wealth and national wealth and they are very different things. Paper currency, bank deposits, stocks, bonds, mortgages, government securities, promissory notes, accounts receivable, warehouse receipts, and trust receipts are wealth to the individual but no part of the wealth of a nation. Wealth to a nation represents only and solely all existing material things produced by man from land or the products of land, which have exchange value. In simple terms, it is one great big stockpile of things. It is evident that the national wealth cannot and does not represent the sum of the wealth of the individual units of the country. With this brief excursion into the meaning of one widely used word, but *the* word of basic importance in economics, it is hoped that indefiniteness and perplexity have been replaced by precision and exactness.

What is Income?

Just as there has been confusion, and very considerable confusion, over the years as to the difference between individual wealth and national wealth, so has there been confusion as to the difference between individual income and national income. Let us now examine these two concepts.

Study of Charles B. Spahr

In *The Present Distribution of Wealth in the United States,* Dr. Spahr compiled from such limited sources as were available prior to 1896, the amount of individual wealth which existed in the United States, and then showed the distribution of that wealth by family groups in 1890. He initiated serious consideration of both the wealth and the income of individuals. The 125,000 families each of whom, for example, had individual wealth of $50,000 or more, possessed aggregate wealth of $33 billion or an average of $264,000 per family, and the 1,375,000 families which had individual wealth of $5,000 to $50,000 possessed aggregate wealth of $23 billion, or an average of $16,000 per family. On the other extreme 5,500,000 families, each of whom had individual wealth under $500, possessed aggregate wealth of $800 million or an average of only $150 per family. This was approximately six decades ago, in 1890.

As supplementary information Spahr was also interested in compiling from the limited available sources, data regarding the income of individuals in 1890. That information was carefully compiled into one table, showing, for example, that $2.79 billion came from the wages and profits of manufacturers and mechanical trades, $2.6 billion from agriculture, $1.57 billion from trade and transportation, and so on down to $80 million representing the aggregate salaries of 88,000 ministers. The 22,735,000 people employed in 1890, according to this tabulation, had aggregate personal incomes in that year of $10.8 billion.* The explanation of how the author arrived at the figures in this table, and the reasons for the compilation are outlined quite clearly. Unfortunately, the table bears the heading "National Income, 1890," and the title to the chapter which includes this interesting compilation is "The Nation's Income.—Recent History of Wages." What was attempted, however, was not a compilation to arrive at a figure of national income for 1890, but the aggregate of the income of the people in the United States in 1890. Those are two very different concepts.

As we have seen, the aggregate of the wealth of all individuals in a nation is not national wealth. Likewise, the aggregate income of all individuals is not the national income. Individual income is in some form of individual wealth and it would seem that national income must be in some form of national wealth. An opera singer is paid for singing an aria, and a surgeon for performing a difficult operation. Their fees are part of their respective incomes. The incomes of an opera singer and of a surgeon are part of the aggregate income of all individuals in the country, but as the services they perform do not add to the national wealth, their incomes can hardly be part of the national income.

National income is the net national wealth produced by the people of a country during a given period of time, and as such

* *The Present Distribution of Wealth in the United States*, pp. 104-105.

can hardly include the services of one individual performed for another, as services are not national wealth. Those who, in the cooperative efforts in which civilization consists, devote themselves to service occupations such as bootblacks, barbers, musicians, teachers, surgeons, nurses, poets, writers, and most employees of local, state and the Federal Government, do not take part in the production of national wealth. They are producers of utilities and satisfactions but not national wealth. As a result their income is no part of the national income; the national income consists and can only consist in the net production of real tangible wealth, that is, in increments of national wealth.

Let us draw a little analogy. When the current inventory of a wholesale or a retail business is being determined, the accountant starts his computation with the figure of inventory at the beginning of the accounting period. To that figure he adds the aggregate purchases during the accounting period, and from that total he then deducts the cost of sales. The balance is the ending inventory. The process, it would seem, should be identical in a national economy. To the national wealth, that is, the stockpile of things in a country, as of a certain date, is added the wealth, but only the real, tangible wealth, produced over a given period of time. Services cannot be added to the stockpile of things because services are not things. From that total is then deducted the national wealth consumed and used up during the given period to arrive at the figure of national wealth at the end of the period. The wealth produced over the given period, it seems, would be the gross national income, the gross national income less that part of national wealth used up in the production processes during the period would be the national income, and that figure has no more connection with the aggregate income of the people of the country, than national wealth has with the aggregate wealth of the individuals of a country. Unfortunately, this confusion which originated by a possible inadvertent use of the term, "National Income, 1890" by Dr. Spahr in 1896, has been perpetuated to this day and has brought confusion to the science of the production and distribution of wealth, that is, of economics.

Study of Frank H. Streightoff

In 1912, Dr. Frank H. Streightoff, who at the time was an Instructor in De Pauw University, entered this field of research by writing a book under the provocative title, *The Distribution of Incomes in the United States*.* Whereas Spahr had been interested sixteen years earlier in both wealth and income, Streightoff confined his interest solely to income, and in this case to the income of families. In a comprehensive, critical study he carefully discussed the sources of individual income, the sources of American income statistics, previous treatment of American income statistics, statistics of the distribution of wages, and available data regarding incomes from property.

The entire volume was concerned with the limited availability of reliable facts in his day regarding the incomes of families and the critical interpretation of the existing data. With fundamental knowledge of these facts and with a solid background in basic economics, not once, or even by inference or implication throughout the 166 pages of this enlightening and fascinating study, did Streightoff indicate that the aggregate income of the individuals of the country represented national income. He must have made a most conscientious study of *The Present Distribution of Wealth in the United States* as it was only extant volume covering this area of research and thought, and he must have recognized the inconsistency when Spahr used the title "National Income, 1890" for a compilation of the aggregate incomes of individuals. At no point in his study, directly or indirectly, did Streightoff follow this pattern.

Initial Study of Willford I. King

The confusion which appears to exist between the concepts of individual wealth and national wealth in Dr. King's initial study in 1915 in *The Wealth and Income of the People of the United States* is carried over into the field of income. In his chapter on "Income Defined," Dr. King thoughtfully writes that the total quantity of goods produced by the efforts of the people is national income. That is an exact definition if by "goods" is meant any material thing produced by man from land or the products of land which has exchange value—in other words, tangible wealth.

Unfortunately, however, Dr. King elaborated on this concept by saying that national income is the sum total of the book incomes of the inhabitants of a nation. The aggregate of book

* Published by Columbia University (Longmans, Green & Co., Agents), New York, N. Y., 1912.

incomes is quite different from the aggregate of goods produced. The sum total of the book incomes of the inhabitants of a nation is the aggregate of the individual incomes of the people of the nation and that is not the national income. So-called "book incomes"* of individuals would include gifts or inheritance, winnings from lotteries or gambling, capital gains on the purchase and sale of land, and payments for services such as writings, singing, and acting on the stage. No one of these items contribute to national wealth. National wealth is the same whether an individual does or does not receive gifts or inheritances, winnings, profits or losses on the sale of land, or payments for services. The incomes of individuals include many items which are not part of national income; wealth of individuals include many items which are not national wealth.

The term "national income" which Spahr would seem to have used inadvertently and synonymously for the aggregate income of the people in the United States in 1896, and which Streightoff failed to follow in his more scientific study of 1912, has now been resurrected for wider and wider use and circulation.

Studies of National Bureau of Economic Research

The National Bureau of Economic Research was organized in 1920 to ascertain and present to the public important facts bearing upon economic, social, and industrial problems, and the interpretation of these facts in an impartial manner, free from bias and propaganda. Over the years this organization has made great contributions in gathering facts and knowledge, and in the impartial interpretation of those facts. Research has consistently been carried on in fields where exact facts had, up to the time of the research, been unavailable.

Studies Under the Direction of Willford I. King

The first task to which the staff of the Bureau applied itself, was to ascertain the "approximate size and distribution of the total income in dollars of the people of the United States."

* Dr. King defines book income as follows: "This equals the value in money of the net receipts or gain, as shown by an accounting system, accruing, during a given period of time, to an individual, a family, or a business concern, from personal services, investment, or business transactions."—pp. 108-109.

Here was to be a more exacting study, taking over the field and bringing up to date the more general data collected, ordered, and interpreted in the earlier research of Spahr, Streightoff, and King. This undertaking has provided fundamental facts of a wide range regarding the sources and the amount of the aggregate income of individuals and the retained earnings of business enterprises.

The reason why the Bureau made this undertaking the first order of business was explained by Dr. Willford I. King, upon whom the undertaking devolved in the following words: "So many questions pertaining to the economic welfare of the citizens, and the political policy of the legislators hinge upon a knowledge of the facts concerning the distribution of income among different classes of citizens, that it is extremely important to have available figures which are as accurate as it is possible to obtain." It would seem evident from this explanation, that the objective was solely and basically to obtain "the total income in dollars of the people of the United States," the aggregate of the sum of purely monetary figures which has no direct relation to the yearly gross or net production of wealth in the country, that is, to national income.

In 1921 and 1922, the initial research of the National Bureau of Economic Research was published in the two volumes *Income in the United States.** In 1930 appeared an enlarged and a somewhat more refined study, *The National Income and Its Purchasing Power.*† This volume contained considerably greater details than the earlier studies of income, and in particular, regarding that part of the income of investors derived from various classes of corporations. Each succeeding study of the income of individuals showed material progress in collecting and estimating underlying data. In these particular studies of the National Bureau of Economic Research, Dr. Willford I. King, with his wide background and sustained interest in this field of knowledge, was largely responsible for the research, and of the last mentioned volume, was the author.

These series of studies provided essential data on which many overall statistics of individuals in the United States are

* Volume I published by Harcourt, Brace and Company, New York, N. Y., in 1921, and volume II by the National Bureau of Economic Research, Inc., New York, N. Y., in 1922. This study was followed in succeeding years by two supplementary studies, *Distribution of Income by States in 1919,* published by Harcourt Brace and Company, N. Y., 1922, and *Income in the Various States,* a detailed analysis of income in the various States for the years 1919, 1920, and 1921, published by the National Bureau of Economic Research, Inc., New York, N. Y., 1925.
† Published by National Bureau of Economic Research, Inc., New York, N. Y.

based. Even though these studies, and the vast underlying compilations which have been involved in providing the data, have become invaluable for understanding facets of our way of life, through them seems to run the continuation of the confusion that the aggregate individual incomes of the people of the country and national income are synonymous. The two concepts are different, and for the reasons which have been outlined in this pamphlet up to this point, it would seem that the figures representing these two concepts must be different.*

Some evolution in concepts, however, was taking place as in Volume I of *Income in the United States,* it is recognized that at least one source of individual income is not national income, namely, an increase in the selling price of land separate from any and all improvements to and on the land. This distinction, of course, is a sound one. The explanation reads as follows: "For example, an advance in the selling prices of town lots, farm lands or other property does not represent an increase in National income, as above defined, unless it results from improving the property. But such an advance does enable owners to increase their personal incomes by making profitable sales. Nor is it easy to think of their gains as offset by corresponding losses inflicted on the buyers. On the other hand, a drop in these prices would not mean a loss of National Income, though it would occasion income losses to many owners, uncompensated by equivalent increase of income to those who purchase."

Land in its natural state was here millions of years ago and will be here millions of years in the future. Land was created by the Great Author of all Nature. It is not a product of labor. Labor, however, can improve land in many ways, for example, by fertilizing it, draining it, putting roads through it, and building fences, and all such improvements are wealth. The changing value of land, separate from all improvements, will affect the income of individuals as land is bought and sold but that affect on the income of individuals would have no bearing on national income. No changes are being made in the national stockpile of things.

In *The National Income and Its Purchasing Power,* "national income" in the title continues to be used synonymously, as in

* In volume I of *Income in the United States,* it is pointed out that it is hard "to frame a definition which will cover both individual and National Income." That statement would indicate that the authors believed there was some difference between these two concepts of income even though the terms "aggregate income of the American people" and "national income" appear to be used interchangeably throughout the volume.

all earlier studies except Streightoff's study, with other terms which are more widely used in the text. These terms are "aggregate incomes of our population," "income of the people," "income in the United States," "total realized income of the people of the United States," and "total book income." All of these terms are concerned with substantially the total income in dollars of the people of the United States, that is, the aggregate of their individual incomes. The "total income in dollars" represents the sum of the dollar incomes from practically all sources of all of the people in the country, just as total assets in a balance sheet is the sum of all of the various items which comprise the assets of a business enterprise. The aggregate of individual incomes is very different from national income, but notwithstanding this fact, the total "book incomes" of all individuals is used interchangeably, over and over again, with national income.

"To compute the total book income for any year," it is carefully explained "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." In other words book income is accounting net profit, that is, retained profits plus withdrawals or dividends. "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 entrepeneur gets his profits out of possible differentials between expenses and selling values."

The confusion is further emphasized by the explanation that "the income of the country is dependent upon the volume of production, and production is dependent upon population."* This sentence contains two separate statements, one that "income of the country is dependent upon the volume of production," and the other that "production is dependent upon population."* The first statement that "income of the

* *The National Income and Its Purchasing Power*, p. 46.

country is dependent upon the volume of production'' is, of course, absolutely correct but in this explanatory sentence ''income'' it seems, is used with a somewhat different meaning than in other parts of this volume. The study encompassed in this volume was said to be concerned with the income of the people of the United States from all sources ''wages, salaries, pensions, rent, interest, dividends, and profits of individuals.'' Now, ''income'' is said to be ''dependent upon the volume of production.'' Concept number one is concerned with ''the total income in dollars of the people of the United States,'' and concept number two is concerned with ''income of the country.'' Both statements are sound but one must recognize the fact that ''income'' is used in different ways in both statements. The total income in dollars of the people of the United States is very different from the income of the country which is dependent upon production and which can be measured only by increments of national wealth—not by increments of individual wealth.

This is why: Some portion of the income of the people of the country, as already explained, is derived from services such as the income of doctors, lawyers, opera singers, authors, barbers, beauticians, big league baseball players, minor league players, and government employees except those who are engaged in the creation of material wealth such as warships, dams, lighthouses, Federally owned buildings and public utilities, and the deepening of river beds. That portion of the income of the people of the United States which is derived from services does not represent any part of the ''income of the country,'' that is, national wealth which is ''dependent upon volume of production.'' Production here is used in the economic sense, meaning not only manufacturing or making of things but also the transportation and distribution at wholesale and retail as defined on page 5. The income of the country is identical with the net production of national wealth of the country, keeping the definition of production in mind. The income of all who make a living by rendering service is a derivative of the production of national wealth, that is, not only do they not add to the ''income of the country'' but the wealth which they consume daily must be taken from the stockpile of national wealth created by others. On the other hand, the

* The statement that "production is dependent upon population" presumably means size of population. Under such an interpretation, the statement would seem to be incorrect as production is dependent more on economic capital—that is, wealth used to produce more wealth—and efficiency of labor, than on population. If this were not so, the Union of Social Soviet Republics would today be producing more than the United States, and Mexico more than Canada.

income of all those who render service is included in the "total income in dollars of the people of the United States."

In *The National Income and Its Purchasing Power,* one of the extremely interesting parts is Chapter XI on "Facts Bearing on Agricultural Income." In this chapter it is pointed out that "a large proportion of the crops are used to feed livestock, and to no small extent, the farmer derives his income from the sale of milk, butter, eggs, beef, and pork, rather than from the sale of hay and grain." Estimates of the value of grain and hay crops which are contained in this chapter for the years 1909-1928 do not represent the total value of these products raised by the farmers. They represent the estimated value of the amounts sold outside of the farm area, or consumed by humans. In other words an attempt was made to eliminate the value of all grain and hay fed to livestock on farms so that the value of that wealth would not be counted twice, once as grain and hay, and once as livestock.

This is the very technique which, it would seem, must be kept in mind in understanding the economic concept of national income. Those who are engaged in the production of food, clothing, heat, shelter, comforts, and luxuries—that is, in the production of national wealth—must produce the wealth which is consumed by those who perform services. By adding together the market value of both wealth and services produced in any one year we obtain a duplication similar to what would have been obtained if the value of all grain and hay had been added to the value of all livestock raised. A nation's income can be measured only in national wealth.

Studies Under the Direction of Simon Kuznets

In 1937 appeared a preliminary report *National Income and Capital Formation 1919-1935** over the signature of Simon Kuznets who had joined the staff of the National Bureau of Economic Research just ten years earlier. Dr. Kuznets had become intensely interested in the growing research which was being carried on under the broad heading of national income, and as mentioned in succeeding pages, was retained because of his interest, broad background, and extremely wide knowledge of this expanding field of research by the Department of Commerce to make its first study and survey in 1934.

* Published by the National Bureau of Economic Research, New York, N. Y., 1937.

National Income and Capital Formation, 1919-1935 represents one more step in the refinement and detailed study of this area defined "as the net value of commodities and services produced by the nation's economic system." We have now reached the point where the term "national income" is used more and more in place of the initial objective of the Bureau to obtain "the total income in dollars of the people of the United States." The substitution of terms might have been subconscious. The first two words in the title in this and the succeeding volume by Dr. Kuznets are "National Income" and no concept is included in the title indicating that the study and computations in the volume are concerned primarily in fulfilling the initial objective of the Bureau.

The explanation, not of the total income of the people of the United States, but of national income "as the net value of commodities and services produced by the nation's economic system" then continued, "it is 'net' in that the value of output of all commodities and services is reduced by the value of commodities (fuel, raw materials, and capital equipment) consumed in the process of production. And it refers, by design, to the net produce of the economic system, which, for economically advanced nations of recent times, may be treated as identical with the market economy. If 'market' is understood broadly as the meeting place of all buyers and sellers, no matter how greatly freedom of transactions may be curbed by custom or by regulation, then national income measures the net product of activities connected through the market, and excludes the results of other activities that may supply utilities but are outside the market mechanism."

Like all of the earlier studies except the one by Streightoff, *National Income and Capital Formation 1919-1935* continued to group together the utilities and satisfactions obtained from both wealth and services. The net value of all commodities, that is all tangible things produced by man and which have exchange value, is the income of national wealth produced by the nation's economic system. The income of a nation, as we have already explained, can be measured in no other term but national wealth; the net increase in the aggregate of things produced by its inhabitants is the net increase in national wealth. Those who provide services and earn money in that process, use that money to acquire real wealth by which to live from others, that is, food, clothing, shelter, comforts, and luxuries. The net value of commodities and services together merely provides a figure of the dollar income of the inhabitants of a nation which, it would seem, is no more the income of a nation than the aggregate of the wealth of the inhabitants is the wealth of a nation.

If A produces 10,000 bushels of wheat on his farm and gives B, who spent all his time helping A in the cultivation of the wheat, 2,000 bushels in payment of his services, their contribution to the national income is not the sum of their incomes, that is, 12,000 bushels. It is only 10,000 bushels. The total income of all persons, real and artificial, is materially greater and quite different from the income of a country.

During the fiscal year ending June 30, 1952, the Federal Government will spend approximately $70 billion. Of that sum, about $50 billion will be spent for national defense including wages to men in the armed forces, cost of equipment and supplies from the largest warships to the smallest electronic proximity tubes used in the nose of artillery shells, stockpiling of critical raw materials such as rubber, columbium, and tungsten, new plants for and the operation of the Atomic Energy Commission, maritime activities, defense housing, and civil defense. That part of the aggregate expenditures of the Federal Government which goes into roads, buildings, dams, defense equipment and supplies such as warships, planes, tanks, armament, guns, and clothing, stockpiling, new atomic energy plants, and the production of atomic energy, represents the creation of national wealth although a considerable part of that wealth might be subject to rather rapid depreciation and consumption. But money which is used to pay wages to most of those in our armed forces, has no connection with the production of national wealth. If the aggregate income of the individuals of a country were identical with national income, the more money which is spent by the Federal Government in the form of wages to our armed forces, the greater would be our national income. That would seem to present a dilemma in logic!

Money which is paid to those in the employ of the Federal Government, who are engaged directly or indirectly in the production of wealth, that is, in the construction of roads, buildings, dams, lighthouses, defense equipment and supplies, new atomic energy plants, and the production of atomic energy, represents additions to the national income. Money which is paid to other employees of the Federal Government for any purpose, service, or social obligation, use that money to draw down, pay for, and acquire increments of national wealth produced by others so they also can live. Money paid to others for any purpose, service, or social obligation represents personal income to those particular individuals but would seem to have no connection, no matter how small, with national income.

In 1941 appeared *National Income and Its Composition, 1919-1938,* by Simon Kuznets. This study represented the seventh volume on "national income" to be published by the Bureau and is a summation of twenty-one years of the vast and continuous research in this field. It a monumental and brilliant work of 956 pages. The volume, however, carries on the concept of national income used by the immediately preceding writers and researchers in this field. This most elaborate and comprehensive study opens with a chapter on the "Concept of National Income." It is an unusually clear and detailed explanation of every noun in the opening definition. Again we read, "National income may be defined as the net value of all economic goods produced by the nation."* This chapter comprises fifty-eight pages of interesting and enlightening explanations, elaborations, and subsidiary definitions.

The basic definition is understandable, but in the light of a possible science of economics, it would seem that the author has given a subsidiary definition of "economic goods" which is worthy of attention. Economics is the science of the nature, production, and distribution of wealth. Wealth, as we must repeat, is any material thing produced by man from land or the products of land which has exchange value. If those facts, which would seem to underlie a science of economics are accurate, then economic goods is tangible wealth, that is, national wealth. To Dr. Kuznets as to Dr. King, economic goods not only represent wealth but also services, an evolution in concept which, it

* Concepts of national income complementary to the aggregate net value of the goods and services produced in the country, may also describe, Simon Kuznets points out (1) total payments by producing enterprises to individuals largely in return for the productive services of the individuals or of their property, (2) the total outlay by ultimate consumers on finished goods [and services], and (3) the total value of goods [and services] consumed by the nation's ultimate consumers. "For any reasonably short period," Kuznets explains, "no two of the four totals will be the same; and between some pairs of totals the differences are substantial for any period. While the choice is largely terminological, the way in which national income is defined affects the totals and its variability over time. Several choices are possible. First, national income may be used as a generic term to designate all or any of the four totals, the totals being differentiated by a qualifying adjective. We may speak of 'national income produced,' 'national income paid out,' 'national income spent,' and 'national income consumed.' While this usage has the advantage of stressing

would unfortunately seem, has received generally wide acceptance. Dr. Kuznets introduces this subject by an interesting paragraph at the beginning of his explanation of the meaning to him of economic goods:

> The chief characteristic of goods is that they are sources of satisfaction. Most of such sources are economic in that they are relatively scarce and at the disposal of the active unit (individual, enterprise, nation) in economic life. The goods may assume the tangible form of a commodity, appear in more elusive form as a service separable from its material source, or be perceived as a social or personal arrangement inseparable from the human beings that constitute society. Underlying the variety of their manifestations and the qualitative diversity of physical shape are the scarcity and disposability of these sources of satisfaction, characteristics without which they would not be involved in economic behavior or give rise to social relations that are the concern of economic study.*

This paragraph is concerned with satisfactions, tangible goods, and services. It is true that both tangible goods and services provide satisfactions but there is some question that "satisfactions" are the basis of economics. Economics is the science of the production and distribution of wealth and only wealth; it is not the science of the production and distribution of satisfactions. "Satisfactions" might more be the basic subject matter of sociology or psychology.

The differences between satisfactions and wealth have never been more clearly pointed out than by the author whose works on economics have had the widest and more sustained circulation over the years with the single possible exception of Adam Smith. This author with the great insight, background knowledge, and feeling wrote the following explanation after studying what every well-known economist from Adam Smith down to his contemporaries had written on this confusing subject:

> Political economy has been defined, and I think sufficiently, as "the science which treats of the nature of wealth and the laws of its production and distribution." The object-noun or subject-matter of political economy is therefore wealth. Now, as we have already seen, wealth is not the only result of human exertion, nor is it indeed the end and aim and final cause of human exertion. That is not reached until wealth is spent or consumed in satisfactions of desire. Wealth itself is in fact only a halting-place or storehouse on the way between prompting desire and final satisfaction; a point at which exertion, journeying

the essential multiplicity of possible totals corresponding to the variety of uses to which they may be put, it has obvious disadvantages. It tends to create confusion, for in seeking to appraise the results of economic activity there is a natural and justifiable tendency to look for a single total of general acceptability and validity. Moreover, it is awkward to speak of national income 'paid out' or 'spent'; the term 'income' indicates an inflow; expenditures or payments an outflow."—*National Income and Its Composition, 1919-1938*, pp. 46-47, (National Bureau of Economic Research, New York, N. Y., 1941). It would seem that if precision and exactness in the use and meaning of terms is a prerequisite to the creation of a science, then "national income produced" as Kuznets describes the term, might read "aggregate net values of goods and services produced," "national income paid out" might read "aggregate net value of goods and services paid out," national income spent" might read "aggregate net value of goods and services spent," and "national income consumed" might read "aggregate net value of goods and services consumed."

* *National Income and Its Composition, 1919-1938*, p. 6.

towards the satisfaction of desire, remains for a time stored up in concrete form, and from whence it may be called forth to yield the satisfaction which is its ultimate aim. And there are exertions aiming at the satisfaction of desire which do not pass through the form of wealth at all.

Why then should political economy concern itself merely with the production and distribution of wealth? Is not the proper object of the science the production and distribution of human satisfactions, and would not this definition, while including wealth, as material satisfactions through material services, also include services that do not take concrete form?

My answer is that I am not engaged in laying out a new science, but only endeavoring to explain and straighten out one that has already been much pursued. I wish, therefore, as far as possible, to follow old roads and to use accustomed terms, only swerving from them where they clearly lead to error, of which there are indeed instances enough.

And further than this, I think that reflection will show that a consideration of the production and distribution of wealth will include about all that there is any practical use of considering of the production and distribution of satisfactions.

While wealth does not include the sum of all exertions for the satisfaction of material desires, it does include what in a highly civilized society are the far greater part of them, and is, as it were, the exchange point or clearing-house where the transfer of services devoted not to the production of wealth, but to the direct procurement of satisfactions, is made.

Thus, the barber, the singer, the physician, the dentist, the actor, do not produce wealth, but direct satisfactions. But not only are their efforts which are expended in this way mainly devoted to the procurement of wealth, which they get in exchange for their services, but any exchange between themselves of services for services takes place through the medium of wealth. That is to say, the actor does not pay his barber in recitations, or the singer pay his physician in tones, not yet reversely does the barber or physician often pay in shaves or medical advice for the satisfaction of hearing, acting, or singing. Each habitually exchanges his services for wealth or the representative of wealth, and exchanges this for other services that he may desire. Thus in civilized society it is only in rare and exceptional cases that there is any direct exchange of services for services. To this we may add that the laws which govern the production and distribution of services are essentially the same as those which govern the production and distribution of wealth. Thus we see that all the ends of political economy may be reached if its inquiry be an inquiry into the nature of wealth and the laws that govern its production and distribution.

Political economy has a duty and a province of its own. It is not and it cannot be the science of everything; for the day in which any one scheme can include the whole province of human knowledge has long passed, and must with the increase of human knowledge further recede. Even today the science of politics, though closely related, is, as I conceive it, clearly distinct from the science of political economy, to say nothing of the almost numberless other schemes which treat of man's relations to other individuals and to the relations with which he is brought in contact.*

The confusion between satisfactions and wealth resulting from making what seems to have been an arbitrary definition of national income may be further illustrated. For Dr. Kuznets, "To draw a line between economic activity and economic goods on the one hand and active life in general and its stream of satisfactions on the other is the more difficult the greater the diversity of social experience for which the distinction is to be valid. It would not be easy to formulate a distinction that would be

* George, Henry, *The Science of Political Economy*, pp. 301-303, 1897 (republished by Robert Schalkenbach Foundation, New York, N. Y., 1946).

valid for both the primitive tribes in the wildernesses of Africa and South America and the nations of North America and Western Europe; or for the institutional settings of European society in both the tenth and the twentieth centuries." The difficulties here seems to be confusion between wealth, services and satisfactions. Wealth, like a hydrogen or plutonium atom must be the same yesterday, today, or tomorrow, in the United States, in the wildernesses of Africa and South America, and in European society in both the tenth and twentieth centuries, if we are searching for the natural laws of economics. And that definition is anything produced by man from land or the products of land which has exchange value. It is not the gamut of satisfactions, it is not services; it is the tangible items which go into a stockpile of things for a day, for a year, or for a hundred years, until used up by some form of consumption. Economic goods, it would seem, can hardly be made to include "commodities, services, arrangements."

Studies of the Department of Commerce

The Department of Commerce entered this area of economic research in 1933 when it undertook the preparation of annual estimates of "national income."* Two volumes, two pamphlets, and several articles containing summary estimates appearing in the *Survey of Current Business,* the monthly business conditions magazine of the Department of Commerce, have been published over the interim.

The first volume, *National Income, 1929-32,* was published in 1934 and and the second volume, *National Income in the United States, 1929-35* was published in 1936. The original study involved in the preparation of the first volume was undertaken with the cooperation of the National Bureau of Economic Research which, as we have seen, had largely pioneered in this field under the early guidance, first of Dr. King and then Dr. Kuznets. Dr. Kuznets, of the National Bureau of Economic Research, was engaged temporarily by the Department of Commerce to conduct the investigation, and he was responsible for planning the study, supervising the estimates, and preparing the text of the first volume.

* This research was undertaken pursuant to Senate Resolutions 220, Seventy-second Congress, first session.

The procedure used in the compilation of data for this volume was similar to that used by Dr. King in his preparation of *The National Income and Its Purchasing Power,* except that a somewhat more detailed break-down of underlying figures was made possible by additional data which had become available in the immediately preceding years. The concept of national income used in the preparation of this volume was essentially identical with the concept used by earlier researchers in this field. That concept is described in the first paragraph of the study:

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.†

The second volume, *National Income in the United States 1929-35* represents a revision of the estimates appearing in the first volume, and was made by the Division of Economic Research of the Department of Commerce under the supervision and responsibility of Robert R. Nathan, then Chief of this Section. In many instances, the estimates of underlying data were again substantially revised through the acquisition of new or improved basic data which permitted the compilation of more accurate estimates. The concept of national income employed in this study was the same as that used in the first volume of this series.

In 1937 appeared a pamphlet *National Income, 1929-36,* and in 1938 a somewhat larger pamphlet *Income in the United States, 1929-37,* both prepared by Robert R. Nathan, as Chief of the National Income Section, Division of Economic Research. At

* There seems to be some confusion in this sentence. Both types of activity, that is, activity which produces wealth and activity which renders service do "involve an effort on the part of an individual." Both types of activity, however, do not involve expenditures or material expenditures "of some part of the country's stock of goods." The production of real, tangible wealth involves the application of labor and generally—but not necessarily—capital to land or to the products of land, termed "the country's stock of goods" in the above quotation. The rendering of services, however, involve little or no expenditure of the country's stock of goods. Physicians do use some medicine or drugs which is a nominal use of goods. Lawyers use pen and ink, paper and pencil which is a nominal use of goods. Government officials cover a wide variety of individuals, but those who provide services use little or no "goods." Domestic servants use no goods.

† Senate Document No. 124, 73d Congress, 2d Session, p. 1.

the time each study appeared, it contained somewhat more elaborate and up to date estimates and tables than preceding studies. These estimates and tables continued to be based on the idea that national income represents the net value of all goods and services produced in the United States.

In July, 1947, and in the Autumn of 1951, supplements to the *Survey of Current Business* were published under the title of *National Income*. These two studies set up elaborate, fascinating, interrelated systems of aggregate national data having to do with the total income of the people of the country with detailed underlying breakdowns of the related data into such groupings as personal incomes and expenditures, gross savings and investment accounts, consolidated business income and product account, and government receipts and expenditures. These various elaborate tables tied in one with another. The estimates and tabulation to arrive at these irrelated tables embodied basic alterations both in underlying concepts* and in statistical procedure. In the July, 1947, study national income was defined in about the same terms as had been used by previous researchers but with some slight additional explanation:

National income is the aggregate earnings of labor and property which arise from the current production of goods and services by the Nation's economy. Thus, it measures the total factor costs of the goods and services produced by the economy. The Nation's economy in this context refers to the labor and property supplied by residents of the Nation. Earnings are recorded in the forms in which they accrue to residents of the Nation, inclusive of taxes on those earnings. As such, they consist of the compensation of employees, the profits of corporate and unincorporated enterprises, net interest, and the rental income flowing to persons.†

In the 1951 study, national income is defined "as the aggregate of labor and property which arise from the current production of goods and services by the Nation's economy." The

* The conceptual changes which were incorporated in the estimates and tabulations of national income in the July, 1947 supplement to the *Survey of Current Business* were as follows:

1. Interest payments on government debt were eliminated.
2. Imputed net rent on owner-occupied dwellings was added.
3. Corporate profits before taxes were included.
4. No allowances were made for depletion.
5. Inventory valuation adjustments were made.
6. Income in kind received by the armed forces was included.
7. Government subsidies paid to private enterprises were eliminated.
8. Value of the services of banks and other financial intermediaries rendered to persons without the assessment of specific charges were regarded as imputed interest (income in kind) accruing to persons.
9. Employer contributions to private pension and welfare plans were substituted for benefit payments under such plans.
10. Change in farm inventories of crops not held for sales, positive or negative, were added.

As a result of these changes, increases in the various aggregates were of relatively small magnitude before World War II, but during the war period they reached sizeable proportions.

† It would seem that in this quotation the word "property" has been used somewhat loosely for precise economic reasoning, and as a result logic runs a little astray. National income—that is, real tangible wealth—is produced by three factors, labor, land, and capital. As labor is definitely mentioned, property in the context of the first sentence must stand for both land and capital, capital in precise economic reasoning, meaning not money, but wealth which is

conceptual framework and the statistical methodology used in this study were the same as those used in the study of the Department of Commerce issued four years earlier.

How true it is as Roger Bacon wrote so many centuries ago, "The mixture of those things by speech which are by nature divided is the mother of all error." It would seem as though we have had a mixture of those things by speech on the part of those who have worked intensively in this field with the notable exception of Streightoff. In any science, it is necessary, first of all and at every step, to make sure of the precise meaning of the words that are used as its terms. Words are the signs or tokens by which in speech or writing we communicate our thoughts to one another. It is only as we attach a common meaning to words that we can communicate with one another. And to understand one another with precision, it is necessary that each one of us attach precisely the same meaning to the same word and that meaning must, under no circumstance, be an arbitrary one.

At this point, let us have a brief recapitulation. Spahr was interested in developing an overall figure from available source material, of the income of all individuals in the country and inadvertently used the title "National Income, 1890" for this figure. Streightoff was interested in similar computations but did not term the aggregate income of the people of the country, national income. In Dr. King's initial study the income of the people of the United States was now consciously called national income and the phrases used synonymously. In additional studies carried on by Dr. King and Dr. Kuznets in behalf of the National Bureau of Economic Service, the term "national income" comes more and more established in usage, gradually superseding the "aggregate income of the people of the United States," and by arbitrary definition is said to mean the net value of commodities and services produced in our economic system.

Individual wealth, we have learned, is different from national wealth. Individual income can be in any form of individual wealth. National income can only be in some form of national wealth. If that is so, it hardly seems possible that the aggregate of individual's income could be the aggregate of na-

used in the production of more wealth. The third sentence reads, "The Nation's economy in this context refers to the labor and property supplied by residents of the Nation." Labor is certainly supplied by the residents of the Nation. When we come to the two items which comprise property, namely, land and capital, we have a different situation. Capital is also supplied by the residents of the Nation, assuming that residents own corporations and also governmental units including the Federal Government. But in the precise economic sense, land is not supplied by residents. The land was here millions of years ago and will be here millions of years in the future. Land is furnished by Nature, not by man.

tional income. And still that is what our current studies on national income have substantially come to. We have reached this impasse because it is assumed that services and wealth are identical because they both provide satisfactions. National income can only be in increments of national wealth and national wealth, it would seem, cannot include services.

By including services as economic goods—or wealth—merely because money is paid for services as well as for the production of wealth, we run into the incongruous situation described by Charles L. Merwin. A bachelor who marries his housekeeper, Merwin explains, decreases the national income. "Before the marriage the services of the housekeeper were included in national income, but after the marriage they were excluded."* If one-quarter of the employed people of the nation were engaged in producing wealth and three-quarters were engaged in providing services for the rest of the population, the national income, according to the researchers in this field, would be the same if three-quarters were engaged in producing wealth, and one-quarter in providing services, so long as their wages and salaries were identical under both situations. That is hard to comprehend on the basis of either logic or economics, if economics is the science which has to do with the natural laws which govern the production and the distribution of wealth.

In September, 1951, the Manpower Administration of the Department of Labor announced that the defense industries had 4,000,000 people on their payrolls at the end of July, that they would employ "upwards of 6,000,000 persons by the end of the year," and that 8,500,000 would probably be so employed by the end of 1952. Suppose these 4,000,000 people were not working in defense plants at the end of July, that 6,000,000 would not be so employed by the end of 1951, or that 8,500,000 would not be so employed at the end of 1952, but that those millions of individuals were employed and would be employed solely in providing more and more services to the rest of the inhabitants of the nation. Is it conceivable that our national income would be identical in both situations if their wages and salary were the same? That is what researchers in national income have said and are saying.

We opened this pamphlet with consideration of what is wealth, individual wealth and national wealth, because the sci-

* "National Income, What it is; How it is Measured" in DUN'S REVIEW, Aug. 1942, p. 19.

ence of economics is concerned only and solely with wealth. We are back where we started as the income of a nation can only be measured in wealth, not individual wealth, but national wealth. "Wealth" as we mentioned early in this pamphlet is the name given to the subject matter of economics. Wealth is *the* economic term of first importance.

Wealth, as we have said, is anything produced by man from land or the products of land which has exchange value. Services are not produced from land or the products of land, hence they are no form of wealth. They are attributes of man which appeal to others and are used for the satisfactions they give to others, but services have absolutely no connection in any way with national wealth. We live on wealth. Services are not needed to live. Services provide additional satisfactions above and beyond the use of wealth in the form of food, clothing, shelter, necessities, and luxuries. Those who provide services for others, obtain in exchange for these services, the wealth by which they live.

Land, Labor and Capital

There are three and only three factors utilized in the production of wealth, namely, land, labor, and capital. The production of all wealth thus naturally flows into three streams as returns to land, labor, and capital. Until an attempt is made to translate this theory—which is the elementary theory of economics—into mathematical facts (and no attempt has been made to do so up to this time), we shall have confusion in understanding the science of the production and distribution of wealth, and that natural laws must exist in this field as they exist in all other fields of science.

In a double-entry system of bookkeeping every item in the accounts must appear twice, once as a debit and once as a credit. In setting up a double-entry bookkeeping system of our national economy, that is, of the science of natural laws which is concerned with the production and the distribution of wealth, the annual value of the wealth produced in the United States would appear on one side, and how the value of that wealth is distributed to the factors which took part in its production on the other side. Those factors are land, labor, and capital. In other words on one side would be national wealth produced, and on the other side would be imputed rent to land, wages and salaries paid to labor, and the return to capital. Those are mathematical facts which are needed in our economics today.

It is possible that attempts to separate the production of national wealth into these three natural streams might involve mathematics of a higher order than are currently used in our accounting and statistical fields, but whether that is so or not, we would seem to be in a better position to make such estimates or computations than was Spahr when he made his original over-all estimates of "income of the people of the United States." For the first time in our history, we would then know the part which the first charge on the production of wealth, namely imputed economic rent, fills in our economics, and how the remaining wealth is divided between labor* and capital.

The redefinement of national income to represent the net production of national wealth, and gross national product to represent the gross production of national wealth are conceptual changes which would seem to be based on logic. They are also conceptual changes which emphasize the prime importance of understanding what wealth is, the concept of the first importance in understanding national economics today as it was in 1776 when Adam Smith was concerned about the problem which he characterized as the "wealth of nations."

The information which the researchers on income, whom we have carefully followed and whose concepts we have considered in this pamphlet, have been anxious to obtain has been the aggregate income of the people of the United States. According to the literature of the National Bureau of Economic Research, that was the objective of its first piece of research, not national income. That objective has been achieved with ever-increasing refinements and thoroughness from Spahr to the current tabulations of the Department of Commerce.

The fact that all that is so and that the dreams of Spahr and Streightoff have become realities, are all the more reasons why supplemental facts and tables should be developed to give comparative information concerning the gross and net annual production of "real" national wealth and how that wealth is distributed into the three streams into which all wealth flows.

* One must keep in mind that labor in the economic sense is all human energy, mental and physical, applied to land or its products, to produce things having exchange value. It includes the salaries of executives of corporations as well as wages of skilled and unskilled labor.

Then for the first time in the history of man, and generations after Adam Smith made his first approach to a science of the productions and the distributions of wealth, we would have basic facts which are essential to understand that science.

RATIOS FOR THE YEAR 1950

Tables on pages 42-53, give the fourteen important ratios with inter-quartile range † for 72 lines of business activity based on 1950 figures. The 72 lines of business activity consist of 36 divisions of manufacturing, 24 of wholesaling, and 12 of retailing. The business enterprises used in this study generally have a tangible net worth of $50,000, or more, that is, they come from the top 12 per cent of the industrial and commercial business concerns measured by the size of their investment.*

* *In the column which immediately follows the lines of business activity listed on pages 42-53 and 56-75, is given the number of concerns whose financial statements were studied for each particular line. For certain of the ratios, particularly "Total Debt to Tangible Net Worth," "Funded Debt to Net Working Capital," and the relationships derived by the use of Net Sales and Net Profits, the resultant ratios are based on the figures of a smaller number of concerns than the total listed for the respective lines of business activity. This is due to the fact that relatively few concerns have outstanding long-term liabilities, and because, in certain instances, the figures of net sales and net profits are not available.*

† EXPLANATION OF INTER-QUARTILE RANGE: *The median ratio of current assets to current debt of manufacturers of automobile parts and accessories is given as 2.73 on page 42. To obtain this figure the ratios of current assets to current debt for each of the 71 concerns were arranged in a graduated series with the largest at the top and the smallest at the bottom. The median ratio of 2.73 was the ratio halfway between the top and the bottom. The ratio of 3.90 representing the upper quartile was one-quarter of the way down the series from the top (or halfway between the top and the median). The ratio of 2.25 representing the lower quartile was one-quarter of the way up from the bottom (or halfway between the median and the bottom).*

(TABLES NOT REPRODUCED)

Explanation of Terms used in Tables on Pages 42-53, 56-75, 78-79

AVERAGE COLLECTION PERIOD: *The number of days that the total of trade accounts and notes receivable (including assigned accounts and discounted notes, if any), less reserves for bad debts, represents when compared with the annual net credit sales. Formula—divide the annual net credit sales by 365 days to obtain the average credit sales per day. Then divide the total of accounts and notes receivable (plus any discounted notes receivable) by the average credit sales per day to obtain the average collection period.*

CURRENT ASSETS: *Total of cash, accounts and notes receivable for the sale of merchandise in regular trade quarters less any reserves for bad debts, advances on merchandise, inventory less any reserves, listed securities not in excess of market, state and municipal bonds not in excess of market, and United States Government securities.*

CURRENT DEBT: *Total of all liabilities due within one year from statement date including current payments on serial notes, mortgages, debentures or other funded debts. This item also includes current reserves such as gross reserves for Federal income and excess profits taxes, and for contingencies set up for specific purposes, but does not include reserves for depreciation.*

FIXED ASSETS: *The sum of the cost value of land and the depreciated book values of buildings, leasehold improvements, fixtures, furniture, machinery, tools, and equipment.*

FUNDED DEBT: *Mortgages, bonds, debentures, serial notes or other obligations with a maturity of more than one year from the statement date.*

INVENTORY: *The sum of raw material, material in process, and finished merchandise. It does not include supplies.*

NET PROFITS: *Profit after full depreciation on buildings, machinery, equipment, furniture, fixtures and other assets of a fixed nature; after reserves for Federal income and excess profit taxes; after reduction in the value of inventory to cost or market, whichever lower; after charge-offs for bad debts; and after all miscellaneous reserves and adjustments; but before dividends or withdrawals.*

NET SALES: *The dollar volume of business transacted for 365 days net after deductions for returns, allowances, and discounts from gross sales.*

NET SALES TO INVENTORY: *The quotient obtained by dividing the annual net sales by the statement inventory. This quotient does not represent the actual physical turnover which would be determined by reducing the annual net sales to the cost of goods sold, and then dividing the resulting figure by the statement inventory.*

NET WORKING CAPITAL: *The excess of the current assets over the current debt.*

TANGIBLE NET WORTH: *The sum of all outstanding preferred or preference stocks (if any) and outstanding common stocks, surplus, and undivided profits, less any intangible item in the assets, such as good-will, trademarks, patents, copyrights, leaseholds, mailing lists, treasury stock, organization expenses, and underwriting discounts and expenses.*