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## NATIONAL INCOME AND NATIONAL WEALTH

6 September 1951

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## NATIONAL INCOME AND NATIONAL WEALTH

6 September 1951

COLONEL BARNES: There is a well-established and fairly growing, I think, practice amongst government economists to use an analysis of the national income as a tool or a guide in formulating the national economic policy. It is therefore important that we, early in the course, get an understanding of the concept of what constitutes national income and national wealth and the bearing that these two matters have on our national economy. That is the subject of the lecture this morning.

Sort of supplementing this subject you will also hear next week a talk by Dr. Paradiso of the Department of Commerce to explain specifically the use of economic indicators. Also, the subject is well covered in the assigned reading and in your collateral reference. Our speaker this morning is Dr. Andrew J. Kress, who is the head of the Department of Economics at Georgetown University, officially entitled Chairman of the Department. Dr. Kress also gives us at least a day a week part time at the college. It is with great pleasure that I introduce Dr. Kress to talk on this subject.

DR. KRESS: General Vanaman, gentlemen. Yesterday on this platform you heard Professor Stevens tell you how all good lecturing should be done and proceeded to do it. You noticed that within two or three moments he had you chuckling at something that he said, thereby establishing an accord between you and him, and yet he had not violated his own rule of not telling jokes. I have seen him do that two or three times. He does not always do it in the same way. He has remarkable change of pace; he really is a master in that art. How much of a master he is going to make out of you I don't know, but I have seen three or four butterflies come out of the cocoons here in public speaking in the last two or three years. As Dr. Reichley says, you will rant and rave as well as he in six months. I am the exception to that rule. I have been studying Dale Carnegie and the art of public speaking for 24 years. I will do all of the "don'ts" and none of the "do's". I hope you will indulge me then, this morning, by carrying away some memory of what I say rather than how I say it. I had the idea, in fact I made considerable effort along that line, to throw away my notes, but I decided that it would be better to use notes. The only consolation I have is that Stevens said, "You should never let anyone pick your topic for you." Colonel Barnes assigned my topic.

Our assignment today is to discuss "National Wealth and National Income" from 6 aspects: (1) the concepts of national income and national wealth; their usefulness in the study of the national economy; (2) the components of national income and their interrelationship; (3) national

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wealth and how it is measured; (4) the use of indexes in measuring trends in national income; (5) analysis of changes in national income components as a guide to the functioning of the economy; and (6) national income analysis as a tool in economic mobilization.

In this whole series of economic orientation lectures, we seek to recall to your mind certain concepts which will facilitate your study and review of the science of economics. National income and national wealth concepts hinge on great masses of statistics. The statistical method is one of the "approaches" to the study of economics; in fact it is the current, fashionable, and modern approach to the task of understanding the industrial world in which we live. It is the thing about which economists are lecturing each other and about which they seek to learn from each other.

I spoke of the "science of economics." To the economic mind, there is no doubt that the study of economics is a science—a social science, rather than a natural or laboratory science; but it is this very fact that makes the task of the economist so much more difficult. His laboratory is the whole wide world and his laboratory is peopled with all the human beings in that great wide world. But these human laboratory pieces have the power to say "no", to act in a manner contrary to that indicated by the known facts; to make plans, to be personally ambitious and to develop policies along strong nationalistic lines. All of these results tend to complicate the task of the economist, and that of all social scientists, but they do not relieve the economist of his task of understanding economic phenomena. If man can reduce economics to a science, if he can evaluate and understand current events in the economic world, then he just may discover ways to predict the economic future and possibly to control the economy, at least to some extent.

This attempt to reduce economics to a science began with Adam Smith and has not varied since that time, but methods used have changed. Smith and his followers used a system of inductive and deductive logic. The classicists were succeeded by the "historical" school, a group of Austrian and German scholars who sought to broaden out the classical inductive-deductive approach and to call upon the experience of many nations and many situations in an attempt to discover economic laws of universal application. The change here was in method and not in objective. The historical school was followed by the neoclassical approach, to be followed in turn by the welfare approach, by the institutional approach, by the Keynesian approach, and now by the mathematical-statistical approach. The mathematical-statistical approach digests mass statistics in an attempt to find patterns of economic behavior.

One, the concepts of national income and national wealth; their usefulness in the study of the national economy:

Only in the past decade or so have we enjoyed adequate statistical data on periodic changes in this all-important field. Here in the United

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States we get national income estimates from the Department of Commerce, a branch of the Federal Government; from the National Bureau of Economic Research, a nonprofit scientific institute; and from the National Industrial Conference Board, a research organization financed by business.

Prior to 1929 these statistical studies were made only by academic economists and economic foundations. Some partial exceptions, of course, were the Bureau of Labor Statistics and the Federal Reserve Board. In the 1930's the Congress asked the Administration to expand these statistical studies. Much of this work was concentrated in the Department of Commerce, with much of it also in the Department of Labor.

National income concepts and measurements provide a framework within which the current operations of the economy can be recorded. Essentially the national income accounts can be looked at as a system or classification that provides a descriptive and factual account of what was happening in the economy. National income accounts are built up from and summarize the operations of individual enterprises. An understanding of the nature of the individual enterprise accounts is necessary to a comprehension of the basis of national income accounts and measurements; a considerably detailed study.

National income concepts in recent years have proved useful in understanding and explaining what takes place in the economy. This development is not a greater refinement in the collection of statistics but represents a marked change in the manner in which the measurements and their relation to each other have been envisaged.

These statistical data have many everyday practical uses. They are used by:

1. The President--in presenting the facts in his economic reports to the Congress.
2. The Treasury Department--to estimate future tax receipts.
3. The Labor Department--to gauge wage payments and employment levels.
4. The Agriculture Department--(a) in studying the demand for agricultural products and (b) in studying the effect of farm aid programs.
5. Businessmen--to study the economic condition of the country, so that their operating decisions of today will have more relevance to the economic needs of tomorrow.

Two, the components of national income and their interrelationship:

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The United States Department of Commerce measures "national income" as the sum of the net earnings of labor and property arising from the current production of goods and services by the Nation's economy. It measures, therefore, the total factor cost of the goods and services produced by the economy. (Factor cost here means the cost of the factors of production: land, labor, capital, and entrepreneurial enterprise.) National income includes income-in-kind, as well as money income, but such receipts as relief payments, unemployment benefits, pensions, and capital gains are excluded since they do not represent earnings derived from current productive activity. The national income consists of compensation of employees, the net income of unincorporated businesses, corporate profits, net interest, and the rental income for individuals.

"Personal income" is the current income received by persons from all sources, including transfers from government and business, but excluding transfers among persons. Not only individuals (including owners of unincorporated enterprises) but nonprofit institutions and private trust and welfare funds are classified as persons. Personal income differs from national income by the inclusion of transfers (such as relief payments, pensions, and government interest disbursements) which are not in return for current productive services and by the exclusion of earnings which are not actually received by persons in the current period (social insurance contributions, undistributed corporate income and corporate income taxes).

"Disposable income" is the term applied to that part of income remaining after personal taxes are paid. Tax payment is a matter of compulsion but once the claims of the tax collector are satisfied the balance of income is available for personal disposal, for (a) consumption expenditures and (b) savings.

"Gross national product" (or expenditure) is the market value of goods and services produced by the Nation's economy, before deduction of depreciation charges and other allowances for business and institutional consumption of durable capital goods. Other business products used up by business in the account period are excluded; only final products, not intermediate products, are included. The gross national product consists of consumers' purchases of goods and services; the gross output of capital goods retained by private business, including the change in inventories; not foreign investment; and the goods and services purchased by governmental entities.

"Net national product" is equal to gross national product minus the depreciation of capital facilities. It is the net value of the commodities and services produced during the course of a year, that is, their value after allowing for the using up or depreciation of capital facilities during the year. Net national product less indirect business taxes equals national income.

"Net foreign investment" measures the net export of goods and services which are commercially financed. Exports financed by the United States government grants under the Foreign Assistance Act are counted as Federal purchases in the gross national product.

Having given you definitions for the terms, "gross national product," "net national product," "national income," "personal income," and "disposable income," let us turn now to table 1, page 6, for a detailed analysis of the items which are included in the total make-up of each of these concepts.

Let us turn now briefly to table 2, page 7. This table shows actual figures for the United States for nine selected years and the actual magnitudes involved under each of the concepts which we have defined: Gross national product, net national product, national income, personal income, disposable income, plus an additional item showing, in the last column, the percentage of disposable income which was put aside as net savings. This chart is introduced to give you some idea of the size and extent of the machinery required to gather and digest these statistics.

Table 3, page 8, shows national income by distributive shares. In this table I have shown the actual statistics for the national income (for 1950, 239 billion dollars) and the way this income was distributed, by shares, to various sections of the economy. Compensation of employees for 1950 totaled 153.3 billion dollars and was composed of wages and salaries paid out to private individuals, members of the military services, and civilian government workers, plus all supplements to wages and salaries. Proprietors' and rental income totaled 44 billion dollars and was paid out to three groups—business and professional groups, farm groups, and rental income to persons. Corporate profits and inventory valuation adjustment amounted to 36.2 billion dollars for 1950. It is broken down to show corporate profits before taxes, the amount of taxes for which it is liable, and the corporate profits remaining after taxes plus an item inventory valuation adjustment. Finally, the amount of net interest is shown as 5.4 billion dollars for 1950.

Table 4, page 9, holds more interest for me personally, as I can always find material for a study of business cycle changes more quickly in a discussion of amounts and changes in amounts spent for durable and nondurable goods and new factory investment. This table shows the make-up or expenditure of the gross national product. Gross national product for the year 1950 was 282.6 billion dollars. This money was expended in the following ways: Personal consumption took 193.6 billion dollars. It was spent on durable goods, nondurable goods, and services. (I have not given you the actual amounts spent under each of these subheads but they are readily available in Department of Commerce publications.) Gross private domestic investment absorbed 48.9 billion dollars and was divided among new construction, investment in producers' durable equipment, and for changes in business inventories.

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Table 1. National income concepts

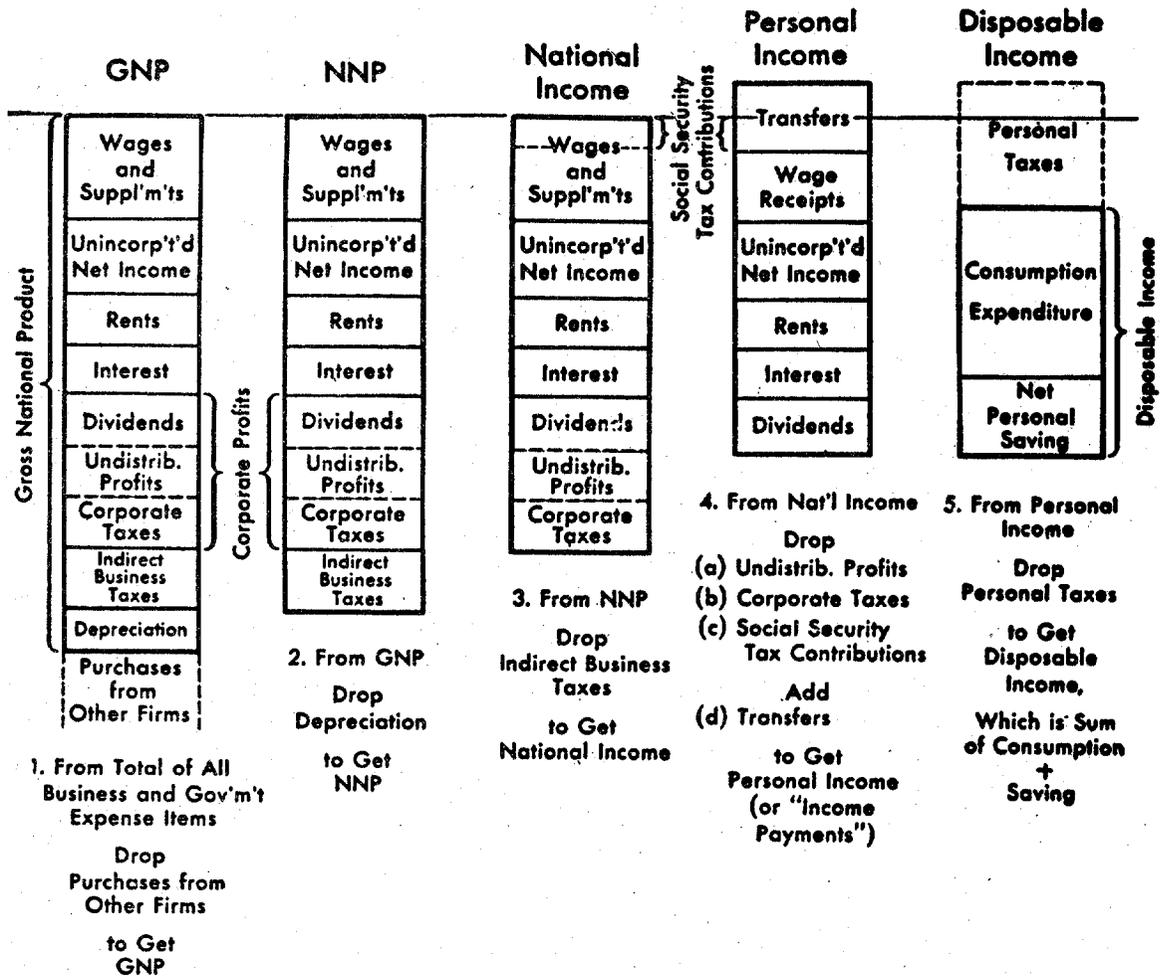


FIG. 7. This summarizes the relationships between gross national product, net national product, national income, personal income, and disposable income. (SOURCE: Department of Commerce revised concepts, adapted from Richard Ruggles, "Harvard Econ A Syllabus.")

From **ECONOMICS: An Introductory Analysis** by Paul A. Samuelson. Copyright, 1948. Courtesy of McGraw-Hill Book Co., pp. 242-44.

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Table 2. Income concepts, 1929-1950  
Selected years

(Billions of dollars)

Year	Gross national product	Net national product	National income	Personal income	Disposable income	Percentage of disposable income as net saving
1929	103.8	95.0	87.4	85.1	82.5	4.5
1933	55.8	48.5	39.6	46.6	45.2	-2.7
1939	91.3	83.2	72.5	72.6	70.2	3.8
1941	126.4	117.1	103.8	95.3	92.0	10.7
1946	211.1	198.9	180.3	177.7	158.9	7.6
1947	233.3	218.4	198.7	191.0	169.5	2.3
1948	259.1	241.7	223.5	209.5	188.4	5.8
1949	257.3	236.8	216.7	205.1	186.4	4.6
1950	282.6	257.9	239.0	224.7	204.3	5.2

Source: U. S. Department of Commerce, Survey of Current Business.

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Table 3. National income by distributive shares  
(Billions of dollars)

	1929	1933	1939	1941	1946	1947	1948	1949	1950
National income	87.4	39.6	72.5	103.8	180.3	198.7	223.5	216.7	239.0
Compensation of employees	50.8	29.3	47.8	64.3	117.1	128.0	140.2	139.9	153.3
Wages and salaries									
Private									
Military									
Government civilian									
Supplements to wages and salaries									
Proprietors' and rental income	19.7	7.2	14.7	20.8	42.0	42.4	47.3	41.4	44.0
Business and professional groups									
Farm									
Rental income of persons									
Corporate profits and inventory valuation adjustment	10.3	-2.0	5.8	14.6	18.3	24.7	31.7	30.5	36.2
Corporate profits before tax									
Corporate profits tax liability									
Corporate profits after tax									
Inventory valuation adjustment									
Net interest	6.5	5.0	4.2	4.1	2.9	3.5	4.3	4.9	5.4

Source: U. S. Department of Commerce, Survey of Current Business.

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Table 4. Gross national product or expenditure

(Billions of dollars)

	1929	1933	1939	1941	1946	1947	1948	1949	1950
Gross national product	103.8	55.8	91.3	126.4	211.1	233.3	259.0	257.3	282.6
Personal consumption expenditures	78.8	46.3	67.5	82.3	146.9	165.6	177.9	180.2	193.6
Durable goods									
Nondurable goods									
Services									
Gross private domestic investment	15.8	1.3	9.9	18.3	28.7	30.2	42.7	33.0	48.9
New construction									
Producers' durable equipment									
Change in business inventories									
Net foreign investment	0.8	0.2	0.9	1.1	4.6	8.9	1.9	0.5	-2.3
Government purchases of goods and services	8.5	8.0	13.1	24.7	30.9	28.6	36.6	43.6	42.5
Federal									
War									
Nonwar									
Less: Government sales									
Local and state									

Source: U. S. Department of Commerce, Survey of Current Business.

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National foreign investment was minus 2.3 billion dollars. Government purchases of goods and services accounted for 42.5 billion. Federal expenditures were for war and nonwar items, less government sales, and for the expenditures of local and state governments.

We come now to table 5, page 11, showing the relation of gross national product, national income, and personal income. As we have previously seen, "gross national product" for the year 1950 totaled 282.6 billion dollars. If we deduct from this sum capital consumption allowances, indirect business tax and related liabilities, business transfer payments, and a sum for statistical discrepancy (but add subsidies less current surplus of government enterprises), we have arrived at our national income figure. "National income" for 1950 was 239 billion dollars. If we deduct from this sum corporate profits and inventory valuation adjustment, contributions for social insurance, and excess of wage accruals over disbursements (but add government transfer payments, net interest paid by government, dividends, and business transfer payments) we are left with a sum that equals personal income. "Personal income" for the year 1950 amounted to 224.7 billion dollars. If we deduct personal taxes, Federal taxes, and local taxes we are left with the sum which represents disposable personal income. "Disposable personal income" less personal consumption expenditures leaves us with the final item of "personal saving."

You have noted that this discussion of national product, and its distribution, has lead us into many accounting and tax concepts, which tax concepts in turn have become surrounded with all sorts of accounting procedures. This is the day of the accountant in economics. Keep this statement in mind for a moment until we can introduce the concept of national wealth. It has occurred to many industrial economists that we should have not only a national operating statement for daily use in studying the economy but should also develop a national balance sheet, showing national wealth and national liabilities.

Three, national wealth and how it is measured:

The United States in connection with its various types and efforts at taking the census collected and published statistics on national wealth from 1850 to 1922. The concepts were limited and the statistics scanty. The breakdown was under three main heads: (a) real estate, plant, and equipment; (b) transportation and transmission enterprises; and (c) all others.

Under the first main head, "real estate, plant, and equipment," we find eight subheads, among which were real estate, farm implements, manufactures of machinery, and railroads.

Under the second main head, "transportation and transmission enterprises" (except railways), we find nine subheadings, among which were street railways, telegraph systems, pipelines, and privately owned waterworks.

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Table 5. Relation of gross national product,  
national income, and personal income

(Billions of dollars)

	1929	1933	1939	1941	1946	1947	1948	1949	1950
Gross national product	103.8	55.8	91.3	126.4	211.1	233.3	259.0	257.3	282.6
<u>Less</u>									
Capital consumption allowances									
Indirect business tax and related liabilities									
Business transfer payments									
Statistical discrepancy									
<u>Plus</u>									
Subsidies less current surplus of government enterprises									
<u>Equals</u>									
National income	87.4	39.6	72.5	103.8	180.3	198.7	223.7	216.7	239.0
<u>Less</u>									
Corporate profits and inventory valuation adjustment									
Contributions for social insurance									
Excess of wage accruals over disbursements									
<u>Plus</u>									
Government transfer payments									
Net interest paid by government									
Dividends									
Business transfer payments									
<u>Equals</u>									
Personal income	85.1	46.6	72.6	95.3	177.7	191.0	209.5	205.1	224.7
<u>Disposition of personal income</u>									
	1929	1933	1939	1941	1946	1947	1948	1949	1950
Personal income	85.1	46.6	72.6	95.3	177.7	191.0	209.5	205.1	224.7
<u>Less</u>									
Personal tax and related payments									
Federal taxes									
Local taxes									
<u>Equals</u>									
Disposable personal income	82.5	45.2	70.2	92.0	158.9	169.5	188.4	186.4	204.3
<u>Less</u>									
Personal consumption expenditures									
<u>Equals</u>									
Personal saving	3.7	-1.2	2.7	9.8	12.0	3.9	10.5	6.3	10.7

Source: U. S. Department of Commerce, Survey of Current Business.

N. B. From gross national product, drop capital consumption allowances to get net national product.

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Under the third main head, "all others," we find six subheadings, among which were agricultural products, manufactured products, mining products, clothing, and personal products.

The Statistical Abstract of the United States published an annual statistical series for many years under the title, "Progress of the United States." This series included sums showing the total bank deposits, estimated wealth, public debt, coinage of gold and silver, money in circulation, bank clearings, government disbursements, imports and exports, number of farms, the production of commodities, and even the total spent for wines and liquors.

These statistics of progress were discontinued in 1924. The decennial census of wealth, an official exhibit of the Nation's tangible assets, which was begun in 1850, was left uncompleted in 1932, and in 1942 was not attempted. These data would hardly be satisfactory for constructing a modern type balance sheet showing national assets and liabilities.

The National Bureau of Economic Research began a series of conferences on "Research in Income and Wealth" in 1937 but it was not until 1948 that an entire conference was devoted to a discussion of national wealth. Volume twelve of this series of studies is concerned with problems in the measurement of wealth and of wealth estimates for various sectors. Preceding studies had been devoted almost entirely to the study of national income and national income distribution, to the utter disregard of the second part of the title, "national wealth." Economists of the world were absorbed during the period between World Wars I and II with national income and its emphasis. During the twenties and the thirties, interest in national income studies was uppermost and displaced interest in national wealth measurements. During most of the nineteenth century it had been easier to get together a picture of national wealth than to produce a passable estimate of national income.

By 1946 individual industrial economists were pointing out the need for the United States to round out its system of national accounts of income and product by adding a consolidated statement of assets and liabilities. It was realized that if the accounting concepts and analogy to which we have become increasingly used in our national income studies was to have any validity, it should apply across-the-board to balance sheet and operating statement alike.

The 1948 discussions of the Bureau went a long way to blaze the trail in pointing out the need for modern data. Let me read over with you the headings proposed for these new balance sheets of assets and liabilities. You will see at once that great masses of new statistics will be required to make them actual. Applied economics bristles with questions on wealth and claims for which it would like answers. Holes in our theories of investment force a search for dependable quantitative relationships linking

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investment with existing capital assets, the flow of output and financial conditions. The 1948 discussions on national wealth recommended that statistics be gathered as to national asset holdings under 11 columns or headings: (1) credit institutions, private and Federal; (2) public utilities; (3) manufacturing and trade units; (4) mines; (5) other business; (6) farms; (7) foreigners; (8) private nonprofit institutions; (9) government groups; (10) noncorporation owners of rental residences; and (11) households. Each of these columns would be filled in for some 23 subitems. These include the amount of currency held, demand and time deposits, short-term and long-term claims, equities in noncorporation units, direct investments and claims due others, assets represented by residential buildings and other structures, roads and streets, machinery, rolling stock, livestock and consumer goods, assets consisting of land, subsoil assets, and collectors' items, with a final item of good will and related intangibles.

On the liability side of the ledger, called "claim and liability relations," data are to be gathered under practically the same column headings to show holders of short-term claims and liabilities, long-term claims and liabilities, and the amounts and types of stock issued. This is a complex set of statistical requirements and goes far beyond the earlier census efforts to estimate national wealth. (Tables 6 and 7, pages 14 and 15.)

Four, the use of indexes in measuring trends in national income:

Fortunately, I need to cover part four of the scope only in principle. You will have a lecture at the end of next week by Dr. Paradiso of the Department of Commerce on types, sources, uses, and the compilation of economic indicators. This morning I wish to point out the functions of an index and to name some of the better-known ones.

Economists like to use market prices as a yardstick to measure the value of goods and services. But price levels have a way of shifting. If money incomes remain the same from one year to the next, while prices double, real income is actually halved. To compare national income over a period of years, we correct money income by some standard of purchasing power. Perhaps the best-known such standard is the monthly consumers' price index, a weighted average of the prices of various cost-of-living items. If the index for 1939 as a base year is 100, then the 1951 index would be stated as some percentage of the base year. Real income then equals money income divided by the price index. By comparing money national income and real national income, we can spot inflation and deflation periods. The elimination of fictitious changes in the price level gives a measure of real income, measured in terms of dollars of constant purchasing power.

Statistics used by the Bureau of the Census on national income cover the period since 1929, but a continuous series starting with 1919

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Table 6. National balance sheet: Gross asset holdings

Type of asset or claim	Holders			
	1 Gross total (1-11)	2 Credit inst. Priv. Federal	3 Public utility	4 Mfg., Trade, etc.
I. Resume of Claims				
A. Assets for holders				
1. Currency				
2. Demand & time deposits	5		6	7
3. Other short term claims	Mines		Other Businesses	Farms
4. Long term claims				
5. Stock				
6. Prop. equity, noncorp. units		8		9
7. Direct investments abroad		Foreigners	Collectives	
8. Total above assets (1-7)			Private Nonprofit insts.	Public The rest of govt.
B. Liability and Property of holders				
9. Short term claims due others				
10. Long term claims due others			10	11
11. Prop. equity, corp. units			Noncorp owners of	Households
12. Prop. equity, noncorp. units				
13. Direct foreign investments in U. S.			rental	
14. Total claims and equities (9-13)			residences	
C. Net claims held (8 minus 14)				12
II. Reproducible assets in U. S.				Net total (9 plus 10 plus 11)
1. Residential buildings				
2. Other structures				
3. Roads and streets				
4. Machinery and equipment				
5. Rolling stock				
6. Inventory				
7. Livestock				
8. Consumer goods				
9. Monetary gold and silver				
10. Subtotal (1-9)				
III. Nonreproducible assets in U. S.				
1. Land				
2. Subsoil assets				
3. Collectors' items				
4. Subtotal (1-3)				See original source for omitted footnotes
IV. Goodwill and related intangibles				
V. Total assets other than claims (10 (II) plus 4 (III) plus IV)				

Source: Conference on Research in Income and Wealth--Studies, Vol. 12, National Bureau of Economic Research, 1948, p. 18. Quoted with permission, letter dated 24 August 1951.

Table 7. National balance sheet: Claim and liability relations

	Holders		
	1	2	3
Debtors and issuers	Gross total (1-10)	Credit insts. Priv.	Pub. Federal util.
I. Short term claims & liability of <u>a/</u>			
1. Credit institutions			
Private inst. <u>b/</u>	4	5	6
Fed. Govt. corps & credit insts.	Mfg., trade, etc.	Mines, etc.	Other Businesses
2. Public utilities			
3. Mfg. & trade			
4. Mining concerns			
5. Other obligors	7	8	9
6. Farms	Farms	Foreigners	Collectives
7. Foreigners			Private Nonprofit insts.
8. Collectives			Public The rest of govt.
Private nonprofit inst.			
The rest of govt.			
9. Households <u>c/</u>	10		11
10. Total	Households		Net total (9 plus 10)
II. Long term claims on & liability of			
1. Credit institutions			
Private institution <u>b/</u>			
Federal govt. corps. & credit agencies			
2. Public utilities			
3. Mfg. & trade			
4. Mining concerns			
5. Other obligors			
6. Farms			
7. Foreigners			
8. Collectives			
Private nonprofit inst.			
The rest of govt.			
9. Households <u>c/</u>			
10. Total			
III. Stock issued by			
1. Private credit inst. <u>b/</u>			
2. Public utilities			
3. Mfg. & trade corps.			
4. Mining corps.			
5. Other domestic corps.			
6. Foreign corps.			
7. Total			

a/ Including accrual items; excluding currency and deposits.

b/ See exhibit I, note 1.

c/ Does not include any business assets or liabilities of business sole proprietors.

Source: Conference on Research in Income and Wealth--Studies, vol. 12, National Bureau of Economic Research, 1948, p. 19.  
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has been obtained by estimates prepared under the direction of Professor Simon Kuznets of the National Bureau of Economic Research. Statistics of this type are often put on a per-capita basis to allow for population growth.

The Index of Industrial Production compiled by the Board of Governors of the Federal Reserve System has been widely employed for many years as an indicator of changes in business activity. Under the Department of Commerce we have various indexes, compiled monthly, which include publication since 1939 of figures on manufacturers' shipments, inventories, and orders; an index of transportation volume; the total sales of retail stores; figures covering production and sales of minerals; of agricultural products; and also the totals of sales of wholesalers. In addition the Department issues a biennial census of manufacturers (since 1921).

The Department of Labor gathers statistics covering wages, new construction, and the cost of living. The Department of Agriculture covers the production and sales of agricultural items.

These are only a few of the government indexes set forth to guide business. There are of course many more indexes prepared by private persons and by industry itself.

Five, analysis of change in national income components as a guide to the functioning of the economy:

A change in national income from one period to another is indicative of one of three things occurring in the economic system (or some combination thereof): (a) a change in price, resulting in changed earnings by some or all of the factors of production; (b) a change in the amount of labor and capital being utilized; or (c) a change in the efficiency with which these resources are being utilized. Thus, if the influence of price changes is removed from the national income, the resulting total is an all-inclusive measure of economic activity.

The Employment Act of 1946 is our most practical effort to date to use national income data and modern welfare state concepts in an attempt to control the economy of the United States. The President is required to submit several reports to each Congress describing the economic status of the Nation and to make such recommendations as are required. The Congress, after checking these recommendations through its own staff of economists, is in turn required by the Employment Act to enact such legislation as it deems necessary to influence the economy in the desired direction. This act represents the most direct effort to date to plan in a capitalistic economy.

Six, national income analysis as a tool in economic mobilization:

The merest glance at "The Midyear Economic Report of the President," transmitted to the Congress in July 1951, with its accompanying report of the Council of Economic Advisers on the "Economic Situation at Midyear 1951," indicates that both relied heavily on the indexes and statistics of national income distribution to arrive at their concepts of mobilization needs for the months that lie ahead. The Council's semiannual compilation of the Nation's Economic Budget would be mere guesswork without such data.

As Dr. Kuznets says, national income estimates like all social measurement will never be beyond criticism on the score of reliability or completeness of coverage, or beyond dispute as to the validity of underlying assumptions. But this is no reason for not using them now or for not continuing to work on their extension and improvement in the future. Despite all their imperfections, the estimates are indispensable for taking a broad view of the economy; and for testing, in the light of a record of the past and the immediate present, the ever-changing theories of economic behavior, diagnoses of economic problems, and pleas for economic reform. It is not unreasonably sanguine to hope that continuation, extension, and refinement of these estimates will assure an even greater contribution to a better understanding of economic life and to a more intelligent handling of the various problems that find their roots in the workings of the economy.

Thank you.

COLONEL BARNES: Andy is ready for your questions.

QUESTION: Dr. Kress, can you give us the position of the insurance companies in our national wealth and just how beneficiary payments are figured in the national income?

DR. KRESS: I believe they are not included in the national income, because those sums represent savings over many years and are part of savings year by year; they simply hold those assets until the contracts are fulfilled and then they pay them out.

QUESTION: In the first chart under gross national product, I didn't recognize any entry which dealt with the payments for natural resources, unless it would go under depreciation.

DR. KRESS: No, they would not be included there. They would only be included as the raw materials from which other products were made up. I think that is the answer, sir.

QUESTION: Which entry would that be under in that column?

DR. KRESS: It would be in the very first chart--column GNP.

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QUESTION: Yes, but which block would be payment for natural resources? If I have an oil well, I pay for the oil that comes out of the ground. Where does that show?

DR. KRESS: Corporation profits, and if you are an individual owner, unincorporated net income. The wages to the oil workers are of course in the first block; salaries to officers, and that sort of thing.

COLONEL BARNES: It would be partly in the dividends and partly in undistributed profits.

DR. KRESS: Yes; not in depreciation.

QUESTION: Is there any basic difference in accounting principles in the development of national income and national wealth between these methods of computing and the nominal accounting principles used for our individual income--individual balance sheets; corporate income--corporate balance sheets?

DR. KRESS: None at all. It is of course true that all accounting procedures and definitions are fairly new, since the 1916 Income Tax Amendment. They have settled down pretty rapidly since that time. In 1920 if the income tax accountants got to be good, the corporations hired them. That is all over. They have made up a set of rules. There is more argument over "depletion" allowances than over any other thing.

QUESTION: On your next to the last chart there you had net foreign investment minus 2.3 billion dollars. Does that mean that out of our national income 2.3 billion dollars went to a foreign country?

DR. KRESS: Yes, more imports than exports for that year.

QUESTION: In the case of the income column, does not the wages and rent figure duplicate something? For instance, a man with \$600 wages pays \$150 rent. Doesn't that double up?

DR. KRESS: No, that is the sum paid to landlords as rent. That is the income of the landlord. He may be living off that, you see.

QUESTION: There is no profit, in other words, in the income column there; in the case of the \$600 and \$150, does it show up there as \$600 or \$750? It seems to me it appears as \$750.

DR. KRESS: It will.

QUESTION: Isn't that sort of duplication of national income?

DR. KRESS: It is one of those things you can't avoid.

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QUESTION: On that 2.3 billion dollars minus, wouldn't that be applied against debts from other countries? For instance: We spoke about England, France, and Italy owing us money for the First and Second World Wars, when in fact they have never been able to pay us because their exports have never exceeded their imports. Money does not mean anything; it must be that way. Now at long last you say it is unheard of. I think these countries should start paying their debts.

DR. KRESS: They did, to the score of 2.3 billion dollars; the first time in 30 years that it happened.

QUESTION: This would be the only opportunity they had, the only way they could pay it?

DR. KRESS: That's right; net foreign investment, plus or minus. The only thing you can ship abroad is a product of some kind. So it does amount to the difference between what goes out and what comes in as to whether or not you have any net foreign investment.

QUESTION: I think we might mention the fact that these figures are not corrected for changes in the price level. I understand that recently this has been done. They have put out a series of gross national figures which are corrected for price; so actually when your chart shows 250 billion dollars for national income it does not necessarily mean 2.5 times as much in real value as when this figure was 100 billion.

DR. KRESS: That is right, although it is true that net national product and gross national product has very much increased over 30 years ago.

COLONEL BARNES: Do you have a sort of an over-all figure that you carry around in your mind as to what our national wealth does amount to in billions? Is it 400 billion, or 200 billion, or what?

DR. KRESS: We sidestepped that total a long while ago. It had no meaning. The national wealth census was incomplete in 1932; no figure in 1942.

COLONEL BARNES: Doesn't Congress have some kind of concept?

DR. KRESS: No; as far back as 1942 it was realized the concept had been lost track of during the thirties. Interested parties were so concerned with income concepts, they lost all interest in national wealth concepts.

QUESTION: Doctor, I would like to interpose a question as to what percentage of error we expect to find in these figures. I have noticed in this BLS monthly bulletin how some of the major manufacturers gauge their wages, and I think it is still listed as 200 percent of what it was in 1939, the base year. On the basis of everything I buy, I would

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say it is nearer three to one than two to one. How accurate is that figure at which they put it? I can't begin to fathom that.

DR. KRESS: I meant to point out a moment ago that wage increases are still somewhat ahead of price increases, though they are rapidly losing that lead. The cost-of-living index has been subject to a considerable amount of criticism. During the war years, the labor leaders tried to prove that it was no good whatsoever. I think the index has over 700 items in it. Items may move in opposite directions; one cancels out the other. The average doesn't move, although to the individual concerned only with price changes in a few items, it seems to move a great deal. In 1944 Phil Hauser, of the Census Bureau, headed up a statistical committee to study this index. Statisticians, as a group of professional men, went to work and came up with the conclusion that the index was sound and that it did show the cost-of-living changes. Labor was still not pleased and the matter was referred back to the committee. Again the committee reiterated its conclusion that the index was sound but, in view of current circumstances, recommended certain changes in the weights and items to be included. Those changes were put into effect and the name was changed somewhat. So the answer is, whether you accept it or not, that the index does reflect changes in the cost of living.

COLONEL BARNES: Isn't the over-all index published in a break-down of its component parts, with the index of each of those components shown, one being rent, one being food, one being clothing, and so on? So you could, Colonel, review each of the components to see what you were paying too much for and stop buying that.

COMMENT: In 1942 I was paying \$50 a month rent; now I pay \$200. That makes it completely out of line.

DR. KRESS: Rents were controlled for a long time. The landlords were penalized for a long time.

QUESTION: If what you said about national wealth is true, why is the concept of national wealth of any value?

DR. KRESS: I suppose the answer is that since we spend so much time on the operating statements, it is logical to round out the job and make up a balance sheet--which means, of course, the national wealth assets and liabilities. That machinery has not been set up. Businessmen hate to answer questions. If you ask them how much they are worth and how much common stock they have, they think you are getting ready to pass new tax laws.

COLONEL BARNES: Would it have any use in the analysis of national income as developed and in use today if we did have this balance sheet?

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DR. KRESS: It would, if we had it today. But during the thirties it didn't matter. It was then just a mythical detail.

COLONEL BARNES: It might make us all feel better about the national debt if we knew the total of national wealth which could be compared with it.

QUESTION: Doctor, you take the cost of a private in the Air Force or Army, or an able seaman in the Navy, today, and in 1939—figure his rations, the cost of his barracks, the cost of his uniforms, and add them up for both years and divide one by the other; you will not come out with that index figure they have in the book. I still can't make it mean much. Can you explain why it is not the same?

DR. KRESS: I'm afraid not unless I have your figures to compare.

COMMENT: The rations are the same; they are getting the same food; approximately the same number of uniforms.

DR. KRESS: The National Bureau of Economic Research, though, agrees with the Department of Commerce on the methods of computing these national income estimates. They don't have any suggestions for changing them.

COLONEL BARNES: I think Dr. Paradiso may be able to go into more details on that. That's right in his line, Colonel, and next week you bring that up when he is on the platform. I think everybody would be interested.

MR. BORIS YANE: Since I work in the section of the Labor Department concerned with the computation of the salaries-price index, which measures the cost of living, I might be able to throw a bit more light on the Colonel's question as to the adequacy of the index. The question of the national average doesn't mean anything. If he is thinking in terms of a particular locality or city; however, there was an accepted index covering 34 different states—large cities, scattered through the United States. So you can relate those figures to the particular area closest to the city and it gives you a better average. Naturally, we are concerned mostly with food items that we buy, and food has gone up a little more than the national average, so we get the impression that the total cost of living has gone up a lot more; at least, housewives do and most businessmen concerned with buying food. We get the impression it has gone up a lot more than it actually has; because some items, such as rent, have not gone up anywhere near as much. Consequently, that keeps the over-all figure down. The consumers' price index is now approximately 180, compared to the 100 base estimated as the average for the years 1935 to 1939. The reciprocal of the cost-of-living index would give you an approximation of the value of a dollar. If you take 180 and divide it into one, which is the accepted method of getting the reciprocal, you

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get the value of a dollar--approximately 55 cents, the current value of the dollar. I believe that is the point that Dr. Kress made before, about correcting the national income figures for changes in the value of the dollar. Captain Alexander also made that point. The consumers' price index is actually used for deflating the national income figures--or, in other words, for converting it to its purchasing power in any particular year. In this way they take the base year and keep it in terms of constant purchasing power.

QUESTION: If there is no relation between the national income and national wealth primarily because national wealth is unknown, is there any connection between the state of national income and our potential capabilities in economic mobilization, which include the resources of the country?

DR. KRESS: Well, only in certain parts of it. You would be concerned with how much oil was in the ground; how much copper, zinc, iron; how you could get it out. You would not be concerned about the house you live in, but in natural resources. Certainly, our economic potential as regards those items are important. We have plenty of statistics on those.

QUESTION: Those things are needed; but why did you need information on national income if national income is based on over-all--yet you are talking specifically about resources.

DR. KRESS: These things grow out of the studies of the great Lord Keynes, who tried during the thirties to develop a series of multipliers. He tried to find out how you spend your dollar. If he could find out exactly how you spend your dollar, he could find out how many dollars he would have to give you, to bring about needed changes in national income spending. His whole group of discussions remained on the theoretical side, but he fired the imaginations of statisticians everywhere. For example in 1929, we go back and see that certain income changes happened. Then in 1951, if you see those same changes happening again, you say, "Here comes 1929 again," and you inaugurate a system of public works and road building, in order to offset the unwanted changes. It is all in that delightful theoretical stage but we are spending a good many million dollars trying to record all changes in national spending. In the meantime, there have been World Wars I and II, the world's greatest depression, and now the world's greatest boom--all in 34 years. Our figures do not follow a similar pattern for any three years in a row.

QUESTION: They are not necessary in connection with mobilization of the country in wartime?

DR. KRESS: On the contrary, they have proved very useful. They were set up for peacetime uses, but they have been useful in many ways in mobilization planning to see what the country can do and will do.

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QUESTION: Wouldn't the national income analysis possibly give you very good factors as to when you should make your policy decisions on imposing controls, what areas controls would come in. Take national product for defense--where that would reach a point like 10, 15, or 20 percent, you should move into full control; so they would be fairly useful controls as a criterion for making your policies.

DR. KRESS: They have been. They have been used in many ways. You make up estimates on these things and wonder if the estimates will work out as you think they will work out. I have every respect for the politician. I think he has to be all things wise, wrapped into one. He is the policy maker. Much depends on his personal wisdom and the wisdom of his advisers. The economist has an easier role. He tells you that if you do this and this, this will happen; if you do not do this or that, something else will happen.

COLONEL BARNES: You point out that this analysis of the national income and the conclusions drawn from it are given to the Congress for its consideration?

DR. KRESS: It is up to them.

QUESTION: Would you be good enough to comment on the accuracy for seasonal variation? You say these figures are gross product and national product on a monthly basis, I think it is. The question in my mind is as to how accurate that figure would be. I believe some of the annual figures are not too accurate.

DR. KRESS: Sorry, I am not qualified to answer that. That is the statistician's field.

COLONEL BARNES: Andy, that's all we have time for. Thank you very much.

(26 Oct 1951--650)S.

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NATIONAL INCOME

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## SUMMARY

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1. National income may first be looked at from the standpoint of the costs of output payable as earnings to the factors of production. It is thus equal to the sum: wages and supplements to employees + net income of unincorporated enterprise + net interest and rents + net corporate profits.

2. Or we may look at net national product as a flow of goods and services evaluated and made comparable by the use of market prices. Hence, NNP can be split into consumption expenditure on goods and services + government expenditure on goods and services + net private investment (domestic and foreign).

3. To eliminate fictitious changes in the price level, money income must be deflated by some index of changing prices. This gives a measure of real income, measured in terms of dollars of constant purchasing power.

4. Pure transfer items and windfall capital gains must be excluded from national income. Also, we must be careful not to double-count intermediate along with final product. Instead, we must concentrate on the value-added approach which cancels out at every stage all purchases of intermediate goods by one firm from another.

5. Net product is correctly reached only after we have taken account of net capital formation or net investment. Private and public consumption will fall short of net national product if resources are being used to build up the community's stock of capital goods.

6. Gross national product, which includes gross rather than net investment, involves some deliberate double counting in comparison with net national product. Because of the difficulty of evaluating capital consumption or depreciation, GNP is often used instead of—or along with—NNP.

7. All indirect business taxes must be included in NNP if goods are to be evaluated at their market prices and cost to government. But indirect business taxes are not included in national income, since this concept is to represent factor earnings (before personal and corporate income taxes).

8. The problem of indirect business taxes should not be confused with the thornier problem of what part of government expenditure on goods and services is to be treated as intermediate services rendered to business. The statistician refuses to judge this question. Instead, he warns his readers that all goods and services purchased by government have been arbitrarily included in the NNP figures.

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## NATIONAL INCOME

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9. International trade introduces one new problem of definition. National income is defined as income accruing to all permanent residents of a country. To arrive at this, we cancel off in the international balance of payments all purchases and sales of goods and services until we arrive at a figure for net foreign investment (+ or -). This is added algebraically into investment and into national income.

There are many philosophical problems of defining national income. Once a definition has been agreed upon, the statistical estimates do not differ by a great deal, and the resulting data give a pretty good picture of changes over time. Therefore, the analysis of business cycles and unemployment, as discussed in Part Two, is enormously aided by the improvements in the national income data of the past decades.

