

NATIONAL INCOME DATA AND THEIR USE  
IN ECONOMIC ANALYSIS

1 September 1955

CONTENTS

	<u>Page</u>
SPEAKER--Dr. A. J. Kress, Member of the Faculty, ICAF....	1
GENERAL DISCUSSION.....	26

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1 September 1955

DR. KRESS: General Hollis and gentlemen: Today we are going to discuss national income data and their uses, and since we are talking about data, this becomes a technical discussion involving some treatment of statistics. I also hasten to add that I am not unaware that Mark Twain long ago found that there were liars, damn liars, and statisticians. I prefer my old mother's definition that figures don't lie; it's only that liars figure.

Now the set of tables that you have will come in handy throughout the year, especially those 2-1/2 pages of definitions. When you come to the Economic Potential Unit--some days away of course--you will find yourself using these ideas on an international basis. Last year, on the final problem, there was a great deal of discussion of the idea of gross national product.

We are going to adopt six topics for discussion here this morning.

I. National Income and Its Usefulness in the Study of the National Economy.

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, recorded in the forms in which they accrue to residents, inclusive of taxes on those earnings. These earnings of the factors of production--land, labor, and capital--take the form of wages, profits, interest, and rental income.

Now, both the economist and the statistician are interested in developing and using these national income data. The general economist--and I must plead guilty to being one--is interested in developing these national income patterns as a guide to the way the economy is going. In connection with any problem under study, the economist always wants to know "Why?"

The statistician is equally interested in these data, and he always wants to know "How?" He is always defining and redefining his definitions and his methodology as well. The general economist loses

interest after developing an overall concept and has little patience with the fine points of the statistical process. Since national income data rely so heavily for their development on the use of statistical and accounting procedures--procedures and practices which can become very technical and very tricky--you and I, as amateur economists, will do better to keep our discussion here on a nontechnical level. We will find the "why" answers and leave to the statisticians the "how" technicalities.

At a convention of social scientists some time ago I learned that a social scientist can be identified as a person who cannot restrain himself from attempting to answer any question put to him. I recognize this as one of the identities of my group, but I shall try to resist the temptation to look learned by rushing in to attack tough problems during the question period.

I might add that I hope my association with you in the last few days has not permitted you to decide that I am an expert, defining that word in its component parts, "ex," from the ancient Latin meaning "a has been" and "spurt" from the modern idiom "a drip under pressure."

In the last few days you have been hearing enough about whether or not economics is a science, and I shall not go into that point this morning, but I do want to point out that this mathematical-statistical approach is the latest method by which the economist has tried to get some science into his discipline, and for various reasons.

This mathematical-statistical approach attempts to digest huge masses of statistics. For what purpose? It seeks to identify economic patterns, patterns of prior and of current economic behavior, which patterns may be useful in economic forecasting. Tracing these patterns is also most useful in providing a clear picture or record of what we have already lived through.

If you can identify these patterns, if you can trace them, if you can understand them, you may know what action to take or to recommend in connection with further developing the trend or in further restricting it. Notice I say, "You may know." This mathematical-statistical method is still a young approach in the attempt to make a science of economics. But, in addition to that, you must still rely on human judgment as to what to do and when to do it. It is one thing for the economist to tell the authorities, "This is the situation. This and this is required," and something else to get them to pull the trigger.

On 9 June 1932, the United States Senate, by resolution, asked the Secretary of Commerce to report to it on or before 15 December 1933--giving him about 18 months--with two sets of estimates:

First, a set of estimates showing the total national income of the United States for the calendar years 1929, 1930, and 1931, as well as an indication of the portions derived from agriculture, from mining, from transportation, from manufacturing, and from other gainful industries and occupations.

Secondly, it wanted a group of estimates showing the distribution of this national income in the form of wages, rents, royalties, dividends, profits, and other types of payments. Thus was the United States given a national income accounting system. Some nations had such a system prior to this. The same data are now collected by the United Nations and published periodically for all members.

## II. National Wealth and How It Is Measured.

The concept of national wealth, as distinguished from national income, is always, for me, more or less static. We are all accustomed to value our possession as worth thus and so much, but we often get a rude awakening when we actually attempt to sell them, because we find that value-in-use and value-in-the-market-place are often of very different magnitudes. But the concept has some uses, perhaps at least as a measure of investment. We say that the United States Capitol Building is worth this or that sum when it is not for sale at all.

In 1806 Samuel Blodgett published a little book called "Economics, A Statistical Manual for the United States." It contained two sets of wealth estimates--an estimate of the value of real estate, and an estimate of the value of personal property.

In 1850 the Bureau of the Census became interested in this problem and continued its interest until 1922. It published, in the Statistical Abstract of the United States, about two years after each decennial census, an estimate of the national wealth, using three categories: real estate, personal property, and stocks of consumer goods. For 1932 this study was left uncompleted following the 1930 census; and it was not even attempted following the 1940 decennial census.

More recently, the National Bureau of Economic Research, a nonprofit scientific institute, and reliable for purposes of this kind, became interested in this problem. It published a study giving the estimates of national wealth for each year from 1896 through 1948. This study is more elaborate, and covers values for six wealth components: residential structures; private nonresidential structures; government structures; land; equipment; and inventories.

For 1948 the bureau found the estimated wealth of the United States to be 800 billion dollars, without allowances for the values of worth of military assets, for consumers' semidurables, for consumer perishables, for subsoil assets, or for collectors' items. (As military people you will be interested in their allowance for military items. If you want to add them into the national wealth at their cost value, add 10 percent. If you want to add them in at what you could get for them, add one percent.)

Now, from 1896 to 1928 the national wealth of the United States doubled, rising a little more than 2 percent per year. From 1928 to 1944, a depression and war period, it increased very little, and most of the increase, three-fourths of it, was accounted for by the construction of new government buildings. From 1944 to 1955, of course, there has been a sharp increase in production volume, particularly of producers' durable equipment and consumers' durable goods. The national wealth, then, of the United States has long since passed, 1,000 billion dollars. (Now, in England, that is not a trillion; in the United States, it is.) Those figures are for 1948. I have recently tried--perhaps not hard enough--to find more modern estimates but I have not found them.

### III. Components of National Income and Their Interrelationships.

First, a definition for gross national product. GNP, to use a shorter term, is the market value--note that, the market value--of goods and services actually produced and before the deduction of depreciation charges.

We can approach this concept from two sides: First, we can use a so-called "product" approach, that is we state the market values as the sums paid out for the products themselves--the expenditures for consumer goods and services, the expenditures for goods and services purchased by the Government, plus the sum of gross private domestic investment and net foreign investment.

Gross private domestic investment includes newly produced capital goods by the value of the change in the volume of inventories and the value of new dwellings, including those which are owner occupied.

Net foreign Investment is the net change in international assets and liabilities growing out of foreign trade. It includes goods, gold, services, gifts, and contributions.

Now we can state the GNP in another way, using the income approach. In this case, GNP is the total sum paid out as income to various recipients. Thus it includes wages and supplements; unincorporated net income--which simply means the incomes of small businessmen, of farmers, and of professional men--rents, interest, corporate profits, and indirect business taxes.

Three of these terms merit a definition.

Supplements to wages and salaries, include employer contributions for social insurance; contributions to pension and welfare funds; for injury compensation; for directors' fees; and the pay of the military reserve.

Rents include imputed sums to cover the net rental value of owner-occupied homes.

Net interest includes imputed sums retained by life insurance companies and by mutual financial intermediaries.

Chart 1, page 6, is a pictograph of national income concepts, using the income distribution approach. From this graph we can develop the five national income approach concepts or terms.

The first column shows the items that go to make up the gross national product. They include wages and supplements; unincorporated net income; rents; interest; corporation earnings in the form of dividends, undistributed profits and taxes; indirect business taxes; and an allowance for depreciation.

At the foot of the column, encompassed in a broken line, are the words "Purchases from Other Firms"--which must be deducted. Double counting--the fear of counting the value of the same thing more than once--is the bugaboo of the national income accountant. We must avoid counting in the value of the same thing twice.



An example: A farmer sells wheat to a flour manufacturer. The cost of the wheat is counted, once. To this cost is added only the additional value caused by the flour manufacturer's turning the wheat into flour. The value of the wheat is not added the second time. The same process holds for the baker, the wholesaler, and the retailer. Finally, when the cost of the loaf of bread is added up, it is 14, 15, or 16 cents, without the cost of wheat having been added in several times. The same thing would be true of the raw steel in an automobile.

The second bar on the chart is labelled "NNP," net national product. You will notice the column is composed of the same items, except the item of depreciation at the bottom, which has been eliminated. Depreciation is the amount of the national product that must be set aside each year to replace the current consumption of durable capital goods. A part of the product is retained as capital replacement. So gross national product, less depreciation, equals net national product. The rest of the items included are the same. (I might add that depreciation includes the depreciation charges against owner-occupied homes.)

Under the next column, you proceed in much the same way. From net national product, drop indirect business taxes to measure national income. Now, business taxes are "costs" of a kind. They include all sales taxes, some excises, and some real estate taxes. While they represent costs to business, they are not income to receivers.

What about personal income? We carry the same items across, except to drop undistributed corporate profits, because they are not distributed as income. We also drop corporate taxes, because the Government gets them; income receivers do not. We retain corporate dividends, since they are distributed as income to individuals. Finally, we also deduct the amounts taken out of wages of individuals as social security contributions.

But we also add something extra to get personal income totals. You will notice the personal income bar extends upward, above the height level of the others. This is because extra or added transfer payments are included. These are social security payments to individuals, pension payments, and even gifts. These sums may not have been earned in the year in which they are being distributed, but they do increase the personal income total over that indicated by the annual gross national product.

Finally, we come to the last column, which is labelled "Disposable Income." After personal taxes are taken away, you save some and spend the rest. Personal consumption expenditures include not only the market value of goods and services purchased, but also income in kind--an imputed value for food, clothing, housing, and financial services furnished. Disposable income includes the rental value of owner-occupied houses, but does not include purchases of new dwellings, which are classified as capital goods.

You will notice that this chart is taken from "Economics: An Introductory Analysis" by Paul Samuelson, one of your collateral reading texts. You may say: "It is all very well for economists to put a pretty drawing into a theoretical textbook, but what is its practical application?" Let us see.

Chart 2, page 9, illustrates these national income concepts statistically. This is the very same chart that we just saw, actually using United States Department of Commerce statistics for 1954. These columns are chopped off at the top, as items are eliminated from column to column.

Under the first column--Gross National Product--the first item is Capital Consumption Allowances (depreciation and economic obsolescence) 29.3 billion dollars for the year 1954. That was the last item in the column on the other chart. We deduct it from column 2, and are left with Net National Product. Deduct 30.3 billion dollars for indirect business taxes and add business transfer payments, and we are left with National Income. (Now a statistical discrepancy sometimes arises out of the difference of the two methods of computing gross national product. The products method used the sums paid out for the products; the other way, we counted income received by people for making those products. The two methods should check, one on the other; and should balance out. Of course, if they don't, you just put in that little item for "statistical discrepancy.")

Personal income for 1954 was 286.5 billion dollars. Personal taxes took 33.0 billion dollars, leaving disposable income of 253.5 billion dollars. Personal consumption expenditures, the line across the bottom, were 234.0 billion dollars; so we saved 19.5 billion dollars for that year.

We see, then, that somebody is working very hard at collecting and keeping these statistics, day after day. You can just imagine the

## CHART 2

RELATION OF GROSS NATIONAL PRODUCT, NATIONAL INCOME AND PERSONAL INCOME,

U. S. 1954  
(billions of dollars)

	<u>GROSS NATIONAL PRODUCT</u>	<u>NET NATIONAL PRODUCT</u> (GNP less <u>Depreciation</u> )	<u>NATIONAL INCOME</u> (NNP less Indirect Bus. <u>Taxes &amp; Transf.</u> )	<u>PERSONAL INCOME</u> (NI less Undistr. <u>Profits &amp; C. Taxes</u> )
Capital Consumption Allowances (Depreciation & Econ. Obsolescence)	29.3			
Indirect Business Taxes	30.3	30.3		
Business Transfer Payments	1.0	1.0		
Statistical Discrepancy	-3.7	-3.7		
Corporate Profits and Inven- tory Valuation Adjustment	34.9	34.9	34.9	
Corp. Taxes	17.2			
Undist. Profits	8.0			
Dividends	9.9			9.9
Inv.Val.Adjmt.	<u>-2</u>			
	34.9			
Interest	9.1	9.1	9.1	9.1
Rents	10.9	10.9	10.9	10.9
Unincorporated Net Income (Business-Professional-Farm)	37.8	37.8	37.8	37.8
Wages and Supplements	207.3	207.3	207.3	207.3
			<u>Plus</u> Govt. Transf. Pmts. 14.8	
			Net Int. paid by Govt 5.3	
			Bus. Transf. Pmts. 1.0	
			<u>Less</u> Social Secur. Pmts. 9.7	
<u>TOTAL</u>	357.2	327.9	300.0	286.5
Personal Income, 286.5, less Personal Taxes, 33.0, equals <u>Disposable Income</u> , 253.5				
Disposable Income, 253.5, less Personal Savings, 19.5, equals <u>Personal Consumption Expenditures</u> , 234.0				

(Source: Department of Commerce, Survey of Current Business, February 1955.)  
(Revised totals in the July issue)

Discrepancies in addition are due to rounding up.

number of clerks, statisticians, and the amount of equipment it takes to gather these data throughout the country and to keep track of them, largely in the Department of Commerce.

Previously, some thought the gathering of these data represented a luxury service, and that we were not to be criticized too strongly, as a Nation, for not having provided national income data before 1932. Yesterday's luxuries are today's necessities. At a congressional hearing on 13 July 1954, users of these statistics appeared to testify wherein they were useful and in what ways they could be improved. There were representatives of the economic foundations, the automobile industry, the packing industry, representatives of labor, of finance, of state and local governments, construction, retail trade, and of the teaching professions. Everyone had a representative there. In general, what did they want? They wanted additional statistical material and they wanted this material to come through a little bit faster. But not one of them suggested that we do away with any portion of it.

Now if you will turn to Chart 3, page 11, we will select some of the items that were in the other and look at them a little bit more carefully.

Chart 3 shows the breakdown of expenditures under the main subgroups. Personal consumption expenditures of 234.0 billion dollars went for durable goods, nondurable goods, and services.

Gross private domestic investment of 46.1 billion dollars was divided between 27.6 billion dollars for new construction and 22.2 billion dollars for producers' durable equipment. Since there was a recession at that time, part of the year 1954 and beginning in 1953, inventories were written down by 3.8 billion dollars.

Net foreign investment shows a minus of .4 billion dollars. This simply means that more gold, goods, and gifts went out of the country than came in.

Government purchases of goods and services of 77.5 billion dollars were divided between Federal expenditures of 50.0 billion dollars, and state and local government expenditures of 27.5 billion dollars.

Next, Chart 4, page 12, repeats information already shown but in a more detailed fashion. You may just study it for yourselves--

CHART 3GROSS NATIONAL PRODUCT OR EXPENDITURE, 1954

(billions of dollars)

Personal Consumption Expenditures, (234.0)	
Durable Goods	28.9
Non-durable Goods	120.5
Services	84.6
Gross Private Domestic Investment, (46.1)	
New Construction:	
Residential Non-farm	13.3
Other	14.3
Producers' Durable Equipment	22.2
Less Total Change in Business Inventory	-3.7
(Non-farm Only, -3.8)	
Net Foreign Investment	-0.4
Government Purchases of Goods and Services, (77.5)	
Federal:	
National Security:	
National Defense	42.1
Other National Security	1.4
Other:	6.7
Less Government Sales	.3
State and Local:	27.5
GROSS NATIONAL PRODUCT	357.2

Source: U. S. Department of Commerce, Survey of Current Business,  
February 1955. (Revised totals in July issue.)

Discrepancies in addition are due to rounding up.

CHART 4NATIONAL INCOME OF THE UNITED STATES BY DISTRIBUTIVE SHARES, 1954

(billions of dollars)

Compensation of Employees		
Wages and Salaries:		
Private	161.9	
Military	9.6	
Government Civilian	24.1	
Supplements (Largely Social Security and Pension Contributions)	11.7	207.3
Unincorporated Enterprises		
Business and Professional	25.9	
Farm	11.9	37.8
Rental Income of Persons		10.9
Corporate Profits and Inventory Adjustments:		
Corporate Profits Tax Liability	17.2	
Corporate Profits After Taxes	17.8	34.9
Corporate Dividends	9.9	
Undistributed Profits	8.0	
Inventory Adjustment	-.2	
Net Interest		<u>9.1</u>
NATIONAL INCOME		300.0

Source: U. S. Department of Commerce, Survey of Current Business, February 1955. (Revised totals in July issue)

Discrepancies in addition are due to rounding up.

a little later of course. Military wages and salaries are shown, as well as government civilian wages and salaries. (I point that out because for some years military wages are not separated out. Why, I don't know.)

You are naturally interested in historical statistics for comparison purposes. Two charts may be helpful. They are Charts 5 and 6, pages 14 and 15.

Both of these charts illustrate our income data concepts for a series of years--1929, 1933, 1947, 1952, and 1954. These years were selected for definite reasons: 1929 was our best year up to that date; 1933 was a very bad year; 1947, a postwar year; and the two current years, both quite good. Each total represents current values at prices prevailing for that year. We had personal income in 1929 of 85.8 billion dollars. It dropped to 47.2 billion in 1933, but price levels were much lower. By 1947 we were at 190.5 billion dollars, and last year enjoyed 286.5 billion dollars.

#### IV. Use of Indexes in Measuring Trends in National Income.

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 must correct money income by some standard of purchasing power.

I have Chart 7 here which illustrates the problem.

CHART 7

#### INDEX NUMBER CONSTRUCTION

Commodity	1900		1901	
	Base Price (dollars)	100	Price (dollars)	Percentage to base
Iron	15 ton	100	20.00	133
Wheat	1 bushel	100	1.25	125
Cotton	.10 lb.	100	.10	100
Wool	.40 lb.	100	.36	90
Total		400		448
Average (arithmetic mean)		100		112

CHART 5DISPOSITION OF PERSONAL INCOME - SELECTED YEARS

(billions of dollars)

	1929	1933	1947	1952	1954
PERSONAL INCOME	85.8	47.2	190.5	271.2	286.5
DISPOSABLE INCOME	83.1	45.7	169.0	236.9	234.0
PERSONAL SAVINGS	4.2	-.648	4.0	18.4	19.5

Source: U. S. Department of Commerce, National Income, 1954, and Survey of Current Business, February 1955.

CHART 6RELATION OF GROSS NATIONAL PRODUCT, NATIONAL INCOME, AND PERSONALINCOME - SELECTED YEARS

(billions of dollars)

	1929	1933	1947	1952	1954
GROSS NATIONAL PRODUCT	104.4	56.0	232.2	346.1	357.2
NATIONAL INCOME	87.8	40.1	197.2	291.0	300.0
PERSONAL INCOME	85.8	47.2	190.5	271.2	286.5

Source: U. S. Department of Commerce, National Income, 1954, and Survey of Current Business, February 1955.

This chart illustrates index number construction. 1900 prices are the base, and 1901 prices are stated as a relative of the base. Iron sold for 15 dollars per ton in 1900 and for 20 dollars in 1901, a rise of 33 percent. Wool prices declined in 1901, the last time shown, giving us a price relative of 90.

Now perhaps the best-known such standard is the monthly Consumers Price Index, a weighted-average index number issued by the Bureau of Labor Statistics. It covers various cost-of-living items. The combined index of consumer prices for the years 1947-49 is taken as the base year. The current price index is 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 periods 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.

Constant-dollar price index series for any considerable number of years are hard to find. Samuelson has constructed such a constant-dollar index for the United States since 1770. He uses it to illustrate price trends in war periods. You will find it on page 284 of the first edition of his book. You also have it as one of the visual aids in the conference rooms.

I have constructed a table--Chart 8, page 17--showing GNP in current and in constant dollars using three different years as a base or index of constant dollar measurement. The table shows GNP in current dollars for five-year periods from 1910; it measures GNP for the same periods in constant 1939 dollars, in constant 1947 dollars and in constant 1954 dollars. Now you will notice there are some gaps in these statistics. I had hard work picking up some of that information and putting it together. (There are some interpretative notes at the bottom of the table which will be more meaningful after you have a chance to study the statistics. Not just now, I hasten to add.)

#### V. Analysis of Changes in National Income Components.

We have previously noted that the first step in the development and use of national income data came in 1932, when the Senate asked the Secretary of Commerce to gather and furnish national income data estimates. The second step came in 1946, when the Nation decided to make further use of such data. You will remember that in the '30's we got

CHART 8GROSS NATIONAL PRODUCT IN CURRENT AND CONSTANT VALUE DOLLARS

(selected years - billions of dollars)

<u>YEAR</u>	<u>GNP Current Dollars</u>	<u>GNP 1939 Dollars</u>	<u>GNP 1947 Dollars</u>	<u>GNP 1954 Dollars</u>
1910	36.7	46.2		100.0
1915	42.1	49.8		112.0
1920	85.0	55.7		123.0
1925	88.0	71.3		155.0
1930	91.1	78.1	135.2	164.3
1935	72.5	73.9	127.8	153.0
1940	100.6	100.0	171.6	205.9
1945	213.5	153.4	263.1	311.8
1950	285.1	154.3	264.7	318.5
1953	364.9	-----	306.6	368.5
1954	357.2	-----	297.0	357.2

Source: *Varia*

Notes: Between 1929 and 1950:

- (a) Prices increased more than 50%.
- (b) Physical volume of output increased 80%, (Consumers received 2/3; Government took 1/5; and investment required 1/7.)
- (c) Real output per capita increased 44%, (Population and work force increased roughly by 1/4 each).
- (d) Rate of expansion in real volume of output averaged 2 3/4% yearly.
- (e) Government purchases of goods and services absorbed 8% of GNP in 1929 and 15% in 1950. In constant 1939 dollars, the percentage going to Government increased from 9% to 13%.

used to considering such topics as "economic maturity" and "economic stagnation." There was also the postwar question as to whether we would sink back into economic stagnation following the close of World War II.

To avoid that in whatever ways possible, Congress passed the Employment Act of 1946, approved in February. It is popularly known as the "full" employment act, since one of its objectives is to determine who has employment and who needs it. The stated purposes of the act are: (1) to foster and promote free competitive enterprise, and general welfare conditions, under which there will be afforded useful employment opportunities; and, (2) to promote maximum employment, production, and purchasing power.

To accomplish this purpose, the President of the United States is required to send to Congress, within 60 days after the beginning of each regular session, commencing in 1947, an economic report. This report is called "The Economic Report of the President." This happens to be the latest (exhibiting copy).

The Report of the President must tell the Congress four things:

1. The levels of employment, production, and purchasing power obtaining in the United States, and such levels as are needed to carry out the policy declared in Section 2 of the Act.

2. Current and foreseeable trends in the levels of employment; production, and purchasing power.

3. A review of the economic program of the Federal Government and a review of economic conditions in the United States, as well as their effect upon employment, production, and purchasing power.

4. Finally, a program for carrying out the policy declared in Section 2, together with such recommendations for legislation as the President may deem desirable or necessary.

How does the President accomplish these tasks? He makes a report, with the assistance of the Council of Economic Advisers. The President's report is received by the Congress and turned over to the Joint Committee on the Economic Report. The Joint Committee is a congressional committee, composed of seven members from each House. This Joint Committee has its own economic staff, and they

check up on the President's economic staff to see if they all come to the same conclusion. This staff also makes a continuing study of the same matters treated in the President's Report.

By 1 May the Joint Congressional Committee must file its own report on the President's recommendations as a further guide to required legislation. Legislation may be designed to augment apparent trends or it may attempt to offset such trends.

The Council of Economic Advisers works up a yearly table, Chart 9, page 20, previously known as "The Nation's Economic Account" and now called "The Nation's Income, Expenditure Saving." The same information appears monthly in graphic form as the first chart in "Economic Indicators." The table shows an accounting of both receipts and expenditures by economic groups. We are interested here only in the type of items included in this balance sheet rather than the actual statistics.

We see the consumers' groups had receipts of 253.6 billion dollars, but expenditures of only 234.0 billion dollars, resulting in an overage or savings of 19.6 billion dollars.

The business groups show retained receipts from current production of only 37.3 billion dollars, but actual expenditures of 46.1 billion dollars. The balance of 9 billion dollars had to be borrowed from somewhere, but largely from savings.

Now, I do not need to rehearse this entire chart with you. I want only to point out that it is a balance sheet. The totals of the two columns covering receipts and expenditures must be the same; they must match. When they do not, there is added the little item for "Statistical Discrepancy."

Each of these monthly graphs and each annual chart on the Nation's economic accounts is regarded as a photograph of the prevailing, current national economic pattern. Each of these pictures is a photographic "still;" not a movie or continuous picture. Each gives a recorded "glimpse" of the economy as it was on a certain day in each period.

Over a period of years this stock of economic photographs provides a recorded series of actually existing patterns, economic patterns, tracing the ups and downs of business and finance. If a former pattern, which had been followed by poor economic circumstances, is seen to

CHART 9

THE NATION'S INCOME, EXPENDITURE, AND SAVING, 1954

(billions of dollars)

ECONOMIC GROUP	RECEIPTS	EXPENDI- TURES	EXCESS OF RECEIPTS OR EXPENDITURES
<b>CONSUMERS</b>			
Disposable Personal Income	253.6		
Personal Consumption Expenditures		234.0	
Personal Net Savings (plus)			19.6
<b>BUSINESS</b>			
Retained Receipts, Current Production	37.3		
Gross Private Domestic Investments		46.1	
Excess of Investment (minus)			-9.0
<b>INTERNATIONAL</b>			
Net Foreign Investment		-0.6	
Excess of Receipts, (plus) or Investment, (minus)			.6
<b>GOVERNMENT (Federal, State, and Local)</b>			
Tax and Non-tax Receipts or Accruals	90.1		
Less Transfers, Interest and Subsidies, (net)	<u>19.9</u>		
Net Receipts	70.2		
Total Government Expenditures	97.4		
Less Transfers, Interest and Subsidies, (net)	<u>19.9</u>		
Purchases of Goods and Services		77.5	
Surplus, (plus), or Deficit, (minus) on income and product account			-7.3
<b>STATISTICAL DISCREPANCY</b>			
			-4.0
Gross National Product	<u>357.1</u>	<u>357.1</u>	

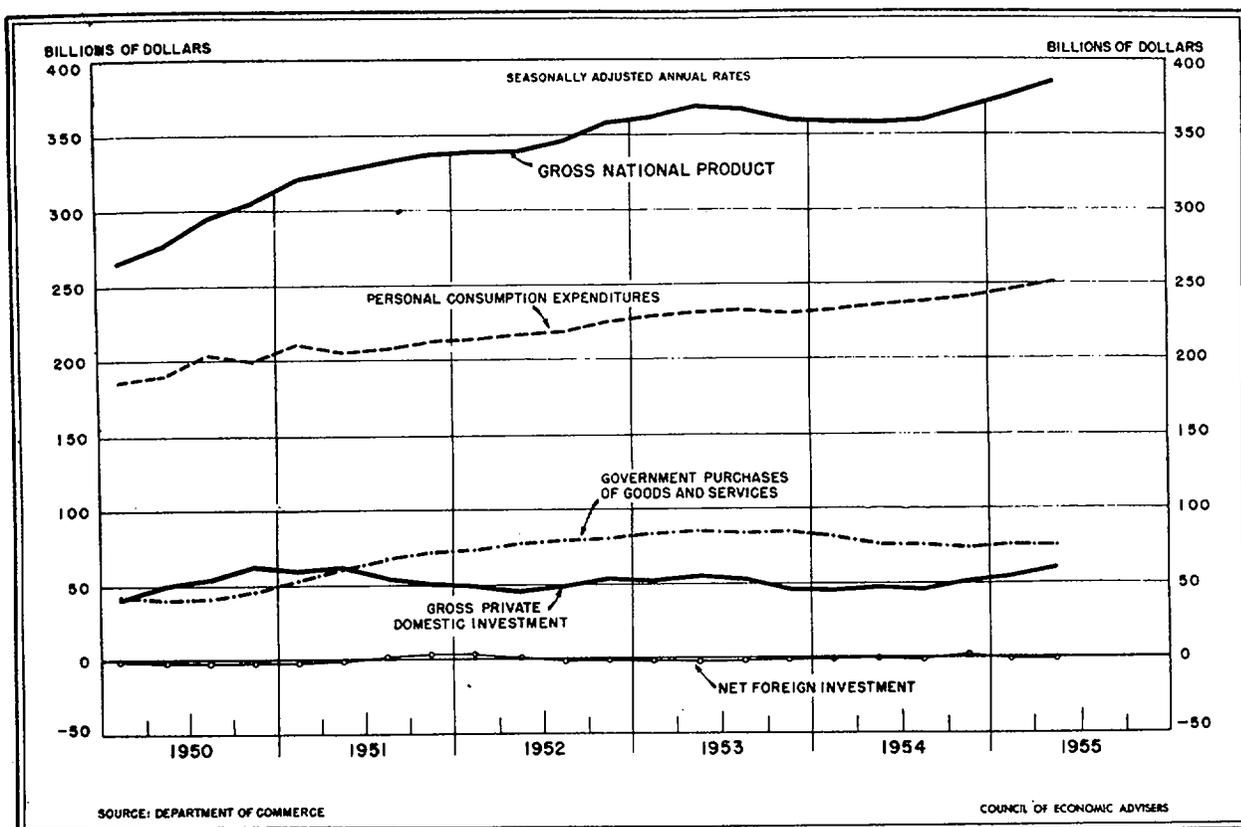
Source: Midyear Economic Report of the President, January 1955.

be recurring, perhaps the Congress can do something in the way of legislation to alter the pattern.

All of the charts in the monthly Economic Indicator Series are designed to show economic trends. Our interest this morning is only in those charts which deal with national income because our speaker yesterday treated the balance so nicely. Let us look at a couple of examples to see if we can interpret them.

## GROSS NATIONAL PRODUCT OR EXPENDITURE

The gross national product rose substantially in the second quarter to a new record high of about \$385 billion (seasonally adjusted annual rate), according to current estimates. Increases of about \$5 billion in personal consumption expenditures and \$6 billion in gross private domestic investment were partially offset by a \$1 billion decline in government purchases.



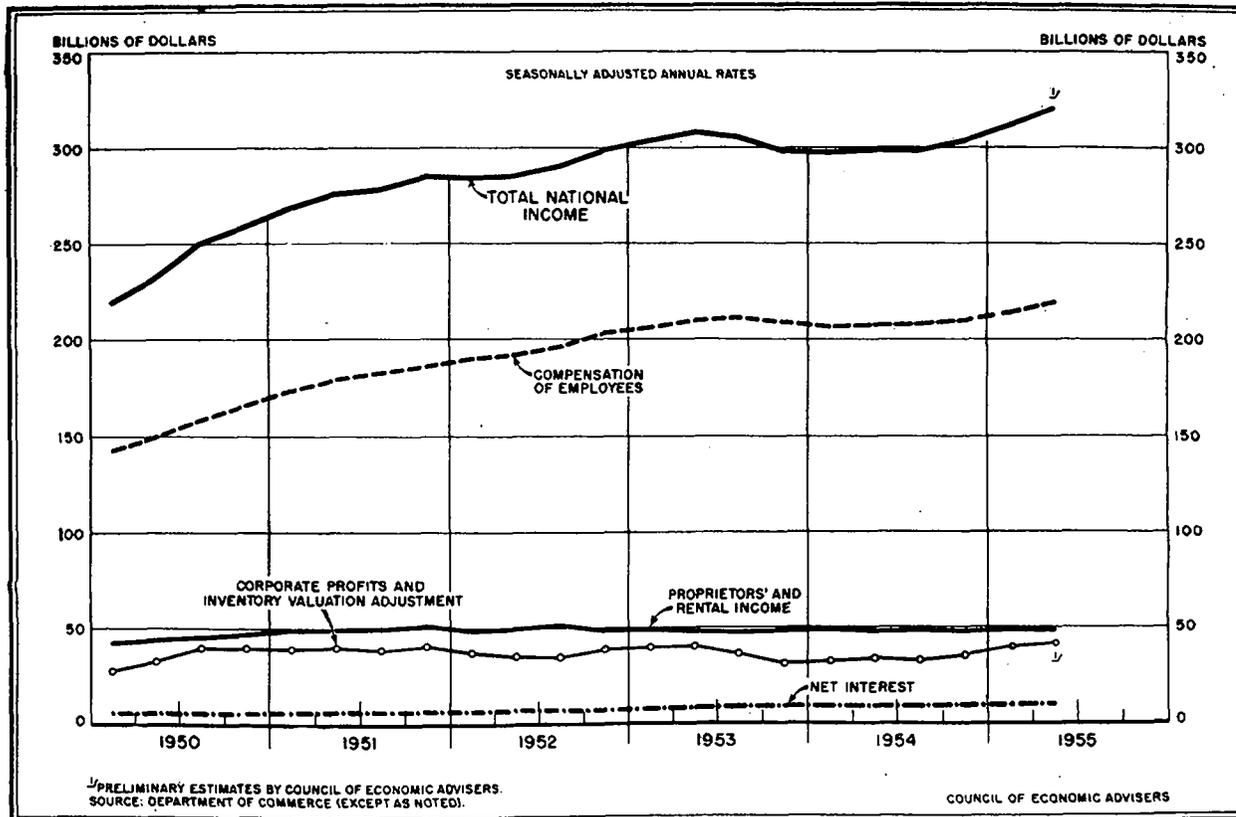
For the first quarter of 1955, as shown here, the gross national product reached 370 billion dollars. (First line shown, total to the right.) The rise of eight billion dollars from the previous quarter was due mainly to increases in consumer expenditures and in private domestic investment. This growth continued throughout the second quarter

and the GNP is now running at the rate of 387 billion dollars--a new record.

Personal consumption expenditures, the second line, increased, as we noted. Federal expenditures, the third line, continued to decline about one billion dollars. Domestic investment increased and net foreign investment remained steady.

## NATIONAL INCOME

The increase in general business activity during the second quarter was reflected in a \$9 billion (seasonally adjusted annual rate) rise in national income. Increases in employee compensation and corporate profits accounted for most of the rise.

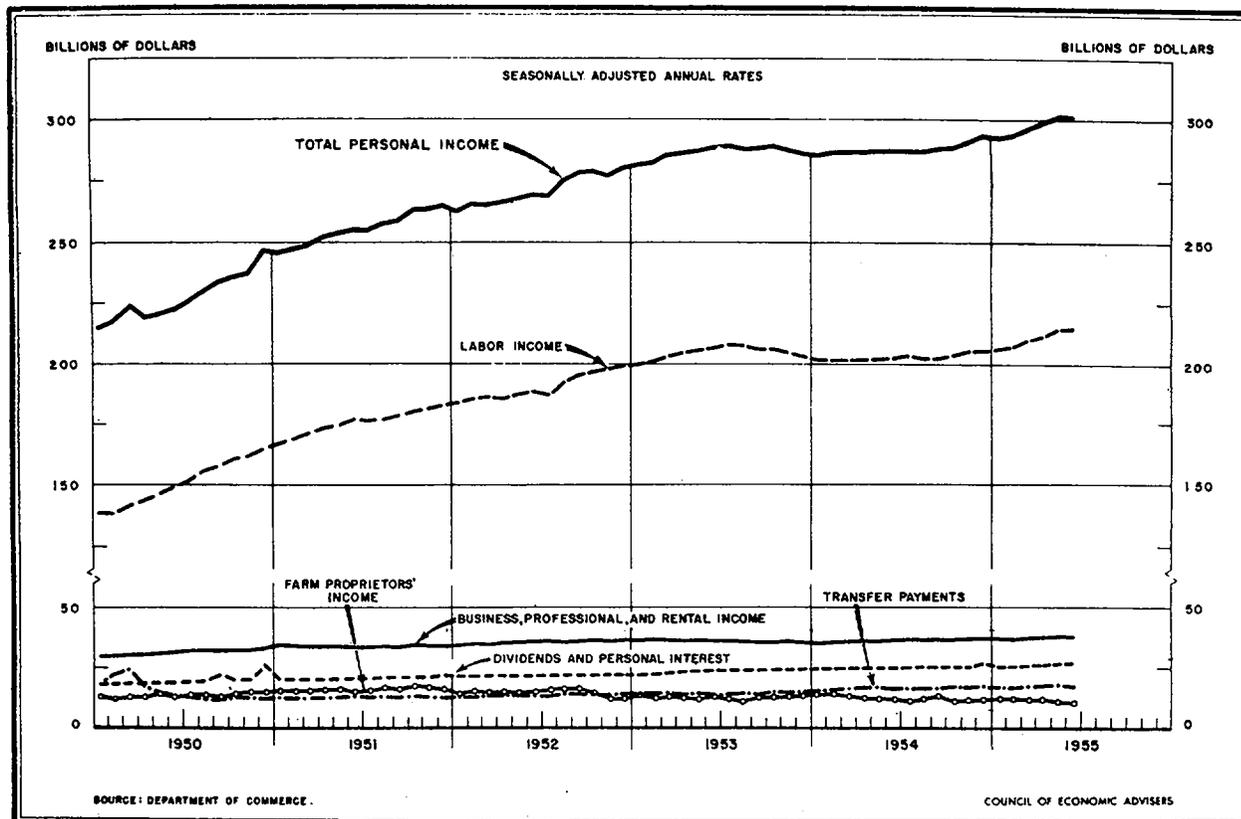


This chart reflects purchasing power. Total national income increased 8 billion dollars in the first quarter and about the same sum in the second quarter. Employee compensation, the second line, rose by about 4 billion dollars, and farm proprietors' income by about one billion dollars. In the second quarter, the continued increase in general business activity was reflected chiefly in increases in employees'

compensation and in corporate profits, the fourth line on the chart. The net interest rate strengthened slightly.

## SOURCES OF PERSONAL INCOME

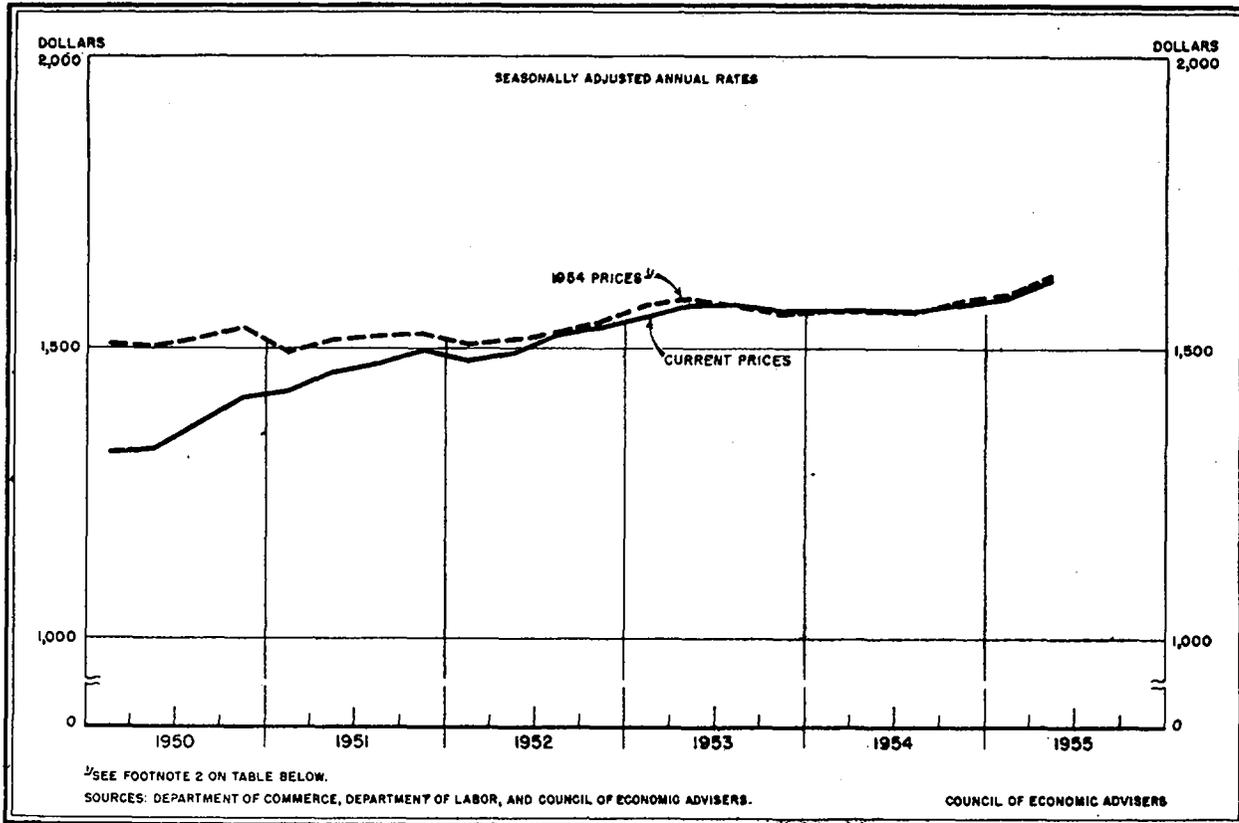
Personal income remained at a level of about \$301 billion (seasonally adjusted annual rate) in June. Labor income and investment income rose somewhat, while farm income and transfer payments declined.



Total personal income in April increased one billion dollars, reading again the right-hand axis, the first line. During the second quarter, disposable personal income rose another six billion dollars. Labor income continued to rise, second line. There was an increase in saving during the second quarter to about the level registered in the last half of 1954. You remember our speaker on Tuesday said he didn't know why that increase occurred. The bottom indexes shown--farm proprietor's income, business, professional, and rental income and transfer payments--continued rather steady.

## PER CAPITA DISPOSABLE INCOME

Per capita disposable income (seasonally adjusted) reached a new high in the second quarter of this year. In constant prices, it exceeded that of the corresponding quarter of 1954 by 4 percent.



Per capita disposable income rose about 1-1/2 percent, to a record level, during the first quarter. The record level was pushed still higher in the second quarter, up 4 percent in constant prices.

What of the future? Economic forecasting is becoming commonplace and many people are trying their hands at it. In January of 1953, Mr. Leon Keyserling, then Chairman of the Council of Economic Advisers, stated from this platform his belief that the national product could be raised to 475 or 500 billion dollars by 1962. Today, in 1955, it is running at the rate of 387 billion dollars, so we are well on our way to that goal. Time Magazine recently put the sum at 436 billion dollars in 1960, two years earlier. On the other hand, the Twentieth Century Fund--and I recommend that whole study to you, America's

Needs and Resources, A New Survey--found that GNP for the year 1960 would be only 414 billion dollars, and that this sum would be 29 billion dollars short of filling minimum needs. Just what factors they brought into that conclusion, I don't know.

#### VI. National Income Analysis as a Tool in Economic Mobilization.

Now our last item, National Income Analysis as a Tool in Economic Mobilization. The impact of war is felt in myriad ways. Manpower is diverted into the Armed Forces; there is a great increase in employment; labor is extensively retrained; large population movements occur; armament industries are expanded and raw material uses are curtailed in nonarmament industries; new products are developed; synthetic materials supplement natural ones; and, finally, war goods production is expanded, often at the expense of civilian goods.

Of what use, then, in time of mobilization are these huge masses of statistical data? They have at least five use classifications.

1. They become the base on which we make production decisions. A great deal of CMP work--the control of uses to which strategic and critical materials can be put in time of mobilization--is based on these figures, although much additional data direct from business itself are absolutely necessary for the operation of a Controlled Materials Plan.

2. These statistics help to make possible computations by which businessmen can be compensated for cost changes. They help to make possible the adjustment of inequities brought about by price freezes and wage stabilization.

3. The disposable income data have some additional uses in furnishing clues as to how much more taxes you and I can pay. The rate of personal savings becomes known, and therefore the Treasury can determine the level at which it must pitch its "voluntary" bond sales campaign to get you to buy enough bonds from these savings.

4. The data on liquidity, which accrue during an emergency period, tell the decontrol planners the amount of financial backlog existing.

5. These statistical data are important in planning postwar production; and are of even greater importance in planning decontrol and reconversion steps.

It remains now only to summarize what we have been told here this morning. As you know, the prescription for successful teaching is first to tell your audience what it is that you are going to tell them; then tell them; whereupon you finish by telling them what it was that you told them. We have reached the third step.

We have learned:

1. That the United States instituted a national income accounting system in 1932; and we have become familiar with the five chief national income data concepts.

2. That the economist is interested in national income and product data as a series of economic photographs which have recorded various industrial and financial patterns. These earlier patterns can be compared with the currently unfolding pattern. We have also tried our own hand at determining indicated trends.

3. That the national wealth of the United States has passed 1,000 billion dollars.

4. That an index number is a device for comparing data of various times and places, expressing the variables as percentages of some common base.

5. That we can develop constant-dollar purchasing power series, as a means of measuring real changes, independent of price level changes.

6. That the Employment Act of 1946 requires the President to recommend stabilization action to the Congress, based in part on a study of national income and product data.

7. And finally, that these data are useful in times of economic mobilization for planning wartime production, in fixing new tax rates, in indicating the expected volume of voluntary bond sales, and in connection with reconversion planning.

And there, gentlemen, is another five cents worth to add to your economics market basket.

**QUESTION:** I notice that military expenditures are generally compared with gross national product and that personal loans and what not

are compared with personal income and so on. I was wondering if you would give us a brief rundown on the various uses of the five different types of gross national product and personal disposable income and what they are generally compared with, the uses to which each of them is put?

DR. KRESS: Businessmen watch the gross national product to see the overall amount of depreciation, to get some idea of how their own depreciation level is running with it. Net national product is mostly an academic use. Businessmen don't bother too much with that. Of course, when you get over into national income data, then everyone in business--retailer, wholesaler, manufacturer, alike--try to see what segments of the population have the money, whether they can keep up sales or can expand, what changes occurred since last year, and what the purchasing power is and the savings that develops.

Of course the bankers, the university economists, and the sociologists are always watching changes in that savings rate. There was a big change several years ago, the reason for which nobody seems to know very much about. This amount of savings, of course, affects purchasing power and the amount of sales that take place. So bankers watch that very carefully in the disposable income sector. Life insurance companies are watching it, giving them clues as to what they can expect to sell one way or another. Those are the chief things that have occurred to me. Actually these national income data are beginning to be used in places where they were never used before. It seems to me there is more and more reliance placed on them as the people become convinced the statistics are valid and not just something dreamed up.

Of course, if you talk to the statisticians who work on them, you find they have a lot of problems. We have several bench marks on which to base these data. The decennial census marks a lot of information available every ten years; every five years we are scheduled to have an industrial census and a manufacturing census. But every once in a while Congress gets a little tight with its pocketbook and fails to put up the money for these five-year censuses. Then the statisticians are in trouble. So far there has been no trouble in getting the ten-year population census, which includes a great deal of commercial information. In the meantime, between one census and the next, they use sampling procedures. They do a certain amount of door bell ringing, and do quite well in keeping up to date, but the statistician is always a little uneasy until he gets a new bench mark to check on how he is doing.

QUESTION: Aren't these figures to a pretty large degree comparative rather than actual? For example, we all get salaries and wages and yet 10 percent of our income is in paying rent, in buying a house and paying interest on it. In what way do they separate that? Isn't there duplication there?

DR. KRESS: I have used only products. You count up all the goods manufactured and sold and the prices they brought by categories, the so-called products approach, the total number of dollars for those products and services. Then you find out how the income was spent, how much went to rent, how much the rent would be if you own your house, how much to farmers, and how much to professional men. The two ought to balance if both are done correctly. They get a check on themselves in that way.

QUESTION: Well, if we take the money we pay as rent, the man who owns the house has, in turn, to pay wages to his caretakers and people who take care of his property, and they go back and pay rent to someone else.

DR. KRESS: No, the only time rent shows up is when there is payment to the landlord. If you own your own house, they put in a sum for imputed rent--what you would pay if you had a landlord.

COLONEL WALSH: We have this graph Mr. Wayne talked about, the spending stream, the same money going around the cycle. His question is, you count the one spent and another isn't. How do you clarify that concept?

DR. KRESS: The easiest way to explain it is, there are two flows, income flow and product flow, both the same money, flowing in opposite directions, flowing in one direction when you are spending money to buy something and in the other direction when you are getting income out of this flow.

QUESTION: I refer to Chart 6 in the information we were given. It appears to me that the interpretation which we try to draw from comparisons of gross national product, national income, and personal income are rarely insensitive to the conditions of the day. If you take 1929, it appears that the national income was about 84 percent of the gross national product and personal income was 98 percent of the national income. If you take 1947, the figures are 85 percent and 97 percent. If you take 1954, the figures are about 84 percent and 96 percent,

the only time when it actually shows any disastrous differences, you might say, since 1933, when the personal income actually exceeded national income and percentages were entirely different; and also national income dropped in relation to gross national product. Now wouldn't it be possibly better to get away from trying to compare small differences in large figures to something like rates of acceleration and examine them--although that might scare the uninformed by the size of them actually getting used by them--and looking at these, large differences would amplify in relation to the conditions of the day?

DR. KRESS: The speaker yesterday is the chief economist for a national foundation supported by businessmen which just does that. They watch these and study these all the time and try to make something out of them, and they watch those changes.

Now university economists have more time for research than some other people, and they study these things, too. So we have two studies lately by university deans, in which they tried to study the changes in the wage pattern since 1900, and they found out, just as you said, that wage proportions run about the same. So many started asking, then, What good is a labor union? Of course, the labor union has a different interpretation.

An economist begins to worry: What does this mean? I worry a great deal as to whether or not economics is a science. I remember the German historical school of economists which was always hunting economic laws, trying to discover them. They would jump right at a conclusion like this. Is there an economic law working here?

Other schools of economic thought say there are only economic laws within a definite political framework. Thus the United States would have economic laws operating within it, but not the same kind of economic laws as those operating in Germany, especially current Germany, or Spain, or Portugal. They would have their own economic laws. It is up to the economist to find out what the economic laws are for a particular political area.

QUESTION: I notice in the first column there, dealing with gross national product, unincorporated profits. What does that mean?

DR. KRESS: It means businessmen who do not have their businesses incorporated, operating as individual proprietors, or partnerships, farmers, or professional men.

00224

MR. NIKLASON: Andy, apparently you have exhausted all of the questions. Thank you very much.

(27 Sep 1955--450)K/sgb