National Bureau of Economic Research

National Income, 1919-1935

SIMPON KUZNETS

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This Bulletin presents comparable annual measures of the national income of the United States for the seventeen years from 1919 to 1935. They constitute a complete revision of the estimates for 1919-27 in W. J. King's The National Income and Its Purchasing Power (National Bureau of Economic Research, 1931) and a continuation of this series through 1929 and later years. For the period since 1929 these measures are based upon the estimates originally prepared by the Department of Commerce in cooperation with the National Bureau for 1929 through 1932 and subsequently revised and amplified by the Department; but they have again been revised and modified to assure comparability with earlier years and to take advantage of more recent data. The measures released in this Bulletin for circulation among the subscribers embody Dr. Kuznets' broad findings. Somewhat more detailed figures and supporting data, together with material on the flow of commodities and the formation of capital, will be published in a monograph by Dr. Kuznets, National Income and Capital Formation, 1919-1935, now in press. The complete record of the national income study will appear in a later volume.

Throughout this study, Dr. Kuznets was assisted by Lillian Epstein and Elizabeth Jenks; and during recent months also by Edna Ehrenberg. We are indebted to the Department of Commerce for permission to consult the details of its estimates of national income for recent years.

1. DEFINITIONS AND SCOPE

National income may be defined as the net value of commodities and services produced by the nation's economic system. It is 'net' in that the value of output of all commodities and services is reduced by the value of commodities (fuel, raw materials and fixed equipment) consumed in the process of their production. It is the net product of the economic system, which, for the advanced nations during recent decades, may be identified with the market transactions of the economy. It is understood broadly as the meeting-place of all buyers and sellers, no matter how much the freedom of transactions may be curbed by custom or regulation.

National income is thus part of that part of the national product which is largely improvable to individuals who contribute to production either their labor or the services of their property. In return for this participation these individuals receive compensation in the form of income accounts for the preponderant share of national income produced in any given year. But there may be two other elements in national income. First, producing enterprises may make payments not only to individuals who, in a given year, participate in the productive process, but also to individuals who participated in it in the past or have not participated at all. Pension, compensation for injuries, relief payments, and charity contributions by business enterprises are channels through which income produced in a given year may be paid to individuals other than those sharing in the process of producing it. Second, enterprises may distribute to individuals amounts not necessarily equal to the part of national income that these enterprises produce. In some years a business firm or other producing enterprise may pay out to individuals an amount smaller than its share in national income, thus retaining what we designate as positive savings of enterprises. In other years an enterprise may distribute to individuals an amount larger than its own share in the national total, thus giving rise to negative savings of enterprises. If we designate all receipts by individuals from the producing enterprises as income payments to individuals, national income is equal to the algebraic sum of incomes paid to individuals and of savings of all enterprises.1

1National income as thus defined is identical with what in earlier publications we designated as 'national income produced' (see National Income, 1920-1932, Senate Doc. No. 124, 73rd Cong., 2d sess., and Bulletins and Papers 43 and 39 of the National Bureau of Economic Research). The method of calculation is set out in two publications as 'national income paid out' is here identified as 'aggregate income payments to individuals'. This change in terminology resulted from the discussions prior to and at the meeting of the Conference on Research in National Income and Wealth held in January 1937.

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The available data render it necessary to estimate national income by a procedure corresponding to the second definition, i.e., the aggregate of all incomes paid to individuals plus the estimated positive or negative savings of enterprises. For each industrial branch, whose distinction is both possible and significant, so far as data permit, the various payments to individuals: wages, salaries, withdrawals by individual entrepreneurs, interest, dividends, and rents for compensation for injury. Net rents can be estimated only for the country as a whole, not by industrial branches. We include not monetary payments but also some payments that appear in the form of commodities or services: (1) farm produce retained by farm families for their own consumption; (2) payments in kind to employees; (3) services of houses inhabited by their owners. On the other hand, we exclude some incomes that appear in the form of money but that represent payment for activities that are unproductive when judged by the most lenient standard of productivity: (1) illegal activities (theft, robbery, prostitution, murder, etc.); (2) such activities as, while legal, represent largely shifts of income among individuals rather than additions to the command over goods (gambling, speculative gains from sale of non-office-professional groups); (3) speculative gains of any type resulting from a general change in the price level. Finally, we add to these incomes disbursed to individuals the net savings of enterprises.

This description of the scope of national income measures is admittedly all too brief. It is also impossible to indicate within the scope of this Bulletin the limitations to which these measures are subject owing to the weakness of supporting data for some of the component elements. In general, the estimates are more reliable for those industrial branches for which basic data have been available for some time (public utilities reporting to the Interstate Commerce Commission, manufacturing, mining), and least reliable for those industrial branches for which basic Census data are still lacking or are of only recent origin (service industries, real estate, and, of course, the miscellaneous group). Of the various types of income the estimates are most reliable for those whose flow is recorded directly in the data (wages, salaries, dividends and interest) and least reliable for entrepreneurial withdrawals, rents and savings of enterprises.

2. NATIONAL INCOME AND ITS CHANGES

As defined above and measured in current prices, the national income of this country since 1919 is given in the first column of Table 1 (see also Chart 1). The marked changes since the War are obvious. After a trough in 1921 of $58.5 billion dollars, which followed immediately the peak in 1920 of 72.7 billion dollars, there was a fairly steady rise to the next peak in 1929 of 83.6 billion. The severe character of the contraction that followed is manifest in the decline to a trough of 39.2 billion dollars in 1933, a drop of 53 per cent from the peak of 1929. Since 1933 national income has risen materially, but in 1935 it was still 36.5 per cent below the 1929 level.

These marked fluctuations in total national income do not reflect only changes in the net volume of commodities and services produced. A substantial part is accounted for by changes in market values from year to year, and some attempt to eliminate these was made in order to interpret national income in terms of the flow of commodities and services (see the second column of Table 1, national income measured in constant market values of 1929). This adjustment was made as follows. In the study of capital formation in the United States we obtained a measure of net capital formation, comprising the net volume destined for use by business and government agencies, the net accrual to the volume of residential construction, and the net change in claims against foreign countries. This measure of net capital formation was available in terms of both current market values for each year and constant 1929 prices. We then subtracted net capital formation in current market values from national income in current prices, obtaining the part of national income that may be regarded as consumers' outlay; adjusted this part for changes in prices of consumable goods, on the assumption that those changes were reflected in the price level of living compiled by the United States Bureau of Labor Statistics; and then recomputed this consumers' outlay part of national income in 1929 prices with the volume of net capital formation in 1929 prices. This adjustment for changes in price level is admittedly approximate, partly because the index of wage earners' cost of living reflects only crudely changes in prices of all consumable goods and services represented in national income; and partly because the measurement of net capital formation in constant prices is necessarily approximate, owing to the relative scarcity of reliable indexes of prices of capital goods. Nevertheless, the estimate of national income in 1929 prices is a much better measure of changes in the volume of commodities and services produced than is national income in current market values. In comparing the two estimates, we observe that the volume in 1929 prices rose much more during the period, i.e., grew more appreciably from the early years to 1929 and declined much less appreciably during the contraction that followed. Thus, the rise to 1929 from the average during 1919-21 was, in terms of current prices, 31 per cent; in constant prices, 47 per cent. The declines from 1929 to 1933 were 53 and 39 per cent, respectively. And when the arithmetic means of the two halves of the period from 1919 through 1934 are compared, national income measured in current prices shows a decline from 68.3 to 62.2 billion dollars; in constant prices it shows a rise from 65.1 to 67.1 billion.

It is of interest to compare changes in national income in constant prices, which describe roughly the movements in the country's current net capital stock of equipment and services, with the changes in the country's population, i.e., the people who produced this supply and to whom the value of it became available as a fund for consumption and savings. This comparison shows that the rise in the net national product and its decline after 1929 were accompanied by an increase in the population, consequently per capita income increased.

For the estimates of net capital formation as National Income Concept of Capital Formation, an earlier draft is available from the author. The choices of 1929 prices as the constant price level on which to express national income was dictated by the corresponding use in the capital formation study. However, since the level of prices in 1929 was only slightly below that of 1926 and only slightly above the average price level for the entire period, 1919-1934, it may be taken to represent, with respect to the level of market values, an average rather than an exceptional year.
capita income rose appreciably less and declined more than did total income. Thus, while the latter rose from 59.4 billion in 1920 to 83.6 in 1929, per capita income rose from $559 to $609, only 23 per cent respectively. The declines from 1929 to 1932 were 42 and 43.5 per cent respectively. The averages for the two halves of the post-
War period show that while reduced to a per capita basis, the rise in total income is replaced by a decline.

3. DISTRIBUTION ACCORDING TO INDUSTRIAL ORIGIN

A few comments may help to reader the evidence of Tables 2 and 3, which show, in current prices, the distribution of national income and of aggregate income payments to individuals among the industrial branches in which they originated. First, not all types of income can be traced back to their industrial sources. Thus rent payments, actual and imputed, cannot be apportioned among the various industries in which they originated, and have been treated as by an entrepreneurial income in the real estate industry. Second, in measuring business savings, the available data from accounting records on business profit and loss after payment of dividends must be adjusted for different ways to yield an adequate measure of business savings; and some of these adjustments can be made only for the national income total as a whole or only for the major industrial divisions. Thus the correction for the difference between depreciation charges in cost and reproduction prices can be made only for national income as a whole, not for the various industrial subdivisions; and the apportionment among industrial branches in Table 2 is of national income, unadjusted by this particular correction. Similarly, the adjustment for gains and losses from inventory holding can be made for the transportation and public utilities, and finance groups, but not separately for the various branches of the manufacture industry. Table 2 provides both adjusted and unadjusted totals for these two industrial divisions. But the two adjustments are relatively minor, and the effect of their total or partial omission on the distribution by industrial sources is relatively insignif-

The industrial divisions distinguished in Tables 2 and 3 call for little explanation. Construction refers to contracts with corporations and includes the income from unrelated construction activities undertaken by business enterprises and by public agencies on their own account. The compo-
nent of the large groups of transportation and public util-
ities and of finance is shown in the tables. Real estate in-
cludes, in addition to income arising from dealing in, man-
aging or servicing real estate property, all rents, paid and unpaid. Government covers not only the Federal govern-
ment but also all other governmental units in the United States, including income originating in public education and Post Office. Service covers the numerous branches of service activities: religious, professional, domestic, personal, recreation and amusement, and business. The miscellaneous group is a catch-all for the various activities that cannot be measured separately and properly under the relevant division. It includes such highly diversified enter-
prises as truck and bus transportation, taxicabs, brokerage houses.

The industrial divisions in Tables 2 and 3 may be as-
sumed to include in three major groups. Group I, comprising agricul-
ture, mining, manufacturing, and construction, may be char-
acterized as the industries dealing primarily and largely with the production of commodities. Group II, compris-
ing transportation and public utilities and trade, may be charac-
terized as commodity handling. This characterization, while true of trade, is only roughly true of tran-
sportation and public utilities because even steam railroad cars carry passengers and the activities of such divisions as com-
munication can hardly be classified as handling commod-
ities. Still, the preponderant part of even the combined trans-
portation and public utilities output is related to handling commod-
ities, rather than commodity production or the provision of services to individuals. Group III, compris-
ing finance, government, service and miscellaneous, may be charac-
terized broadly as service industries; and while it in-
cludes some commodity handling in the miscellaneous divi-
sion, the relative share of this activity or of commodity production is probably very small.

Table 2, Part B, shows that a large share of total na-

tional income arises from activities that do not constitute either production or handling of new commodities; the latter together account, on the average, for slightly over 61 per cent of national income, and the payments to which they give rise account for about the same percentage of aggregate income payments. The remainder is accounted for largely by activities that are either services by individuals to other similar individuals or to society at large, or services to highly durable commodities to individuals, or services rendered in connection with the production and handling of commodities but so distinct from the latter activities as to constitute a separate industry.

As among the three groups there were clear-cut differ-

cences in the movement over the period as a whole (see Chart 2). Whether expressed in percentages of national income or of aggregate income payments, the relative share of the commodity producing branches declined. Most of

### Table 2

<table>
<thead>
<tr>
<th>Year</th>
<th>Agriculture</th>
<th>Mining</th>
<th>Manufacturing</th>
<th>Transportation</th>
<th>Public utilities</th>
<th>Government</th>
<th>Service</th>
<th>Miscellaneous</th>
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</thead>
<tbody>
<tr>
<td>1929</td>
<td>18.3</td>
<td>10.5</td>
<td>15.8</td>
<td>20.3</td>
<td>11.0</td>
<td>9.4</td>
<td>18.2</td>
<td>24.8</td>
</tr>
<tr>
<td>1932</td>
<td>19.4</td>
<td>11.3</td>
<td>16.2</td>
<td>21.4</td>
<td>11.0</td>
<td>9.4</td>
<td>17.8</td>
<td>23.4</td>
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</table>

### Table 3

<table>
<thead>
<tr>
<th>Year</th>
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<th>Mining</th>
<th>Manufacturing</th>
<th>Transportation</th>
<th>Public utilities</th>
<th>Government</th>
<th>Service</th>
<th>Miscellaneous</th>
</tr>
</thead>
<tbody>
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<td>11.0</td>
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</tr>
<tr>
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<td>11.0</td>
<td>9.4</td>
<td>17.8</td>
<td>23.4</td>
</tr>
</tbody>
</table>

### Table 4

<table>
<thead>
<tr>
<th>Year</th>
<th>Agriculture</th>
<th>Mining</th>
<th>Manufacturing</th>
<th>Transportation</th>
<th>Public utilities</th>
<th>Government</th>
<th>Service</th>
<th>Miscellaneous</th>
</tr>
</thead>
<tbody>
<tr>
<td>1929</td>
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<td>11.0</td>
<td>9.4</td>
<td>18.2</td>
<td>24.8</td>
</tr>
<tr>
<td>1932</td>
<td>19.4</td>
<td>11.3</td>
<td>16.2</td>
<td>21.4</td>
<td>11.0</td>
<td>9.4</td>
<td>17.8</td>
<td>23.4</td>
</tr>
</tbody>
</table>

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*For a more detailed discussion of these adjustments see Section 4.

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*All adjusted for gains and losses on holding of inventories.**
National Income, 1919-1935

<table>
<thead>
<tr>
<th>Percent of Distribution of National Income and of Aggregate Income Payments of Individuals</th>
<th>Shares</th>
<th>Relative Weights</th>
<th>Number of Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Income</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
<tr>
<td>Aggregate Income Payments of Individuals</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100.00</td>
<td>100.00</td>
</tr>
<tr>
<td></td>
<td>1st (1-5)</td>
<td>58.2</td>
<td>58.2</td>
</tr>
<tr>
<td></td>
<td>2nd (6-10)</td>
<td>19.0</td>
<td>19.0</td>
</tr>
<tr>
<td></td>
<td>3rd (11-20)</td>
<td>18.8</td>
<td>18.8</td>
</tr>
<tr>
<td></td>
<td>4th (21-50)</td>
<td>3.0</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>5th (51-100)</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

The decline occurred from 1919 to 1929, and to 1932. There was a downward drift even from 1932 to 1933; and inspection of the percentages for each industrial division in this group shows that, in agriculture, mining and manufacturing, this downward movement in the percentage share of national income of aggregate income payments is clearly and consistently present. Only in construction, owing to the long swing character of the industry, is this declining trend in relative importance not obvious.

The group called 'commodity handling' shows no such decline in its relative share of national income of aggregate income payments. This percentage share varies somewhat from year to year, both for the group as a whole and for its two divisions, but reveals no definite trend over the years for its component. The total for the various industrial branches subsumed under transportation and public utilities show distinct and different trends in their relative shares over the period (e.g., the growth in the importance of electric light and power, and gas, and communications, and the decline in that of steam railroads and other transportation) then carry on these conflicting movements.

In contrast to the share of commodity producing industries, the relative weight of the service industries rose distinctly over the period. This rise was apparent in each of the important subdivisions of this group, finance, government, and service. The conclusion is thus unavoidable that the development of the economic system since the War has meant, as far as the composition of the national net product is concerned, a shift away from production of new commodities to service activities significantly different in character and industrial organization from the production and handling of commodities.

It should be emphasized that these conclusions refer to the industrial distribution of national income in current prices. When adjustment for price changes is made for the specific industrial branches, the changes in industrial distribution might quite possibly be substantially different. A preliminary analysis of such a distribution of national income in constant prices suggests that the decline in the relative share of commodity producing industries and the rise in the relative share of service industries has been mainly due to the greater decline in the prices of commodities than in the prices of services. But in view of the slender basis upon which the difficult adjustment for price changes rests, this conclusion can be treated as a tentative suggestion deserving further exploration.

4. DISTRIBUTION ACCORDING TO TYPE OF INCOME

a. Meaning of Classification. The allocation of national income discussed in this section has already been suggested in the definition in Section I above. Business and other enterprises are included in the production of income distribute most of their share in payments to individuals in return for their services or the services of their property; or in the form of payments to individuals only remotely connected with the productive process (e.g., alimony, compensation for injuries, relief payments, etc.). The residue, which may be either positive or negative, represents the net savings of these enterprises. It is of obvious importance to study how total national income is apportioned between such savings and aggregate income payments to individuals; and how the latter are apportioned among various types of payment. Such allocations can be made for total national income only as measured in current market values; they are presented in Table 4 for 1919 through 1935.

The various types of payment distinguished call for little comment. Wages, salaries, pensions, dividend and interest payments are familiar. It need be noted only that dividend payments measured here cover disbursements to individuals, and thus exclude the intercorporate dividend flow; that interest payments cover only interest on long term debt, upon the assumption that all short term interest is paid to other business enterprises and short term
### Table 4

<table>
<thead>
<tr>
<th>National Income, 1919-1935</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolute Totals (in millions of dollars)</td>
</tr>
<tr>
<td>1919</td>
</tr>
<tr>
<td>Wages and salaries</td>
</tr>
<tr>
<td>Compensation for injuries, compensation for labor lost</td>
</tr>
<tr>
<td>Employers' compensation</td>
</tr>
<tr>
<td>Dividends</td>
</tr>
<tr>
<td>Interest</td>
</tr>
<tr>
<td>Property income</td>
</tr>
<tr>
<td>Interest payments</td>
</tr>
<tr>
<td>Aggregates</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>
| Total net savings of individual 
| | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 |
| Percentage distribution | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 |
| Wages and salaries | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 |
| Compensation for injuries, compensation for labor lost | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 |
| Employers' compensation | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 |
| Dividends | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 |
| Interest | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 |
| Property income | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 |
| Interest payments | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 |
| Aggregates | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 |

Interest paid to individuals by banks represents an indirect flow of long term interest; and that the only allowance possible for intercorporate long term interest payments is that on government securities.

Entrepreneurial withdrawals are the amounts that individual entrepreneurs withdraw from their business for consumption and investment elsewhere—essentially a measure of proprietary hastily active. Rent received by individuals comprises both actual monetary rental received, minus the expenses incurred, and imputed rent to the individuals who own the houses in which they reside. While compensation for injuries covers small amounts paid to individuals other than employees, it may be grouped with pensions, relief, wages and salaries as employees' compensation. Withdrawals by entrepreneurial and rents may be classified as entrepreneurial income, although there is some ground for classifying rent with property income. Dividends and interest receipts are individuals' property income.

Savings is a residual item of controlling importance, and should, in accordance with our definition of national income, equal the difference between the current value of all commodities and services produced, less the current market value of commodities consumed in production, and total income payments to individuals. The entry on the income account of business enterprises that most closely corresponds to net savings as thus defined is new net profit less depreciation and depletion, at their original cost. This is because any item of current cost that is not substituted for is counted as new net profit in the income account of business enterprises.

This item still differs from the desired measure of net savings in the following respects: (a) it includes gains and losses on sale of capital assets; (b) it estimates the consumption of durable commodities, such as furniture, and does not allow for depreciation and depletion, at their original cost; (c) it includes the consumption of undistributed profits as an estimated cost, when prices are rising or at cost or market, whichever lower, when prices are declining, instead of evaluating them at market price at the time of consumption. Thus, in order to arrive at a correct figure for new net savings of enterprises, the item available from business accounting records must be adjusted for all possible departures, an adjustment that can be made in varying degree for the various distortions noted.

Gains and losses on sale of capital assets can be excluded only at arm's length; and savings, and hence national income, may be incorrect in this respect for all years before 1929. The magnitude of this item can be judged by its amount (1.6 billion dollars) for 1932, the year covered by data in which it was larger (see note 7 to Table 4).

The correction for the difference between the depreciation and depletion deductions in reproduction and original cost prices could be made for all the years in the period by using the estimates prepared by Solomon Fabricant. For the disparity between the value of non-durable commodities consumed at cost and at market price can be estimated approximately by reducing the year-end inventories for each year to a common price level, obtaining the quantity of each business from the inventory changes in previous years for the current year, and then comparing the resulting change in the difference between year-end inventories in their changing current valuations. This disparity, which measures the reported net profit or loss before revaluation of inventories, can be computed not only for national income as a whole but also for most of the industrial branches distinguished.

Finally, for government savings, were computed directly by comparing the net change in the basic fixed assets of government, i.e., buildings, roads, etc., with the change in total government debt. The former item was obtained from estimates of total public construction, available in the capital formation study, reduced for each year by the depreciation on government fixed assets as estimated by Solomon Fabricant. The second item is easily derived from the data on total outstanding government debt. The estimating difference represents a crude estimate of net savings by all government agencies, i.e., the amount by which the net addition to fixed assets exceeded or fell short of the total change in debt outstanding.

Having commented upon the meaning of the various categories in Table 4, we may now note how gaps in the available data affected the allocations. First, absence of relevant data made it impossible to segregate wages and salaries in entrepreneurial withdrawals in service and miscellaneous industries. Second, withdrawals in entrepreneurial withdrawals in these two industrial divisions amounted to about $1.5 billion dollars while salaries and wages were estimated at 8.5 billion dollars; we decided, therefore, to include the combined item with wages and salaries rather than with entrepreneurial withdrawals. Since total salaries and wages of all industries in 1929 were over $50 billion dollars, the addition to this total of entrepreneurial withdrawals in service and miscellaneous industries could not greatly affect the relative weights or changes in relative importance of employees' compensation. But the exclusion of this item from total entrepreneurial withdrawals may have affected significantly the latter total. Second, as already indicated, net savings of business enterprises prior to 1929 could not be adjusted for gains and losses on sale of fixed capital. Preliminary estimates were published in Measures of Capital Consumption, 1919-1931, Bulletin 60. In this Bulletin he utilized his revised estimates which will appear in detail in a final report, Capital Consumption.
of capital assets, an omission that in view of the material price changes, especially in the early years of the period, may well have affected this item considerably.

b. Importance of Net Savings of Enterprises. When we view now the apportionment of national income between payments to stockholders and net savings of enterprises, two conclusions stand out clearly. When considered over a fairly long period the share retained by enterprises appears to be relatively small, thus indicating that the overwhelming bulk of the national income produced is distributed as payments to individuals. The cumulative total of net savings of business enterprises over the period as a whole, including 1935, amounts to only about 4.2 billion dollars; the increase in net savings of government raises it to 12.6 billion dollars. These totals average per year only 0.25 and 0.74 billion dollars respectively, and constitute only 0.4 and 1.1 percent of the national income.

However, the averages conceal the extreme variations in the streamings of the enterprises, and the close conformity of these variations to fluctuations in the country's general business conditions—two characteristics that make this item exceedingly important in determining changes in total national income and render its measure useful in arriving at an understanding of economic fluctuations. The great variability of savings of enterprises is shown by the fact that whereas the high average of the item amounts to only 0.74 billion dollars per year (including savings of government), and to 0.25 billion dollars when confined to savings of business enterprises alone, the item with signs disregarded are 4.7 and 3.7 billion dollars per year respectively. The range in the variation is quite striking. Total net savings of enterprises ranged from a peak of plus 6.7 billion dollars in 1926 to a trough of minus 10.2 billion dollars in 1932. When we compare total national income for these two years it is seen that, of its decline of 40 billion dollars, over 40 percent is accounted for by the decline in net savings alone. Similarly, net savings of business enterprises (exclusive of savings by government) range from a peak of plus 6.7 billion dollars in 1919 to a trough of minus 8.8 billion dollars in 1932, and of the decline in income of some 20 billion dollars between these two years, the drop in net savings of business enterprises alone accounts for over 15 billion dollars or for about 75 per cent. Almost all the variations in net savings, particularly in savings of business enterprises, follow closely the changes in general business conditions, showing very conspicuously the contractions of 1920-21, 1924, 1927 and 1930-32. The total savings of enterprises and savings of business enterprises declined from 1928 to 1929, but this may be due largely to the adjustment for gains on sale of capital assets in the latter year but not in the former.

c. Changes in Distribution by Type of Payment. In considering the various types of payment and grouping them in the broad categories of employees' compensation, entrepreneurial income and property income, we are concerned not only with the absolute quantities but also with the relative proportions accounted for by each, especially with any changes in the proportions. It is the relative that really counts. The fact that these types of income represent largely the compensation of various groups in the economic system. Wages and the bulk of salaries constitute the main income of a large group in the population whose per capita income is relatively low; and changes in the relative share of wages and salaries indicate, though only approximately, changes in the relative share of the low income groups. Dividends and interest disbursements are received largely by those whose average income is relatively high; and a change in the proportion of income going out as dividends and interest is, with certain qualifying conditions, an index of change in the share of income received by the high income groups in the income-receiving population. Entrepreneurial incomes occupy an intermediate position, and tend to vary greatly in average magnitude from one industrial branch to the next. The group is dominated by agriculture and retail trade, and thus represents the main income of that large class of small entrepreneurs whose average income is fairly even, and subject to the vicissitudes of the competitive struggle under changing business conditions.

The share of various types of payment is measured in percentages of aggregate income payments, not in percentages of total national income for the reason that net savings of enterprises cannot be assigned as an income share to any specific group of income recipients. There is often an inclination to treat these savings as part of property income, on the ground that such savings or losses affect most conspicuously the value of securities held by the recipients of interest and dividend payments. But if incurring a business loss or retaining business savings by an enterprise does affect the fortunes of its security holders, the net savings as measured by these factors are barely a measure of the effect. And it may reasonably be argued that savings of enterprises in an industry are as important to the employees as to the owners, and have as much effect on their economic welfare. Upon this assumption, percentage allocation among the types of payment of national income would be identical with that of aggregate income payments to individuals.

Table 4, Part B and Chart 3 show that employers' compensation, including wages, salaries, piecework, relief and unemployment compensation to all levels and types of employees, is in service and miscellaneous industries, accounted for the average for about 70 percent of the total flow of income payments to individuals; and that this relative share remained fairly constant over the period. If the percentages are averaged for the two halves of the Post-War period, the resulting means suggest a slight upward trend; this impression is confirmed when it is seen that before 1926 the percentage in the third line never went above 69.8, while beginning with 1926 it was at the level of 69.9 or higher in all years except one. But the differences are too small to indicate any definite rise in the share of employees' compensation; and the averages are considerably affected by the increased importance of relief in 1933, 1934 and 1935.

The other two major groups of payment both show distinctive and significant trends. The share of entrepreneurial incomes declined continuously, owing largely to the decline in the relative share of entrepreneurial withdrawing. Indeed, prior to 1923 the percentage share of the latter declined each year except in 1924, and from a level of about one-sixth of total income payments in 1919 and 1920 it dropped to net withdrawals. The fact that the relative share of the rent item shewed at first a rise, associated with the decline in expenses and the high rent levels prevailing in the years before the expansion of the volume of construction, exerts a moderating effect on rents; then a decline, which became especially precipitous after 1929. In contrast to entrepreneurial income, the relative share of property income rose distinctly over the period as a whole, accounting for one-tenth of total income payments in the early years of the period and about one-sixth in the later years. This upward tendency was manifest in both dividend and interest payments between 1919 and 1926, but since then primarily in the latter. If rents were added to dividends and interest payments in a new total of property income, the share of the latter would still show a marked rise over the period.

The changes in the relative shares of various types of payment indicated in Table 4 are of considerable significance, and deserve further exploration. It would be of material interest to ascertain whether the trend in the relative shares of income for the period and the fluctuations that appear to be associated with business cycles persist when the dollar volumes are corrected for changes in the price level. But since the specific price data needed for such an inquiry are not available, it cannot be pursued. However, some further test of the conclusions just drawn from Table 4 can be made by a study of the cross-classification of aggregate income payments by type of payment and industrial source.

5. Cross-Classification by Type of Payment and Industrial Source. In considering the combined classification by type of payment and industrial source, various lines of inquiry may...
be pursued. It is possible to determine whether the changes observed in the relative shares of various types of payment in the country's total are also present within each industrial branch distinguished; and to ascertain how the shift in the relative importance of various industrial branches contributed to the changes in the relative proportions of the various types of payment. It is also possible to study the changes observable in the relative share of various industrial branches within each type of payment; and to see how the shift in the relative importance of various types of payment contributed to the changes in the relative share of the various industrial branches. It would not be possible here, or generally profitable, to pursue all these lines of inquiry. We confine the analysis to the question how the change in the distribution by type of payment within each industrial branch, and the shift in the relative weight of the various industrial branches, have contributed to the changes in the percentage share of the various types of payment in the nation's aggregate of income payments. We thus make the changes in the distribution by type of payment the dependent variable, rather than the shifts in the relative weight of various industrial divisions in the nation's economic system: the growth and change of the various industries appears to us to be the independent factor that provides the framework within which changes in the percentage distribution by type of payment are to be understood.

The first question to be answered is whether shifts in the relative shares of various types of payment in the total also occurred in each industrial branch. Do the changes in the share of employees' compensation, the downward movement in the share of entrepreneurial income, and the marked upward movement in the share of property income, appear in the distribution of income payments originating in each industrial division? An answer to this question is provided in Table 5, which measures the movement over the period in the relative share of the various types of payment by the total change in the average percentage for two pairs of segments of the post-War period: 1919-26 and 1927-31. We have computed similar measures also for the two intervening sets of periods (omitted in the table); our conclusions are based on the consideration of all these measures.

When the separate industrial branches are considered, the relative share of employees' compensation which, for the country as a whole rose slightly, appears to have sustained a significant decline in a preponderant majority of the industrial categories. Indeed, if we include the subdivisions of public utility and finance, it declined in nine of the fifteen industrial branches distinguished, and rose in only three (trade, government, and real estate).

As distinct from the share of employees' compensation, that of entrepreneurial income showed a marked decline, when taken as a percentage of the nation's income payments. The same tendency is observable in Table 5 when the relative proportion of entrepreneurial income is followed within the various industrial divisions. If we include the subdivisions, there are eight industrial branches in which unincorporated enterprises are significant and in which entrepreneurial incomes can be segregated. Of these eight, there is a decline in the relative share of entrepreneurial income in five, and a distinct rise in none. However, in agriculture, the industry that constitutes the most important source of entrepreneurial withdrawals, the share of these withdrawals in total income payments showed no definite decline; indeed, in three of the four sets of periods compared it rose. Obviously, for entrepreneurial incomes in the upward movement in the percentage share of property income occurred in most of the industrial branches distinguished in Table 5. It occurred in as many as twelve of the fifteen; in two, banking and miscellaneous, the general direction of the movement is not quite clear; and in only one, government, does it show a definite downward movement over the period. This evidence of Table 5 does not necessarily mean that the shift in the relative importance of various industries has not contributed to the rising tendency observed in the relative share of property income in the nation's total income payments. But it does indicate that this upward movement would have appeared even had the relative share of each industrial branch remained constant.

The analysis may be pushed to the point of actual measurement of the extent to which the movements in the relative shares of various types of payment in the total have been affected, on the one hand, by changes within the industrial branches distinguished in Table 5. It occurred in as many as twelve of the fifteen; in two, banking and miscellaneous, the general direction of the movement is not quite clear; and in only one, government, does it show a definite downward movement over the period. This evidence of Table 5 does not necessarily mean that the shift in the relative importance of various industries has not contributed to the rising tendency observed in the relative share of property income in the nation's total income payments. But it does indicate that this upward movement would have appeared even had the relative share of each industrial branch remained constant.

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National Bureau of Economic Research

National Income, 1919-1935

Discussion: Roy Blough
W. W. Hewett
Carl Shoup

VII Some Problems in Measuring Per Capita Labor Income, Solomon Kuznets

VIII Income Parity for Agriculture, O. C. Stine
Discussion: M. H. Baer
J. D. Black
O. C. Stine

National Bureau Projects

Bulletin subscribers received a reprint of A Program of Financial Research, Volume I, in Bulletin 64. Volume II, an inventory of current projects in the field of banking and finance, was published in July (253 pp., $1.50). Volume I was shown in an exhibition of Trade Books by the New York Book Clinic, under auspices of the American Institute of Graphic Arts, in June, and Volume II was in its July selection of books notable for excellence of typography. We quote from an editorial in the June 1 issue of the Journal of Commerce:

“A New Study of Banking

The Reserve City Bankers’ Association, in several ways the most important and influential body of bankers in the country, has taken a very constructive step in sponsoring a comprehensive study of the nation’s existing financial system. The far-reaching and profound changes of the depression and recovery periods have come in such rapid succession that few persons have been in position to weigh their full import and significance. Such a research program as the Reserve City Bankers contemplates should furnish a much-needed basis for the formulation of legislative policies and the more intelligent guidance of those who are interested in any way, directly or indirectly, in banking.

At the same time, it is exceedingly important that this research project avoid the usual pitfalls into which several other very ambitious programs of the kind have fallen. The mere gathering of statistical material would be a futile gesture. It is to be hoped that this study will avoid the sterile kind of research which concludes that because credit expanded over a period of years by a given average percentage, that a further increase at that rate would not be "unwise." One study of banking during the past war decade consisted largely of this type of sterile reasoning, and as a result its value as a contribution to a solution of pressing banking problems proved nil.

Whereas in Canada the practice is followed of having a decennial revision of the Bank Act to bring it up to date and eliminate any weaknesses that have become apparent, banking law in this country has evolved quite haphazardly. As a result, there is urgent need for a codification of statutes and the simplification of our whole system of regulation and examination. The study of the Reserve City Bankers’...