Volume Title: Shares of Upper Income Groups in Income and Savings

Volume Author/Editor: Simon Kuznets, assisted by Elizabeth Jenks

Volume Publisher: NBER

Volume ISBN: 0-87014-054-X

Volume URL: http://www.nber.org/books/kuzn53-1

Publication Date: 1953

Chapter Title: Average Levels of Income Shares, 1919-1938

Chapter Author: Simon Kuznets, Elizabeth Jenks

Chapter URL: http://www.nber.org/chapters/c3055

Chapter pages in book: (p. 1 - 31)

Volume One

Part I

Level of and Changes in Shares

Chapter 1

Average Levels of Income Shares, 1919-1938

1 *Income Shares, Upper Groups of Total Population*

The shares of upper income groups in countrywide income receipts of individuals are measured by the percentages amounts reported on federal tax returns are of aggregates derived in estimating national income. Since the income concept, income base, and unit of classification used in tabulating federal returns differ from those underlying the countrywide totals, we must make numerous adjustments based upon tentative assumptions. The technical points of these adjustments are discussed in Part IV. Here, to assure understanding of the estimates and a fair idea of the size of the shares that would be yielded were the tax data strictly comparable with the countrywide totals, we describe briefly the nature of these comparisons as actually made.

In calculating the basic variant the procedure is briefly as follows. For the groups reported annually in *Statistics of Income,* classified by net income, as defined for tax purposes, per return, we take income as the sum of wages and salaries, business and partnership income, rents and royalties, interest, and dividends. Gains from sales of assets are excluded as well as deductions reported as offsets to income (except business and partnership losses). For the same groups we estimate the population represented on the returns — all persons whose income is reported and those for whom credits are claimed because of dependence upon the income reported. Dividing income as defined above by population yields per capita income for each net income class. We then rank these classes in descending order of income per capita and cumulate downward both the population represented and the income reported. These cumulative totals are converted to percentages of total population and total income receipts, the latter excluding some minor items such as imputed rent and property income of life insurance companies and including transfer payments to labor. Into these percentages of population arrayed in descending order of income per capita we interpolate partition lines at the top 1, 3, 5 percent, and so on down, stopping short of exhausting the total tax return population. These interpolations yield the percentage shares of income received by the top 1, 3, and 5 percent of the population; and by subtraction we get the shares of the 2nd and 3rd, 4th and 5th percentage bands, and so on.

The arithmetic means of the annual shares for 1919-38 are entered in Table 1, line 1.[1]

Table 1

Average Annual Income Shares of Upper Income Groups of Total Population and Average Annual Adjustment for Various Factors, 1919-1938

		Percentage of Countrywide Income of Individuals Received by Given Percentage Band				
		Top 1 (1)	*2nd & 3rd* (2)	*4th & 5th* (3)	*Top 5* (4)	*Lower 95* (5)
1	Basic variant	13.14	6.61	4.93	24.69	75.31
	Adjustment for:					
2	Comp. of employees of state & local governments	0.00	+0.18	+0.18	+0.36	−0.36
3	Imputed rent	−0.11	−0.02	0.00	−0.13	+0.13
4	Family status	+0.58	+0.80	+0.74	+2.12	−2.12
5	Maximum effect of unwarranted inclusions	+0.43	+0.02	+0.08	+0.52	−0.52
6	Maximum effect of unwarranted deductions	+0.96	+0.70	+0.57	+2.23	−2.23
7	Economic income variant (1+2+3+4+5+6)	15.00	8.30	6.49	29.79	70.21
	Adjustment for:					
8	Federal income taxes	−0.95	+0.03	+0.04	−0.89	+0.89
9	Excess of gains over losses from sales of assets	+0.70	+0.06	−0.02	+0.75	−0.75
10	Disposable income variant (1+2+3+4+6+8+9)	14.32	8.36	6.44	29.13	70.87

This description is too brief to reveal clearly the salient features of the procedure that is basic to the whole inquiry. We therefore list these features so that the reader may keep them in mind in interpreting the findings.

1) We compare tax data – obtained in connection with the administration of a complex tax law, and subject to all the biases common to data involving payments by those reporting – with countrywide totals – based largely on census and similar data on income payments by industries. The two

[1] Similar comparisons, varying in elaborateness, have been made in the past. The first I know of was in *Income in the Various States: Its Sources and Distribution, 1919, 1920, and 1921* by Maurice Leven (NBER, 1925), where it was made in order to exclude the top income classes from comparisons among states (see Ch. XI, pp. 284 ff.). The Federal Trade Commission made a similar comparison for the country in *National Wealth and Income* (Washington, 1926; Table 108, p. 192). The procedure was used by M. A. Copeland in *Recent Economic Changes*, II, 833-7, and by W. I. King in *National Income and Its Purchasing Power*, Ch. VII, pp. 170-80 (NBER, 1929 and 1930 respectively); by A. J. Goldenthal in *Concentration and Composition of Individual Incomes, 1918-1937* (Temporary National Economic Committee, Monograph 4, Washington, 1940); and most recently by Mary W. Smelker in Shifts in the Concentration of Income, *Review of Economics and Statistics*, August 1948, pp. 215-22. Our study extends the estimates over a longer period and develops the analysis in greater detail.

bodies of data, representing respectively the numerator and denominator from which the income shares are derived, are statistically *independent,* which is all to the good, but they are subject to varying margins of error. In our judgment the biases in the income tax data due to the tax exempt status of certain items and to tax evasion and underreporting are not so flagrant, at least in the upper reaches of the tax return population, as to render the comparison subject to fatal error. The supporting evidence is explicitly discussed in Chapter 11 and is implicit in much of the analysis throughout the study.

2) The income concept governing the items covered in the numerator and denominator includes all income flows associated with participation of the individual or of his property in the production process except as otherwise indicated. For the denominator, we depart from the total ordinarily distinguished as the sector of national income (or 'income produced') flowing to individuals, i.e., 'aggregate payments to individuals', by excluding imputed rent on owner-occupied houses (for the basic variant alone: it is reincluded for the other variants), property income of life insurance companies, and employee contributions for social insurance (in recent years); and by including most transfer payments to labor (benefits from social insurance, relief payments, and the like). We try to approximate incomes *received* rather than produced during the year: all income payments in a sense involve transfers since they may, in any given year, exceed or fall short of, by appreciable proportions, the market value of the items produced by the services that are being paid for. From that standpoint, it is possible to construct a size distribution only of income *received,* since a size distribution of income *produced* would involve imputing net profit or loss of enterprises to the various production factors. Thus economic income, as defined here, is income that is received for productive service rendered currently, in the past, or chargeable against the future.

Economic income of the tax return population is defined correspondingly: gains from sales of assets are therefore excluded and deductions allowed as offsets, except business and partnership losses, are reincluded. Judging by the data for years for which detail is available, this reinclusion of deductions is, on the whole, warranted, since they are dominated by tax payments, interest payments (mostly on mortgages of owned homes) and losses from sales of assets, none of which can be viewed as a proper offset in computing the economic income of individuals. Nevertheless, our reinclusion of *all* deductions may perhaps slightly overstate economic income of the tax return population.

3) Tax returns, as tabulated by income class, are converted to population equivalents, i.e., they are adjusted to take account of the population represented on them. In other words, to construct our distributions we array

the population equivalents of the tax returns, not the individual recipients of income.

This procedure was partly a matter of choice, partly of necessity. The necessity lay in the fact that data were not available by which the number of recipients could be established: a tax return may cover more than one income recipient, and no information is published (and often is not available on the face of the return) concerning this point. But even if it were possible to estimate the number of individual income recipients on tax returns, the recipient unit is of limited usefulness in analyzing the size distribution of income. Whom should we include in a total of income recipients? Should we include those with zero or negative as well as those with positive income? If we do, the total is identical with total population; and a comparison of any given group of income recipients with this total would make little sense. And even if we include only those who receive positive income, it means including persons receiving negligible amounts as well as those receiving substantial amounts, and the significance of such a total is doubtful. Besides, excluding all zero income recipients means excluding the unemployed – a varying fraction of the population – with varying cyclical effects on shares of the upper income groups. And it does not seem reasonable to exclude persons who would normally be fully employed but who happen to be fully unemployed during the given year, and include persons who may have worked just a day or week.[2]

With the choice of using tax returns or persons as units, it definitely seemed better to use the latter; and as indicated above, returns were converted to their population equivalents. In consequence, our estimates cover upper income groups of total population, i.e., all persons (of any age, sex, occupation, or property status) as are represented on returns in the income classes with the highest economic income per capita.[3]

[2] This difficulty has led to some curious definitions of total income recipients. In the first National Bureau study (*Income in the United States, Its Amount and Distribution, 1909-1919*) and in A. J. Goldenthal's study (cited in note 1 and discussed briefly in Chapter 11), the total number of recipients was identified with the labor force or gainfully occupied population – which presumably includes some zero income recipients (unemployed) and some negative income recipients, and excludes persons who receive property incomes alone. In recent Census sample studies (discussed in Chapters 4, 5, and 11), income recipients are limited to persons 14 years of age and over, thus excluding youngsters who receive some income. In 1949 the Census Bureau estimated the number of income recipients to be 71.8 million (*Current Population Reports,* Series P-60, No. 7, Table 15, p. 29), whereas the maximum number in the labor force in any single month was 65.3 million and the maximum number employed, 59.9 million (*Economic Report of the President,* January 1951, p. 181).

[3] This decision naturally yields upper group shares somewhat different from those that would be obtained from a distribution among income recipients. However, the

4) The basis of the array of the tax return population and income data in any given year is *current* year income, and the countrywide totals with which they are compared also cover current year income. The countrywide totals could be cumulated for several years to yield total income of the population for a longer period. But the tax returns call for current year income and fail to show income for longer periods. Thus, perforce, our estimates of shares of upper groups are based on income *incidence* during a year, not on income *status* for a longer period. The effects of such a basis are discussed at some length in Chapter 4; here we point out how the composition of upper income groups is affected. The top 1 percent band for a given year obviously includes persons who will not be at the same high relative income level the next year or were never there before as well as persons who may have been or may remain at this high level for a long period. Chapter 4 indicates the extent of the mobility involved: it is substantial, and we should emphasize that the upper income groups include, in addition to a resident core, a large proportion of persons who are at the high relative levels only temporarily and whose income *status* is definitely much lower.

5) Were it possible to go back to each return, we would have calculated for each the economic income per person represented, arrayed and cumulated the population and income of all returns by the size of these per capitas from the top down, then drawn the partition lines at the top 1, 3, etc. percent of population. But since we have only the published tabulations, not the returns themselves, we must operate with the large groups constituted by the net (or adjusted gross) income classes as defined in the tax law. The conversion of returns to population equivalents and the calculation of economic income per capita are, therefore, carried through only for these large groups of returns, not for each return separately. This is particularly true of the basic variant; for the others an attempt was made to go back of the net income classes, but it was necessarily incomplete.

The important consequence of this limitation is that the income differences in the resulting size distribution of income are obscured — the shares of the upper income groups as estimated by us are, *on this particular account,* smaller than they should be. Any size distribution in which the unit of classification and income base are other than the person and economic income per capita would show less dispersion, a narrower spread. We are compelled to work with the net income classes, however, and the basic variant, derived from them with no adjustment to take account of this

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differences are, on the whole, minor. This point is discussed in Chapter 4 (see also comparisons in Ch. 11).

limitation, is indispensable since it is the one most directly yielded by the available data and hence the one that permits most detailed analysis of shares of upper income groups. It was designated 'basic' for this reason, not because it approximated most closely the desired distribution of income by size.

The adjustments in lines 2-6 of Table 1 are designed to correct for the weaknesses of the basic variant. They must be based upon assumptions backed by as much ingenuity as one can muster when faced with lack of detailed information. Their main purpose is to suggest the order of magnitude, not to yield precise annual measures, although they naturally differ in the extent to which they do so.

The adjustment for compensation of state and local government employees is needed because until 1939 these employees were not required to report on their federal tax returns payments from nonfederal agencies. Since the countrywide total used in deriving the basic variant includes compensation of nonfederal employees, the shares in the basic variant are slightly understated through 1938. The adjustment, based on the size distribution of nonfederal compensation for 1938 and on assumptions concerning the relation between that distribution and the ratio of nonfederal compensation to total income receipts per capita, is quite minor, raising the shares of the 2nd and 3rd, and 4th and 5th percentage bands 0.2 percentage points, on the average. It is, however, somewhat more significant in affecting annual movements in the shares of upper percentage bands because of the well known insensitivity of government compensation to cyclical changes.

To adjust for imputed rent we add this item to both individuals' total income receipts and the income reported by the tax return population. The difficulty of distributing imputed rent by income size classes was overcome by using the National Resources Committee distribution for 1935-36, then extrapolating it to other years, assuming the relative distribution to be constant and its absolute effect to be governed by the annual ratio (available from national income estimates) of imputed rent to total income receipts. The adjustment reduces the shares of the upper percentage bands, but only slightly, mainly because the ratio of imputed rent to total income receipts is low and partly because differences among income classes in this ratio are small.

The two adjustments are interesting because they show that modifications of the basic variant produced by changes in income scope are much smaller than one would expect from the mere size of the latter. Imputed rent is not a major item but it does account on the average for about 3 percent of total income receipts. Yet its effect on the shares, even relatively, is far smaller. This suggests that the shares of upper income groups would

similarly 'resist' most modifications in income scope. There are two reasons for this 'resistance': first, the relative magnitude of the item added or subtracted is not in itself as important as the extent to which the relative distribution of the item is different from or is associated with that of the income total underlying the basic variant; second, with every adjustment the array is rechecked and, if necessary, the rank of classes shifted. Hence if the addition to or subtraction from scope is large enough to cause a shift in rank, the effect is reduced by such a shift.

The next three adjustments (lines 4-6) do not affect the scope of income but have to do with the more complex problems of the income base and unit of classification. In the basic variant the unit of classification is the return whereas what we need is the income unit, whether an individual or a family (i.e., a group that pools its incomes) reduced to per capita terms. The adjustment for family or marital status, dividing each net income class into head-of-family and nonhead returns, yields a closer approximation to the unit we seek because it at least separates multi-person from single person returns. And since the approximation to the proper unit is closer we get a 'purer' array and a wider spread than in the variant that does not take account of family status. In consequence, the adjustment increases the shares of the upper income groups. But it is incomplete: a better approximation would yield an even larger increase. Experimental calculations suggest that the complete adjustment for number per return might mean an increase about 1.5 times as large as that in line 4.

The adjustments for 'unwarranted inclusions', i.e., gains from sales of assets, and for 'unwarranted deductions', i.e., losses from sales of assets, interest and tax payments by individuals, contributions, etc., are needed because in the basic variant the grouping is by net income, as defined for tax purposes, not by income as we define it here. Unwarranted inclusions make net income too large, and unwarranted deductions make it too small.

Unlike all other adjustments these two are based almost completely on assumptions and are designed to maximize the effect of differences in the income bases of classification. They therefore suggest the maximum rather than the true effect of the adjustment. In general, they assign unwarranted inclusions and deductions to a small proportion of returns in each net income class; call for recomputing the class means of per capita income, after eliminating or shifting the returns to which unwarranted inclusions and deductions have been assigned, then rearraying the classes. It is the assignment of the inclusions and deductions to a small proportion of returns in each net income class that produces the maximum effects: were these items distributed proportionately among all returns in each class, no change would ensue.

The additions to the shares of upper percentage bands in lines 5 and 6

exceed the adjustment that would have been made had data been available. Comparison with sample studies indicates that the adjustments for maximum effects of the difference between the income base wanted here and net income as defined for tax purposes are about 3 times the correct adjustment. But we preferred to keep the adjustments as they stood because they are the only ones available annually, and their overestimation may compensate for underestimates elsewhere in the calculations.

The five adjustments described so far were designed to modify the basic variant so as to get a better approximation to shares of upper percentage bands in a true distribution of economic income by size of income per capita, i.e., with income defined in accordance with national income estimating and using the proper income base and unit of classification. Adding all these adjustments to the shares in the basic variant we get the shares in what we call the 'economic income' variant (line 7).[4]

Line 7 is the best approximation we can make to the shares of upper percentage bands in a distribution of economic income by size of income per capita. The upward bias in the adjustment for unwarranted inclusions and deductions probably more than cancels the downward bias in the adjustment for the number of persons per return (for which we substitute here the adjustment for family status), even though such cancellation is not as true of the adjustments for the separate percentage bands as it may be of those for the top 5 percent as a whole. But there are still some biases. One is the underreporting of dependents on tax returns because during the period covered legal exemptions were confined to minors or disabled persons. In many families, particularly among the upper income classes, there may have been several dependents neither under 18 nor disabled for whom exemptions could not be claimed. Such underreporting would yield shares of the upper percentage bands higher than their true level.

Evasion and underreporting of income cause a bias in the opposite direction. This bias has been discussed at length but none too fruitfully in many studies using federal tax returns, and is treated in detail in Chapter 11. All one can suggest here is that the effect on line 7 is minimized by the following factors. (a) Stopping at the 5 percent line means stopping short in almost all years of the lower ranges of persons filing income tax returns, and well above the limits of the line below which filing is not required by law. Evasion is most flagrant near the filing requirement line. (b) Underreporting often takes the form of exaggerating deductions rather than of

[4] One may ask whether it is legitimate to add all the adjustments, rather than try to calculate their combined effect in a single operation. Unfortunately, the latter is impossible, and we have to add; which implies that the adjustments are not intercorrelated.

omitting an income item. By reincluding all deductions we not only repair the damage but to some degree overestimate the income. (c) If there is any underreporting, its effect on the shares is not equal to the relative magnitude of the items omitted, but to the difference between the true income of the culprits and the income of persons who, owing to this difference, are placed too high in the array, i.e., above rather than below the culprits. (d) Any downward bias that is still left in our estimates is at least partly offset by the upward bias noted above in connection with underreporting of dependents.

These considerations, as well as checks with other studies, lead us to believe that the level of the shares of upper percentage bands in the economic income variant is subject to only a minor downward bias, and may be taken as a fair approximation to the true level.

All averages in Table 1 and the other tables in Chapter 1 are arithmetic means of percentages for 1919-38. The recent years are not included because after 1939 the shares of the upper income groups declined sharply, by as much as a quarter to four-tenths, depending upon the variant — a decline unmatched in the record back to 1919. To include the recent years would, therefore, render the averages quite unrepresentative. But, before commenting on the findings, we must emphasize that in view of this decline since 1939, the averages for 1919-38 relate to a past that, at least with respect to the levels indicated, is unlike the recent years.

The top 5 percent of total population, i.e., the 5 percent with the highest income per capita, received on the average, almost 30 percent of total economic income. This means that its per capita income was 6 times that of the total population, i.e., 30 divided by 5; and about 8 times the per capita income of the lower 95 percent of the population, i.e., 6.0 divided by 0.74, the latter figure being derived by dividing 70 by 95. Its equivalent in absolute dollars can be seen by referring to the detailed tables in Part V. Average per capita income in 1919-38, including imputed rent, was about $550. Therefore, the per capita income of the top 5 percent averaged about $3,300, or about $10,000 for a family of three; that of the lower 95 percent, slightly over $400, or somewhat over $1,200 for a family of three. Another way of expressing the findings is in terms of the income partition values, i.e., the incomes at the very bottom of a given percentage band, on the boundary line between it and the group below. For the top 5 percent group the lower partition value averaged $1,670 per capita, or close to $5,000 for a family of three.

Whether this difference in income level between the top 5 and the lower 95 percent of the population is viewed as large or moderate, one must always remember that the composition of the top percentage bands (and,

hence, of the lower) is subject to shifts from year to year so that we are not dealing here with status groups. Furthermore, the contrast will vary as the partition line is shifted. Could we have drawn the partition line at 20 instead of 5 percent, the contrast in income level between the top and the lower groups would have been much less striking. On the other hand, if we draw the line at the top 1 percent, the contrast becomes sharp indeed. The per capita income of the top 1 percent was, on the average, about 15 times that for the total population. This means an average level of per capita income well over $8,000, or an income for a family of three well over $24,000 as contrasted with a per capita income for the lower 99 percent of slightly under $500, or an income for a family of three of somewhat under $1,500. Even the lower partition value for the top 1 percent group was quite high: per capita income at the lower limit of this group averaged $3,200, or $9,600 for a family of three. In short, inequality between the 'rich' and the 'poor' depends upon where one draws the line.

Within the top 5 percent group itself the income shares decline markedly from the top 1 to the lower percentage bands (line 7). Per capita income of the top 1 percent was 15 times countrywide per capita income in 1919-38; that of the 2nd and 3rd percentage band slightly more than 4 times the countrywide (8.3 divided by 2); and that of the 4th and 5th percentage band, 3.25 times it. If one were to plot these per capitas as multiples of the countrywide per capita (on the vertical scale), for the successive percentage bands from the top (on the horizontal scale), the line at the upper percentages would be almost asymptotic to the vertical axis, dropping rapidly and then flattening out. One consequence is that the share of the top 1 percent dominates that of the top 5 percent, accounting for about half of it.

The discussion so far has been in terms of economic income, i.e., shares of population groups in aggregate income received. These shares, associated with the participation of individuals or their property in the production process, may change substantially before an individual can treat them as available for either consumption or savings. These possible shifts are numerous, resulting from speculation, philanthropy, taxation (direct), gambling, gain or loss from bribery or robbery, and the like. We cannot account for all and can only guess at their combined effect in the shift from the distribution of economic income to that of disposable income. But with data from *Statistics of Income* we can take at least two steps on the path from economic to disposable income since they enable us to calculate the changes that would be produced by deducting federal income taxes and by including the net balance of gains and losses from sales of assets (lines 8 and 9).

While federal income taxes are not the sole direct tax on individuals, they

account for a substantial proportion, well over two-thirds.[5] The adjustment consisted of deducting federal income taxes paid, by net income, tax definition, classes; recomputing per capita income for each class; checking the array of the classes and rearraying, if necessary; redrawing the partition lines, if necessary; and calculating the new income shares.

On the whole, the deduction of federal income taxes reduces the share of the top 5 percent only 0.9 percentage points (line 8) or about a thirtieth. The narrowness of the effect is not due to rearraying since changes in the array resulting from deduction of the tax are quite rare and of minor size. It is rather a reflection of the moderate impact of the federal income tax for 1919-38, if not for recent years, calculated as a proportion of income gross of deductions allowed under the law, on the large population groups above the 5 percent partition line. The progressivity of the tax during the two decades would be more apparent if calculated for net income, tax definition, and confined to the very peak of the tax returns or total population; and it is of substantially greater impact since 1938 than before.

Moreover, the adjustment for federal income taxes reduces the share of the top 1 percent alone – about a fifteenth. Clearly, the impact of the tax would become more marked the smaller the top group distinguished. For the 2nd and 3rd, and 4th and 5th percentage bands, the adjustment increases the shares slightly, because the relative reduction of income due to subtracting federal income taxes is smaller than the relative reduction of countrywide income receipts. Relative increases in the shares of percentage bands below the 5 percent partition line due to the adjustment for federal income taxes would obviously be even larger.

The next adjustment (line 9), the addition of the net balance of gains and losses from sales of assets (where it is not a part of transactions in pursuit of a person's regular business, in which case the resulting gains or losses would appear under business profits or losses) is most open to question, on both theoretical and statistical grounds. It is clear that national income, as a measure of the net value of commodities and services produced during the year, cannot include such gains and losses. However, if we wish to take into account all the differences among persons in their means of payment whether obtained during the year from the participation of them or their property in production or from transfer processes (taxes, transactions in assets, etc.), one could argue for including the *realized* gains and losses on asset transactions; and indeed the argument could be

[5] Goldenthal's estimates for the 1930's, *op. cit.*, pp. 56-7, show that of a total including state and federal income taxes, nonbusiness personalty taxes, and poll taxes, federal income taxes accounted for 61 to 78 percent (1930, 1934, 1936, and 1938). One would surmise that in the 1920's, when fewer states imposed income taxes, the proportion of federal income taxes was at least as high.

pushed even further – for the inclusion of accrued but unrealized gains and losses on capital assets.[6] While the latter argument can be rejected as opening the door to the inclusion of a variety of unrealized, and hence intangible, changes in value, there is some basis for including at least realized capital gains and losses.

Statistical difficulties qualify the resulting estimates perhaps more than is true of the other adjustments. Not all capital gains are taxable and reportable (e.g., those representing appreciation before 1913). In some recent years statutory reporting yields only a partial total; and while we used the estimated totals prepared by Mr. Seltzer in connection with the monograph cited in note 6, they may be incomplete. The major difficulty, however, is that we cannot estimate the balance of capital gains and losses for the population not filing tax returns, and consequently had to assume that the total for the tax return population is the countrywide total. Hence, in years when the nontax return population make capital gains, our shares of this item assigned to upper groups are too large; when the nontax return population incur capital losses, our shares of capital gains assigned to upper income groups are too small. All we can hope is that the rough magnitudes and the short term changes estimated are not far from the actual. The adjustment involves adding the balance of capital gains and losses to the income of each net income, tax definition, class, recalculating income per capita, and, if necessary, rearraying the classes and redrawing the partition lines.

The adjustment increases the share of the top 1 percent, and, slightly, that of the 2nd and 3rd percentage band. But already in the 4th and 5th percentage band the effect is a slight reduction in the share, indicating that the relative net addition on account of this item is less than the relative net addition to the countrywide total.

We can combine the adjustments for federal income taxes and balance of gains and losses from sales of assets, and add them to shares as estimated in the economic income variant. The latter must be modified, however, to exclude the adjustment for unwarranted inclusions: what was an unwarranted inclusion in the distribution of economic income is a warranted inclusion in the distribution that takes account of gains from sales of assets. This yields what may be called the 'disposable income' variant, although the term is valid only in comparison with the economic income variant. The estimates still fail to reflect other shifts intervening between economic and

[6] This was done in W. I. King's *National Income and Its Purchasing Power*. For a recent discussion of the theoretical bases for treatment, as well as for a wealth of information on the tax and statistical aspects of capital gains, see Lawrence H. Seltzer, *The Nature and Tax Treatment of Capital Gains and Losses* (NBER, 1951).

disposable income (contributions and gifts, direct taxes other than federal income, and the like).

The shares in the disposable income variant in 1919-38 (line 10) differ from those in the economic income variant for the top 1 percent alone: on the whole its share is somewhat smaller after adjustment for federal income taxes and gains from sales of assets than before. The effect on the shares of the 2nd and 3rd, and 4th and 5th percentage bands is negligible. One could reasonably surmise that a more complete approximation to the disposable income variant would show a somewhat larger reduction in the share of the top 1 percent; and some reduction perhaps in the shares of the 2nd and 3rd, and 4th and 5th percentage bands. But one may doubt that even a complete coverage would reduce the share of the top 1 percent more than 2 percentage points below its level in the economic income variant; or the shares of the 2nd and 3rd, and 4th and 5th percentage bands more than 1 percentage point each.

2 *Income Shares, Upper Groups of Nonfarm Population*

The upper income groups filing federal tax returns include, in most years, very few members of the farm population.[7] Hence, just as in Section 1 we compared population and income on federal tax returns with total population and income, so we can, quite as legitimately, compare the population and income on federal tax returns – entirely nonfarm, to all intents and purposes – with the nonfarm population and its income. The procedure is strictly analogous: the numerators, tax return population and its income, are in fact identical, but the denominators are the nonfarm population and its income. The arithmetic means for 1919-38 of the annual shares in the basic variant and of the various adjustments are shown in Table 2.

Since we are comparing the same numerators with smaller denominators, we can calculate on a continuous basis not only the share of the top 5 but also that of the top 7 percent of the nonfarm population. For the former the average share is at about the same level as for the top 5 percent of the total population: somewhat over 24 percent in the basic variant, over 29 percent in the economic income variant, and well over 28 percent in the disposable income variant. But it is significant that the share of the top 5 percent of the nonfarm population is consistently smaller than that of the top 5 percent of the total population, even though by small fractions: 0.3 percentage points in the basic variant and 0.6 percentage points in both the economic income and the disposable income variants. That the share would be smaller might have been expected, but it was not inevitable. The farm population generally has a lower per capita income than the nonfarm.

[7] Evidence to support this conclusion is discussed in Chapter 8, Section 2.

Table 2

Average Annual Income Shares of Upper Income Groups of Nonfarm Population and Average Annual Adjustment for Various Factors, 1919-1938

		Percentage of Income of Nonfarm Population Received by Given Percentage Band							
		Top 1 (1)	*2nd & 3rd* (2)	*4th & 5th* (3)	*Top 5* (4)	*6th & 7th* (5)	*Top 7* (6)	*Lower 95* (7)	*Lower 93* (8)
1	Basic variant	13.31	6.58	4.50	24.39	4.01	28.40	75.61	71.60
	Adjustment for:								
2	Comp. of employees of state & local governments	0.00	+0.09	+0.18	+0.27	+0.08	+0.35	−0.27	−0.35
3	Imputed rent	−0.13	−0.02	(+)0.00*	−0.15	+0.01	−0.14	+0.15	+0.14
4	Family status	+0.53	+0.72	+0.58	+1.84	+0.64	+2.48	−1.84	−2.48
5	Maximum effect of unwarranted inclusions	+0.48	(−)0.00*	+0.07	+0.55	+0.05	+0.60	−0.55	−0.60
6	Maximum effect of unwarranted deductions	+0.92	+0.72	+0.68	+2.31	+0.44	+2.75	−2.31	−2.75
7	Economic income variant (1+2+3+4+5+6)	15.11	8.09	6.02	29.21	5.21	34.43	70.79	65.57
	Adjustment for:								
8	Federal income taxes	−1.06	+0.02	+0.04	−1.00	+0.04	−0.96	+1.00	+0.96
9	Excess of gains over losses from sales of assets	+0.76	+0.06	+0.01	+0.84	−0.01	+0.83	−0.84	−0.83
10	Disposable income variant (1+2+3+4+6+8+9)	14.33	8.18	6.00	28.51	5.19	33.70	71.49	66.30

* Less than ±0.005.

Hence, the share of any given top income group would be smaller when related to a base excluding the farm population than to a base including it. The reduction of the share was not larger because the top 5 percent of nonfarm population is numerically smaller and hence, with respect to income standing, a more selectively 'upper' group than the top 5 percent of the total population. For example, if the nonfarm population is 80 percent of the total population, the top 5 percent of the former is identical with the top 4 percent of the latter, and the per capita income of the top 4 percent of the total population must be larger than that of the top 5 percent. Clearly, the reduction in the share of the top 5 percent due to excluding the farm population and its income from the denominator was not fully offset by the increase in the per capita income of the numerator due to limiting it to a more selective upper group.

The lower level of shares of the upper income groups of nonfarm population suggests that, in general, narrowing the income population studied may reduce the relative dispersion or inequality in the income distribution. This is plausible since the larger the population the more heterogeneous may be its economic components; the more room, therefore, for income inequality, especially as reflected by measures at the extreme upper or lower end tail.

The conclusions from Table 2 concerning the various adjustments resemble those from Table 1. The most important additional bit of information is the share of the 6th and 7th percentage band. About 4 percent in the basic variant, it is increased sharply by the various adjustments so that it is somewhat over 5 percent in both the economic and disposable income variants. The relative magnitude of the adjustments is appreciably larger for this percentage band than for the top 1, and 2nd and 3rd percentage bands.

During 1919-38 the top 7 percent of nonfarm population received, on the average, well over 34 percent of the latter's income. But here, as in the case of the measures for total population, the shares within the top 5 and 7 percent groups were markedly unequal. The top 1 percent of nonfarm population still received as much as 15 percent of that population's economic income, and the shares decrease rapidly as we pass to the lower percentage bands.

3 *Level of Shares by Type of Income*

We have dealt so far with the average level of shares of upper income groups in total income.Do their shares in the various types of income equal those in total income? If, for example, the top 5 percent of total or of nonfarm population receive on the average about 30 percent of the total eco-

nomic income flow, does it receive also 30 percent of employee compensation, entrepreneurial income, dividends, and so on? Or do the upper group shares in the countrywide income of different types differ?

The answer, which can be given for the basic variant alone, is that they differ widely (Tables 3 and 4). While the top 5 percent received 24 to 25 percent of the total income, its share of employee compensation was only 17 percent in the case of total population and 15 percent for the nonfarm population; and its share of dividends was as high as 77 and 74 percent for the total and nonfarm population, respectively. The size of its shares in the other types of income ranged between those for employee compensation and those for dividends. Relative differences are even more conspicuous for the top 1 percent which received only 6 to 6.5 percent of employee compensation but 62 to 65 percent of dividends.

Table 3

Average Annual Shares of Upper Income Groups in Countrywide Totals of Various Types of Income: Basic Variant, Total Population, 1919-1938

		Percentage of Income Received by Given Percentage Band			
		Top 1 (1)	*2nd & 3rd* (2)	*4th & 5th* (3)	*Top 5* (4)
1	Total income	13.1	6.6	4.9	24.7
2	Employee comp.	6.5	5.6	4.8	16.9
3	Entrep. income	13.7	8.1	5.2	26.9
4	Rent	17.9	11.4	8.9	38.3
5	Interest	27.5	8.5	5.5	41.5
6	Dividends	64.7	8.2	3.6	76.6
7	Entrep. income & rent	14.2	8.5	5.6	28.3
8	Dividends & interest	46.1	8.4	4.5	58.9
9	Service incomes	8.1	6.2	4.9	19.1
10	Property incomes	40.1	8.8	5.3	54.2

Two other characteristics of the distribution evident in Tables 3 and 4 deserve to be noted. First, upper group shares in the various types of income reveal differences in the inequality of the distribution of these income types themselves. If we consider, for example, how employee compensation is distributed among the population of the country (not among recipients of such compensation alone but among the entire population, including recipients of any kind of income, and their dependents), Tables 3 and 4 tell us that *at least* 6 to 6.5 percent of employee compensation was received by a top 1 percent; and *at least* 15 to 17 percent by a top 5 percent. 'At least' is italicized because in these tables, the distribution of income groups is by total income per capita, *not* by employee compensation per capita; consequently, the dispersion of the true distribution of em-

Table 4

Average Annual Shares of Upper Income Groups in Countrywide Totals of Various Types of Income: Basic Variant, Nonfarm Population, 1919-1938

		Percentage of Income Received by Given Percentage Band					
		Top 1 (1)	*2nd & 3rd* (2)	*4th & 5th* (3)	*Top 5* (4)	*6th & 7th* (5)	*Top 7* (6)
1	Total income	13.3	6.6	4.5	24.4	4.0	28.4
2	Employee comp.	5.9	5.0	3.9	14.8	3.7	18.4
3	Entrep. income	20.4	12.6	7.5	40.5	6.2	46.6
4	Rent	15.6	9.8	7.2	32.7	6.5	39.2
5	Interest	25.4	8.0	4.7	38.1	3.9	42.0
6	Dividends	61.9	8.8	3.6	74.4	2.5	76.9
7	Entrep. income & rent	19.1	11.9	7.4	38.4	6.2	44.5
8	Dividends & interest	43.6	8.4	4.2	56.1	3.2	59.3
9	Service incomes	8.0	6.1	4.5	18.6	4.1	22.7
10	Property incomes	37.7	8.5	4.7	50.9	3.7	54.7

ployee compensation is damped by an inappropriate basis of size classification. Thus, the entries in Tables 3 and 4 measure the minimum inequality in the distribution of each type of income by per capita size among the total and nonfarm population. The true inequality is greater. But we may reasonably assume that differences in minimum inequality probably reflect differences in true inequality.[8]

Second, the inequality of the distribution of the shares within the top 5 percent group differs markedly among the various types of income. For employee compensation in Table 3 the spread between the 6.5 percent share of the top 1 percent, the 2.8 percent share (per percentile) of the 2nd and 3rd percentage band, and the 2.4 percent share (again per percentile) of the 4th and 5th percentage band is much narrower than that for dividends in which the share of the top 1 percent is 65 percent and the shares of the 2nd and 3rd, and 4th and 5th percentage bands are 4.1 percent and 1.8 percent (per percentile) respectively. In other words, just as the minimum inequality of the distribution among various types of income differs

[8] This assumption is confirmed for the total population by size distributions of various types of income among recipients. E.g., for Wisconsin we have for 1929, 1935, and 1936 concentration ratios calculated for distributions of various types of income (*Analysis of Wisconsin Income,* NBER, 1948, Table 17, p. 120). The average concentration ratio for the three years is: wages and salaries, 0.345; business incomes, 0.484; rent, 0.581; interest, 0.727; dividends, 0.847. All of these ratios are higher, as they should be, than the ones derived from Table 3 and presented in Table 5; and there are some elements of noncomparability among the income types, let alone the possible noncomparability between measures for one state and for the country. But the rank of the various types of income and even the order of the differences, by the level of the concentration ratio, are fairly similar for Wisconsin and for the countrywide measures in Tables 3 and 5.

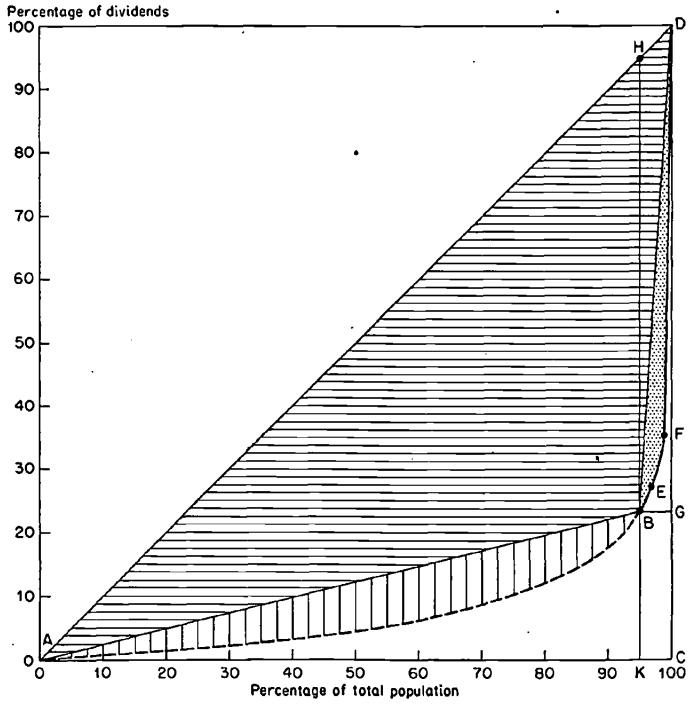
between the lower 95 and the top 5 percent groups so also does it within the top 5 percent group itself.

Both types of difference can be seen somewhat more precisely if we envisage the percentages in Tables 3 and 4 as segments of Lorenz curves, then calculate the inequality (departure from perfect equality) represented by these various percentages, and finally, compute the concentration ratio for each type of income. Chart 1 provides a Lorenz curve[9] constructed on the basis of the entries for dividends in Table 3, line 6. The area ABD measures the absolute inequality produced by differences between the shares of the lower 95 and the top 5 percent, the 'inter-inequality', i.e., between the 'rich' and the 'poor'; the area BEFD measures the absolute inequality produced by differences among the shares of the percentage bands within the top 5 percent, 'intra-top inequality'; the area whose two terminal points are A and B, and which is enclosed by the curved dash line, would measure 'intra-lower inequality' had we the data.

Tables 5 and 6 assemble the measures of 'inter-inequality' for total income as well as for the various types, the measures of 'intra-top inequality', and of total inequality thus derivable from Tables 3 and 4, and the corresponding concentration ratios. Absolute inequality is calculated by measuring the areas illustrated in Chart 1 (see the sample calculation for the entries in col. 1 and 3 of line 6 at the bottom of Table 5). The concentration ratios are fractions in which the absolute inequality is the numerator and the maximum inequality observable with the given partitions in the distribution of income is the denominator. On the assumption that no negative incomes exist, such maximum possible inequality can be easily calculated for each column of Tables 5 and 6. For example, in the distribution that distinguishes the lower 95 from the top 5 percent group as a whole, maximum inequality would mean that the top 5 percent received 100 percent of all income; and in this case, absolute inequality would be 4,750, i.e., $(100 \times 100)/2 - (5 \times 100)/2$. In the distribution within the top 5 percent group, which distinguishes the top 1, 2nd and 3rd, and 4th and 5th percentage bands, maximum inequality would mean that the

[9] A Lorenz curve is a graphic device in which the cumulative proportions of a given population, ranked by increasing size of a given characteristic (in this case, income receipts per capita), are plotted on the X axis; and the proportions of the total magnitude of that characteristic or some other characteristic (in this case, country-wide dividends) assignable to the proportional groups of total population are plotted on the Y axis. If perfect equality exists, the Lorenz curve coincides with the diagonal line that connects the 0-0 point with the 100-100 point (if the proportions are in percentages and if there are no negative items). Inequality is measured by the area between the actual Lorenz curve for a given distribution and the diagonal line of perfect equality.

Chart 1
Lorenz Curve, Based on Average Annual Shares of Upper Income Groups of Total Population in Dividends 1919–1938



top 1 percent received 100 percent of all the income of the top 5 percent group. Hence, the maximum inequality would equal the total share of the top 5 percent group, S, multiplied by 2, i.e., $(S \times 5)/2 - (S \times 1)/2$. Finally, in the distribution that both separates the lower 95 percent from the top 5 percent group and distinguishes within the latter the three percentage bands that we do, maximum inequality would mean that 100 percent of all income was received by the top 1 percent alone; the denominator would then become 4,950, i.e., $(100 \times 100)/2 - (1 \times 100)/2$. Thus calculated, the concentration ratio ranges from zero for perfect equality to 1 for maximum inequality.[10]

[10] The procedure for Table 6 where we distinguish more upper income groups is similar. The denominator for calculating the concentration ratio in the distribution between the lower 93 and the top 7 percent group is 4,650, i.e., $(100 \times 100)/2 - (7 \times 100)/2$. The denominator for calculating the concentration ratio for the distribution within the top 7 percent group is the total share of the top 7 percent group, S, multiplied by 3, i.e., $(S \times 7)/2 - (S \times 1)/2$.

Table 5

Absolute Inequality and Concentration Ratios, Based on Average Annual Shares of Upper Income Groups in Various Types of Income: Basic Variant, Total Population, 1919-1938

		Inter-lower 95 and Top 5 Percent Inequality		Intra-top 5 Percent Inequality		Total Inequality	
		Absolute (1)	*Concentration Ratio* (col. 1 ÷ 4750) (2)	*Absolute* (3)	*Concentration Ratio* [col. 3 ÷ (2 × share, Table 3)] (4)	*Absolute* (col. 1 + col. 3) (5)	*Concentration Ratio* (col. 5 ÷ 4950) (6)
1	Total income	984.5	0.207	22.2	0.449	1,006.7	0.203
2	Employee comp.	595.8	0.125	8.7	0.256	604.5	0.122
3	Entrep. income	1,096.1	0.231	23.6	0.439	1,119.7	0.226
4	Rent	1,664.6	0.350	28.3	0.369	1,692.9	0.342
5	Interest	1,827.2	0.385	51.0	0.614	1,878.2	0.379
6	Dividends	3,577.9	0.753	128.1	0.837	3,706.0	0.749
7	Entrep. income & rent	1,164.9	0.245	24.1	0.426	1,189.0	0.240
8	Dividends & interest	2,697.4	0.568	89.5	0.759	2,786.9	0.563
9	Service incomes	707.0	0.149	12.0	0.312	718.9	0.145
10	Property incomes	2,460.0	0.518	76.7	0.708	2,536.7	0.512

Note on Calculation of Measures of Inequality (using Chart 1 and entries for dividends, line 6 of Table 3):

Column

1 Area of triangle ABD = area of triangle ABH + area of triangle HBD.

Area of triangle ABH = area of triangle AKH − area of triangle AKB = $[(95 \times 95)/2 - (95 \times 23.442)/2] = 95\left(\frac{95-23.442}{2}\right) = 95 \times 35.779 = 3{,}399.005$.

Column

Area of triangle HBD = [(area of triangle ACD − area of triangle AKH) − (area of KBGC + area of triangle BDG)] = $[(100 \times 100)/2 - (95 \times 95)/2] - [(5 \times 23.442) + (5 \times 76.558)/2] = (5000 - 4512.5) - (117.210 + 191.395) = 178.895$.

Area of triangle ABD = 3,399.005 + 178.895 = 3,577.900.

3 Area of BEFD = Area of triangle BDG − area of BEFDG = $[(5 \times 76.558)/2] - [(4 \times 3.622) + (2 \times 8.205) + (1/2 \times 64.731)] = 191.395 - 63.264 = 128.131$.

Table 6: Absolute Inequality and Concentration Ratios, Based on Average Annual Shares of Upper Income Groups in Various Types of Income: Basic Variant, Nonfarm Population, 1919-1938

A Top 5 Percent and Lower 95 Percent

		Inter-lower 95 and Top 5 Percent Inequality		Intra-top 5 Percent Inequality		Total Inequality	
		Absolute (1)	*Concentration Ratio* (col. 1 ÷ 4750) (2)	*Absolute* (3)	*Concentration Ratio* [col. 3 ÷ (2 × share, Table 4)] (4)	*Absolute* (col. 1 + col. 3) (5)	*Concentration Ratio* (col. 5 ÷ 4950) (6)
1	Total income	969.6	0.204	23.1	0.474	992.7	0.201
2	Employee comp.	487.6	0.103	8.4	0.283	496.0	0.100
3	Entrep. income	1,774.0	0.373	35.7	0.441	1,809.7	0.366
4	Rent	1,385.4	0.292	25.3	0.387	1,410.7	0.285
5	Interest	1,654.4	0.348	47.6	0.625	1,702.0	0.344
6	Dividends	3,468.4	0.730	122.8	0.826	3,591.2	0.725
7	Entrep. income & rent	1,669.0	0.351	33.1	0.431	1,702.1	0.344
8	Dividends & interest	2,557.0	0.538	85.1	0.758	2,642.1	0.534
9	Service incomes	679.7	0.143	12.4	0.333	692.1	0.140
10	Property incomes	2,296.4	0.483	72.7	0.714	2,369.1	0.479

B Top 7 Percent and Lower 93 Percent

		Inter-lower 93 and Top 7 Percent Inequality		Intra-top 7 Percent Inequality		Total Inequality	
		Absolute (1)	*Concentration Ratio* (col. 1 ÷ 4650) (2)	*Absolute* (3)	*Concentration Ratio* [col. 3 ÷ (3 × share, Table 4)] (4)	*Absolute* (col. 1 + col. 3) (5)	*Concentration Ratio* (col. 5 ÷ 4950) (6)
11	Total income	1,069.9	0.230	37.5	0.440	1,107.4	0.224
12	Employee comp.	572.5	0.123	13.9	0.250	586.4	0.118
13	Entrep. income	1,982.4	0.426	60.8	0.434	2,043.2	0.413
14	Rent	1,610.0	0.346	41.8	0.356	1,651.8	0.334
15	Interest	1,751.0	0.377	75.9	0.602	1,826.9	0.369
16	Dividends	3,493.4	0.751	190.9	0.828	3,684.3	0.744
17	Entrep. income & rent	1,876.6	0.404	56.1	0.420	1,932.7	0.390
18	Dividends & interest	2,617.2	0.563	133.3	0.749	2,750.5	0.556
19	Service incomes	783.0	0.168	20.8	0.306	803.8	0.162
20	Property incomes	2,383.5	0.513	114.3	0.697	2,497.8	0.505

In interpreting Tables 5 and 6 it must again be noted that the measures for the various income types, as distinct from those for total income, are those of minimum, not actual inequality. Furthermore, we are interested in relative rather than absolute inequality, since the latter depends upon the absolute size of the proportions of the countrywide total covered and the absolute levels of the shares. Hence, our primary emphasis is on the concentration ratios.

Four conclusions emerge from Tables 5 and 6. The first, concerning differences in the inequality of the distribution of various types of income, was noted also in Tables 3 and 4: the 'inter-inequality' is by far the preponderant proportion of total inequality measured here, and is determined exclusively by the share of the top 5 percent. The extension of the measures to distinguish the lower 93 and top 7 percent groups and an additional percentage band within the latter (in Table 6) affects the differences in relative concentration among the several income types little.

Second, there is a distinct parallelism between the income types with respect to the 'inter-inequality' and 'intra-top inequality' in their distribution (cf. col. 2 and 4 for lines 2-6 in Tables 5 and 6). An income type for which 'inter-inequality' tends to be low is characterized also by a low inequality of its distribution within the top 5 or 7 percent group. The sole reversal in order is in entrepreneurial income. While for the total population the inequality in its distribution between the lower 95 and top 5 percent groups is small, exceeding that of employee compensation alone, the inequality in its distribution within the top 5 percent group is much greater, exceeding that of both employee compensation and rent. For the nonfarm population the inequality in its distribution between the lower 95 or 93 percent and the top 5 or 7 percent groups is appreciably greater, exceeding that of all other income types except dividends, whereas the inequality in its distribution within the top 5 or 7 percent group is somewhat less, exceeding that of employee compensation and rent alone. The omission of entrepreneurial income from farming thus raises the 'inter-inequality' in the distribution of entrepreneurial income but does not affect its intra-top group inequality.

Third, the concentration ratios for the total and nonfarm population variants differ significantly, even for parallel group divisions, i.e., lower 95 and top 5 percent of both. For the nonfarm population (Part A, Table 6), the relative inter-inequality is generally less for each income type, except entrepreneurial income; and there are similar differences in relative total inequality. Obviously, what has happened is that, with the exception of entrepreneurial income, the exclusion of the farm population meant a proportionally much smaller deduction of income; consequently the newly

defined top group (5 percent of the nonfarm population but roughly 4 percent of total population) receives a smaller proportion of the country-wide total of each income type. In contrast, the relative inequality within the top 5 percent group increases as we pass from total to nonfarm population for each income type except dividends: presumably as we narrow the absolute limits of the upper group and confine it to a more selective top group of total population the relative dispersion in the distribution of most income types widens.

Fourth, in comparing Parts A and B in Table 6 we find that, generally, the addition of another percentage band (6th and 7th) increases the relative inequality between the lower and the top group, the latter taken as a whole. This is inevitable as long as the 6th and 7th percentage band receives a larger income share (per percentile) than the lower 95 percent. Relative inequality within the top 7 percent is somewhat less than within the top 5 percent for all types except dividends. Extending the top group and distinguishing more groups within it obviously increased the absolute spread of actual shares less than it did the maximum inequality.

4 *Type-Structure of Upper Group Incomes*

If upper group shares in various types of income differ from the shares in total income, the structure of total income by type for upper income groups must differ from that for the population as a whole and for the lower 95 or 93 percent. If, for example, the upper income groups draw x percent of total income and $x + a$ percent of dividends, the proportion of dividends in their total income must be larger than in the total income of the entire population or of the lower income groups.

Tables 7 and 8 show the average structure of total income by type for the upper percentage bands of the population, for the lower 95 or 93 percent, and for the entire population. It follows as a matter of arithmetical necessity from Tables 3 and 4 that the proportion of all types of property income, and even of entrepreneurial income, in the total income of the upper 5 or 7 percent is larger than for the lower 95 or 93 percent or for the entire population. By contrast, the proportion of employee compensation in upper group income is lower than in the income of the entire population or in that of the lower 95 or 93 percent.

The pattern of shifts in the type-structure of income as we descend to the lower income groups is distinct in Tables 7 and 8. The proportion of 'pure' property incomes, interest and dividends, is highest in the income of the top 1 percent, falling off rapidly as we descend to the 2nd and 3rd, 4th and 5th, 6th and 7th percentage bands, and finally to the lower 95 or 93 percent. The proportion of entrepreneurial income and rent increases from

Table 7

Average Annual Percentages of Various Types of Income in Total Income Upper Income Groups and Total Population
Basic Variant, Total Population, 1919-1938

		Total Population (1)	Percent Top 1 (2)	2nd & 3rd Percentage Band (3)	4th & 5th Percentage Band (4)	Top 5 Percent (5)	Lower 95 Percent (6)
1	Employee comp.	66.0	33.0	56.3	63.8	45.4	72.8
2	Entrep. income	18.2	19.0	22.5	19.1	19.9	17.6
3	Rent	3.0	3.9	5.2	5.3	4.5	2.5
4	Interest	6.5	13.2	8.2	7.1	10.6	5.1
5	Dividends	6.3	30.9	7.8	4.6	19.5	2.0
6	Total (1-5)	100.0	100.0	100.0	100.0	100.0	100.0
7	Entrep. income & rent	21.2	22.9	27.7	24.4	24.5	20.1
8	Dividends & interest	12.8	44.1	16.0	11.8	30.1	7.1
9	Service incomes	84.2	51.9	78.8	83.0	65.3	90.4
10	Property incomes	15.8	48.1	21.2	17.0	34.7	9.6
11	Total (9 + 10)	100.0	100.0	100.0	100.0	100.0	100.0

the top 1 percent to the 2nd and 3rd percentage band, then declines. The proportion of employee compensation increases steadily from its low level in the top 1 percent to successively higher levels in the percentage bands below. This pattern could be assumed to continue as we descend to income groups below the top 5 or 7 percent, except that as we reach the very low groups, dominated by retired persons or those living on relatively small returns from investments, the proportion of property incomes in the total may again rise.

As we descend the income scale, total income tends more and more to consist of a single type, employee compensation, and there is less genuine diversity in sources of income. If we consider the most detailed allocation available, that among five income types, and measure the concentration of income sources by a simple index – the sum, signs disregarded, of the deviations of the actual percentages from the 'equal', i.e., 20.0 for each income type – the index rises steadily from 47.8 for the top 1 percent in Table 7 to 87.7 for the 4th and 5th percentage band, and to 105.6 for the lower 95 percent. The corresponding index calculated from Table 8 rises from 48.3 for the top 1 percent to 88.8 for the 6th and 7th percentage band, and to 119.6 for the lower 93 percent. If the short term movements of income of various types diverge and hence cancel in part when we total the several income types, the upper income groups are likely to profit more from the resulting short term stability of total income than are the lower groups.

However, the measures in Tables 7 and 8 are for income groups as

Table 8

Average Annual Percentages of Various Types of Income in Total Income Upper Income Groups and Nonfarm Population
Basic Variant, Nonfarm Population, 1919-1938

		Nonfarm Population (1)	Top 1 Percent (2)	2nd & 3rd Percentage Band (3)	4th & 5th Percentage Band (4)	Top 5 Percent (5)
1	Employee comp.	70.1	31.1	53.6	60.8	42.7
2	Entrep. income	12.0	18.4	23.3	20.5	20.1
3	Rent	3.4	3.8	5.0	5.4	4.4
4	Interest	7.3	13.6	8.7	7.6	11.1
5	Dividends	7.1	33.0	9.5	5.7	21.7
6	Total (1-5)	100.0	100.0	100.0	100.0	100.0
7	Entrep. income & rent	15.4	22.3	28.2	25.9	24.5
8	Dividends & interest	14.4	46.6	18.2	13.3	32.8
9	Service incomes	82.1	49.5	76.8	81.3	62.8
10	Property incomes	17.9	50.5	23.2	18.7	37.2
11	Total (9 + 10)	100.0	100.0	100.0	100.0	100.0

		6th & 7th Percentage Band (6)	Top 7 Percent (7)	Lower 95 Percent (8)	Lower 93 Percent (9)
1	Employee comp.	64.4	45.7	79.0	79.8
2	Entrep. income	18.8	19.9	9.4	8.9
3	Rent	5.3	4.5	3.1	3.0
4	Interest	7.1	10.6	6.0	6.0
5	Dividends	4.4	19.3	2.4	2.3
6	Total (1-5)	100.0	100.0	100.0	100.0
7	Entrep. income & rent	24.1	24.4	12.5	11.9
8	Dividends & interest	11.5	29.8	8.5	8.3
9	Service incomes	83.2	65.6	88.4	88.7
10	Property incomes	16.8	34.4	11.6	11.3
11	Total (9 + 10)	100.0	100.0	100.0	100.0

wholes, not for the individual units within them. There must be many units even within the top 1 percent that depend upon a single or a highly dominant source. Second, the distinction among income types is crude, especially from the standpoint of providing clues to differences in short term variability over time.

5 *Redistribution by Omitting or Equalizing Property Incomes*

Inequality in the distribution of wealth, and hence of property incomes, is often assumed to be the main source of inequality in the distribution of total income. Whether this assumption can be tested depends upon how it is formulated. Inequality in the distribution of wealth and property incomes may affect the distribution of income not only directly – by adding unequal amounts to incomes received for rendering services (labor) – but

also in many other ways – by creating opportunities for training and hence subsequently for income earning; by permitting other uses of wealth for the purpose of gaining an advantageous position in the earned income ladder; by affecting incentives and drives toward earning larger incomes; and so on. Naturally, the assumption as just formulated could not be tested by data of the type used here. But we can calculate the purely arithmetical or direct effect of the inequality in the distribution of property incomes upon the inequality in the distribution of total income – both as reflected in upper group shares. The calculations below are confined to the basic variant for total population; obviously the results for the nonfarm population would be roughly similar.

If we omit property incomes, defined as rent, interest, and dividends, and assume that the distribution of service incomes (employee compensation and entrepreneurial income) is not affected, what would be the average level of upper group shares?

Since we assume that total income consists only of service incomes, we calculate the share of each upper group by multiplying its original share in total income (Table 9, line 1) by the proportion that service incomes are of the latter (line 2). The products measure upper group shares in the new version of total income, whose sum for the country is 84.2 percent (line 3). By converting the share of each upper group to a percentage of the latter, we derive its percentage share in the countrywide total confined to service incomes (line 4).

As might have been expected, the omission of property incomes reduces the shares of the upper groups, most markedly that of the top 1 percent. But the reduction is moderate: the share of the top 5 percent group as a whole declines from 24.7 to 19.2 percent. And even this decline is exaggerated: when we omitted property incomes we should have reclassified the units by the level of their income excluding property types. We could not do this even by going back to the tax return tabulations, since their classification is by an income total that includes all sources of income (and a few deductions) and it would have been almost impossible to reclassify them without going back to the individual returns themselves. The failure to reclassify means that the upper group shares (line 4) are distinctly underestimated. One could reasonably guess that a proper reclassification would have raised the share of the top 5 percent group from 19.2 to at least 21 percent. With this adjustment, the removal of property incomes reduces the share of the top 5 percent about a seventh.

The moderateness of this reduction is obviously due to two factors. First, we omitted instead of redistributing property incomes. Omission causes the distribution of total income to be determined exclusively by the

Table 9

Average Annual Shares of Income After Removal or Equal Distribution of Property Incomes
Basic Variant, Total Population, 1919-1938

	Total Population (1)	Percentage Band: Top 1 (2)	2nd & 3rd (3)	4th & 5th (4)	Top 5 (5)	Lower 95 (6)
1 % shares in total income	100.0	13.1	6.6	4.9	24.7	75.3
2 % service incomes are of total income	84.2	51.9	78.8	83.0	65.3	90.4
3 % shares limited to service incomes (1 × 2)	84.2	6.8	5.2	4.1	16.1	68.0
Removal of property incomes (rent, interest, and dividends)						
4 % shares in total income	100.0	8.1	6.2	4.9	19.2	80.8
Equal distribution of property incomes (as defined for line 4)						
5 % shares in property incomes	15.8	0.16	0.32	0.32	0.79	15.0
6 % shares in total income (3 + 5)	100.0	7.0	5.5	4.4	16.9	83.1

distribution of service incomes. If we distribute property incomes equally, we damp further the inequality in the distribution of total income (lines 5 and 6). Property incomes contribute 15.8 percent of individuals' total income receipts, and in an equal distribution of this amount the top 1 percent group would get just 1 percent of it, the 2nd and 3rd percentage band just 2 percent, and so on (line 5). Adding these equal shares in property incomes to the shares in service incomes (line 3), we derive the new estimates of upper group shares in total income, on the assumption that property types are equally distributed.

The share of the top 5 percent group is now reduced from 24.7 percent before redistribution to 16.9 percent after redistribution, the major part of the reduction occurring naturally in the share of the top 1 percent (from 13.1 to 7 percent). Here again because of failure to reclassify on the new income base, the shares in line 6 are underestimates. We can reasonably assume that the true share for the top 5 percent group is about 19 percent, and for the top 1 percent probably 8 percent or more. Thus the reduction in the share of the top 5 percent consequent upon an equal distribution of property incomes is probably somewhat over two-tenths (from 24.7 to 19), and that in the share of the top 1 percent, four-tenths (from 13 to 8).

The second factor that narrows the effect of both omission and redistribution of property incomes is the small weight of the latter: they constitute only about a sixth of individuals' total income receipts. One could argue that our estimate of the share of property incomes is on the low side since we do not include the property return element of entrepreneurial income.

The argument is not too impressive as property return is hardly a significant proportion of entrepreneurial income; besides, the inclusion of rent exaggerates property incomes since rent presumably covers compensation for management, i.e., for service, as well as pure property return. But just to see what the effects would be, we assume that entrepreneurial income does include a property income element, and, to provide some basis for illustrative calculations, let us make the extreme assumption that the greater inequality in the distribution of entrepreneurial income than in employee compensation is due to this property income element (Table 10).[11]

Since we know that on this assumption the top 5 percent received 16.9, not 26.9 percent of entrepreneurial income, the difference (10 percent) is assigned to the pure property return part. We can now recalculate the type-structure of income, for both total population and each income group (lines 3-5), and proceed in Table 10 as we did in Table 9, first omitting property incomes, which now constitute 17.6 instead of 15.8 percent of individuals' total income receipts, then distributing this larger property income sector equally.

Since property incomes are larger here than in Table 9, the reduction due to either omission or redistribution is necessarily greater. Omission (line 9) reduces the share of the top 5 percent from 24.7 to 17.3 percent; and allowing again for an underestimate due to failure to reclassify on the new base, the decline would be from 24.7 to roughly 19.0, i.e., somewhat over two-tenths. For the top 1 percent the corresponding figures are 13.1 and 6.7 percent; and with the latter raised to at least 7.5, the decline would be about four-tenths. The equal distribution of property incomes has even more marked effects: for the top 5 percent the decline, allowing for an underestimate, would be roughly from 24.7 to about 17.0, or about three-tenths; for the top 1 percent, from 13.1 to about 7.0, or about a half.

Nevertheless, even under the drastic assumption that property incomes – as inclusive as possible in their coverage – are equally distributed, substantial inequality between the shares of the top 5 percent and the lower 95 percent remains. With a rough adjustment for the underestimate, the top 5 percent receives 17 percent of income (line 11), 3.4 times as much per

[11] The assumption is extreme in two respects. First, it means that between one-third and four-tenths – 10.0 out of 26.9 percent (see Table 3, lines 2 and 3) – of the entrepreneurial income received by the top 5 percent group is assigned to property income, surely an excessive proportion. Second, the application of the assumption for each percentage band involves an extreme implication – that of this 10 percent, 7.2 is received by the top 1 percent, 2.5 by the 2nd and 3rd percentage band, 0.4 by the 4th and 5th percentage band, and none by the groups below the top 5 percent.

Table 10

Average Annual Shares of Income After Removal or Equal Distribution of Property Incomes, Assuming Part of Entrepreneurial Income to be Property Income
Basic Variant, Total Population, 1919-1938

		Total Population (1)	Percentage Band: *Top 1* (2)	*2nd & 3rd* (3)	*4th & 5th* (4)	*Top 5* (5)	*Lower 95* (6)
1	% shares in employee comp.	100.0	6.5	5.6	4.8	16.9	83.1
2	% shares in entrep. income excl. property income	90.0	6.5	5.6	4.8	16.9	73.1
Percentage given income types are of total income							
3	Employee comp.	66.0	32.7*	56.4*	64.0*	45.3*	72.8
4	Service part of entrep. income	16.4	9.0	15.5	17.6	12.5	17.6
5	Property incomes, incl. balance of entrep. income	17.6	58.3	28.0	18.4	42.2	9.6
6	% shares in total income	100.0	13.1	6.6	4.9	24.6*	75.4*
7	% service incomes are of total income	82.4	41.7	72.0	81.6	57.8	90.4
8	% shares limited to service incomes (6 × 7)	82.4	5.5	4.7	4.0	14.2	68.1
Removal of property incomes (rent, interest, dividends, and part of entrepreneurial income)							
9	% shares in total income	100.0	6.7	5.7	4.9	17.3	82.7
Equal distribution of property incomes (as defined for line 9)							
10	% shares in property incomes	17.6	0.18	0.35	0.35	0.88	16.8
11	% shares in total income (8 + 10)	100.0	5.7	5.1	4.4	15.1	84.9

* Slight differences between these entries and those in Table 3, 7, or 9 are due to mathematical differences between the share of total income as estimated directly and as a sum of the types.

capita as the population as a whole, or about 4 times as much per capita as the lower 95 percent. At least two-thirds, and probably somewhat more, of the original inequality still remains when property incomes are distributed equally; and an even wider spread remains if we merely remove property incomes without redistributing them. Clearly, there are elements in the distribution of service incomes that make for substantial inequality of incomes. These elements may in turn be connected with an unequal distribution of wealth and property; but at present there is no way of tracing such connections or of judging their importance.