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CHAPTER 7

CYCLICAL AMPLITUDES IN PERSONAL INCOME BY SIZE OF INCOME

THE effort to understand cycles in personal income has led us to examine the cycles in the various types of income that make up the whole. Incomes may also be classified according to their size. How have increases in income during business expansions, and decreases during contractions, been distributed among the high, moderate, and low income groups? Our analysis of income by type is of some assistance in answering this question. Looking at nonfarm personal income, we can say that:

1. Except for the expansion after World War II, salaries have expanded and contracted less than wages.
2. The compensation of corporate officers, i.e. the higher-paid executives, typically expands and contracts less than the compensation of other salaried personnel.
3. Supplements to wages and transfer payments show a secular increase, rising during contractions as well as expansions in personal income.
4. The net income of nonfarm proprietors has larger relative upswings and downswings than nonfarm labor income.
5. Dividend disbursements to individuals between 1921 and 1938 also show larger fluctuations than nonfarm labor income.
6. Interest payments to individuals have a low conformity to cycles in general business and in personal income. From 1900 through 1929 they rose steadily during both contractions and expansions in personal income; during the 1930's they dropped without interruption regardless of the phase of the income cycle.

These findings mean that we can with some qualifications deduce the cyclical amplitudes of high, moderate, and low incomes (nonfarm) if we know, for each income-size group, what proportion of total income came from wages, dividends, and the other main types. This information is supplied by Kuznets' analysis.[1] The estimates in

[1] Simon Kuznets, *Shares of Upper Income Groups in Income and Savings*, National Bureau of Economic Research, 1953. It must be clear to any student of the subject that this section can make little claim to originality either in the development of data or in interpretation. It is based almost entirely on Kuznets' researches. The only reason for its inclusion in this study is to round out the discussion of the cyclical behavior of personal incomes. The analysis is restricted

Table 23 are averages for the period 1919-1938 for the nonfarm population and are adapted from Kuznets' study, where income per tax return by net income classes is reduced to income per capita. Starting with the net income classes receiving the highest per capita incomes in each year, Kuznets distinguishes, among others, the top 1 per cent of the nonfarm population, 2nd and 3rd per cent from the top, 4th and 5th per cent from the top, 6th and 7th per cent from the top, and the lower 93 per cent. The individuals included in a given percentage band vary from year to year. Those in the top 1 per cent we shall designate as the highest income group, those in the 2nd to 7th percentage band the middle income group, and those in the lower 93 per cent the lowest income group.[2]

Although Kuznets distinguishes between three income variants—basic, economic, and disposable[3]—we shall restrict our discussion to the "basic variant," since the longest record is available in this variant and only in this variant can estimates of shares of types of income by total income size be prepared. To sketch the broad outlines, which is our purpose, this narrow definition of personal income is adequate (see Chart 20).

Table 23 reveals striking differences in the composition of the three groups. In the lowest income group, for example, employee compensation (wages, clerical salaries, and transfer payments, in the main) constitutes about 80 per cent of all income; proprietors' net income about 10 per cent; combined shares of dividends, interest, and rent about 10 per cent. All this is in sharp contrast to the income composition of the top 1 per cent. For this group, employee com-

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to the nonfarm population because of the severe limitations that attach to the estimates of farm income by size.

[2] It is helpful to know the absolute level of income per capita in the three groups (nonfarm population, basic variant):

	TOP 1 PER CENT		2ND TO 7TH PERCENTAGE BAND		LOWER 93 PER CENT	
	Range	*Average*	*Range*	*Average*	*Range*	*Average*
1920	$3,364 & over	$ 9,773	$1,176–$3,363	$1,631	$1,175 & under	$ 606
1929	4,051 & over	11,488	1,491– 4,050	1,984	1,490 & under	585
1937	2,966 & over	8,330	1,189– 2,965	1,543	1,188 & under	486
1948	6,143 & over	12,894	2,186– 6,142	3,161	2,185 & under	1,233

Source: Based on data in *ibid.*, Tables 117 and 119.

[3] The "basic variant" as used by Kuznets signifies that net realized capital gains or losses have been excluded from the income total and the income total is taken before all deductions other than business expenses; economic income is basic income plus compensation of employees of state and local governments and imputed rent on nonfarm homes; and disposable income equals economic income minus federal income taxes plus gains over losses from sales of assets.

pensation, which we here identify with executive and professional salaries, accounts for nearly a third of total income received, and dividends constitute another third. The next largest source is net income of proprietors, which amounts to less than a fifth, slightly exceeding the combined share of interest and rent.

The income structure of the middle income group follows still another pattern. Somewhat more than half of this group's income comes from employee compensation and more than a fifth from proprietorships. Dividends contribute less than 10 per cent, and interest and rents combined about 13 per cent.[4]

The most striking feature of the long record of 1913-1948 is the sharp secular decline in the share of income received by the top 1 per cent—a decline of nearly half between 1913 and 1948, from 16 to 9 per cent (Chart 20 and Table 24). This decline is largely attributable to the fact that property income accounts for half of this group's income; this type of income has sustained a sharp relative fall, as our discussion in Chapter 1 has shown. The most pronounced decreases in the share of the top 1 per cent occurred during World Wars I and II and their immediate aftermaths and during the Great Depression, i.e. decreases have occurred alike in periods of severe inflation and in periods of prolonged deflation.

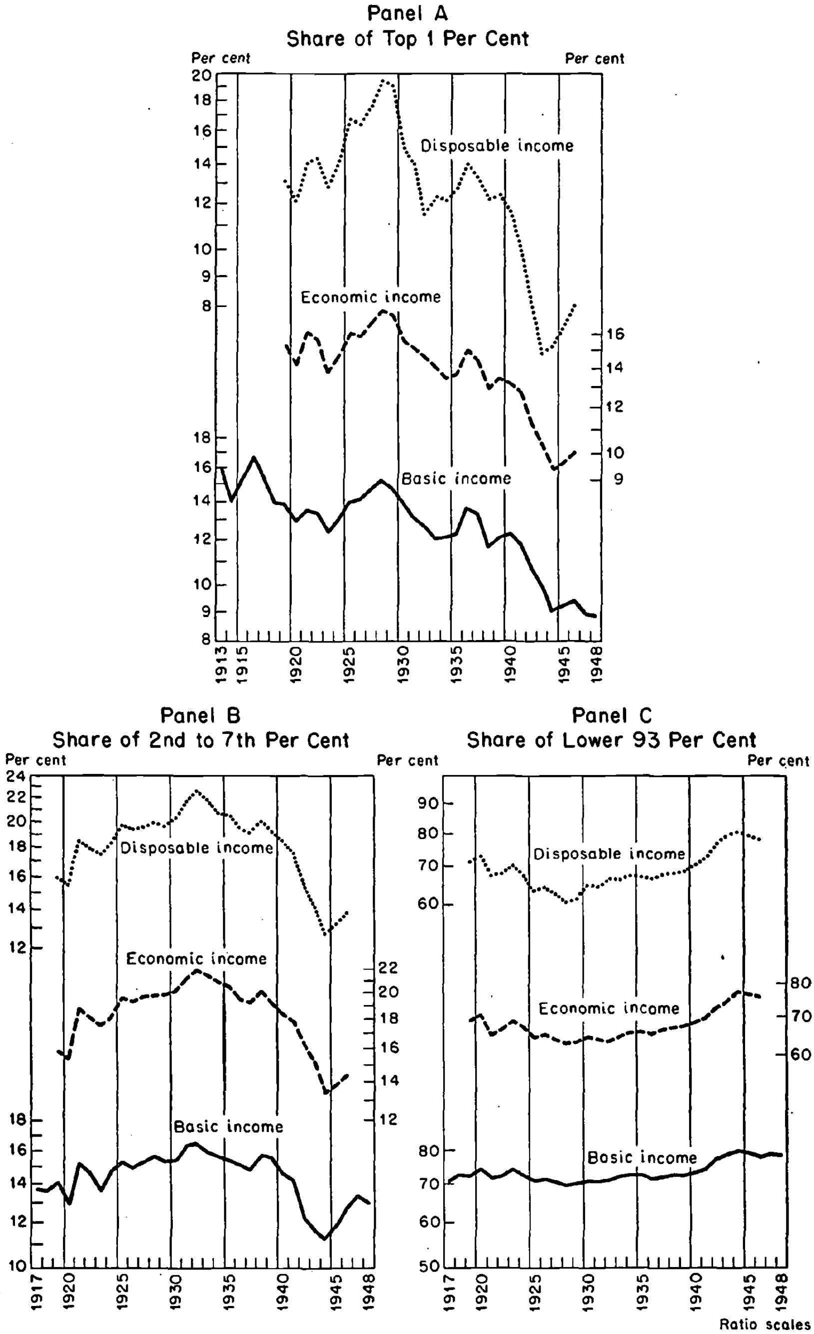
The strong trend movements, of course, have their effect on the cyclical changes in each size group. During the 1913-1914 contraction the share of the top 1 per cent was reduced by one-eighth. In the early part of World War I this group regained its income loss, but by 1918, the wartime peak, its share of income was slightly below what it had been in the 1914 depression year. At the 1920 peak it dropped again, about 7 per cent. But in the swift deflation of the following year the share of the top group was higher by 5 per cent. Although this group's share of personal income continued to rise through most of the 1920's, even at the 1929 peak it was 1 percentage point below what it had been in 1913. This gradual expansion during the 1920's is consistent with our finding that salaries, dividends, and interest receipts failed to contract during the brief and mild business cycle contractions between 1921 and 1929.

The Great Depression, unlike the 1920-1921 contraction, caused this top group's share of income to drop by 14 per cent, and the next expansion restored less than one-third of the absolute loss. The

[4] For trend changes in the structure of incomes of various sizes see Geoffrey H. Moore's "Secular Changes in the Distribution of Income" (Papers and Proceedings, *American Economic Review*, May 1952, pp. 527-544).

CHART 20

Percentage Shares of Total Income, Three Income Groups, Nonfarm Population, Three Variants, 1913-1948



Source: For basic income variant, Table 24; for economic and disposable variants, Simon Kuznets, *Shares of Upper Income Groups in Income and Savings*, National Bureau of Economic Research, 1953, Table 122. For definition of variants, see note 3 in text.

TABLE 23

Various Types of Income as Average Annual Percentage of Total Income, Five Income Groups, Nonfarm Population, 1919-1938

(*per cent*)

	INCOME GROUP					
	Total Nonfarm	*Top 1 Per Cent*	*2nd and 3rd Per Cent*	*4th and 5th Per Cent*	*6th and 7th Per Cent*	*Lower 93 Per Cent*
Employee compensation	70.1	31.1	53.6	60.8	64.4	79.8
Proprietors' net income	12.0	18.4	23.3	20.5	18.8	8.9
Property income						
Rent	3.4	3.8	5.0	5.4	5.3	3.0
Interest	7.3	13.6	8.7	7.6	7.1	6.0
Dividends	7.1	33.0	9.5	5.7	4.4	2.3
Total income	100.0	100.0	100.0	100.0	100.0	100.0

Note: Not all details add to 100.0 because of rounding.

Source: Simon Kuznets, *Shares of Upper Income Groups in Income and Savings,* National Bureau of Economic Research, 1953, Table 8, p. 27. Computed by use of basic variant; for definition see text, note 3, above.

1937-1938 contraction cut this group's income share by another 12 per cent. The start of World War II, like that of World War I, initiated another period of sustained and significant reductions in this group's share of income. This decline continued until 1948 (the end of our record), except for a small spurt during the 1945-1946 transition from war to peace. The World War II reduction in this group's share of income was much sharper than the decline in World War I—a reduction of a third between 1937 and 1944 compared with an eighth between 1913 and 1918.

To the middle income group (2nd to 7th percentage band) also, both the lean years following 1932 and the inflated years of World War II brought a steady decrease in its share of total income. This group had benefited by a modest increase in the 1920's, and its share reached a peak in 1932. After this peak the middle income group's share declined, reaching a trough in 1944. But there is evidence of another reversal in direction in the first postwar years.

The history of the lowest income group (the lower 93 per cent) is the direct reverse of what happened to the top income group. Over the prosperous years from 1920 to 1929, this group's share of income gradually diminished. But over the fifteen-year period ushered in by the Great Depression, it steadily increased. At the 1944 peak the lowest income group's share was 7 per cent above

TABLE 24

Percentage Shares of Total Income, Three Income Groups, Nonfarm Population, 1913-1948
(*per cent*)

	INCOME GROUP		
	Top 1 Per Cent	*2nd-7th Per Cent*	*Lower 93 Per Cent*
1913	15.93	n.a.	n.a.
1914	13.95	n.a.	n.a.
1915	15.32	n.a.	n.a.
1916	16.73	n.a.	n.a.
1917	15.39	13.72	70.89
1918	13.89	13.63	72.48
1919	13.87	14.04	72.09
1920	12.87	12.90	74.23
1921	13.49	15.12	71.39
1922	13.41	14.56	72.03
1923	12.37	13.59	74.04
1924	13.04	14.75	72.21
1925	13.99	15.20	70.81
1926	14.06	14.96	70.98
1927	14.66	15.25	70.09
1928	15.19	15.60	69.21
1929	14.76	15.29	69.95
1930	13.83	15.34	70.83
1931	13.06	16.41	70.53
1932	12.62	16.44	70.94
1933	12.01	15.91	72.08
1934	12.07	15.55	72.38
1935	12.26	15.35	72.39
1936	13.65	15.06	71.29
1937	13.27	14.74	71.99
1938	11.63	15.77	72.60
1939	12.09	15.55	72.36
1940	12.23	14.56	73.21
1941	11.79	14.20	74.01
1942	10.63	12.33	77.04
1943	9.88	11.60	78.52
1944	9.00	11.25	79.75
1945	9.19	11.89	78.92
1946	9.37	12.78	77.85
1947	8.86	12.37	78.77
1948	8.81	12.95	78.24

n.a. = not available.

Source: Simon Kuznets, *Shares of Upper Income Groups in Income and Savings*, National Bureau of Economic Research, 1953, Table 116. Computed by use of basic variant; for definition see text, note 3, above. Kuznets' series for 1919-1938 was extrapolated backward by Willford Isbell King's data with a splicing ratio based on 1919, and extrapolated forward by Department of Commerce series with a splicing ratio based on 1936-1938.

what it had been in 1920. In the first few years after World War II, its share seemed to be stabilized just below the 1944 peak.

This absence of a firm pattern in the cyclical movements of the several shares is confirmed by indexes of conformity to business cycles (Table 25).[5] For both the high and the low income group the conformity indexes are low in expansions as well as in contractions, although they are consistently negative for the highest incomes and consistently positive for the lowest incomes. Thus the top group's share of income tends to decline during the upswings in business activity and to increase during downswings. The share of the lowest income group, on the other hand, tends to move in an opposite direction to that of the high income group. But these tendencies are not strong for either group.

TABLE 25

Conformity of Percentage Shares of Total Income, Three Income Groups, Nonfarm Population, to Phases in Business Cycles, 1913-1948

(*index of conformity*)[a]

BUSINESS CYCLE PHASE AND PERIOD	INCOME GROUP		
	Top 1 Per Cent	*2nd-7th Per Cent*	*Lower 93 Per Cent*
Average, 1918-1948			
Expansion	−14	−14	+43
Contraction	−14	−100	+43
Full cycle	−38	−100	+54
Average, 1913-1948			
Expansion	−25	n.a.	n.a.
Contraction	0	n.a.	n.a.
Full cycle	−27	n.a.	n.a.

[a] For definition see pages 23 and 25.
n.a. = not available.
Source: Business cycle phases are those in the National Bureau of Economic Research business cycle chronology; other data are based on Table 24.

Only the share received by the middle income group has high conformity indexes. The indexes mean that in every contraction this group increased its share of income, and that although in three out of seven expansions this group also increased its share, the increase was always at a lower rate than in the adjacent contractions.

This diverse record gives no simple answer to how business cycles affect the shares of income received by the highest, middle, and lowest groups. And for this particular question it makes little dif-

[5] See pages 23 and 25 for a definition of the index of conformity.

ference which income variant is used. Although the rates of change in the shares of the various groups differ according to the income variant used, the general configuration of movement is similar for all three variants (Chart 20).[6]

The absence of perfect conformity in the shares must be due, at least in part, to the conflicting trends and varying cyclical amplitudes of the several types of income. The incomes of the upper income groups are more heavily weighted by dividend receipts, interest payments, salary income, and proprietors' income than are those of the lower income groups, where wages, wage supplements, and transfer payments predominate. But although dividend disbursements and net income of nonfarm proprietors have a larger amplitude than nonfarm labor income in most cycles, interest payments and high salaries have a smaller amplitude. And wage supplements and transfer payments, with a small cyclical amplitude, have a rapidly rising trend, which must have tended to reduce the amplitude of changes in low incomes in recent cycles.

Some cyclical uniformities, however, do emerge from an analysis of the short-run changes in the share of a given type of income received by each income size group. From Table 26 we can see, for each type of income, the change in the share of each size group between a trough in total income and the preceding and succeeding peaks, yielding three sets of peak-trough-peak comparisons.

The share of the highest income group (top 1 per cent) in employee compensation, composed largely of executive and professional salaries, is higher at the troughs than at the preceding and following peaks. This is also true for the middle income group. But the share received by the lowest income group (lower 93 per cent), composed of wages and clerical salaries, is lower at the troughs than at the preceding and following peaks. This is in line with our finding that wages fluctuate more than salaries in response to business cycles, although we must recall that the different percentage bands do not refer to fixed groups of individuals.

Regardless of income size, there is less consistency in the cyclical shifts of shares in proprietors' net income. Thus the shares received by the highest and middle income groups at the 1921 trough were slightly higher than those received at the 1920 peak but lower than

[6] The basic variant, the one used above, shows the smallest changes in the share received by the top 1 per cent; and the disposable income variant, the largest changes (see Kuznets, *op. cit.*, Chapter 2).

TABLE 26

Percentage Shares of Various Types of Income, Three Income Groups, Nonfarm Population, at Personal Income Turning Points, 1920-1948

(per cent)

	P *1920*	T *1921*	P *1929*	T *1933*	P *1937*	T *1938*	War-time P *1944*[a]	Post-war P *1948*
Total income								
Top 1 per cent	12.87	13.49	14.76	12.01	13.27	11.63	9.00	8.81
2nd-7th per cent	12.90	15.12	15.29	15.91	14.74	15.77	11.25	12.95
Lower 93 per cent	74.23	71.39	69.95	72.08	71.99	72.60	79.75	78.24
Employee compensation								
Top 1 per cent	5.27	6.06	5.56	6.54	6.00	6.12	3.16	3.58
2nd-7th per cent	10.07	12.22	12.14	15.67	13.46	14.50	8.86	9.54
Lower 93 per cent	84.66	81.72	82.30	77.79	80.54	79.38	87.98	86.88
Proprietors' net income								
Top 1 per cent	23.24	24.07	24.32	16.84	19.99	17.70	34.55	22.96
2nd-7th per cent	25.10	26.91	29.54	20.41	22.55	20.76	27.89	31.86
Lower 93 per cent	51.66	49.02	46.14	62.75	57.46	61.54	37.56	45.18
Interest								
Top 1 per cent	30.06	27.65	28.80	19.06	22.28	20.01	20.15[b]	13.91
2nd-7th per cent	15.49	17.91	19.40	12.61	12.00	12.89	11.71[b]	11.49
Lower 93 per cent	54.45	54.44	51.80	68.33	65.72	67.10	68.14[b]	74.60
Dividends								
Top 1 per cent	68.40	61.92	63.31	53.65	61.81	54.12	46.87[b]	48.22
2nd-7th per cent	15.98	20.04	14.34	12.94	15.22	17.07	11.88[b]	16.10
Lower 93 per cent	15.62	18.04	22.35	33.41	22.97	28.81	41.25[b]	35.68

[a] There was not a "true" peak in personal income in 1944; the year was selected to show the structure of personal income by type and size in the last full year of war. It also contained a peak in general business.

[b] For 1943.

P = peak; T = trough.

Source: Simon Kuznets, *Shares of Upper Income Groups in Income and Savings*, National Bureau of Economic Research, 1953, Tables 116 and 124. Computed by use of basic variant; for definition see text, note 3, above. Continuous series derived as explained in source of Table 24.

those received at the 1929 peak. However, their shares at the 1933 and 1938 troughs were less than at the preceding and following peaks. The share of the low income group, which receives the remainder, traced movements opposite in direction, of course, to those of the upper income groups. We can rationalize the 1929-1938 movements by saying that when business activity is at a high level, relatively more proprietors acquire incomes that take them out of the low income group. When business activity falls off, many of these again find themselves with a low income.[7]

In the case of dividend receipts we find a higher degree of consistency in cyclical changes, at least for the highest and lowest income groups. The highest income group received a smaller share of dividends at the end of a contraction than at the preceding or succeeding peaks during the interwar decades; the share of the lowest income group, on the contrary, was generally higher at the troughs than at the surrounding peaks. Interest shares showed virtually the same pattern. The trough-peak changes in the share of dividends and interest received by the moderate income group are not like the pattern of either of the other two groups.[8]

Part of this apparent stability in the investment income of the low income group is due to a defect in the data. The investment income of nonprofit organizations is included in the dividend and interest receipts of the lower 93 per cent.[9] Such organizations invest with an eye to stability of current income, while many individuals in the upper income groups invest with an eye to capital gains. Another contributing factor is the fact that the investment income of retired persons must constitute an important segment of the dividends and interest received by the lower income group, and their investment objective would also be stability of income.

[7] Since the share changes between 1920 and 1921 are small for all three groups, little importance can attach to these movements in view of the large errors of estimate of the country-wide total of nonfarm proprietors' income in those years. One need only point out that the first year covered by the census of distribution and service establishments was 1929.

[8] We refrain from analyzing the cyclical movement in the shares of rent by income size because the errors of estimate of the country-wide aggregate are much too large. Thus the use of Kuznets' country-wide aggregate for 1919-1938 yields a pattern that differs significantly from the one given by the use of Department of Commerce estimates for 1929-1938 extrapolated to 1919 by Kuznets' estimates. The Department of Commerce estimates for the 1929-1938 period are preferred since more data were available to the Department than to Kuznets. The Department, however, holds no brief for its own estimates (see Chapter 6, note 1).

[9] The estimating procedures are as follows: The country-wide total of dividends is the difference between dividends paid out by corporations and dividends received by corporations, all based, with minor exceptions, on corporate income tax returns. Since nonprofit organizations do not file corporate income tax returns, their receipts of dividends are counted as being received by individuals. Dividends received by the lower 93 per cent are computed by taking the difference between the country-wide total and the dividend receipts of the upper income groups reported on personal income tax returns. Corporate bond interest is estimated similarly.

Our final comparison shows how the war and postwar inflation affected the share of each type of income received by each of the three income-size groups. The previous discussion of how the compensation of production and nonproduction workers has fluctuated prepares us for the finding that the share of the lower 93 per cent in employee compensation increased by nearly 10 per cent between 1937 and the wartime peak of 1944 but lost a fraction of this gain by 1948. This gain was offset by drastic declines in the share of employee compensation received by the highest and middle income groups.

In the case of proprietors' net income, however, the relative gains in wartime were scored by the upper income groups. The general prosperity caused many small businessmen to shift from the low to the upper income groups. The postwar prosperity was less favorable to the top 1 per cent, and the respective shares of the three groups in 1948 reverted to the 1929 distribution.

The reasons for the shifts in the shares of dividends and interest are not entirely clear. The lower 93 per cent increased its share of dividends by 80 per cent between 1937 and 1943,[10] while the share of the top 1 per cent declined by a quarter and that of the middle income group by 22 per cent (Table 27). By 1948 the lowest income group had lost 30 per cent of its absolute gain, which accrued chiefly to the share of the middle income group. The obvious inference is that during the decade following 1937 the lowest income group increased its ownership of equities faster than the highest and middle income groups. Unfortunately, there is no independent evidence to confirm or contradict this inference. But there is evidence that dividends and interest were not fully reported to the tax authorities in this period, and that the share of the top 7 per cent in dividends and interest was actually higher than would appear from the published data (see Appendix F). Because of this defect in the data, which statistical procedures cannot obviate, we believe that Kuznets' estimates of the distribution of property income among the three income-size groups are somewhat inaccurate, and that it would be closer to reality to assume that the distributions in 1944 and 1948 were the same as that in 1937.

On this assumption, what can be said about the impact of war and postwar inflation on the distribution of total income among the

[10] It is necessary to substitute 1943 data for 1944 since only the composite of dividends and interest was tabulated by the Bureau of Internal Revenue in 1944 and 1945.

TABLE 27

Percentage Shares of Total Dividends and Interest, Three Income Groups, Nonfarm Population, 1937-1948
(*per cent*)

	TOP 1 PER CENT		2ND-7TH PER CENT		LOWER 93 PER CENT	
	Dividends	*Interest*	*Dividends*	*Interest*	*Dividends*	*Interest*
1937	61.81	22.28	15.22	12.00	22.97	65.72
1938	54.12	20.01	17.07	12.89	28.81	67.10
1939	56.04	21.61	14.67	13.71	29.29	64.68
1940	57.06	20.99	14.39	14.85	28.55	64.16
1941	51.75	22.25	15.99	15.20	32.26	62.55
1942	47.14	22.88	11.21	13.09	41.65	64.03
1943	46.87	20.15	11.88	11.71	41.25	68.14
1944	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1945	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1946	45.47	16.89	16.67	14.28	37.86	68.83
1947	45.02	15.18	13.82	11.63	41.16	73.19
1948	48.22	13.91	16.10	11.49	35.68	74.60

n.a. = not available.

Source: Simon Kuznets, *Shares of Upper Income Groups in Income and Savings*, National Bureau of Economic Research, 1953, Table 124. Computed by use of basic variant; for definition see text, note 3, above. Continuous series derived as explained in source of Table 24.

three income-size groups of the nonfarm population? It is clear from the following computations that the basic trend is unaltered, although the rate of change is modified slightly. The reservations mentioned above on the estimated shifts in property income do not call into question the underlying trend during the war and postwar years, but only whether the shifts in the distribution of property income paralleled those in employee compensation.

	PER CENT OF TOTAL INCOME RECEIVED BY:		
	Top 1 Per Cent	*2nd to 7th Percentage Band*	*Lower 93 Per Cent*
1937	13.27	14.74	71.99
1944			
Unrevised	9.00	11.25	79.75
Revised	10.13	11.33	78.54
1948			
Unrevised	8.81	12.95	78.24
Revised	9.83	12.85	77.32

The persistent rise in the percentage of income received by the lower 93 per cent reflects the very large weight of employee compensation in the income of this group and the pronounced increase in the relative importance of this type of income. As we noted in Chapter 5, the main cause of the long-term rise in wage disbursements was the rise in average hourly earnings.