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## SUMMARY

This monograph is concerned with short period fluctuations in the distribution by size of family money income. From data in the Financial Survey of Urban Housing, we established changes in the income distributions of 33 large and middle-size cities between 1929 and 1933, a year of prosperity and of depression. While the Financial Survey data are subject to shortcomings (App. A) the resulting bias would lead to results opposite to our conclusions. Were correction possible, the changes observed in the external features of income distribution would be amplified rather than reduced.

To test the hypothesis that certain changes in income distribution are associated with economic depression and to ascertain whether they tend to be reversed in prosperous times, other material referring to the same or different periods of declining business activity and recovery were compared: the Wisconsin and Delaware income studies, Old-Age and Survivors Insurance statistics, and income tax returns for the United States and Germany. The tendencies shown by the various bodies of data are not entirely consistent. Nevertheless, it seems possible to sketch characteristic changes in important features of income distribution during short economic fluctuations.

*1 Changes in Income Levels*

In the 33 cities the general income level, as measured by the arithmetic mean income, declines at rates ranging from 24 to 51 per cent. These rates probably understate slightly the drop in the income of families. The income of the average owner-occupant family exceeds that of the average tenant family in both years; still, owner incomes tend to decline at a higher rate during the depression.

There is evidence of a tendency for high-income cities to have smaller income declines than low-income cities. Partly as a result of this tendency, and partly because of other, unknown, factors, the Great Depression affected various cities differently with respect to their income level; and the relative disparities among cities in average income levels increased rather than decreased from 1929 to 1933.

*2 Changes in Income Inequality*

During the 1929-33 depression, differences among individual incomes measured in dollars, i.e., absolute dispersion, declined uniformly, but relative dispersion (inequality) increased.

Inequality within the lower income group, comprising the lower 50 to 70 per cent of the families in the various cities, increased in

all cities; i.e., the share of the lowest incomes in the total income of the lower group fell, the share of the moderately low income rose. Simultaneously, inequality within the higher income group (upper 30-50 per cent) decreased in most cities.<sup>1</sup> Relative differences in average income level between the lower and upper groups increased everywhere. The composite effect was to accentuate income inequality in the entire income distribution.<sup>2</sup>

The increase in the share of the upper income group in total income was unevenly distributed within this group. In most cities only those with moderately high incomes gained, while the top income recipients, comprising between 1 and 20 per cent of the families in the several cities, lost. In all 33 cities differences between these two subsections of the upper income group decreased during the depression. However, in a sizable minority of cities both the top and moderately high incomes increased their shares in total income. In almost all these cities inequality within the higher group increased during the depression.

Supplementary data for periods of declining business activity give evidence of similar tendencies, although some of the income distributions derived from income tax returns fail to conform to this general pattern. For periods of rising economic activity the observed tendencies are reversed: inequality within the lower group and the relative difference in income level between the lower and upper groups decrease; inequality within the upper group increases. As a result, inequality for the distribution as a whole declines.

The following explanations are suggested. Inequality within the lower group increases and decreases with the expansion and contraction of unemployment, so long as the group is identical in composition in the two years compared. The greater dispersion in bad times is ascribed to the growing importance of the income gap between employed and unemployed as well as to the unequal incidence of unemployment among low- and high-pay workers. In addition, cyclical variations in wage rate disparities between high- and low-pay jobs may contribute to the inverse correlation between changes

<sup>1</sup> In the analysis of dispersion within and among sections of the income distribution, the division was made at a percentage level (of income receivers) that corresponds to the \$2,000 point in the 1929 distributions; see Ch. 2, Sec. 3.

<sup>2</sup> Since relative differences in average income level between the lower and higher groups is by far the most important component of total dispersion—at least when differences between individual incomes are used for measurement—it is understandable that changes in this component should be paralleled by similar changes in total inequality.

in general income level and changes in inequality within the lower group.

The changes in inequality within the upper group may be ascribed to differences in the cyclical flexibility of the various types of income characteristic of this group. Income from property, which accounts for a larger share of top incomes, fluctuates more than income from work, i.e., wages and salaries, which constitutes a small share of the very high incomes. Therefore top incomes tend to drop more sharply in depression, and to rise more rapidly in prosperity, than moderately large incomes. The flexibility of property incomes is most pronounced in dividends and capital gains, least in interest and rents.

Differences in income flexibility may be explained, in turn, by the varying extent to which incomes are fixed by contract. This hypothesis explains the positive correlation between changes in general income level and in dispersion within the upper group that has been observed by various investigators of federal income tax returns and similar materials and that is corroborated by the Financial Survey in most cities. But it cannot explain the inverse correlation that appears in a sizable minority of Financial Survey cities where depression calls forth tendencies toward *greater* dispersion in income within the upper group. It may be suggested that these tendencies have their origin in the different reaction of high and low salaries to a depression: high salaries are more sticky, low salaries more flexible. These tendencies toward greater differences within the upper group counteract and, in a minority of cities, overbalance opposite tendencies that spring from the unequal flexibility of income from property and from work.

In depressions the decline in the income level of the lower group tends to exceed the decline in the income level of the upper group despite the great losses in certain types of income from property. The impact of unemployment creates greater differences in income not only among workers but also between wage workers (employed and unemployed taken together) and the well-to-do classes of society that derive their income from salaries and property. The incomes of the latter resist depression the more successfully the less they depend on the highly flexible types of income from property, and the more rigid the salary and interest revenues remain in comparison with the revenue from wages.

Most of these explanations apply strictly to lower and upper income groups that are of identical composition in any two (or

more) years of comparison; and to that extent their application to the Financial Survey (and other) data must be qualified, since in these data there is some shift of families from the lower to the upper income groups, and conversely. However, the shifts are moderate (see below), and the hypotheses are confirmed by the materials studied. The tendencies noted for many cities with widely differing industrial structures suggest that explanations must be sought in broadly relevant factors—unemployment, relative flexibility of the different types of income or of large and small incomes—rather than in peculiarities of particular cities or industries. To the degree that such peculiarities contribute to changes in income distribution on a national scale the observed intracity changes seem to be magnified. This is indicated by the increase in the inequality between the income levels of various cities during the Great Depression.

### 3 *Shifts in Position Within the Income Distribution*

Structural economic changes and short period fluctuations, advancing age of individual earners, and fortuitous events cause shifts in the income rank of families. To estimate these shifts three measures were applied to the identical samples of the Financial Survey: the percentage of total families changing position with respect to the median income, the percentage changing position with respect to the dividing point (used in the analysis of sectional dispersion), and the coefficient of correlation between 1929 and 1933 income.

In most cities 20 to 30 per cent of all families shifted their positions with respect to the median; 10 to 15 per cent rise from positions below the 1929 median to positions above the 1933 median, and fall from positions above the 1929 median to positions below the 1933 median. The frequency and degree of the shifts in income rank are slightly higher among tenants than among owners.

Thirteen to 26 per cent of all families move from the lower to the upper group, or vice versa. Thus, from the viewpoint of the individual family, the increasing difference in income level between the two groups during the depression is somewhat diminished by the fact that some members of the lower group join the upper group and some of the latter join the former. The great majority of families, however, maintain their position with respect to the dividing point.

There is positive but far from perfect correlation between 1929 and 1933 family incomes. In the various entire-city samples, the coefficients of correlation ( $r$ ) range from .56 to .89, indicating substantial shifts in income rank between the two years. As might be

expected from the relation between income level and the frequency and degree of shifts in income rank for the two tenure groups, the shifts tend to be greater in poor communities than in relatively rich ones, at least when the well-being of the community is measured in terms of 1933 mean income.

Both the length and the character of the period 1929-33 influence the shifts in income rank. To the degree that they are traceable to the differential effects that structural change in the economic system and advancing age exert on the incomes of individual families, they are likely to increase with the length of the interval considered. But cyclical variations in economic activity, as distinct from secular and structural changes, serve to produce cyclical variations in the intensity of the shifts in income rank. The greater the cyclical difference between the levels of business activity in the years compared, the more far-reaching do the shifts seem to be, and conversely. Data from the Wisconsin Income Study point in this direction, and the Financial Survey material indicates that the higher the rate of income decline in a city between 1929 and 1933, the greater the shifts in income rank.

Another aspect of the shifts within the income distribution is the heterogeneity of groups with respect to income change. In a given year families are arranged in certain income groups according to the size of their income. From year to year these groups usually disintegrate; their members scatter over the income scale and mix with the former members of other groups to make up the groups of the new year. The greater the dispersion—absolute or relative—of the members of a base-year income group in another year, the greater, we may say, is its heterogeneity with respect to income change. Obviously, either 1929 and 1933 may be used as the base year.

Heterogeneity with respect to income change tends to be most pronounced in the highest and lowest income groups. If measured in dollars, the top income groups lead, followed by the lowest, and finally the central income groups. Heterogeneity in relative terms, i.e., absolute heterogeneity expressed in units of the mean income of the group in the 'other' year, is greatest for the lowest income groups; the top (or in some cases one of the middle income groups) follows, and finally come the remaining middle groups. The idea that certain income groups rise or fall *en bloc* as time passes is merely a rough approximation to reality, least satisfactory when we are concerned with very low or very high incomes.

The study of relative heterogeneity with respect to income change leads to substantially the same ranking of income groups regardless of the base year used. One noticeable difference appears, however: while in terms of 1929 groups the top (and lowest) incomes show the greatest heterogeneity with respect to income change, in terms of 1933 groups the moderately high (and lowest) groups take the lead. The diversity of the top families of 1933 with respect to their *former* incomes is less conspicuous than the diversity of the top families of 1929 with respect to their *subsequent* incomes.

In order to judge the degree to which shifts in income rank affect various groups, the mean incomes of identical groups of families in two years—the base year in which the families of each group are concentrated in a separate group and a year in which they are scattered among various groups—are compared. The standard of comparison, the regression line of the 'other' year's income of the group on its base-year income, reflects the change in level and difference, as well as the frequency and degree of the shifts in income rank in the entire income distribution. Deviations from the standard reflect the particular effect of shifts in income rank on the mean income of a certain group. A group of families is called 'favored' if its mean income in the 'other' year exceeds the standard; 'disfavored' if its mean income falls short of the standard.

There appears to be a fairly regular wave-like pattern of 'favored' and 'disfavored' groups. When 1929 is the base year, the recipients of very low and of moderately high incomes in 1929 fare relatively well during the depression, while those with moderately low and extremely high incomes fare relatively ill. The positive deviations of the recipients of moderately high 1929 incomes can be explained by the relative stability of salary and high wage incomes; the negative deviations of the moderately low and top incomes, by the strong incidence of unemployment among the former, and by the effect of falling property income, in particular income from dividends and speculative gains, among the latter. The relative improvement in the lot of the groups with the lowest income cannot be ascribed to any of these factors: possibly it is to be explained on the ground that the group contains a large proportion of young people who entered employment in 1929 at very low pay and who with advancing maturity rose in the income scale despite the depression.

When 1933 is used as the base year, the incomes of the families that come to populate the lowest 1933 groups decline by an amount greater than can be ascribed to increasing dispersion and to shifts

in the distribution as a whole. Most probably they are the victims of unemployment, fallen from various higher 1929 income groups. The families that converge toward the moderately high 1933 income groups are also 'disfavored'; among them we probably find many victims of the collapse in dividends and stock values. A 'favored' group are the families that make up the moderately low 1933 groups: they probably comprise many wage earners who retained their jobs during the depression. The highest 1933 income group seems to have been neither 'favored' nor 'disfavored'.