THE UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

AN EXAMINATION OF THE STRUCTURE AND RECENT CHANGES IN

INCOME INEQUALITY IN THE UNITED STATES

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

DOCTOR OF PHILOSOPHY

BY

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Norman, Oklahoma

1977

AN EXAMINATION OF THE STRUCTURE AND RECENT CHANGES IN

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iii

TABLE OF CONTENTS

LIST OF TABLES

xiii

xiv

LIST OF FIGURES

CHAPTER I

PROLEGOMENON

Lord Keynes once wrote that:

> Practical men, who believe themselves to be quite
> exempt from any intellectual influences, are usually
> the slave of some defunct economist. Madmen in
> authority, who hear voices in the air, are distilling
> their frenzy from some academic scribbler of a few
> years back.[1]

He might have added that practical economists, who believe

themselves insulated from any other intellectual disciplines,

are usually the slave of some defunct philosopher.

While there does exist a limited array of economic

minds, such as those of Schumpeter, Mini, and Weisskopf,

who have recognized the intimate, compelling filiation

between economic ideas and the broader philosophical and

cultural milieu out of which they arose, most economists

evince little appreciation or awareness of intellectual

history.[2]

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[1]J. M. Keynes, The General Theory of Employment,
Interest, and Money (London: Macmillan and Co., Ltd.,
1964), p. 383.

[2]See Joseph Schumpeter, History of Economic Analysis
(New York: Oxford University Press, 1954); Piero V. Mini,
Philosophy and Economics (Gainesville: University of Florida
Press, 1974); or Walter Weisskopf, Alienation and Economics
(New York: E. P. Dutton, 1971).

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Inequality of income has long concerned economists, but as a phenomenon affecting the structure of society, status, and the distribution of power within it, and its functional economic and political performance, it has been a subject of discussion of a much more broadly based group of thinkers.

In his second _Discourse_, Rousseau wrote that,

> . . . there are two kinds of inequality among the human species; one, which I call natural or physical because it is established by nature, and consists in a difference of age, health, bodily strength, and the qualities of the mind and the soul; and another, which may be called moral or political inequality, because it depends on a kind of convention, and is established, or at least authorized by the consent of men.[3]

The first type of inequality results in the second; and emotions antithetical to virtue, reason, and happiness. According to Rousseau, Man chose to subordinate his individual (natural) rights to the 'General Will' in a social contract. "For Rousseau, who sees social nature as ruled by passion and vice, equality is not an end in itself but a means of achieving civic virtue and making virtuous men."[4]

Nietzche felt that one of the fundamental problems of mankind was _ressentiment_, which arises out of inequality. He speaks of it in an eloquently disparaging manner:

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[3]Jean-Jacques Rousseau, "A Discourse on the Origin of Inequality among Men," French Thought in the Eighteenth Century (London: Cassell and Company, Ltd., 1953), p. 26.

[4]Daniel Bell, The Coming of Post-Industrial Society (London: Heinemann, 1974), p. 436.

> . . . impotence, inability to retaliate, is to become
> "goodness"; timorous lowliness becomes "humility";
> submission to those whom one hates is "obedience". . . .
> They speak to "love for one's enemies"--and they sweat
> while doing so.[5]

Lewis Coser, speaking of Nietzche's _ressentiment_, writes,

> The Christian morality of love and charity, . . . is
> but a disguise, that is, its alledged positive values
> are but rationalizations born of repressed hatred and
> fear, attempts to make a virtue out of necessity, to
> transform weakness into a positive merit.[6]

It was not inequality that Nietzche objected to, but rather
man's response to it, his _ressentiment_. If Nietzche were
alive today, he would quite likely fulminate against vocifer-
ous demands for social welfare programs as unworthy mani-
festations of _ressentiment_.

The Bible indicates that "the meek shall inherit
the earth," which suggests that they might have to settle
for something less in the interim. Aristotle believed
that men were inherently unequal, while Thomas Jefferson
once penned a line to the effect that "We hold these truths
to be self-evident, that all Men are created equal. . . ."
And so it goes.

Underlying any acceptance, sanctification, or
rejection of any extant degree of inequality lies some
ideation of justice. One of the older Western concepts

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[5]Friedrich Nietzche, _Geneology of Morals_, Part I,
Section 14, cited in Max Scherler, _Ressentiment_ (New York:
Free Press of Glencoe, 1961), p. 45.

[6]Lewis Coser, "Introduction," _Ibid._, p. 21.

was that of "divine right." Kings and other rulers were
chosen by God to their place in society, and their receipt
of the economic rewards attendant to their position was
due to the Grace of God. Later, this was supplanted by
the classical liberal idea of equality of opportunity.
Closely related is the use of merit as a basis for evalu-
ating equity, "that is, equity occurs when resources are
distributed in the same manner as merit."[7] But, as Daniel
Bell notes,

> If one assumes that a meritocracy is purely a selection
> by intelligence, and that intelligence is based on
> inherited genetic differences, then one obtains privi-
> lege on the basis of a genetic lottery, and this is an
> arbitrary basis for social justice.[8]

Equity and the optimum degree of inequality can be related
to some sort of social welfare function. Rawls' recent
formulation is a similar approach. According to Rawls,

> No one deserves his greater natural capacity nor merits
> a more favorable place in society. But it does not
> follow that one should eliminate these distinctions.
> There is another way to deal with them. The basic
> structure can be arranged so that these contingencies
> work for the good of the least fortunate. Thus, we
> are led to the difference principle if we wish to set
> up the social system so that no one gains or loses from
> his arbitrary place in the distribution of natural
> assets or his initial position in society without
> giving or receiving compensating advantages in return.[9]

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[7]Lester Thurow, Generating Inequality (New York:
Basic Books, 1971), p. 23.

[8]Daniel Bell, p. 427.

[9]John Rawls, A Theory of Social Justice (Cambridge,
Mass.: Belknap Press, 1971), p. 102, cited in Daniel Bell,
p. 442.

During the past decade, equality of opportunity was often
equated with equality of result.

Lurking behind any economist's discussion of economic
equality lies a philosopher's concept of the nature of man,
of what ought to be, or of justice. And, of course, what
is equal is not necessarily just.[10] It is perhaps convenient
that such discussions are generally excluded from the realm
of economics, for philosophers, even though benefitting
from over two thousand years of discussion, still have not
reached a definitive conclusion.

Economists and the Distribution of Income

Economists have long been interested in the size
distribution of income. Empirical work in the area dates
back to before the turn of the century, and parallels the
availability of detailed statistics on the subject. The
subject has attracted increasing attention in recent years,
partly due to the increased demands for social justice,
however defined, and the increased concern with the elimina-
tion or minimization of poverty. While fiscal and monetary
policies were sought which would improve overall economic
performance, the impact of those policies on the distribu-
tion of income was initially overlooked. Several theories
within economics have implications for the distribution of

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[10]For a further discussion of these issues, espe-
cially as related to economics, see Daniel Bell, pp. 424-455,
and Lester Thurow, Generating Inequality (New York: Basic
Books, 1975), pp. 20-50.

income, which have not been thoroughly validated. If, as some have alleged, the emphasis changes from concern with economic growth to concern with distribution, then a knowledge of the structure of the distribution of income and of the sources of changes in the distribution becomes even more important. Schultz has succinctly stated:

> There are two reasons to be interested in income inequality: first, social welfare is thought to depend on both the level and personal distribution of income; second, economic analysis may usefully describe some of the systematic factors affecting income inequality.[11]

Economists have alluded to a number of factors which may result in income inequality. Individuals are endowed with varying degrees of innate abilities, of different types, and acquire different amounts of heterogeneous education. Their minds are encumbered with unequal amounts of ambition, initiative, and greed. Furthermore, they face different barriers in their quest for monetary success. Persons of socially less desirable race or sex are more likely to receive less for their ability and expenditure of effort than individuals who are not burdened with such socially unappreciated biological characteristics. Varied preferences for risk and differing demands for labor services by region, by industry, and by occupation are also expected to result in inequality of measured income.

[11]T. Paul Schultz, Long Term Change in Personal Income Distribution: Theoretical Approaches, Evidence, and Explorations, Monograph P-4767 (Santa Monica: Rand Corporation, 1972), p. 3.

Some individuals may benefit from the superior social or
financial position of their parents, and possess a greater
ability to benefit financially from their power to influence
community or institutional decisions. In some cases, the
structure of an organization may be a force affecting the
prevailing degree of inequality, since the maintenance of
the pecuniary incentive structure serving the organiza-
tion requires that higher positions in a corporate hierarchy
receive greater monetary compensation.[12] Yet, while econo-
mists have recognized many contributors to inequality, none
have been able to accurately predict what degree of inequal-
ity will prevail in the population or any subpopulation on
the basis of such factors.

Past Studies

Empirical work in the area has evinced at least
four distinct yet occasionally overlapping lines of inquiry.

Factor Shares

As an outgrowth of the marginal productivity theory
of income distribution, several studies were oriented
toward the measurement and trend of the factor shares of
capital and labor. The question arises naturally out of
marginal productivity theory; in the U.S., J. B. Clark's
work guided others to a consideration of factor shares.

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[12]Richard Ruggles, "Income Distribution Theory,"
Review of Income and Wealth, XVI (September, 1970), p. 213.

Cobb and Douglas' work was cited by J. M. Clark as support

for marginal productivity theory.[13] Generally, such studies

were concerned with the aggregate division of the national

output between capital and labor, and paid little attention

to the shape of the income density.

<div align="center">Pareto's Law</div>

Pareto's function was incorporated into a number

of empirical studies. Warren Persons applied Pareto's

function to Massachusetts probate returns and to data from

Prussia. He concluded:

> . . . the accuracy of Pareto's first approximation is
> apparent and not actual. Pareto's method is not to be
> relied upon in comparisons where the difference in the
> amount of variability is not great.[14]

A. L. Bowley applied Pareto's function to British tax

returns; while his results were not satisfactory, he criti-

cized his data rather than Pareto's Law.[15] In 1917, Allyn

Young, referring to Pareto, wrote,

> His index does not increase, as he supposed, with what
> he deemed inequality in the distribution of incomes,
> but decreases. . . . At best, however, it is a poor
> index, being merely a rough measure of the evenness

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[13]J. M. Clark, "Inductive Evidence on Marginal Pro-
ductivity," American Economic Review, XIIX (September, 1928),
pp. 449-467.

[14]Warren M. Persons, "The Variability in the Dis-
tribution of Income and Wealth," Quarterly Journal of
Economics, XXIII (May, 1909), p. 427.

[15]A. L. Bowley, "The British Super-Tax and the
Distribution of Earned Income," Quarterly Journal of
Economics, XXVIII (February, 1914), pp. 255-268.

with which income receivers are distributed through
the income range.[16]

In 1935, W. L. Crum, after applying Pareto's Law to U.S.

income tax data, concluded,

> The above analysis confirms the finding of earlier
> critical investigations into the Pareto Law. The
> direction of the line of best fit changes considerably
> over time; and its variations appear systematically
> associated with the economic cycle, rather than random.
> The line is not a good fit, even within the tax range,
> since several years show a well-marked curvature of a
> fairly uniform type. Test of other fitted curves than
> a straight line yield somewhat closer fits within the
> tax range, but no case was found in which the fit was
> of the sort appearing to warrant extrapolation. Exami-
> nation of distributions for specific sources of income
> reveals such disparities among sources that, in view of
> the variably structure of combined income, the likeli-
> hood of a general law of distribution applying to com-
> bined income appears remote.[17]

Interest in the empirical verification of Pareto's Law

waned as it was increasingly recognized that the parameters

were insensitive to all but major shifts in the size distri-

bution of income.

Interest in the Form of the Density Function

A third branch of inquiry was concerned with the

shape of the income density and encompassed several related

questions. One of the basic questions was, why is the

income density the way it is? More particularly, why is the

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[16]Allyn A. Young, "Do the Statistics of the Concen-
tration of Wealth in the United States Mean What They Are
Commonly Assumed to Mean?" American Economic Review, Papers
and Proceedings, VII (March, 1917), p. 149.

[17]W. L. Crum, "Individual Shares in the National
Income," Review of Economics and Statistics, XVII (November,
1935), p. 129.

income density skewed to the right, if the distribution of
abilities among persons in society is approximately normal?
Some have worked toward identifying a process which would
result in a positively skewed income density, while others'
efforts have been directed toward finding a mathematical
function which closely approximates the extant distribution
of income. For example, the Pareto function approximates
the upper tail rather well (although the parameters are
fairly sensitive to the point chosen at which to begin the
fit). The lognormal fits the middle of the density fairly
well, but fails at the upper and lower tails. Another
fairly well-known curve is that of Champernowne, which gains
in flexibility what it sacrifices in simplicity.[18] Others
have "considered the problem from a sociological point of
view, pointing out that differences in income level for
different social groups may lead to income distributions
characterized by positive skewness."[19]

Tinbergen has proposed that the population be con-
ceived of as classified into cells, with different abili-
ties, degrees of competency, skills and attributes in each
cell. The distribution of income and the shape of the
income density, in Tinbergen's framework, is then determined
by the supply and demand for the skills and abilities in

[18]D. G. Champernowne, "The Graduation of Income Dis-
tributions," Econometrica, XX (1952), pp. 591-615.

[19]Kjeld Bjerke, "Income and Wage Distributions: A
Survey of the Literature," Review of Income and Wealth, XVI
(September, 1970), p. 235.

each cell. In Tinbergen's words,[20]

> . . . we may look at incomes as the prices received for
> the supply of productive services, whether labour, land,
> or capital. . . . An individual may supply a combina-
> tion of the three factors of production. It is char-
> acteristic for reality and also for the theories to be
> presented that the labour market is compartmentalized:
> there are innumerable types of labour. An income dis-
> tribution theory cannot therefore restrict itself to
> three compartments (for three factors), but has to
> distinguish a considerably larger number of them.
>   A positive theory will be based on assumptions con-
> cerning the supply of demand for each type of produc-
> tive service. Together the various prices paid in the
> various compartments may be said to represent an income
> scale, possibly of many dimensions, relating the price
> of each type of service to its nature.

While Tinbergen's framework may be valid, it resists

thorough empirical verification. Tinbergen has applied it

to a number of variables, including human capital. With

the possible exception of the human capital area, data does

not exist that is disaggregated to the extent that would

permit one to quantify the services available in each of

Tinbergen's "innumerable compartments," and Tinbergen's

framework is generally incapable of explaining the past or

predicting the future. One is also left with the problem

of explaining why the structure and pattern of the supply

and demand for various skills and abilities is the way it is.

A related question is, why is the distribution and

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[20]Jan Tinbergen, "A Positive and a Normative Theory
of Income Distribution," Review of Income and Wealth, XVI
(September, 1970), p. 221.

the degree of inequality constant? As expressed by Alice
Rivlin,[21]

> In a world in which change is normal--in which people
> are used to revolutions in technology and communica-
> tions, racial and sexual upheaval, baby boom and baby
> bust, decline of cities and mushrooming of suburbs--
> the constancy of the size distribution of income stands
> out as remarkable.

Empirical Investigations

The fourth line of inquiry might be broadly termed
empirical. This branch includes studies that have attempted
to relate changes in inequality to the business cycle or
inflation. Some authors, such as Kuznets, have attempted
to measure long term trends in the degree of inequality.
More recently, a number of studies have been concerned
with analyzing the percent of the population below the
poverty level, attempting to assess the impact of the
Great Society programs of the 1960's. Some studies have
been done in the human capital framework, attempting to
relate differences in observed degrees of inequality to
differences in investment in human capital. While shown
to be statistically significant, human capital generally
explains only a small part of the extant degree of inequality.
Additionally, most extant empirical studies deal only with
the aggregate density of income and the attendant degree
of inequality.

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[21]Alice M. Rivlin, "Income Distribution--Can Econo-
mists Help?" American Economic Review, Papers and Proceed-
ings, LXV (May, 1975), p. 4.

Thus, there exists no universally acceptable and useful explanation of the shape of the income density. While the marginal productivity theory of income distribution offered an explanation of the aggregate division of national output and of the wages of the individual worker, it generally offered no explanation of the shape of the income density and the attendant degree of inequality. Indeed, the shape assumed by the distribution of income was not an important question in the theoretical framework of marginal productivity theory. The chimera of determinism thrown up by Pareto also discouraged inquiry into the shape of the income density and its cause. Both the marginal productivity theorists and Pareto biased other economists against examining the shape of the size distribution of income and its causes. Tinbergen's framework appears valid, and while it may be useful for explaining the effects of selected factors (such as human capital), data does not exist that would enable it to completely explain the shape of the aggregate income density or of the income density of subgroups of the population. In addition, the number of studies examining inequality among subgroups of society is much fewer than the existing quality and quantity of data permit. Given the myriad number of factors that affect the distribution of income, a complete explanation of the shape of the income density is probably not possible in the foreseeable future.

Method

This study will fill an important gap in the empirical literature. There are two basic thrusts to this work. The first is the measurement of the degree of inequality within subgroups of the population, and the second is the measurement of inequality among subgroups. Most previous studies have considered the degree of inequality only for the population as a whole. Very few have considered the structure of and changes in the degree of inequality between the various subgroups of the population.

The Gini Coefficient

The Gini coefficient will be the measure used to quantify inequality within groups. The Gini coefficient is derived from the Lorenz transformation of the income distribution, as follows.[22] If one is given a set of individuals ordered by income y and an income distribution function $F(y)$, then $F(y) = P(Y \leq y)$, and $F(y)$ will vary between zero and unity. The income at any quantile p is then given by the inverse of the function, $F^{-1}(p)$ or

$$F^{-1}(p) = \min(Y: \; F(y) \geq p).$$

The commonly accepted version of the Lorenz transformation is then given by

$$L_F(p) = \frac{1}{\mu} \int_0^{F^{-1}(p)} x \, dF(x).$$

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[22]See Carl Morris, Measures of Relative Income Inequality (Santa Monica: Rand Corporation, 1972), pp. 4-7.

(Lorenz's original curve was concave downwards while the above is concave upwards.) The above is also a distribution function, and the density is

$$L_F^{'}(p) = \frac{F^{-1}(p)}{\mu}$$

which integrates to 1. The area between $L_F(p)$ and p is often called the area of inequality, and the Gini coefficient is equal to twice this area. It is also equal to the average of the absolute values of all possible pairs of income divided by twice the mean. Alternatively, since the area under p integrates to $\frac{1}{2}$, the Gini coefficient may be expressed as

$$G = 2(1 - L_F(p)),$$

and this formulation has led to the computation of the Gini coefficient by trapezoidal approximation of the area under $L_F(p)$. In other words, the abscissa is arbitrarily segmented into class intervals, $(p_0, p_1, p_2, \ldots, p_n)$ and the area of all trapezoids $(p_a, L_F(p_a), L_F(p_{a+1}), p_{a+1})$ is computed and summed to approximate the area under $L_F(p)$. This is the method employed by the Census Bureau in the past. Gastwirth has demonstrated that this procedure leads to an underestimate of G since the top of each trapezoid (the line connecting $L_F(p_a)$ and $L_F(p_{a+1})$) lies above $L_F(p)$.[23]

[23]Joseph L. Gastwirth, "The Estimation of the Lorenz Curve and the Gini Index," Review of Economics and Statistics, LIV (August, 1972), p. 306.

Thus, this method leads to a lower bound on the value of G.
Gastwirth demonstrated that the upper bound on the value
of G will be equal to

$$G' = \frac{1}{2\mu} \Sigma \underset{i \neq j}{\Sigma} \gamma_i \gamma_j |\mu_i - \mu_j|$$

$$+ \frac{1}{\mu} \overset{i+1}{\underset{i=1}{\Sigma}} \gamma_i^2 (\mu_i - a_{i-1})(a_i - \mu_i)(a_i - a_{i-1})^{-1}$$

where: μ_i = mean of the ith group

γ_i = proportion of observations in the ith group

a_i = boundary of the ith group.

Gastwirth's method is adopted in this work, and the
computed value of the Gini coefficient is the average
of the upper and lower bounds given above.

The Gini coefficient is used as a measure of
within group inequality for the following groups:

A. Type of Family by Labor Force Status. (For all
races, white families, and black families).

1) Total Families.

2) Total Families with Male Head.

3) Total Families with Male Head and Wife Present
and in the Paid Labor Force.

4) Total Families with Male Head and Wife Present
but not in Paid Labor Force.

5) Total Families with Female Head.

6) Total Unrelated Individuals.

B. By Age Group, for each type of family group and

racial classification listed above.

1) 14-24 years.

2) 25-34 years.

3) 35-44 years.

4) 45-54 years.

5) 55-64 years.

6) 65 years and over.

C. By Region (Northeast, North Central, South, and West).

1) Total Families of All Races.

2) Total Unrelated Individuals of All Races.

3) Total White Families.

4) Total White Unrelated Individuals.

D. By Type of Residence.

1) Nonfarm.

2) Farm.

3) Metropolitan Areas of One Million or More.

4) Central Cities of Metropolitan Areas of One Million or More.

5) Outside Central Cities of Metropolitan Areas of One Million or More.

6) Metropolitan Areas of Less than One Million.

7) Central Cities of Metropolitan Areas of Less than One Million.

8) Outside Central Cities of Metropolitan Areas of Less than One Million.

It should be remembered in evaluating the results
that follow that composition of the groups changes through
time. The income of an individual tabulated under "families
with a female head" in one year may be included in the next
year with "total families with male head." And, an indi-
vidual included one year among "total families" may be
included the next among "total unrelated individuals."

The Wohlstetter-Coleman Method

A method advanced by Wohlstetter and Coleman in
1970 will be used to quantify the amount of inequality
between groups.[24] Wohlstetter and Coleman proposed using

$$R_{12} = \frac{F_1^{-1}(p)}{F_2^{-1}(p)} \; ,$$

the ratio of incomes at quantiles, as a way of comparing rel-
ative inequality between two groups throughout the whole range
of the income distribution. The proposed study will compute
R at five percentile intervals. While the Gini coefficient
is one of the best and most widely used measures of inequality,
it does have some deficiencies, especially as a measure for
comparing inequality between two groups. Wohlstetter and
Coleman's ratio of incomes at quantiles method seems the best
method available for overcoming these deficiencies, and its
application conveys information that would be lost in the
comparison of Gini coefficients of two densities.

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[24]Albert Wohlstetter and Sinclair Coleman, Race Dif-
ferences in Income (Santa Monica: Rand Corporation, 1970), p. 13.

In addition to providing a measure of the degree of inequality at one point in time, Wohlstetter and Coleman's method also provides a means of measuring changes in the degree of inequality between groups through time. These changes are quantified for most subgroups for the period 1967-1973, and an attempt is made to relate the resultant series of R with price changes, corresponding unemployment rates, and other macro variables for the subgroups considered. The application of Wohlstetter and Coleman's method yields an understanding of how the relative positions of the groups considered have varied, or not varied, vis a vis one another. This method is used to effect five sets of comparisons among income densities.

For each racial classification (all races, blacks, and whites), Wohlstetter and Coleman's method is used to compare the income density of each type of family subgroup to a base income density, that of total families with a male head and with the wife present but not in the paid labor force. This latter density was chosen as a base density, since unlike total families or total families with a male head, it is not subject to the effects of internal changes in composition. This provides a comparison throughout the entire income density of the changes within each racial class of the relative position of each type-of-family subgroup relative to the base density.

Secondly, this method is used to compare black with white families, broken down by the labor force character of the family. One of the most commonly used measures in

comparing black and white family income is the ratio of
median family income of the two races. However, this measure
ignores much information. For example, income may have
become more equally distributed between the two subpopula-
tions at the lower percentiles while the disparity between
the median incomes increased. Or, changes in the ratio of
median family incomes may either disguise or be the result
of changes in labor force composition of total families.
Using the Wohlstetter-Coleman method, the answers to several
questions are sought. How did inequality between the two
subpopulations change throughout the whole range of the two
densities? Were changes in relative inequality between black
and white families prevalent in all type-of-family groups,
or in only one or two, such as unrelated individuals or fam-
ilies with a female head? Were changes in inequality per-
vasive throughout the distribution, or limited to only one
or more parts of the distribution? Were changes in the
overall relative position of black families due to shifts in
composition?

Thirdly, the above comparisons are extended to sub-
groups disaggregated by age. For each racial classification,
each age subgroup of each type-of-family subgroup is compared
to the corresponding age subgroup of total families with male
head and with the wife present but not in the paid labor
force. This reveals whether the changes in relative ine-
quality among the different type of family subgroups are

pervasive throughout all age groups or are limited to one or
more. In addition, this application of Wohlstetter and
Coleman's method reveals how relative inequality between
different groups varies with age.

Fourthly, Wohlstetter and Coleman's method is
utilized to quantify relative inequality between regions.
The income density of the northeast region will be used as
the base density, and the income densities of the north
central, southern and western regions of the U.S. will be
compared to it.

Fifthly, income densities by type of residence are
compared.

The results of the above computations of inequality
within groups and relative inequality between groups will
be compared and related to existing studies of long term
trends in inequality and of the cyclical behavior of ine-
quality. The most thorough and comparable study of cyclical
changes in inequality is that of Metcalf (1972). Metcalf,
however, used a displaced lognormal distribution, and only
considered the period up through 1965. In addition to
updating the results of previous studies, this proposed
work will surpass extant studies in both method and scope.

Finally an overall evaluation of the application of
Wohlstetter and Coleman's method should yield a picture of
the impact of the business cycle on the size distribution
of income during the period under study, 1967-1973.

Relationship between R and Gini Coefficient

Assume two distributions of income, A and B. If income is more equally distributed in A than in B, then, of course, the Gini coefficient of A will be less than that of B. If the two densities are compared to one another, using Wohlstetter and Coleman's method, with B as the base density, the resulting values of R will be an inverse function of quantile.

Concepts, Definitions, and Data Sources

There is much that has been written regarding the appropriateness of income concepts, time periods, and recipient units. Depending upon the question being considered, attention could center on inequality of types of income, inequality of income among persons, inequality of income among persons who are employed all year, or inequality of lifetime income. All concepts have both their supporters and their detractors. For example, Shultz has written,[25]

> It is difficult to interpret inequality of income
> among household units from a normative point of view
> because the composition of household units varies across
> social groups at one point in time, and this variation
> is not independent of the underlying distribution of
> resources among persons.

Shultz is one of those who have promoted lifetime incomes of persons as the appripriate concept.

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[25]T. Paul Schultz, <u>Long Term Changes in Personal Income Distribution: Theoretical Approaches, Evidence and Explanations</u>, Monograph P-4767 (Santa Monica: Rand Corporation, 1972), p. 4.

The primary unit of analysis in this work is the family, rather than persons within families, on the grounds that a better, more comprehensive measure of welfare will emerge from its use. However, even this decision is open to question. Others have attempted to adjust family income for the number of members, earners, or dependents within the family unit. Neither avenue is beyond possible reproach, since the two are not independent choices. The decision to have children is influenced by current and expected future income, and the intensity of desire for increased income is influenced by perceived family income needs. The two variables (income and number of family members) are interdependent, and some theoretical justification exists for each measurement concept.

The primary data source used is Current Population Reports, Series P-60 (CPS), published by the U.S. Bureau of the Census. The income data from this source is based on the following concept of income:[26]

> (1) Money wages or salary; (2) net income from non-farm self-employment; (3) net income from farm self-employment; (4) Social Security and railroad retirement; (5) dividends, interest (on savings or bonds), income from estates or trusts, or net rental income; (6) public assistance or welfare payments; (7) unemployment and workmen's compensation, government employee pensions, or veteran's payments; (8) private pensions, annuities, alimony, regular contributions from persons not living in this household, and other periodic income.

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[26]U.S., Bureau of the Census, Current Population Reports, Series P-60, No. 90, "Money Income of Families and Persons in the United States," U.S. Government Printing Office, Washington, D.C., 1973, p. 10.

Capital gains and public assistance transfers, such as

subsidized housing, health benefits, and food stamps,

are not included in this concept of income; nor is any

deduction made for tax payments or Social Security deduc-

tions.[27] Wages and salaries are reported better than other

types of income. Families and unrelated individuals with

no income or with losses are included in the "Under

$1,000" category.[28]

Budd has criticized the CPS, charging that,[29]

> . . . The CPS comes close to being a distribution of
> earnings plus social security payments; it accounts
> for only about a third to two-fifths of the relevant
> control totals for property income and not much more
> than half of other transfers excluding social secur-
> ity . . . self-employment income shows considerably
> more dispersion, and more negative incomes, the tax
> return data than in the CPS.

While these are certainly shortcomings, this data source

is preferable to the IRS returns, and the CPS is the best

data source available within the cost constraints of this

study.

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[27]Ibid.

[28]Ibid., p. 11.

[29]Edward C. Budd, "Postwar Changes in the Size
Distribution of Income in the U.S.," American Economic
Review, Papers and Proceedings, LX (May, 1970), p. 256.
See also Edward C. Budd and Daniel Radner, "The Bureau of
Economic Analysis and Current Population Survey Size Dis-
tribution: Some Comparisons for 1964," in James D. Smith,
ed., The Personal Distribution of Income and Wealth,
Studies in Income and Wealth, vol. 39 (New York: National
Bureau of Economic Research, 1975), pp. 449-558.

A "family" is defined as "a group of two or more persons related by blood, marriage, or adoption and residing together."[30] An "unrelated individual" is defined as "a person 14 years or older (other than inmates of institutions) who is not living with any other relatives."[31] A head of a family is defined as the individual who is regarded as the head by other members of the family, except for female spouses.[32]

The income intervals used for the computation of the boundaries of the Gini coefficient with Gastwirth's formula were those published in Current Population Reports, P-60. It was assumed that the upper limit on the "$50,000 and over" interval was $99,999. The income interval averages used in the computation of Gastwirth's formula was those for total families of all races for 1972, except that $31,494 and $70,209 was assumed to be the interval averages of the two highest intervals.[33] These averages for incomes within intervals were then imputed to other

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[30]Ibid., p. 12.

[31]Ibid.

[32]Ibid., p. 13.

[33]Ibid., p. 154. The average of the "$50,000 and over" interval is omitted in P-60; an average is given only for "$25,000 and over." The top two interval averages were estimated with a Pareto distribution, given knowledge of the frequencies of the top two intervals and the average of the two intervals combined.

densities and other years. While this is a source of error,
the comparison with the values available for other years
suggests that the error is minor. Gastwirth's upper and
lower boundaries were then averaged to yield the values used
in this study.

Summary of Chapters

Chapter II considers the changes in inequality within
type of family groups of each race. Chapter III considers
the structure and changes in relative inequality between
races. Chapter IV considers the structure and changes in
relative inequality within age subgroups of each type of
family group. In Chapter V the structure and changes in
relative inequality of regions are considered. Inequality
between types of residences is considered in Chapter VI.
Summary and conclusions are presented in Chapter VII.

pervasive throughout all age groups or are limited to one or more. In addition, this application of Wohlstetter and Coleman's method reveals how relative inequality between different groups varies with age.

Fourthly, Wohlstetter and Coleman's method is utilized to quantify relative inequality between regions. The income density of the northeast region will be used as the base density, and the income densities of the north central, southern and western regions of the U.S. will be compared to it.

Fifthly, income densities by type of residence are compared.

The results of the abo   inequality within groups and relative i   s will be compared and related to   term trends in inequality and o   ine- quality. The most thorough   cyclical changes in inequality is that   Metcalf, however, used a displaced lognorma   ion, and only considered the period up through 1965. In addition to updating the results of previous studies, this proposed work will surpass extant studies in both method and scope.

Finally an overall evaluation of the application of Wohlstetter and Coleman's method should yield a picture of the impact of the business cycle on the size distribution of income during the period under study, 1967-1973.

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CHAPTER II

INEQUALITY AND TYPE OF FAMILY

Inequality and sources of income differ by type of
family. Since the composition of total families has changed
during the postwar period, one might expect inequality among
total families to change even if inequality remained con-
stant within each type of family group. Because of the
different composition of income sources, and because of the
varying labor market desirability of the working members of
different types of families, one might also expect the rela-
tive position of different types of families to vary over
the business cycle.

The change in the composition of families that has
taken place during the postwar period, and during the specific
period considered, 1967-1973, are reviewed first. Gini coef-
ficients computed for type of family groups for all races com-
bined and for the black and white subpopulations are presented
next, providing a measure of inequality within type of family
group. Following this, the results of the application of the
Wohlstetter-Coleman method to the subject income densities
are presented, providing a measure of the changes in inequality
between income densities. Finally, these resultant values

of R were regressed on selected independent variables in an
attempt to explain changes in relative position between type
of family income densities.

Changes in Type of Family Composition

One of the most salient changes of the postwar period
has been the relatively rapid increase in the female segment
of the labor force and the resulting change in the labor
force composition of families. As shown in Table 1, the
female of the species comprised only 27.4% of the total
labor force in 1947, while males accounted for the other
72.6%. By 1960, females accounted for 32.3% of the total
labor force, and by 1973, 38.0%. The number of males in
the labor force increased 27.6% from 1947 to 1973, while the
number of females in the labor force increased 107.2% during
the same period (see Table 2). The rate of increase in both
the male and female components was greater in the second half
of the period 1947-1973 than in the first half. Because a
large number of the women who chose to enter the labor force
were wives of working husbands, one might expect, a priori,
that the relative increase in the number of families with
the wife in the paid labor force would have an impact on the
distribution of income.

Black families with a male head in 1973 were more
likely to have a working wife present than were white fam-
ilies with a male head. However, black families were (and
are) less likely to have a male head than white families.

TABLE 1

TOTAL LABOR FORCE COMPOSITION BY SEX, SELECTED YEARS,
1947-1974 (NUMBERS IN THOUSANDS)

Year	Number		Percent	
	Male	Female	Male	Female
1947	44,258	16,683	72.6	27.4
1950	45,446	18,412	71.2	28.8
1960	48,870	23,272	67.7	32.3
1967	52,398	28,395	64.9	35.1
1968	53,030	29,242	64.5	35.5
1969	53,688	30,551	63.7	36.3
1970	54,343	31,560	63.3	36.7
1971	54,797	32,132	63.0	37.0
1972	55,671	33,320	62.6	37.4
1973	56,479	34,561	62.0	38.0

Source: U.S., Department of Labor, Bureau of Labor Statis-
tics, Handbook of Labor Statistics 1975--Reference
Edition, Bulletin 1865 (Washington, D.C.: U.S.
Government Printing Office, 1975), p. 28.

TABLE 2

PERCENTAGE CHANGE IN LABOR FORCE COMPONENTS BY SEX,
SELECTED PERIODS, 1947-1973

Period	Male	Female
1947-1973	+27.6%	+107.2%
1947-1960	+10.4	+39.5
1960-1973	+15.6	+48.5
1967-1973	+7.8	+21.7

Source: Computed from Table 1.

Families with a female head comprised 34.0% of total black families in 1973, but only 9.9% of white families (see Table 3).

TABLE 3

PERCENTAGE COMPOSITION OF FAMILIES BY TYPE OF FAMILY,
BY RACE, SELECTED YEARS, 1952-1973

	(1)	(2)	(3)	(4)	(5)	(6)
All Races						
1952	100.0%	90.7%	22.5%	65.0%	3.2%	9.4%
1962	100.0	89.9	27.5	59.5	2.9	10.2
1967	100.0	89.3	31.8	55.1	2.4	10.7
1973	100.0	87.6	35.4	49.7	2.5	12.4
White						
1967	100.0	91.1	31.5	57.3	2.3	8.9
1973	100.0	90.1	35.7	52.0	2.4	9.9
Black						
1967	100.0	72.3	34.1	33.8	4.4	27.7
1973	100.0	66.0	31.8	30.0	4.2	34.0

Column: (1) Total families
(2) Families with male head
(3) Families with male head and wife present and in paid labor force
(4) Families with male head and wife present but not in paid labor force
(5) Families with male head--other (i.e., divorced, widowed)
(6) Families with female head

Source: U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 97, "Money Income in 1973 of Families and Persons in the United States" (Washington: U.S. Government Printing Office, 1974), p. 49; P-60, No. 90, "Money Income in 1972 of Families and Persons in the United States," p. 40; and P-60, No. 59, "Income in 1967 of Families in the United States," p. 32. Percentages were computed from data in CPR, P-60, for respective years.

Inequality within Type of Family Groups, by Race

All Races

For all races combined, Gini coefficients computed
by the Bureau of the Census are available for total families,
total families with male head, total families with female
head, and total unrelated individuals for the period 1947-
1964; Gini coefficients for total male headed families with
the wife present and in the paid labor force, and total male
headed families with the wife present but not in the paid
labor force are available for the period 1949-1964. These
figures, as well as the data computed in this study for the
type of family classifications for all races for 1967 to
1973 are given in Table 4.

Total Families

The Gini coefficient for total families decreased
from 0.378 in 1947 to 0.3533 in 1973, a decline of 6.6%.
This decline has led some economists to subjectively
conclude that there has been a decrease in inequality in
the postwar period, while others have chosen to conclude
that there has been no significant change in inequality
in the postwar period. During the period under special con-
sideration, 1967-1973, the Gini coefficient for total fami-
lies of all races declined 3.2% from .3601 in 1967 to .3489
in 1968. It then increased consistently to .3575 in 1972,
an increase of 2.6%, and finally declined again in 1973,

TABLE 4

GINI COEFFICIENTS BY TYPE OF FAMILY, ALL RACES,
1947-1964 and 1967-1973

Year	(1)	(2)	(3)	(4)	(5)	(6)
1947	.378	.369			.418	.568
1948	.369	.360			.450	.479
1949	.379	.367	.307	.377	.456	.476
1950	.375	.367	.300	.386	.454	.483
1951	.361	.349	.289	.365	.447	.477
1952	.374	.353	.312	.362	.477	.479
1953	.360	.349	.283	.361	.464	.518
1954	.373	.356	.289	.374	.467	.506
1955	.366	.351	.280	.377	.454	.498
1956	.355	.346	.280	.367	.437	.487
1957	.351	.338	.283	.358	.441	.490
1958	.354	.339	.281	.357	.442	.502
1959	.366	.345	.285	.368	.437	.512
1960	.369	.352	.294	.378	.434	.491
1961	.376	.363	.300	.382	.463	.507
1962	.365	.349	.290	.364	.456	.496
1963	.360	.345	.290	.360	.449	.506
1964	.352	.343	.290	.365	.434	.508
1967	.3601	.3479	.2917	.3698	.4305	.5131
1968	.3489	.3315	.2768	.3577	.4208	.4902
1969	.3486	.3350	.2804	.3589	.4099	.4967
1970	.3565	.3393	.2811	.3668	.4151	.4793
1971	.3560	.3389	.2820	.3672	.4175	.4791
1972	.3575	.3390	.2818	.3642	.4262	.4796
1973	.3533	.3321	.2760	.3681	.4123	.4724

Source: Years 1947-1960 from U.S. Bureau of the Census,
Trends in the Income of Families and Persons in the
United States: 1947-1960, Technical Paper No. 8
(Washington: U.S. Government Printing Office,
1963) pages 46-72. Years 1961-1964 from U.S.
Bureau of the Census, Trends in the Income of Fam-
ilies and Persons in the United States: 1947-1964,
Technical Paper No. 17 (Washington: U.S. Government
Printing Office, 1967), pp. 176-178. Years 1967-
1973 computed from data in U.S. Bureau of the
Census, Current Population Reports, Series P-60
(Washington: U.S. Government Printing Office, 1967-1973).
(1) Total families; (2) Families with male head; (3) Families
with male head, wife present and in paid labor force; (4) Fami-
lies with male head, wife present but not in paid labor force;
(5) Families with female head; (6) Unrelated individuals.

to .3533. For each type of family noted in Table 4, the
Gini coefficient for 1973 is lower than the initial value.

Unrelated Individuals

Within type-of-family subgroups, inequality, as
measured by the Gini coefficient, is greatest among total
unrelated individuals in all years considered, varying from
a high of .568 in 1947 to low of .4724 in 1973. This group
also has the lowest mean income ($5,708 in 1973).[1] During
the period 1967-1973, the Gini coefficient for this group
varied from .5131 in 1967 to .4724 in 1973 (see Table 4).
The 1973 value is the low for the period 1947-1973.

Families with a Female Head

Families with a female head experience the second
highest degree of within-group inequality. While the 1973
value of .4123 was only slightly less than the 1947 value
of .418, it was 10% less than the 1952 value of .477. The
average Gini coefficient for the period 1967-1973 was .4189,
18.2% greater than the average of all families.

Families with a Male Head

Among total families of all races with a male head,
inequality is less in those families in which the wife is a
member of the paid labor force. The 1973 Gini coefficient
for male headed families in which the wife is in the paid

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[1]Current Population Reports, P-60, No. 97, 1973, p. 49.

labor force is .2760, 10.1% less than the 1949 value of
.307. The 1973 Gini coefficient for male-headed families
in which the wife is present but not in the paid labor
force is .3681, only 2.4% less than the 1949 value of .377.
The value for total families of all races with a male head
lies between that of the two subgroups, decreasing 9.5% from
.367 in 1949 to .332 in 1973.

Families in which the wife works have a higher mean
income than those families in which she does not. In 1973,
the mean income for families with a male head in which the
wife was present and in the paid labor force was $16,439, while
the mean income for those families in which the wife was
present but not in the paid labor force was only $13,281.[2]

There is less inequality among those families in
which the wife is a member of the paid labor force than
among those in which she is not.

The Gini coefficient for families with a male head
and the wife present but not in the paid labor force aver-
aged .3647 for the period 1967-1973, 29.6% greater than the
.2814 average for families with a male head with the wife
present and in the paid labor force. The relative increase
in the number of families with working wives, noted above,
has been associated with a larger decrease in inequality
among those families with working wives.

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[2]Ibid.

Inequality within Race

Gini coefficients for type of family sub-groups for black families and for white families are presented in Tables 5 and 6. Three observations stand out. The first observation is that, even when type of family is held constant, income is more unequally distributed among black families than among white families. Gini coefficients for white type of family subgroups tend to be less than for the same black family subgroup and for those of all races combined.

Secondly, the ranking of type of family subgroups by inequality differs between white and black families. Among both, income is most equally distributed among male-headed families with the wife present and in the paid labor force, followed by total families with a male head. However, among black families, families with a male head and the wife present but not in the paid labor force ranks third in equality, followed by total black families. Among white families, the ranking is reversed. Since total families is an aggregation of other groups, it is possible that the difference in ranking is due to the different composition of total families in each race. Among both white and black families, families with a female head rank fifth in equality, followed by total unrelated individuals.

In all cases, the 1973 Gini coefficient is less than the 1967 Gini coefficient (see Table 7). Inequality declined

TABLE 5

GINI COEFFICIENTS, WHITE FAMILIES, BY TYPE OF FAMILY,
SELECTED YEARS, 1947-1973

	(1)	(2)	(3)	(4)	(5)	(6)
1947	.363					.574
1948	.361					.481
1949	.367					.475
1950	.372					.367
1951	.352					.476
1952	.359					.479
1953	.353					.522
1954	.359					.489
1955	.358					.516
1956	.347					.488
1957	.345					.482
1958	.340					.506
1959	.349					.515
1960	.357					.487
1961	.364					.506
1962	.350					.488
1963	.348					.502
1964	.349					.506
1967	.3571	.3403	.2821	.3623	.4096	.5076
1968	.3388	.3309	.2690	.3522	.4058	.4868
1969	.3439	.3297	.2718	.3594	.4000	.4950
1970	.3489	.3357	.2793	.3594	.3910	.4898
1971	.3494	.3326	.2779	.3628	.4124	.4733
1972	.3500	.3292	.2789	.3627	.4021	.4740
1973	.3421	.3271	.2728	.3585	.4019	.4649

Column: (1) Total families
(2) Families with male head
(3) Families with male head, wife present and in
paid labor force
(4) Families with male head, wife present but not in
paid labor force
(5) Families with female head
(6) Unrelated individuals

Source: Years 1947-1960, U.S. Bureau of the Census, Trends
in the Income of Families and Persons in the United
States: 1947 to 1960, Technical Paper No. 8 (Wash-
ington, U.S. Government Printing Office, 1963),
pp. 168-189; years 1961-1964, U.S. Bureau of the
Census, Trends in the Income of Families and Persons
in the United States, 1947-1964 (Washington, U.S.
Gov't Printing Office, 1967), pp. 170-171; years
1967-1973, computed from Current Population Reports,
Series P-60.

TABLE 6

GINI COEFFICIENTS, BLACK FAMILIES, BY TYPE OF FAMILY,
SELECTED YEARS, 1947-1973

	(1)	(2)	(3)	(4)	(5)	(6)
1947	.406					.447
1948	.406					.448
1949	.415					.423
1950	.402					.415
1951	.405					.446
1952	.365					.445
1953	.393					.419
1954	.402					.525
1955	.388					.459
1956	.396					.462
1957	.405					.453
1958	.412					.472
1959	.414					.480
1960	.414					.490
1961	.414					.503
1962	.403					.479
1963	.403					.499
1964	.399					.485
1967	.4028	.3761	.3297	.4031	.4059	.5182
1968	.3869	.3492	.3067	.3618	.4084	.4821
1969	.3923	.3477	.2988	.3559	.4021	.4963
1970	.4000	.3549	.3050	.3593	.4181	.4913
1971	.3959	.3439	.3037	.3539	.4027	.4915
1972	.4140	.3577	.3115	.3639	.4268	.4861
1973	.4014	.3573	.2893	.3716	.3864	.5016

Column: (1) Total families
         (2) Families with male head
         (3) Families with male head, wife present and in
             paid labor force
         (4) Families with male head, wife present but not in
             paid labor force
         (5) Families with female head
         (6) Unrelated Individuals

Source: Same as Table 5.

Note: Values for 1947-1964 are for nonwhite families.

TABLE 7

AVERAGE GINI COEFFICIENTS, AND PERCENTAGE CHANGES IN
GINI COEFFICIENTS, 1967-1973, AND MEAN INCOME,
1973, BY TYPE OF FAMILY AND RACE

	(1)	(2)	(3)	(4)	(5)	(6)
Average Gini Coefficients, 1967-1973						
Total families, all races	.3544	.3377	.2814	.3647	.4189	.4872
White families	.3472	.3322	.2760	.3596	.4033	.4845
Black families	.3990	.3553	.3064	.3671	.4072	.4953
Percentage Change, 1967-1973						
Total families, all races	-1.89%	-4.54%	-5.41%	-0.44%	-4.23%	-7.93%
White families	-4.18	-3.87	-3.31	-1.06	-1.86	-8.41
Black families	-0.42	-4.98	-12.27	-7.82	-4.80	-3.21
Mean Income, 1973						
Total families, all races	$13,622	$14,524	$16,439	$13,281	$7,228	$5,708
White families	14,163	14,841	16,763	13,612	8,003	5,883
Black families	8,807	10,646	13,138	8,243	5,236	4,579

Source: Current Population Reports, Series P-60, 1967-1973,
and computed therefrom.

Column: (1) Total families
(2) Families with male head
(3) Families with male head, wife present and in
paid labor force
(4) Families with male head, wife present but not
in paid labor force
(5) Families with female head
(6) Unrelated individuals

within each type of family group in each race. The largest
decrease in within group inequality occurred among black
families with a male head and the wife present and in the
paid labor force. The smallest decrease in inequality
occurred among total black families, 0.42%. In all cases
except among total unrelated individuals and total families,
the decrease in inequality was greater among black type of
family subgroups than among white type of family subgroups
for the period 1967-1973.

It is interesting to note that the decrease for total
black families, -0.42%, was smaller than decrease for each
of the other black type of family groups. This suggests
that while the income was received more equally within each
of the black family classifications, the income densities of
the subgroups tended to move apart.

Summary of Structure and Changes

The data in Table 7 summarize the structure of rela-
tive inequality among different type of family groups, and
the changes that took place over the period.

The differences in within-group inequality among
type of family groups are substantial. The Gini coefficient
for unrelated individuals is more than sixty percent greater
than that for families with a male head in which the wife is
present and in the paid labor force. In each racial classi-
fication, the second greatest degree of inequality prevails

among families with a female head; the lowest degree of inequality prevails among families with a male head in which the wife is present and in the paid labor force.

The Gini coefficient for each type of family group decreased during the 1967-1973 period. The apparent decrease, however, would disappear in several cases if a different year were chosen as the starting point for comparison. The decreases were generally greater among black families than among white families.

The wide divergence of Gini coefficients among the different type of family groups suggests that changes in composition among the different types of family might be a significant factor in accounting for changes in the total. The Gini coefficient for total families is not a weighted average of the subgroups; it reflects both inequality within groups and between groups. The decreases in inequality within the black family subgroups were greater than that for total black families. This suggests that while inequality decreased within the black component densities, the black component densities tended to move apart. The converse is suggested for white families. Similarly, if between group inequality had remained constant, the increase in the number of families with working wives would tend to decrease total inequality, while the increase in the percent of families with a female head would have tended to increase overall inequality.

Within each type of family classification, inequality is greater among black families than among white families. However, adjustment for type of family does reduce the apparent difference in income inequality. The average Gini coefficient for total black families was 14.92% greater than that for total white families. The difference was less in each of the subgroups. For example, the average Gini coefficient for black families with a female head exceeded that for white families with a female head by only 0.97% (see Table 7). Thus, differences in composition do appear to be significant in accounting for the difference in inequality between total black families and total white families.

Between Group Inequality

The changes in relative position of the income densities of each type of family group of each racial classification was explored, utilizing the Wohlstetter-Coleman method. The occurrence of larger decreases in the Gini coefficient for black type of family subgroups than for total black families suggests that the income densities of the subgroups may have tended to move apart. While Gini coefficients provide a summary measure of inequality within a given income density, the Wohlstetter-Coleman method provides a means of evaluating changes in relative position between any two income densities. In this context, income may be said to be distributed equally between two densities when the value of R is unity. The application of this method

also provides a means of quantifying and locating changes in relative equality that may have taken place between two income densities.

An examination of the percentage changes in only the mean incomes of the groups suggests that there were differences in the changes that took place. The largest difference occurs in the unrelated individual category. The mean income of white unrelated individuals increased 55.4%, while that of black unrelated individuals increased 72.7%. The data in Table 7 also suggest that the position of the black female relative to the black male improved more than that of the white female relative to the white male. However, males appear to have improved their lot more than females in each race.

The results of the application of the Wohlstetter-Coleman method to the income densities to the type of family subgroups for black and white families are presented in Tables 8-17. The data for families of all races combined is presented in the Appendix. The data suggest the following observations and conclusions.

Families with Male Head and Wife Present and in the Paid Labor Force

The computed values of R, the ratio of incomes at quantiles, comparing the income density of white families with a male head and with the wife present and in the paid labor force to the income density of white families with a male head and the wife present but not in the

paid labor force are given in Table 8. Between the twentieth

and seventy-fifth percentiles, the computed value of R is

approximately constant through time, indicating the change

in income within this range in each of these densities during

the period has been in the same direction and in the same

proportion. Since families with working wives increased

more rapidly than those of the base density, this suggests that

families with new female entrants into the labor force had

a similar relative dispersion and position of earnings.

In any given year, R is greatest at the lower quantiles and

decreases steadily as quantile increases. This is consistent

with the comparison of the Gini coefficient for the subject

density with that of the base density (see page 21). The

decrease at the upper levels reflects the tendency of wives

not to work when married to a high income male.

The corresponding results for corresponding black

income densities are given in Table 9. Among black families,

there is more variation in the computed values of R,

especially in the lower half of the quantiles. Like the

corresponding values for white families, the value of R is

greatest at the lower quantiles, and decreases as quantile

increases.

The computed values for black male-headed families

with the wife present and in the paid labor force are greater

than the corresponding values for white families at any

given percentile. However, the difference is greater at the

TABLE 8

VALUES OF R COMPUTED FOR WHITE FAMILIES WITH MALE HEAD,
WIFE·PRESENT AND IN PAID LABOR FORCE, 1967-1973
(BASE DENSITY: WHITE FAMILIES WITH MALE HEAD,
WIFE PRESENT BUT NOT IN PAID LABOR FORCE)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	1.901	1.767	1.839	1.847	1.739	1.738	1.753
15	1.709	1.641	1.703	1.700	1.657	1.664	1.671
20	1.570	1.536	1.572	1.597	1.587	1.584	1.595
25	1.463	1.470	1.473	1.511	1.514	1.516	1.509
30	1.427	1.405	1.415	1.440	1.441	1.447	1.460
35	1.373	1.377	1.380	1.392	1.392	1.409	1.403
40	1.352	1.343	1.343	1.346	1.362	1.364	1.349
45	1.329	1.322	1.326	1.330	1.330	1.323	1.344
50	1.318	1.303	1.307	1.312	1.298	1.315	1.321
55	1.299	1.292	1.289	1.283	1.287	1.298	1.302
60	1.284	1.282	1.268	1.275	1.273	1.288	1.285
65	1.269	1.259	1.258	1.254	1.265	1.276	1.254
70	1.249	1.244	1.240	1.252	1.261	1.248	1.231
75	1.231	1.224	1.247	1.246	1.240	1.218	1.213
80	1.206	1.214	1.241	1.221	1.203	1.198	1.180
85	1.202	1.217	1.205	1.179	1.175	1.137	1.107
90	1.171	1.159	1.145	1.094	1.077	1.062	1.141
95	1.055	1.033	1.021	1.023	1.038	1.088	1.099

Source: Computed from Current Population Reports, Series P-60.

TABLE 9

VALUES OF R COMPUTED FOR BLACK FAMILIES WITH MALE HEAD, WIFE
PRESENT AND IN PAID LABOR FORCE, 1967-1973 (BASE DENSITY:
BLACK FAMILIES WITH MALE HEAD, WIFE PRESENT
BUT NOT IN PAID LABOR FORCE)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	1.895	1.777	2.089	2.225	1.916	2.007	2.156
15	1.864	1.688	1.914	2.122	1.866	1.880	2.106
20	1.888	1.609	1.809	1.960	1.816	1.909	2.024
25	1.837	1.595	1.820	1.903	1.741	1.807	1.943
30	1.742	1.550	1.711	1.808	1.707	1.779	1.910
35	1.720	1.533	1.675	1.723	1.688	1.779	1.886
40	1.648	1.556	1.649	1.655	1.656	1.723	1.815
45	1.597	1.528	1.633	1.655	1.603	1.676	1.768
50	1.559	1.509	1.629	1.630	1.591	1.636	1.711
55	1.540	1.459	1.585	1.626	1.551	1.630	1.662
60	1.531	1.438	1.558	1.608	1.571	1.607	1.631
65	1.522	1.423	1.526	1.608	1.575	1.584	1.596
70	1.514	1.416	1.526	1.587	1.560	1.580	1.577
75	1.492	1.399	1.520	1.550	1.542	1.586	1.567
80	1.496	1.376	1.503	1.507	1.532	1.563	1.530
85	1.474	1.354	1.515	1.545	1.551	1.537	1.527
90	1.421	1.310	1.562	1.552	1.546	1.514	1.458
95	1.471	1.349	1.537	1.539	1.426	1.297	1.290

Source: Computed from Current Population Reports, Series P-60.

upper quantiles. For example, the computed 1973 value of
R at the 80th percentile was 1.180 for white families and
1.530 for black families. The wife's entry into the labor
force makes a greater improvement in the relative monetary
position of black families than of white families. This in
turn suggests a greater incentive for black wives than for
white wives to enter the paid labor force, and corresponds
to the relatively greater participation of black females in
the labor force.

Total Families with Male Head

The computed values of R comparing the income density
of white families with a male head to the income density of
white families with a male head and the wife present but not
in the paid labor force are given in Table 10. The corres-
ponding values for black families are given in Table 11.
Since the base density is a subgroup of this classification,
the results will reflect changes and differences in composi-
tion as well as changes in relative inequality. In other
words, an increase in the number of working wives among male-
headed families, relative to families with a male head and
non-working wives, will increase the computed value of R
for total families with a male head, even if the relative
position of the subgroups vis a vis one another remains
unchanged. As shown in Table 12, this change in composition
has been more marked among white families than among black
families. The percentage of white male-headed families with

TABLE 10

VALUES OF R COMPUTED FOR TOTAL WHITE FAMILIES WITH MALE HEAD,
1967-1973 (BASE DENSITY: WHITE FAMILIES WITH MALE HEAD,
WIFE PRESENT BUT NOT IN PAID LABOR FORCE)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	1.205	1.166	1.213	1.202	1.189	1.208	1.203
15	1.204	1.170	1.214	1.196	1.184	1.209	1.208
20	1.187	1.154	1.184	1.181	1.184	1.203	1.204
25	1.135	1.149	1.161	1.167	1.174	1.188	1.189
30	1.128	1.132	1.137	1.150	1.149	1.179	1.171
35	1.121	1.119	1.126	1.135	1.151	1.162	1.157
40	1.107	1.115	1.119	1.124	1.137	1.143	1.134
45	1.108	1.109	1.119	1.124	1.122	1.128	1.141
50	1.103	1.110	1.119	1.116	1.107	1.136	1.123
55	1.106	1.107	1.107	1.106	1.113	1.126	1.122
60	1.107	1.105	1.105	1.110	1.111	1.121	1.126
65	1.107	1.099	1.106	1.103	1.105	1.120	1.128
70	1.096	1.101	1.101	1.096	1.102	1.128	1.110
75	1.093	1.101	1.095	1.087	1.112	1.109	1.089
80	1.095	1.087	1.101	1.112	1.094	1.098	1.096
85	1.072	1.096	1.093	1.066	1.087	1.082	1.057
90	1.085	1.061	1.073	1.043	1.041	1.041	1.063
95	1.032	1.019	1.008	0.987	1.017	1.066	1.055

Source: Computed from Current Population Reports, Series P-60.

TABLE 11

VALUES OF R COMPUTED FOR TOTAL BLACK FAMILIES WITH MALE HEAD,
1967-1973 (BASE DENSITY: BLACK FAMILIES WITH MALE HEAD,
WIFE PRESENT BUT NOT IN PAID LABOR FORCE)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	1.228	1.231	1.366	1.409	1.264	1.340	1.308
15	1.209	1.289	1.319	1.360	1.314	1.324	1.331
20	1.293	1.241	1.307	1.372	1.348	1.353	1.316
25	1.294	1.239	1.324	1.420	1.295	1.306	1.303
30	1.299	1.219	1.287	1.360	1.277	1.322	1.316
35	1.314	1.215	1.286	1.326	1.285	1.327	1.338
40	1.286	1.220	1.295	1.292	1.292	1.308	1.335
45	1.248	1.234	1.295	1.308	1.256	1.301	1.334
50	1.228	1.234	1.295	1.302	1.253	1.311	1.323
55	1.223	1.228	1.285	1.310	1.241	1.307	1.323
60	1.247	1.219	1.283	1.315	1.270	1.304	1.315
65	1.252	1.205	1.283	1.329	1.296	1.302	1.308
70	1.248	1.211	1.278	1.320	1.296	1.317	1.294
75	1.237	1.226	1.280	1.304	1.291	1.317	1.294
80	1.263	1.225	1.281	1.287	1.284	1.310	1.301
85	1.258	1.205	1.323	1.297	1.297	1.331	1.307
90	1.238	1.193	1.320	1.345	1.339	1.338	1.306
95	1.214	1.211	1.344	1.408	1.316	1.229	1.169

Source: Computed from Current Population Reports, Series P-60.

working wives has increased rather persistently, from 34.6%
in 1968 to 38.6% in 1973.

TABLE 12

PERCENTAGE OF FAMILIES WITH MALE HEAD IN WHICH WIFE IS
PRESENT AND IN PAID LABOR FORCE, BY RACE, 1968-1973

	White	Black
1968	34.6%	47.2%
1969	35.9	48.5
1970	37.2	50.0
1971	37.1	51.1
1972	37.9	49.1
1973	38.6	51.0

Source: Computed from data in Current Population Reports,
         Series P-60.

In any given year, the computed value of R for white
families decreases as quantile increases. Among black fami-
lies, the computed value for R generally decreases to about
the eightieth percentile.

Among white families, the value of R increases
slightly though time at the 25-70th percentiles. Since these
values were constant through time for the previous density
considered, it suggests that it was this part of the income
distribution, the 25-70th percentiles, that may have bene-
fited from the increased participation of wives (there are

other possible explanations). Among black families, the
computed value of R generally attains a relative maximum in
1970 and in 1973, and a relative minimum in 1968 and 1971.
This same general pattern is also apparent in the previous
density considered (see Table 9).

In any given year at any given quantile, the value
of R computed for black families is generally greater than
that computed for white families. This reflects both the
greater relative monetary contribution of the entry of a black
wife into the paid labor force and the greater percentage of
black families with working wives.

Families with Female Head

The result of the comparison of white families with
a female head to the base density are given in Table 13. In
any given year, R generally increases as one moves from lower
to higher percentiles, indicating less relative inequality
between the two groups at the higher percentiles, and that
income is more unequally distributed among families with a
female head than among the base density. The comparable
values for black families are given in Table 14. The same
observations are true of black families with a female head.

The values computed for black families tend to be
higher than those for white families, and the difference is
greater at the lower quantiles. In all cases, the value of
R is less than unity. Thus, black female-headed families

TABLE 13

VALUES OF R COMPUTED FOR WHITE FAMILIES WITH FEMALE HEAD,
1967-1973 (BASE DENSITY: WHITE FAMILIES WITH MALE
HEAD, WIFE PRESENT BUT NOT IN PAID LABOR FORCE)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	0.486	0.443	0.486	0.502	0.473	0.508	0.480
15	0.517	0.485	0.502	0.514	0.485	0.519	0.495
20	0.510	0.492	0.492	0.527	0.501	0.514	0.497
25	0.513	0.514	0.504	0.533	0.509	0.515	0.501
30	0.545	0.523	0.521	0.546	0.517	0.525	0.509
35	0.561	0.541	0.537	0.560	0.541	0.533	0.519
40	0.586	0.568	0.558	0.571	0.560	0.542	0.526
45	0.607	0.593	0.584	0.587	0.571	0.555	0.547
50	0.629	0.617	0.600	0.603	0.584	0.580	0.554
55	0.646	0.630	0.621	0.612	0.600	0.601	0.569
60	0.662	0.646	0.632	0.626	0.618	0.610	0.585
65	0.672	0.656	0.647	0.637	0.631	0.623	0.598
70	0.678	0.670	0.663	0.649	0.639	0.632	0.601
75	0.683	0.683	0.680	0.656	0.649	0.629	0.605
80	0.690	0.686	0.683	0.666	0.649	0.632	0.611
85	0.690	0.711	0.672	0.647	0.640	0.632	0.606
90	0.688	0.680	0.657	0.627	0.630	0.648	0.631
95	0.658	0.641	0.671	0.643	0.655	0.659	0.594

Source: Computed from Current Population Reports, Series P-60.

TABLE 14

VALUES OF R COMPUTED FOR BLACK FAMILIES WITH FEMALE HEAD,
1967-1973 (BASE DENSITY: BLACK FAMILIES WITH MALE
HEAD, WIFE PRESENT BUT NOT IN PAID LABOR FORCE)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	0.525	0.583	0.595	0.628	0.589	0.598	0.638
15	0.624	0.604	0.579	0.631	0.623	0.595	0.631
20	0.683	0.601	0.572	0.609	0.618	0.603	0.613
25	0.719	0.602	0.586	0.605	0.580	0.578	0.604
30	0.697	0.593	0.567	0.586	0.569	0.575	0.605
35	0.687	0.592	0.574	0.580	0.565	0.567	0.601
40	0.661	0.596	0.588	0.576	0.561	0.557	0.601
45	0.648	0.596	0.596	0.587	0.555	0.556	0.594
50	0.642	0.588	0.595	0.601	0.565	0.559	0.589
55	0.634	0.576	0.602	0.622	0.568	0.571	0.593
60	0.644	0.579	0.616	0.630	0.590	0.580	0.601
65	0.657	0.584	0.629	0.642	0.606	0.586	0.608
70	0.673	0.602	0.649	0.646	0.617	0.604	0.614
75	0.685	0.614	0.662	0.644	0.627	0.620	0.624
80	0.710	0.633	0.672	0.647	0.634	0.637	0.623
85	0.717	0.646	0.693	0.691	0.659	0.653	0.624
90	0.706	0.671	0.719	0.728	0.684	0.703	0.631
95	0.730	0.756	0.756	0.759	0.721	0.754	0.630

Source: Computed from Current Population Reports, Series P-60.

fare better relative to the base density than comparable white families. It will be recalled that the more favorable position of black female-headed families is concomitant with a higher labor force participation rate for black females, and a larger proportion of total black families comprised of families with a female head.

Among white families with a female head, at any quantile above the 25th the value of R generally decreases through time, indicating a relative deterioration in the position of white families with a female head compared to the base density, this deterioration of relative position is steady and persistent during the period under study.

The 1973 value of R computed for black families with a female head is less than the 1967 value at the 20th percentile and above, indicating that this group also experienced a relative deterioration of position compared to the base density during the period under consideration. However, the change is not persistent. The value of R often attains a relative maximum in 1970, and at the 65th percentile and below, a relative minimum in 1972. Since these changes do not correspond to the changes in percentage composition of total black families (see Table 15), they may be ascribed either to changing relative demand for different segments of the labor force or to variation in non-market sources of income, such as transfer payments.

Total Families

The group "total families" is an aggregation of the other groups already considered. More specifically, it is the sum of the density of total families with a male head and total families with a female head. Hence, the resultant values of R will partly reflect changes in composition among total families.

Among both total white families and total black families there has been an increase in families with a female head, both relatively and absolutely (see Table 15).

TABLE 15

FAMILIES WITH A FEMALE HEAD AS A PERCENT OF TOTAL
FAMILIES, BY RACE, 1967-1973

	White	Black
1968	8.9%	27.7%
1969	8.9	29.2
1970	9.1	28.3
1971	9.4	30.6
1972	9.4	31.8
1973	9.6	34.6

Source: Computed from Current Population Reports, Series
          P-60, Years 1967 to 1973.

Families with a female head comprise a larger portion of total black families than of total white families, and the

rate of increase of black families with a female head is greater than that of white families with a female head.

The values of R computed for total white families are presented in Table 16. The comparison of the income density of total white families to the base density indicates that, at any given percentile, there is very little change in relative inequality through time. The ratio of incomes at given percentiles is remarkably constant, and apparently immune to cyclical factors. Additionally, in any given year there is relatively little variation in R among quantiles: R generally assumes a value between 1.04 and 1.08.

The corresponding results for total black families are given in Table 17. These results also indicate little variation through time, and the extant variation is concentrated at the lower quantiles. There is some deterioration evident at the lower quantiles, and, in view of the increase in the percentage of black families with a female head, this might be attributable to this change in composition.

Total Unrelated Individuals

The results for white and black total unrelated individuals are presented in Tables 18 and 19, respectively. Table 18 indicates that the relative position of white unrelated individuals improves through time, especially at the lower quantiles. The 1973 value of R computed for the 30th percentile was 0.311, an increase of 24.9% over the 1967 value. As expected, the values of R increase as

TABLE 16

VALUES OF R COMPUTED FOR TOTAL WHITE FAMILIES, 1967-1973
(BASE DENSITY: WHITE FAMILIES WITH MALE HEAD, WIFE
PRESENT BUT NOT IN PAID LABOR FORCE)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	1.072	1.033	1.069	1.072	1.042	1.039	0.033
15	1.080	1.057	1.076	1.075	1.066	1.058	1.059
20	1.075	1.070	1.072	1.072	1.073	1.073	1.074
25	1.056	1.067	1.070	1.068	1.074	1.080	1.082
30	1.066	1.056	1.074	1.072	1.061	1.083	1.076
35	1.053	1.067	1.066	1.078	1.072	1.083	1.080
40	1.060	1.061	1.065	1.069	1.079	1.075	1.063
45	1.057	1.062	1.077	1.068	1.072	1.064	1.078
50	1.061	1.069	1.076	1.076	1.062	1.075	1.073
55	1.065	1.065	1.073	1.064	1.068	1.076	1.069
60	1.064	1.072	1.069	1.073	1.071	1.070	1.078
65	1.072	1.065	1.072	1.071	1.068	1.076	1.083
70	1.061	1.070	1.074	1.065	1.069	1.078	1.074
75	1.062	1.074	1.068	1.061	1.071	1.070	1.053
80	1.065	1.061	1.065	1.082	1.065	1.046	1.062
85	1.047	1.054	1.069	1.044	1.051	1.044	1.034
90	1.045	1.037	1.051	1.027	1.020	1.015	1.021
95	0.997	1.000	1.000	0.966	0.980	1.002	1.018

Source: Computed from Current Population Reports, Series P-60.

TABLE 17

VALUES OF R COMPUTED FOR TOTAL BLACK FAMILIES, 1967-1973
(BASE DENSITY: BLACK FAMILIES WITH MALE HEAD, WIFE
PRESENT BUT NOT IN PAID LABOR FORCE)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	0.954	0.922	0.947	0.984	0.906	0.886	0.907
15	1.010	0.927	0.936	0.962	0.908	0.880	0.916
20	1.019	0.928	0.949	0.964	0.925	0.903	0.917
25	1.030	0.949	0.976	0.984	0.913	0.882	0.922
30	1.022	0.940	0.977	0.996	0.941	0.915	0.936
35	1.035	0.951	1.003	1.009	0.954	0.931	0.959
40	1.043	0.972	1.028	1.016	0.966	0.945	0.981
45	1.041	0.989	1.047	1.037	0.971	0.968	0.999
50	1.051	1.002	1.074	1.051	0.993	0.993	1.012
55	1.053	1.013	1.079	1.081	1.014	1.014	1.024
60	1.075	1.029	1.093	1.095	1.046	1.041	1.053
65	1.091	1.045	1.100	1.119	1.073	1.068	1.075
70	1.106	1.066	1.128	1.136	1.101	1.095	1.083
75	1.107	1.083	1.140	1.140	1.124	1.122	1.108
80	1.132	1.107	1.151	1.133	1.130	1.140	1.121
85	1.147	1.106	1.198	1.160	1.162	1.149	1.133
90	1.139	1.102	1.220	1.180	1.183	1.191	1.151
95	1.143	1.085	1.246	1.276	1.205	1.143	1.101

Source: Computed from Current Population Reports, Series P-60.

58

TABLE 18

VALUES OF R COMPUTED FOR TOTAL WHITE UNRELATED INDIVIDUALS,
1967-1973 (BASE DENSITY: WHITE FAMILIES WITH MALE HEAD,
WIFE PRESENT BUT NOT IN PAID LABOR FORCE)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	0.085	0.173	0.213	0.264	0.284	0.278	0.301
15	0.200	0.268	0.268	0.280	0.287	0.289	0.318
20	0.249	0.261	0.261	0.279	0.294	0.296	0.320
25	0.243	0.263	0.260	0.279	0.293	0.295	0.313
30	0.249	0.271	0.269	0.280	0.289	0.295	0.311
35	0.258	0.283	0.273	0.286	0.297	0.298	0.319
40	0.277	0.295	0.289	0.298	0.310	0.308	0.325
45	0.294	0.314	0.312	0.321	0.328	0.320	0.347
50	0.320	0.353	0.337	0.344	0.347	0.343	0.364
55	0.354	0.372	0.366	0.371	0.375	0.367	0.380
60	0.382	0.400	0.391	0.401	0.403	0.390	0.400
65	0.418	0.429	0.422	0.429	0.428	0.412	0.421
70	0.448	0.458	0.448	0.456	0.455	0.435	0.440
75	0.474	0.486	0.471	0.478	0.476	0.454	0.456
80	0.495	0.506	0.487	0.494	0.482	0.462	0.469
85	0.502	0.521	0.488	0.487	0.487	0.461	0.476
90	0.496	0.513	0.486	0.482	0.484	0.474	0.503
95	0.484	0.501	0.512	0.510	0.492	0.471	0.470

Source: Computed from Current Population Reports, Series P-60.

TABLE 19

VALUES OF R COMPUTED FOR TOTAL BLACK UNRELATED INDIVIDUALS,
1967-1973 (BASE DENSITY: BLACK FAMILIES WITH MALE HEAD,
WIFE PRESENT BUT NOT IN PAID LABOR FORCE)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	0.069	0.076	0.069	0.080	0.118	0.200	0.305
15	0.117	0.217	0.164	0.235	0.273	0.341	0.377
20	0.239	0.322	0.257	0.335	0.336	0.352	0.387
25	0.326	0.341	0.313	0.335	0.325	0.345	0.392
30	0.355	0.336	0.308	0.326	0.326	0.350	0.395
35	0.362	0.335	0.314	0.322	0.334	0.351	0.399
40	0.358	0.339	0.325	0.327	0.341	0.347	0.404
45	0.355	0.360	0.353	0.341	0.338	0.357	0.421
50	0.380	0.370	0.375	0.353	0.348	0.372	0.439
55	0.396	0.391	0.404	0.382	0.356	0.392	0.468
60	0.437	0.424	0.443	0.426	0.400	0.418	0.512
65	0.490	0.453	0.473	0.453	0.441	0.465	0.541
70	0.504	0.481	0.500	0.475	0.490	0.502	0.563
75	0.530	0.526	0.534	0.505	0.515	0.538	0.604
80	0.587	0.560	0.567	0.530	0.537	0.572	0.634
85	0.604	0.572	0.598	0.562	0.572	0.588	0.633
90	0.581	0.581	0.618	0.582	0.591	0.595	0.629
95	0.579	0.558	0.567	0.591	0.578	0.564	0.616

Source: Computed from Current Population Reports, Series P-60.

quantile increases. A similar pattern is apparent among black total unrelated individuals. Holding percentile constant, the computed value of R increases through time, and the increase is greater at the lower quantiles. The values of R for black unrelated individuals are greater than those for white unrelated individuals.

Regression Results

If the income (y_i) of a type of family subgroup at some given quantile (q_i), $y_1(q_o)$, is a function of some set of variables, such as the unemployment rate (U) times average unemployment benefits (UB), constant dollar gross domestic product (GDP), the implicit price deflator for gross domestic product (P), quantile (Q), or the level of transfer payments (TR), then one could write

$$y_1(q_o) = f(U, U \cdot UB, GDP, P, Q, TR)$$

or,
$$y_1(q_o) = \beta_{10} + \beta_{11}U + \beta_{12}(U \cdot UB) + \beta_B GDP + \beta_{14}P + \beta_{15}TP$$

where β_{ij} is the coefficient of the jth independent variable for the income of the ith type of family group. If the income at the same quantile of another income density, Y_2, is a function of the same variables, then Wohlstetter and Coleman's R may be written as

$$R_{12} = \frac{y_1(q_o)}{y_2(q_o)} = \frac{\beta_{10}}{\beta_{20}} + \frac{\beta_{11}}{\beta_{21}}\frac{U}{U} + \frac{\beta_{12}(U \cdot UB)}{\beta_{22}(U \cdot UB)} + \frac{\beta_{13}GDP}{\beta_{23}GDP} + \frac{\beta_{14}P}{\beta_{24}P} + \frac{\beta_{15}TP}{\beta_{25}TP}$$

which can be simplified to

$$R_{12} = \frac{\beta_{10}}{\beta_{20}} + \frac{\beta_{11}}{\beta_{21}} + \frac{\beta_{12}}{\beta_{22}} + \frac{\beta_{13}}{\beta_{23}} + \frac{\beta_{14}}{\beta_{24}} + \frac{\beta_{15}}{\beta_{25}} + U$$

or $R_{12} = \beta_o + u$. Now assume the equation for one of the densities is not of the form specified above, but rather

$$y_1(q_0) = \beta_0 + \beta_1 U^2 + u.$$

Then

$$R_{12} = \frac{\beta_{10}}{\beta_{20}} + \frac{\beta_{11} U^2}{\beta_{21} U} \quad \text{so that } R_{12} = \beta_0 + \beta_1 U + u$$

It can also be easily seen that if one variable enters into one equation but not the other, then it will also appear in the equation of R_{12}.

Using the computed values of R in Tables 8-19, an attempt was made to determine those variables that were significant in explaining R. The variables chosen were the unemployment rate (white and nonwhite, as applicable), average per capita transfer payments, gross domestic product, the GDP deflator, and the relevant labor participation rates. Both OLS and Cochrane-Orcutt GLS methods were used. Because of the small sample size at any given quantile (7), and because estimation attempts at individual quantiles yielded unacceptable Durbin-Watson statistics, the computed cross-section and times series computed values of R in each of Tables 8, 9, 13, 14, 18, and 19 from the tenth through ninetieth percentiles were pooled. The equation to be estimated thus becomes

$$R_{12} = \beta_0 + \beta_1 Q + \beta_i \text{ (other variables), where } Q = \text{quantile.}$$

It was decided to fit this only to the densities for male headed families with the wife present and in the paid labor force, families with a female head, and unrelated individuals (each compared to the base density), since the computed

values of R for the other densities also reflect changes in composition.

Of interest was the null hypothesis that the coefficient of each variable was equal for both white and black type of family subgroups:

$$H_N: \quad \beta_W - \beta_B = 0$$
$$H_A: \quad \beta_W - \beta \neq 0 \qquad \text{In other words,}$$

is relative inequality between the income densities affected to the same degree by the exogenous variables within each race. To test the possibility that there were structural shifts during the period under consideration, time was also included as a variable. Of course, in those cases where the coefficient of time was found to be significant, it may be possible that time is a proxy for other variables that were not considered.

The attempts to quantify the effect of macroeconomic variables, particularly gross domestic product (GDP) and the GDP deflator, suffered from a high degree of multicollinearity, which was exacerbated by pooling of time series and cross section data. An attempt was made to overcome this using the method of principle components; however, the macro variables loaded almost entirely on the first component.

Families with Male Head and Wife Present and in Paid Labor Force (MHWW)

Among white families, neither time nor the white unemployment rate was significant at the 10% level. The estimated equation (OLS) including both variables was

$$R = 1.707 - 0.6748\ Q + 0.000102\ U_w - 0.001712\ T$$

t: (46.82) (-26.51)   (0.01)   (-0.37)

$r^2 = 0.8594$ S.E. $= 0.068$.

The equation accepted as appropriate for white families in
this subgroup was

$$R = 1.701 - 0.6748\ Q$$

t: (120.87) (-26.70)

$r^2 = 0.8590$ S.E. $= 0.068$

which indicates that the same variables affected this income
density and the base income density in a similar linear man-
ner, and that there was a significant amount of stability
in the relative position of the two densities.

There is also some indication that unemployment is
more significant in explaining the relative position of the
black families in this subgroup whose incomes place them in
the lower quantiles. For example, using both time and the
nonwhite unemployment rate as exogenous variables, the equa-
tion estimated from the data from the tenth to nintieth
quantiles was

$$R = 1.880 - 0.605\ Q - 0.0042\ U_b + 0.02893\ T$$

t: (30.76) (-18.83) (-0.46)   (4.67)

$r^2 = 0.7771$ S.E. $= 0.06774$

The equation estimated using data from the tenth through
forty-fifth percentiles was

$$R = 2.084 - 1.173\ Q - 0.0187\ U_b + 0.04411\ T$$

t: (16.28) (-6.22)   (-1.00)   (3.48)

$r^2 = 0.6037$ S.E. $= 0.1044$.

While not large enough to reject the hypothesis that the coefficient of the nonwhite unemployment rate equals zero (at the 10% level), the signs of the coefficient of U_b in both equations indicate that the relative position of this density deteriorates with an increase in the nonwhite unemployment rate, and the absolute size of the estimated coefficient is greater in the equation fitted only to the lower quantiles, suggesting that unemployment impacts more heavily on the relative position of those in the lower quantiles.

It may be possible that the inverse relationship between R and the nonwhite unemployment rate results from the entrance of wives into the labor force when the male spouse becomes unemployed.

The above results are roughly consistent with those of Metcalf, who attempted to estimate the mean for this type of family group and for the base density for the period 1949-1965.[3] Metcalf's data, however, was for all races combined, while the data used for this study are disaggregated by race. Metcalf found that the unemployment rate was not significant for the base density, and, for families with a male head and the wife present and in the paid labor force, the t value of the coefficient of the unemployment rate times the amount of unemployment benefits per person was 0.977.[4]

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[3]Charles Metcalf, An Econometric Model of the Income Distribution, pp. 43-53.

[4]Ibid., p. 51.

It is well known that nonwhite workers are more
subject to variations in the unemployment rate than white
workers. The results presented here indicate that there is
more cyclical variation in the relative position of black
families with a male head and the wife present and in the
paid labor force with respect to black families with a male
head and the wife present but not in the paid labor force
than in the relative position of this type of family sub-
group's white counterpart. Macroeconomic fluctuations seem
to bear on the income densities of the white family subgroups
in the same manner and degree. Also, there is an indication
that time is a significant factor in explaining the relative
position of the two black type of family income densities,
but not that of white families.

Families with a Female Head

The white unemployment rate was found to be signifi-
cant in explaining the position of white families with a
female head relative to the base density. The estimating
equation is:

$$R = 0.5080 + 0.2457 \ Q - 0.01108 \ U_w$$

t: (44.41) (28.36) (-4.41)

$r^2 = 0.8766$ S.E. $= 0.02315$

Neither time, transfer payments, nor the other macroeconomic var-
iables were found to be significant. This is interesting be-
cause in view of the recent emphasis placed on eliminating sexual

discrimination in employment, one might expect time to be significant.

Among black families with a female head, transfer payments, the nonwhite female labor force participation rate, and time were significant at the 10% level. The estimated equation is

$$R = -1.476 + 0.0906\ Q - 0.05436\ T + 0.001039\ TR + 0.3803\ BFPR$$
$$t: \quad (-2.02) \quad (7.33) \quad (-4.03) \quad (3.79) \quad (2.68)$$
$$r^2 = 0.4401 \quad S.E. = 0.03304$$

The r^2 was disappointingly low. Here time is significant, but the coefficient is negative, rather than positive, as one might expect.

However, among black families, time was found to be significant. The estimated equation, using OLS, was

$$R_b = 1.855 - 0.6050\ Q + 0.02673\ T$$
$$t: \quad (78.11)\ (-18.90) \quad (6.82) \quad d.w. = 1.73$$
$$r^2 = 0.7767 \quad S.E. = 0.0855$$

Time was more significant than per capita transfer payments, but when both were included, only per capita transfer payments were significant. The participation rate of nonwhite females was also found to be significant. Included singly, the nonwhite unemployment rate was significant, but was not significant when time was included. The estimated equation, including transfer payments and the black female labor force participation rate, was

$$R = -5.171 - 0.60499\ Q + 0.084\ TR + 0.13827\ BFPR$$

t: (-3.26) (-20.20) (8.19) (4.38)

r^2 = 0.8064 S.E. = 0.08001

Multicollinearity appears to have reared its ugly head. The computed value of R for black families in this subgroup appears to have experienced a secular improvement during the period under consideration, and also to be subject more to cyclical factors than their white counterpart. However, it is difficult to disentangle the effect of the variables considered.

Unrelated Individuals

Among unrelated individuals, the regression of the computed R's on only the variables considered yielded unsatisfactory results. An examination of the residuals suggested an unsatisfactory fit, particularly at the lower quantiles.

Because interaction effects appeared to be present, several modified variables were also tested.

For total white unrelated individuals, the equation finally accepted was

R = .0302 + 0.629 Q + .00451 TI + .0374 U_w - .0767 (Q·U_w)

(1.144) (13.46)   (2.708)   (5.178)   (-6.300)

-0.00558 QIDI

(-2.861)

R^2 = 0.9307 S.E. = 0.0244591

where QIDI = (Q·TI)·(D)

where D = +1 if Q $\leq$ .40

D = 0 if .40 < Q < .65

and D = -1 if Q $\geq$ .65.

The final equation and estimated coefficients is:

$$R_B = -0.01085 + 0.4315\ Q - 0.05941\ TI - 0.01905\ U_B$$

$$(-0.1921)\quad (15.71)\quad (-3.696)\quad (-3.687)$$

$$-\ 0.0008096\ (\frac{U_B}{Q}) + 0.001636\ TR$$

$$(-2.304)\quad (4.780)$$

$$R^2 = 0.8991\quad S.E. = 0.042057$$

Time entered the equation for the relative position of both black and white unrelated individuals. Among white unrelated individuals, time enters the equation twice; once explicitly and once with the variable QIDI. The structure of the variable QIDI implies that some interaction effects may be present.[5] The effect of time on the relative position of black unrelated individuals is hypothesized to be different at different quantiles. The significance of time may be associated with the Viet Nam conflict, or perhaps with the maturation of the post World War II baby production. Curiously, among black unrelated individuals the coefficient of time is negative.

Summary and Observations

While there have been several major developments during the postwar period, there have been no revolutionary changes in inequality among total families, or among type of family subgroups. For every type of family subgroup, within

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[5]See John Neeter and William Wasserman, _Applied Linear Statistical Models_, Chapter 9, for a further discussion of this approach.

group inequality, as measured by the Gini coefficient, was less at the end of the period than at the beginning. Among black families, the decrease in inequality among type of family subgroups was less than that among total black families, indicating that, while inequality decreased among subgroups, the income densities of the subgroups tended to move apart, leading to a less than commensurate decrease in inequality among total black families. Among white families, the opposite was true.

The increase in the number of women in the labor force was the most salient development in the postwar period, and inequality was least among male-headed families in which the wife was present and in the paid labor force. This is true for both races. As a percentage of total families, this group experienced the largest increase during the postwar period. Since inequality is least among this group, and became even less during the period, one would expect, ceteris paribus, the change in composition to result in less inequality among total families. While inequality did decrease among total families, the decrease was not as great as would be suggested by the change in composition alone.

The difference in type of family composition among total families between races might suggest that this is a source of difference in inequality among total black families and among total white families. However, even when one adjusts for type of family, inequality is still greater

among black families than among white families.

Among all type of family subgroups of both races, inequality decreased during the period under study, 1967-1973. Black families generally experienced greater movements toward equality than white families, although a greater degree of inequality prevailed among black families to begin with.

Wohlstetter and Coleman's method was used to quantify inequality between type of family subgroups. The results indicate that, among both races, the lower quantiles of male-headed families with the wife present and in the paid labor force fared better compared to the base density than the upper quantiles. This was found to be more true of black families than of white families. The presence of a working wife makes a greater relative difference among black families with a male head than among white families with a male head. The relative position of white families with a working wife vis a vis the base density appears to have been relatively constant during the period under consideration. This is not true of their black counterparts; cyclical and structural forces impacted differently on the two corresponding black income densities. As expected, it is the middle of the distribution, from the 25th through 70th percentiles, that appear to benefit from the presence of a working wife, since families in which the male head is in the upper income brackets are less likely to have a working wife.

CHAPTER III

This chapter presents the results of the comparison, using Wohlstetter and Coleman's method, of the black and white income density of the same type of family group. The income density of each black type of family group was compared to the income density of the white same type of family group. The results, especially when compared to previous data, give some indication of structural changes that took place during the period 1967-1973. Cyclical changes in relative inequality during the period are also considered. The content of the chapter is devoted first to the structure of relative inequality between black and white families, considered by type of family, and then to a discussion of the cyclical behavior of relative inequality.

Structure of Relative Inequality

The disaggregation of families by type of family yields more information than does the commonly used comparison of median black family income to median white family income. The latter may be misleading because of the differences in type of family composition among black and white families, as well as for other reasons.

71

The ratios of black to white median income, by type
of family, are given below in Table 20. The data in the
first column, indicating a decline in the ratio of black to
white median family income, have been cited as evidence of
a recent deterioration (beginning in 1970) in the relative
position of black families, sometimes alleged to the result
of the domestic policies of the Nixon administration. How-
ever, when adjustment is made for type of family, the evi-
dence for deterioration is not as clear cut. Certainly the
deterioration does not begin in 1970.

TABLE 20

RATIO OF BLACK TO WHITE MEDIAN FAMILY INCOME,
BY TYPE OF FAMILY, 1967-1973

	(1)	(2)	(3)	(4)	(5)
1967	0.59	0.67	0.71	0.60	0.62
1968	0.60	0.71	0.73	0.64	0.61
1969	0.61	0.71	0.77	0.62	0.61
1970	0.61	0.73	0.78	0.63	0.62
1971	0.60	0.72	0.78	0.65	0.62
1972	0.59	0.75	0.80	0.64	0.62
1973	0.58	0.72	0.78	0.61	0.64

Column: (1) Total families
         (2) Families with male head
         (3) Families with male head, wife present and in
             paid labor force
         (4) Families with male head, wife present but not in
             paid labor force
         (5) Families with female head

Source: U.S., Bureau of the Census, Money Income of Fami-
         lies and Persons in the U.S., Series P-60, no. 97
         (Washington, D.C.: U.S. Government Printing Office,
         1970), p. 31.

In any event, the method used to derive the results
of this chapter conveys more information than the mere com-
parison of medians; relative inequality between the two
densities is compared throughout the whole range of the
income distribution. The complete results are given in
Tables 20-25. The data in Table 26 is extracted from
Tables 20-25, and gives some indication, in capsule form,
of the relative structure of inequality in 1967, 1970, and
1973 among black and white families.

The results indicate that, first, relative inequality
varies significantly among type of family, and hence, the
comparison of income densities of total families will in
part reflect the difference in composition among total
black families and total white families, and the differing
degrees of inequality between type of families within each
race.

Secondly, the comparison of only the medians of the
two distributions, even when adjusted for type of family,
is a misleading indicator of relative inequality. Relative
inequality is generally greater at the lower quantiles and
less at the upper quantiles.

A more detailed discussion of results follows.

Families with Male Head and Wife Present But Not in the Paid Labor Force

This density was chosen as the base density for
the results presented in the previous chapter. It will be

TABLE 21

VALUES OF R COMPUTED FOR TOTAL BLACK FAMILIES, 1967-1973
(BASE DENSITY: TOTAL WHITE FAMILIES)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	0.534	0.542	0.522	0.520	0.548	0.514	0.503
15	0.537	0.526	0.520	0.514	0.524	0.513	0.507
20	0.508	0.524	0.531	0.523	0.523	0.504	0.502
25	0.509	0.534	0.528	0.527	0.529	0.504	0.506
30	0.519	0.537	0.542	0.547	0.548	0.521	0.512
35	0.532	0.547	0.562	0.566	0.556	0.532	0.522
40	0.555	0.564	0.581	0.588	0.565	0.547	0.542
45	0.578	0.581	0.594	0.601	0.581	0.571	0.556
50	0.599	0.596	0.613	0.612	0.603	0.594	0.576
55	0.611	0.620	0.625	0.635	0.625	0.607	0.595
60	0.626	0.636	0.642	0.649	0.636	0.631	0.614
65	0.635	0.658	0.653	0.664	0.650	0.651	0.631
70	0.656	0.671	0.667	0.682	0.666	0.662	0.642
75	0.669	0.682	0.675	0.699	0.681	0.674	0.664
80	0.680	0.702	0.684	0.693	0.679	0.696	0.663
85	0.700	0.711	0.673	0.700	0.686	0.690	0.675
90	0.688	0.690	0.668	0.685	0.687	0.730	0.719
95	0.664	0.664	0.716	0.760	0.726	0.718	0.657

Source: Computed from Current Population Reports, Series P-60.

TABLE 22

VALUES OF R COMPUTED FOR TOTAL BLACK FAMILIES
WITH MALE HEAD, 1967-1973 (BASE DENSITY:
TOTAL WHITE FAMILIES WITH MALE HEAD)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	0.612	0.641	0.663	0.663	0.671	0.668	0.623
15	0.576	0.662	0.649	0.654	0.683	0.676	0.645
20	0.584	0.649	0.662	0.676	0.691	0.674	0.643
25	0.594	0.647	0.660	0.696	0.686	0.679	0.650
30	0.623	0.650	0.674	0.696	0.687	0.691	0.662
35	0.634	0.667	0.682	0.707	0.697	0.706	0.680
40	0.656	0.674	0.697	0.711	0.717	0.712	0.691
45	0.661	0.694	0.707	0.721	0.718	0.724	0.702
50	0.673	0.708	0.711	0.731	0.729	0.743	0.720
55	0.683	0.722	0.721	0.740	0.734	0.747	0.732
60	0.698	0.730	0.728	0.752	0.745	0.754	0.734
65	0.706	0.735	0.738	0.766	0.759	0.762	0.737
70	0.717	0.740	0.737	0.771	0.761	0.760	0.742
75	0.727	0.753	0.740	0.780	0.753	0.763	0.750
80	0.738	0.758	0.736	0.767	0.751	0.761	0.746
85	0.749	0.746	0.727	0.767	0.741	0.771	0.763
90	0.721	0.730	0.708	0.768	0.762	0.799	0.784
95	0.681	0.727	0.766	0.821	0.764	0.726	0.673

Source: Computed from Current Population Reports, Series P-60.

TABLE 23

VALUES OF R COMPUTED FOR BLACK FAMILIES WITH MALE HEAD, WIFE PRESENT AND IN PAID LABOR FORCE, 1967-1973 (BASE DENSITY: WHITE FAMILIES WITH MALE HEAD, WIFE PRESENT AND IN PAID LABOR FORCE)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	0.598	0.610	0.668	0.682	0.695	0.695	0.705
15	0.626	0.618	0.672	0.717	0.693	0.697	0.738
20	0.645	0.632	0.690	0.714	0.694	0.722	0.746
25	0.654	0.651	0.715	0.720	0.716	0.736	0.764
30	0.661	0.666	0.720	0.739	0.733	0.758	0.771
35	0.678	0.683	0.724	0.748	0.757	0.781	0.790
40	0.688	0.714	0.740	0.760	0.767	0.785	0.790
45	0.705	0.721	0.753	0.770	0.774	0.796	0.789
50	0.715	0.737	0.766	0.778	0.790	0.800	0.792
55	0.733	0.735	0.765	0.793	0.794	0.809	0.793
60	0.738	0.742	0.772	0.801	0.804	0.809	0.799
65	0.748	0.758	0.772	0.815	0.806	0.814	0.809
70	0.763	0.767	0.781	0.811	0.801	0.825	0.816
75	0.778	0.773	0.770	0.809	0.807	0.837	0.815
80	0.793	0.763	0.766	0.817	0.815	0.833	0.814
85	0.783	0.755	0.755	0.825	0.819	0.848	0.851
90	0.767	0.734	0.785	0.846	0.849	0.887	0.815
95	0.807	0.799	0.865	0.866	0.811	0.751	0.713

Source: Computed from Current Population Reports, Series P-60.

TABLE 24

VALUES OF R COMPUTED FOR BLACK FAMILIES WITH MALE HEAD, WIFE
PRESENT BUT NOT IN PAID LABOR FORCE, 1967-1973 (BASE
DENSITY: WHITE FAMILIES WITH MALE HEAD, WIFE
PRESENT BUT NOT IN PAID LABOR FORCE)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	0.600	0.607	0.589	0.566	0.631	0.602	0.573
15	0.574	0.600	0.598	0.575	0.615	0.617	0.586
20	0.536	0.604	0.600	0.582	0.607	0.599	0.588
25	0.521	0.600	0.579	0.572	0.622	0.618	0.593
30	0.541	0.603	0.596	0.589	0.619	0.616	0.589
35	0.541	0.614	0.597	0.605	0.624	0.618	0.588
40	0.564	0.616	0.602	0.619	0.631	0.622	0.587
45	0.587	0.624	0.611	0.619	0.642	0.628	0.600
50	0.605	0.637	0.614	0.627	0.645	0.643	0.611
55	0.618	0.651	0.622	0.625	0.659	0.644	0.621
60	0.619	0.662	0.628	0.635	0.652	0.648	0.629
65	0.624	0.671	0.636	0.636·	0.647	0.656	0.636
70	0.629	0.673	0.635	0.640	0.647	0.651	0.636
75	0.642	0.676	0.632	0.651	0.649	0.643	0.631
80	0.640	0.673	0.633	0.662	0.640	0.638	0.628
85	0.639	0.678	0.601	0.630	0.621	0.627	0.617
90	0.632	0.649	0.576	0.596	0.592	0.622	0.638
95	0.579	0.612	0.575	0.576	0.591	0.630	0.608

Source: Computed from Current Population Reports, Series P-60.

TABLE 25

VALUES OF R COMPUTED FOR BLACK FAMILIES WITH FEMALE HEAD, 1967-1973 (BASE DENSITY: WHITE FAMILIES WITH FEMALE HEAD)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	0.649	0.799	0.721	0.708	0.786	0.708	0.762
15	0.694	0.748	0.689	0.706	0.789	0.708	0.747
20	0.718	0.737	0.697	0.673	0.748	0.702	0.725
25	0.730	0.703	0.673	0.650	0.710	0.692	0.715
30	0.692	0.685	0.649	0.632	0.682	0.675	0.701
35	0.663	0.672	0.639	0.626	0.652	0.658	0.680
40	0.637	0.647	0.635	0.624	0.632	0.640	0.671
45	0.626	0.627	0.624	0.619	0.623	0.629	0.651
50	0.617	0.607	0.609	0.625	0.624	0.620	0.650
55	0.606	0.595	0.602	0.635	0.624	0.613	0.648
60	0.602	0.593	0.612	0.640	0.622	0.616	0.646
65	0.610	0.597	0.619	0.640	0.621	0.617	0.645
70	0.625	0.605	0.621	0.637	0.626	0.622	0.650
75	0.644	0.607	0.616	0.639	0.626	0.634	0.651
80	0.659	0.621	0.623	0.643	0.625	0.644	0.640
85	0.664	0.616	0.619	0.673	0.639	0.648	0.635
90	0.648	0.641	0.630	0.692	0.643	0.675	0.638
95	0.642	0.721	0.648	0.679	0.650	0.720	0.644

Source: Computed from Current Population Reports, Series P-60.

TABLE 26

VALUES OF R COMPUTED FOR TOTAL BLACK UNREALTED
INDIVIDUALS, 1967-1973 (BASE DENSITY: TOTAL
WHITE UNRELATED INDIVIDUALS)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	0.490	0.267	0.191	0.172	0.263	0.434	0.580
15	0.336	0.487	0.365	0.482	0.586	0.729	0.694
20	0.514	0.745	0.591	0.698	0.693	0.712	0.712
25	0.700	0.778	0.695	0.686	0.689	0.721	0.743
30	0.772	0.750	0.683	0.686	0.699	0.731	0.747
35	0.758	0.729	0.687	0.681	0.701	0.728	0.736
40	0.730	0.709	0.677	0.680	0.692	0.699	0.731
45	0.708	0.715	0.692	0.658	0.662	0.702	0.728
50	0.718	0.667	0.684	0.644	0.647	0.698	0.737
55	0.691	0.684	0.686	0.644	0.625	0.688	0.765
60	0.708	0.701	0.712	0.675	0.647	0.694	0.806
65	0.732	0.708	0.715	0.671	0.668	0.740	0.817
70	0.709	0.708	0.708	0.667	0.697	0.751	0.815
75	0.717	0.732	0.716	0.687	0.702	0.762	0.836
80	0.758	0.744	0.737	0.711	0.713	0.791	0.849
85	0.769	0.744	0.737	0.727	0.729	0.800	0.821
90	0.740	0.736	0.732	0.720	0.724	0.780	0.797
95	0.692	0.682	0.637	0.667	0.694	0.753	0.797

Source: Computed from Current Population Reports, Series P-60.

TABLE 27

RATIO OF BLACK TO WHITE INCOME AT SELECTED PERCENTILES,
BY TYPE OF FAMILY, 1967, 1970, AND 1973

Type of Family and Year	Percentile		
	15	50	85
Total Families			
1967	0.537	0.599	0.700
1970	0.514	0.612	0.700
1973	0.507	0.576	0.675
Total Families with Male Head			
1967	0.576	0.673	0.749
1970	0.654	0.731	0.767
1973	0.645	0.720	0.763
Families with Male Head, Wife Present and in Paid Labor Force			
1967	0.626	0.715	0.783
1970	0.717	0.778	0.825
1973	0.738	0.792	0.851
Families with Male Head, Wife Present but Not in Paid Labor Force			
1967	0.574	0.605	0.639
1970	0.575	0.627	0.630
1973	0.586	0.611	0.617
Families with Female Head			
1967	0.694	0.617	0.664
1970	0.706	0.625	0.673
1973	0.747	0.650	0.635
Unrelated Individuals			
1967	0.336	0.718	0.769
1970	0.482	0.644	0.727
1973	0.694	0.737	0.821

Source: Tables 21-26.

recalled that the ratio of total black family median income
to total white family median income in 1973 was 0.58, and
the ratio of median incomes for this type of family in 1973
was 0.61.[1] This is consistent with the results of Table 23,
which indicate a value of 0.611 at the fiftieth percentile.
The computed values of R increase with percentile, indi-
cating that income is more unequally distributed between
the two densities in the lower half of the distribution,
and more equally distributed in the upper half.

Consideration of only the medians of the two income
densities would indicate that the relative position of black
families improved in 1967-1968 and 1969-1971 but deteri-
orated in 1968-1969 and 1971-1973. An examination of the
values in Table 24 generally confirms this pattern. However,
it does indicate that the most recent period of deteriora-
tion, beginning in 1971, began a year earlier (1970) at
the upper percentiles (75th and above). The deterioration
that began in 1968 endured through 1970 at the lower quan-
tiles, rather than only through 1969 as suggested by the
comparison only of medians in Table 20.

Unemployment rate for both total white males and
for total nonwhite males decreased during 1967-1969 and
1971-1973. However, the relative position of black families
only improved during 1967-1968, and deteriorated in 1969.
During the second period of falling unemployment rates, the

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[1]See Table 20 .

relative position of black families deteriorated, rather than improved, as in 1967-1968. The relative position of black families improved during 1970-71 at the lower quantiles and during 1969-1971 at the other quantiles, a period of rising unemployment rates. The pattern does not appear consistent; falling unemployment rates were associated with an improvement in relative position at the beginning of the period and with deterioration of relative position during the latter part of the period.

<div align="center">

Families with Male Head and Wife Present and in
Paid Labor Force
</div>

The computed values of R for this group are given in Table 23. The values of R computed for this group are greater than those computed for male-head families in which the wife is present but not in the paid labor force. This suggests that, in terms of her spouse's earnings, a black working wife contributes relatively more to family income than a white working wife. The 1973 value is greater than the 1967 value, and the percentage increase is greater than that for male-headed families in which the wife is not working. For example, at the 25th percentile, the 1973 value of R was .764, 16.8% greater than the 1967 value of 0.654.

Unlike the previous density considered, the relative position of this density displays a more persistent improvement during the period considered and less cyclical variation. There is a deterioration at the middle and upper quantiles in 1973, at the 30th percentile and below in 1971,

and a deterioration at the upper quantiles in 1968 and 1971.
The relative position of the middle quantiles consistently
improved during 1967-1972.

Families with a Female Head

The values of R for families with a female head are
presented in Table 25. They indicate that income is more
equally distributed within black families with a female head
than among white families with a female head at the lower
quantiles of the income distribution. At the upper quan-
tiles, the opposite is true.

At the lower quantiles, the relative position of
black families with a female head is better than that of
black families with a male head and the wife present but
not in the paid labor force. Such statistics perhaps shield
the drama and the pathos of low-income black males, who are
more likely to be primarily outpaced than a white male.
This is also concomitant with the greater percentage of
black families with a female head.

The ratio of income of black to white families with
a female head often reaches a relative peak in 1971 and 1973
for the 10th through 30th percentiles. At the 35th through
75th percentiles, the maximum value is attained in 1973.
In addition, the ratio is also at a relative maximum in 1970
at the 55th through 75th percentiles.

Thus, relative inequality between white and black
families with a female head was least in 1973 at the 25th

through 75th percentiles. Compared to their white counter-
parts, black families with a female head generally enjoyed
a better position at the end of the period than at the begin-
ning of the period. Further inspection of the results sug-
gests that the relative position of the upper middle income
quantiles of this group reached a peak and began to deteri-
orate in 1970, while a relative deterioration of the lower
quantiles did not begin until 1971. At almost all quantiles,
relative inequality between the two densities diminished in
1973 compared to 1973.

Unrelated Individuals

For this subgroup, the computed values of R also
increase with percentile, indicating less relative inequal-
ity at the upper ends of the distribution. The results also
indicate that, through time, the position of black unrelated
individuals relative to white unrelated individuals deteri-
orated during the first part of this period, and improved
during the latter part of this period. The changes left
black unrelated individuals better off in 1973 than in 1967
(see Table 26).

Cyclical Variation

The data give the subjective impression of being
affected by cyclical factors, although the timing and degree
of impact varies. Figure 1 gives some indication of the
apparent cyclical variation in the computed values of R.

Figure 1

Timing of Peaks and Troughs in R Computed Between White and Black Income Densities at Selected Quantiles, by Type of Family, 1967-1973

	Quantile	1967	1968	1969	1970	1971	1972	1973
Unrelated Individuals	20	T	P	T			P	
	35	P			T			P
	50	P	T	P	T			P
	65	P				T		P
	80	P			T			P
Families with Female Head	20	T	P		T	P	T	P
	35	T	P		T			P
	50	P	T		P			P
	65	P	T		P		T	P
	80	P	T		P	T	(P)	
Families with Male Head and Wife Present but Not in Paid Labor Force	20	T	P		T	P		T
	35	T	P	T		P		T
	50	T	P	T		P		T
	65	T	P	(T)	(T)		P	T
	80	T	P	T	P			T
Families with Male Head and Wife Present and in Paid Labor Force	20	P	T		P	T		P
	35	T						P
	50	T						T
	65	T			P	T	P	T
	80	P	T				P	T
Total Families with Male Head	20	T				P		T
	35	T			P	T	P	T
	50	T					P	T
	65	T			P			T
	80	T	P	T	P			T
Total Families	20	T		P				T
	35	T			P			T
	50		T	P				T
	65	T			P			T
	80	T	P	T	P	T	P	T

Source: Tables 21-26. A change greater than 1% from previous peak or trough needed to establish new trough or peak.

The values for total families and total families
with a male head (Tables 21 and 22) are affected by changes
in composition as well as different and changing male/female
income differentials. The values computed for families with
a male head and the wife present and in the paid labor
force are also affected by changing male/female income
differentials in each race, and those pertaining to unre-
lated individuals will be affected by the changing sexual
composition of this group. Thus, attention was directed
mainly to families with a female head, families with a male
head with the wife present but not in the paid labor force,
and unrelated individuals.

Figure 1 raises some unexpected questions. Relative
peaks and troughs tend to occur in the same years; the
existence of a lag, dependent upon quantile, is also sug-
gested. While cyclical turning points tend to occur in the
same year, the direction is not the same. The pattern was
rather unexpected, and this writer has no ready explanation
for it. It may, for example, be a manifestation of changes
in relative demand for different quality labor. However,
further research is needed before any definite conclusions
can be set forth.

Two other factors which stand out merit comment.
The improvement in the position of black male-headed fami-
lies with the wife present and in the paid labor force
relative to their white counterparts was greater than that
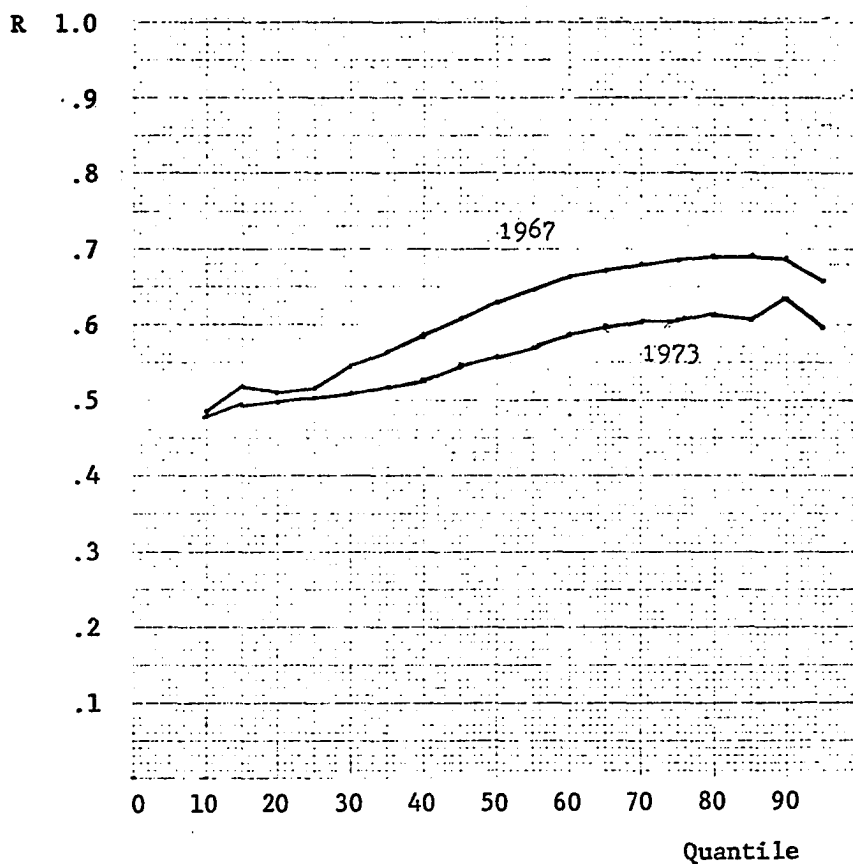
Figure 2. Ratio of Income of White Families with Female Head to Income of White Families with Male Head and Wife Present but Not in Paid Labor Force, at Quantiles, 1967 and 1973.

Source: Table 13.
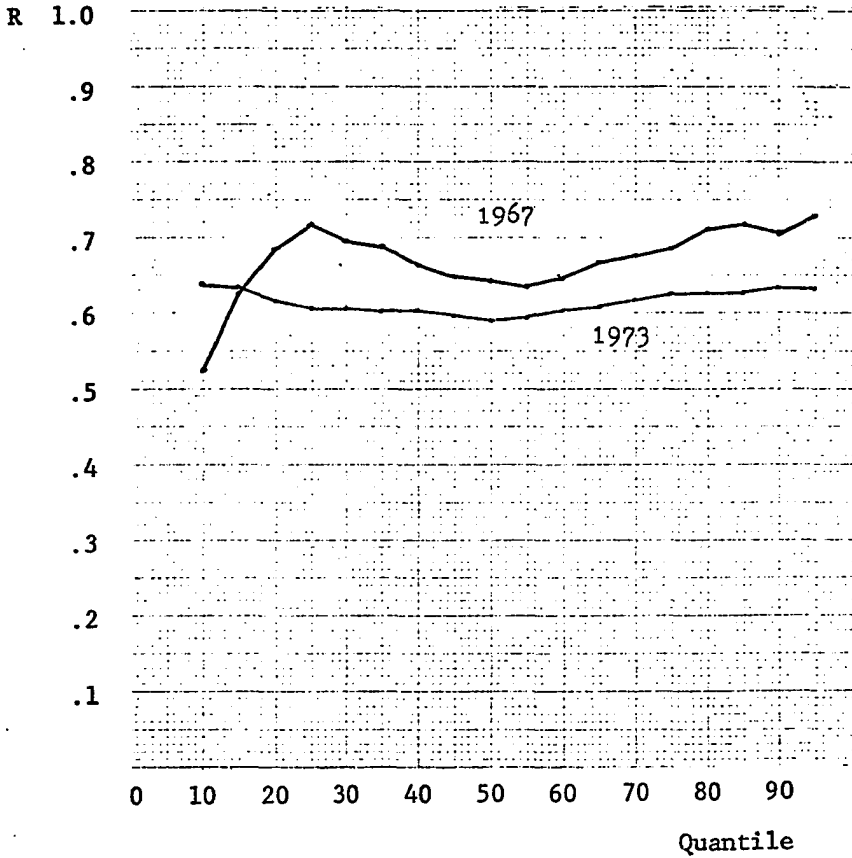
Figure 3. Ratio of Income of Black Families with Female
          Head to Income of Black Families with Male Head
          and Wife Present but Not in Paid Labor Force,
          at Quantiles, 1967 and 1973.

Source: Table 14.
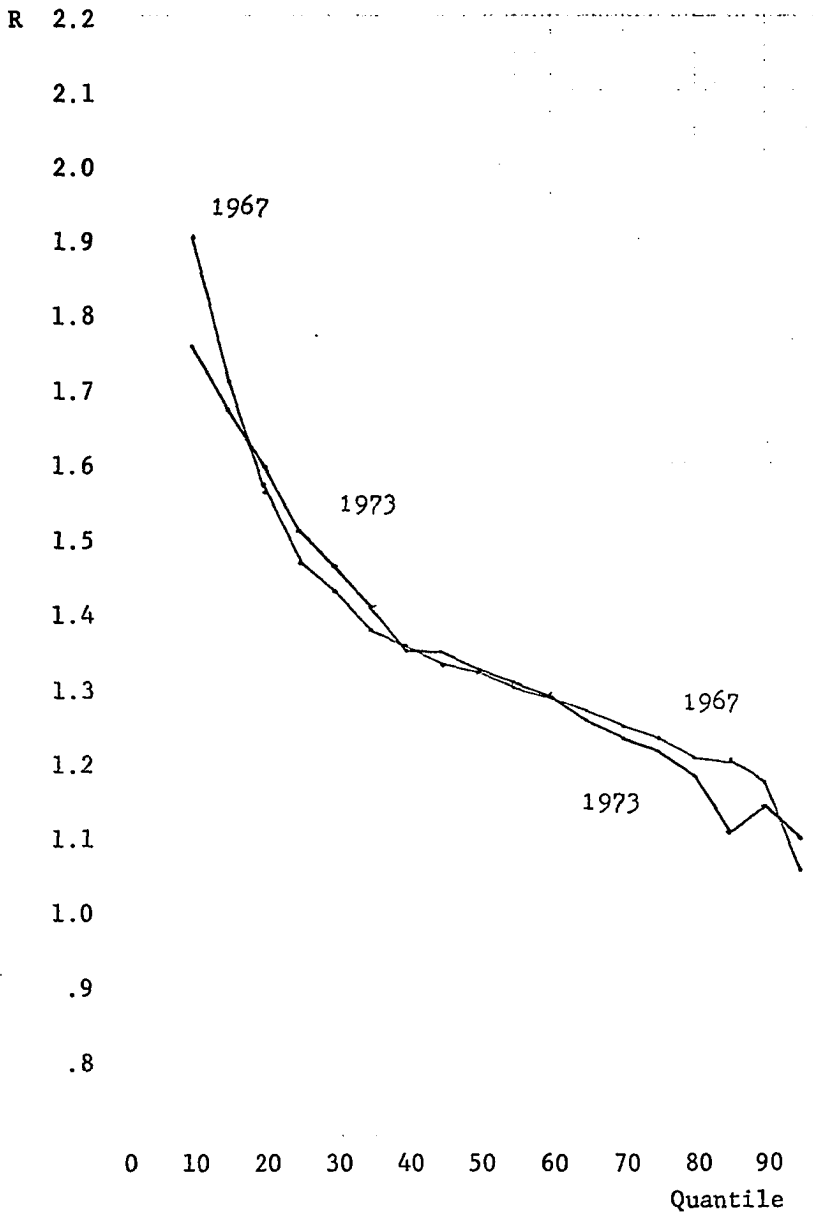
Figure 4.   Ratio of Income of White Families with Male Head
            and Wife Present and in Paid Labor Force to Income
            of White Families with Male Head and Wife Present
            but Not in Paid Labor Force, at Quantiles, 1967
            and 1973.
Source: Table 8.
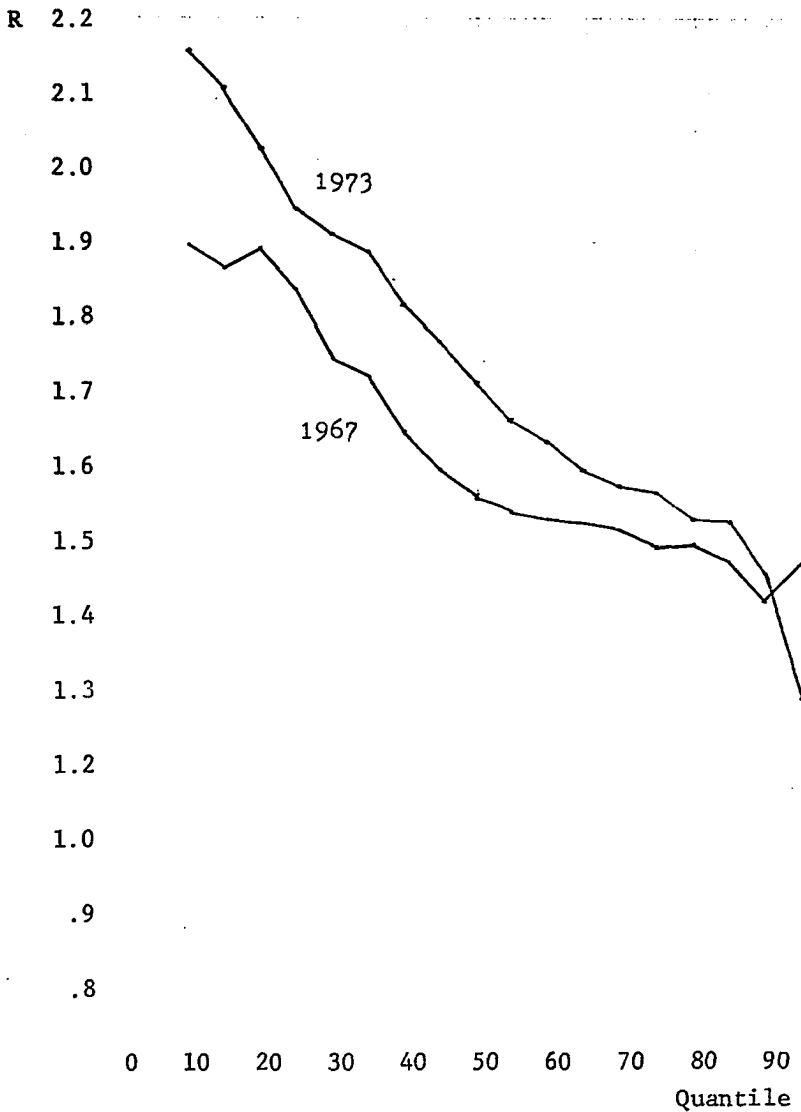
Figure 5. Ratio of Income of Black Families with Male Head and Wife Present and in Paid Labor Force to Income of Black Families with Male Head and Wife Present but Not in Paid Labor Force, at Quantiles, 1967 and 1973.

Source: Table 9.
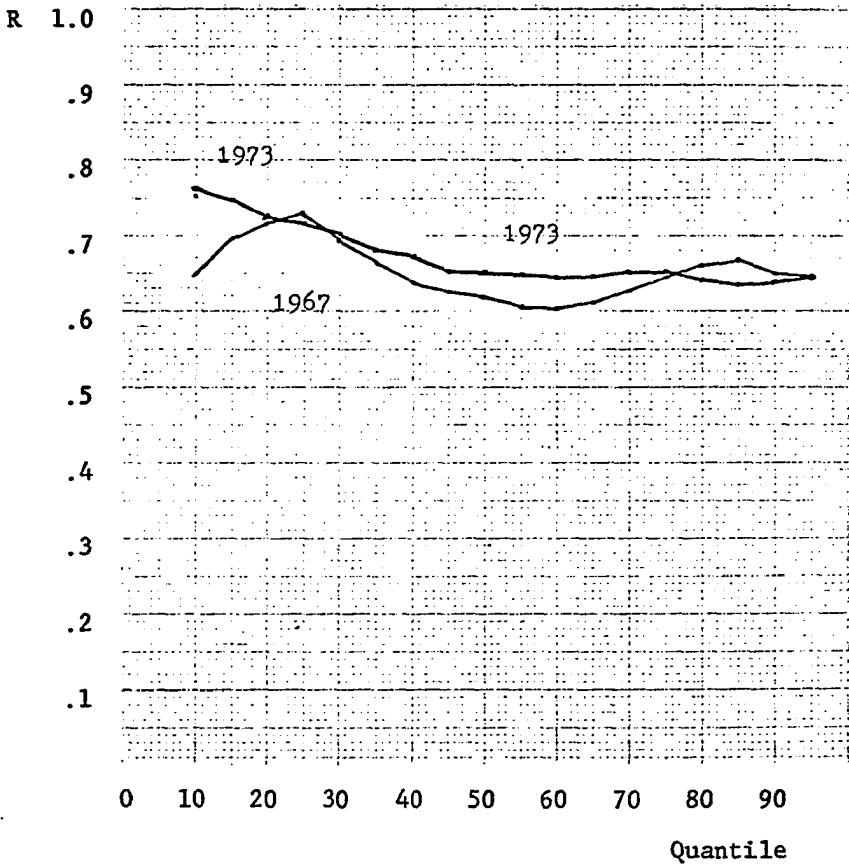
Figure 6. Ratio of Income of Black Families with Female
Head to Income of White Families with Female
Head, at Quantiles, 1967 and 1973.

Source: Table 25.
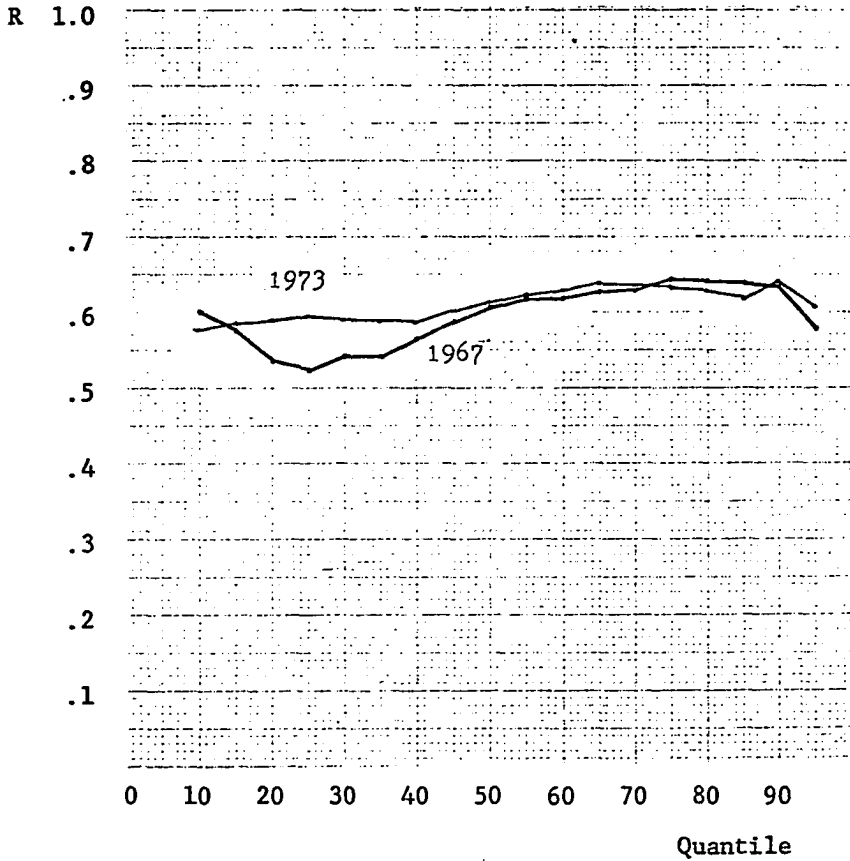
Figure 7. Ratio of Income of Black Families with Male Head and Wife Present but Not in Paid Labor Force to Income of White Families with Male Head and Wife Present but Not in Paid Labor Force, at Quantiles, 1967 and 1973.

Source: Table 24.
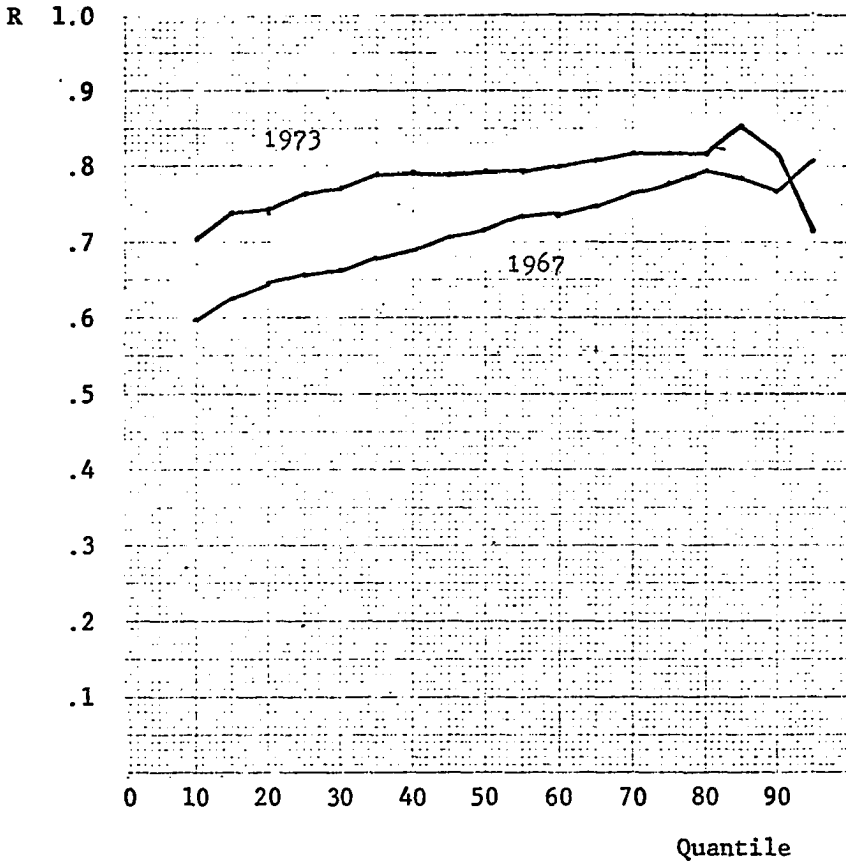
Figure 8. Ratio of Income of Black Families with Male Head
and Wife Present and in Paid Labor Force to
Income of White Families with Male Head and
Wife Present and in Paid Labor Force, at Quan-
tiles, 1967 and 1973.

Source: Table 23.

of either families with a female head or of families with
a male head and the wife present but not in the paid labor
force. Part of this may be accounted for by the different
and changing positions of females relative to males in each
race. It is also possible, if not probable, that women who
are family heads have different abilities, inclinations, and
earning opportunities than females who are working wives in
male-headed families.

The other noticeable factor is the decline in the
position of total black families relative to total white
families. Although cyclical factors play a role, this
appears to be partly attributable to the differently chang-
ing composition of total black families and total white
families. As indicated in Table 3, black families with a
female head as a percent of total black families increased
from 27.7% to 34.0 percent during this period. Concomi-
tantly, the percent of total white families comprised of
families with a female head increased from 8.9% to 9.9%.
The percent of white families in which the wife chose to
work increased from 34.6% in 1967 to 39.6% in 1973; the cor-
responding values for black male-headed families were
47.2% and 48.1% (see Table 12). Both of these changes in
composition would tend to depress the position of total
black families relative to total white families.

Comparison with Previous Trends

There are other earlier studies which deal with the same topic. The most germane is that of Batchelder, who compared the median incomes of black and white men and women in 1949 and 1959.[2] Batchelder noted three major trends. First, the ratio of median incomes of black to white men was less in 1959 (.5196) than in 1949 (.5252).[3] He attributed this to a fall of the ratio within census regions, writing that,

> . . . given the size of the Negro movement out of the South, where Negro income was and is quite small compared with white, and into the North and West, where the income ratio is nearer unity, one would expect, ceteris paribus, a substantial rise in the Negro-to-white ratio for the nation as a whole simply as a consequence of the shift in weighting. That this did not follow was the consequence of a decline in the relative position of Negro men within every one of the four major census regions.[4]

Secondly, he noted that the ratio of median income of black women to that of white women had risen, from .5110 in 1949 to .5997 in 1959.[5] Thirdly, the ratio of median income of women to men declined for both races, but the decline was greater among white women and men (see Table 17). Commented Batchelder,

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[2]Alan Batchelder, "Decline in Relative Income of Negro Men," Quarterly Journal of Economics, LXXVIII (November, 1964), pp. 525-548.

[3]Ibid., p. 529.

[4]Ibid., p. 531.

[5]Ibid., p. 531.

The rising income position of Negro relative to white women and the falling income position of Negro relative to white men in each region might lead one to anticipate that, among Negroes, the ratio of female to male income would rise. That this was not everywhere the case was the consequence of another major change occurring during the 1950's. This change was the decline in the income ratio between white women and white men.[6]

TABLE 28

MEDIAN INCOME RATIO BETWEEN WOMEN AND MEN,
BY RACE, 1949 AND 1959

	White		Black	
	1949	1959	1949	1959
Total U.S.	.442	.348	.436	.402

Source: Batchelder, p. 533.

Batchelder, then, concluded that the income of both black and white women declined relative to black and white men, respectively, during the 1950's, and that the relative decline was greater for white females than for black females. The results of this study, although not strictly comparable, indicate that these trends continued during the period 1967-1973. Based on the comparison of families with a female head relative to families with a male head and the wife present but not in the paid labor force, the relative decline from 1967 to 1973 at the median was 8.3% for black females and 11.9% for white females. The relative percentage decline at other quantiles is given below in Table 29.

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[6]Ibid., p. 533.

TABLE 29

PERCENTAGE CHANGE AT SELECTED PERCENTILES IN POSITION OF
FAMILIES WITH A FEMALE HEAD TO FAMILIES WITH MALE HEAD
AND WIFE PRESENT BUT NOT IN PAID LABOR FORCE,
BY RACE, 1967-1973

Percentile	Black	White
30	-13.2	- 6.6
50	- 8.3	-11.9
70	- 8.8	-11.4
90	-10.6	- 8.3

Source: Computed from Tables 13 and 14.

During the period considered, 1967-1973, the position
of black families with a male head and the wife present but
not in the paid labor force relative to their white counter-
parts improved at the median, and throughout the whole
distribution, with some exceptions at the upper quantiles.
This suggests a reversal of the falling relative position
of black men, noted by Batchelder. From 1967 to 1973, the
relative increase is 8.8% at the 30th percentile, and 1.6%
at the 60th percentile.

Based on a comparison of the incomes of families
with a female head, the improvement in the position of black
women relative to white women seems to have continued. At
the median, the relative improvement is 5.3%. The applica-
tion of Wohlstetter and Coleman's method indicates, however,
that this improvement was generally confined to the 75th

percentile and below; black female heads of families at the
upper end of the distribution suffered a deterioration of
relative position during 1967-1973, a development that would
not be apparent only from the comparison of medians of the
two distributions.

Thus, while the data suggest that the relative
position of both black and white females declined relative
to their male counterparts, the decline was of varying magni-
tude throughout each distribution.

CHAPTER IV

AGE AND INEQUALITY

The consideration of inequality of age subgroups
within each type of family subgroup is of interest for
several reasons. First, because earnings vary over the
life cycle, a measure of inequality is affected by the
aggregation of different age groups. Measured inequality
would be apparent even if all individuals had the same life-
time earnings. Propitiously, however, in a growing economy
individuals do not have equal lifetime incomes; the descend-
ing prodigy fare better than their filial ancestors. This
also causes measured inequality to be apparent, even if all
the incomes accruing to individuals within each age group
were equal. The subject matter of this chapter, then, is
one approach to overcoming these obscurational effects. The
question addressed is: How much of total measured inequal-
ity is accounted for by the age/earnings profile and how much
by intergenerational differences in income?

Of course, it is already known that inequality is
not the same within each age group. How does inequality
vary with age within each type of family group of each

race? This question is answered by the results presented below.

The results previously presented indicated that inequality has decreased slightly among total families during the period 1967-1973, a continuation of a postwar trend. While the changes in type of family composition that occurred would lead to less inequality among total families, inequality also decreased within type of family subgroups. The results presented in this chapter afford a means of assessing the contribution of changes in demographic structure to the decrease in inequality within each type of family group. The results presented below indicate that inequality decreased within most age groups of all type of family groups. The decreases in inequality that occurred within type of family groups were not solely the result of changes in demographic structure. The contribution of the 1967-1973 change in demographic structure to the change in inequality of each type of family group is quantified.

Also considered in this chapter is the relative contribution of the differing demographic structures of each race in accounting for the difference in inequality between races, holding type of family constant.

The demographic changes considered are not necessarily insignificant. Large differences exist between the 1967

and 1973 values for each race in some age groups, as indicated in Table 30. For example, the percentage of white unrelated individuals in the 14-24 age group increases from 11.78% in 1967 to 16.69% in 1973. The increased participation of white females is particularly evident in the 25-34 age group, the group in which marginal entrants were concentrated, for families with a female head and male-headed families in which the wife is present and in the paid labor force. Additionally, significant differences exist between races, a fact also evident from inspection of Table 30.

Previously published Gini coefficients for each age group of total families of all races and each age group of total unrelated individuals of all races for 1947-1964 are indicated in Tables 31 and 32, respectively. The 1964 value is generally less than the 1947 value.

With additional information, these data and the results that follow could be linked to the human capital explanation of inequality, particularly that of Mincer or other work which uses variance of the log of income as a measure of inequality.[1] Data on the distribution of education among type of family groups and more detailed

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[1] See Jacob Mincer, Schooling, Experience, and Earnings (New York: National Bureau of Economic Research, 1974).

TABLE 30

PERCENTAGE DISTRIBUTION OF AGES OF FAMILY GROUPS,
BY RACE AND TYPES, 1967 AND 1973

Race and Type of Family		Total	Age Group					
			14-24	25-34	35-44	45-54	55-64	65+
WHITE FAMILY GROUPS								
Total Families	1967	100	6.25	19.24	22.19	21.52	16.32	14.47
	1973	100	7.49	21.97	19.22	20.71	16.03	14.55
Total Families with Male Head	1967	100	6.37	19.87	22.41	21.57	16.27	13.51
	1973	100	7.50	22.19	19.15	20.24	16.17	14.11
Families with Male Head and Wife Present and in Paid Labor Force	1967	100	8.10	19.39	23.75	26.04	17.14	5.56
	1973	100	9.95	24.99	21.20	23.98	15.14	4.74
Families with Male Head, Wife Present but Not in Paid Labor Force	1967	100	5.49	20.61	21.86	19.03	15.64	17.38
	1973	100	5.82	20.75	17.79	18.60	16.81	20.22
Families with Female Head	1967	100	5.04	12.80	19.89	21.11	16.87	24.30
	1973	100	7.36	19.91	19.82	19.51	14.79	18.63
Unrelated Individuals	1967	100	11.78	8.84	7.44	11.43	19.83	40.69
	1973	100	16.69	14.97	6.76	9.79	15.24	36.55
BLACK FAMILY GROUPS								
Total Families	1967	100	7.50	23.32	22.52	19.99	14.76	11.92
	1973	100	9.85	25.28	21.12	17.90	13.00	12.83
Total Families with Male Head	1967	100	7.27	22.74	21.92	20.02	16.01	12.03
	1973	100	8.16	24.28	20.08	19.27	15.01	13.17

TABLE 30--Continued

Race and Type of Family		Total	Age Group					
			14-24	25-34	35-44	45-54	55-64	65+
Families with Male Head, Wife Present and in Paid Labor Force	1967	100	6.65	25.30	25.50	20.89	16.23	5.43
	1973	100	7.52	30.02	24.35	19.55	12.09	6.42
Families with Male Head, Wife Present but Not in Paid Labor Force	1967	100	7.79	21.76	18.48	19.25	15.65	17.06
	1973	100	8.22	19.44	16.62	19.68	16.92	19.13
Families with Female Head	1967	100	8.10	24.84	24.06	19.89	11.48	11.64
	1973	100	13.14	27.20	23.15	15.25	9.09	12.17
Unrelated Individuals	1967	100	9.51	11.16	16.10	20.00	17.32	25.91
	1973	100	13.06	15.21	15.21	18.74	18.19	22.40

Source: Computed from data in U.S. Bureau of the Census, Current Population Report, Series P-60, 1967 and 1973.

TABLE 31

GINI COEFFICIENTS FOR TOTAL FAMILIES: ALL RACES,
BY AGE GROUP, 1947-1964

	Total	14-24	25-34	35-44	45-54	55-64	65+
1947	.378	.270	.304	.353	.365	.383	.518
1948	.369	.279	.300	.343	.371	.403	.481
1949	.379	.311	.278	.341	.384	.437	.498
1950	.375	.312	.296	.364	.380	.403	.516
1951	.361	.295	.281	.335	.369	.398	.508
1952	.374	.299	.272	.318	.379	.445	.499
1953	.360	.312	.288	.315	.339	.399	.501
1954	.373	.301	.298	.329	.361	.409	.502
1955	.366	.303	.281	.310	.379	.407	.510
1956	.355	.305	.266	.319	.367	.389	.467
1957	.351	.279	.281	.319	.360	.382	.450
1958	.354	.306	.281	.311	.368	.373	.433
1959	.366	.304	.279	.315	.355	.412	.451
1960	.369	.322	.293	.325	.357	.401	.468
1961	.376	.330	.305	.322	.361	.399	.507
1962	.365	.317	.286	.328	.339	.377	.443
1963	.360	.330	.284	.311	.342	.386	.455
1964	.352	.302	.291	.316	.330	.379	.471

Source: Years 1947 to 1960 from U.S. Bureau of the Census,
Trends in the Income of Families and Persons in
the United States: 1947 to 1960, Technical
Paper No. 8 (Washington, D.C.: U.S. Government
Printing Office, 1963), pp. 74-98. Years 1961-
1964 from U.S. Bureau of Census, Trends in the
Income of Families and Persons in the United
States: 1947-1964, Technical Paper No. 17
(Washington, D.C.: U.S. Government Printing
Office, 1967), pp. 182-184.

TABLE 32

GINI COEFFICIENTS FOR TOTAL UNRELATED INDIVIDUALS,
ALL RACES, BY AGE GROUP, 1947-1964

	Total	14-24	25-34	35-44	45-54	55-64	65+
1947	.568	.437	.401	.462	.520	.504	.582
1948	.479	.455	.390	.430	.430	.476	.528
1949	.476	.477	.361	.383	.391	.470	.516
1950	.483	.465	.338	.426	.424	.481	.519
1951	.477	.425	.338	.392	.384	.480	.493
1952	.479	.438	.339	.380	.431	.458	.545
1953	.518	.464	.382	.396	.482	.449	.596
1954	.506	.582	.404	.424	.396	.521	.494
1955	.498	.454	.361	.434	.411	.500	.558
1956	.487	.483	.369	.408	.416	.494	.465
1957	.490	.450	.415	.421	.435	.492	.471
1958	.502	.463	.379	.458	.458	.493	.475
1959	.512	.477	.390	.516	.454	.485	.508
1960	.491	.459	.370	.477	.418	.465	.487
1961	.507	.491	.365	.511	.444	.523	.451
1962	.496	.501	.396	.408	.470	.471	.451
1963	.506	.484	.400	.422	.446	.486	.471
1964	.508	.433	.377	.419	.481	.470	.536

Source: Years 1947 to 1960 from U.S. Bureau of the Census,
Trends in the Income of Families and Persons in
the United States: 1947 to 1960, Technical
Paper No. 8 (Washington, D.C.: U.S. Government
Printing Office, 1963), pp. 74-98. Years 1961-
1964 from U.S. Bureau of Census, Trends in the
Income of Families and Persons in the United
States: 1947-1964, Technical Paper No. 17
(Washington, D.C.: U.S. Government Printing
Office, 1967), pp. 182-184.

earnings data would be required. (This data is available
by region and has already been utilized by Chiswick.)
However, the variance of the log of income is more weakly
ordered than the Gini coefficient and is not necessarily
a monotonic function of the Gini Coefficient.[2] Additionally,
the work of Christopher Jencks, James Coleman, and others
calls the human capital explanation of inequality into
question.[3] In any case, the relationship between human
capital and inequality is outside the scope of this work.

Tables 33-50 give the Gini coefficients for each
age group of each type of family group of each racial
classification, white families, black families, and fami-
lies of all races combined, for the years 1967-1973.
Although there are areas of broad similarity, the results
reveal considerable differences in the behavior of inequal-
ity by age among racial groups and among type of family
groups.

Similarities

Among type of family groups, the most prevalent
age/inequality relationship is a decrease in inequality

[2]Carl Morris, Measures of Relative Income Inequality,
Monograph 1026 (Santa Monica: Rand Corp., 1972), p. 34.

[3]Christopher Jencks, Inequality: A Reassessment
of the Effect of Family and Schooling in America (New York:
Basic Books, 1972); and "Equality of Educational Opportunity,"
Report of the Office of Education to the Congress and the
President (Washington, D.C.: U.S. Government Printing
Office, 1966).

TABLE 33

GINI COEFFICIENTS, TOTAL FAMILIES, ALL RACES,
BY AGE, 1967-1973

	Age					
	14-24	25-34	35-44	45-54	55-64	65+
1967	.31531	.29527	.31655	.33521	.37594	.45078
1968	.29970	.28670	.31108	.32259	.36228	.41441
1969	.30313	.28772	.30439	.32253	.36429	.43200
1970	.31659	.29688	.31011	.32827	.36517	.42682
1971	.32587	.29723	.31732	.32566	.36036	.41417
1972	.33851	.30637	.31524	.32444	.36217	.40559
1973	.33259	.29566	.31393	.32613	.34871	.42208

Source: Computed from Current Population Reports, Series P-60.

TABLE 34

GINI COEFFICIENTS, TOTAL FAMILIES WITH MALE HEAD,
ALL RACES, BY AGE, 1967-1973

	Age					
	14-24	25-34	35-44	45-54	55-64	65+
1967	.28445	.26625	.29640	.31469	.36663	.45022
1968	.27364	.26331	.28308	.30420	.35119	.42017
1969	.26782	.25943	.28211	.30531	.35039	.44068
1970	.28108	.26489	.28974	.30995	.35500	.42351
1971	.28564	.26827	.28662	.30374	.35878	.41115
1972	.29418	.26926	.28699	.30488	.35170	.41084
1973	.28845	.26313	.28001	.30466	.33976	.42321

Source: Computed from Current Population Reports, Series
P-60.

TABLE 35

GINI COEFFICIENTS, FAMILIES WITH MALE HEAD, WIFE PRESENT
AND IN PAID LABOR FORCE, ALL RACES, BY AGE, 1967-1973

	Age					
	14-24	25-34	35-44	45-54	55-64	65+
1967	.25370	.23906	.25061	.27549	.31861	.39185
1968	.25644	.23961	.24128	.26888	.29755	.35107
1969	.24381	.23809	.24499	.26049	.30518	.36269
1970	.25790	.24137	.25234	.25980	.30319	.38047
1971	.26547	.24318	.25084	.26012	.30738	.34910
1972	.26874	.24617	.24759	.26079	.30683	.36595
1973	.27000	.23370	.23727	.26046	.28828	.36577

Source: Computed from Current Population Reports, Series
P-60.

TABLE 36

GINI COEFFICIENTS, FAMILIES WITH MALE HEAD, WIFE PRESENT
BUT NOT IN PAID LABOR FORCE, ALL RACES, BY AGE, 1967-1973

	Age					
	14-24	25-34	35-44	45-54	55-64	65+
1967	.28261	.27440	.31519	.33790	.39535	.44960
1968	.27500	.26643	.30651	.33076	.38389	.42512
1969	.27497	.26130	.30064	.34070	.38046	.44764
1970	.27830	.27458	.30969	.34362	.38351	.42262
1971	.29128	.27417	.31232	.34202	.38117	.41220
1972	.28680	.28294	.31472	.33475	.37570	.41321
1973	.28178	.27540	.31497	.33546	.36882	.42972

Source: Computed from Current Population Reports, Series
P-60.

111

TABLE 37

GINI COEFFICIENTS, FAMILIES WITH FEMALE HEAD,
ALL RACES, BY AGE, 1967-1973

	Age					
	14-24	25-34	35-44	45-54	55-64	65+
1967	.52454	.41347	.36253	.39467	.40398	.44628
1968	.43172	.40450	.38137	.41088	.38444	.41039
1969	.45701	.37646	.37845	.37181	.40510	.42022
1970	.48940	.39963	.36533	.37251	.36987	.41856
1971	.43456	.37121	.38172	.40120	.39039	.42720
1972	.40727	.39334	.38417	.40122	.39725	.41498
1973	.38637	.37751	.38223	.37815	.37477	.39313

Source: Computed from Current Population Reports, Series
P-60.

TABLE 38

GINI COEFFICIENTS, TOTAL UNRELATED INDIVIDUALS,
ALL RACES, BY AGE, 1967-1973

	Age					
	14-24	25-34	35-44	45-54	55-64	65+
1967	.50110	.34934	.42981	.45211	.51060	.50600
1968	.47722	.33857	.42539	.38725	.46511	.48684
1969	.46305	.36586	.41347	.44312	.45272	.48798
1970	.44961	.37994	.39895	.44214	.47051	.46376
1971	.46653	.34639	.40264	.42906	.48453	.45200
1972	.46908	.36211	.44096	.46354	.47477	.42002
1973	.44687	.36300	.44100	.47314	.45518	.40786

Source: Computed from Current Population Reports, Series
P-60.

TABLE 39

GINI COEFFICIENTS, TOTAL WHITE FAMILIES,
BY AGE, 1967-1973

	Age					
	14-24	25-34	35-44	45-54	55-64	65+
1967	.3004	.28213	.30544	.31979	.37034	.44097
1968	.29000	.27643	.29700	.31041	.34963	.41826
1969	.28960	.27509	.29391	.31335	.35398	.43007
1970	.30578	.28256	.30131	.31749	.35543	.41960
1971	.30510	.28641	.30504	.31644	.35458	.40823
1972	.31783	.28452	.30219	.31200	.35297	.40819
1973	.31334	.28701	.29755	.31159	.34017	.41975

Source: Computed from Current Population Reports, Series
P-60.

TABLE 40

GINI COEFFICIENTS, WHITE FAMILIES WITH MALE HEAD,
BY AGE, 1967-1973

	Age					
	14-24	25-34	35-44	45-54	55-64	65+
1967	.27637	.26215	.28898	.30575	.36240	.45166
1968	.27902	.25789	.27722	.29709	.34716	.41552
1969	.27099	.25305	.27636	.30203	.34666	.43379
1970	.27622	.26342	.28263	.30320	.35075	.42519
1971	.27943	.25338	.28391	.29949	.35137	.41379
1972	.28680	.26469	.28321	.29872	.34507	.40581
1973	.28303	.25825	.27576	.29791	.33272	.42299

Source: Computed from Current Population Reports, Series
         P-60.

TABLE 41

GINI COEFFICIENTS, WHITE FAMILIES WITH MALE HEAD,
WIFE PRESENT AND IN PAID LABOR FORCE,
BY AGE, 1967-1973

	Age					
	14-24	25-34	35-44	45-54	55-64	65+
1967	.25204	.23564	.24464	.26770	.30551	.37688
1968	.25573	.23604	.23198	.25794	.28823	.34128
1969	.24193	.23408	.24039	.25821	.29465	.35849
1970	.25474	.24287	.24657	.25681	.29366	.37177
1971	.26006	.23494	.24295	.25435	.29736	.34602
1972	.26506	.24076	.24229	.25592	.30228	.35798
1973	.26811	.23363	.23389	.25700	.28164	.36072

Source: Computed from Current Population Reports, Series
P-60.

TABLE 42

GINI COEFFICIENTS, WHITE FAMILIES WITH MALE HEAD,
WIFE PRESENT BUT NOT IN PAID LABOR FORCE,
BY AGE, 1967-1973

	Age					
	14-24	25-34	35-44	45-54	55-64	65+
1967	.27770	.26856	.30812	.33056	.38907	.45226
1968	.27028	.25922	.30443	.32198	.37430	.42278
1969	.27353	.25659	.29941	.33523	.36645	.44477
1970	.27898	.26758	.30329	.33867	.38180	.41734
1971	.28707	.26963	.31022	.33159	.38000	.41829
1972	.28477	.27574	.30975	.33117	.36929	.40697
1973	.27249	.26758	.30567	.32718	.36021	.39345

Source: Computed from Current Population Reports, Series
P-60.

TABLE 43

GINI COEFFICIENTS, WHITE FAMILIES WITH FEMALE HEAD,
BY AGE, 1967-1973

	Age					
	14-24	25-34	35-44	45-54	55-64	65+
1967	.53541	.42700	.34759	.36900	.38532	.43232
1968	.44136	.40787	.35909	.38859	.36243	.40368
1969	.45837	.38200	.37997	.35003	.38933	.39542
1970	.47746	.41928	.35195	.34378	.34551	.40168
1971	.44855	.38795	.36157	.38112	.36644	.41872
1972	.41362	.37056	.36829	.38102	.37022	.40243
1973	.41272	.38430	.38306	.36884	.35346	.37257

Source: Computed from Current Population Reports, Series
P-60.

TABLE 44

GINI COEFFICIENTS, WHITE UNRELATED INDIVIDUALS,
BY AGE, 1967-1973

	Age					
	14-24	25-34	35-44	45-54	55-64	65+
1967	.50778	.32892	.40554	.42816	.49934	.47761
1968	.47245	.32799	.39039	.42750	.45499	.48164
1969	.46438	.36025	.38151	.42046	.44467	.47826
1970	.44889	.35005	.38392	.42139	.45517	.47500
1971	.45296	.34188	.38483	.41621	.47146	.44338
1972	.44206	.35770	.42260	.46071	.45544	.42064
1973	.43587	.35181	.42490	.44944	.44122	.41002

Source: Computed from Current Population Reports, Series
P-60.

TABLE 45

GINI COEFFICIENTS, TOTAL BLACK FAMILIES,
BY AGE, 1967-1973

	Age					
	14-24	25-34	35-44	45-54	55-64	65+
1967	.40183	.38453	.35687	.40224	.41727	.42349
1968	.36812	.36178	.36296	.37829	.39186	.40014
1969	.39008	.34100	.35119	.36504	.44178	.43430
1970	.42883	.36723	.37491	.37328	.39632	.44126
1971	.40012	.37278	.36476	.35580	.41518	.39461
1972	.44699	.41490	.37822	.37085	.42189	.41669
1973	.42615	.37391	.37055	.38757	.40966	.38913

Source: Computed from Current Population Reports, Series
P-60.

TABLE 46

GINI COEFFICIENTS, BLACK FAMILIES WITH MALE HEAD,
BY AGE, 1967-1973

	Age					
	14-24	25-34	35-44	45-54	55-64	65+
1967	.33455	.33707	.31395	.36609	.41295	.41877
1968	.30670	.28264	.30394	.33847	.37264	.39232
1969	.29653	.27458	.29901	.32702	.42303	.41042
1970	.31279	.28906	.32184	.31687	.37664	.42721
1971	.32987	.30116	.29893	.30825	.38186	.39010
1972	.32905	.31731	.31614	.32161	.38634	.40359
1973	.33528	.27764	.30966	.34731	.38975	.37221

Source: Computed from Current Population Reports, Series
         P-60.

TABLE 47

GINI COEFFICIENTS, BLACK FAMILIES WITH MALE HEAD,
WIFE PRESENT AND IN PAID LABOR FORCE,
BY AGE, 1967-1973

	Age					
	14-24	25-34	35-44	45-54	55-64	65+
1967	.26287	.28546	.28837	.33198	.37965	.41843
1968	.26516	.26330	.28581	.30119	.34722	.34964
1969	.25563	.25552	.26583	.28973	.36647	.35857
1970	.29298	.25468	.28781	.28118	.36213	.33890
1971	.28894	.27820	.27557	.25975	.37810	.37809
1972	.30640	.30446	.27944	.29437	.33580	.39350
1973	.28599	.23512	.26676	.30068	.33100	.35060

Source: Computed from Current Population Reports, Series
P-60.

TABLE 48

GINI COEFFICIENTS, BLACK FAMILIES WITH MALE HEAD,
WIFE PRESENT BUT NOT IN PAID LABOR FORCE,
BY AGE, 1967-1973

	Age					
	14-24	25-34	35-44	45-54	55-64	65+
1967	.33817	.36862	.32139	.38212	.41957	.39128
1968	.28870	.28232	.29990	.36303	.37977	.41078
1969	.28216	.26404	.27724	.32940	.45629	.41642
1970	.25079	.29179	.31883	.31938	.35578	.45319
1971	.30862	.29690	.29396	.32431	.36915	.38692
1972	.28943	.29151	.33148	.32282	.41111	.37938
1973	.31281	.30402	.35407	.34971	.39849	.36307

Source: Computed from Current Population Reports, Series
P-60.

TABLE 49

GINI COEFFICIENTS, BLACK FAMILIES WITH FEMALE HEAD,
BY AGE, 1967-1973

	Age					
	14-24	25-34	35-44	45-54	55-64	65+
1967	.49470	.34940	.37718	.41785	.41522	.43712
1968	.39562	.37785	.37163	.40366	.46119	.40950
1969	.42408	.35016	.35377	.36721	.45450	.48908
1970	.50282	.36898	.40183	.42124	.40003	.46333
1971	.39082	.32423	.40934	.43327	.44348	.38249
1972	.39184	.40220	.38131	.38877	.50160	.43810
1973	.35327	.36400	.32872	.37441	.41052	.42814

Source: Computed from Current Population Reports, Series
P-60.

TABLE 50

GINI COEFFICIENTS, BLACK UNRELATED INDIVIDUALS,
BY AGE, 1967-1973

	Age					
	14-24	25-34	35-44	45-54	55-64	65+
1967	.51150	.39507	.46101	.47344	.52606	.48663
1968	.46557	.33007	.41744	.46140	.47349	.38385
1969	.48010	.31482	.44664	.48707	.48537	.44116
1970	.50014	.45974	.37068	.46128	.49550	.39251
1971	.57263	.34627	.41748	.43899	.47880	.49401
1972	.54712	.34982	.44849	.43842	.51516	.34751
1973	.45907	.40482	.38743	.56056	.49373	.35422

Source: Computed from Current Population Reports, Series
P-60.

as one moves from the first to the second age group (14-24 to 25-34 years). This pattern prevails among total white families, total white families with male head, total white families with a male head and the wife present and in the paid labor force, total white families with a male head and the wife present but not in the paid labor force. The same pattern also prevails among the above mentioned type of family groups of all races combined, except the last, total families of all races with a male head and the wife present but not in the paid labor force. The same black type of family groups also evince an initial decrease in inequality, followed by a general increase thereafter.

Among each of the three racial classifications, families with a female head and unrelated individuals fail to display the same continuous increase in inequality as one moves from the second through the sixth age groups. And, as noted above, Gini coefficients for total black families and total black families with a male head often depart from the pattern observed in their white counterparts.

In these groups the initial decrease in inequality occurring with a passage of years among families in different groups may persist until the second, third, fourth, or, in some cases, the fifth age group; in other cases, the increase in inequality that began in the 25-34 age group is, at some later period, temporarily reversed.

The lesser degree of inequality among white families

than among black families generally prevails in most age
groups. One of the widest divergences is between the
values for total black families and total white families
in the first through fifth age groups, with the values for
black families being substantially greater than those for
white families. Both, however, show the same general
"saucer" shape during the working years of family existence.
Much of the divergence in Gini coefficients among total
white and total black families vanishes when the values
for families with a male head, families with a male head
and the wife present and in the paid labor force, and the
wife present and not in the paid labor force, are considered,
indicating again that much of the discrepancy in each age
group is due to differences in composition of total families
of each race, noted earlier. Yet even when adjustment is
made for type of family and for age, white family groups
still experience less inequality, with the exception of the
over 65 age group. This may be because some white families
over 65 years of age are more likely than black families
to have some supplementary source of income, while black
families are more likely to have only social security.

Of interest is the divergent age/inequality pat-
tern for families with a female head among the two races.
Inequality among black families with a female head increases
after the initial decrease, through the 55-64 age group,
while inequality among white families with a female head

decreases through the 55-64 year age group. Thus, while a decrease in inequality occurred in most age groups, the decrease was of varying magnitude.

In order to further quantify the contribution of the change in demographic structure to the change in inequality, a method advanced by Soltow in 1960 was utilized.[4]

Soltow's purpose was to assess the relative importance of changes in the distribution of education on the distribution of inequality. He noted that the Gini coefficient for any group is a function of the sum of absolute deviations of all incomes within that group,[5] and concluded:

> The sum of total absolute deviations is equal to the sum of those within and between education classes, so that the overall coefficient of concentration, G, may be expressed in terms of the various coefficients within classes, G_j, and between classes, G_j', if each coefficient is given the appropriate weight.[6]

Thus, one can write

$$G = W_j \dot{G}_j + W_j'G_j'$$

where $R_j = \dfrac{\sum\limits_i |X_i - X_k| f_{ij} f_{kj}}{2 \bar{X}_j N_j^2}$

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[4]Lee Soltow, "The Distribution of Income Related to Changes in the Distribution of Education, Age, and Occupation," Review of Economics and Statistics, vol. 42 (November, 1960), pp. 450-454.

[5]Ibid., p. 450.

[6]Ibid.

$$W_j = \frac{N_j \sum_i X_i f_{ij}}{N \sum_i X_i f_i}$$

$$R_j' = \frac{\sum_{p \neq j} \sum_{ik} |X_i - X_k| f_{ij} f_{kp}}{N_j [(N-N_j)\bar{X}_j + \sum_{p \neq j} N_p \bar{X}_p]}$$

$$W_j' = \frac{N_j [(N-N_j)\bar{X}_j + \sum_{p \neq j} \sum_i X_i f_{ip}]}{2N \sum_i X_i f_i}$$

when i and k index income intervals and p and j index educa-
tion classes and where $N_j = f_{ij}$, and f_i = the frequency in
any income interval.

Soltow's method was applied with each population
broken down into age, rather than education, classes. The
1973 Gini coefficient for each white type of family group
was recomputed, assuming the same distribution of income
within each age group of each type of family group, but
applying the 1967 age distribution of that type of family
group. The same was done for the 1973 Gini coefficients
for each black type of family group.

The results are presented in Table 51. The differ-
ence between columns 1 and 3 is the change resulting from
factors other than the change in the age composition of
each type of family group. The difference between columns
2 and 3 reflects the change in inequality due to the change
in the age composition of each type of family group. In
other words, the Gini coefficients in column 3 are those

TABLE 51

ACTUAL AND IMPUTED GINI COEFFICIENTS, BY TYPE
OF FAMILY AND RACE, 1973

Race and Type of Family	Gini Coefficient		
	Actual 1967	Actual 1973	Imputed 1973
White Families			
Total White Families	.2571	.3421	.3460
Total Families with Male Head	.3403	.3271	.3303
Families with Male Head, Wife Present and in Paid Labor Force	.2821	.2728	.2766
Families with Male Head, Wife Present but Not in Paid Labor Force	.3623	.3585	.3575
Families with Female Head	.4096	.4019	.4113
Unrelated Individuals	.5076	.4649	.4915
Black Families			
Total Black Families	.4028	.4014	.4039
Total Families with Male Head	.3761	.3573	.3594
Families with Male Head, Wife Present and in Paid Labor Force	.3297	.2893	.2884
Families with Male Head, Wife Present but Not in Paid Labor Force	.4031	.3716	.3725
Families with Female Head	.4059	.3864	.3894
Unrelated Individuals	.5182	.5016	.5140

Source: See text.

that would have prevailed if only the distribution of income within each age group had changed and the relative age composition of each type of family group of each race in 1973 was identical to that of 1967. This procedure implicitly assumes, of course, that the distribution of income within each age classification is independent of the age composition of each group, and this may not be the case.

While the changes in Gini coefficients from 1967 to 1973 may be regarded as small, one rather general conclusion emerges. Most of the decreases in Gini coefficients which did occur were the result of changes other than those in the age composition of each type of family group.

Paglin constructed what he terms an "age-Gini coefficient" and compared it to the traditional Gini coefficient by assuming that all families in a given age group have incomes equal to the mean income of that age group.[7] In other words, the mean income of each age group is imputed to all families in that age group, and Paglin's "age-Gini" is computed from the Lorenz curve based on the assumption of equal lifetime income.[8] Paglin then subtracts his "age-Gini" coefficient from the traditional coefficient to obtain a "Paglin-Gini coefficient," which he describes as "a measure of long-run interfamily inequality."[9]

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[7]Morton Paglin, "The Measurement and Trend of Inequality: A Basic Revision," American Economic Review, LXV (September, 1975), pp. 598-609.

[8]Ibid., p. 600.

[9]Ibid., p. 601.

Paglin noted a steady increase in the value of his age-Gini, from .075 in 1947 to .120 in 1972, which, he alleges , "is related to the expansion of higher education which results in a greater arching of the average age-income profile, and to the increase in the percentage of the aged and young adults in the population."[10] He also noted a concomitant decrease in the Paglin-Gini coefficient, from .303 in 1947 to .239 in 1972, and concluded, "there has been a decline in interfamily inequality of income, unobscured by changes in the age-income profile in the age composition of the population," which he estimated to be 23% for the twenty-five year period.

Unfortunately, data by age for this study were unavailable for the entire period 1947-1973 in as disaggregated form as desired for this study. However, Gini coefficients are available for age subgroups of total families of all races, and are given in Table 31. The data considered in this manner certainly do not indicate a decline of the magnitude alleged by Paglin.

Paglin's procedure can be criticized on several points. First, he assumes that everyone in a given age group has the same income; thus, in computing his "age-Gini" he imputed the same income to a head aged 25 years as to one with a head aged 34 years.

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[10]Ibid., p. 604.

[11]Ibid., p. 605.

Secondly, and most importantly, Gini coefficients cannot legitimately be added or subtracted in such a manner. As shown by Soltow's article, the overall Gini coefficient can be decomposed into between group and within group variation, analogous to analysis of variance. The procedure results on the demonstration that area between the Lorenz curve and the line of perfect equality can be expressed as a function of the sum of absolute deviations between all incomes. It seems highly unlikely that the distribution of income within a given age group is independent of the overall age composition of the population.

One could also point out that, even if Paglin's procedure were mathematically correct, it does not account for other developments, such as the increased labor force, participation of wives, changes in cross-sectional educational attainment by age, and differences in age group fertility over time, that would also be expected to result in changes in interfamily income inequality. Paglin's procedure could be applied as easily (and incorrectly) to such other changes.

One of the questions posed at the beginning of the chapter was whether or not the degree of inequality within each age group of any type of family group was the same in 1973 as in 1967, a period during which inequality decreased within the type of family group? Table 52 presents the percentage

TABLE 52

PERCENTAGE CHANGES IN GINI COEFFICIENTS, BY TYPE OF FAMILY, RACE,
AND AGE GROUP, 1967-1973

	Total	14-24 yrs 1	25-34 yrs 2	35-44 yrs 3	45-54 yrs 4	55-64 yrs 5	65 & over 6
All Races							
Total Families	- 1.87	+ 5.15	+ 0.13	- 0.83	- 2.71	- 7.24	- 6.37
Total Families with Male Head	- 4.54	+ 1.41	- 1.17	- 5.52	- 3.19	- 7.33	- 6.08
Families with Male Head and Wife Present and in Paid Labor Force	- 5.41	+ 6.42	- 2.24	- 5.32	- 5.46	- 9.52	- 6.66
Families with Male Head and Wife Present but Not in Paid Labor Force	- 0.44	- 0.29	+ 0.36	- 0.07	- 0.72	- 6.71	- 4.42
Families with Female Head	- 4.23	-26.34	- 8.70	+ 5.43	- 4.19	- 7.23	-11.91
Unrelated Individuals	- 7.93	-10.82	+ 3.91	+ 2.60	+ 4.65	-10.85	-19.39
White							
Total Families	- 4.18	+ 4.43	+ 1.73	- 2.58	- 2.56	- 8.15	- 4.81
Families with Male Head	- 3.87	+ 2.41	- 1.49	- 4.57	- 2.56	- 8.19	- 6.35
Families with Male Head and Wife Present and in Paid Labor Force	- 3.31	+ 6.38	- 0.85	- 4.39	- 4.00	- 7.81	- 4.29

TABLE 52--<u>Continued</u>

	Total	14-24 yrs 1	25-34 yrs 2	Age Group 35-44 yrs 3	45-54 yrs 4	55-64 yrs 5	65 & over 6
Families with Male Head and Wife Present but Not in Paid Labor Force	- 1.06	- 1.88	- 0.36	- 0.80	- 1.02	- 7.42	-13.00
Families with Female Head	- 1.86	-22.92	-10.03	+10.15	- 0.05	- 8.28	-13.83
Unrelated Individuals	- 8.41	-14.16	+ 6.96	+ 4.77	+ 4.97	-11.66	-14.15
Black							
Total Families	- 0.42	+ 6.05	- 2.76	+ 3.83	- 3.65	- 1.82	- 8.11
Families with Male Head	- 4.98	+ 0.22	-17.63	- 1.37	- 5.13	- 5.62	-11.12
Families with Male Head and Wife Present and in Paid Labor Force	-12.27	+ 8.79	-17.63	- 7.49	- 9.43	-12.81	-16.21
Families with Male Head and Wife Present but Not in Paid Labor Force	- 7.82	- 7.50	-17.52	+10.17	- 8.48	- 5.02	- 7.21
Families with Female Head	- 4.80	-28.59	+ 4.18	-12.85	-10.40	- 1.13	- 2.05
Unrelated Individuals	- 3.21	- 1.40	+22.64	- 7.19	+21.49	+ 4.27	- 7.72

134

changes in Gini coefficients for each age group for each type of family group for each of the three racial classifications. The data in Table 52 indicate that the answer to this question is, no. The Gini coefficient for most age groups almost all type of family groups of each racial classification also decreased, suggesting that the overall decrease in inequality of each type of family group of each racial classification was not solely the result of a change in demographic structure; with the exception of unrelated individuals, it occurred in most, and usually in all age groups.

Differences in age composition were also postulated to be a source of racial differences in inequality. To assess the effect of this source of differences in inequality, Gini coefficients for white type of family groups were recomputed using the black distribution of income within each age group of each type of family group, but assuming that the white age distribution prevailed within that type of family group. The results are presented in Table 53. Among three type of family groups, the Gini coefficient for 1973 was actually greater when recomputed on the assumption that the white age distribution prevailed within that group. These results, the Gini coefficients for the age subgroups of each type of family group presented in Tables 33-50, and the results presented in Chapter II, lead to the conclusion that differences in age composition are not a major source of the differences in inequality among black and white families.

TABLE 53

ACTUAL AND IMPUTED GINI COEFFICIENTS,
BY TYPE OF FAMILY AND RACE, 1973

	White	Black	Black-Computed with White Age Distribution
Total Families	.34212	.40114	.39922
Total Families with Male Head	.32712	.35732	.35882
Families with Male Head, Wife Present and in Paid Labor Force	.27281	.28937	.28575
Families with Male Head, Wife Present but Not in Paid Labor Force	.35850	.37160	.37819
Families with Female Head	.40192	.38644	.38480
Unrelated Individuals	.46489	.50162	.52483

	Black	White	White-Computed with Black Age Distribution
Total Families	.40114	.34212	.34043
Total Families with Male Head	.35732	.32712	.32502
Families with Male Head, Wife Present and in Paid Labor Force	.28937	.27281	.27697
Families with Male Head, Wife Present but Not in Paid Labor Force	.37160	.35850	.35464
Families with Female Head	.38644	.40192	.41811
Unrelated Individuals	.50162	.46499	.43146

Source: Computed from data in Current Population Reports,
Series P-60. See text for method of derivation.

Summary

This chapter has presented Gini coefficients for different age groups of different type of family groups of each race. Inequality was found to increase with age as families moved past the 25-34 year age group. There has been a marked decrease in within group inequality in groups 65 years of age and older. Decreases in inequality within type of family groups were found not to be solely the result of the income densities of the age subgroups moving closer together; decreases occurred in Gini coefficients in almost all age subgroups in all type of family groups for all three racial classifications. Using Soltow's decomposition method, the effect of the 1967-1973 change in age composition on inequality was determined to be minimal, often less than one percent. Likewise, racial differences in age composition of type of family groups were not found to be a major source of racial differences in inequality (a conclusion which could be extrapolated from the results of Chapter II). A criticism of Paglin's recent article was offered.

CHAPTER V

REGION AND INEQUALITY

Because changes in income differentials among regions
can be expected to impact on the prevailing national degree
of inequality, changes in inequality among and within regions
are of some interest. In a larger sense, some changes in
regional inequality are inherent in the process of economic
growth and development. Income inequality is postulated to
increase with the initiation of the development process, and
later to decrease as growth progresses. If the latter part
of the process is relevant to the United States, then the
change in the relative position of regions would be a force
making for greater equality.

> In the absence of controlling barriers, it is reasonable
> to expect expansion and growth to be relatively greater
> in states with unemployed or underemployed resources,
> and to be relatively smaller than the national average
> in areas where resources have been more fully developed
> and incomes are already above average.[1]

Thus, one might expect regional average per capita incomes
to move closer together, as the national average per capita
income continues to increase above some unspecified level.

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[1]Frank A. Hanna, "Cyclical and Secular Changes in
State Per Capita Incomes, 1929-1950," Review of Economics and
Statistics, XXXVI (February, 1954), p. 325.

Simon Kuznets, in an article he characterized as "perhaps 5 per cent empirical information and 95 per cent speculation," considered the secular changes in inequality in three of the more developed nations, the United States, England, and Germany.[2] He maintained that the evidence suggested that

> . . . the relative distribution of income, as measured by annual income incidence in rather broad classes, has been moving toward equality--with these trends particularly noticeable since the 1920's but beginning perhaps in the period before the first world war.[3]

Kuznets discussed several factors which might play a role, including the different income levels in industrial and agricultural sectors and the differing sectoral growth rates.[4]

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[2]Simon Kuznets, "Economic Growth and Income Inequality," American Economic Review, VL (March, 1955), p. 26.

[3]See, for example, Lee Soltow, "The Wealth, Income, and Social Class of Men in Large Northern Cities of the United States in 1860," in James D. Smith, ed., The Personal Distribution of Income and Wealth, vol. 39, Studies in Income and Wealth (New York: N.B.E.R., 1975), pp. 233-276.

[4]Kuznets also noted that almost all saving was alone by those in the top decile. "What is particularly important," he wrote, "is that the inequality in distribution of savings is greater than that in the distribution of property income, and hence of assets. . . . The cumulative effect of such inequality in savings would be the concentration of an increasing proportion of income-yielding assets in the hands of the upper groups--a basis for larger income shares for these groups and their descendants." (p. 7)
    Kuznets suggested three other factors which might work in the opposite direction. The first was legislative interference with the price system. The second was technological change. "In a dynamic economy with relative freedom of individual opportunity, technological change is rampant and property assets that originated in older industries almost inevitably have a diminishing proportional weight in the total because of the more rapid growth of younger industries." (p. 10) The third factor working for greater inequality was

There is no definitive work on regional income inequality for the earlier part of this nation's history, although there are some works which suggest that income inequality has either decreased or remained constant.

Some estimates of average regional per capita personal income for selected years since 1880 are given in Table 52. The average per capita income of each region is expressed as a per cent of ·the U.S. average. The data in the table do indicate a narrowing of regional per capita income differentials. Income in the Pacific and Mountain regions, where income was considerably greater than the U.S. average in 1880, has grown less than in the U.S. as a whole, while average per capita incomes in the southern region, where incomes were slightly greater than half of the U.S. average in 1880, have moved closer to the U.S. average.

When per capita personal income is the subject of measurement, the available evidence does indicate that relative total and per capita personal income differentials between states and between regions have narrowed since 1929. Graham and Schwartz, working with OBE data on state personal income for 1929-1955, wrote,

> For the regions, the measured trends include sizable relative declines in New England and the Mideast and large relative gains in the Far West, Southwest, and

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the importance of service incomes in high income groups; since their basis is individual excellence, there is a relative limit to their increase, while workers in lower paid industries tend to shift to higher paid industries.

TABLE 54

VARIATION IN PER CAPITA PERSONAL INCOME, BY GEOGRAPHIC DIVISION,
SELECTED YEARS, 1880-1970

| Year | United States (Current Dollars) | Percent Geographic Division Is of United States | | | | | | | | |
		New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
1880	$ 174	141	146	102	90	52	52	60	168	205
1900	202	135	143	107	98	51	50	61	140	163
1919-21	650	125	136	109	87	64	53	72	101	136
1929	705	123	139	114	82	66	49	62	82	139
1940	592	126	132	112	81	77	49	64	87	132
1948-53	1,576	107	116	112	94	81	63	81	96	120
1957-60	2,120	109	116	108	93	82	67	83	95	118
1970	3,921	109	114	104	94	91	75	85	91	110

Source: Reproduced from U.S. Dept. of Commerce, Long Term Economic, 1860-1870, Washington: U.S. Govt. Printing Office, 1973, p. 66. Figures before 1929 from Richard A. Easterlin, "State Income Estimates," Vol. I of Population Redistribution and Economic Growth, 1870-1950, ed. by Simon Kuznets and Dorothy S. Thomas, 7, American Philosophical Society, 1957.

Note: The census regions are comprised of the above as follows: Northeast--New England, Middle Atlantic; North Central--East North Central, West North Central; South--South Atlantic, East South Central, West South Central; West--Mountain, Pacific.

Southeast. A moderate uptrend is evidenced for the Rocky
Mountain area; a moderate downtrend for the Plains States.
The Great Lakes tended to receive an approximately con-
stant share of the nation's income.[5]

They also noted the tendency for low income states to experi-

ence faster rates of growth than high income states;

. . . there has been a pronounced tendency for areas of
comparatively low per capita incomes to achieve relative
gains, and for the higher per capita areas to register
increases of below-average proportion. The net result
has been a significant narrowing over the past quarter of
a century in the relative differences in average income
levels among the States (sic) and regions.[6]

They also indicated that,

As shown by the coefficient of variation, relative disper-
sion in the State per capita income array was reduced by
nearly 40 per cent from 1927-29 to 1953-55. Of this
reduction, approximately one-seventh occurred in the
prewar period.[7]

Most of the reduction, they found, occurred during World

War II.

Writing in 1964 in Survey of Current Business, Graham

noted the continued income gains of the South and West rela-

tive to the East and Central regions.[8] At that time, how-

ever, Graham noted that,[9]

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[5]Charles F. Schwartz and Robert Graham, Jr., Personal
Income by State Since 1929, U.S. Department of Commerce,
Office of Business Economics (Washington: U.S. Government
Printing Office, 1956), p. 8.

[6]Ibid., p. 24.

[7]Ibid., p. 25.

[8]Robert E. Graham, Jr., "Factors Underlying Changes
in the Geographic Distribution of Income," Survey of Current
Business (April, 1964), pp. 15-32.

[9]Ibid., pp. 17-18.

> The expansion in the shares of income received in the
> Southeast, Rocky Mountain, and Far West was due almost
> entirely to the economic growth of Florida, Colorado,
> and California. Exclusion of these three States (sic)
> from their respective regional totals would yield a
> decline in the income share of each region between 1948
> and 1963.

He noted that this differed from the 1929-1948 pattern, and
felt that it was a short-term phenomenon (which it was).

Hanna computed "sensitivity indices," ($\Delta\%$ state per
capita personal income/$\Delta\%$ national per capita income) for
the period 1929-1950.[10] He found that states with lower per
capita incomes tended to experience greater than average
responses to increases in national average per capita income,
and that "The coefficients of variation computed from the
Commerce state per capita incomes have a downward trend that
is not accounted for by the accordian effect of changes in
the national level."[11] Hanna concluded that, "About half
of the observed reduction in the relative dispersion of state
per capita incomes 1929-1950 can be attributed to the rise in
the income level, and about half to the secular elements
reflected by the time-factor index."[12]

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[10]Hanna, pp. 320-330.

[11]Ibid., p. 324.

[12]Ibid., p. 328.

Total Personal Income, 1967-1973

Regional personal income totals for the period 1967-1973 are given in Table 53.[13] Total personal income grew fastest in the South, 10.49% per year, and slowest in the higher income Northeast, 7.59% per year. Again, the lowest income region experienced the fastest rate of growth, almost 3% per year greater than that of the relatively industrialized and wealthier Northeast, a continuation of a longer trend.

Thus, state and regional relative income differences have narrowed with the long-term rise in average personal income that has taken place in the period since 1929 (and probably earlier). The narrowing of regional income differentials is significant because it represents one factor which, ceteris paribus, would result in a lessening of overall inequality. Of course, other things were not equal, and the forces of change bore down unevenly upon the sea of income recipients within each region, resulting in several developments which worked for or against income inequality within each region.

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[13]The census regional divisions are defined as follows: Northeast: Pennsylvania, New York, New Jersey, Connecticut, Rhode Island, Massachusetts, New Hampshire, Vermont, and Maine. North Central: North Dakota, South Dakota, Minnesota, Wisconsin, Michigan, Nebraska, Kansas, Missouri, Iowa, Illinois, Indiana, Ohio. South: Delaware, Maryland, West Virginia, Kentucky, Virginia, Tennessee, North Carolina, South Carolina, Georgia, Mississippi, Alabama, Florida, Texas, Louisiana, Arkansas, and Oklahoma. West: New Mexico, Arizona, Colorado, Utah, Wyoming, Montana, Idaho, Nevada, Oregon, Washington, Hawaii, Alaska, and California.

TABLE 55

TOTAL PERSONAL INCOME, BY REGION, 1967-1973
(Millions of Dollars)

Year %	North-east	North Central	South	West	Total U.S.
1967	$172,253	$181,807	$162,157	$109,523	$629,204
1968	187,567	197,643	179,268	120,656	688,978
1969	203,049	215,278	197,223	131,201	751,425
1970	217,900	228,054	215,739	141,595	808,223
1971	230,328	243,801	233,357	151,391	864,989
1972	247,183	265,555	260,658	165,377	944,585
1973	267,145	300,578	295,063	184,747	1,054,081
Average Annual Compound Growth Rate	7.59%	8.74%	10.49%	9.11%	8.98%
Percent Change, 1967-1973	55.09	65.33	81.96	68.68	67.53
Percent Change in Per Capita Total Personal Income, 1967-73	50.89	59.09	67.13	53.29	57.56

Source: Computed from "State Personal Income," Survey of Current Business (Aug., 1975), pp. 10-11.

It should also be remembered that the narrowing of state and regional income differentials is not equivalent to a greater degree of inequality within regions. It would seem probable, however, that if regions were large enough, the same forces which work towards a narrowing of income differentials between regions might also work towards greater equality within regions.

Inequality within Regions

Total Families, All Races

Gini coefficients for total families of all races for each Census region are given in Table 54. The greatest degree of inequality prevails within the South, the region which has the lowest average per capita income, and the region which has experienced the largest relative percentage gain in income since 1953. The region also experienced the largest decrease in inequality during 1953-1973 as measured by the Gini coefficient, 6.99%. Interestingly, and contrary to a priori expectation, the Gini coefficient increased in the Northeast and West regions during the twenty year period. These two regions have the first and second highest mean per capita incomes, respectively; however, in 1973 the lowest Gini coefficient prevailed in the North Central region.

Unrelated Individuals, All Races

The Gini coefficients for unrelated individuals of all races are presented in Table 55. While numerically less

TABLE 56

GINI COEFFICIENTS, TOTAL FAMILIES, ALL RACES, BY REGION,
1953-1960 AND 1967-1973

	North-east	North Central	South	West	Total U.S.
1953	.321	.348	.405	.349	.360
1954	.326	.348	.433	.375	.373
1955	.324	.346	.415	.361	.366
1956	.314	.354	.388	.350	.355
1957	.318	.340	.388	.333	.351
1958	.322	.342	.394	.335	.354
1959	.327	.351	.400	.343	.366
1960	.329	.346	.414	.356	.369
1967	.3499	.3406	.3888	.3470	.3601
1968	.3313	.3300	.3832	.3449	.3489
1969	.3325	.3358	.3785	.3512	.3565
1970	.3405	.3442	.3822	.3515	.3565
1971	.3393	.3458	.3766	.3564	.3560
1972	.3459	.3341	.3867	.3506	.3575
1973	.3467	.3314	.3767	.3584	.3533
Mean Income, 1973	$14,354	$14,160	$12,336	$14,169	$13,622
Percent Change					
1953-60	2.49%	-0.57%	2.22%	2.01%	2.50%
1967-73	-0.91	-2.70	-3.11	3.29	-1.89
1953-73	8.01	-4.77	-6.99	2.69	-1.86

Source: Years 1953-1960, from U.S. Bureau of the Census,
Trends in the Income of Families and Persons in the
United States: 1947 to 1960, Technical Paper #8
(Washington: U.S. Government Printing Office, 1963),
pp. 168-182, Years 1967-1973 were computed from
Current Population Reports, Series P-60.

TABLE 57

GINI COEFFICIENTS, TOTAL UNRELATED INDIVIDUALS, ALL RACES,
BY REGION, 1953-1960 AND 1967-1973

	North-east	North Central	South	West	Total U.S.
1953	.536	.516	.490	.452	.518
1954	.467	.492	.561	.458	.506
1955	.520	.484	.512	.429	.498
1956	.469	.486	.522	.444	.487
1957	.473	.504	.513	.452	.490
1958	.463	.505	.524	.516	.512
1959	.459	.526	.524	.516	.512
1960	.463	.478	.510	.481	.491
1967	.5248	.5058	.5307	.4878	.5131
1968	.4711	.4648	.5285	.4639	.4902
1969	.4683	.4797	.5176	.4738	.4967
1970	.4635	.4709	.5248	.4769	.4793
1971	.4734	.4815	.5069	.4696	.4791
1972	.4768	.4727	.4838	.4940	.4796
1973	.4607	.4600	.4920	.4717	.4723
Mean Income, 1973	$5,785	$5,737	$5,332	$6,085	$5,708
Percent Change					
1953-60	-13.62%	-7.36%	4.08%	6.42%	-5.21%
1967-73	-12.21	-9.05	-7.29	-3.30	-7.95
1953-73	-14.05	-10.85	+0.41	4.36	-8.82

Source: Years 1953-1960, from U.S. Bureau of the Census,
Trends in the Income of Families and Persons in the
United States: 1947 to 1960, Technical Paper #8
(Washington: U.S. Government Printing Office, 1963),
pp. 168-182, Years 1967-1973 were computed from
Current Population Reports, Series P-60.

important, the results are nevertheless interesting. Unrelated individuals in the West had the highest mean income in 1973, $6,085.[14] The largest increase in the Gini coefficient for the twenty year period occurred in this group, +4.36%. The degree of inequality among unrelated individuals was greatest in the South. The change in inequality among unrelated individuals in the South over the twenty year period was minimal--an increase of 0.41%. However, this group experienced a decrease of 7.29% during the 1967-1973 period. The Viet-Nam conflict may have played a role here, by removing participants more frequently from one segment of the labor force than from other segments.

Families, by Race

Gini coefficients for white and nonwhite families for each region are presented in Tables 56 and 57. Gini coefficients for white and nonwhite unrelated individuals are given in Tables 59 and 60.[15]

Among both white and nonwhite families, the greatest degree of inequality prevails among those living in the South. While inequality decreased among white Southern families during the 1953-1973 period, as might be expected, the

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[14]Current Population Reports, P-60, no. 97, page

[15]A complete series for either black or nonwhite families is not available for the entire 1967-1973 period. Regional data on nonwhite families is available for 1967 and 1969-1973, but not 1968. Data for black families and unrelated individuals is available for 1968-1973, but not 1967.

TABLE 58

GINI COEFFICIENTS, WHITE FAMILIES, BY REGION,
1953-1964 AND 1967-1973

	North-east	North Central	South	West	Total U.S.
1953	.314	.352	.380	.349	.353
1954	.316	.347	.415	.370	.359
1955	.321	.349	.394	.359	.358
1956	.315	.352	.367	.345	.347
1957	.316	.335	.364	.332	.345
1958	.320	.340	.364	.325	.340
1959	.321	.348	.377	.336	.349
1960	.324	.346	.394	.354	.357
1961	.343	.353	.407	.345	.364
1962	.330	.342	.375	.346	.350
1963	.333	.334	.373	.348	.348
1964	.330	.334	.364	.357	.349
1967	.3456	.3372	.3705	.3467	.3571
1968	.3269	.3246	.3625	.3404	.3388
1969	.3226	.3287	.3614	.3488	.3439
1970	.3362	.3390	.3632	.3471	.3489
1971	.3328	.3386	.3603	.3552	.3494
1972	.3365	.3270	.3696	.3501	.3500
1973	.3368	.3217	.3573	.3545	.3421
Mean Income, 1973	$14,766	$14,465	$13,261	$14,382	$14,163
Percent Change					
1953-64	5.10%	-5.11%	-4.21%	2.29%	-1.13%
1967-73	-2.55	-4.60	-3.56	2.25	-4.20
1953-73	7.26	-8.61	-5.97	1.58	-3.09

Source: Years 1953-60, from U.S. Bureau of the Census,
Trends in the Income of Families and Persons in the
United States: 1947 to 1960, Technical Paper #8
(Washington: U.S. Government Printing Office, 1963),
pp. 168-182, Years 1967-1973 were computed from
Current Population Reports, Series P-60.

TABLE 59

GINI COEFFICIENTS, NONWHITE FAMILIES, BY REGION,
1953-1964, 1967, AND 1969-1973

	North-east	North Central	South	West	Total U.S.
1953	.311	.324	.400	.310	.393
1954	.339	.342	.418	.381	.402
1955	.313	.350	.400	.323	.388
1956	.298	.323	.401	.360	.396
1957	.299	.344	.433	.334	.405
1958	.335	.369	.425	.340	.412
1959	.330	.350	.422	.368	.414
1960	.323	.346	.437	.349	.410
1961	.333	.362	.427	.354	.414
1962	.322	.353	.393	.364	.403
1963	.343	.360	.400	.366	.403
1964	.332	.364	.413	.370	.399
1967	.3569	.3972	.4068	.3769	.4028
1969	.3818	.3521	.3958	.3650	.3923
1970	.3534	.3755	.4151	.3632	.3998
1971	.3614	.3703	.4028	.3762	.3959
1972	.3754	.3909	.4327	.3784	.4140
1973	.3808	.3895	.3974	.3845	.4011
Mean Income, 1973	$13,270	$14,072	$10,364	$16,568	$12,605
Percent Change					
1953-64	6.75%	12.35%	3.25%	19.35%	1.53%
1967-73	6.70	-1.94	-2.31	2.02	-0.42
1953-73	22.44	20.22	-0.65	24.03	n.c.

Source: Years 1953-1964 from U.S. Bureau of the Census,
Trends in the Income of Families and Persons in the
United States: 1947-1964, Technical Paper #17,
(Washington: U.S. Government Printing Office, 1967),
pp. 170-172 and 218-225. Coefficients for 1967 and
1969-1973 were computed from Current Population
Reports, Series P-60.

n.c.--not comparable.
Note: Gini coefficients for total U.S. for 1967 and 1969-
1973 are for black families, rather than nonwhite
families.

decrease among Southern nonwhite families over the twenty
year period was less than 1%. Inequality increased among
white families in the West and Northeast by 1.58% and 7.26%
respectively.

The most unexpected change occurs among nonwhite
families. In every region except the South, the Gini coef-
ficient for nonwhite families increased more than 20% during
1953-1973, a rather remarkable increase.

While the movement of median nonwhite family income
toward parity with median white family income and the gradual
reduction of regional income differentials were occurring,
trends which would, cet. paribus, manifest themselves in
reduced Gini coefficients, inequality was increasing within
nonwhite families in all regions except the South. The causes
and the mechanics of the increase are an interesting subject
for further research.

The changes in the Gini coefficients for families
are presented in summary form in Table 58.

Inequality decreased among white unrelated individuals
in all regions over the 1953-1973 period, the largest decreases
occurring in the northeast and north central regions. Among
nonwhite unrelated individuals, on the other hand, inequality
appears to have increased in each region. In each region
except the Northeast, inequality is greater among nonwhite
unrelated individuals than among white unrelated individuals.
Among unrelated individuals, the greatest degree of inequality
does not necessarily occur in the South.

TABLE 60

PERCENTAGE CHANGES IN REGIONAL GINI COEFFICIENTS
FOR FAMILIES

	North-east	North Central	South	West	Total U.S.
Total Families, All Races					
1953-1960	2.49%	-0.57%	2.22%	2.01%	2.50%
1967-1973	-0.91	-2.70	-3.11	3.29	-1.89
1953-1973	8.01	-4.77	-6.99	2.69	-1.86
White Families,					
1953-1960	3.18	-1.70	3.68	1.43	1.13
1967-1973	-2.55	-4.60	-3.56	2.25	-4.20
1953-1973	7.26	-8.61	-5.97	1.58	-3.09
Black Families					
1953-1960*	3.86	6.79	9.25	12.58	4.33
1967-1973	6.70	-1.94	-2.31	2.02	-0.42
1953-1973	n.c.	n.c.	n.c.	n.c.	n.c.

Source: Years 1953-60, from U.S. Bureau of the Census,
         Trends in the Income of Families and Persons in the
         United States: 1947 to 1960, Technical Paper #8
         (Washington: U.S. Government Printing Office, 1963),
         pp. 168-182, Years 1967-1973 were computed from
         Current Population Reports, Series P-60.

n.c.--not comparable.

*Nonwhite families.

TABLE 61

GINI COEFFICIENTS, WHITE UNRELATED INDIVIDUALS,
BY .REGION, 1953-1964 AND 1967-1973

	North-east	North Central	South	West	Total U.S.
1953	.552	.531	.482	.465	.522
1954	.448	.495	.567	.457	.487
1955	.533	.490	.507	.424	.516
1956	.481	.490	.514	.452	.488
1957	.482	.504	.503	.449	.482
1958	.470	.513	.510	.499	.505
1959	.468	.528	.509	.523	.515
1960	.466	.471	.501	.474	.487
1961	.515	.486	.504	.480	.488
1962	.480	.486	.504	.480	.488
1963	.493	.500	.504	.501	.502
1964	.509	.497	.499	.523	.506
1967	.5251	.5100	.5183	.4833	.5076
1968	.4679	.4764	.5061	.4708	.4868
1969	.4650	.5180	.5098	.4739	.4950
1970	.4710	.4704	.5113	.4744	.4898
1971	.4641	.4791	.4923	.4638	.4733
1972	.4665	.4656	.4828	.4856	.4740
1973	.4722	.4535	.4805	.4627	.4649
Mean Income, 1973	$5,870	$5,819	$5,703	$6,185	$5,883
Percent Change					
1953-64	-7.79%	-6.40%	3.53%	12.47%	-3.07%
1967-73	-10.07	-11.08	-7.29	-4.26	-8.41
1953-73	-14.46	-14.60	-0.31	-0.49	-10.94

Source: Years 1953-60, from U.S. Bureau of the Census,
Trends in the Income of Families and Persons in the
United States: 1947 to 1960, Technical Paper #8
(Washington: U.S. Government Printing Office, 1963),
pp. 168-182, Years 1967-1973 were computed from
Current Population Reports, Series P-60.

TABLE 62

GINI COEFFICIENTS, NONWHITE UNRELATED INDIVIDUALS,
BY REGION, 1953-1964, 1967, AND 1969-1973

	North-east	North Central	South	West	Total U.S.
1953	.299(sic)	.412	.461	(B)	.419
1954	.582	.409	.454	(B)	.525
1955	.422	.408	.454	(B)	.459
1956	.361	.434	.494	(B)	.462
1957	.382	.435	.456	(B)	.453
1958	.428	.380	.487	(B)	.470
1959	.377	(B)	.447	(B)	.479
1960	.410	.460	.473	(B)	.489
1961	.445	.496	.505	(B)	.503
1962	.398	.470	.428	(B)	.479
1963	.431	.489	.532	(B)	.499
1964	.419	.472	.500	.409	.485
1967	.4577	.4941	.5447	.4488	.5182
1969	.4323	.4616	.5188	.4966	.4963
1970	.4343	.4675	.5365	.4360	.4913
1971	.4571	.5179	.4839	.4884	.4915
1972	.4439	.4908	.4864	.5167	.4861
1973	.4325	.5047	.5085	.5783	.5016
Mean Income, 1973	$5,127	$5,089	$3,851	$5,249	$4,606
Percent Change					
1953-64		14.56%	8.46%	--	15.75%
1967-73	-5.51%	2.15	-6.65	28.85%	-3.20
1953-73	44.65	22.50	10.3	--	n.c.

Source: Coefficients for 1953-1960 from U.S. Bureau of the Census, Trends in the Income of Families and Persons in the United States: 1947-1960, Technical Paper #8 (Washington: U.S. Government Printing Office, 1963), pp. 168-182; years 1961-1964, Trends in the Income of Families and Persons in the United States: 1947-1964, Technical Paper #17 (Washington: U.S. Government Printing Office, 1967), pp. 170-172, Years 1967 and 1969-1973 computed from Current Population Reports, Series P-60.

Note: Gini coefficient for total U.S. for black, rather than nonwhite, unrelated individuals.

(B): Base less than 50,000; data not published.

Inequality between Regions

The Wohlstetler-Coleman method was applied to compare
the income densities by region during the period 1967-1973,
both for total families and for total unrelated individuals.
Because of lack of data continuity, R was not computed for
black families or for black unrelated individuals on a
regional basis. The northeast region density was arbitrarily
chosen as the base density. The results are given in Tables
61-72.

Total Families--All Races

North Central

The comparison of the north central region to the
northeast region reveals that, at all percentiles, income is
distributed fairly equally between the two regions (see
Table 61). At most percentiles in most years, R lies between
0.95 and 1.02. Among percentiles, income is distributed
more equally at the middle percentiles than in the upper or
lower brackets.

Inequality between the two regions decreases during
1967-1968, with the value of R at most percentiles reaching
a relative peak. The value of R reaches a relative trough
in either 1970 or 1971, and then increases through 1973.
Thus, between the two regions, relative inequality decreased
from 1967-1968, increased from 1968 through 1970 or 1971,
and again decreased from 1970 or 1971 through 1973.

TABLE 63

VALUES OF R COMPUTED FOR TOTAL FAMILIES, ALL RACES,
NORTH CENTRAL REGION, 1967-1973
(BASE DENSITY: TOTAL FAMILIES, ALL RACES,
NORTHEAST REGION)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	0.890	0.965	0.928	0.922	0.918	0.967	1.034
15	0.911	0.958	0.932	0.934	0.929	0.976	1.048
20	0.919	0.972	0.959	0.935	0.937	0.979	1.057
25	0.946	0.993	0.976	0.943	0.949	0.982	1.047
30	0.965	1.000	0.987	0.960	0.961	0.988	1.031
35	0.962	1.003	0.991	0.970	0.968	0.988	1.017
40	0.974	1.006	0.995	0.966	0.976	0.987	1.007
45	0.971	1.003	0.998	0.961	0.977	0.983	1.001
50	0.974	1.001	1.000	0.972	0.976	0.978	0.999
55	0.969	1.000	0.999	0.970	0.972	0.978	0.998
60	0.965	0.998	0.998	0.973	0.971	0.973	0.997
65	0.963	0.993	0.996	0.974	0.967	0.973	0.996
70	0.958	0.989	0.990	0.969	0.964	0.967	0.995
75	0.954	0.986	0.981	0.966	0.949	0.971	0.994
80	0.950	0.982	0.959	0.960	0.960	0.958	0.989
85	0.950	0.958	0.974	0.963	0.947	0.961	0.988
90	0.920	0.969	0.977	0.962	0.962	0.967	0.977
95	0.931	0.963	0.994	0.945	0.900	0.932	0.942

Source: Computed from Current Population Reports, Series P-60.

TABLE 64

VALUES OF R COMPUTED FOR TOTAL FAMILIES, ALL RACES,
SOUTH REGION, 1967-1973
(BASE DENSITY: TOTAL FAMILIES, ALL RACES,
NORTHEAST REGION)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	0.641	0.657	0.629	0.643	0.685	0.699	0.745
15	0.636	0.679	0.660	0.673	0.713	0.710	0.778
20	0.645	0.686	0.688	0.708	0.737	0.728	0.778
25	0.682	0.707	0.713	0.733	0.745	0.740	0.781
30	0.710	0.742	0.734	0.743	0.759	0.756	0.782
35	0.739	0.758	0.758	0.757	0.773	0.769	0.784
40	0.759	0.782	0.778	0.773	0.786	0.781	0.804
45	0.778	0.802	0.795	0.787	0.798	0.803	0.813
50	0.801	0.810	0.810	0.803	0.819	0.809	0.828
55	0.811	0.824	0.826	0.817	0.826	0.821	0.842
60	0.825	0.830	0.834	0.829	0.833	0.833	0.850
65	0.829	0.840	0.846	0.835	0.841	0.842	0.850
70	0.839	0.850	0.852	0.846	0.847	0.838	0.859
75	0.854	0.855	0.859	0.856	0.839	0.843	0.885
80	0.855	0.865	0.858	0.843	0.837	0.868	0.875
85	0.866	0.869	0.844	0.865	0.858	0.868	0.897
90	0.834	0.858	0.869	0.871	0.885	0.925	0.923
95	0.886	0.887	0.937	0.914	0.870	0.911	0.872

Source: Computed from Current Population Reports, Series P-60.

TABLE 65

VALUES OF R COMPUTED FOR TOTAL FAMILIES, ALL RACES,
WEST REGION, 1967-1973
(BASE DENSITY: TOTAL FAMILIES, ALL RACES,
NORTHEAST REGION)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	0.991	1.000	0.940	0.907	0.913	0.919	0.977
15	0.995	0.995	0.950	0.908	0.914	0.908	0.954
20	0.983	1.005	0.960	0.919	0.920	0.917	0.947
25	0.990	1.015	0.970	0.932	0.929	0.914	0.953
30	0.999	1.016	0.984	0.947	0.948	0.928	0.951
35	1.010	1.015	0.989	0.959	0.960	0.937	0.948
40	1.018	1.026	0.991	0.955	0.971	0.950	0.965
45	1.027	1.031	0.997	0.952	0.966	0.962	0.963
50	1.032	1.030	1.004	0.966	0.971	0.961	0.975
55	1.031	1.040	1.011	0.966	0.970	0.969	0.978
60	1.040	1.035	1.021	0.973	0.973	0.968	0.985
65	1.035	1.040	1.027	0.976	0.974	0.974	0.987
70	1.039	1.043	1.024	0.975	0.978	0.972	0.991
75	1.040	1.042	1.024	0.975	0.978	0.972	0.991
80	1.032	1.045	1.037	0.975	0.983	0.968	0.995
85	1.019	1.074	1.033	0.976	0.982	0.976	0.999
90	1.020	1.072	1.051	0.981	0.992	0.982	1.006
95	1.005	1.035	1.077	0.960	0.995	0.970	1.033

Source: Computed from Current Population Reports, Series P-60.

South

The comparison of the income density of total families of all races for the south with that of the northeast region indicated that relative inequality is greatest at the lower percentiles and consistently diminishes at higher percentiles. However, even at the higher percentiles inequality is greater between the south and northeast than between the other regions and the northeast, a not entirely unexpected result.

Over time, R often increases from 1967 to 1968 at all percentiles, indicating a decrease in relative inequality between the two years. The value for 1968 is sometimes a relative peak, although the difference between the 1968 and the subsequent minimum is often less than 0.02. There is a persistent trend toward greater equality between the south and northeast region throughout the period; except at the top two quantiles, R reaches its maximum value in 1973.

The behavior of the computed value of R could be accounted for as follows. Both the South and the Northeast were subject to the same cyclical fluctuations, and income recipients generally improved their position throughout the period, or the whole northeast density generally moved down throughout the period, compared to the south. Both explanations may be partially valid.

West

The comparison of the income density of total families of all races in the western region with northeast region indicates little variation among percentiles. R usually differs less than .05 among percentiles for any given year, however, the upper quantiles tend to fare better compared to the northeast region than the lower percentiles.

The maximum value for R is generally attained in either 1967 or 1968. Other than an increase in R in 1973, compared to 1972, R generally decreases throughout the period, indicating a deterioration of the west relative to the northeast. Additionally, the deterioration begins earlier (1969) and is greater at the lower percentiles.

Comparison of Regional White Family Income Densities

North Central

The same general pattern apparent between the comparison of total families of all races is apparent in the comparison of the densities of total white families of the North Central and Northeast regions. At all quantiles, the value of R is approximately equal and is generally between .95 and 1.00. Thus, approximately the same degree of inequality exists for white families between the two regions as for total families of all races.

Below the 50 percentile, R generally attains a relative maximum in 1968 and in 1973. There is some indication

TABLE 66

VALUES OF R COMPUTED FOR TOTAL WHITE FAMILIES,
NORTH CENTRAL REGION, 1967-1973
(BASE DENSITY: TOTAL WHITE FAMILIES,
NORTHEAST REGION)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	0.887	0.957	0.921	0.919	0.919	0.960	1.025
15	0.896	0.945	0.923	0.930	0.921	0.961	1.024
20	0.912	0.968	0.948	0.930	0.933	0.953	1.030
25	0.926	0.987	0.953	0.938	0.956	0.970	1.017
30	0.953	0.992	0.974	0.946	0.956	0.975	1.005
35	0.952	0.998	0.985	0.953	0.963	0.976	0.996
40	0.962	1.001	0.988	0.958	0.971	0.980	0.991
45	0.961	0.996	0.991	0.953	0.978	0.973	0.991
50	0.960	0.995	0.994	0.963	0.973	0.973	0.991
55	0.962	0.992	0.994	0.960	0.973	0.974	0.990
60	0.955	0.990	0.992	0.963	0.971	0.968	0.989
65	0.957	0.985	0.989	0.966	0.964	0.965	0.988
70	0.951	0.980	0.983	0.961	0.963	0.963	0.988
75	0.947	0.980	0.977	0.947	0.952	0.967	0.979
80	0.944	0.976	0.959	0.951	0.963	0.951	0.980
85	0.945	0.953	0.974	0.941	0.953	0.958	0.981
90	0.913	0.965	0.976	0.948	0.968	0.964	0.945
95	0.924	0.967	0.993	0.891	0.931	0.919	0.920

Source: Computed from Current Population Reports, Series P-60.

TABLE 67

VALUES OF R COMPUTED FOR TOTAL WHITE FAMILIES,
SOUTH REGION, 1967-1973
(BASE DENSITY: TOTAL WHITE FAMILIES,
NORTHEAST REGION)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	0.702	0.720	0.682	0.727	0.768	0.743	0.827
15	0.713	0.732	0.714	0.767	0.800	0.770	0.830
20	0.725	0.759	0.741	0.785	0.807	0.773	0.831
25	0.751	0.794	0.759	0.787	0.807	0.792	0.827
30	0.789	0.804	0.796	0.796	0.815	0.801	0.831
35	0.798	0.830	0.813	0.814	0.823	0.813	0.838
40	0.823	0.840	0.826	0.829	0.838	0.827	0.854
45	0.839	0.848	0.846	0.830	0.853	0.838	0.859
50	0.850	0.858	0.850	0.847	0.863	0.845	0.874
55	0.861	0.860	0.862	0.855	0.867	0.853	0.882
60	0.862	0.869	0.871	0.858	0.870	0.859	0.883
65	0.870	0.874	0.872	0.867	0.874	0.860	0.887
70	0.881	0.877	0.880	0.871	0.877	0.856	0.902
75	0.881	0.884	0.885	0.867	0.864	0.868	0.915
80	0.880	0.894	0.873	0.854	0.877	0.879	0.902
85	0.895	0.882	0.879	0.875	0.882	0.888	0.931
90	0.862	0.889	0.877	0.888	0.918	0.932	0.916
95	0.919	0.913	0.942	0.873	0.877	0.892	0.863

Source: Computed from Current Population Reports, Series P-60.

TABLE 68

VALUES OF R COMPUTED FOR TOTAL WHITE FAMILIES,
WEST REGION, 1967-1973
(BASE DENSITY: TOTAL WHITE FAMILIES,
NORTHEAST REGION)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	0.970	0.969	0.895	0.884	0.901	0.895	0.931
15	0.970	0.967	0.907	0.887	0.893	0.876	0.904
20	0.970	0.982	0.927	0.898	0.900	0.880	0.916
25	0.969	0.992	0.931	0.908	0.920	0.896	0.925
30	0.987	0.990	0.958	0.922	0.934	0.910	0.925
35	0.998	0.999	0.969	0.937	0.941	0.922	0.931
40	1.010	1.006	0.971	0.942	0.952	0.943	0.938
45	1.015	1.010	0.979	0.939	0.957	0.944	0.948
50	1.021	1.013	0.989	0.952	0.955	0.951	0.960
55	1.024	1.022	0.997	0.950	0.956	0.960	0.960
60	1.032	1.021	1.005	0.955	0.960	0.958	0.967
65	1.030	1.024	1.008	0.961	0.959	0.962	0.970
70	1.033	1.027	1.009	0.959	0.967	0.964	0.977
75	1.034	1.029	1.008	0.949	0.963	0.971	0.974
80	1.029	1.031	1.014	0.957	0.975	0.960	0.980
85	1.029	1.051	1.015	0.949	0.973	0.970	0.987
90	1.024	1.055	1.026	0.965	0.987	0.979	0.983
95	1.019	1.028	1.056	0.923	0.995	0.951	0.998

Source: Computed from Current Population Reports, Series P-60.

that the lower quantiles have enjoyed greater relative improvement than those at the upper quantiles during the period.

South

A comparison of the southern income density of total white families to that of the northeast indicates income inequality is greater at the lower percentiles than at the upper quantiles. R takes on values of about .7 in the lower quantiles, and about .9 in the upper quantiles. The difference between R at the upper and lower quantiles for white families is less than the difference of R at the upper and lower quantiles for families of all races. Again, however, even at the upper quantiles R is less than unity.

Over time, cyclical variation is evident. First, at most quantiles, the value of R reaches a relative maximum in 1968 and 1973. Secondly, the relative improvement over time (from 1967 to 1973) is greater at the lower quantiles than at the upper quantiles. The ratio between the two densities experiences increases of over 10% at the lower percentiles during 1967-73, but usually less than 4% at the upper quantiles. At the 95th percentile, R is actually lower in 1973 than in 1967.

West

For total white families in the western region compared to total white families in the northeast, R usually reaches its maximum value in 1967 in the middle (40th-80th) quantiles, and in 1968 at the lower and upper quantiles.

The relative position of the lower percentiles begins to deteriorate in 1969, while that of the upper quantiles deteriorates in 1970.

Interestingly and curiously, the ratio of incomes at quantiles between the west and northeast regions is often less, especially in the second half of the period under study, for total white families than for total families of all races.

Unrelated Individuals--All Races

North Central

The computed values of R presented in Table 67 indicate that unrelated individuals in the North Central region fare less well than unrelated individuals in the Northeast. A relative maximum generally occurs in 1968 and in 1973. The relative position of unrelated individuals residing in the North Central region improves over the period, and it is the lower percentiles which experience the greatest improvement. The value of R is often (but not always) greater at the upper quantiles.

South

The computed values of R for unrelated individuals residing in the South (presented in Table 68) also indicate the occurrence of a relative maximum in 1968 and 1973. Again, while the value of R is less than unity at all quantiles, it is less at the lower quantiles. Additionally, the greatest improvement takes place at the lowest quantiles.

TABLE 69

VALUES OF R COMPUTED FOR TOTAL UNRELATED INDIVIDUALS,
ALL RACES, NORTH CENTRAL REGION, 1967-1973
(BASE DENSITY: TOTAL UNRELATED INDIVIDUALS,
NORTHEAST REGION)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	0.391	0.727	0.821	0.704	0.724	0.911	0.880
15	0.602	0.935	0.933	0.847	0.853	0.882	0.932
20	0.856	0.933	0.900	0.845	0.903	0.916	0.971
25	0.895	0.928	0.869	0.864	0.928	0.934	0.985
30	0.909	0.917	0.857	0.884	0.926	0.940	0.994
35	0.885	0.944	0.843	0.847	0.904	0.952	0.989
40	0.913	0.935	0.814	0.828	0.879	0.964	0.985
45	0.893	0.928	0.798	0.821	0.889	0.969	0.994
50	0.877	0.913	0.800	0.828	0.884	0.949	1.008
55	0.886	0.938	0.815	0.836	0.903	0.970	1.014
60	0.917	0.916	0.824	0.844	0.929	0.955	1.020
65	0.919	0.915	0.836	0.858	0.957	0.967	1.027
70	0.941	0.920	0.872	0.868	0.978	0.992	1.020
75	0.967	0.925	0.904	0.895	1.000	0.996	1.015
80	0.972	0.935	0.919	0.915	0.997	0.973	1.013
85	0.961	0.952	0.928	0.913	0.985	0.983	1.009
90	0.968	0.922	0.895	0.904	0.983	0.994	1.007
95	0.939	0.959	0.922	0.863	0.958	0.991	0.930

Source: Computed from Current Population Reports, Series P-60.

TABLE 70

VALUES OF R COMPUTED FOR TOTAL UNRELATED INDIVIDUALS,
ALL RACES, SOUTH REGION, 1967-1973
(BASE DENSITY: TOTAL UNRELATED INDIVIDUALS,
NORTHEAST REGION)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	0.309	0.259	0.200	0.321	0.503	0.652	0.750
15	0.311	0.550	0.507	0.644	0.744	0.755	0.739
20	0.543	0.798	0.725	0.704	0.735	0.771	0.770
25	0.733	0.789	0.711	0.715	0.750	0.803	0.805
30	0.770	0.768	0.703	0.733	0.769	0.820	0.818
35	0.745	0.759	0.695	0.738	0.766	0.820	0.821
40	0.727	0.766	0.710	0.717	0.749	0.824	0.840
45	0.714	0.751	0.690	0.711	0.759	0.843	0.849
50	0.712	0.716	0.700	0.721	0.785	0.850	0.875
55	0.717	0.750	0.720	0.740	0.801	0.870	0.896
60	0.755	0.771	0.724	0.736	0.803	0.880	0.911
65	0.758	0.761	0.734	0.742	0.808	0.893	0.911
70	0.755	0.772	0.754	0.754	0.809	0.894	0.903
75	0.794	0.806	0.777	0.781	0.818	0.894	0.881
80	0.825	0.846	0.807	0.821	0.836	0.905	0.878
85	0.835	0.889	0.834	0.856	0.855	0.910	0.877
90	0.877	0.905	0.809	0.847	0.856	0.918	0.904
95	0.874	0.973	0.834	0.874	0.875	0.958	0.909

Source: Computed from Current Population Reports, Series P-60.

TABLE 71

VALUES OF R COMPUTED FOR TOTAL UNRELATED INDIVIDUALS,
ALL RACES, WEST REGION, 1967-1973
(BASE DENSITY: TOTAL UNRELATED INDIVIDUALS,
NORTHEAST REGION)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	1.345	1.415	1.276	0.935	0.930	0.918	0.898
15	1.136	1.117	1.083	0.938	0.972	0.985	0.984
20	1.111	1.155	1.092	0.959	1.016	1.047	1.017
25	1.154	1.189	1.070	0.993	1.045	1.063	1.027
30	1.191	1.175	1.038	1.011	1.032	1.045	1.036
35	1.155	1.165	1.011	0.976	0.988	1.031	1.032
40	1.137	1.141	0.979	0.937	0.958	1.021	1.026
45	1.104	1.169	0.955	0.936	0.951	1.030	1.023
50	1.090	1.117	0.955	0.936	0.951	1.030	1.023
55	1.094	1.179	0.986	0.961	0.983	1.042	1.019
60	1.146	1.164	1.014	0.965	0.982	1.045	1.040
65	1.121	1.152	1.038	0.976	1.008	1.063	1.080
70	1.112	1.137	1.067	0.995	1.036	1.078	1.081
75	1.113	1.139	1.078	1.018	1.054	1.086	1.039
80	1.096	1.135	1.096	1.043	1.076	1.067	1.029
85	1.085	1.140	1.122	1.046	1.076	1.086	1.032
90	1.100	1.128	1.121	1.055	1.081	1.099	1.025
95	1.094	1.121	1.138	1.070	1.042	1.082	1.010

Source: Computed from Current Population Reports, Series P-60.

West

The relative income position of unrelated individuals residing in the West, while generally greater than unity, experiences a deterioration over the period. A relative minimum occurs in 1970; relative maximums occur in 1968 and 1972 or 1973. In this case, it cannot be said that the value of R is greater at the upper quantiles. However, the greatest variability occurs at the lower quantiles.

White Unrelated Individuals

North Central

The computed value of R is generally less than unity; the exception occurs in 1973. The value of R is not always greatest at the upper quantiles. The timing of peaks and troughs is not coincident with that of unrelated individuals of all races, although there is an improvement of relative position over the entire period.

South

The computed values of R for white unrelated individuals residing in the South (see Table 71) also indicate the occurrence of a relative maximum usually in 1968 and 1973 (sometimes in 1972). As among unrelated individuals of all races, the greatest improvement takes place at the lowest quantiles. Again, the greatest values of R tend to occur at the upper quantiles.

TABLE 72

VALUES OF R COMPUTED FOR TOTAL WHITE UNRELATED INDIVIDUALS,
NORTH CENTRAL REGION, 1967-1973
(BASE DENSITY: TOTAL WHITE UNRELATED INDIVIDUALS,
NORTHEAST REGION)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	0.393	0.656	0.834	0.776	0.763	0.923	0.883
15	0.609	0.910	0.934	0.845	0.854	0.894	0.941
20	0.864	0.920	0.903	0.845	0.902	0.921	0.980
25	0.899	0.920	0.873	0.865	0.920	0.936	1.005
30	0.914	0.904	0.869	0.873	0.901	0.947	1.021
35	0.892	0.927	0.856	0.834	0.874	0.961	1.015
40	0.923	0.910	0.835	0.815	0.843	0.969	1.014
45	0.908	0.906	0.824	0.813	0.855	0.962	1.026
50	0.891	0.889	0.821	0.813	0.851	0.945	1.034
55	0.889	0.913	0.823	0.815	0.869	0.953	1.037
60	0.900	0.882	0.831	0.822	0.895	0.932	1.042
65	0.895	0.880	0.843	0.831	0.926	0.948	1.043
70	0.916	0.885	0.865	0.851	0.954	0.976	1.029
75	0.952	0.889	0.901	0.882	0.977	0.976	1.017
80	0.966	0.905	0.909	0.901	0.977	0.953	1.007
85	0.958	0.922	0.911	0.899	0.967	0.964	1.005
90	0.965	0.905	0.873	0.887	0.960	0.975	0.996
95	0.913	0.951	0.918	0.839	0.930	0.969	0.915

Source: Computed from Current Population Reports, Series P-60.

TABLE 73

VALUES OF R COMPUTED FOR TOTAL WHITE UNRELATED INDIVIDUALS,
SOUTH REGION, 1967-1973
(BASE DENSITY: TOTAL WHITE UNRELATED INDIVIDUALS,
NORTHEAST REGION)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	0.350	0.490	0.382	0.505	0.702	0.820	0.795
15	0.458	0.761	0.706	0.763	0.785	0.810	0.808
20	0.702	0.872	0.798	0.760	0.782	0.842	0.848
25	0.831	0.867	0.786	0.782	0.802	0.878	0.877
30	0.841	0.847	0.783	0.815	0.820	0.886	0.891
35	0.820	0.863	0.801	0.803	0.802	0.886	0.899
40	0.815	0.865	0.787	0.783	0.802	0.885	0.920
45	0.836	0.851	0.803	0.779	0.834	0.916	0.946
50	0.826	0.825	0.807	0.794	0.853	0.939	0.962
55	0.834	0.876	0.808	0.796	0.859	0.958	0.976
60	0.860	0.852	0.812	0.794	0.848	0.946	0.983
65	0.829	0.851	0.813	0.795	0.849	0.958	0.979
70	0.849	0.866	0.825	0.811	0.849	0.961	0.950
75	0.866	0.883	0.845	0.842	0.856	0.963	0.914
80	0.875	0.919	0.864	0.883	0.876	0.948	0.901
85	0.883	0.954	0.868	0.893	0.897	0.942	0.906
90	0.922	0.979	0.826	0.885	0.903	0.965	0.938
95	0.888	1.051	0.876	0.887	0.912	1.007	0.969

Source: Computed from Current Population Reports, Series P-60.

TABLE 74

VALUES OF R COMPUTED FOR TOTAL WHITE UNRELATED INDIVIDUALS,
WEST REGION, 1967-1973
(BASE DENSITY: TOTAL WHITE UNRELATED INDIVIDUALS,
NORTHEAST REGION)

Percentile	1967	1968	1969	1970	1971	1972	1973
10	1.415	1.514	1.263	0.917	0.925	0.964	0.944
15	1.149	1.146	1.115	0.918	0.996	1.012	1.008
20	1.119	1.193	1.119	0.948	1.029	1.064	1.024
25	1.159	1.221	1.091	0.984	1.046	1.065	1.032
30	1.200	1.193	1.062	0.995	1.015	1.051	1.042
35	1.169	1.174	1.037	0.963	0.972	1.041	1.040
40	1.155	1.149	1.010	0.932	0.947	1.026	1.039
45	1.133	1.180	1.017	0.934	0.947	1.033	1.046
50	1.135	1.130	1.021	0.941	0.958	1.046	1.039
55	1.137	1.181	1.031	0.958	0.986	1.054	1.031
60	1.159	1.166	1.062	0.959	0.987	1.046	1.057
65	1.124	1.146	1.073	0.967	1.026	1.066	1.100
70	1.111	1.124	1.085	0.993	1.042	1.074	1.091
75	1.118	1.120	1.096	1.019	1.052	1.073	1.045
80	1.096	1.114	1.106	1.033	1.074	1.055	1.030
85	1.098	1.126	1.115	1.042	1.074	1.086	1.028
90	1.101	1.116	1.102	1.059	1.078	1.100	1.015
95	1.105	1.127	1.114	1.046	1.038	1.074	0.998

Source: Computed from Current Population Reports, Series P-60.

West

The relative income position of white unrelated indi-
viduals residing in the West, like that of unrelated indi-
viduals of all races and white families residing in the
West, experiences an overall deterioration during the period.
The value of R is often greater at the lower quantiles than
at the upper quantiles. As among unrelated individuals of
all races, a relative minimum generally occurs in 1970.
The greatest variability occurs at the lower quantiles.

Summary of Results of Wohlstetter-Coleman Method

The computed values of R for total families of all
races for the North Central, South, and West regions sug-
gest a relative maximum of R in 1968, perhaps reflecting the
greater falling off of manufacturing sources of income in
the Northeast after the cyclical slowdown of 1967.

The period considered, 1967-1973 offers only a brief
glimpse into the longer run, process of equalization of
regional income differentials. The period witnesses an
improvement of the South's position, and a deterioration of
the position of the West. The West, of course, had a higher
than average income, while the South was below average. In
both cases, it was the lower percentiles which experienced
the greatest change. This was true among unrelated indi-
viduals as well as among families.

Regional Quantile Income Response

It is difficult to use the regional data as a source
for quantifying the impact of changes in unemployment rates
and other macro variables upon the size distribution of
income in the same manner as described in Chapter II.

In addition, the composition of total families by type
of family in each region may vary from region to region, and
the relative importance of different income sources may or
may not vary between regions. (Data on type of family com-
position and income sources by region are not readily avail-
able.)

For these reasons, it was decided not to attempt to
quantify the impact of macro variables in the manner done in
Chapter II. The data do permit the examination of the change
over time in the regional income densities, considered by
race.

For each of the densities in Tables 61-72, the per-
centage change in income from 1967 to 1973 at selected per-
centiles was computed. This gives some indication of the
changes that took place in each density. Again, it should
be remembered that individuals whose income is located at one
percentile in one year (the median, for example) do not neces-
sarily find themselves at the same quantile in the following
year.

These percentage increases were then normalized by divid-
ing by the percentage change in per capita total personal income for

TABLE 75

INCOME OF TOTAL FAMILIES, ALL RACES, AT SELECTED PERCENTILES,
BY REGION, 1967 AND 1973, AND PERCENTAGE CHANGE, 1967-1973

Percentile	1967	1973	1967-1973 Percent Change
Northeast			
15	$ 4,051.54	$ 5,487.00	35.43
30	6,251.16	8,836.18	41.35
45	7,919.25	11,851.27	51.25
60	9,722.01	14,704.50	51.25
75	12,138.96	18,489.89	52.32
90	17,640.82	25,419.12	44.09
North Central			
15	3,692.50	5,750.77	55.74
30	6,031.77	9,106.57	50.98
45	7,688.51	11,863.11	54.30
60	9,377.40	14,666.52	56.40
75	11,585.63	18,378.86	58.63
90	16,223.12	24,823.11	53.01
South			
15	2,576.74	4,267.22	65.61
30	4,439.44	6,906.79	55.58
45	6,164.64	9,636.48	56.32
60	8,024.02	12,501.14	55.80
75	10,365.33	16,372.12	57.95
90	14,706.43	23,473.86	59.62
West			
15	4,032.07	5,234.89	29.83
30	6,245.46	8,405.89	34.59
45	8,130.13	11,409.23	40.33
60	10,111.89	14,477.96	43.18
75	12,619.87	18,378.33	45.63
90	18,000.90	25,577.45	42.09

Source: Computed from Current Population Reports, Series P-60.

TABLE 76

INCOME OF TOTAL UNRELATED INDIVIDUALS, ALL RACES,
AT SELECTED PERCENTILES, BY REGION,
1967 AND 1973, AND PERCENTAGE
CHANGE, 1967-1973

Percentile	1967	1973	1967-1973 Percent Change
Northeast			
15	$ 913.92	$ 1,768.89	93.55
30	1,447.75	2,560.75	76.88
45	2,247.82	3,740.20	66.39
60	3,491.39	5,326.86	52.57
75	5,298.71	8,000.03	50.98
90	7,885.86	12,329.01	56.34
North Central			
15	550.00	1,647.78	199.60
30	1,316.46	2,545.36	93.35
45	2,006.38	3,716.52	85.24
60	3,202.40	5,434.45	69.70
75	5,126.04	8,117.41	58.36
90	7,634.69	12,409.81	62.55
South			
15	284.56	1,306.50	359.13
30	1,114.05	2,094.40	88.00
45	1,605.16	3,176.00	97.86
60	2,636.09	4,853.46	84.12
75	4,206.15	7,050.23	67.62
90	6,913.19	11,150.07	61.29
West			
15	1,038.55	1,740.26	67.57
30	1,724.51	2,653.12	53.85
45	2,482.40	3,840.63	54.71
60	4,000.01	5,539.68	38.49
75	5,897.84	8,310.93	40.91
90	8,678.08	12,634.94	45.60

Source: Computed from Current Population Reports, Series P-60.

TABLE 77

INCOME OF TOTAL WHITE FAMILIES AT SELECTED PERCENTILES,
BY REGION, 1967 AND 1973, AND PERCENTAGE
CHANGE, 1967-1973

Percentile	1967	1973	1967-1973 Percent Change
Northeast			
15	$ 4,290.41	$ 6,020.93	40.33
30	6,439.54	9,376.94	45.58
45	8,112.50	12,298.46	51.60
60	9,915.55	15,148.23	52.77
75	12,335.77	19,020.98	54.19
90	17,817.21	26,590.50	49.24
North Central			
15	3,843.08	6,165.79	60.44
30	6,137.65	9,417.89	53.44
45	7,794.51	12,182.39	56.29
60	9,464.60	14,979.56	58.27
75	11,677.02	18,631.04	59.55
90	16,259.81	25,141.31	54.62
South			
15	3,059.46	5,000.00	63.43
30	5,083.64	7,793.21	53.30
45	6,805.89	10.559.38	55.15
60	8,551.86	13,377.78	56.43
75	10,862.47	17,400.69	60.19
90	15,363.20	24,368.42	58.72
West			
15	4,163.05	5,440.00	30.67
30	6,355.27	8,676.48	36.52
45	8,235.72	11,653.35	41.50
60	10,234.09	14,646.53	43.12
75	12,752.92	18,525.78	45.27
90	18,247.32	26,129.57	43.20

Source: Computed from Current Population Reports, Series P-60.

179

TABLE 78

INCOME OF TOTAL BLACK FAMILIES AT SELECTED PERCENTILES,
BY REGION, 1967 AND 1973, AND PERCENTAGE
CHANGE, 1967-1973

Percentile	1967	1973	1967-1973 Percent Change
Northeast			
15	$ 2,544.18	$ 3,367.37	32.36
30	3,733.34	5,026.29	34.63
45	5,232.15	7,084.37	35.40
60	6,736.98	9,444.00	40.18
75	8,500.02	13,243.53	55.81
90	12,320.77	19,632.48	59.34
North Central			
15	2,422.10	3,291.37	35.89
30	4,074.00	5,301.09	30.12
45	5,960.01	8,198.31	37.56
60	7,616.41	10,921.53	43.39
75	9,611.70	14,250.76	48.26
90	12,976.79	21,498.96	65.67
South			
15	1,547.64	2,406.82	55.52
30	2,466.65	4,083.66	65.55
45	3,517.20	5,800.01	64.90
60	4,783.75	7,783.91	62.69
75	6,221.75	10,633.08	70.90
90	9,154.48	15,546.73	69.83
West			
15	2,773.84	3,309.36	19.31
30	4,357.32	5,022.44	15.26
45	5,980.00	7,409.82	23.91
60	7,884.64	10,476.08	32.87
75	10,436.05	14,148.72	35.58
90	14,732.24	20,528.21	39.34

Source: Computed from Current Population Reports, Series P-60.

TABLE 79

INCOME OF TOTAL WHITE UNRELATED INDIVIDUALS AT SELECTED
PERCENTILES, BY REGION, 1967 AND 1973, AND
PERCENTAGE CHANGE, 1967-1973

Percentile	1967	1973	1967-1973 Percent Change
Northeast			
15	$ 913.92	$ 1,795.25	96.43
30	1,444.83	2,579.89	78.56
45	2,222.12	3,731.14	67.91
60	3,537.70	5,294.41	49.66
75	5,399.48	8,021.45	48.56
90	8,034.67	12,568.25	56.43
North Central			
15	556.16	1,690.00	203.87
30	1,319.92	2,634.29	99.58
45	2,018.63	3,830.01	89.73
60	3,184.81	5,518.38	73.27
75	5,139.41	8,156.54	58.71
90	7,750.94	12,519.93	61.53
South			
15	418.42	1,450.86	246.75
30	1,215.11	2,299.73	89.26
45	1,858.51	3,530.63	89.97
60	3,043.29	5,203.12	70.97
75	4,675.64	7,333.07	56.84
90	7,410.95	11,789.60	59.08
West			
15	1,050.50	1,809.88	72.29
30	1,733.68	2,689.00	55.10
45	2,518.00	3,904.38	55.06
60	4,101.87	5,597.30	36.46
75	6,037.00	8,383.35	38.87
90	8,850.04	12,754.03	44.11

Source: Computed from Current Population Reports, Series P-60.

TABLE 80

INCOME OF TOTAL BLACK UNRELATED INDIVIDUALS AT SELECTED
PERCENTILES, BY REGION, 1967 AND 1973, AND
PERCENTAGE CHANGE, 1967-1973

Percentile	1967	1973	1967-1973 Percent Change
Northeast			
15	$ 864.42	$ 1,540.04	78.16
30	1,464.90	2,384.10	62.75
45	2,394.40	3,655.37	52.66
60	3,331.04	5,244.69	57.45
75	4,682.51	7,098.64	51.60
90	7,019.68	9,845.59	40.26
North Central			
15	568.66	1,442.67	153.70
30	1,301.29	2,177.00	67.30
45	1,939.76	2,873.26	48.12
60	3,352.08	4,809.95	43.49
75	5,138.64	7,888.19	53.51
90	6,403.47	11,566.73	80.63
South			
15	117.41	1,000.00	751.72
30	628.13	1,511.74	140.67
45	1,152.11	2,102.87	82.52
60	1,536.27	3,345.53	117.77
75	2,512.79	5.436.63	116.36
90	4,654.02	8,856.55	90.30
West			
15	864.42	1,591.72	84.14
30	1,464.90	2,475.33	68.98
45	2,394.40	3,424.88	43.04
60	3,331.04	5,341.45	60.35
75	4,682.51	7,592.52	62.15
90	7,019.68	11,287.20	60.79

Source: Computed from Current Population Reports, Series P-60.

that region.[16]   The resulting coefficients might be termed
"elasticities of quantile income response" and are presented
in summary form in Table 81.

Among total families of all races, those in the 45-75th
percentiles, the upper middle range of the distribution,
participated in the expansion more the upper and lower
extremes of the distribution with the exception of the
South, where a slightly opposite pattern seemed to prevail.

Southern and North Central families experienced
greater percentage income gains than those residing in the
Northeast and West. Among white families, the same general
pattern prevails in all regions, including the South. Here,
too, those white families in the South and North Central
regions tended to experience larger percentage income gains
than those in the West and Northeast regions during the 1967-
1973 period.

Among unrelated individuals of all races, which are,
of course, generally lower on the income scale than are
families, those income recipients located at the lower
quantiles of the distribution experienced the largest
percentage income gains during the 1967-1973 period. The
percentage income gain decreases as quantile increases, up
to the upper quantiles. The percentage gain at the 90th
percentile exceeds that of the 75th percentile in all four

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[16]The definition of "total money income" and per-
sonal income diverge somewhat, and this divergence, while a
source of error, is assumed to be minor.

TABLE 81

ELASTICITY OF QUANTILE INCOME RESPONSE, FAMILIES AND UNRELATED INDIVIDUALS, BY RACE AND REGION

	Quantile					
	15	30	45	60	75	90
Total Families, All Races						
Northeast	.70	.81	1.01	1.01	1.03	.87
North Central	.94	.86	.92	.95	.99	.90
South	.98	.83	.84	.83	.86	.89
West	.56	.65	.76	.81	.86	.79
Total White Families						
Northeast	.79	.90	1.01	1.04	1.06	.97
North Central	1.02	.90	.95	.99	1.01	.92
South	.94	.79	.82	.84	.90	.87
West	.58	.69	.78	.81	.85	.81
Total Black Families						
Northeast	.64	.68	.70	.79	1.10	1.17
North Central	.61	.51	.64	.73	.82	1.11
South	.83	.98	.97	.93	1.06	1.04
West	.36	.29	.45	.62	.67	.74
Total Unrelated Individuals, All Races						
Northeast	1.84	1.51	1.30	1.03	1.00	1.11
North Central	3.38	1.58	1.44	1.18	.99	1.06
South	5.35	1.31	1.46	1.25	1.01	.91
West	1.27	1.01	1.03	.72	.77	.86
Total White Unrelated Individuals						
Northeast	1.89	1.54	1.33	.98	.95	1.11
North Central	3.45	1.69	1.52	1.24	.99	1.04
South	3.68	1.33	1.34	1.06	.85	.88
West	1.36	1.03	.68	.73	.83	
Total Black Unrelated Individuals						
Northeast	1.54	1.23	1.03	1.13	1.02	.79
North Central	2.60	1.14	.81	.74	.91	1.36
South	11.20	2.10	1.23	1.75	1.73	1.35
West	1.58	1.29	.81	1.13	1.17	1.14

Source: Computed from Tables 53 and 73-78.

Census regions. Again, the income gains at most percentiles
in the South and North Central regions outpaced those in the
West and Northeast. The same general pattern prevails among
white unrelated individuals. The lowest quantiles experienced
the greatest gains, with percentage gain decreasing as quan-
tile increased, and the uppermost quantiles experiencing
greater gains than those immediately below them. Again,
white unrelated individuals residing in the South and North
Central regions experienced larger gains than those residing
in the West and Northeast.

The elasticities of quantile income response, pre-
sented in Table 81, assist in the comparison of regional
income experience. The percentage increase in income at
selected quantiles of the regional densities were divided
by the percentage increase in per capita total personal income
of each region (see Table 55). A 1% change in regional per
capita income resulted in a less than 1% increase in income
at most quantiles among white families. The lack of parti-
cipation in income increases is more pronounced in the South
and West. Among white families, the upper middle ranges of
distribution tend to have the larger elasticities.

Among black families, it was the upper quantiles that
experienced a large or larger percentage gains in income as
the percentage increase in per capita income for that region.
The lower quantiles not only had smaller income gains, but
the gains tended to be less than the percentage gain in per

capita income of the region. The exception is the South, where gains were generally 90-110% of that in per capita income for the region. Of course, black families residing in the South fare more poorly relative to their white counterparts than do black families residing in other parts of the nation.

The question then becomes, if the elasticity of quantile income response was generally less than unity for both white and black families, where was the impact of the increased income? The answer, of course, is that it was the unrelated individuals who experienced more than proportionate income gains. Elasticities of response tended to vary inversely with quantile; thus, it was the unrelated individuals with incomes in the lower quantiles who generally experienced more than proportional income gains. Black unrelated individuals in the South also experienced noticeably larger income gains than others. White unrelated individuals fared relatively better than black unrelated individuals in the Northeast and North Central regions; black unrelated individuals fared relatively better in the South and West.

Summary and Observations

Generally, state and regional income differentials have continued to narrow, since 1953, and in the 1967-1973 period.

The South experienced the largest gain in total personal income. Generally, the greatest degree of inequality prevailed in the South at the beginning of the period considered, and the largest regional decrease in Gini coefficients for both white and nonwhite families occurred in the South. The noticeable exception to the narrowing of regional income differentials was the West, which experienced a decline in relation to the Northeast.

The experience of the South might have been anticipated by a casual reading of Kuznets. However, there are regional trends which would not have been suggested by reading Kuznets.

The first and most salient is the increase in inequality among nonwhite families in all regions except the South.

The second is the experience of nonwhite unrelated individuals, among which income inequality appears to have increased, both in the 1953-1973 period and in the 1967-1973 period. The data suggest that, with the exception of the uppermost quantiles, those incomes at the lower quantiles experienced the larger income gains; the lower the quantile, the larger the percentage income gain. This inverse

relationship between quantile and percentage income increase
was found among both white and nonwhite unrelated individuals.

Unlike their nonwhite counterparts, white unrelated
individuals experienced decreases in Gini coefficients in all
four regions.

It is not entirely correct to say that the regional
changes in income inequality caused the national changes.
They are part of the same phenomenon, and to consider ine-
quality of income regionally is perhaps as valid as any other
viewpoint, if another angle of vision can yield additional
information. It may be that there exist a set of forces
which are regional in nature, or which have a different
impact in each region because of some factor unique to each
region.

The above has suggested that, while there were
regional trends which led to greater inequality, there were
also factors which to some extent, canceled them out. As
Alice Rivlin stated, "there is no obvious reason why they
should continue to do so."

CHAPTER VI

INEQUALITY AND TYPE OF RESIDENCE

This chapter presents the measures of inequality found
to prevail among income recipients grouped by type of resi-
dence. Gini coefficients are presented first, as a measure
of inequality and changes in inequality within the residence
classifications. This is followed by the results of the
Wohlstetter-Coleman method, and some more direct measures of
changes in individual densities. The findings of the chapter
are then summarized.

Within Group Inequality

Computed Gini coefficients for 1968-1973 for white
families, black families, and total families of all races
are given in Tables 82-84. In all types of residence con-
sidered, income is more unequally distributed among black
families than among white families. Income is most unequally
distributed among farm families, especially black farm fami-
lies. Among black families, white families, and total fami-
lies of all races, income is more unequally distributed in
central cities of metropolitan areas than outside central
cities of metropolitan areas. The distinction between
central city residence or non-central city residence appears

188

TABLE 82

GINI COEFFICIENTS, TOTAL FAMILIES, ALL RACES,
BY TYPE OF RESIDENCE, 1968-1973

	Nonfarm	Farm	Metropolitan Areas Over 1,000,000			Metropolitan Areas Under 1,000,000		
			Total	In Central Cities	Outside Central Cities	Total	In Central Cities	Outside Central Cities
1968	.3441	.3974	.3340	.3611	.3139	.3314	.3494	.3181
1969	.3485	.4129	.3413	.3587	.3176	.3393	.3545	.3218
1970	.3511	.4223	.3441	.3611	.3236	.3434	.3650	.3257
1971	.3525	.4138	.3477	.3729	.3270	.3363	.3517	.3255
1972	.3540	.3998	.3484	.3706	.3271	.3441	.3622	.3267
1973	.3501	.3998	.3460	.3704	.3263	.3405	.3604	.3254

Source: Computed from data in Current Population Reports, Series P-60.

TABLE 83

GINI COEFFICIENTS, BLACK FAMILIES,
BY TYPE OF RESIDENCE, 1968-1973

	Nonfarm	Farm	Metropolitan Areas Over 1,000,000			Metropolitan Areas Under 1,000,000		
			Total	In Central Cities	Outside Central Cities	Total	In Central Cities	Outside Central Cities
1968	.3810	.4327	.3660	.3695	.3435	.3568	.3582	.3477
1969	.3874	.4448	.3669	.3616	.3743	.3534	.3583	.3466
1970	.3943	.4062	.3709	.3699	.3515	.3906	.3922	.3692
1971	.3925	.4473	.3811	.3791	.3543	.3849	.3868	.3806
1972	.4102	.5209	.3966	.3979	.3861	.4010	.4105	.3692
1973	.3992	.4881	.3993	.3987	.3801	.3926	.3962	.3744

Source: Computed from Current Population Reports, Series P-60.

TABLE 84

GINI COEFFICIENTS, WHITE FAMILIES,
BY TYPE OF RESIDENCE, 1968-1973

	Nonfarm	Farm	Metropolitan Areas Over 1,000,000			Metropolitan Areas Under 1,000,000		
			Total	In Central Cities	Outside Central Cities	Total	In Central Cities	Outside Central Cities
1968	.3341	.3872	.3263	.3447	.3121	.3280	.3371	.3133
1969	.3375	.4024	.3301	.3501	.3128	.3276	.3460	.3155
1970	.3433	.4099	.3202	.3512	.3192	.3306	.3514	.3211
1971	.3428	.4038	.3347	.3553	.3268	.3304	.3407	.3179
1972	.3452	.3907	.3334	.3526	.3223	.3345	.3457	.3260
1973	.3399	.3912	.3331	.3553	.3218	.3302	.3418	.3184

Source: Computed from Current Population Reports, Series P-60.

to be significant. There is little difference in total
inequality between metropolitan areas with more than one
million population and those with less than one million
population.

During the period under study, there was a slight
increase in inequality among white families in each type of
residence classification. The increase ranged from 1.6%
increase in the Gini coefficient computed for white families
residing outside central cities in metropolitan areas with
less than one million population to a 3.1% increase in the
Gini coefficient computed for white families residing out-
side central cities of metropolitan areas with more than one
million population.

The increase is greater among black families. The
percentage increase in the Gini coefficient among black fami-
lies classified by type of residence ranged from 4.78% among
black nonfarm families to 12.82% among black farm families.
In metropolitan areas, the increase ranged from 7.67% to
10.65%. This is in contrast to the -0.42% decrease in the
Gini coefficient for total black families for the 1967-1973
period.

The above again illustrates a paradox often encountered
in working with Gini coefficients; the percentage increase
in the Gini coefficient for subgroups was greater than that
for the group as a whole, suggesting that while income may
have become more unequally distributed within the subgroups,
the income densities of the separate subgroups tended to move
closer together.

Ratio of Income at Quantiles Comparison

The base density chosen for comparison of income densities within types of residence was that of total non-farm families. Since this density is an aggregation, this choice does entail problems of changes in composition, but these were assumed to be minimal, since the groups are less likely to effect abrupt changes in residence, especially for the short period under consideration.

The change in the distribution of the inhabitants by type of residence is given in Table 85. Some changes are apparent, and they do seem minimal (although this is a subjective interpretation). Briefly, more of the population resided in metropolitan areas with more than one million population in 1973 than in 1968 (38.4% vs. 34.8%), and most of the incremental families resided outside of the central city. This is perhaps the most salient trend. There was a relative decrease in total families residing in metropolitan areas with less than one million population, and this decrease occurred in the central city area; the number of those residing outside the central city increased, both absolutely and relatively. Interestingly, while there was a relative decrease in total families residing in metropolitan areas with less than one million population, relatively more black families resided in the smaller metropolitan areas in 1973 than in 1968, and this increase took place outside the central city area. Among black families, this is the most

TABLE 85

PERCENT DISTRIBUTION OF FAMILIES, BY TYPE OF
RESIDENCE AND RACE, 1968 AND 1973

	AR		White		Black	
	1968	1973	1968	1973	1968	1973
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Nonfarm	94.8	95.3	94.5	95.1	96.6	97.5
Farm	5.2	4.6	5.4	4.9	3.4	2.5
Total Met. Areas Greater Than One Million	34.8	38.4	33.6	37.2	45.9	48.7
Inside Central Cities	14.9	15.4	12.5	12.6	37.3	38.7
Outside Central Cities	19.9	23.1	21.1	24.6	8.7	9.9
Total Met. Areas Under One Million	29.7	29.3	29.9	29.4	27.3	27.7
Inside Central Cities	14.2	13.7	13.5	12.9	21.6	20.5
Outside Central Cities	15.4	15.6	16.4	16.5	5.7	7.2
Other-Outside Met. Area	35.4	32.2	36.4	33.4	26.8	23.6

Source: Computed from data in Current Population Reports,
Series P-60.

important change. Among white families, the largest relative
movement was into the suburbs of metropolitan areas with more
than one million population. Using Wohlstetter and Coleman's
method, the income densities of families in the following
residence classes were compared to the base income density:

1) Farm families

2) Families in metropolitan areas over one million popu-
   lation   ·

3) Families residing in central cities in metropolitan
   areas of more than one million population

4) Families residing outside central cities of metropoli-
   tan areas of over one million population

5) Total families residing in metropolitan areas with
   less than one million population

6) Families residing in central cities of metropolitan
   areas with less than one million population

7) Families residing outside central cities of metropoli-
   tan areas with less than one million population.

This was done for the income densities of total families of
all races, white families only, and black families only.

Farm Families

Among farm families, the computed value of R generally
increases as quantile increases. This is true for all three
racial classifications, indicating that income is more
unequally distributed among farm families than among nonfarm
families. This is, of course, consistent with the relative

TABLE 86

VALUES OF R COMPUTED FOR TOTAL FAMILIES, ALL RACES,
WITH FARM RESIDENCE, 1968-1973
(BASE DENSITY: TOTAL NONFARM FAMILIES, ALL RACES)

Per-centile	1968	1969	1970	1971	1972	1973
10	0.515	0.568	0.503	0.575	0.674	0.742
15	0.565	0.562	0.550	0.587	0.712	0.778
20	0.572	0.582	0.571	0.598	0.728	0.763
25	0.580	0.581	0.583	0.628	0.721	0.759
30	0.588	0.594	0.595	0.633	0.731	0.764
35	0.598	0.614	0.622	0.644	0.742	0.772
40	0.624	0.631	0.647	0.658	0.754	0.790
45	0.640	0.645	0.668	0.673	0.769	0.804
50	0.657	0.664	0.673	0.691	0.791	0.824
55	0.673	0.685	0.690	0.706	0.796	0.834
60	0.690	0.712	0.707	0.722	0.806	0.849
65	0.704	0.723	0.713	0.744	0.812	0.859
70	0.712	0.738	0.739	0.758	0.824	0.871
75	0.717	0.759	0.747	0.764	0.834	0.899
80	0.735	0.771	0.743	0.760	0.864	0.906
85	0.758	0.751	0.757	0.780	0.862	0.936
90	0.737	0.731	0.769	0.803	0.904	0.978
95	0.745	0.803	0.846	0.876	0.853	0.945

Source: Computed from Current Population Reports, Series P-60.

TABLE 87

VALUES OF R COMPUTED FOR TOTAL WHITE FAMILIES
WITH FARM RESIDENCE, 1968-1973
(BASE DENSITY: TOTAL WHITE NONFARM FAMILIES)

Per-centile	1968	1969	1970	1971	1972	1973
10	0.567	0.551	0.500	0.547	0.657	0.748
15	0.566	0.541	0.552	0.571	0.686	0.759
20	0.573	0.563	0.568	0.588	0.695	0.749
25	0.579	0.578	0.588	0.614	0.698	0.750
30	0.594	0.592	0.607	0.628	0.716	0.751
35	0.611	0.611	0.630	0.638	0.722	0.764
40	0.633	0.629	0.655	0.653	0.735	0.785
45	0.648	0.648	0.666	0.667	0.762	0.797
50	0.663	0.661	0.677	0.684	0.780	0.819
55	0.679	0.686	0.697	0.695	0.788	0.831
60	0.695	0.712	0.705	0.715	0.796	0.842
65	0.709	0.723	0.716	0.739	0.801	0.850
70	0.713	0.744	0.740	0.744	0.810	0.866
75	0.720	0.756	0.748	0.741	0.824	0.900
80	0.740	0.759	0.739	0.746	0.853	0.897
85	0.751	0.748	0.758	0.757	0.848	0.938
90	0.739	0.726	0.771	0.791	0.896	0.976
95	0.754	0.825	0.840	0.825	0.843	0.947

Source: Computed from Current Population Reports, Series P-60.

TABLE 88

VALUES OF R COMPUTED FOR TOTAL BLACK FAMILIES
WITH FARM RESIDENCE, 1968-1973
(BASE DENSITY: TOTAL BLACK NONFARM FAMILIES)

Per-centile	1968	1969	1970	1971	1972	1973
10	0.259	0.446	0.489	0.637	0.643	0.710
15	0.452	0.486	0.487	0.617	0.631	0.629
20	0.429	0.464	0.469	0.580	0.598	0.582
25	0.421	0.474	0.485	0.539	0.599	0.611
30	0.418	0.478	0.495	0.510	0.520	0.617
35	0.445	0.485	0.474	0.498	0.606	0.614
40	0.464	0.495	0.465	0.496	0.588	0.641
45	0.485	0.506	0.470	0.506	0.575	0.648
50	0.503	0.504	0.474	0.497	0.567	0.627
55	0.506	0.492	0.456	0.504	0.567	0.611
60	0.487	0.483	0.447	0.537	0.557	0.632
65	0.475	0.486	0.446	0.534	0.564	0.660
70	0.470	0.503	0.453	0.527	0.604	0.678
75	0.475	0.538	0.468	0.564	0.633	0.717
80	0.494	0.556	0.486	0.617	0.656	0.845
85	0.536	0.605	0.485	0.684	0.707	0.890
90	0.538	0.586	0.469	0.699	0.875	0.906
95	0.574	0.693	0.420	0.690	0.986	0.948

Source: Computed from Current Population Reports, Series P-60.

ranking of Gini coefficients. In all cases the computed value of R is less than unity, and it is generally more less than unity for black families than for white families; this is especially true at the beginning of the period under consideration.

For farm families of all races, the value of R in 1973 is generally 25-30% greater than in 1968, indicating a marked improvement in the relative position of this density relative to that of total nonfarm families. Most of this improvement takes place during 1971-1973. Since most of the recent rapid increase in farm prices occurred in 1972-1973 rather than in 1971-1973, the improvement in the relative income position of farm families preceded the recent increase in farm prices.

TABLE 89

PERCENTAGE INCREASE IN COMPUTED VALUE OF R FOR FARM FAMILIES
RELATIVE TO BASE DENSITY AT SELECTED QUANTILES, 1970-1973

Quantile	20	40	60	80
Total Families All Races	33.6	22.1	19.4	21.9
White Families	31.9	19.8	19.4	21.4
Black Families	24.1	37.8	34.0	73.9

Source: Computed from Tables 86-88.

Table 89, above, gives the percentage increase in the value of R at selected percentiles for the period 1970-1973. For white farm families, the percentage increase was

greatest at the lower and upper quantiles. The increase in
R with percentile was greater (i.e., the regression coef-
ficient of R on p) in 1970 than in 1968 or 1973, indicating
that, although the income of farm families was greater rela-
tive to that of nonfarm white families in 1970 than in 1968,
income was also more unequally distributed relative to the
base density in 1970.

Among black farm families the improvement in income
position relative to total black nonfarm families is greater
than that among white families. The results also indicate
that it was those families in the upper quantiles, and in the
very lowest quantiles, who experienced the greatest relative
income improvement. (Again, it should be remembered that an
increase in income cannot be equated with an increase (or
decrease) in inequality.)

Metropolitan Areas with More Than One Million Population

The computed values of R for the comparison with
this type of residence are given in Tables 90-98. For all
three racial aggregations, the computed value of R is greater
than unity, and it decreases as quantile increases. This
indicates that income of all families in metropolitan areas
with more than one million population is greater, at any
quantile, than that of total nonfarm families, and that
income is more equally distributed among all families
residing in metropolitan areas with more than one million

TABLE 90

VALUES OF R COMPUTED FOR TOTAL FAMILIES, ALL RACES,
RESIDING IN METROPOLITAN AREAS WITH ONE MILLION
OR MORE POPULATION, 1968-1973
(BASE DENSITY: TOTAL NONFARM FAMILIES, ALL RACES)

Per-centile	1968	1969	1970	1971	1972	1973
10	1.174 .	1.209	1.224	1.151	1.131	1.097
15	1.200	1.189	1.194	1.146	1.119	1.098
20	1.186	1.177	1.183	1.155	1.120	1.119
25	1.173	1.168	1.177	1.151	1.121	1.117
30	1.159	1.150	1.167	1.134	1.121	1.121
35	1.143	1.142	1.161	1.136	1.118	1.123
40	1.136	1.135	1.157	1.134	1.113	1.117
45	1.131	1.133	1.142	1.120	1.108	1.120
50	1.134	1.123	1.132	1.117	1.113	1.106
55	1.129	1.118	1.137	1.122	1.100	1.118
60	1.122	1.123	1.130	1.114	1.109	1.118
65	1.127	1.117	1.126	1.119	1.114	1.111
70	1.122	1.116	1.127	1.129	1.113	1.091
75	1.119	1.122	1.147	1.141	1.088	1.105
80	1.126	1.149	1.129	1.109	1.107	1.102
85	1.166	1.114	1.140	1.136	1.084	1.077
90	1.151	1.103	1.102	1.089	1.056	1.139
95	1.082	1.096	1.186	1.184	1.115	1.159

Source: Computed from Current Population Reports, Series P-60.

TABLE 91

VALUES OF R COMPUTED FOR TOTAL WHITE FAMILIES RESIDING
IN METROPOLITAN AREAS WITH ONE MILLION OR MORE
POPULATION, 1968-1973
(BASE DENSITY: TOTAL WHITE NONFARM FAMILIES)

Per-centile	1968	1969	1970	1971	1972	1973
10	1.243	1.209	1.222	1.155	1.148	1.144
15	1.228	1.199	1.214	1.162	1.145	1.144
20	1.200	1.191	1.211	1.178	1.144	1.144
25	1.182	1.172	1.204	1.159	1.137	1.142
30	1.165	1.153	1.182	1.162	1.133	1.148
35	1.150	1.149	1.165	1.153	1.127	1.133
40	1.148	1.152	1.159	1.134	1.117	1.144
45	1.146	1.140	1.149	1.123	1.132	1.124
50	1.139	1.128	1.148	1.132	1.120	1.128
55	1.133	1.133	1.147	1.125	1.121	1.135
60	1.134	1.132	1.137	1.126	1.129	1.129
65	1.136	1.129	1.136	1.132	1.131	1.113
70	1.131	1.128	1.147	1.144	1.117	1.098
75	1.126	1.148	1.161	1.133	1.101	1.127
80	1.149	1.151	1.129	1.127	1.125	1.107
85	1.161	1.139	1.153	1.128	1.089	1.082
90	1.161	1.111	1.099	1.085	1.102	1.164
95	1.081	1.158	1.192	1.160	1.178	1.168

Source: Computed from Current Population Reports, Series P-60.

TABLE 92

VALUES OF R COMPUTED FOR TOTAL BLACK FAMILIES RESIDING
IN METROPOLITAN AREAS WITH ONE MILLION OR MORE
POPULATION, 1968-1973
(BASE DENSITY: TOTAL BLACK NONFARM FAMILIES)

Per-centile	1968	1969	1970	1971	1972	1973
10	1.246	1.283	1.307	1.155	1.133	1.176
15	1.230	1.246	1.290	1.151	1.143	1.148
20	1.178	1.209	1.305	1.180	1.143	1.124
25	1.196	1.242	1.309	1.169	1.159	1.114
30	1.220	1.203	1.267	1.157	1.152	1.120
35	1.227	1.201	1.220	1.162	1.140	1.127
40	1.228	1.214	1.201	1.177	1.145	1.129
45	1.237	1.205	1.206	1.181	1.150	1.128
50	1.235	1.193	1.205	1.157	1.134	1.129
55	1.215	1.193	1.194	1.136	1.173	1.152
60	1.195	1.185	1.188	1.135	1.154	1.155
65	1.169	1.171	1.172	1.151	1.134	1.140
70	1.161	1.141	1.147	1.137	1.127	1.144
75	1.168	1.141	1.126	1.130	1.112	1.140
80	1.137	1.139	1.121	1.131	1.100	1.151
85	1.127	1.132	1.109	1.126	1.113	1.160
90	1.118	1.107	1.144	1.145	1.094	1.153
95	1.170	1.126	1.112	1.112	1.076	1.092

Source: Computed from Current Population Reports, Series P-60.

TABLE 93

VALUES OF R COMPUTED FOR TOTAL FAMILIES, ALL RACES, RESIDING
IN CENTRAL CITIES OF METROPOLITAN AREAS WITH MORE
THAN ONE MILLION POPULATION, 1968-1973
(BASE DENSITY: TOTAL NONFARM FAMILIES, ALL RACES)

Per-centile	1968	1969	1970	1971	1972	1973
10	0.969	0.975	0.998	0.921	0.913	0.897
15	0.958	0.955	0.982	0.927	0.902	0.876
20	0.958	0.942	0.968	0.929	0.892	0.869
25	0.966	0.936	0.958	0.934	0.888	0.874
30	0.973	0.941	0.948	0.937	0.898	0.882
35	0.969	0.959	0.960	0.941	0.904	0.892
40	0.977	0.960	0.980	0.948	0.915	0.908
45	0.978	0.960	0.989	0.963	0.923	0.933
50	0.978	0.970	0.990	0.974	0.938	0.935
55	0.987	0.977	0.994	0.977	0.942	0.952
60	0.995	0.982	0.994	0.983	0.955	0.955
65	0.999	0.988	0.997	0.990	0.955	0.964
70	1.003	0.993	1.003	0.997	0.960	0.971
75	1.007	0.999	1.008	1.007	0.963	0.979
80	1.011	1.009	1.016	1.007	0.973	0.977
85	1.026	1.009	1.015	1.012	0.969	0.988
90	1.019	1.014	1.025	1.011	0.983	0.997
95	1.024	1.013	1.063	1.039	0.973	0.987

Source: Computed from Current Population Reports, Series P-60.

TABLE 94

VALUES OF R COMPUTED FOR TOTAL WHITE FAMILIES RESIDING
IN CENTRAL CITIES OF METROPOLITAN AREAS WITH MORE
THAN ONE MILLION POPULATION, 1968-1973
(BASE DENSITY: TOTAL WHITE NONFARM FAMILIES)

Per-centile	1969	1969	1970	1971	1972	1973
10	1.024	0.996	1.056	0.990	1.008	0.979
15	1.019	0.973	1.018	0.992	0.975	0.947
20	1.013	0.969	1.011	0.996	0.968	0.939
25	1.017	0.977	1.005	0.997	0.968	0.943
30	1.019	0.986	1.014	1.003	0.969	0.954
35	1.013	0.985	1.022	1.012	0.964	0.969
40	1.014	0.991	1.029	1.015	0.971	0.986
45	1.017	1.000	1.037	·1.017	0.986	0.990
50	1.019	1.012	1.031	1.021	0.992	0.997
55	1.031	1.014	1.038	1.026	0.998	1.004
60	1.029	1.022	1.039	1.029	1.001	1.010
65	1.036	1.027	1.040	1.038	1.005	1.014
70	1.040	1.029	1.048	1.040	1.009	1.014
75	1.036	1.034	1.067	1.052	1.010	1.015
80	1.037	1.055	1.059	1.040	1.019	1.024
85	1.064	1.041	1.075	1.053	1.019	1.023
90	1.066	1.050	1.056	1.037	1.019	1.063
95	1.045	1.059	1.132	1.075	1.053	1.076

Source: Computed from Current Population Reports, Series P-60.

TABLE 95

VALUES OF R COMPUTED FOR TOTAL BLACK FAMILIES RESIDING
IN CENTRAL CITIES OF METROPOLITAN AREAS WITH MORE
THAN ONE MILLION POPULATION, 1968-1973
(BASE DENSITY: TOTAL BLACK NONFARM FAMILIES)

Per-centile	1968	1969	1970	1971	1972	1973
10	1.237	1.278	1.257	1.119	1.100	1.147
15	1.224	1.241	1.254	1.112	1.091	1.112
20	1.170	1.186	1.244	1.130	1.088	1.089
25	1.177	1.222	1.263	1.116	1.100	1.074
30	1.200	1.180	1.236	1.092	1.091	1.093
35	1.198	1.171	1.180	1.094	1.084	1.093
40	1.197	1.173	1.159	1.111	1.075	1.091
45	1.199	1.165	1.158	1.112	1.074	1.095
50	1.188	1.157	1.160	1.110	1.072	1.083
55	1.178	1.155	1.157	1.088	1.098	1.094
60	1.164	1.148	1.155	1.079	1.103	1.110
65	1.141	1.139	1.136	1.077	1.087	1.092
70	1.119	1.102	1.115	1.077	1.078	1.095
75	1.131	1.097	1.088	1.066	1.069	1.090
80	1.103	1.091	1.076	1.069	1.060	1.095
85	1.091	1.087	1.066	1.071	1.065	1.117
90	1.099	1.068	1.087	1.089	1.045	1.106
95	1.163	1.062	1.079	1.071	1.039	1.069

Source: Computed from Current Population Reports, Series P-60.

TABLE 96

VALUES OF R COMPUTED FOR TOTAL FAMILIES, ALL RACES, RESIDING
OUTSIDE CENTRAL CITIES OF METROPOLITAN AREAS WITH MORE
THAN ONE MILLION POPULATION, 1968-1973
(BASE DENSITY: TOTAL NONFARM FAMILIES, ALL RACES)

Per-centile	1968	1969	1970	1971	1972	1973
10	1.463	1.491	1.468	1.410	1.381	1.338
15	1.460	1.468	1.445	1.393	1.371	1.376
20	1.401	1.413	1.405	1.368	1.358	1.349
25	1.349	1.355	1.363	1.330	1.336	1.335
30	1.307	1.319	1.320	1.301	1.311	1.301
35	1.271	1.292	1.298	1.279	1.268	1.289
40	1.257	1.265	1.268	1.241	1.257	1.250
45	1.246	1.239	1.251	1.233	1.234	1.238
50	1.226	1.232	1.235	1.219	1.225	1.225
55	1.221	1.218	1.226	1.211	1.216	1.221
60	1.209	1.212	1.217	1.207	1.217	1.206
65	1.205	1.206	1.206	1.210	1.208	1.183
70	1.196	1.202	1.223	1.215	1.189	1.171
75	1.181	1.218	1.221	1.208	1.175	1.185
80	1.213	1.220	1.203	1.195	1.185	1.162
85	1.223	1.197	1.203	1.196	1.137	1.123
90	1.201	1.151	1.139	1.126	1.155	1.206
95	1.096	1.185	1.243	1.262	1.232	1.224

Source: Computed from Current Population Reports, Series P-60.

TABLE 97

VALUES OF R COMPUTED FOR TOTAL WHITE FAMILIES RESIDING
OUTSIDE CENTRAL CITIES OF METROPOLITAN AREAS WITH
MORE THAN ONE MILLION POPULATION, 1968-1973
(BASE DENSITY: TOTAL WHITE NONFARM FAMILIES)

Per-centile	1968	1969	1970	1971	1972	1973
10	1.442	1.141	1.375	1.289	1.267	1.288
15	1.400	1.383	1.364	1.286	1.279	1.299
20	1.334	1.336	1.340	1.274	1.272	1.277
25	1.281	1.295	1.302	1.247	1.258	1.274
30	1.261	1.263	1.271	1.236	1.240	1.245
35	1.239	1.241	1.250	1.220	1.211	1.232
40	1.222	1.225	1.222	1.192	1.207	1.216
45	1.219	1.206	1.219	1.183	1.202	1.200
50	1.198	1.195	1.207	1.183	1.192	1.198
55	1.197	1.193	1.198	1.174	1.191	1.196
60	1.192	1.185	1.190	1.173	1.196	1.180
65	1.186	1.183	1.184	1.184	1.185	1.155
70	1.183	1.187	1.199	1.185	1.159	1.158
75	1.176	1.201	1.202	1.164	1.158	1.175
80	1.209	1.189	1.180	1.167	1.166	1.143
85	1.208	1.182	1.187	1.154	1.116	1.127
90	1.199	1.134	1.119	1.100	1.150	1.206
95	1.125	1.188	1.218	1.196	1.224	1.213

Source: Computed from Current Population Reports, Series P-60.

TABLE 98

VALUES OF R COMPUTED FOR TOTAL BLACK FAMILIES RESIDING
OUTSIDE CENTRAL CITIES OF METROPOLITAN AREAS WITH
MORE THAN ONE MILLION POPULATION, 1968-1973
(BASE DENSITY: TOTAL BLACK NONFARM FAMILIES)

Per-centile	1968	1969	1970	1971	1972	1973
10	1.328	1.285	1.553	1.287	1.452	1.396
15	1.270	1.255	1.584	1.361	1.423	1.369
20	1.296	1.329	1.538	1.492	1.482	1.302
25	1.326	1.341	1.525	1.493	1.527	1.254
30	1.385	1.343	1.495	1.460	1.517	1.275
35	1.428	1.405	1.454	1.457	1.491	1.315
40	1.472	1.397	1.420	1.418	1.445	1.333
45	1.465	1.369	1.414	1.388	1.448	1.392
50	1.409	1.350	1.420	1.396	1.433	1.380
55	1.366	1.367	1.378	1.418	1.410	1.366
60	1.377	1.352	1.359	1.406	1.375	1.355
65	1.385	1.339	1.353	1.400	1.339	1.333
70	1.348	1.323	1.343	1.372	1.307	1.340
75	1.322	1.316	1.324	1.348	1.272	1.336
80	1.277	1.287	1.319	1.342	1.282	1.323
85	1.241	1.246	1.324	1.326	1.279	1.323
90	1.182	1.266	1.321	1.299	1.278	1.278
95	1.250	1.249	1.199	1.186	1.298	1.255

Source: Computed from Current Population Reports, Series P-60.

population than among total nonfarm families in the correspond-
ing racial classification.

The salient change of the period is a decline in the
computed value of R at the lower quantiles, indicating a
decline in their income position relative to the base density,
and an increase in inequality relative to the base density.
This change took place among both white and black families,
but it is more marked among black families, as shown in
Table 99.

TABLE 99

COMPUTED VALUES OF R FOR FAMILIES IN METROPOLITAN AREAS
WITH MORE THAN ONE MILLION POPULATION AT SELECTED
PERCENTILES, AND PERCENTAGE CHANGE, 1968-1973

Race	Percentile	1968	1973	Percent Change 1968-1973
All Races	15	1.200	1.098	-8.5%
	25	1.173	1.117	-4.8
	35	1.143	1.123	-1.7
	45	1.131	1.120	-1.0
White	15	1.228	1.144	-6.8
	25	1.182	1.142	-3.4
	35	1.150	1.133	-1.5
	45	1.146	1.124	-1.9
Black	15	1.230	1.148	-6.7
	25	1.196	1.114	-6.9
	35	1.227	1.127	-8.1
	45	1.237	1.128	-8.8

Source: Tables 90-92 .

The application of Wohlstetter and Coleman's method to the
income densities of families of each racial classification

residing inside and outside central cities of metropolitan
areas with more than one million population further eluci-
dates the structure and changes noted above.

Among families of all races, and among white families,
the value of R computed for families residing inside central
cities of metropolitan areas increases as quantile increases,
indicating greater dispersion among families with this type
of residence than among nonfarm families. In addition, the
computed value of R is generally slightly below unity at the
lower quantiles, and slightly above unity at the upper
quantiles.

The same structure, however, is not apparent among
black families residing in central cities of large metropoli-
tan areas. The computed value of R is always greater than
unity, and decreases as quantile increases. Thus, in con-
trast to many of their white counterparts, black families
residing in central cities earn more than nonfarm black
families at the same percentile, and income is distributed
more equally among black families residing in central cities
than among total black nonfarm families. The greater likeli-
hood of black families residing in central cities of metro-
politan areas is associated with higher and more equally
distributed income, relative to total black nonfarm families
received by those with a central city residence.

Among both white and black central city families,
however, there is a deterioration in their relative position

over the period under study. Among white families, the
greatest decrease in R occurs in 1972, and by 1973 it ranges
between 0.93 and 1.08 vs. 1.01 and 1.07 in 1968. Among
black families, the deterioration begins a year earlier, and
is greater at the lower quantiles. However, the value of R
for black families residing in central cities is still
greater than unity at the end of the period, ranging between
1.06 and 1.15 in 1973.

White families living outside central cities of metro-
politan areas generally receive 15-30% more income than total
white nonfarm families, and the computed value of R decreases
as quantile increases. The computed value of R generally
reaches its peak value in 1970, and its minimum in 1971. The
1973 value is less than the 1968 value, indicating a deteri-
orating, yet still superior income position of white families
living outside central cities; additionally, income is dis-
tributed more equally among this group than among total
white nonfarm families.

In contrast to their white counterparts, black fami-
lies living outside the central city received 20-55% more
than total black nonfarm families; the computed value of R
increases as quantile increases through the middle range of
the density, and then, unlike the behavior of R for white
families, decreases.

Metropolitan Areas with Less than One
Million Population

There are differences in the changes in relative
income in the smaller metropolitan areas. White families
both inside and outside the central city generally maintained
their position relative to total white nonfarm families.
White families in the larger metropolitan areas, but not in
the smaller metropolitan areas, were relatively worse off
in 1973 than in 1968.

Black families, however, generally experience a
deterioration during the 1968-1973 period, especially at
the lower quantiles. Outside of the smaller metropolitan
areas, those black families whose incomes place them in the
lower half of the distribution experience a deterioration
of position, while those families whose incomes place them
in the top half enjoyed a better position in 1973 than in
1968.

Thus, white families residing in larger metropolitan
areas (but not those residing in smaller metropolitan areas)
experienced a deterioration of position. Black families at
the lower quantiles or in central cities of both larger and
smaller metropolitan areas also generally experienced a
deterioration of relative position, while black families at
the 50th percentile and above outside central cities of the
smaller metropolitan areas (and at the 80th percentile and
above outside central cities of larger metropolitan areas)
experienced an improvement of relative position.

TABLE 100

VALUES OF R COMPUTED FOR TOTAL FAMILIES, ALL RACES, RESIDING
IN METROPOLITAN AREAS WITH LESS THAN ONE MILLION
POPULATION, 1968-1973
(BASE DENSITY: TOTAL NONFARM FAMILIES, ALL RACES)

Per-centile	1968	1969	1970	1971	1972	1973
10	1.048	1.069	1.017	1.070	1.048	1.024
15	1.045	1.059	1.021	1.063	1.045	1.027
20	1.041	1.050	1.023	1.053	1.057	1.018
25	1.032	1.041	1.027	1.043	1.042	1.012
30	1.018	1.037	1.026	1.031	1.034	1.014
35	1.014	1.026	1.025	1.028	1.033	1.013
40	1.012	1.015	1.019	1.026	1.024	1.007
45	1.009	1.010	1.012	1.016	1.014	1.002
50	1.008	1.009	1.009	1.007	1.012	0.997
55	1.004	1.004	1.007	1.003	1.006	0.994
60	1.001	1.000	1.006	0.999	1.001	0.990
65	0.999	0.996	1.003	0.995	0.995	0.986
70	0.997	0.992	0.999	0.989	0.986	0.987
75	0.993	0.989	0.996	0.984	0.988	0.987
80	0.988	0.988	0.989	0.980	0.990	0.979
85	0.979	0.980	0.989	0.981	0.985	0.981
90	0.973	0.973	0.982	0.979	0.988	0.983
95	0.967	0.980	0.983	0.961	0.973	0.938

Source: Computed from Current Population Reports, Series P-60.

TABLE 101

VALUES OF R COMPUTED FOR TOTAL WHITE FAMILIES RESIDING
IN METROPOLITAN AREAS WITH LESS THAN ONE MILLION
POPULATION, 1968-1973
(BASE DENSITY: TOTAL WHITE NONFARM FAMILIES)

Per-centile	1968	1969	1970	1971	1972	1973
10	1.050	1.030	1.032	1.052	1.041	1.055
15	1.035	1.046	1.040	1.035	1.046	1.038
20	1.026	1.048	1.041	1.032	1.042	1.019
25	1.023	1.039	1.043	1.027	1.033	1.020
30	1.018	1.022	1.030	1.018	1.029	1.020
35	1.011	1.019	1.018	1.011	1.023	1.015
40	1.013	1.013	1.017	1.002	1.016	1.005
45	1.011	1.008	1.013	0.996	1.011	0.999
50	1.008	1.008	1.008	0.993	1.008	0.996
55	1.007	1.003	1.006	0.988	1.002	0.992
60	1.004	1.000	1.003	0.985	0.997	0.990
65	1.003	0.995	1.000	0.983	0.992	0.987
70	1.001	0.994	0.995	0.976	0.986	0.987
75	0.998	0.991	0.992	0.961	0.988	0.988
80	0.993	0.981	0.986	0.968	0.986	0.981
85	0.979	0.985	0.987	0.954	0.987	0.982
90	0.985	0.981	0.979	0.964	0.991	0.980
95	0.982	0.987	0.964	0.899	0.983	0.921

Source: Computed from Current Population Reports, Series P-60.

TABLE 102

VALUES OF R COMPUTED FOR TOTAL BLACK FAMILIES RESIDING
IN METROPOLITAN AREAS WITH LESS THAN ONE MILLION
POPULATION, 1968-1973
(BASE DENSITY: TOTAL BLACK NONFARM FAMILIES)

Per-centile	1968	1969	1970	1971	1972	1973
10	1.085	1.130	0.988	0.910	0.982	0.920
15	1.045	1.174	0.984	0.955	1.001	0.904
20	1.085	1.130	0.992	0.959	0.994	0.932
25	1.053	1.143	1.006	0.933	1.006	0.943
30	1.043	1.113	0.994	0.951	0.994	0.955
35	1.029	1.107	0.988	0.961	0.983	0.957
40	1.018	1.081	0.992	0.970	0.991	0.966
45	1.009	1.071	0.999	0.963	1.001	0.968
50	1.005	1.039	0.996	0.960	0.987	0.966
55	1.001	1.025	0.985	0.955	0.975	0.964
60	0.986	1.006	0.980	0.957	0.957	0.955
65	0.980	0.990	0.978	0.961	0.975	0.949
70	0.975	0.984	0.978	0.962	0.990	0.960
75	0.969	0.987	0.976	0.958	0.996	0.963
80	0.952	0.980	0.977	0.951	0.994	0.961
85	0.951	0.977	0.977	0.941	0.987	0.949
90	0.932	0.980	0.978	0.918	0.973	0.945
95	0.936	0.991	0.938	0.911	0.949	0.942

Source: Computed from Current Population Reports, Series P-60.

TABLE 103

VALUES OF R COMPUTED FOR TOTAL FAMILIES, ALL RACES, RESIDING
IN CENTRAL CITIES OF METROPOLITAN AREAS WITH LESS
THAN ONE MILLION POPULATION, 1968-1973
(BASE DENSITY: TOTAL NONFARM FAMILIES, ALL RACES)

Per-centile	1968	1969	1970	1971	1972	1973
10	0.945	0.944	0.908	0.959	0.909	0.894
15	0.925	0.943	0.906	0.968	0.903	0.889
20	0.917	0.944	0.911	0.966	0.911	0.896
25	0.932	0.940	0.912	0.961	0.932	0.896
30	0.934	0.940	0.913	0.952	0.933	0.899
35	0.927	0.951	0.927	0.951	0.941	0.906
40	0.940	0.942	0.940	0.951	0.954	0.911
45	0.936⁻	0.940	0.941	0.958	0.952	0.924
50	0.944	0.948	0.942	0.961	0.952	0.922
55	0.959	0.946	0.957	0.958	0.949	0.936
60	0.957	0.953	0.954	0.953	0.954	0.933
65	0.963	0.950	0.958	0.952	0.948	0.934
70	0.958	0.949	0.964	0.949	0.947	0.934
75	0.954	0.952	0.962	0.950	0.944	0.945
80	0.954	0.959	0.947	0.937	0.959	0.929
85	0.952	0.945	0.962	0.955	0.951	0.942
90	0.938	0.939	0.957	0.959	0.970	0.957
95	0.948	0.967	0.975	0.960	0.951	0.903

Source: Computed from Current Population Reports, Series P-60.

TABLE 104

VALUES OF R COMPUTED FOR TOTAL WHITE FAMILIES RESIDING
IN CENTRAL CITIES OF METROPOLITAN AREAS WITH LESS
THAN ONE MILLION POPULATION, 1968-1973
(BASE DENSITY: TOTAL WHITE NONFARM FAMILIES)

Per centile	1968	1969	1970	1971	1972	1973
10	0.965	0.936	0.945	1.000	0.937	0.935
15	0.941	0.942	0.936	0.981	0.942	0.934
20	0.946	0.947	0.937	0.972	0.977	0.931
25	0.946	0.955	0.941	0.959	0.973	0.933
30	0.955	0.960	0.951	0.960	0.980	0.940
35	0.956	0.951	0.953	0.960	0.980	0.940
40	0.952	0.957	0.954	0.961	0.975	0.951
45	0.963	0.958	0.962	0.956	0.978	0.945
50	0.969	0.955	0.967	0.963	0.971	0.956
55	0.973	0.965	0.968	0.953	0.972	0.958
60	0.979	0.962	0.969	0.952	0.972	0.955
65	0.976	0.965	0.971	0.955	0.967	0.951
70	0.975	0.967	0.969	0.949	0.957	0.958
75	0.972	0.967	0.973	0.935	0.969	0.965
80	0.967	0.958	0.962	0.943	0.975	0.950
85	0.946	0.964	0.972	0.939	0.979	0.960
90	0.956	0.958	0.968	0.959	0.991	0.964
95	0.965	0.975	0.964	0.922	0.993	0.906

Source: Computed from Current Population Reports, Series P-60.

TABLE 105

VALUES OF R COMPUTED FOR TOTAL BLACK FAMILIES RESIDING
IN CENTRAL CITIES OF METROPOLITAN AREAS WITH LESS
THAN ONE MILLION POPULATION, 1968-1973
(BASE DENSITY: TOTAL BLACK NONFARM FAMILIES)

Per- centile	1968	1969	1970	1971	1972	1973
10	1.082	1.099	0.987	0.938	0.948	0.926
15	1.036	1.142	0.964	0.973	0.964	0.871
20	1.073	1.092	0.980	0.951	0.940	0.909
25	1.040	1.100	0.987	0.912	0.947	0.911
30	1.030	1.086	0.962	0.916	0.948	0.914
35	1.027	1.090	0.967	0.939	0.929	0.919
40	1.024	1.082	0.985	0.956	0.918	0.924
45	1.022	1.089	1.005	0.948	0.925	0.939
50	1.022	1.056	1.007	0.946	0.919	0.936
55	1.015	1.047	1.004	0.939	0.927	0.926
60	0.995	1.024	0.997	0.950	0.913	0.916
65	0.983	1.008	0.988	0.965	0.927	0.920
70	0.975	1.003	0.986	0.966	0.945	0.930
75	0.980	0.993	0.985	0.958	0.944	0.926
80	0.963	0.982	0.985	0.948	0.949	0.928
85	0.954	0.976	0.986	0.936	0.951	0.921
90	0.930	0.967	0.991	0.910	0.944	0.918
95	0.946	0.953	0.957	0.892	0.942	0.936

Source: Computed from Current Population Reports, Series P-60.

TABLE 106

VALUES OF R COMPUTED FOR TOTAL FAMILIES, ALL RACES, RESIDING
OUTSIDE CENTRAL CITIES OF METROPOLITAN AREAS WITH
LESS THAN ONE MILLION POPULATION, 1968-1973
(BASE DENSITY: TOTAL NONFARM FAMILIES, ALL RACES)

Per-centile	1969	1969	1970	1971	1972	1973
10	1.199	1.230	1.177	1.182	1.233	1.206
15	1.187	1.211	1.170	1.152	1.209	1.170
20	1.152	1.183	1.162	1.145	1.177	1.144
25	1.136	1.149	1.154	1.132	1.141	1.137
30	1.117	1.117	1.121	1.105	1.123	1.126
35	1.092	1.102	1.097	1.091	1.104	1.108
40	1.090	1.081	1.086	1.069	1.090	1.074
45	1.070	1.068	1.072	1.058	1.069	1.069
50	1.058	1.067	1.055	1.041	1.069	1.048
55	1.053	1.047	1.051	1.042	1.051	1.043
60	1.042	1.044	1.045	1.034	1.041	1.037
65	1.042	1.035	1.036	1.023	1.032	1.035
70	1.038	1.026	1.031	1.018	1.031	1.026
75	1.031	1.020	1.020	1.013	1.022	1.019
80	1.025	1.020	1.019	1.004	1.014	1.021
85	1.030	1.010	1.008	0.995	1.012	1.011
90	1.010	1.003	0.999	0.985	1.002	1.003
95	0.993	0.993	0.988	0.955	0.993	0.978

Source: Computed from Current Population Reports, Series P-60.

TABLE 107

VALUES OF R COMPUTED FOR TOTAL WHITE FAMILIES RESIDING
OUTSIDE CENTRAL CITIES OF METROPOLITAN AREAS WITH
LESS THAN ONE MILLION POPULATION, 1968-1973
(BASE DENSITY: TOTAL WHITE NONFARM FAMILIES)

Per-centile	1968	1969	1970	1971	1972	1973
10	1.161	1.138	1.114	1.097	1.148	1.165
15	1.135	1.144	1.116	1.079	1.127	1.115
20	1.109	1.129	1.120	1.080	1.106	1.093
25	1.081	1.110	1.109	1.069	1.087	1.089
30	1.082	1.086	1.089	1.062	1.078	1.088
35	1.067	1.062	1.065	1.058	1.060	1.061
40	1.057	1.058	1.050	1.033	1.045	1.050
45	1.051	1.051	1.045	1.020	1.043	1.036
50	1.034	1.040	1.031	1.017	1.037	1.025
55	1.031	1.030	1.029	1.014	1.025	1.024
60	1.025	1.026	1.022	1.008	1.020	1.017
65	1.026	1.020	1.014	1.002	1.010	1.015
70	1.024	1.013	1.008	0.996	1.007	1.011
75	1.017	1.008	1.000	0.985	1.003	1.008
80	1.012	1.005	0.992	0.983	1.000	1.008
85	1.011	1.001	0.988	0.967	0.995	1.004
90	1.001	0.998	0.973	0.966	0.991	1.000
95	0.989	0.995	0.953	0.893	0.977	0.980

Source: Computed from Current Population Reports, Series P-60.

TABLE 108

VALUES OF R COMPUTED FOR TOTAL BLACK FAMILIES RESIDING
OUTSIDE CENTRAL CITIES OF METROPOLITAN AREAS WITH
LESS THAN ONE MILLION POPULATION, 1968-1973
(BASE DENSITY: TOTAL BLACK NONFARM FAMILIES)

Per-centile	1968	1969	1970	1971	1972	1973
10	1.073	1.228	0.998	0.821	1.197	0.885
15	1.061	1.329	1.066	0.886	1.212	1.043
20	1.114	1.288	1.027	0.985	1.220	1.004
25	1.125	1.250	1.093	1.007	1.235	1.086
30	1.077	1.182	1.064	1.012	1.260	1.080
35	1.032	1.140	1.028	1.006	1.292	1.082
40	0.997	1.077	1.005	1.000	1.279	1.074
45	0.967	1.034	0.993	0.997	1.198	1.063
50	0.945	0.991	0.979	0.986	1.129	1.099
55	0.932	0.962	0.957	0.979	1.117	1.073
60	0.933	0.937	0.953	0.960	1.123	1.047
65	0.961	0.919	0.966	0.947	1.141	1.047
70	0.960	0.905	0.977	0.937	1.167	1.083
75	0.940	0.935	0.971	0.947	1.137	1.065
80	0.897	0.967	0.983	0.945	1.114	1.046
85	0.927	0.971	0.985	0.942	1.105	1.033
90	0.931	1.022	0.979	0.929	1.044	0.999
95	0.908	1.053	0.950	0.930	0.988	0.959

Source: Computed from Current Population Reports, Series P-60.

Quantile Income Response

The income of total families, white families and
black families at selected percentiles for 1968 and 1973 and
the percentage change over the period is presented in Tables
109 through 111, respectively. Recalling that the increase
in per capita total personal income for the U.S. was
57.56% during this period, the data give some indication
of the relative participation of these groups.

Farm families appear to have fared the best, experi-
encing increases of over 70% during the period. While this
group had the largest increases, it is the smallest numeri-
cally. Among farm families, the upper quantiles of black
families fared the best.

Among total nonfarm families, white families fared
better than black families. Black families experienced
smaller income gains at the lower quantiles, and among
black families, the smallest gains were experienced by those
residing in central cities of metropolitan areas; and of those
black families residing in central cities, the least gains
were experienced by those in central cities of the smaller
metropolitan areas. This group lost the most in relative
position during the 1968-1973 period. Among black nonfarm
families, those in the upper quantiles of the suburbs of
the smaller metropolitan areas registered the largest gains.[1]

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[1] Of course, it is possible that those black families
in the central cities who experienced income gains were most
likely to move to the suburbs, leaving the more marginal
families (who experienced smaller income gains) residing
inside the central city..

TABLE 109

INCOME OF TOTAL FAMILIES, ALL RACES, AT SELECTED PERCENTILES,
BY TYPE OF RESIDENCE, 1968 AND 1973, AND PERCENTAGE CHANGE

		1968	1973	Percentage Change 1968-1973
Nonfarm	15	$ 3,908.93	$ 5,160.00	32.01
	30	6,228.00	8,288.01	33.08
	45	8,136.71	11,173.84	37.33
	60	10,125.86	14,116.28	39.41
	75	12,650.53	18,014.43	42.40
	90	18,079.13	24,759.70	36.95
Farm	15	2,208.77	4,014.36	81.75
	30	3,660.37	6,328.58	72.89
	45	5,210.00	8,981.37	72.39
	60	6,986.26	11,978.57	71.46
	75	9,072.50	16,197.90	78.54
	90	13,323.58	24,212.17	81.72
Metropolitan Areas with at Least One Million Population	15	4,690.81	5,667.70	20.83
	30	7,216.96	9,288.61	28.71
	45	9,202.97	12,518.68	36.03
	60	11,361.56	15,785.73	38.94
	75	14,154.82	19,904.82	40.62
	90	20,804.89	28,190.09	35.50
In Central Cities	15	3,745.00	4,518.07	20.64
	30	6,059.21	7,312.93	20.69
	45	7,959.91	10,421.19	30.92
	60	10,073.98	13,480.07	33.81
	75	12,736.51	17,638.06	38.48
	90	18,430.94	24,588.10	33.95
Outside Central Cities	15	5,705.46	7,097.73	24.40
	30	8,140.25	10,786.82	32.51
	45	10,134.87	13,830.37	36.46
	60	12,239.84	17,020.75	39.06
	75	14,940.84	21,344.78	42.86
	90	21,719.07	29,870.59	40.97
Metropolitan Areas with Less Than One Million Population	15	4,082.93	5,300.00	29.81
	30	6,341.77	8,404.09	32.52
	45	8,211.12	11,192.88	36.31
	60	10,135.62	13,980.32	37.93
	75	12,561.27	17,784.69	41.58
	90	17,597.86	24,329.62	38.25

TABLE 109--<u>Continued</u>

		1968	1973	Percentage Change 1968-1973
In Central Cities	15	3,615.29	4,584.80	26.82
	30	5,820.00	7,452.00	28.04
	45	7,817.07	10,320.86	35.50
	60	9,686.77	13,167.04	35.93
	75	12,065.00	17,032.19	41.17
	90	16,950.05	23,689.56	39.76
Outside Central Cities	15	4,640.69	6,039.13	30.13
	30	6,954.80	9,333.01	34.20
	45	8,709.89	11,946.11	37.16
	60	10,552.80	14,638.49	38.72
	75	13,044.57	18,351.71	40.68
	90	18,262.69	24,821.89	35.92

Source: Computed from <u>Current Population Reports</u>, Series P-60.

TABLE 110

INCOME OF TOTAL WHITE FAMILIES AT SELECTED PERCENTILES, BY
TYPE OF RESIDENCE, 1968 AND 1973, AND PERCENTAGE
CHANGE 1968-1973

		1968	1973	Percentage Change 1968-1973
Total Nonfarm	15	$ 4,267.22	$ 5,640.00	32.17
	30	6,574.67	8,890.00	35.22
	45	8,422.23	11,736.43	39.35
	60	10,403.77	14,596.38	40.30
	75	12,935.14	18,397.59	42.23
	90	18,385.34	25 146.03	36.77
Total Farm	15	2,415.52	4,279.29	77.16
	30	3,905.56	6,673.45	70.87
	45	5,455.16	9,351.52	71.43
	60	7,231.80	12,291.01	69.96
	75	9,313.43	16,561.38	77.82
	90	13,592.74	24,554.25	80.64
Metropolitan Areas with at Least One Million Population	15	5,239.20	6,450.00	23.11
	30	7,659.36	10,209.47	33.29
	45	9,649.65	13,191.81	36.71
	60	11,794.80	16,474.76	39.68
	75	14,559 55	20,727.89	42.37
	90	21,340.54	29,260.13	37.11
In Central Cities	15	4,349.82	5,340.00	22.76
	30	6,698.63	8,843.68	26.65
	45	8,565.80	11,613.80	35.58
	60	10,707.68	14,745.10	37.71
	75	13,402.63	18,677.20	39.35
	90	19,604.13	26,723.06	36.31
Outside Central Cities	15	5,974.88	7,326.45	22.62
	30	8,288.46	11,066.90	33.52
	45	10,267.89	14,080.64	37.13
	60	12,397.34	17,220.11	38.90
	75	15,214.66	21,615.34	42.07
	90	22,050.84	30,326.05	37.53
Metropolitan Areas with Less Than One Million Population	15	4,417.47	5,852.73	32.49
	30	6,689.75	9,071.05	35.60
	45	8,517.08	11,721.43	37.62
	60	10,447.51	14,447.68	38.29
	75	12,907.96	18,178.76	40.83
	90	18,104.43	24,637.39	36.08

TABLE 110--<u>Continued</u>

		1968	1973	Percentage Change 1968-1973
In Central Cities	15	4,016.59	5,265.78	31.10
	30	6,281.93	8,356.61	33.03
	45	8,112.50	11,087.63	36.67
	60	10,185.64	13,945.56	36.91
	75	12,568.59	17,747.07	41.20
	90	17,584.84	24,236.71	37.83
Outside Central Cities	15	4,891.88	6,286.36	28.51
	30	7,111.61	9,668.77	35.96
	45	8,854.95	12,159.89	37.32
	60	10,661.53	14,842.21	39.21
	75	13,151.16	18,543.68	41.00
	90	18,399.30	25,141.33	36.60

Source: Computed from <u>Current Population Reports</u>, Series P-60.

TABLE 111

INCOME OF TOTAL BLACK FAMILIES AT SELECTED PERCENTILES, BY
TYPE OF RESIDENCE, 1968 AND 1973, AND PERCENTAGE
CHANGE 1968-1973

		1968	1973	Percentage Change 1968-1973
Total Nonfarm	15	$ 2,240.80	$ 2,858.65	27.57
	30	3,543.75	4,562.29	28.74
	45	4,922.39	6,547.07	33.01
	60	6,652.64	8,960.01	34.68
	75	8,840.34	12,159.59	37.55
	90	12,671.55	18,072.44	42.62
Total Farm	15	1,012.10	1,798.34	77.68
	30	1,480.65	2,815.88	90.18
	45	2,388.84	4,243.71	77.65
	60	3,236.76	5,666.19	75.06
	75	4,197.68	8,713.08	107.57
	90	6,823.23	16,376.06	140.00
Metropolitan Areas with at Least One Million Population	15	2,756.53	3,281.46	19.04
	30	4,324.27	5,108.24	18.13
	45	6,091.14	7,383.52	21.22
	60	7,947.19	10,347.06	30.20
	75	10,327.04	13,864.68	34.26
	90	14,162.02	20,829.92	47.08
In Central Cities	15	2,743.00	3,180.00	15.93
	30	4,253.16	4,985.38	17.22
	45	5,901.82	7,167.89	21.45
	60	7,740.43	9,948.30	28.52
	75	10,000.02	13,253.49	32.53
	90	13,924.09	19,987.06	43.54
Outside Central Cities	15	2,845.80	3,912.57	37.49
	30	4,907.05	5,816.95	18.54
	45	7,209.86	9,115.12	26.43
	60	9,163.12	12,136.59	32.45
	75	11,689.24	16,248.70	39.01
	90	14,975.12	23,098.01	54.24
Metropolitan Areas with Less Than One Million Population	15	2,340.76	2,583.31	10.36
	30	3,697.58	4,355.03	17.78
	45	4,964.52	6,336.00	27.63
	60	6,562.51	8,552.55	30.32
	75	8,570.33	11,714.02	36.68
	90	11,806.66	17,074.91	44.62

TABLE 111--Continued

		1968	1973	Percentage Change 1968-1973
In Central Cities	15	2,321.29	2,491.20	7.32
	30	3,648.75	4,171.79	14.33
	45	5,030.34	6,145.95	22.18
	60	6,617.90	8,203.79	23.96
	75	8,666.09	11,255.08	29.87
	90	11,789.56	16,590.81	40.72
Outside Central Cities	15	2,377.43	2,982.28	25.44
	30	3,816.17	4,925.86	29.08
	45	4,758.92	6,957.70	46.20
	60	6,206.56	9,382.77	51.18
	75	8,313.05	12,944.32	55.71
	90	11,796.05	18,060.15	53.10

Source: Computed from Current Population Reports, Series P-60.

Among white families, those residing outside cen-
tral cities experienced only slightly larger income gains
than those residing in central cities, although income was
approximately 10-20% greater (at most quantiles) outside
the central city of large metropolitan areas than that of
all nonfarm white families.

Summary of Chapter

Income is most unequally distributed among families
with a farm residence. It was found in Chapter II that much
of the difference in inequality in each race is eliminated
when income recipients are considered within type of family
groups. The adjustment for type of residence still leaves a
considerable difference in inequality remaining between
races (see Tables 83 and 84). Unlike age groups or type of
family groups, Gini coefficients for all types of residence
groups of all racial groups increased during 1968-1973.
The relative position of farm families, and especially of
black farm families, improved significantly. White families
residing in larger metropolitan areas experienced a deteri-
oration of relative position during the 1968-1973 period,
while white families residing in smaller metropolitan areas,
both in and out of the central city, were able to maintain
their relative position. Black families residing outside
of central cities whose income placed them in the upper part
of the distribution improved their relative position; black
families residing inside central cities of both larger and

smaller metropolitan areas and black families at lower quantiles outside central cities experienced a deterioration of relative position. At most quantiles of most type of residence groups, white families experienced greater percentage income gains than did black families.

CHAPTER VII

SUMMARY AND CONCLUSIONS

At this point, it is not only fitting but also per-
haps traditional to summarize, to tie together, and to relate
to the previous findings of others. This work does not
encompass the chronological breadth that would enable it to
thoroughly describe the changes in inequality over the long
term. But it does provide a rather extensive detailed
glimpse into the mechanics and the process of change in
inequality, and into the dynamics of the distribution of
income during a fairly short period of time. A greater
understanding of the process of change, and of the relation-
ship of the subordinate densities during changes in inequal-
ity, may provide a new set of expectations of the process
and an appreciation of the possible ways in which change
may occur.

The avenues of approach to the phenomenon were
determined largely by the availability of the data, by
what others have already done, and by the taxonomic exigen-
cies of the prevailing situation.

This work has perhaps been slightly impaired by the
choices of income concept and of recipient unit. Such

232

choices are somewhat arbitrary and always open to criticism.
Data on the lower income population suffer from lack of
coverage, and the very high income families possess an
incentive to transmute ordinary income into capital gains
and tax sheltered cash flow that is not counted as income
in the P-60 series. The failure of the data to include
nonmonetary income (such as rent-free housing) or nonmonetary
transfers (such as food stamps or medical benefits) may be
considered a source of error. While nonmonetary transfers
may have improved the welfare of those at the lower part of
the distribution, it is not certain that they should be con-
sidered as income.[1] Some types of income are covered less
well than others. However, this work has made good use of
the data that is available; much work is still possible
with the available data, and much remains to be done.

In evaluating and summarizing the results the obvi-
ous, but perhaps neglected, should be recalled. A change
in inequality is associated with a way in which income is
distributed, and while an individual may prefer a decrease
in inequality, he might not prefer all of the changes in
income with which that degree of inequality could be associ-
ated. An increase in mean group income could occur concomi-
tantly with either a decrease or increase in inequality.
Expressed another way, an increase in income could occur

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[1]Robert Lampman, "Public and Private Transfers as
Social Process," in Kenneth Boulding and Martin Pfaff, eds.,
Redistribution to the Rich and the Poor (Belmont, California:
Wadsworth Publishing, 1972), pp. 15-40.

in such a manner as to increase both mean income and ine-
quality.

There has been a decline in the Gini coefficient for
total families of all races in the post-war period, and
during 1917-1973. The decrease was not the result of the
change in type of family composition; the Gini coefficient
decreased in all types of family groups and in each racial
classification. The largest declines occurred among black
families with a male head and the wife present and in the
paid labor force. Except among unrelated individuals,
declines in Gini coefficients were greater in black family
subgroups than among total black families, suggesting that
while the income came to be more equally distributed within
the subgroups, the subgroup income densities tended to move
apart. The opposite was found to be true for white families
for the 1967-1973 period. The Gini coefficients for eight-
three out of one hundred eight age subgroups. Considered
by region, Gini coefficients for families living in the
West increased; Gini coefficients for families living in
other regions (except for black families in the Northeast)
decreased. Gini coefficients for both white and for black
families classified by type of residence increased during
the 1968-1973 period; the increases were generally greater
for black families. Thus, Gini coefficients for subgroups
often changed in the opposite direction from the Gini
coefficient for the total population. This could occur,

for example, if the means of income densities moved closer
together while the densities themselves became more dis-
persed.

One of the most salient developments of this period,
and indeed of the post-war period, has been the increase in
the percentage of male-headed families in which the wife
has chosen to enter the paid labor force. Brimmer found
that, in the 1965-1968 period,

> . . . although the real wages of a factory worker
> failed to grow in a period when real disposable income
> grew at an annual rate of 4.6 per cent, the share of
> income received by the lowest two fifths of the popula-
> tion continued to increase rather consistently.[2]

Brimmer attributed this to "a rapid increase in the number
of multiearner families and a more rapid upgrading of labor."[3]
The increase in multiearner families has continued. It may
be the result of other factors besides increasing prices,
such as the more prevalent requests of housewives for
growth, meaning, and self-actualization.

Income inequality is least among male-headed families
in which the wife is present and in the paid labor force.
This is true for all three racial classifications. This
type of family group also has the highest mean income. Not
only has the relative size of this group increased, a trend
which, _ceteris paribus_, has tended to decrease overall

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[2]Andrew Brimmer, "Inflation and Income Distribution
in the United States," Review of Economics and Statistics,
Vol. 53 (February, 1971), p. 42.

[3]Ibid.

inequality, but inequality has decreased within this group.
The increase in the number of families with a female head
would have tended to increase inequality, although income
inequality within this group also decreased.

The average Gini coefficient for total black fami-
lies for the 1967-1973 period was found to be 0.3990; this
is 14.92% greater than the average Gini coefficient for
total white families (see Table 7). However, much of the
difference in inequality between race disappears when adjust-
ment is made for type of family. The Gini coefficient for
black families with a male head and the wife present and in
the paid labor force is only 11.01% greater than that for the
corresponding white family group. Among families with a
female head, unrelated individuals, and male-headed families
in which the wife is not in the paid labor force, the differ-
ence in average Gini coefficients between races is less than
0.01. The differences between type of family groups within
each race are larger than the differences between races
among type of family groups.

One of the more pervasive factors on the American
scene is the persevering dichotomy between races. The other
differences and forces are bound up with and manifested in
rather marked differences in income and economic status.
Not only is type of family composition different, but the
differences in mean incomes is substantial, even within the
same type of family group. The factor has been cited not

only by writers of the Eastern Establishment Press, but also
by rather respected and seasoned individuals within the
academic arena, such as Gunnar Myrdal.[4]

Simon Kuznets maintained that "much of the internal
inequality in income per worker in this country is due to the
situation of the Negro minority which even today faces social
and legal barriers to free mobility and equal opportunity for
economic growth."[5] Race, and the ebb and flow in the power
of those forces that are manifested in racial differences
in economic circumstances, may acutely impinge on changes in
inequality for subgroups of the population. Therefore, race
was selected (and partly because of the availability of
data) as one framework in which income data can be considered
and inequality quantified.

It was found that, while a larger degree of inequal-
ity prevails within black families than in white families,
much of the differences in inequality of income recipients
in each race is eliminated when income recipients are con-
sidered within type of family groups. However, while the
racial differences in Gini coefficients are much smaller
when viewed within type of family groups, the adjustment for

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[4]Gunnar Myrdal, _An American Dilemma_ (New York:
Harper and Brothers, 1944), Chapter 9.

[5]Simon Kuznets, "Industrial Distribution of Income
and Labor Force by States, United States, 1919-1921 to 1955,"
Part III, "Quantitative Aspects of the Economic Growth of
Nations," _Economic Development and Cultural Change_, vol. 6,
no. 4, Part II (1957/58), p. 92.

type of family group still leaves a considerable amount of difference in income between races. Additionally, the 1967-1973 period witnesses an apparent <u>reversal</u> in a trend of improvement of relative position, much heralded in some circles as a positive result of 1960's activities, of black families relative to white families, with the exception of families with a female head.

It was also found the timing of any reversal that may have taken place did not occur in the same year (if at all) among all type of family groups; nor did turning points always occur in the same year at all quantiles within the same type of family group.

The relative position of the female has become of increasing interest on the American scene. Based on the results of the Wohlstetter-Coleman comparison of families with a female head to families with a male head and the wife present but not in the paid labor force, the net effect of changes during the 1967-1973 period was a deterioration, in each race, in the position of women, relative to men. This result was rather unexpected, in view of all the recent rhetoric.

The net effect of changes on the relative position of black men relative to white men during the 1967-1973 period was favorable. However, a reversal, although perhaps a cyclical one, in the longer term trend of improvement occurs during the 1967-1973 period.

Thus, there was an improvement in the position of black males relative to white males, and a deterioration in the position of white females relative to white males and black females relative to black males. The 1967-1973 period witnessed a continued improvement in the relative position of black to white women.

The differing changes in type of family composition played a role in the relative decli●●● fami-lies to total white families, wi●●● ing more important in each group, b● female head becoming relative● quickly, among black families. ● ed, improvement in the relative posit● ded families with the wife present and i● or force was also found.

In Chapter IV, it was found that inequality gener-ally increased as one moved past the 25-34 year age group. This is consistent with results from the human capital area, although this study is the first to present such detailed computations of inequality for such disaggregated groups for the 1967-1973 period.

A decrease in inequality within most type of family groups during the 1967-1973 period was noted above. The results presented in Chapter IV indicated that inequality did not remain constant within age groups of type of family

Thus, there was an improvement in the position of
black males relative to white males, and a deterioration
in the position of white females relative to white males
and black females relative to black males. The 1967-1973
period witnessed a continued improvement in the relative
position of black to white women.

The differing changes in type of family composition
played a role in the relative decline of total black fami-
lies to total white families, with working wives becoming
more important in each group, but with families with a
female head becoming relatively more prevalent, more
quickly, among black families. A marked, and unexplained,
improvement in the relative position of black male-headed
families with the wife present and in the paid labor force
was also found.

In Chapter IV, it was found that inequality gener-
ally increased as one moved past the 25-34 year age group.
This is consistent with results from the human capital area,
although this study is the first to present such detailed
computations of inequality for such disaggregated groups
for the 1967-1973 period.

A decrease in inequality within most type of family
groups during the 1967-1973 period was noted above. The
results presented in Chapter IV indicated that inequality
did not remain constant within age groups of type of family

groups while inequality decreased within the type of family group. Rather, inequality also decreased within most age groups of most type of family groups, suggesting that the overall decrease was not primarily the result of changes in demographic composition.

A method advanced by Soltow was utilized to "decompose" the extant degree of inequality, and to compute "imputed" Gini coefficients for 1973, Gini coefficients that would have prevailed in 1973 if the age distribution of the group had been that which prevailed in 1967. While this method revealed some impact, it also leads to the conclusion that the changes in inequality which occurred were primarily the result of factors other than the change in demographic composition.

Some significant differences in age composition exist between races among type of family groups. However, using Soltow's decomposition method, the differences in age composition were not found to be a major factor in accounting for differences in inequality between races.

The long term narrowing of regional income differentials continued in the 1967-1973 period, a factor which, ceteris paribus, would be reflected in a decrease in national inequality. Inequality is generally greatest in the South, the region with the lowest average income. Except for the West, inequality among white families decreased within regions during the 1967-1973 period.

Larger decreases occurred among white unrelated individuals
within regions. White families in the South and North
Central regions experienced an improvement of their rela-
tive position during the 1967-1973 period; white families
in the West experienced a deterioration of position relative
to the Northeast, especially at the lower quantiles. The
same changes in relative position were experienced by white
unrelated individuals.

During the 1967-1973 period, black families experi-
enced larger percentage gains than white families only in
the South; they lagged behind white families in the other
three regions. Among families, those at the higher quantiles
generally experienced larger income gains than those at
lower quantiles.

Elasticities of quantile income response were com-
puted; they were generally less than unity for families, and
generally greater than unity for unrelated individuals. In
view of the increased labor force participation of wives,
elasticities of less than unity were not expected for fami-
lies. Apparently the increase in the percent of families
with a female head, perhaps due to divorce or other reasons,
more than offset the increase in working wives. In any
event, families tended to share less than proportionately
in regional increases in per capita income, especially at
lower quantiles. Unrelated individuals, on the other hand,
tend to share more than proportionately in regional per

capita income increases. The increased tendency to postpone
marriage may, for example, contribute to this by altering
composition of unrelated individuals during the period.

When considered by type of residence, income was
found to be more unequally distributed among black families
than among white families. Within each race, mean income
is greater among those residing outside the central city than
among those residing inside it. Over the 1968-1973 period,
the Gini coefficient for black family groups increased
7-13% (with the exception of nonfarm black families, which
experienced an increase of 4.78%). The Gini coefficients
for white family subgroups increased minimally, generally
less than 0.01. Thus, when considered by type of residence,
black families had larger within group inequality than white
families, and larger increases in inequality occurred during
the 1968-1973 period among black families than among white
families. The increases in type of residence groups are in
contrast to the changes experienced within black and white
type of family groups.

Farm families, and particularly black farm families
improved their position over the period. Except at the very
bottom, higher quantiles of the income distribution of farm
families experienced larger gains. White families residing
in larger metropolitan areas experienced a deterioration of
relative position during the 1968-1973 period, while white
families residing in smaller metropolitan areas, both in

and out of the central city, were able to maintain their
relative position.

Only black families residing outside of central
cities whose income placed them in the upper part of the
distribution improved their relative position during the
period under study; black families residing inside central
cities of both larger and smaller metropolitan areas and
black families at· lower quantiles outside of central cities
experienced a deterioration of relative position. The
greater probability that a black family will reside inside
a central city is still associated with an income position
superior to that of total black nonfarm families, often 20-
40% greater.

Percentage increases in income at selected quantiles
were computed for type of residence groups. Generally, for
any given type of residence, white families experienced
greater absolute and percentage increases in income than did
black families. The two exceptions were black families with
farm residence and black families residing outside central
cities of metropolitan areas with less than one million
population whose incomes placed them in the upper part of
the distribution. Percentage gains in income tend· ·to be
larger at the higher quantiles.

Simon Kuznet's Shares of Upper Income Groups in
Income and Savings inspired much discussion, and much

interest in the immediate post war period.[6] His results

aroused considerable interest since they indicated a

decrease in the share of the top 5%, much of which occurred

during World War II. There appeared almost unanimous agree-

ment on the existence of a trend towards greater equality

from 1929 to the post World War II period, a phenomenon

occasionally referred to as "the income revolution." Herman

Miller summarizes the Kuznets OBE and Census data:

> There was a slight drop in income inequality during the
> thirties, a marked drop during World War II, and rela-
> tive stability throughout the early postwar years. . . .
> Neither the Census nor the OBE data show any change
> during the postwar period in income shares at any point
> in the income distribution.[7]

Miller went on to suggest that "this stability may be more

apparent than real." Since "the splitting up of family

groups . . . would tend to increase the inequality of income

by creating a relatively large number of low-income families."[8]

The results of this study suggest that the share of

the top 5% continued to decline during the 1967-1973 period.

This remains only a suggestion, because the difficultties

of coverage, and the ambiguity related to the exclusion of

capital gains becomes more accute in the top income brackets.

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[6]Simon Kuznets, Shares of Upper Income Groups in
Income and Savings (New York: National Bureau of Economic
Research, 1953).

[7]Herman P. Miller, Income Distribution in the United
States (Washington: U.S. Bureau of the Census, 1966),
pp. 19-20.

[8]Ibid.

Nonrespondents are more likely to have higher incomes,

and their numbers have increased over time.[9] The failure of

SESA to regularly publish income interval average for the

"$50,000 and over" interval makes it difficult to ascertain

the experience of the very top of the distribution. The

results of this work suggest that the share of the lower

quantiles and of the upper middle quantiles increased.

Based on a comparison of all IRS tax returns for

1948 and 1967, Budd concluded that:

> The group comprising the 51st through (part of) the 98th
> percentiles thus gained at the expense of the bottom
> half and slightly more than the top 1 percent; the rela-
> tive mean income of the farmer increased by 10 percent;
> that of the latter two groups fell by 18 and 20 percent,
> respectively.[10]

Budd's comparison of 1947 and 1968 CPS data for families and

unrelated individuals combined indicates the relative mean

incomes of the bottom 80% increased and that of the top 20%

decreased.[11] While no definite conclusion can be reached,

the results of this study are not inconsistent with the

apparent continuation of these trends.

It is popularly believed that this society's less

fortunate are most often found among the young, the aged,

and the minority groups, and females. These were also the

groups that experienced the greatest inequality. Gini

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[9]Edward C. Budd, "Postwar Changes in the Size Dis-
tribution of Income in the U.S.," p. 256.

[10]Ibid., p. 251.

[11]Ibid., p. 252.

coefficients were generally higher in the 14-24 and the 65
and over age groups. The Wohlstetter-Coleman results indi-
cated that the largest amount of variation between type of
family groups occurred in the 14-24 year age groups. The
groups that are most likely feel the impact of changes in
the unemployment rate.

Cyclical variations in macroeconomic activity appear
to affect inequality mainly through variations in the unem-
ployment rate. Inequality varies most within those groups
that are most likely to feel the impact of changes in the
unemployment rate. It is also consistent with the results
of T. Paul Schultz. Schultz considered the period 1947-1970,
and concluded:

> . . . . inequality among fully employed men 25 to 64
> exhibited remarkable stability . . . most of the reduction
> in earnings inequality in the United States between 1939
> and the present can be attributed to the postwar reduc-
> tion in unemployment.[12]

The regression results of Chapter II suggested that unem-
ployment impacts of white families with a male head and the
wife in the paid labor force to the same degree as it
impacts upon white families with a male head in which the
wife is not a member of the paid labor force. At the 10%
level, the hypothesis that the same is true for black
families cannot be rejected. Increases in the white unemployment

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[12]T. Paul Schultz, "Long-Term Change in Personal
Income Distribution: Theoretical Approaches, Evidence, and
Explanations," Rand Monograph P-4767 (Santa Monica: Rand
Corp., 1972), p. 15.

rate were found to adversely affect the relative position

of white families with a female head; changes in the non-

white unemployment rate impact upon black families with a

female head and black families with a male head and the

wife present but not in the paid labor force to the same

degree. This generalization is in agreement with the work

of Metcalf, who, after considering the 1947-1965 experience

of families with a male head and the wife present and in

the paid labor force concluded:[13] "An increase in the employ-

ment rate raises the lower tail of the distribution relative

to the median by a substantial amount. . . ." He found the

same to be true for families with a male head in which the

wife is not in the paid labor force and for families with

a female head.[14] For the 1947-1967 period, Wohlstetter and

Coleman found that,[15]

> . . . the fluctuations in both the sub-period trends and
> in the year-to-year changes are greater for nonwhites
> than for whites. These relatively larger nonwhite rises
> and falls in income appear to reflect changes in the
> tightness of the labor market and roughly to parallel
> business cycle expansions and contractions.

Thus, those groups that bear the brunt of macroeconomic

fluctuations are also groups that are likely to experience

larger fluctuations in inequality.

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[13]Metcalf, An Econometric Model of the Income Dis-
tribution, p. 58.

[14]Ibid., pp. 59 and 62.

[15]Wohlstetter and Coleman, Race Differences in Income,
p. 27.

The accumulated Wohlstetter-Coleman results suggest a rather basic and obvious, yet seldom noticed observation, which perhaps offers some insight into the process of income response and the associated ebb and flow of inequality. In groups for which the computed value of R was generally less than unity, it is generally more less than unity at the lower quantiles than at the upper quantiles. In groups for which the value of R was generally greater than unity, the increment above unity is greater at the lower quantiles than at the upper quantiles. Thus, between densities, the greatest equality is at the top of the distribution, and the least is at the bottom. The observation is perhaps rather obvious; however, no group was encountered, in which R was greater than unity, in which R approximated unity at the lower quantiles and increased as quantile increased, or vice versa, which would indicate that the upper members of one group participated in an increase in income but not another. Imputing from this cross-sectional observation, economic fulfillment appears to occur more from the top down, not from the bottom up. Considered another way, the process of equalization of income between groups appears to be characterized not by a gradual, equal movement of the incomes of all recipients in the group toward the mean, but rather by large income gains by a few members of the group, and smaller, and perhaps chronologically later, gains by more members of the group. (Witness, for example, the experience of black farm families.) Wohlstetter and Coleman found that

". . . the personal income at quantile curves have tended
to rotate clockwise since the late 1940's, with the upper
percentiles at a fixed point."[16] This finding is similar
to the results of this study.

The pattern of analysis is similar to that of Kuz-
nets.[17] Kuznets, however, considered the changes in income
per worker in the three major sectors: agriculture, service,
and manufacturing. Kuznets found, for example, that while
"income per worker in the A sector is generally below the
statewide average," the lower per capita income, the lower
relative income per worker in the A (agricultural) sector.[18]
In other words, increases in state per capita income have
been associated with a narrowing of relative income differ-
entials between the three sectors. Kuznets suggested that
there existed considerable similarity between the state pro-
cess and the international process.[19] This is in contrast
to the view advanced by Galbraith, Harrington, Cole, and
others, that the "trickle-down" theory provided an invalid,
irrelevant, and faulty foundation for attacking poverty.[20]

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[16]Ibid., p. 40.

[17]Simon Kuznets, "Industrial Distribution of Income
and Labor Force by States, United States, 1919-1921 to 1955,"
Part III of "Quantitative Aspects of the Economic Growth of
Nations," Economic Development and Cultural Change, vol. 6,
no. 4, Part II (1957/58), pp. 1-128.

[18]Ibid., pp. 75-76.   [19]Ibid., p. 87.

[20]See W. H. Locke Andersen, "Trickling Down: The
Relationship between Economic Growth and the Extent of
Poverty among American Families," Quarterly Journal of
Economics, vol. 78 (November, 1964), pp. 511-524.

The second observation, again rather basic and obvious, is that cyclical turning points in relative position between densities do not occur in the same year. This finding lends credence to Tinbergen's sort of view of the distribution of income. There are definite cycles in relative position, and the turning points in those cycles, in any given density, do not generally occur in the same year at all quantiles.·

This study provides the most extensive utilization of the Wohlstetter-Coleman method to date. The method has proven useful in investigating changes in relative inequality among groups. It conveys information that is lost in other measures of inequality. The principle shortcoming of the method is that it provides no single summary statistic of inequality. The results of applications of the Wohlstetter-Coleman method are most easily grouped when presented in graphical form. Because it does provide information which is otherwise lost, the method provides the opportunity for production of future applications.

Alice Rivlin (noted above), wrote that "the constancy of the size distribution of income stands out as remarkable," and suggested that "equalizing and unequalizing forces are canceling each other out, although there is no obvious reason why they should continue to do so."[21]

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[21]Alice Rivlin, pp. 4-5. .

This work, relying on two methods of investigation, has provided a probing, examining, investigating gaze through a brief, seven year window into the process of change. It is regrettable that it could not have been for a longer period. Brought together, the data do provide an indication of how inequality is structured, of how it differs, and of how it changes when viewed in different classificatory frameworks.

One is tempted to go back to the ontological sort of question. Can these results be taken as meaning that the factors of classification adopted as the avenues of analysis are meaningful? That is, are there economic forces that are bound up with, and unique to, the factors of classification that impact on and partially determine the changes in the prevailing degree of inequality? Or, on the other hand, are the indicated results only taxonomic accidents? Are the forces that impact upon inequality so many, so broad, and so diverse, that the consideration of income data arranged within any single classification means little? Is inequality a sort of polymorphous accident? I think the arcane truth is that the factors of classification are meaningful, though not complete. There are economic changes which are regional in nature which have some impact upon inequality. The different classification groupings are meaningful, and do yield some knowledge of the structure of inequality and of the process of change. Yet inequality can probably never be completely elucidated through statistical elutriation.

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252

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