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ABSTRACT

Two contrasting trends concerning gender and racial wage levels for U.S. workers emerged in the 1980s. The first trend, which is gender-related, is that women made tremendous gains in their wages relative to those of men: in 1978 women earned 61 percent as much as men, while by 1990 that figure rose to 72 percent. Furthermore, these gains extended to both black and white women relative to men of the same race. By 1990, for example, black women working full-time earned 86 percent as much as men, up from 72 percent in 1978. The second trend, which is related to race, is that over the course of the 1980s the pay disparity between blacks and whites increased for both women and men. For example, black women's pay as a percentage of white women's pay increased from 85 to 93 percent between 1970 and 1981, but then fell to 87 percent in 1990. A similar pattern emerged during this period for black men relative to white men. The purpose of this research is to understand why these different trends emerged in the 1980s. The study's findings indicated that similar factors contributed to the narrowing of the gender gap for both black and white workers. During the 1980s, the education and work experience of both black and white women increased relative to men of the same race. Yet while this factor is part of the explanation, it is reported that overall it is not known why the wage gap declined between women and men with the same level of education and work experience, working in the same broadly defined occupation and industry. With regard to the contrasting trend, that black/white wage disparities increased in the 1980s. The research reveals that these gaps increased for different reasons for men and women. The single largest explanation for the increased earnings gap between black and white men is due to economic restructuring. For female workers, on the other hand, most of the increase in the black/white pay gap during the 1980s is unexplainable. (DB)

Gender and Racial Pay Gaps in the 1980s: Accounting For Different Trends

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For
The Women's Bureau

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Gender and Racial Pay Gaps in the 1980s: Accounting for Different Trends

Submitted to:

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Executive Summary

Two contrasting trends concerning gender and racial wage levels for American workers emerged in the 1980s. The first trend, which is gender-related, is that women made tremendous gains in their wages relative to those of men: in 1978 women earned 61 percent as much as men, while by 1990 that figure rose to 72 percent. Furthermore, these gains extended to both black and white women relative to men of the same race. By 1990, for example, black women working full-time earned 86 percent as much as black men, up from 72 percent in 1978.

The second trend, which is related to race, is that over the course of the 1980s the pay disparity between blacks and whites increased for both women and men. For example, black women's pay as a percentage of white women's pay increased from 85 to 93 percent between 1970 and 1981, but then fell to 87 percent in 1990. A similar pattern emerged during this period for black men relative to white men.

The purpose of this research is to understand why these different trends emerged in the 1980s. This is achieved using the University of Michigan's Panel Study of Income Dynamics, a data source that is particularly useful for this inquiry because it asks detailed questions about a person's work history. An extension of what economists call the Oaxaca method is used to assess the relative merits of various hypotheses put forth to explain these trends.

My findings indicate that similar factors contributed to the narrowing of the gender gap for both black and white workers. One of these factors is human capital attainment, meaning education and work experience. During the 1980s, the human capital attainment of both black and white women increased relative to men of the same race. The most important gain for women was their actual work experience, which increased relative to men's. The occupational

distribution of women and men also converged during this period. In general, men moved from blue-collar work, where they were over-represented, into white-collar and service work. Women, on the other hand, tended to move from service and less-skilled white-collar work to professional and managerial occupations. My analysis shows that human capital and occupational changes improved the relative earnings of women, explaining about 15 percent of the decline in the gender pay gaps for both black and white workers.

While the closing of the male/female pay gap is a positive phenomenon, the fact is that most of this closing is simply unexplainable. In other words, we do not know why the wage gap declined between women and men with the same level of education and work experience, working in the same broadly defined occupation and industry. Economists call this the "unexplained component," and generally agree that it reflects factors that are hard to measure. These factors are namely discrimination and/or differences in "unmeasured productivity characteristics." For example, type of education is an unmeasured productivity characteristic in this analysis since it is not measured. Yet, different types of education may influence wage levels (e.g. an engineering degree is more lucrative than one in education). Discrimination also falls under the category of "unexplained components." It, too, may contribute to differential wage levels among black and white workers, but remains unmeasured.

Turning to the contrasting trend, that black/white wage disparities increased in the 1980s, my research reveals that these gaps increased for different reasons for men and women. The single largest explanation for the increased earnings gap between black and white men is due to economic restructuring. Employment shifted away from manufacturing and union jobs toward other industries and non-union employment. These shifts negatively affected black men more than white men. In addition, the pay structure changed during the 1980s. For example, the returns to human capital, especially

education, increased. Since white men have more education, on average, than black men, this change in the pay structure benefited white men more than black men.

For female workers, on the other hand, most of the increase in the black/white pay gap during the 1980s is unexplainable. For instance, unlike the case for the racial pay gap among men, the restructuring of the economy only explains 11 percent of the increased racial pay gap for women; the remaining 89 percent of the increase is unexplained. This largely unexplained increase could reflect a divergence in "unmeasured productivity characteristics" between black and white women, or it could reflect an increase in racial discrimination against black women.

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Gender and Racial Pay Gaps in the 1980s: Accounting for Different Trends

During the 1980s, two contrasting trends emerged. The earnings gap between women and men declined for both black and white workers. In contrast, the black/white earnings gap increased for men and women. In 1978, white women working full-time earned 60 percent as much as white men. By 1990, this pay ratio had increased to 71 percent. Similarly, black women's pay as a percentage of black men's pay increased from 72 to 86 percent during this period. At the same time, however, the earnings of black men relative to white men declined from 78 to 72 percent. Black women's pay compared to white women's pay also declined from 95 to 87 percent.

These trends contrast with those in the 1970s. That decade was characterized by improved earnings for black women and men relative to whites of the same sex, while women's earnings relative to men's remained unchanged for both blacks and whites.

This research project documents these trends in race and gender pay disparities and analyzes why these trends emerged in the 1980s. This is achieved by examining the University of Michigan's Panel Study of Income Dynamics, a data source that includes detailed characteristics of individuals from a nationally representative sample of the population. An extension of the Oaxaca method is used to assess the relative merits of various hypotheses put forth to explain these trends.

I. The Problem: Different Trends in Pay Gaps

Data from the U.S. Bureau of Labor Statistics show the trends in race and gender pay disparities among full-time workers. Since the late 1960s, the U.S. Bureau of Labor Statistics has reported weekly earnings of full-time workers by

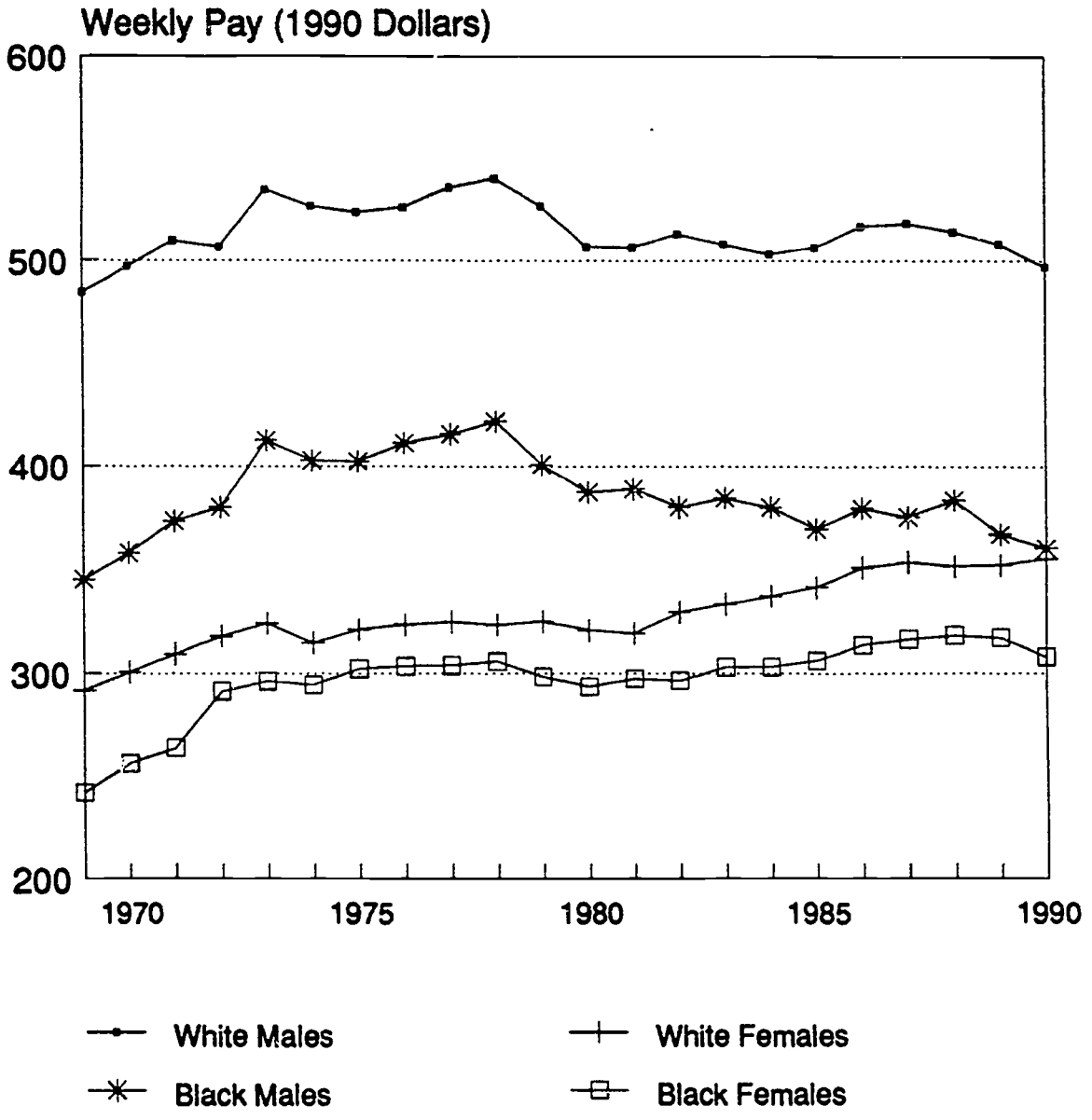
race and sex. I adjusted these figures to account for inflation.[1] Figure 1 reports these earnings of specific sex/race groups after correcting for inflation. The salaries reflect 1990 prices.

Figure 1 shows that the weekly pay of white men underwent cyclical changes during the 1970s, reaching its peak in 1973 and again in 1978. But, during the 1980s, it remained relatively stable at $510 per week. White women's pay, on the other hand, has been increasing since 1981 after ten years of remaining around $320 per week. Thus, the gender pay gap for white workers declined in the 1980s. The gender pay gap also declined for black workers. Black men's earnings peaked in 1978 and have declined steadily ever since. Black women's earnings, on the other hand, increased slightly during the 1980s. Hence, the gender gap in earnings for black workers declined.

In contrast, racial pay disparities increased in the 1980s after declining in the 1970s. Figure 1 shows that black men's pay increased relative to white men's pay until 1978. Since then, however, black men's pay has declined more rapidly than white men's pay, increasing the racial pay gap between these two groups of workers. Similarly, black women's pay increased more rapidly than white women's pay during the 1970s, but since 1981 black women's pay has not increased as rapidly as it has for white women. Hence, this racial pay gap also increased during the 1980s.

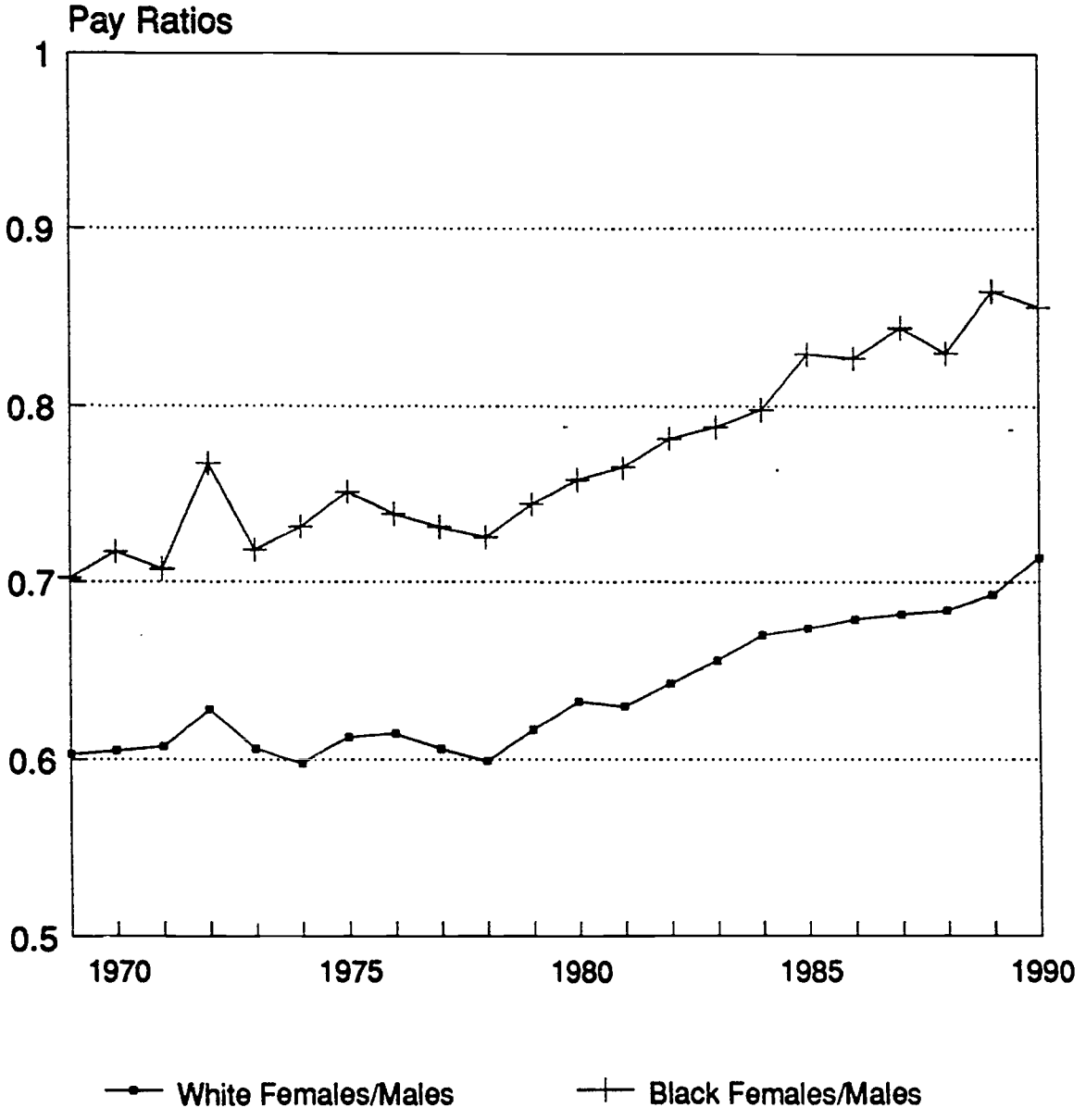
Figure 2 shows the decline in the gender pay gaps in a slightly different manner by examining the ratio of women's to men's pay for black and white workers. This graph shows that the white and black gender pay ratios increased in the 1980s, after relative stability in the 1970s. Figure 3 shows the black/white pay ratios for male and female workers. Both of these ratios increased until 1978, but have since declined. The pay ratio between black and white women peaked at 95 percent in 1978, meaning black women working full-time earned 95 percent as much as white women working full-time. By 1990, however,

Figure 1
Trends in Real Earnings by Race and Sex for Full-time Workers: 1969-90



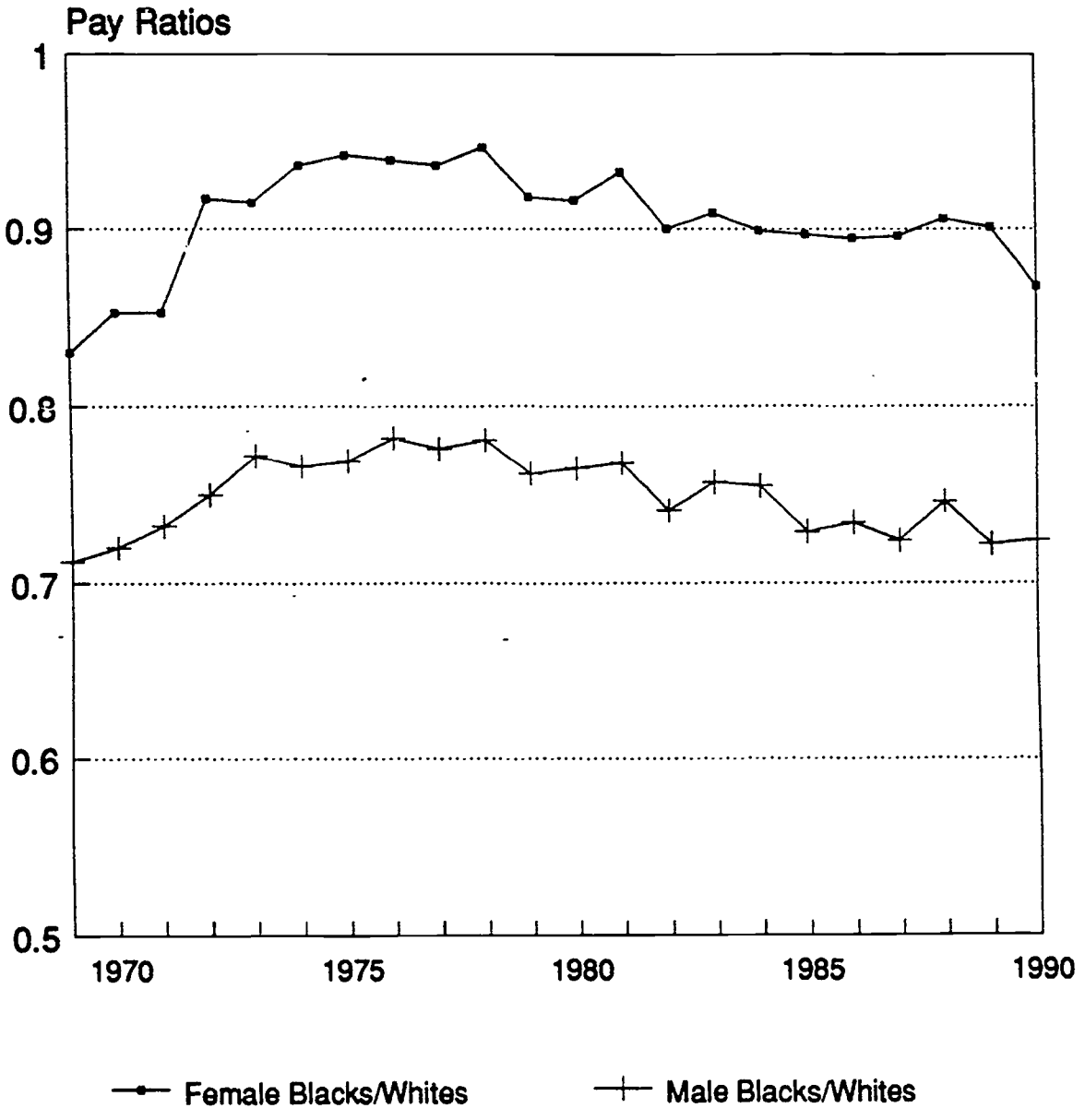
Source: Author's analysis of BLS data

Figure 2
Female/Male Pay Ratios for Full-time Workers: 1969-90



Source: Author's analysis of BLS data

Figure 3
Black/White Pay Ratios for Full-time Workers: 1969-90



Source: Author's analysis of BLS data

this ratio had fallen to 87 percent. The black/white male pay ratio peaked at 78 percent, but has since fallen to 72 percent.

II. Reasons for the Different Trends

What accounts for these different trends? Several explanations have been offered.

First, it is argued that the earnings of whites and females have increased relative to blacks and males because of a shift in the economy away from goods-producing industries toward the service sector (Levy 1988). This argument is related to an important question that received considerable attention during the 1980s. There was general concern that the U.S. economy was no longer producing "good jobs," meaning jobs that offer middle-class incomes to individuals with a high school education (Blackburn, Bloom, Freeman 1990). Instead, some argued it was generating high-paying jobs requiring a great deal of skill or extremely low-paying jobs requiring no skill, despite the fact that most workers fall in between these two extremes (Harrison and Bluestone 1988).

Some of these authors have pointed to a number of factors that have accelerated this shift in employment since 1979, including the oil shock of 1979, the severe recession of 1980-1982, the overvaluation of the dollar during the 1980s, and the declining unionization of the work force. These events, it is argued, have negatively affected black and male workers more than white and female workers because the former are more likely to work in unionized, energy-intensive, recession-sensitive, and foreign-trade-sensitive industries (Levy 1988). Furthermore, these industries have tended to pay higher wages than other industries, even after taking into account productivity characteristics. Thus, as black and male workers move out of these industries into lower paying ones, their average earnings will decline relative to white and female earnings.

The second explanation given for the widening racial pay gaps is that the demand for labor shifted in the 1980s in favor of better-educated and better-trained workers (Juhn, Murphy, and Pierce 1989, O'Neill 1990). Although the educational differences between whites and black narrowed in the 1980s, it is still the case that blacks have less education on average than whites. Thus, a shift in labor demand toward better-educated workers benefits whites more than blacks, exacerbating racial pay disparities. According to Murphy and Welch (1988), this shift was caused by some of the same reasons given above, but also because of increased international competition and technological change.

This argument — that labor demand shifted toward better-educated and better-trained workers — cannot explain why the gender gaps in pay decreased in the 1980s. Women also have less education and training, on average, than men. Thus, shifts in labor demand should have resulted in larger gender pay differentials as well as in larger black/white pay gaps.

Third, it is argued that during the 1980s women increased their productivity characteristics relative to men, which in turn increased their relative pay (Smith and Ward 1984). Previous research has not examined whether the black/white pay differentials increased during the 1980s because whites increased their productivity relative to blacks. For example, it is thought that the actual work experience of women increased relative to men during the 1980s, but the actual work experience of blacks may have declined relative to whites. Women are spending more and more of their adult lives in the work force, which is increasing their work experience. For blacks, on the other hand, the back-to-back recessions in the early 1980s resulted in considerable job loss, which may have reduced the actual work experience of blacks more than whites.

The fourth explanation given is that sex discrimination declined during the 1980s, contributing to the narrowing ot the sex pay differential (Blau and

Beller 1988). In contrast, it may be that race discrimination increased, causing racial pay disparities to increase. Although it is true that no federal anti-discrimination legislation was passed during this period, it may be that attitudes have changed among employers, which have benefited females but not blacks.

III. Research Method

The research method is designed to evaluate the merits of the four reasons given above for why the gender pay gaps declined and the racial pay gaps increased during the 1980s. This method consists of estimating separate earnings equations for specific sex/race groups in four years: 1976, 1979, 1982, and 1985. Earnings equations are estimated using a sample-selection regression analysis to correct for possible selection bias (Heckman 1979). Four pay disparities are analyzed: white female/male pay, black female/male pay, female black/white pay, and male black/white pay. The changes in these earnings disparities are calculated and decomposed into various components using the modified version of the Oaxaca decomposition. To ease exposition of this decomposition method, it is explained below for one of the four pay gaps - black females compared to black males.

To examine the factors that influence the gender pay disparity between black workers, I first estimate separate earnings equations for black male and female workers. The following equations describe this effort:

$$\ln w_{bm} = X_{bm} A_{bm}$$

$$\ln w_{bf} = X_{bf} A_{bf}$$

where: bm and bf represent black male and female workers, respectively; ln w is the logarithm of hourly wages; X is a vector of characteristics thought to influence earnings; and A is a vector of estimated coefficients for these characteristics.

The original Oaxaca decomposition divides the mean difference in male and female earnings into two parts: (1) that due to mean differences in characteristics, or the explained component, and (2) that due to differences in estimated coefficients, or the unexplained component. For example, the decomposition between black males and females can be achieved as follows:

$$\overline{\ln w}_{bm} - \overline{\ln w}_{bf} = (\bar{X}_{bm} - \bar{X}_{bf})A_{bm} + \bar{X}_{bf}(A_{bm} - A_{bf})$$

where: $\overline{\ln w}$ represents the mean of the logarithmic wage; and $\bar{X}$ represents a vector of mean values for the explanatory variables.

The second component of this decomposition — the unexplained component — is used by many economists as an estimate of labor market discrimination (Cain 1986). It measures the portion of the pay disparity that is not explained by differences in productivity characteristics measured in the analysis. In other words, it is the pay disparity that remains between male and female workers (or white and black workers) who have the same measured productivity characteristics.

Others have pointed out, however, that this estimate of labor market discrimination may actually overestimate or underestimate labor market discrimination (Blau and Ferber 1987). On the one hand, certain productivity characteristics remain unobserved in any analysis. If men (or whites), on average, are more favorably endowed with these omitted characteristics than women (or blacks), the unexplained component will overestimate labor market discrimination. On the other hand, some of the control variables in the regression analysis may be affected by discrimination. For example, this analysis includes broad occupational categories as control variables, but many argue that employers discriminate against women (and minorities) by excluding them from high-paying occupations, such as craft occupations. Thus, including these controls in the regression analysis may lead to an underestimate of labor market discrimination.

This research is not immune to the problem of estimating discrimination. Hence, this component will be referred to as the unexplained portion of the gender or race differential, and attributed to employer discrimination and differences in unmeasured characteristics. The purpose of this section is not to resolve this debate, but to estimate whether this and other factors have contributed to the changes in the total sex and race pay disparities.

It should also be noted that economists generally define discrimination as the pay difference between two groups of workers that is not accounted for by productivity differences (Blau and Ferber 1987). This definition does not imply intent on the part of employers. In fact, it is not a legal definition of discrimination, but rather an economic one, developed and used by economists to determine the extent to which individuals in one social category are denied economic opportunities available to other individuals of another social category for reasons that have little or nothing to do with their individual abilities.

There is a problem, however, with the Oaxaca decomposition when it is applied over time. Each year the Oaxaca decomposition weights the difference in characteristics and coefficients by a different set of values. In the above example, the weights would be A_{bmt} and $\bar{X}_{bft}$ in year t, but they would be $A_{bmt'}$ and $\bar{X}_{bft'}$ in year t'. Hence, the difference in characteristics and coefficients are not strictly comparable over time.

To correct this problem, I modify the Oaxaca decomposition method in the following way. During the base year, year t, the Oaxaca method is applied. In subsequent years, the total pay gap is divided into three parts: (1) the explained component; (2) the residual; and (3) the change in the earnings structure. The third component is added so that the first two components in subsequent years can be evaluated in the same manner as they were in the first year of the analysis. Let $G_{t'}$ be the total gender pay gap for black workers

in a subsequent year. Then:

$$G_{t'}=(\bar{X}_{bmt'}-\bar{X}_{bft'})A_{bmt} + \bar{X}_{bft}(A_{bmt'}-A_{bft'})$$
$$+ (\bar{X}_{bmt'}-\bar{X}_{bft'})(A_{bmt'}-A_{bmt}) + (\bar{X}_{bft'}-\bar{X}_{bft})(A_{bmt'}-A_{bft'}).$$

To examine the extent to which each of these components contributed to the decline in the black gender gap, I simply take the difference in their values between any two years. For example, the decline in the total earnings gap between a subsequent year and the first year is $G_{t'} - G_t$. Each component's contribution to this decline can be written as:

$$G_{t'} - G_t = ((\bar{X}_{bmt'} - \bar{X}_{bmt})-(\bar{X}_{bft'} - \bar{X}_{bft}))A_{bmt} + \quad (1)$$
$$((A_{bmt'} - A_{bft'}) - (A_{bmt} - A_{bft}))\bar{X}_{bft} + \quad (2)$$
$$(A_{bmt'} - A_{bmt})(\bar{X}_{bmt'} - \bar{X}_{bft'}) + (\bar{X}_{bft'}-\bar{X}_{bft})(A_{bmt'}-A_{bft'}) \quad (3)$$

These three terms assess the relative merits of the reasons why the gender and race pay gaps changed over time as follows:

(1) The first term sheds light on the first and third explanations given earlier for why these gaps may be changing. This term measures the extent to which a convergence in characteristics between two groups of workers contributes to the changing gender or race pay gap. The first reason argued that industrial employment of blacks and men shifted out of the higher paying manufacturing sector and into the lower paying service sector. According to this view, these shifts should reduce the earnings of blacks and men relative to that of whites and women. The third reason hypothesized that human capital attributes converged between women and men, but diverged between blacks and whites. This should cause the earnings of women and men to converge and the earnings of blacks and whites to diverge.

(2) The second term measures the extent to which the unexplained component changed over time. This measures a change in labor market discrimination and a change in unobserved productivity characteristics. Thus, it offers evidence regarding the merits of the fourth explanation given earlier — that labor market discrimination has changed. But this evidence is not conclusive.

(3) The third term offers evidence regarding the second reason given for changes in the gender and race pay gap, which said that the structure of the economy is changing in ways that benefit whites and women more than blacks and men. Although this term is more difficult to interpret than the first two, others have also argued that it reflects structural change (Juhn, Murphy, and Pierce 1989).

IV. Data Source and Preparation

This study uses the 20th wave (1987) of the University of Michigan's Panel Study of Income Dynamics (PSID) to analyze these contrasting trends in pay disparities. The PSID was selected over other surveys because it is the only one that has collected information since the 1960s for a nationally representative sample and asked respondents about their work history. Although the Current Population Survey (CPS) is commonly used, it does not include detailed information about work history. Women tend to work outside the home for fewer years of their adults lives than men. Since this is a critical difference in the labor market experience of women and men it should be included in an analysis of gender pay differentials. There are other surveys that include detailed information about a person's work history, but they do not have a nationally representative sample of the U.S. population (e.g. the National Longitudinal Survey) or they do not have data for a long enough time period (e.g. the Survey of Income and Program Participation).

The original PSID (20th wave) included 36,580 observations, but many of these people were not asked about their current work status. This survey only asks the heads of households and their spouses or live-in partners about their current work status. Thus, people who never fell into any of these three categories between 1968 and 1987 inclusive were deleted from our sample. This brought the sample down to 6,563 observations. In addition, heads of households, spouses of heads, or live-in partners of heads in some years but not in others were not used in our analysis for any year in which they did not fall into any of these three categories.

Earnings equations were estimated for 1976, 1979, 1982, and 1985 to examine the trends in the race and gender pay disparities. These years were selected,

in part, because of data limitations. Since 1979, the PSID has collected work-related information every year for heads of households and their spouses or live-in partners. Prior to 1979, however, they only collected this information in 1976 for spouses or live-in partners. Hence, I used PSID data from 1976 and 1979. These years roughly correspond to the trough and peak of the business cycle of the late 1970s. I selected two other years — 1982 and 1985 — to match the trough and peak of the business cycle of the early 1980s.

The dependent variable in these regressions is a person's (logarithmic) hourly wage during that year. The regressions include all heads, spouses, or live-in partners who were between 25 and 55 years old. The work force was limited to those employed as civilian, non-agricultural, non-private household wage and salary workers. Workers who did not meet these criteria were dropped from the analysis. I excluded those under 25 because the PSID only asks employment questions of heads of households and their spouses (or live-in partners). Since many individuals under 25 are not yet heads of households, the PSID sample of young workers is not particularly representative of this population. Thus, I excluded this group from the analysis. I excluded those over 55 since many workers drop out of the labor force after this age and I did not want this possible selection bias to interfere with the analysis.

Most of the variables used in the regression analysis were easily recoded from the original data into dummy variables (see Appendix Table 1 for a list of the variables included in the analysis). Actual work experience, however, had a more complicated construction. The PSID asked about a person's actual work experience in 1976. It asked how many years a person had worked since the age of 18 and how many of those were part-time. For the years an individual worked part-time, the survey asked what proportion of the year the individual worked. Since 1976, these questions have only been asked of new household members.

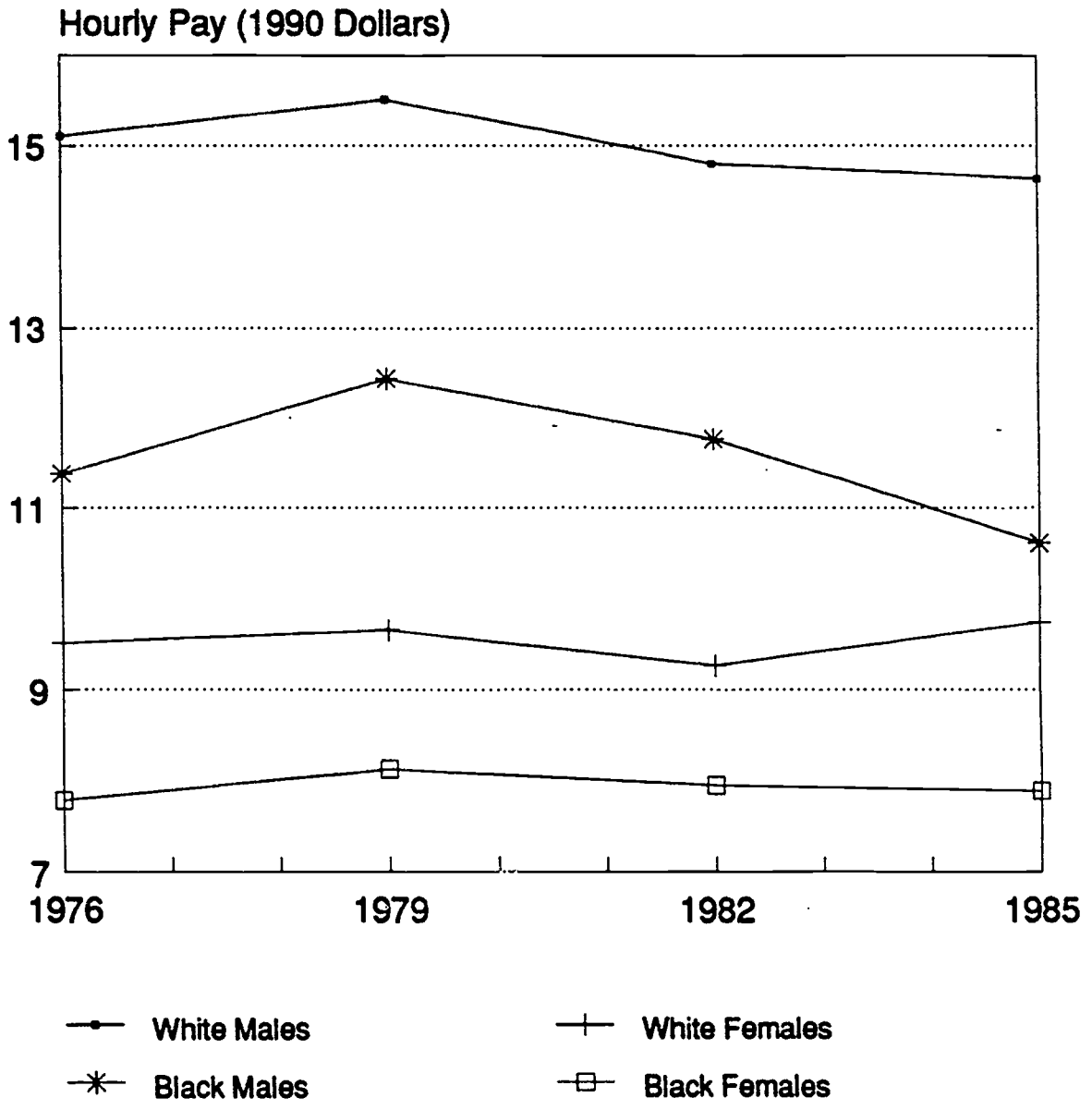
Thus, to obtain a person's actual work experience, these questions together with the information on a person's annual hours worked each year must be used. A person's actual work experience is equal to the sum of the following three items: (1) the number of years a person records having worked full-time when asked the original question, (2) the proportion of each year that an individual reports having worked part-time, and (3) the number of hours an individual has worked each subsequent year divided by 2,000.[2] I divided by 2,000 because the PSID defines a full-time worker as a person who works at least 2,000 hours per year.

The estimated earnings equations were corrected for possible selection bias that could have resulted from the decision whether or not to work.[3] To correct for this possible bias, a probit equation was estimated with a dependent variable equal to one if the individual decided to work and zero otherwise. The independent variables included marital status, number and age of children, family income other than the individual's earnings, as well as human capital variables, such as education, work experience, and time spent out of the work force.

V. Research Findings

Data from the PSID show trends in pay that are similar to those shown by the U.S. Bureau of Labor Statistics. Based on the PSID, Figure 4 shows that the hourly pay of white men age 25 to 55 peaked in 1979, fell during the recessionary period of 1979-1982, and remained relatively stable during the 1982-1985 recovery. White women in the same age group, on the other hand, experienced an increase in real hourly pay during the 1982-1985 recovery, after a slight decline during the 1979-1982 recessionary period. Thus, the gender gap in earnings for white workers (aged 25-55) declined during the 1980s. In

Figure 4
Trends in Real Earnings by Race and Sex for all Workers: 1976-85



Source: Author's analysis of PSID data

addition, real hourly pay for black men aged 25 to 55 peaked in 1979, but since that time their real pay has fallen considerably. Black women in this age group, on the other hand, have not experienced a decline in real hourly pay. Their real hourly pay has remained relatively stable throughout the 1976-1985 period. Thus, the gender pay gap for black workers (aged 25-55) also declined in the 1980s.

Figure 4 also shows that the black/white pay gaps for men and women (aged 25 to 55) increased during the 1980s according to the PSID. Black men's real pay fell more dramatically than white men's real pay in this age group, resulting in a larger pay disparity between black and white men. Black females, on the other hand, did not experience an increase in real pay during the 1982-1985 recovery as white women did. Hence, the pay disparity between black and white women aged 25 to 55 increased.

For simplicity, throughout the remaining portion of this report I will omit references to the age limitation of my sample. All of my analyses are limited to individuals between the ages of 25 to 55.

A. Why the Female/Male Pay Gaps Decreased

Table 1 reports the four basic explanations for a change in the pay gaps: (1) changes in the residual; (2) structural change; (3) a convergence (or divergence) in human capital and occupational attainment; and (4) employment shifts. I find the following factors contributed to the decrease in the gender pay gaps for white and black workers.

- o The unexplained component declined;
- o The human capital attributes of women and men converged;
- o The occupational distribution of women and men converged; and
- o Employment shifted more dramatically for men than women away from the goods-producing industries and union coverage toward the service sector and non-union employment.

Residual. Most of the decline in the gender pay gaps was due to a dramatic decline in the unexplained component. Table 1 shows that for white workers, 77 percent of the decline in the gender pay gap is unexplained. For black workers, 61 percent is unexplained.

It is difficult to interpret this decline. It means that the pay gap declined between women and men with the same measured productivity-related characteristics. This suggests that women have access to better opportunities in 1985 than they did in 1979. Unfortunately, this analysis cannot determine why opportunities for women improved. It may be that employers' attitudes changed regarding the employment of women. It may also be that the productivity attributes of women that are <u>not</u> measured by this analysis increased relative to those of men's. It is difficult to believe that all of this unexplained decline is due to a convergence in <u>unmeasured</u> characteristics, however, since convergence in <u>measured</u> characteristics only explained 23 and 39 percent, respectively for whites and blacks. Hence, these findings certainly suggest that gender discrimination declined in the 1980s. It also suggests that it declined more for whites than blacks, since the unexplained accounted for more of the decline in the white gender gap than the black gender gap.

Structural Change. Changes in the structure of the labor market did not contribute to the decline in the gender earnings gaps. Economic restructuring has increased the rates of returns to human capital, but this benefits male workers over female workers, since men have more human capital than women, on average. Hence, if economic restructuring were the only change in the labor market during the 1980s, the gender pay gaps for black and white workers would have increased.

Convergence in Human Capital and Occupational Attainment. Between 1979 and 1985, women's human capital attributes increased relative to those of men, explaining about 7 percent of the decline in the gender pay gaps for both

Table 1

Decomposition of the Change in the Gender and Race Pay Differentials: 1979–85

	Gender Gaps		Race Gaps	
	white female/ male	black female/ male	female black/ white	male black/ white
Change in the Total Pay Gap	-7%	-12%	4%	11%
Due to Changes in:	100%	100%	100%	100%
Residual	77%	61%	89%	44%
Structural Change	0	0	0	38%
Convergence/ Divergence of:	13%	17%	0	0
Human Capital	7%	7%	0	0
Occupational Attainment	6%	10%	0	0
Employment Shifts within:	11%	22%	11%	18%
Industries	4%	0	2%	8%
Unions	6%	17%	0	9%
Regions	1%	5%	9%	1%

Source: Author's analysis of the Panel Study of Income Dynamics

blacks and whites. Most of this improvement was due to an increase in women's actual work experience relative to that of men's. On the other hand, men increased their average level of education more than women during this period. Hence, these changes in education offset some of the gains caused by increased work experience.

All measured human capital attributes except education increased for white women relative to white men between 1979 and 1985. Table 2 shows that white women's average education increased .4 years (from 13.0 to 13.4 years) during this period, but white men's average education increased .5 years (from 13.1 to 13.6). Thus, white women's education did not increase as much as white men's. On the other hand, white women's work-related attributes improved more than white men's. For example, between 1979 and 1985, white women's actual work experience increased .4 years (from 11.4 to 11.8 years), but white men's actual work experience decreased .8 years (from 17.9 to 17.1 years). Time spent out of the labor force declined 1.1 years for white women (from 7.6 to 6.5 years), and it declined .1 years for white men (from .8 to .7 years). Similarly, the percent of white women aged 25 to 55 who were employed increased 8 percent (from 53 to 61 percent); it decreased for white men in this age group 2 percent (from 88 to 86 percent).

Changes in human capital were somewhat different among blacks. In 1979, black women had less work experience, on average, than black men, but their average education level was greater than black men's. Between 1979 and 1985, however, black men's education increased 1.1 years (from 11.5 to 12.6 years), whereas black women's education increased .7 years (from 12.0 to 12.7 years). These changes almost eliminated the educational difference between black women and men. Black women's work-related attributes, on the other hand, increased slightly between 1979 and 1985, whereas black men's work-related attributes

Table 2

Changes in the Weighted Means of Human Capital Variables: 1979–1985

	White Men	Black Men	White Women	Black Women
Highest Grade	0.5	1.1	0.4	0.7
Yrs. of Work Experience	-0.8	-1.6	0.4	0.1
Yrs. Out of Work	-0.1	0.2	-1.1	0.0
Percent Part-time	-1.0	-5.0	4.0	-5.0
Percent Working	-5.0	-2.0	8.0	1.0

Source: Author's analysis of the Panel Study of Income Dynamics

declined during this period. For example, black men's work experience declined 1.6 years (from 17.4 to 15.8 years), whereas black women's work experience increased .1 years (from 12.8 to 12.9).

Much of the decline in work-related attributes for black men appears to be caused by the severe recession of the early 1980s. For example, the proportion of black men not working (aged 25–55) increased during the recession from 17 to 27 percent. During the 1982–1985 economic recovery, this figure fell back to 19 percent, almost returning to its pre-recessionary level of 17 percent, but this increased joblessness appears to have taken its toll on the actual work experience of black men.

In addition, the occupational distribution of women and men converged during this period. In general, men moved from blue-collar work, where they were over-represented, to white-collar and service work. Women, on the other

hand, tended to move from service and less-skilled white-collar work to professional and managerial occupations.

Shifts in the occupational distribution of white women and men explained 6 percent of the decline in the white gender pay gap. White men experienced a shift out of craft occupations and into professional and service occupations. White women moved into professional and managerial occupations, and out of jobs traditionally held by women in the clerical, sales, and service fields.

Table 1 shows that shifts in occupational attainment explained 10 percent of the decline in the black gender pay gap. Both black women and men shifted into higher skilled occupational categories during the 1980s, but these shifts were more pronounced among black women than black men. Black women have traditionally been over-represented in service work, but the share of black women in these jobs has declined over time. At the same time, the proportion of black women working in white-collar work, especially clerical work, increased. Black men, on the other hand, have been moving out of operative and laborer jobs, where they have been over-represented. Their employment share has increased in craft, professional, and managerial occupations.

Employment Shifts. Another explanation for the decline in the gender pay gaps is the shift of employment away from manufacturing and union jobs toward the service sector and non-union employment, which negatively affected male workers more than female workers. This explanation accounted for 11 percent of the decline in the white gender pay gap and 22 percent of the decline in the black gender pay gap.

As Table 1 indicates, shifts in union coverage and industrial employment explained 10 percent of the decline in the white gender pay gap. The share of white men in manufacturing and construction declined during the 1980s, but

remained unchanged for white women. In addition, union coverage fell for both white women and men, but fell more dramatically for white men. Union coverage for white men fell from 31 to 25 percent between 1979 and 1985. Union coverage for white women fell from 18 to 17 percent during the same period.

Industrial employment shifted for black workers, but these shifts did not contribute to the decline in the gender earnings gap for black workers. Most notably, during the 1980s, the proportion of black men working in manufacturing, construction, and public administration declined, but their proportion increased in the services and trade industries. The shifts in black women's industrial employment were slightly different. Their proportions declined in manufacturing and service industries, but increased in trade, utilities, and public administration.

The most important structural shift that contributed to the decline in the black gender pay gap was the decline in union coverage, explaining 17 percent of this decline. Union status declined during the 1980s among black workers, but it declined more among black males than black females. Thus, union status among black male and female workers converged during this period. A convergence in union status reduces the gender pay disparity because workers who belong to unions earn more, on average, than other workers. Since black men are more likely to belong to unions than black women, black men earn more than black women. As union status converges, however, this reason for the gender pay gap diminishes.

B. Why the Black/White Pay Gaps Increased

Although black/white pay gaps for both women and men increased in the 1980s, the explanation for the increase differs by gender. For men, most of the increase in the black/white pay gap was due to structural changes and employment shifts in the economy, explaining 56 percent of the increase in the

pay gap between 1979 and 1985. For women, only 11 percent of the increase in the black/white pay gap was due to employment shifts. The other 89 percent of the increase was due to an increase in the residual component. This means that the estimated coefficients for black and white women diverged between 1979 and 1985, accounting for almost all of the increase in this pay gap.

Black/White Pay Gap for Women

The Residual. The residual for black and white women increased throughout the period of this analysis. This means that the pay gap increased between black and white women with the same level of education and work experience and who were work in the same broadly defined occupation and industry. As I have stated before, it is difficult to interpret changes in the unexplained component. It could reflect an increase in racial discrimination against black women and/or a divergence in unmeasured productivity characteristics between black and white female workers.

The estimated coefficients that diverged during the 1980s were the non-human capital variables. In particular, the estimated coefficients for most broad occupational categories declined for black women, but they did not decline for white women. Similarly, the estimated coefficient for professional service industries declined for black women, but not for white women. This means that the pay gaps widened between black and white women within broad occupational categories as well as within the professional services industry, which is the largest employer of black and white women.

Structural Change. Changes in the structure of the labor market did not contribute to the widening racial pay gap between female workers. The estimated coefficients for human capital attributes increased between 1979 and 1985, but these changes benefited black women more than white women. It is true that white women have more education, on average, than black women, but

black women are more likely to be employed, have spent less time out of the work force, and have more work experience than white women. Hence, increased returns to human capital benefited black women more than white women.

Convergence in Human Capital and Occupational Attainment. During the 1980s, black women's educational attainment increased more than white women's, but their other human capital attributes did not improve as much as those of white women's. These offsetting changes in the human capital attributes of black and white women did not affect the pay gap between these two groups of women. Between 1979 and 1985, Table 2 shows that black women's average educational attainment increased .7 years; it increased .4 years for white women. Hence, during the 1980s, black women's education improved relative to white women's. On the other hand, black women's actual work experience increased an average of .1 years; it increased .4 years for white women. Similarly, time spent out of work remained unchanged among black women, but it declined 1.1 years among white women. Furthermore, the work force participation rates increased more rapidly among white women than black women. Nonetheless, in 1985, black women had more actual work experience and higher participation rates than white women, but these differences narrowed during the 1980s. In sum, the overall effect of these changes in human capital attributes had no effect on the pay gap between black and white women.

The occupational attainment of black and white women continued to converge during the 1980s. This convergence would have resulted in a smaller black/white pay gap for women if other factors had not intervened. For example, the percentage of black women working in clerical jobs increased from 25 to 31 percent between 1979 and 1985. At the same time, it declined for white women, falling from 34 to 30 percent. In addition, both black and white women continued to move out of blue-collar and service work and into white-collar jobs. White women, however, increased their percentage in managerial

and professional jobs more than black women. By 1985, 40 percent of white women worked in these two areas, up from 35 percent in 1979. Black women increased their percentage from 21 to 23 percent during these years. Nonetheless, the overall effect of these occupational changes would have reduced the pay gap between black and white women had other changes not occurred.

Employment Shifts. Two structural shifts explain 11 percent of the increased pay gap between black and white women — shifts in industrial employment and regional location. The industrial employment of black and white women diverged in the 1980s, explaining 2 percent of the increase in the black/white pay gap for women. The percentage of black women working in manufacturing, construction, and service industries declined between 1979 and 1985, but increased in trade, public administration, and communications. White women, on the other hand, increased their percentage in manufacturing, construction, insurance, and non-professional services, and decreased their percentage in trade, public administration, and professional services. The most important shift, however, was the divergence in manufacturing employment for black and white women.

In addition, the proportion of black women working in the south increased more rapidly than it did among white women, explaining 9 percent of the increase in this black/white earnings gap. Since earnings are lower in the south than in other regions, a larger shift to the south among black women resulted in lower earnings relative to white women.

Black/White Pay Gap for Men

The Residual. Forty-four percent of the increase in the black/white earnings gap for men can be attributed to an increase in the residual. This means that the pay gap increased between black and white men who have the same

level of education and work experience and work in the same broadly defined occupation and industry. As I have explained before, an increase in the unexplained is caused by a divergence in the estimated coefficients. In this case, the estimated coefficients diverged for human capital variables and blue-collar occupations. During the 1980s, the returns to education increased for white men but not black men. For white men, their return to education increased from .049 to .062 between 1979 and 1985. The rate of return for black men declined during this period from .049 to .044. Thus, by 1985, white men earned considerably more than black men for each additional year of education. In addition, the wage premiums paid black men for blue-collar work declined during the 1980s, but remained unchanged for white men.

Structural Change. During the 1980s, the returns to human capital increased, especially for white males. Since white males have more human capital than black men, this benefited white males more than black men. As Table 1 shows, these changes accounted for 38 percent of the increase in the black/white pay gap for men.

Convergence in Human Capital and Occupational Attainment. None of the increased pay gap between black and white men is explained by increased differences in human capital attainment. Table 2 shows that black men's educational attainment increased an average 1.1 years between 1979 and 1985, but white men's educational attainment only increased an average .5 years during this period. Thus, black and white men's educational attainment converged during this period. This would have reduced the pay disparity between these men had other factors not intervened. Between 1979 and 1985, black men's actual work experience declined an average 1.8 years and white men's declined an average .8 years. The 1982-1983 recession appears to have reduced the actual work experience of both black and white men, but had a stronger effect on black men. Nonetheless, the effect of this relative decline

in work experience on the black/white earnings gap for men was more than offset by the relative increase in education among black men.

The occupational attainment of black and white men also converged during the 1980s. Hence, this factor did not contribute to the increase in the black/white pay gap for men. White men moved out of craft work and into managerial, professional and service work. At the same time, black men moved out of operative and laborer positions and into craft work as well as the other fields that white men were entering.

Employment Shifts. As Table 1 shows, employment shifts accounted for 18 percent of the increase in the black/white pay gap for men. Union coverage declined for both black and white men in the 1980s, but it declined more for black men. This caused the black/white earnings disparity to increase since union workers earn more, on average, than non-union workers. Employment shifts across different industries also contributed to the widening black/white pay gap. The proportion of men working in manufacturing declined, but it declined more for black men than white men. In addition, the proportion of black men working in communications, utilities and public administration declined during the 1980s, but increased slightly for white men. These industries tended to pay workers higher wages than other industries. Thus, a larger decline in employment in these industries for black men reduced their earnings relative to white men.

VI. Conclusions

This research shows that gender differences in pay declined during the 1980s for both blacks and whites. In contrast, black/white differences in pay increased for both men and women. Previous research has tended to argue that human capital attainment increased among women, explaining the decline in the gender pay gaps. In contrast, it is generally argued that shifts in labor

demand negatively affected black workers more than whites, explaining the increase in black/white differences in pay.

I find that these are incomplete explanations for the changes in the gender and racial pay disparities. For both black and white women, most of the decline in the gender pay gap was driven by a decline in the unexplained component. This suggests that either gender discrimination declined or that unmeasured productivity characteristics of women increased relative to men of the same race. In addition, economic restructuring explains most of the increase in the black/white earnings gap for men, but it explains only a minor amount (11 percent) of the increase in the earnings disparity between black and white women. Most of this increased earnings disparity is unexplained by restructuring or changes in human capital. This suggests that either racial discrimination against black women increased during the 1980s or that unmeasured productivity differences between black and white women increased during this period.

Notes

1. I used the CPI-U-X series to correct for inflation. This is the price index that incorporates a rental equivalence measure for homeowner's costs. It has been used as the official consumer price index since 1983. Published figures from 1983 to 1990 are available in the Economic Report of the President (Washington, D.C.: GPO 1991). The 1969-1982 figures are reported in an unpublished table available from the U.S. Bureau of Labor Statistics.

2. If an individual worked more than 2,000 hours in one year, I truncated this value to 2,000 hours so that a person could only accumulate at most one year of work experience per year.

3. I said a person was working if he/she was employed as civilian, non-agricultural, non-private household wage and salary workers. Workers who did not meet these criteria were dropped from the analysis. Individuals also had to have positive earnings to be counted as working. If they said they were employed but had no earnings, I considered them to be out of the work force.

Appendix Table 1. VARIABLE NAMES AND DEFINITIONS

Variable	Definition
Wage (log)	The natural log of hourly pay
Human Capital Characteristics	
Education	Number of years of education completed
Work Exp.	Number of years an individual has been employed since turning 18 years old
Exp. Sq.	Actual work experience squared
Home-time	Number of years an individual has not been employed or in school since turning 18 years old
Part-time	1 if individual usually worked less than 35 hours per week; zero otherwise
Lambda	Inverse of Mills' ratio predicted from a probit equation for inclusion in the wage sample
Regional Characteristics	
Northeast	1 if lives in the Northeast region; zero otherwise (South is the omitted category)
N. Central	1 if lives in the North Central region; zero otherwise
West	1 if lives in the West region; zero otherwise
Industrial Characteristics	
Union	1 if covered by a union contract; zero otherwise
Const./Man. — Pub. Ad.	6 dummy variables that equal 1 if employed in the relevant one-digit Standard Industrial Classification code (Trade is the omitted category); zero otherwise
Occupational Characteristics	
Prof. — Op./Labor	6 dummy variables that equal 1 if employed in the relevant one-digit Standard Occupational Classification Code (Service is the omitted category); zero otherwise

Source: Author's analysis of the Panel Study of Income Dynamics

Appendix Table 2

Weighted Means of Variables Included in Earnings Equations, 1976 and 1979

	1976				1979			
	White Males	White Females	Black Males	Black Females	White Males	White Females	Black Males	Black Females
Wage (log)	1.926	1.465	1.643	1.264	2.173	1.699	1.952	1.527
Education	12.986	12.879	10.924	11.655	13.131	13.024	11.524	12.017
Work Exp.	18.536	11.557	18.549	13.564	17.928	11.385	17.444	12.840
Exp. Sq.	436.590	188.640	440.490	263.420	410.910	179.630	397.200	228.730
Home-time	0.755	8.091	1.182	5.373	0.772	7.567	1.158	5.241
Part-time	0.031	0.298	0.062	0.219	0.038	0.284	0.025	0.237
Northeast	0.255	0.249	0.099	0.148	0.242	0.259	0.114	0.218
N. central	0.331	0.322	0.257	0.253	0.317	0.300	0.242	0.193
West	0.147	0.165	0.086	0.063	0.165	0.160	0.075	0.087
Union	0.304	0.208	0.528	0.298	0.314	0.183	0.508	0.278
Prof.	0.201	0.251	0.052	0.132	0.204	0.258	0.082	0.187
Manager	0.184	0.063	0.047	0.037	0.191	0.085	0.083	0.016
Sales	0.058	0.060	0.016	0.027	0.055	0.058	0.027	0.007
Clerical	0.065	0.333	0.158	0.253	0.053	0.344	0.117	0.249
Craft	0.287	0.006	0.183	0.009	0.290	0.010	0.205	0.027
Op./Labor	0.177	0.133	0.376	0.212	0.192	0.106	0.379	0.177
Const./Man.	0.418	0.186	0.410	0.203	0.423	0.158	0.429	0.227
TCU	0.113	0.032	0.135	0.014	0.114	0.048	0.113	0.026
FIRE	0.040	0.078	0.032	0.083	0.038	0.071	0.017	0.057
Prof. Svc.	0.122	0.406	0.120	0.450	0.134	0.421	0.092	0.423
Other Svc.	0.077	0.078	0.039	0.096	0.072	0.061	0.047	0.121
Pub. Ad.	0.094	0.074	0.158	0.052	0.090	0.070	0.195	0.069
Lambda	0.125	0.523	0.146	0.462	0.085	0.466	0.169	0.386
N	1,035	753	412	497	1,082	746	455	539

Appendix Table 2 Cont'd

Weighted Means of Variables Included in Earnings Equations, 1982 and 1985

	1982				1985			
	White Males	White Females	Black Males	Black Females	White Males	White Females	Black Males	Black Females
Wage (log)	2.381	1.913	2.153	1.761	2.489	2.083	2.168	1.870
Education	13.209	13.188	11.965	12.237	13.597	13.378	12.598	12.670
Work Exp.	17.762	11.519	17.071	13.645	17.124	11.783	15.793	12.874
Exp. Sq.	399.980	181.170	387.170	247.720	364.010	181.990	327.000	224.050
Home-time	0.751	7.297	1.194	5.007	0.744	6.486	1.439	5.161
Part-time	0.052	0.288	0.095	0.220	0.032	0.230	0.067	0.186
Northeast	0.240	0.266	0.161	0.190	0.228	0.261	0.154	0.160
N. Central	0.304	0.278	0.217	0.199	0.305	0.259	0.170	0.182
West	0.175	0.174	0.078	0.093	0.176	0.187	0.083	0.069
Union	0.295	0.175	0.466	0.304	0.248	0.172	0.383	0.270
Prof.	0.228	0.247	0.095	0.158	0.242	0.276	0.093	0.154
Manager	0.169	0.010	0.067	0.057	0.179	0.116	0.101	0.077
Sales	0.065	0.058	0.022	0.004	0.049	0.034	0.010	0.023
Clerical	0.047	0.343	0.110	0.302	0.042	0.303	0.075	0.310
Craft	0.259	0.011	0.170	0.016	0.245	0.015	0.250	0.020
Op./Labor	0.177	0.085	0.377	0.209	0.189	0.096	0.328	0.157
Const./Man.	0.435	0.185	0.411	0.239	0.400	0.185	0.402	0.196
TCU	0.114	0.046	0.118	0.030	0.120	0.048	0.107	0.048
FIRE	0.049	0.089	0.010	0.663	0.037	0.084	0.026	0.058
Prof. Svc.	0.123	0.408	0.134	0.407	0.132	0.392	0.095	0.366
Other Svc.	0.063	0.055	0.048	0.087	0.069	0.071	0.122	0.083
Pub. Ad.	0.080	0.046	0.159	0.098	0.092	0.063	0.083	0.118
Lambda	0.141	0.484	0.265	0.370	0.137	0.394	0.190	0.376
N	1,073	907	452	633	1,042	933	465	649

Appendix Table 3

Selection-Corrected Earnings Regressions, 1976 and 1979
(Standard Errors in parentheses)

	1976				1979			
	White Males	White Females	Black Males	Black Females	White Males	White Females	Black Males	Black Females
Intercept	0.305* (0.135)	0.183 (0.172)	0.786* (0.165)	0.016 (0.201)	0.835* (0.158)	0.519* (0.154)	0.827* (0.168)	0.830* (0.168)
Education	0.051* (0.660)	0.042* (0.011)	0.010 (0.009)	0.057* (0.013)	0.049* (0.007)	0.045* (0.010)	0.049* (0.009)	0.025* (0.010)
Work Exp.	0.025* (0.006)	0.027* (0.009)	0.026* (0.011)	0.024* (0.009)	0.013 (0.007)	0.020* (0.009)	-0.023* (0.010)	0.021* (0.008)
Exp. Sq.	-3E-4 (2E-4)	-7E-4* (3E-4)	-5E-4 (2E-4)	-6E-4* (2E-4)	-2E-5 (2E-4)	-3E-4 (3E-4)	9E-4* (3E-4)	-5E-4* (2E-4)
Home-time	-0.004 (0.008)	-0.007* (0.003)	0.009 (0.011)	-0.005 (-0.005)	0.002 (0.008)	-0.008* (0.002)	0.006 (0.013)	-0.010* (0.004)
Part-time	0.224* (0.075)	0.058 (0.041)	-0.045 (-0.087)	0.201* (0.051)	0.017 (0.068)	-0.015 (0.038)	0.401* (0.120)	-0.122* (0.036)
Northeast	0.080* (0.036)	0.162* (0.047)	-0.118 (-0.076)	0.194* (0.063)	0.063 (0.037)	0.079 (0.044)	0.046 (0.067)	0.211* (0.040)
N. Central	0.079* (0.034)	0.072 (0.043)	0.091 (0.059)	0.032 (0.052)	0.084* (0.034)	0.063 (0.042)	0.178* (0.055)	0.219* (0.040)
West	0.149* (0.042)	0.047 (0.052)	0.153* (0.077)	0.331* (0.084)	0.076 (0.041)	0.021 (0.049)	0.291* (0.080)	0.287* (0.052)
Union	0.223* (0.032)	0.233* (0.044)	0.402* (0.052)	0.027 (0.046)	0.202* (0.032)	0.316* (0.043)	0.273* (0.048)	0.073* (0.035)
Prof.	0.577* (0.086)	0.515* (0.068)	0.932* (0.116)	0.478* (0.077)	0.445* (0.109)	0.429* (0.062)	0.297* (0.100)	0.231* (0.053)
Manager	0.575* (0.086)	0.460* (0.084)	0.608* (0.109)	0.706* (0.110)	0.480* (0.110)	0.389* (0.073)	0.411* (0.095)	0.333* (0.120)
Sales	0.494* (0.098)	0.250* (0.087)	0.636* (0.170)	0.540* (0.149)	0.241* (0.121)	0.145 (0.082)	0.269 (0.140)	0.084 (0.175)
Clerical	0.273* (0.094)	0.248* (0.056)	0.254* (0.090)	0.260* (0.064)	0.168 (0.118)	0.151* (0.053)	0.359* (0.089)	0.110* (0.048)
Craft	0.375* (0.083)	0.356 (0.218)	0.214* (0.080)	0.465* (0.223)	0.216* (0.108)	0.131 (0.164)	0.179* (0.078)	-0.049 (0.101)

Appendix Table 3 cont'd.

Selection-Corrected Earnings Regressions, 1976 and 1979
(Standard Errors in parentheses)

	1976				1979			
	White Males	White Females	Black Males	Black Females	White Males	White Females	Black Males	Black Females
Op./Labor	0.180*	0.082	0.130	0.232*	0.089	-0.070	0.147*	0.072
	(0.085)	(0.081)	(0.076)	(0.103)	(0.110)	(0.080)	(0.075)	(0.067)
Const./Man.	0.121*	0.306*	0.003	0.276*	0.161*	0.294*	0.275*	0.084
	(0.045)	(0.075)	(0.085)	(0.112)	(0.045)	(0.067)	(0.078)	(0.071)
TCU	0.221*	0.410*	0.213*	0.379*	0.177*	0.283*	0.123	0.335*
	(0.054)	(0.105)	(0.101)	(0.182)	(0.055)	(0.083)	(0.094)	(0.104)
FIRE	0.131	0.191*	0.101	0.372*	0.130	0.178*	0.138	0.353*
	(0.073)	(0.075)	(0.125)	(0.105)	(0.076)	(0.071)	(0.167)	(0.083)
Prof. Svc.	-0.078	0.232*	0.113	0.145	-0.070	0.122*	0.271*	0.158*
	(0.057)	(0.061)	(0.092)	(0.080)	(0.058)	(0.052)	(0.096)	(0.058)
Other Svc.	-0.002	0.067	0.222	-0.149	0.068	0.068	0.169	-0.195*
	(0.059)	(0.073)	(0.123)	(0.096)	(0.062)	(0.074)	(0.110)	(0.069)
Pub. Adm.	0.077	0.348*	0.012	0.414*	0.057	0.243*	0.123	0.259*
	(0.059)	(0.079)	(0.101)	(0.116)	(0.060)	(0.073)	(0.085)	(0.075)
Lambda	-0.067	0.002	-0.312*	-0.102	-0.274*	0.110	-3E-4	-0.002
	(0.110)	0.069	(0.116)	(-0.088)	(0.122)	(0.061)	(0.095)	(0.091)
$\bar{R}^2$	0.287	0.372	0.396	0.426	0.246	0.369	0.326	0.451

* Significant at the 5 percent level (two-tailed tests).
Source: Author's tabulations from the Panel Study of Income Dynamics.

Appendix Table 3 cont'd.

Selection-Corrected Earnings Regressions, 1982 and 1985
(Standard Errors in parentheses)

	1982				1985			
	White Males	White Females	Black Males	Black Females	White Males	White Females	Black Males	Black Females
Intercept	0.931*	0.540*	0.505*	-0.045	0.846*	0.641*	0.814*	0.193
	(0.135)	(0.157)	(0.192)	(0.176)	(0.141)	(0.155)	(0.208)	(0.186)
Education	0.060*	0.050*	0.051*	0.072*	0.062*	0.044*	0.043*	0.063*
	(0.007)	(0.009)	(0.011)	(0.010)	(0.008)	(0.008)	(0.012)	(0.011)
Work Exp.	0.019*	0.034*	0.036*	0.055*	0.034*	0.042*	0.060*	0.072*
	(0.007)	(0.009)	(0.010)	(0.010)	(0.009)	(0.011)	(0.011)	(0.010)
Exp. Sq.	-2E-4	-7E-4*	-7E-4*	-1E-3*	-5E-4*	-9E-4*	-1E-3*	-2E-3*
	(2E-4)	(2E-4)	(3E-4)	(3E-4)	(2E-4)	(3E-4)	(3E-4)	(3E-4)
Home-time	0.002	-0.003	-0.006	-0.021*	-0.019	-0.009*	-0.003	-0.004
	(0.010)	(0.002)	(0.013)	(0.005)	(0.016)	(0.003)	(0.013)	(0.004)
Part-time	0.034	-0.033	0.310*	-0.123*	-0.158*	0.004	-0.170*	0.054
	(0.056)	(0.032)	(0.070)	(0.038)	(0.077)	(0.037)	(0.087)	(0.046)
Northeast	0.013	0.035	0.008	0.136*	-0.0004	0.093*	-0.092	0.039
	(0.035)	(0.037)	(0.061)	(0.047)	(0.037)	(0.039)	(0.061)	(0.053)
N. Central	-0.050	0.008	0.055	0.045	-0.010	-0.031	0.073	0.078
	(0.033)	(0.037)	(0.056)	(0.042)	(0.034)	(0.039)	(0.059)	(0.048)
West	0.052	0.030	0.393*	0.191*	0.072	0.060	-0.215*	0.270*
	(0.038)	(0.041)	(0.080)	(0.057)	(0.040)	(0.042)	(0.079)	(0.071)
Union	0.216*	0.201*	0.428*	0.168*	0.296*	0.266*	0.395*	0.234*
	(0.030)	(0.039)	(0.050)	(0.037)	(0.033)	(0.041)	(0.048)	(0.044)
Prof.	0.420*	0.480*	0.539*	0.239*	0.404*	0.467*	0.522*	0.450*
	(0.066)	(0.053)	(0.096)	(0.062)	(0.068)	(0.053)	(0.099)	(0.068)
Manager	0.489*	0.437*	0.350*	0.440*	0.492*	0.422*	-0.056	0.196*
	(0.068)	(0.058)	(0.104)	(0.078)	(0.070)	(0.058)	(0.097)	(0.081)
Sales	0.183*	0.021	0.147	0.237	0.434*	0.095	0.125	-0.064
	(0.081)	(0.070)	(0.152)	(0.220)	(0.088)	(0.088)	(0.202)	(0.126)
Clerical	0.105	0.181*	0.218*	0.259*	0.137	0.239*	-0.119	0.151*
	(0.080)	(0.044)	(0.086)	(0.047)	(0.086)	(0.046)	(0.100)	(0.055)
Craft	0.231*	0.138	0.019	0.224	0.210*	0.284*	-0.107	0.194
	(0.064)	(0.133)	(0.074)	(0.139)	(0.066)	(0.126)	(0.079)	(0.135)

Appendix Table 3 cont'd.

Selection-Corrected Earnings Regressions, 1982 and 1985
(Standard Errors in parentheses)

	1982				1985			
	White Males	White Females	Black Males	Black Females	White Males	White Females	Black Males	Black Females
Op./Labor	0.058	5E-4	-0.053	0.173*	0.026	0.023	-0.279*	0.017
	(0.068)	(0.069)	(0.068)	(0.070)	(0.070)	(0.070)	(0.079)	(0.076)
Const./Man.	0.199*	0.305*	0.470*	0.165*	0.158*(	0.289*	0.269*	0.159*
	(0.042)	(0.052)	(0.070)	(0.078)	(0.042)	(0.057)	(0.067)	(0.080)
TCU	0.206*	0.315*	0.360*	0.377*	0.130*	0.375*	0.366*	0.410*
	(0.053)	(0.072)	(0.087)	(0.107)	(0.053)	(0.076)	(0.085)	(0.094)
FIRE	0.023	0.108	0.155	0.271*	0.153*	0.222*	0.099	0.304*
	(0.067)	(0.057)	(0.205)	(0.084)	(0.076)	(0.062)	(0.134)	(0.089)
Prof. Svc.	-0.111*	0.167*	0.384*	0.188*	-0.079	0.225*	0.176	-0.018
	(0.055)	(0.044)	(0.088)	(0.063)	(0.058)	(0.047)	(0.096)	(0.060)
Other Svc.	-0.013	0.048	0.198	0.002	0.016	0.201*	0.016	-0.224*
	(0.062)	(0.066)	(0.113)	(0.076)	(0.062)	(0.065)	(0.084)	(0.082)
Pub. Adm.	0.199*	0.372*	0.224*	0.220*	0.165*	0.331*	0.152	0.275*
	(0.062)	(0.074)	(0.084)	(0.075)	(0.060)	(0.070)	(0.091)	(0.075)
Lambda	-0.246*	0.062	0.014	-0.324*	-0.050	0.087	0.045	-0.019
	(0.102)	(0.075)	(0.097)	(0.086)	(0.160)	(0.082)	(0.093)	(0.091)
$\bar{R}^2$	0.337	0.425	0.423	0.428	0.350	0.414	0.469	0.522

* Significant at the 5 percent level (two-tailed tests).
Source: Author's tabulations from the Panel Study of Income Dynamics.

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