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**BLACK AND FEMALE REPRESENTATION IN MICHIGAN MUNICIPAL GOVERNMENTS**

**By**

**Craig A. Minnick**

**A THESIS**

**Submitted to  
Michigan State University  
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## ABSTRACT

## BLACK AND FEMALE REPRESENTATION IN MICHIGAN MUNICIPAL GOVERNMENTS

By

Craig A. Minnick

The purpose of this thesis is to determine whether blacks and females are making annual progress in eleven Michigan municipal work forces. The percentage of black males, white females, and black females in the municipal work force was compared with their respective percentages in the city's labor force to analyze the representativeness of the work force. The study also utilized several methods to measure the extent to which blacks and females are entering the more prestigious and remunerative municipal occupations. The study was able to reveal that blacks and females are underrepresented in the majority of municipal work forces. Blacks and females were also underrepresented in the high-prestige occupations. However, the study did reveal that blacks and females made some quantitative and qualitative progress during the first half of the 1980s.

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Dedicated to

My parents, to whom I am forever indebted.

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## CHAPTER 1

### INTRODUCTION

The primary legislation ensuring equal employment opportunity is Title VII of the Civil Rights Act of 1964. The Act prohibits discrimination in employment with respect to recruiting, hiring, training, promotion, salaries, and other conditions of employment on the basis of race, color, religion, sex, or national origin. Title VII also established the Equal Employment Opportunity Commission (EEOC) to monitor compliance with its provisions. During the early years, The EEOC processed complaints, acted as a conciliator, occasionally recommended cases to the attorney general and filed as a "friend of the court" in civil actions (Smith and Welch, 1984). However, the role of the EEOC was rather limited since it could not initiate litigation against employers who discriminated on the basis of one of the five protected categories.

The Act did not apply to state and local governments who were found to consciously discriminate on the basis of hiring, promotion, and recruitment policies according to a 1969 report published by the U.S. Commission on Civil Rights (1969). Numerous class action suits were brought against state and local governments in the early 1970s as a result of their hiring and promotion practices. Congress concluded that deep-seated and pervasive employment discrimination existed in the public sector and passed the Equal Employment Opportunity (EEO) Act of 1972 which extended coverage of Title VII of the Civil Rights Act of 1964 to include state and local governments in an effort to halt discriminatory policies (Days, 1984). The law also required state and local governments to adopt affirmative action programs. The 1972 Act

was as important to the public sector as the 1964 law was to the private sector.

The legislative intent of the 1964 Act was for the EEOC to seek voluntary compliance. The 1972 amendment greatly enhanced the power of the EEOC which was now empowered to prevent any person, including state and local governments, from engaging in discriminatory employment practices. The EEOC will continue to attempt to resolve a complaint through conciliation. However, the Commission can now file a civil suit against a nongovernmental employer. The EEOC can also refer any state or local government to the Attorney General of the United States who can bring suit in a federal district court. Clearly, the primary goal of this anti-discrimination legislation is to increase the employment opportunities for minorities and females.

The primary purpose of this study is to determine whether employment opportunities in the public sector have increased for minorities and females during the 1980s.

#### Employment Opportunities in the Private Sector

Much of the literature over the past few decades has been devoted to explaining the employment opportunities of blacks in the private sector. A number of studies have attempted to explain the connection between the relative size of the minority population and their occupational opportunities (Blalock, 1956, 1957; Frisbie and Neidert, 1977; LaGory and Magnani, 1979; Jibou and Marshall, 1971; and Wilcox and Roof, 1978). Blalock studied the extent to which a positive relationship existed between the percentage of minorities in the population or their rate of increase and economic discrimination. The units of analysis for the first study were 88 non-Southern Standard Metropolitan Areas (SMA's). Blalock found that a positive correlation did not exist between the rate of a non-white increase and various indices of job-related discrimination against blacks. The follow-up

study was conducted on a random sample of 150 Southern counties. The correlation between the increase of the non-white percentage of the population and occupational discrimination was nonsignificant. Blalock concluded that the relationship between the rate of minority increase and discrimination was relatively weak.

Frisbie and Neidert (1977) examined the effects of the relative size of the black and Mexican American population on majority-minority occupational and income differentials. Income and occupational inequalities between whites and both minority groups were significantly related to minority percentages.

LaGory and Magnani (1979) analyzed 50 Standard Metropolitan Statistical Areas (SMSAs) to determine the effects of the percentage of blacks in the SMSA, and black population growth on occupational differentiation. The index of dissimilarity was used to measure occupational differentiation. The percentage of blacks was found to be a strong determinant of the level of occupational differentiation. Metropolitan areas experiencing the most rapid rate of black population growth tended to have low levels of occupational differentiation. The impact of black population growth was greater in non-Southern metropolitan areas.

Jiobu and Marshall (1971) performed a similar study on 74 central cities in the United States. This study also indicated that occupational differentiation is positively related to the percentage of blacks and negatively related to black population growth.

Wilcox and Roof (1978) examined the patterns of racial inequality in southern and non-southern metropolitan areas. Racial inequalities in occupation were positively associated with the percentage of blacks in both areas. White status levels increased where the percentage of blacks in the population is relatively large. At the same time, a tendency exists for black status levels to be lower where the percentage

of blacks is relatively high. The high white status levels contribute a greater extent to the southern racial inequality.

Spatial segregation of the black from the white population may impact the occupational assimilation of the black population. John Kain (1968) published an important study concerning residential segregation and employment opportunities for blacks. Kain hypothesized that racial segregation in housing markets effects the distribution of black employment and reduces job opportunities for blacks. A large number of blacks living in the central city ghettos would have less information on jobs outside the ghetto. These blacks would also experience difficulties in commuting to these jobs. Indeed, part of the recent high unemployment for blacks has been attributed to the suburbanization of employment. Kain tested the hypotheses by analyzing data from the Chicago and Detroit metropolitan areas. He concluded that residential segregation affects the distribution of black employment and may reduce the level of black employment.

Mooney (1969) also performed a study that attempted to measure the impact of housing segregation on employment opportunities for blacks. The 25 metropolitan areas with the largest black populations were chosen for analysis. Mooney found that residential segregation may reduce black job opportunities to some extent. However, aggregate demand conditions such as the rate of unemployment in a particular SMSA play a more important role.

Another study examined the effect of accessibility on the distribution of low skilled, inner city black employment (Davies and Huff, 1972). The researchers found that unfilled job opportunities in Indianapolis were very close to the disadvantaged and easily accessible by public transportation. However, "the spatially restricted nature of the ghetto so limits the environmental experiences of the black that their ability to collect and assimilate information on the location of

suitable job opportunities within an urban area is severely diminished." (Davies and Huff, 1972). The researchers suggested that improved methods of disseminating employment information, the disadvantaged needs for increased knowledge of the urban environment, and the existence of supportive services are possible methods to improve the unemployed's knowledge of the existence and location of jobs.

Bahr and Gibbs (1967) tested the hypothesis that ghettoization increases income and occupational differentiation between blacks and whites using a sample of 33 SMSAs. The study indicated that residential segregation was not related to either measure of differentiation. Jiobu and Marshall (1971) also found no evidence to suggest that residential segregation effects occupational differentiation.

More recent research suggests that the occupational disparities between whites and blacks are affected by the extent of residential segregation (McDonald, 1981; Galster, 1987; and Leonard, 1987). McDonald used an adaption of the standard gravity model of trip distribution to measure the direct and indirect effects of housing segregation on employment opportunities for blacks. The direct effect refers to the notion that residential segregation makes some jobs physically inaccessible to black workers. The indirect effect is based on the contention that the racial composition of an area influences the racial composition of workers employed in the area by enhancing black job opportunities. Both direct and indirect effects of residential segregation on black employment opportunities were found to exist in the Chicago SMSA.

Galster (1987) presented a simultaneous equation model of metropolitan racial residential segregation and economic disparities. The results revealed that the degree of segregation was significantly correlated with occupational differentiation and that a more centralized pattern led to lower black median incomes compared to white incomes.

Leonard (1987) examined the impact of residential segregation from that of employment discrimination in determining the racial composition of the work forces in Chicago and Los Angeles. The distance of the workplace from the ghetto was found to be one of the strongest and most significant determinants of the black employment share.

The results of these studies have provided contradictory evidence on the importance of spatial segregation on employment opportunities for minorities in the private sector.

#### Employment Opportunities in the Public Sector

Prior to the Equal Employment Opportunity Act of 1972 researchers had analyzed minority and female employment opportunities in the private sector. The EEO Act of 1972 extended coverage to the public sector and most of the research since that time has been devoted to the effects of the Act on minority and female representation in state and municipal governments.

A growing body of literature in the past decade has been directed at the effects of the Equal Employment Opportunity Act of 1972 on minority representation in municipal governments. One common approach to measure the impact of this law is to analyze an aggregation of municipal employment data, in a single year, in terms of the demographic representation of state and local government work forces. A constructed mathematical benchmark is commonly used as a comparative standard in this approach. For example, a representation ratio is computed by dividing the black percentage of all state and local government workers by the black percentage of the state labor force. This ratio, which can be computed for any group, represents the extent to which the group is proportionately represented in the municipal work force or any occupation or employment function.

A number of studies have manipulated aggregate data in this manner to formulate a black representation ratio for each state (Sigelman and



Karnig, 1977; Meier, 1978; Hutchins and Sigelman, 1981). Sigelman and Karnig found that blacks are underrepresented in executive-managerial positions in 46 states. Meier discovered that the average state underrepresents minorities by 14 percent in its state and local bureaucracies. Hutchins and Sigelman found blacks to have entered state and local government employment at least in proportion to their share of the state's population in over 75 percent of the states studied. In addition, Hutchins and Sigelman measured the extent of salary advantage of one group over another by dividing median salary of black employees by median salary of white employees. This equation, by using white males and white females in the denominator, actually exaggerates the progress of blacks since white females themselves have suffered from discrimination.

Sigelman (1976) calculated a representation ratio for females in state and local government for each state. In this study, the ratio was computed by dividing the female proportion of government employees by the female proportion of the working-age population in the state. This ratio underestimates the representation of females because not all females of working age are represented in the work force. A female stratification ratio was also calculated to determine whether females were distributed evenly throughout the various occupation levels. The ratio is the percentage of females in higher-level posts divided by the percentage of females in lower-level posts. Sigelman revealed that females are overrepresented in every state. However, females are disproportionately employed in lower-level positions.

Dometrius and Sigelman (1984) compared the percentages of minorities and females in all state and local governments with the percentage in the private sector. The researchers also calculated percentages in the two most prestigious occupation levels to determine whether these groups were attaining greater occupational success in

state and local governments or in the private sector. In general, state and local governments appear to have done better than the private sector in providing employment opportunities for females and minorities.

The studies using this approach summarize the improvements that must be accomplished before minority and female representation is achieved, and to some extent, assess the degree of past sexual and/or racial discrimination. However, by using data from a single year, these reports lack information on the progress of state and local governments in regard to their equal employment/affirmative action efforts. The utilization of aggregated data results in two additional problems for studies using this approach. First, comparisons are made difficult by including so many different governments. A second problem is that results are sometimes skewed because one or more extremely large cities have been included in the study.

The second approach analyzes individual governments at a single point in time. In these studies, researchers must collect minority employment reports directly from the individual cities. Stein (1986) analyzed minority representation in 134 large cities across the United States by comparing the proportion of minorities in the municipal work force with the proportion of minorities in the city's population. A serious methodological flaw exists in this study since every citizen is not included in the labor force. Hall and Saltzstein (1977) studied the status of blacks and Spanish-surnamed individuals in 25 Texas cities in 1973. The study utilized a "use index," a measure that combines salary levels and representation levels of a particular minority group. The use index revealed that distinct intergroup and intercity differences exist and that blacks are more disadvantaged than the Spanish-surnamed minorities. The researchers also indicated that both groups were underrepresented in the professional occupations. Marlin (1977) computed a "parity index" for white, black and Hispanic males and

females to determine each group's occupational status in 31 of the largest U.S. cities. This index is a ratio of the percentage of officials and administrators in the municipal work force to the percentage of total officials and administrators in the Standard Metropolitan Statistical Area. The index revealed that black and Hispanic males fared better than females in these municipal occupations.

Studies that have made intercity comparisons are typically concerned about testing hypotheses about the determinants or correlates of work force representation, rather than assessing the quantitative and qualitative representation of females and minorities. For example, Stein examined the political, organizational, economic, and demographic factors which effect minority representation in the municipal work force. The proportion of the city's minority population was found to be the most significant predictor of minority municipal employment. Hall and Saltzstein looked at city and minority group characteristics in an attempt to explain the professional representativeness of the black and Spanish-surnamed minority groups. Blacks seemed to fare better in large central cities. Spanish-surnamed employment is higher in cities with more stable residential patterns and a lower percentage of manufacturing employment. The primary purpose of another study was to determine whether increased minority representation on city councils is associated with increased minority employment in cities (Dye and Renick, 1981). The study found minority membership on city councils to be an important determinant of the minority share of municipal employment. These studies were only slightly concerned with performance assessment or the attainment of a representative work force.

The studies in this approach overcome the problems of aggregating city employment data found in the first approach. Intercity comparisons can be made to evaluate the position of each city in terms of representative employment in government. However, the progress each

city has made to attain a representative work force can not be determined. For example, an assumption may be made that a particular city with a high representation ratio has accomplished much more than a city with a small ratio. But, in reality, the representation of that municipal work force may have actually declined in the past few years. Indeed, the primary problem of studies using this approach is the lack of analyses on the progress that minorities and females have made to obtain municipal employment positions.

The third approach analyzes an aggregation of government work force data over a period of time. Several researchers have studied the aggregated work forces of the majority of state and local governments in the United States over a number of years (Henderson, 1978; Cayer and Sigelman, 1980; Hammerman, 1985; Moore and Mazey, 1986). These studies have used the 1973, 1975 and 1980 Statistical Summaries of the United States as the sole sources of data. Henderson compared the distributions of white and minority males and females in state and local governments in 1973 with 1975. The researcher concluded that current devices fail to properly assess the impact of the EEO Act on employment of females and minorities in local government. Cayer and Sigelman studied the progress of minorities and females in terms of their composition, representation, median salary and function over the same years. They found that gains made by minorities and females between the two years were a result of an expanding public sector and the decrease of white males in the work force. Moore and Mazey added data from 1980 to the study mentioned above and found that affirmative action efforts became increasingly difficult in the end of the decade as the number of jobs created dramatically decreased. In fact, the number of black males in state and local government actually declined between 1975 and 1980. Minorities continued to be overrepresented in the lowest status, lowest

paid employment functions such as public welfare, housing, and sanitation and sewage.

Another group of researchers collected data from individual cities, but aggregated the employment data only to show the representativeness of each group (Eisinger, 1982a, 1982b; Welch et al., 1983a, 1983b; Karnig et al., 1984). The progress of these groups was of little concern in some of these studies. The primary concern of the researchers was to determine the correlates of minority and female representation in local government. In each of his studies, Eisinger compared black employment levels of professionals, administrators and officials and the total municipal work force in 1973 with 1978. The studies indicated that increases in black municipal employment were the greatest in the most prestigious occupations. Eisinger was primarily concerned with the affects of black political power and economic conditions on black employment in municipal bureaucracies.

Karnig et al. looked at the change in white and minority female distributions in the clerical, professional, and official and administrative occupation levels in 46 southwestern cities between 1973 and 1978. The study revealed that females made modest gains in overall work force representation and in the high prestige occupations. Welch et al. completed two studies on municipal employment in the Southwest. The first study (1983a) analyzed the white and minority female employment patterns between 1973 and 1978. The researchers compared the proportion of a given group in the municipal work force and the groups proportion in the citywide work force and found that the employment of females of a particular minority group is highly correlated to the percentage of that minority in the city. The second study (1983b) analyzed the changing Hispanic employment patterns between 1973 and 1978. The researchers discovered a zero sum gain, Hispanic employment is higher when black male employment is lower. Hall and Saltzstern

(1975) conducted a study on interminority competition for employment in urban governments and found similar results. Black and Hispanic employment patterns were examined in 26 large Texas cities. The researchers concluded that higher rates of employment for one group occurs with the exclusion of the other.

The studies in the third approach were able to examine patterns of minority and female employment over time. However, due to the aggregation of many cities, some of the same problems arise that were found in the first approach. The EEOC expects measurable gains in minority and female municipal employment status in each city. The use of aggregation conceals the extent to which this is occurring and makes comparisons difficult. Aggregated data may cover up the fact that minority and female employment status is actually worsening in some cities.

The fourth and final approach includes studies which analyze individual government work forces over a period of time. One particular study examined the affirmative action efforts in ten Michigan cities (Michigan Advisory Committee on Civil Rights, 1982). A minority group's proportion in the municipal work force was compared with the proportion found in the city's population, city's labor force and the labor force in the SMSA for the years 1973 and 1980. In addition, minority percentages in several job classifications were listed to qualitatively assess minority and female employment. Nine of the ten cities studied showed an increase in minority and female employment. However, the Advisory Committee indicated that affirmative action gains in some cities have been lost due to reductions in the municipal work force.

Eisinger (1983) analyzed the black municipal employment trends for individual cities from 1973 to 1980. He calculated a "fair share effort score" to determine the extent that a city's employment profile reflected the population as a whole. The use of population is an

inadequate benchmark for determining representativeness since the courts and the EEOC rely on labor force statistics. Eisinger also examined the changing percentages of blacks in the administrative and professional occupations. The high concentration of minority workers in the low-prestige jobs accounts for the black overrepresentation in municipal employment. The increasing percentages of blacks in the general work force was negligible following 1978. However, the percentage of blacks in the professional and administrative/managerial occupational categories continued to increase through the end of the decade. Eisinger's primary concern was an attempt to explain black employment growth. He found the presence of a black mayor is clearly significant in explaining black employment growth in terms of both a change in percentages and a change in the fair share effort score.

Saltzstein (1983) compared the female employment status in twenty Texas cities in 1975 with 1980. The percentage of female representation in the nonclerical, professional and official/administrative occupations was computed for each year. However, these proportions were not compared with the female proportion of the general population or the city's labor force. Saltzstein's was primarily concerned with testing the correlates of employment representation. She found that attitudes of personnel directors do appear to exert an influence on female employment representation.

The studies in the fourth approach allow one to make comparisons of minority and female progress between municipal governments. However, such studies are typically concerned with testing hypotheses concerning the factors explaining work force representativeness rather than assessing female and minority progress in city government. The EEOC expects state and local governments to yield "measurable yearly improvements in hiring, training and promotion of minorities and females in all parts of your organization." (EEOC, 1974). The researchers

utilizing this approach have only examined progress by comparing two or more distant years and, therefore, have not adequately answered the question of whether minorities and females are making annual progress in municipal government work forces.

### Summary

The most important aspect of any equal employment/affirmative action program in local government is its results. Prior research has not adequately measured such results. Studies in the first approach have used aggregated data from a single year. The second approach analyzes individual governments at a single point in time. The studies in the third approach analyze an aggregation of municipal work force data over a period of time. The utilization of data from a single year conceals the progress each city has made to attain a representative work force. Aggregated data conceals the extent to which measurable gains in minority and female employment status are occurring in each city. The studies in the fourth approach overcome these problems by utilizing data from individual cities over time. However, annual progress was not measured since the employment data was gathered from two or more distant years.

### Statement of Problem

This study will measure the annual quantitative and qualitative (the extent to which employees have entered more responsible and prestigious government positions) progress in employment status of blacks and females in individual cities in the State of Michigan.



## CHAPTER 2

### METHODS

#### Study Area

This study focuses on the central city of eleven of the twelve Standard Metropolitan Statistical Areas (SMSAs) of Michigan according to the 1980 United States Census. The cities include Ann Arbor, Battle Creek, Bay City, Detroit, Flint, Grand Rapids, Jackson, Kalamazoo, Lansing, Muskegon and Saginaw. A list of those cities including population and the percentage of blacks and females is located in Appendix I. Benton Harbor is not included in this study due to the inability to obtain the employment data of its municipal government. The total population in these cities represents roughly 23 percent of the overall population in Michigan. However, blacks in these cities comprise nearly 79 percent of all blacks in the state. The black percentage in these cities in 1980 ranged from 1.8 percent in Bay City to 63.1 percent in Detroit.

#### Data Collection

The Equal Employment Opportunity Act of 1972 established a monitoring procedure to evaluate the employment status of minorities and females in state and local governments. The law requires all state and local governments with 100 or more employees to annually file affirmative action reports (EEO-4) with the U.S. Equal Employment Opportunity Commission (EEOC). The EEO-4 reports contain the race, ethnicity and sex of each employee, categorized by employment function, occupation and salary. These reports have been used as the primary basis for studies attempting to analyze minority and female

representation in state and local governments since the passage of the EEO Act of 1972.

The EEO Act of 1972 prohibits the EEOC from disseminating municipal employment records on individual cities. Therefore, letters were sent to the twelve Michigan cities requesting copies of their EEO-4 reports for the years 1980 through 1986. Follow-up phone calls yielded eleven responses. Copies of the EEO-4 reports were not obtained from Benton Harbor. The law requires cities to retain their EEO-4 reports for three years. Hence, only partial data were obtained from Ann Arbor, Battle Creek, Detroit and Jackson. Data concerning demographic and labor force characteristics of each city were gathered from the 1980 U.S. Census.

#### Data Analysis

This study analyzed the representativeness of municipal government work forces for the eleven Michigan cities from 1980 through 1986 on a yearly basis. Cities with partial data were analyzed during the years for which the data were obtained. The EEO-4 reports contain employment information on white, black, Hispanic, Asian or Pacific islander, and American Indian males and females. The population of these groups, with the exception of whites and blacks, are negligible in most of the cities studied. Therefore, four groups of full-time employees will be analyzed: white males, black males, white females and black females.

Considerable controversy has existed concerning the use of population or labor force statistics as the appropriate benchmark to measure minority and female representation in municipal governments. Measures utilizing population figures tend to overrepresent the availability of the female work force due to the large number of females engaged in traditional roles who are not seeking employment. The utilization of labor force statistics may underestimate the availability of females and minorities since individuals who have ceased to pursue

employment opportunities are excluded from this group. However, labor force statistics are important for two reasons. First, most cities use labor force data to establish goals and time tables. The courts and the EEOC have also relied on labor force statistics (Karnig et al, 1984). Second, municipal governments must rely on the available labor force for hiring. For these reasons, labor force statistics will be used in this study as the benchmark to measure representation. A list of the labor force composition for each city can be found in Appendix II.

Percentages were calculated for each group in terms of the groups representation in the municipal work force for each year from 1980 through 1986. A corresponding representation ratio was calculated for each group using the group's representation in the city labor force as the benchmark. For example,

$$\begin{array}{lcl} \text{Black Male} & = & \frac{\text{Black male percentage of municipal workers in 1980-1986}}{\text{Black male percentage of the city labor force in 1980}} \\ \text{Representation} & & \\ \text{Ratio} & & \end{array}$$

A representation ratio of less than 1.00 reveals that the group is underrepresented in the municipal work force. A ratio of 1.00 would signify that a group is equally represented in the labor force and the work force. A ratio greater than 1.00 reveals that a particular group is overrepresented in the municipal work force.

The changing ratios for the work force reveal the trends in the quantitative positions of black and female employees in the municipal work force and allow for comparisons between cities. The representation ratios standardize the percentages and allow for intercity comparisons to evaluate the position of each city in terms of representative employment in municipal government. One may argue that a serious methodological flaw exists in this approach. The representation ratios for each year are based on labor force statistics of a single year even though the percentages of the black males, white females and black

females in the labor force are likely to change from year to year. Indeed, this is the case. However, municipal governments set goals and base their efforts on labor force data and estimates from the 1980 Census. Therefore, it may only be appropriate to evaluate the progress of blacks and females in municipal governments based on this criteria.

A word of caution is in order with regard to the representation ratios from 1981 through 1986. A representation ratio of 1.00 for those years does not necessarily signify that a group is representative in the work force. The group's percentage in the labor force may have increased since 1980. Therefore, the group's representation ratio would be overestimated. A ratio may also underestimate the representation of a group. For these reasons, the representation ratios should not be regarded as perfect indicators of representation.

Two associations concerning the representation of black males, white females and black females will be examined. The first concerns the changing size of the municipal work force. Many municipalities have experienced fiscal constraints during the 1980s which may have impacted the municipality's hiring practices. Some municipalities may have been forced to reduce hiring and some may even have reduced the size of their municipal work force. This section will determine whether an association exists between the percent change in the size of the municipal work force and the representation of black males, white females and black females. The representation will be measured by combining the percentages of the three groups in the work force.

The second association pertains to the competition for employment opportunities between black males, white females and black females. The percentages of each group in the work force should be equal to the corresponding percentage in the labor force. Minority competition occurs when a municipality gives priority to hiring one group at the

expense of one or more of the other groups. The representation of one group is high while the representation of another group is low. The percentages of black males, white females and black females in the work force will be compared for each year. If each percentage does not change in the same direction, minority competition is said to exist. Minority competition could also exist if the percentages of each group changed in the same direction. This would occur when the change of one group was large while the change in one or more of the other groups was small.

The qualitative progress of blacks and females in municipal governments will be measured using several techniques. The EEO-4 reports contain eight occupational categories: officials/administrators, professionals, technicians, protective service, paraprofessionals, office/clerical, skilled craft and service/maintenance. These occupations are ranked according to skill. A description of these job categories can be found in Appendix III.

Theoretically, black males, white females and black females should be evenly distributed throughout the eight occupational categories according to their percentage of the work force. For example, black males represented 12.33 percent of the 1986 Ann Arbor work force, while white females accounted for 18.8 percent and black females 5.35 percent. Thus, one would expect to find each occupation comprised of 12.33 percent black male, 18.8 percent white female, and 5.35 percent black female. Deviations from these figures in any occupation would denote an uneven occupational distribution. A distribution ratio was calculated to determine whether a group is evenly distributed throughout the occupational categories. For example,

$$\begin{array}{lcl} \text{White Female} & & \text{White female percentage} \\ \text{Distribution Ratio} & = & \text{of municipal professionals} \\ \text{for Professionals} & & \text{White female percentage of} \\ & & \text{the municipal work force} \end{array}$$

A ratio greater than 1.00 would signify that the group was overrepresented in that particular occupation. A ratio less than 1.00 would reveal the group to be underrepresented in that occupation. A ratio of 1.00 would reveal that a particular group is equally represented in the work force and the particular occupation.

A stratification ratio, similar to the one used by Sigelman (1976), will be utilized to determine the qualitative progress of the study groups. The ratio will measure the extent to which a group is evenly distributed throughout the occupational hierarchies. The occupations are distributed into two categories. Higher-level occupations include officials/administrators, professionals, and technicians. The lower-level occupations include employees in the office/clerical, skilled craft, and the service/maintenance categories. A group's stratification ratio was calculated in each city for each year using the following formula:

$$\text{Black Female Stratification Ratio} = \frac{\text{Black female percent of higher-level occupations}}{\text{Black female percent of lower-level occupations}}$$

A stratification ratio greater than 1.00 reveals that the group is disproportionately overrepresented in higher prestige occupations. A ratio less than 1.00 means that the group is disproportionately concentrated in lower prestige occupations. A ratio of 1.00 signifies that a group is evenly distributed throughout the various occupational levels.

The distribution ratios will measure the distribution of black and female municipal employees in each occupation. The stratification ratios will measure the distribution of employees in high and low-prestige occupational levels. Each ratio is based on the assumption that black males should be distributed equally in each occupation and occupational level. The assumption is the same for white and black

females. However, the employment status of the white male is the implicit basis for comparison for affirmative action. Therefore, the distribution of black males, white females and black females was compared with the distribution of white males.

A number of studies have examined inequality, dissimilarity, or segregation between groups with respect to a number of variables (Lorenz, 1905; Duncan and Duncan, 1955; Marshall, 1975; Darden and Tabachneck, 1980; Morgan 1980; Darden, 1985). In this study, occupational segregation refers to the uneven distribution of the study groups over occupational categories. The index of dissimilarity will be used to measure the degree of occupational segregation in municipal government work forces. The index can be stated mathematically as:

$$D = 100(\frac{1}{2} | \sum_{i=0}^k x_i - y_i |)$$

- Where  $X_i$  = the percentage of municipal governments' white male employees employed in a given occupation.
- $Y_i$  = the percentage of a municipal government's black male, white female or black female employees employed in the same occupation.
- $D$  = the index of dissimilarity or one-half the sum of the absolute differences (positive and negative) between the respective proportional distributions in  $X_i$  and  $Y_i$  above in each municipal government (Darden and Tabachneck, 1980).

The index, which ranges from "0" indicating no segregation to "100" indicating total segregation, may be interpreted as the minimum percentage of either group that would have to move from one occupation to another in order to achieve an even distribution between the groups in the municipal government.

The final measure of the qualitative progress of blacks and females concerns median salary income. Median salary was calculated for each group in the municipal work force. An advantage ratio was then computed using the white male's median salary as the benchmark. For example,

$$\text{Black Male Advantage Ratio} = \frac{\text{Black males' median salary}}{\text{White males' median salary}}$$

An advantage ratio greater than 1.00 reveals that a group's median salary is greater than the white male median salary. A ratio less than 1.00 indicates that the group's median salary is less than the median salary of the white males. A ratio of 1.00 reveals that the median salary of the group and the white male is approximately equal. A word of caution is needed concerning median salaries and advantage ratios. Some municipalities have a small number of black male and female employees. Hence, the confidence intervals for the median salaries of these groups would likely be very large. The advantage ratios are important to assess the progress of blacks and females in municipal governments.

### Hypothesis

The following research hypotheses will be examined in this study:

- 1) Black males, white females and black females will be disproportionately underrepresented in municipal government work forces.
- 2) The change in size of the municipal government will be positively associated with representativeness.
- 3) Interminority competition will exist in the municipal work force between 1980 and 1986.



- 4) Black males, white females and black females will be disproportionately underrepresented in the higher-level occupations in municipal government work forces.
- 5) The representation, distribution, stratification and advantage ratios will have increased for black males, white females and black females between 1980 and 1986.
- 6) The index of dissimilarity between white males and black males, white females and black females will have decreased between 1980 and 1986.

## CHAPTER 3

### QUANTITATIVE REPRESENTATION IN THE MUNICIPAL WORK FORCE

Equal employment opportunity and affirmative action in both the public and private sectors were important concerns during the 1970s. The 1980s were perceived to be an era of slackened enforcement due to the fiscal constraints facing many cities and the perceived antipathy of the Reagan Administration towards compensatory employment programs (Glazer, 1985; Steel and Lovrich, 1986). For example, Congress approved the courts' use of goals and timetables to remedy the effects of employment discrimination. The importance of these strategies to achieve equal employment was acknowledged by both the Ford and Carter Administrations. However, the Reagan Administration chose to avoid the use of goals and timetables to remedy proven employment discrimination under any circumstances (Days, 1984). Given such behavior, how did the municipal employment status of blacks and females change during the decade? In this chapter the quantitative position and progress of black males, white females and black females in the eleven Michigan municipal work forces during the 1980s will be analyzed.

#### Black Male Quantitative Progress

The representation ratios (see Table 3.1) reveal that black males were at least proportionally represented in four of eight municipal work forces in 1980. They included Bay City (3.07), Detroit (1.16), Kalamazoo (1.84) and Muskegon (1.00). The ratio for Bay City may be quite deceiving since the percentage of black males in the labor force (.54 percent) is so small. Black males in Grand Rapids (.95) and Lansing (.89) were close to being proportionally represented. Black

Table 3.1

## Black Male Representation in the Municipal Work Force

CITY	1980	1981	1982	1983	1984	1985	1986	1980-6
Ann Arbor		117	112	104	101	107	99	-18 <sup>1</sup>
		13.67	13.24	12.24	12.08	12.80	12.33	-1.34
		3.33	3.22	2.98	2.94	3.12	3.00	-.33
Battle Creek					80	79	82	2 <sup>2</sup>
					13.22	12.72	13.20	-.02
					1.24	1.20	1.24	.00
Bay City	8	5	6	6	5	5	6	-2
	1.66	1.09	1.37	1.27	1.13	1.14	1.39	-.27
	3.07	2.01	2.53	2.34	2.08	2.11	2.57	-.50
Detroit	9149	7324	7686	7244	6782	7567	8005	-114
	36.44	36.44	38.75	38.61	38.04	40.16	41.42	4.98
	1.16	1.16	1.24	1.23	1.21	1.28	1.33	.17
Flint	187	162	163	160	166	224	237	50
	11.72	11.40	11.96	11.90	12.72	15.38	16.20	4.48
	.57	.56	.58	.58	.62	.75	.79	.22
Grand Rapids	122	112	115	106	106	103	100	-22
	6.30	5.96	6.44	6.52	6.66	6.43	6.13	-.17
	.95	.90	.97	.99	1.01	.97	.93	-.02
Jackson					23	22	20	-3 <sup>2</sup>
					6.32	6.11	5.90	-.42
					.96	.93	.90	-.06
Kalamazoo	118	119	121	121	110	114	107	-11
	11.36	11.96	11.78	13.04	12.93	13.18	13.14	1.78
	1.84	1.93	1.91	2.11	2.09	2.13	2.13	.29
Lansing	83	85	80	80	83	86	87	4
	5.67	5.92	5.90	6.01	6.28	6.53	6.57	.90
	.89	.93	.92	.94	.98	1.02	1.03	.14
Muskegon	25	20	18	17	17	19	19	-6
	7.44	6.80	5.94	6.16	5.82	6.81	6.31	-1.13
	1.00	.92	.80	.83	.79	.92	.85	-.15
Saginaw	91	76	50	51	53	67	85	-6
	10.00	9.38	7.52	7.85	8.32	10.62	12.86	2.86
	.65	.61	.49	.51	.54	.69	.84	.19

Number of black males

<sup>1</sup>Based on 1981-1986

Percentage of work force

<sup>2</sup>Based on 1984-1986

Representation ratio

males were considerably underrepresented in Flint (.57) and Saginaw (.65). The ratios for Battle Creek (1.24) and Jackson (.96) in 1984 reveal that black males were overrepresented in Battle Creek and slightly underrepresented in Jackson. The 1981 ratio for Ann Arbor (3.33) reveals that black males of its municipal work force fared better than black males of any municipality for any particular year.

The representation ratios for 1986 reveal that black males were at least proportionally represented in six of the eleven municipalities. The cities included Ann Arbor (3.00), Battle Creek (1.24), Bay City (2.57), Detroit (1.33), Kalamazoo (2.13) and Lansing (1.03). Lansing was the only addition to the list of municipalities to have a black male representation ratio of 1.00 or better in 1980. Black males in this city's municipal work force became representative of the labor force in 1985. Muskegon was the only city to drop from the list. The proportion of black males in the Muskegon work force declined 1.13 percentage points during the study period and the representation ratio fell below 1.00 in 1981. The ratio in Grand Rapids reached 1.01 in 1984. However, the percentage of black males in the work force decreased thereafter and was the lowest of the decade in 1986.

Black males in Flint and Saginaw continued to be the most underrepresented in 1986. However, the group increased its proportion in the Flint municipal work force by four and one-half percentage points between 1980 and 1986 to a ratio of .79. The increase can be mostly attributed to the high proportion of black males hired in 1985. The black male percentage of the Saginaw work force increased by approximately three percentage points to a ratio of .84 in 1986. A closer analysis reveals that the percentage of black males in Saginaw experienced a decline between 1980 and 1982. In fact, the representation ratio of .49 in 1982 was the lowest for black males in any city during the study. The decrease can be attributed to the

disproportionately high number of black males released during reductions in the work force. A table showing the size of the municipal work forces can be found in Appendix IV. The overall gain was the result of the large proportion of black males hired from 1984 through 1986 when the work force expanded slightly. Black males in Grand Rapids and Jackson experienced small declines of .17 and .42 percentage points respectively.

The proportion of black males in the work force declined in six of the eleven municipalities. The change in percentage points ranged from -1.34 in Ann Arbor to 4.98 in Detroit. An examination of Table 3.1 reveals that the percentages fluctuated in most cities during the study. Small percentage changes are relatively insignificant since the number of black males in many of the municipalities is so small. However, large fluctuations result from a lack of consistency in the proportion of black males entering and exiting the work force. Large negative changes are a result of two phenomena which may act in combination with one another. First, black males are leaving the work force in disproportionately high numbers, due to either the elimination of jobs or employment opportunities elsewhere. Second, the percentage of black males being hired is less than the existing percentage in the work force. On the other hand, percentage gains may be a consequence of a disproportionately small number of black males who leave the work force and/or the disproportionately large number of black males who obtain employment positions in the municipality.

The fluctuating and decreasing percentages reveal that black males are not making annual progress in these Michigan municipalities. The percentage of black males in the work force did not approximate 1.00 every year in any municipality. Of the cities that experienced a positive change between 1980 and 1986, declines were experienced during two or more years in every municipality with the exception of Lansing

where the percentage declined in only a single year. Other than Lansing, black males are clearly overrepresented in those municipalities with a black male representation ratio greater than 1.00. Concern also exists with those cities which have ratios less than 1.00. Despite the decreasing proportions in Jackson and Grand Rapids, black males in these cities are close to being proportionately represented. The percentage of black males in Muskegon has fluctuated greatly throughout the 1980s. The black male representation ratios in Flint and Saginaw have remained low. However, black males in these municipalities have made considerable progress since the beginning of the decade. Overall, the quantitative position of black males in the eleven Michigan municipalities have improved slightly between 1980 and 1986.

An ideal work force would have each of the groups with a ratio of 1.00. The study revealed that black males in six of the eleven municipalities were overrepresented. These figures necessarily mean that one or more of the other groups are underrepresented. Hence, progress does not occur when a representation ratio greater than 1.00 increases. This phenomenon occurred in Detroit and Kalamazoo. The ratio in Battle Creek was identical in 1984 and 1986. Progress occurs only when the ratios approximate 1.00.

#### White Female Quantitative Progress

The representation ratios (see Table 3.2) reveal that white females were largely underrepresented in every municipality in 1980. The ratios for Bay City (.33), Detroit (.42), Kalamazoo (.46), Lansing (.46), Muskegon (.42) and Saginaw (.33) indicate that white females were employed at less than one-half of parity in these municipalities. White females in Grand Rapids (.52) were in a slightly better position. Yet, in order to approach the labor pool standard, Grand Rapids would need to nearly double their work force concentration of white female employees. The ratios for Battle Creek (.45) and Jackson (.46) in 1984 and

Table 3.2  
White Female Representation in the Municipal Work Force

CITY	1980	1981	1982	1983	1984	1985	1986	1980-6
Ann Arbor		144 16.82 .41	156 18.44 .45	155 18.24 .44	151 18.06 .44	147 17.58 .43	151 18.80 .46	7 <sup>1</sup> 1.98 .05
Battle Creek					95 15.70 .45	98 15.78 .45	97 15.62 .44	2 <sup>2</sup> -.08 -.01
Bay City	62 12.89 .33	58 12.66 .32	56 12.81 .32	60 12.71 .32	52 11.71 .30	51 11.67 .29	57 13.23 .33	-5 .34 .00
Detroit	1638 6.52 .42	1203 5.99 .39	933 4.70 .31	884 4.71 .31	846 4.73 .31	867 4.55 .30	863 4.50 .29	775 -2.02 -.13
Flint	258 16.18 .66	222 15.62 .63	213 15.63 .63	218 16.21 .66	208 15.94 .65	249 17.10 .69	247 16.88 .68	-11 .70 .02
Grand Rapids	374 19.30 .52	374 19.91 .53	356 19.92 .53	288 17.70 .47	287 18.04 .48	302 18.84 .51	313 19.19 .51	61 -.11 -.01
Jackson					62 17.03 .46	62 17.22 .46	60 17.70 .48	-2 <sup>2</sup> .67 .02
Kalamazoo	189 18.19 .46	149 14.97 .37	185 18.01 .45	151 16.27 .41	136 15.98 .40	143 16.53 .41	135 16.58 .42	-54 -1.61 -.04
Lansing	255 17.41 .46	257 17.91 .48	255 18.79 .50	248 18.62 .49	241 18.23 .48	244 18.53 .49	249 18.81 .50	-6 1.40 .04
Muskegon	52 15.48 .42	53 18.03 .48	55 18.15 .49	50 18.12 .49	53 18.15 .49	48 17.20 .46	51 16.94 .46	-1 1.46 .04
Saginaw	84 9.23 .33	72 8.89 .32	62 9.32 .33	60 9.23 .33	58 9.11 .33	59 9.35 .34	62 9.38 .34	.22 .15 .01

Number of white females

<sup>1</sup>Based on 1981-1986

Percentage of work force

<sup>2</sup>Based on 1984-1986

Representation ratio

Ann Arbor (.41) in 1981 indicate that white females are also highly underrepresented in these municipalities. White females in Flint, despite their low ratio of .66, were the most representative of any city in 1980.

The 1986 representation ratios reveal that white females were still largely underrepresented in every municipality. White females in Lansing attained a .50 ratio in 1986 to join Flint (.68) and Grand Rapids (.51) as the only municipalities to have a white female ratio of .50 or better. The proportion of white females in the Grand Rapids work force did not remain consistent during the study. The percentage declined over two percentage points between 1982 and 1983 to a ratio of .47. The decrease can be attributed to the disproportionately high number of white females who lost their jobs due to work force reductions between 1982 and 1983. It is interesting to note that job reductions also occurred from 1980 to 1982 in Grand Rapids. However, the white female share of the municipal work force during this period actually increased.

The proportion of white females in the Flint municipal work force decreased during work force reductions between 1980 and 1981. The decline was more than compensated when a large number of white females were hired during the increase of the work force between 1984 and 1985. The white female representation ratios of the other eight municipalities remained below .50.

The proportion of white females in the work force declined in four of the eleven municipal work forces during the study. The reductions ranged from .08 percentage points in Battle Creek to 2.02 percentage points in Detroit. The white female representation ratio for Detroit dropped from .42 in 1980 to .29 in 1986. The 1986 ratio for Detroit and the 1985 Bay City ratio represent the lowest for white females of any municipality during the study. The decrease in the white female



proportion can be attributed to both the elimination of a disproportionately large number of jobs held by white females and the disproportionately low hiring of white females. A disproportionately high number of white females lost their jobs during employee reductions between 1980 and 1982. During the work force reductions between 1982 and 1984 the proportion of white females leaving municipal jobs was similar to the proportion in the work force. The Detroit municipal work force increased by nearly 1,000 workers between 1984 and 1985. However, a disproportionately low number of white females were hired. The representation ratio reached its low in 1986 when the work force expanded while the number of white females declined slightly.

The white female percentage of the municipal work force declined slightly between 1980 and 1986 in Battle Creek (.08 percentage points) and Grand Rapids (.11 percentage points). The white female share in the Kalamazoo municipality declined by 1.61 points between 1980 and 1986. An examination of Table 3.2 reveals that the percentage of white females in the Kalamazoo work force fluctuated throughout the 1980s. The fluctuations were due to the disproportionately high number of white females exiting the work force and the disproportionately large number of white females hired.

The white female proportion of the work force grew in seven of the eleven municipalities. The increases ranged from .15 percentage points in Saginaw to 1.98 points in Ann Arbor. The percentages were found to fluctuate in nearly every city. Jackson was the only city where the percentage consistently improved. However, the study of Jackson was based on only three years.

The representation ratios reveal that white females are far from being representative in every municipality. The highest white female representation ratio in 1986 is actually lower than the lowest ratio for black males in 1986. The fluctuations indicate that white females are

not making annual progress in any municipality. The decreasing percentages indicate that the position of white females in those cities is actually worsening, despite their already poor quantitative positions. The overall quantitative position of white females in the Michigan municipalities is very similar to that experienced in 1980.

#### Black Female Quantitative Progress

The representation ratios (see Table 3.3) reveal that black females were representative in only one of the eight municipalities in 1980. The lone municipality was Bay City with a ratio of 1.24. This figure may be quite deceiving since only three black females are employed in the work force. Detroit (.70) and Kalamazoo (.54) were the only other two cities to have a ratio greater than .50 at the beginning of the decade. These municipalities were followed by Grand Rapids (.47), Flint (.40), Lansing (.40), Muskegon (.36) and Saginaw (.31). Ann Arbor had a ratio of 1.25 in 1981. Battle Creek and Jackson had ratios of .42 and .89 respectively in 1984. The quantitative position of black females in these municipalities in the early 1980s was clearly unsatisfactory.

The representation ratios for 1986 indicate that black females were representative in two of the eleven municipal work forces. Ann Arbor had a ratio of 1.25 and Bay City's ratio increased to 1.38. The ratio for Bay City represents the highest for black females of any municipality during the study. The number of black female municipal workers in Bay City remained constant throughout the decade. However, the size of the work force declined from 1980 to 1986 which resulted in the increased ratio. Only the ratios of Battle Creek (.48) and Saginaw (.43) remained under .50 in 1986.

The proportion of black females in the municipal work force increased in nine of the eleven municipalities. The only two cities where the percentage of black females declined during the study were

**Table 3.3**  
**Black Female Representation in the Municipal Work Force**

<b>CITY</b>	<b>1980</b>	<b>1981</b>	<b>1982</b>	<b>1983</b>	<b>1984</b>	<b>1985</b>	<b>1986</b>	<b>1980-6</b>
		46	42	45	43	40	43	-3 <sup>1</sup>
		5.37	4.96	5.29	5.14	4.78	5.35	-.02
<b>Ann Arbor</b>		1.25	1.16	1.23	1.20	1.11	1.25	.00
					23	26	27	4 <sup>2</sup>
					3.80	4.19	4.35	.55
<b>Battle Creek</b>					.42	.46	.48	.06
	3	3	3	3	3	3	3	0
	.62	.66	.69	.64	.68	.69	.70	.08
<b>Bay City</b>	1.24	1.30	1.36	1.26	1.34	1.36	1.38	.14
	5004	3742	3850	3747	3458	4027	4248	-756
	19.93	18.62	19.41	19.97	19.35	21.37	22.17	2.24
<b>Detroit</b>	.70	.65	.68	.70	.68	.75	.77	.07
	115	97	93	100	93	129	133	18
	7.21	6.83	6.82	7.43	7.13	8.86	9.09	1.88
<b>Flint</b>	.40	.38	.38	.41	.39	.49	.50	.10
	61	55	53	47	50	57	61	0
	3.15	2.93	2.97	2.89	3.14	3.56	3.74	.59
<b>Grand Rapids</b>	.47	.44	.45	.43	.47	.53	.56	.09
					20	19	15	-5 <sup>2</sup>
					5.49	5.28	4.42	-1.07
<b>Jackson</b>					.89	.86	.72	-.17
	35	38	47	44	44	48	41	6
	3.37	3.82	4.58	4.74	5.17	5.55	5.04	1.67
<b>Kalamazoo</b>	.54	.61	.73	.76	.83	.89	.80	.26
	33	36	34	31	36	41	44	11
	2.25	2.51	2.51	2.33	2.72	3.11	3.32	1.07
<b>Lansing</b>	.40	.44	.44	.41	.48	.55	.59	.19
	10	5	6	8	10	11	13	3
	2.98	1.70	1.98	2.90	3.42	3.94	4.32	1.34
<b>Muskegon</b>	.36	.21	.24	.35	.41	.48	.52	.16
	41	36	27	28	30	34	41	0
	4.51	4.44	4.06	4.31	4.71	5.39	6.20	1.69
<b>Saginaw</b>	.31	.31	.28	.30	.33	.38	.43	.12

Number of black females

<sup>1</sup>Based on 1981-1986

Percentage of work force

<sup>2</sup>Based on 1984-1986

Representation ratio

Ann Arbor and Jackson. The proportion in Ann Arbor fluctuated each year and was reduced .02 percentage points between 1981 and 1986. The largest decrease occurred in Jackson as the percentage of black females dropped 1.07 percentage points between 1984 and 1986. The decline can be attributed to the disproportionately high reduction of black females during a decrease in the number of employees in the Jackson municipal work force.

The percentage of black females in the work force rose by more than one percentage point in six of the nine municipalities which experienced an increase. Black females in Detroit experienced the largest increase (2.24 percentage points). The gain was primarily due to the disproportionately large number of black females hired between 1984 and 1985. Black females also experienced an increase of more than one percentage point in Flint (1.88), Saginaw (1.69), Kalamazoo (1.67) and Lansing (1.07).

Black female proportions did not increase every year in any municipality. The proportion in Kalamazoo did increase approximately .40 percentage points each year from 1980 to 1985. However, a .51 point decline occurred in the following year. Many of the gains in other municipalities were primarily due to a large increase which occurred during a single year. For example, black females in the Flint work force increased 1.73 percentage points between 1984 and 1985. The increase of the other years combined was only .15 percentage points. Black female employees in Saginaw experienced a gain of .81 percentage points between 1985 and 1986 and .68 points between 1984 and 1985. However, black females increased by only .20 points in the remaining years. Consistent percentage increases or decreases rarely occur. This phenomenon can be attributed to the fluctuating size of the municipal work force. During work force increases and reductions, the

municipalities rarely hire or release a group of employees in proportion to their size in the work force.

The representation ratios indicate that black females in most municipalities are far from being representative in the work force. Black females have a lower ratio than their male counterparts in every city. However, black females are more representative than white females in every municipality with the exception of Flint. Nine of eleven black female representation ratios are greater than .50 while the same can be said of only three of eleven white female ratios. Fluctuating percentages do indicate that black females are not making annual quantitative progress. Yet, black females in most municipal work forces have made considerable progress between 1980 and 1986. Thus, the overall quantitative position of black females has improved during the 1980s.

#### Representation and the Change in Work Force Size

One would expect to find the representation of blacks and females in municipal work forces to consistently improve under equal employment/affirmative action efforts. The fluctuating percentages indicate that consistent progress is not occurring. One possible explanation would be the changing size of the municipal work force. Many cities are facing fiscal constraints which may have negative implications for equal employment/affirmative action efforts. These cities may not only have to halt most or all hiring, but they may be forced to reduce their work forces. If the adage "last hired, first fired" holds true, then the proportion of blacks and females is likely to decline in a contracting work force. On the other hand, a municipality with an expanding work force has the opportunity to hire a large percentage of black and female employees and increase the representation of the work force. Much less controversy would result in a municipality which hired a disproportionately low number of white

males rather than eliminate a disproportionately large number of employment positions held by white males. This section will analyze the association between the change in the size of the municipal work force and the change in the representation of black male, white female and black female municipal employees.

The size of the municipal work force has not remained constant during the 1980s (see Table 3.4). The work force has been reduced in ten of the eleven municipalities. Six of the ten have declined by over ten percent including the work forces of Kalamazoo (-21.66), Detroit (-23.68) and Saginaw (-27.36) which have declined by over 20 percent. The declines were not consistent each year and every municipal work force, with the exception of Jackson, experienced an increase in one or more years. Battle Creek was the only municipality to have its work force increase during the study. The number of employees in Battle Creek rose 2.64 percent between 1984 and 1986. A comparison between the change in size of municipal work forces between 1980 and 1986 and the change in the combined percentage of black males, white females and black females between 1980 and 1986 indicates that a positive association does not exist between the two variables in most municipalities (see Table 3.4). In nine cities which experienced a declining work force between 1980 and 1986, the combined representativeness of the three groups increased. The work force declined by nearly 24 percent in Detroit while the representation increased 5.56 percentage points. The number of employees in the Flint work force decreased 8.28 percent while the percentage of black males, white females and black females in the work force rose 7.06 percentage points. In Saginaw, the number of employees was reduced by 27.36 percent while the representation increased 4.7 percentage points. Other municipalities with a negative association experienced a smaller increase in the representation of blacks and females.

**Table 3.4**  
**Representation and the Change of Work Force Size**

CITY		1980	1981	1982	1983	1984	1985	1986	1980-6
Ann Arbor	WF			-1.17	.47	-1.65	.00	-3.95	-6.19 <sup>1</sup>
	REP		35.86	36.64	35.76	35.29	35.17	36.49	.63
Battle Creek	WF						2.64	.00	2.64 <sup>2</sup>
	REP					32.73	32.69	33.17	.44
Bay City	WF		-4.78	-4.59	8.01	-5.93	-1.58	-1.37	-10.40
	REP	15.18	14.41	14.87	14.62	13.51	13.50	15.31	.13
Detroit	WF		-19.93	-1.33	-5.40	-4.88	5.57	1.68	-23.68
	REP	62.90	61.04	62.87	63.29	62.11	66.13	68.46	5.56
Flint	WF		-10.91	-4.08	-1.32	-2.97	11.57	.48	-8.28
	REP	35.11	33.85	34.41	35.54	35.79	41.35	42.17	7.06
Grand Rapids	WF		-3.10	-4.85	-8.95	-2.21	.75	1.75	-15.84
	REP	28.74	28.81	29.32	27.11	27.84	28.82	29.06	.32
Jackson	WF						-1.10	-5.83	-6.87 <sup>2</sup>
	REP					28.85	28.61	28.02	-.83
Kalamazoo	WF		-4.23	3.22	-9.64	-8.30	1.65	-5.90	-21.66
	REP	32.92	30.75	34.37	34.05	34.08	35.26	34.77	1.85
Lansing	WF		-2.05	-5.44	-1.84	-.75	-.38	.53	-9.62
	REP	25.32	26.34	27.19	26.95	27.23	28.17	28.70	3.38
Muskegon	WF		-12.50	3.06	-8.91	5.80	-4.45	7.89	-10.42
	REP	25.89	26.53	26.07	27.17	27.40	27.96	27.57	1.68
Saginaw	WF		-10.99	-17.90	-2.26	-2.00	-.94	4.75	-27.36
	REP	23.74	22.72	20.90	21.38	22.14	25.36	28.44	4.70

WF = % change in the size of the work force

<sup>1</sup>Based on 1981-1986

REP = Combined percentage of black males,  
white females and black females in  
the work force

<sup>2</sup>Based on 1984-1986

The only municipalities to experience a positive association were Battle Creek and Jackson. The work force in Battle Creek grew 2.64 percent between 1984 and 1986 while the combined representation of black males, white females and black females increased .44 percentage points. The number of employees in the Jackson municipal work force declined 6.87 percent between 1984 and 1986 while the representation of the three groups declined .83 percentage points.

The comparison between the change in the work force size between 1980 and 1986 and the change in the combined percentage of black males, white females and black females revealed that the combined representation increased in most municipalities despite the reduction of the work forces. A comparison between the change in size and representation for each year reveals a rather weak association between the variables. For example, the Detroit work force declined 5.4 percent between 1982 and 1983 while the combined representation of black males, white females and black males increased .42 percentage points. The following year the work force decreased 4.88 percent. However, the combined representation that year decreased 1.18 percentage points. The work force in Muskegon increased 5.8 percent between 1983 and 1984 while the combined percentage rose .23 percentage points. However, a 7.89 percent increase in the work force between 1985 and 1986 was associated with a .39 percentage point decline in the representativeness.

The number of employees in the Detroit, Flint, Grand Rapids and Kalamazoo work forces increased two years during the study while the combined representation increased in both years in each of the municipalities. The opposite is the case in Ann Arbor, Battle Creek and Bay city. The size of the work force increased one year in each of the municipalities while the combined percentage of black males, white females and black females declined in that year in each of the municipalities. These examples indicate that the combined



representation of the three groups increased and decreased regardless of the direction or size of the change in the work force size.

#### Interminority Competition in the Municipal Work Force

A work force composition equal to the composition of the labor force would indicate a representative municipal work force. The percentages for black males, white females and black females revealed that the eleven Michigan municipalities were not representative. However, black males, white females and black females made quantitative progress in most municipalities during the 1980s. The last section revealed that the combined percentage of black males, white females and black females increased in ten of the eleven municipalities during the study. The aggregation of data for black males, white females and black females covered up the extent to which each group is increasing. Each group which is underrepresented in the work force should be increasing. Interminority competition occurs when the representation of one group increases while the representation of one or two of the other groups declines. This section will determine whether competition for employment opportunities is occurring between black males, white females and black females.

The percentages for black males, white females and black females in each work force for each year are shown on Table 3.5. An examination of the percentage point change between 1980 and 1986 reveals that the percentage of black males, white females and black females changed in the same direction in only three municipalities. Each group experienced an increase between 1980 and 1986 in Flint, Lansing and Saginaw. In the remaining municipalities, only one or two of the groups experienced an increase between 1980 and 1986. For example, the percentage of black males and females in the Detroit work force increased 4.98 and 2.24 percentage points respectively between 1980 and 1986. However, the percentage of white females declined 2.02 percentage points. White

**Table 3.5**  
**Interminority Competition**

CITY		1980	1981	1982	1983	1984	1985	1986	1980-6
Ann Arbor	BM		13.86	13.24	12.24	12.08	12.80	12.33	-1.34 <sup>1</sup>
	WF		16.82	18.44	18.24	18.06	17.58	18.80	1.98
	BF		5.37	4.96	5.29	5.14	4.78	5.35	-.02
Battle Creek	BM					13.22	12.72	13.20	-.02 <sup>2</sup>
	WF					15.70	15.78	15.62	-.08
	BF					3.80	4.19	4.35	.55
Bay City	BM	1.66	1.09	1.37	1.27	1.13	1.14	1.39	-.27
	WF	12.89	12.66	12.81	12.71	11.71	11.67	13.23	.34
	BF	.62	.66	.69	.64	.68	.69	.70	.08
Detroit	BM	36.44	36.44	38.75	38.61	38.04	40.16	41.42	4.98
	WF	6.52	5.99	4.70	4.71	4.73	4.55	4.50	-2.02
	BF	19.93	18.62	19.41	19.97	19.35	21.37	22.17	2.24
Flint	BM	11.72	11.40	11.96	11.90	12.72	15.38	16.20	4.48
	WF	16.18	15.62	15.63	16.21	15.94	17.10	16.88	.70
	BF	7.21	6.83	6.82	7.43	7.13	8.86	9.09	1.88
Grand Rapids	BM	6.30	5.96	6.44	6.52	6.66	6.43	6.13	-.17
	WF	19.30	19.91	19.92	17.70	18.04	18.84	19.19	-.17
	BF	3.15	2.93	2.97	2.89	3.14	3.56	3.74	.59
Jackson	BM					6.32	6.11	5.90	-.42 <sup>2</sup>
	WF					17.03	17.22	17.70	.67
	BF					5.49	5.28	4.42	-1.07
Kalamazoo	BM	11.36	11.96	11.78	13.04	12.93	13.18	13.14	1.78
	WF	18.19	14.97	18.01	16.27	15.98	16.53	16.58	-1.61
	BF	3.37	3.82	4.58	4.74	5.17	5.55	5.04	1.67
Lansing	BM	5.67	5.92	5.90	6.01	6.28	6.53	6.57	.90
	WF	17.41	17.91	18.79	18.62	18.23	18.53	18.81	1.40
	BF	2.25	2.51	2.51	2.33	2.72	3.11	3.32	1.07
Muskegon	BM	7.44	6.80	5.94	6.16	5.82	6.81	6.31	-1.13
	WF	15.48	18.03	18.15	18.12	18.15	17.20	16.94	1.46
	BF	2.98	1.70	1.98	2.90	3.42	3.94	4.32	1.34
Saginaw	BM	10.00	9.38	7.52	7.85	8.32	10.62	12.86	2.86
	WF	9.23	8.89	9.32	9.23	9.11	9.35	9.38	.15
	BF	4.51	4.44	4.06	4.31	4.71	5.39	6.20	1.69

BM = Percentage of black males in work force

<sup>1</sup>Based on 1981-1986

WF = Percentage of white females in work force

<sup>2</sup>Based on 1984-1986

BF = Percentage of black females in work force

females are the most underrepresented in the Detroit work force while black males are overrepresented. The same phenomenon occurred in Kalamazoo. In Muskegon, the work force percentage of white and black females increased 1.46 and 1.34 percentage points respectively while the black male percentage declined 1.13 percentage points. The percentages in Ann Arbor indicate that black males and females are overrepresented while white females are underrepresented.

Even in Flint, Lansing and Saginaw where the percentages changed in the same direction between 1980 and 1986, competition appears to exist for individual years. For example, the percentage of black males increased by .82 percentage points between 1983 and 1984 while the white female percentage declined .27 percentage points. In Saginaw between 1981 and 1982, the white female percentage increased by .43 percentage points while both the black male and female percentages declined. The percentages indicate the competition for employment opportunities exists between black males, white females and black females in the eleven municipalities.

## CHAPTER 4

### QUALITATIVE REPRESENTATION IN THE MUNICIPAL WORK FORCE

Quantitative representation is an important factor to determine the employment status of blacks and females in the municipal work force. However, the quantitative dimension alone does not adequately explain the position and progress of blacks and females. A large percentage of black and female municipal employees may be of little significance if these groups are largely relegated to less prestigious occupations which add little or nothing to the decision making process. Therefore, the qualitative dimension may be equally, if not more, important to the municipal employment status of blacks and females. Qualitative representation is the extent to which blacks and females have entered more responsible, prestigious, and remunerative positions. In this chapter a number of methods will be utilized to analyze the qualitative position and progress of black males, white females and black females of the eleven municipalities during the 1980s.

#### Occupational Distribution

Occupational distribution is an important determinant of the qualitative employment status of black and female municipal employees. The distribution ratio was able to determine the extent to which black males, white females and black females are evenly distributed throughout the eight occupational categories.

Black males have traditionally been highly overrepresented in the service/maintenance occupations. Black males in the Michigan municipalities during the 1980s are no different. Black males were

annually overrepresented in the service/maintenance occupations in every municipality. The 1986 distribution ratios (see Appendix Va-XVa) ranged from 1.41 in Saginaw to 2.78 in Grand Rapids. The 2.78 in Grand Rapids signifies that the number of black male service/maintenance employees is nearly three times as great as would be expected in a normal distribution. Black males were also overrepresented in the skilled craft occupation in six of the eleven municipalities. Despite increasing their proportion in eight municipalities during the 1980s, black male protective service workers were proportionally represented in only five cities in 1986.

Black males have not fared so well in the high-prestige occupations of official/administrator, professional and technician. In 1980 and the first year data was obtained for Ann Arbor, Battle Creek and Jackson, black male technicians were at least proportionately distributed in only three municipalities. The figure remained at three in 1986. Black males were overemployed in the official/administrative and professional occupations in one municipality in 1980. Their distribution increased in both of these occupations in six cities during the 1980s. However, three administrative distribution ratios and only one professional ratio were equal to or greater than the 1.00 in 1986.

The distribution ratios (see Appendix Vb-XVb) reveal that white females in the 1980s are largely overrepresented in the office/clerical positions. The office/clerical ratios declined in ten cities and remained the same in one during the 1980s. However, the 1986 ratios remained high and ranged from 2.38 in Detroit to 6.33 in Bay City. White females were also overrepresented in the paraprofessional occupations in eight of ten municipalities in 1986.

White females were largely underrepresented in every municipality during the 1980s in the traditionally male-dominated occupations of protective service, skilled craft and service/maintenance. The

distribution ratios for white female protective service workers ranged from .16 in Saginaw to .88 in Detroit in 1986. The ratios for white female service/maintenance employees in 1986 ranged from .19 in Detroit to .48 in Battle Creek. The distribution ratios for the skilled craft occupation were even lower. The 1986 ratios ranged from .00 in Muskegon to .26 in Detroit and Kalamazoo. Although white female employment remains relatively low in these occupations, the distribution ratios increased slightly in most municipalities during the study.

White females are largely underrepresented in the high-prestige occupations. The distribution of white females in official/administrative positions increased in seven municipalities during the study. However, in 1986 only Muskegon (1.07) and Battle Creek (1.42) had a ratio greater than 1.00. The white female distribution in professional occupations was equal to or greater than the white female percentage in the work force in only four municipalities. The white female distribution of technicians increased in seven municipalities and was greater than 1.00 in three cities in 1986.

The 1980 distribution ratios (see Appendix Vc-XVc) indicated that black females were disproportionately overrepresented in office/clerical positions in every municipality. The ratios ranged from 2.84 in Detroit to 5.44 in Battle Creek. Black females were also overrepresented in the paraprofessional positions in seven of eight municipalities. Black females did not fare as well in the high-prestige occupations. The distribution ratio for technicians was greater than 1.00 in three municipalities. The distribution ratio for professionals was greater than 1.00 in five municipalities. Black females were overrepresented in official/administrative occupations in only one city. The 1980 black female official/administrative distribution ratio in Saginaw was 1.01.

Black females were disproportionately underrepresented in the protective service and skilled craft occupations in every municipality.

The 1986 distribution ratios revealed that black females continued to be largely overemployed in the office/clerical occupation. In fact, the ratio increased in eight of the municipalities during the study and ranged from 3.12 in Detroit to 6.68 in Bay City in 1986. The ratio for official/administrative and professional occupations increased in five and six cities respectively. Black females were overemployed in administrative positions in four municipalities in 1986. The distribution ratios in professional occupations were greater than 1.00 in six municipalities. Black females continued to be the most underrepresented in the protective service and skilled craft occupations. The highest black female ratio for the protective service occupations was .50 in Detroit. Only Detroit (.23) and Kalamazoo (.29) had a black female ratio for skilled craft occupations greater than .00 in 1986.

#### Blacks and Females in the Occupational Hierarchy

The percentages and distribution ratios indicated the distribution of black males, white females and black females in the individual occupations. In order to determine the distribution of black and female employees over the work force, a stratification ratio was calculated. The ratio measures the extent to which black males, white females and black females are evenly employed in high and low prestige occupations.

The stratification ratios (see Table 4.1) reveal that black male employees are largely distributed in less prestigious municipal occupations. The 1980 black male ratios ranged from .28 in Grand Rapids to .91 in Saginaw. Besides Saginaw, only Flint (.50) and Muskegon (.85) had ratios of .50 or better. Kalamazoo (.30) and Lansing (.38) join Grand Rapids as the only municipality to have a 1980 ratio less than

Table 4.1  
Stratification Ratios

CITY		1980	1981	1982	1983	1984	1985	1986	1980-6
Ann Arbor	BM		.43	.56	.37	.44	.38	.55	.12 <sup>1</sup>
	WF		.49	.45	.64	.68	.57	.38	-.11
	BF		.23	.17	.43	.39	.40	.43	.20
Battle Creek	BM					.55	.53	.57	.02 <sup>2</sup>
	WF					.51	.51	.54	.03
	BF					.22	.29	.24	.02
Bay City	BM	.44	.00	.00	.00	.00	.00	.00	-.44
	WF	.41	.59	.48	.47	.68	.79	.73	.32
	BF	1.33	1.35	1.39	1.26	1.32	1.36	1.39	.06
Detroit	BM	.43	.50	.55	.50	.51			.08
	WF	2.21	1.90	1.48	1.59	1.68			-.53
	BF	.95	.89	1.18	.90	.87			-.08
Flint	BM	.50	.75	.61	.73	.73	.71	.68	.18
	WF	.43	.36	.41	.42	.39	.41	.44	.01
	BF	.46	.51	.49	.51	.56	.66	.69	.23
Grand Rapids	BM	.28	.27	.30	.29	.36	.31	.30	.02
	WF	.55	.54	.49	.51	.48	.56	.60	.05
	BF	.35	.43	.31	.49	.50	.37	.59	.24
Jackson	BM					.95	.87	.72	-.23 <sup>2</sup>
	WF					.30	.44	.40	.10
	BF					.50	.38	.57	.07
Kalamazoo	BM	.30	.22	.29	.33	.28	.33	.44	.14
	WF	.39	.49	.54	.60	.59	.70	.73	.34
	BF	.17	.10	.11	.21	.21	.27	.29	.12
Lansing	BM	.38	.32	.48	.41	.44	.52	.46	.08
	WF	.43	.37	.41	.41	.41	.43	.49	.06
	BF	.68	.75	.66	.64	.45	.49	.41	-.27
Muskegon	BM	.85	1.24	1.62	.83	.81	1.28	1.02	.17
	WF	.19	.33	.31	.35	.41	.44	.40	.21
	BF	.97	2.17	1.62	1.45	.95	.73	1.05	.08
Saginaw	BM	.91	.86	.89	.76	.74	1.06	.81	-.10
	WF	.44	.52	.62	.52	.85	.51	.59	.15
	BF	.88	.62	.65	.53	.63	.92	.45	-.43

BM - Black males

<sup>1</sup>Based on 1981-1986

WF - White females

<sup>2</sup>Based on 1984-1986

BF - Black females



.40. The 1984 ratios of Battle Creek and Jackson were .55 and .95 respectively.

The 1986 ratios indicate that six of ten municipalities had black male ratios greater than .50. The municipalities included Ann Arbor (.55), Battle Creek (.57), Flint (.68), Jackson (.72), Saginaw (.81) and Muskegon (1.02). Grand Rapids (.30) was the only municipality to remain below .40. The black male stratification ratios improved in eight of the eleven municipalities during the study. Only Saginaw (-.10), Jackson (-.23) and Bay City (-.44) experienced declines. The drop in Bay City is quite deceiving unless the number of black male employees in the high-prestige occupations is examined. Only a single technician was employed in the higher-level positions in Bay City in 1980. Thus, the large decline was the result of his exclusion from the work force in the following years. The decrease in Jackson occurred during a period of only two years.

The increases in the black male stratification ratios ranged from .02 in Battle Creek and Grand Rapids to .18 in Flint. The ratios did not increase every year in any of the municipalities which experienced gains. In fact, ratios in four of the seven cities actually declined between 1985 and 1986.

The stratification ratios consistently fluctuated in most municipalities. The ratio for Muskegon increased from .85 in 1980 to 1.24 in 1981. The growth was a result of the large number of white females and male technicians who exited the work force combined with the disproportionately large number of black males who were no longer employed in the lower level occupations. The ratio grew to 1.62 in 1982 and was the largest black male ratio in any municipality during the study. The increase was a result of the declining number of black males in the expanding lower level work force. However, the ratio decreased to .83 in the following year as a result of the disproportionately large

number of black males leaving higher level occupations while the percentage of black males in the lower-level occupations increased significantly.

The stratification ratio in Saginaw grew from .74 in 1984 to 1.06 in 1985. The ratio then dropped to .81 in the following year. The increase was the result of the growing proportion of black males in the higher-prestige positions. The decrease was a consequence of the growing number of black males in the declining low-prestige work force. A similar situation occurred in Flint between 1980 and 1982 as the ratio grew from .50 in 1980 to .75 in 1981 but dropped to .61 the following year.

The fluctuating black male stratification ratios are common to most municipalities. The fluctuation, to some extent, is a by-product of the small number of black males in the municipal work force, especially in the higher-prestige occupations. A reduction or increase of one or two black male administrators or professionals will have a significant impact on the stratification ratio. The decline of the Bay City ratio is an excellent example. Regardless of the size of the black male work force fluctuations indicate that black male municipal employees are not making annual progress. The distribution of black males in high-status occupations has improved in most municipalities during the 1980s. However, due to the fluctuating percentages, the same statement may not be true at the end of the decade.

The stratification ratios (see Table 4.1) indicate that white females are largely relegated to less prestigious municipal positions. The 1980 ratios ranged from .19 in Muskegon to 2.21 in Detroit. Grand Rapids was the only other municipality to have a white female ratio greater than .50 in 1980. The ratio for Detroit was the largest of blacks or females in any city during the study. The high ratio can be attributed to the relatively low percentage of white females in the

low-level occupations. The low ratio in Muskegon was a result of the relatively low percentage of white females in the higher-level positions. The ratio was the lowest for white females of any municipality during the study.

White female stratification ratios increased in nine of the eleven municipal work forces during the study. The increases ranged from .01 in Flint to .34 in Kalamazoo. Other municipalities to experience large gains were Bay City (.32) and Muskegon (.21). The ratio in Kalamazoo increased in five of six years during the study. The gain occurred as the white female percentage in the high-prestige occupations increased while the percentage in the low-prestige occupations declined a similar amount. The percentage increase in high level positions was also combined with the percentage decline in low-level positions in Bay City. However, the increased ratio can mostly be attributed to the growing percentage in the upper-level positions. In Muskegon, the percentage of white females rose in both the high and low-prestige occupations between 1980 and 1986. However, the increase in the high-prestige occupations was over three times as great and the end result was a larger stratification ratio. The ratios in the remaining municipalities increased by .15 or less.

The only cities which experienced a reduction in the white female stratification ratio during the study were Ann Arbor (-.11) and Detroit (-.53). However, the declining ratio in Detroit reveals progress since it is greater than 1.00. Both municipalities experienced large fluctuations. The ratio in Ann Arbor increased from .49 in 1981 to .68 in 1984 and then fell each year to .38 in 1986. The drop between 1984 and 1985 was due to the decreasing proportion of white females in the higher-level occupations. The decline in the following year was primarily caused by the growing percentage of white females in the lower-level occupations. The large decline in Detroit occurred between

1980 and 1982. The decreasing stratification ratio was caused by a decline in the proportion of white females in the upper-level occupations. The ratio actually increased in the proceeding two years. The stratification ratio for Detroit could not be calculated in 1985 and 1986 due to incomplete data.

Saginaw and Bay City also experienced large fluctuations in the 1980s. The ratio in Saginaw grew from .52 to .85 between 1983 and 1984 as the proportion of white females in the high-prestige occupations expanded while the proportion in the low-prestige occupations decreased. During the following year, the female percentage of the high-status positions declined while the percentage in the low-status positions expanded and the ratio fell to .51. A similar experience occurred in Bay City throughout the 1980s. Other municipalities experienced only slight fluctuations during the 1980s.

White females are largely employed in the low-prestige occupations in nearly every municipality. The white female ratio in Detroit would have most likely remained well above 1.00 in 1986. The highest 1986 ratios of the other municipalities, .73 in Bay City and Kalamazoo, are significantly lower than 1.00. The obvious distribution of white female municipal employees in low-status occupations will undoubtedly exist for a considerable number of years.

The stratification ratios (see Table 4.1) reveal that black females are largely underrepresented in high-level occupations in most municipalities. Only Bay City (1.33) attained a black female ratio greater than 1.00 in 1980. This figure may be quite deceiving since only three black females are represented in the entire work force, one professional and two office/clerical employees. Black female municipal employees in Detroit (.95) and Muskegon (.97) were very close to being evenly distributed in high and low-level positions. Flint (.46), Grand Rapids (.35) and Kalamazoo (.39) had black female ratios below .50 in

1980. In each of the three municipalities, black females were disproportionately underrepresented in both the high and low-prestige occupations. However, the distribution of black females was far greater in the low-level positions. The low ratios of Ann Arbor (.23) in 1981 and Battle Creek (.22) in 1984 were a result of the disproportionately low number of black females in high-status occupations and the disproportionately high number in the low-status occupations.

Black female stratification ratios increased in eight of eleven municipalities during the study. The largest gain occurred in Grand Rapids (.24). The ratio in Grand Rapids fluctuated throughout the 1980s due to the increases and declines of percentages in both occupational levels. The large increase of the black female percentage in the high-status occupations was responsible for the overall gain since the proportion in the low-status occupations rose only slightly between 1980 and 1986. The ratios in Ann Arbor and Flint increased by .20 and .23 respectively. The ratio in Ann Arbor did not increase consistently. In fact, the growth in the percentage of high-status black females between 1982 and 1983 alone resulted in a .26 increase. The ratio fell by .06 for the rest of the years combined. In contrast, the ratio in Flint increased in five of six years between 1981 and 1986. The largest rise in one year (.10) occurred between 1984 and 1985 as the percentage of black females in the high-prestige occupations increased more than the percentage in the low-prestige occupations.

The increases in other municipalities ranged from .02 in Battle Creek to .12 in Kalamazoo. Prior to increasing, the ratio in Kalamazoo dropped to .10 in 1981. The ratio was the lowest for black females of any municipality during the study. The black female stratification ratio in Muskegon grew by .08 between 1980 and 1986. However, the increase is hardly an indication of the fluctuation that the ratio experienced. The average annual absolute change during the study was

nearly .50. Between 1980 and 1981 alone, the ratio grew from .97 to 2.17. The 1981 ratio was the largest for any city during the study. The ratio then declined each year to .73 in 1985 before rising to 1.05 in 1986. The large fluctuations are an obvious indication of the low number of black female employees in the work force. The number ranged from five to thirteen during the study.

Only the black female stratification ratios of Detroit, Lansing and Saginaw decreased during the study. The Detroit ratio dropped by .08 between 1980 and 1984. Primarily due to the increase in the percentage of black females in the high-status positions, the ratio rose from .95 in 1980 to 1.18 in 1982. However, the ratio fell to .87 in 1984. The decrease was a result of the decline in the percentage of black females employed in high-status positions similar to the gain experienced between 1980 and 1982. The .27 decline of the Lansing ratio was mainly the result of the .19 decrease between 1983 and 1984. The loss in that year was primarily due to the increase in the percentage of black females employed in low-status occupations. The largest decrease between 1980 and 1986 occurred in Saginaw (-.43). Large fluctuations occurred in Saginaw during the study. The ratio dropped from .88 in 1980 to .53 in 1983, a result of the growing black female percentage in the low-status occupations combined with declining percentage in the high-status occupations. The ratio increased to its highest point (.92) in 1985 as the proportion of black females in the high-level positions nearly doubled. However, the ratio declined to its lowest point (.45) in the following year. The decrease occurred as the black female percentage in the upper-level occupations declined while the percentage in the lower-level occupations expanded.

The 1986 stratification ratios revealed that black females continued to be underrepresented in the high-prestige occupations. Only Bay City (1.39) and Muskegon (1.05) had ratios which exceeded 1.00 and

these ratios were influenced by the small number of black female municipal employees in the respective work forces. The black female stratification ratio in Detroit would have most likely remained below 1.00 in 1986. In most municipalities black females have made little or no progress in the occupational hierarchy during the 1980s. For example, stratification ratios in two municipalities increased past .50 while ratios in two other municipalities dropped below .50. Only five of ten municipalities had black female stratification ratios which exceeded .50 in 1986.

The stratification ratios indicate that blacks and females are largely relegated to less prestigious and responsible occupations in most municipalities. Comparisons can be made between black males, white females and black females to determine which of the three groups were more likely to enter high-status positions in the municipal work force. Based on 1986, black males had the highest stratification ratio in four of ten municipalities. White females and black females each had the highest ratio in three cities. Direct comparisons reveal that black males had a higher ratio than white females in six of ten municipalities. The black male ratio was also greater than the black female ratio in six of ten municipalities. White females and black females each had a higher ratio in five municipalities. 1986 black male stratification ratios ranged from .00 in Bay City to 1.02 in Muskegon. White female ratios ranged from .38 in Ann Arbor to .73 in Bay City and Kalamazoo. Ratios of black females ranged from .24 in Battle Creek to 1.39 in Bay City. Finally, stratification ratios of black males were less than .50 in four municipalities. The same was true of white and black females in five municipalities. For these reasons, black males have performed slightly better than white and black females in obtaining high-prestige municipal positions.

### Occupational Segregation

The distribution ratios revealed that black males were largely employed in the service/maintenance occupations. White and black females were largely relegated to office/clerical positions. The stratification ratios indicated that blacks and females were disproportionately overrepresented in the less-prestigious occupations. The final measure of occupational attainment for blacks and females is the index of dissimilarity. The index was able to measure the degree of occupational segregation in municipal work forces. The distribution of black males, white females and black females is compared directly with the distribution of white males.

In 1980, the occupational segregation between white and black males ranged from 16.88 percent in Saginaw to 36.48 percent in Detroit (see Table 4.2). The level of segregation was also greater than 30 percent in Bay City (32.32 percent), Lansing (34.2 percent) and Grand Rapids (35.63 percent). The 1981 level of segregation in Ann Arbor was 33.49 percent and the 1984 level of segregation in Battle Creek was 35.08 percent. The level of segregation was only 16.71 percent in Jackson in 1984.

Black male occupational segregation increased in six of the eleven municipalities during the study. The municipalities included Detroit (.18 percentage points), Jackson (.41 percentage points in two years), Muskegon (.91 percentage points), Battle Creek (1.22 percentage points in two years), Ann Arbor (4.81 percentage points in six years) and Bay City (16.81 percentage points). The segregation of four of these municipalities declined between 1985 and 1986. Only the Ann Arbor level of segregation increased annually during the study. The indices in the other municipalities fluctuated throughout the 1980s.

The largest decline of occupational segregation between 1980 and 1986 occurred in Lansing (-12.11 percentage points). The large decrease



Table 4.2  
Occupational Segregation

CITY		1980	1981	1982	1983	1984	1985	1986	1980-6
Ann Arbor	BM		33.49	33.52	35.46	36.05	37.83	38.30	4.81 <sup>1</sup>
	WF		63.28	58.10	58.69	60.57	62.32	62.31	-.97
	BF		63.91	65.15	56.47	61.85	56.56	53.09	-10.82
Battle Creek	BM					35.08	36.90	36.30	1.22 <sup>2</sup>
	WF					61.60	58.69	65.62	4.02
	BF					64.97	61.29	66.17	1.20
Bay City	BM	32.23	30.53	36.69	36.20	42.40	44.09	49.04	16.81
	WF	83.71	83.93	82.84	79.27	74.23	73.49	66.48	-17.23
	BF	89.72	89.10	88.80	87.76	89.65	90.33	90.49	.77
Detroit	BM	36.48	40.39	40.77	40.94	41.16	37.57	36.66	.18
	WF	57.92	59.57	52.79	51.93	53.25	47.67	42.61	-15.31
	BF	58.33	58.98	55.82	56.62	58.64	54.62	52.38	-5.95
Flint	BM	23.51	21.81	21.19	18.78	19.67	24.44	22.86	-.65
	WF	66.42	71.69	68.69	64.00	65.14	63.89	62.55	-3.87
	BF	58.03	60.13	60.71	58.55	60.76	59.62	56.42	-1.61
Grand Rapids	BM	35.63	36.60	33.75	32.83	31.40	31.04	30.13	-5.50
	WF	66.61	66.92	66.89	66.24	66.59	59.22	54.38	-12.23
	BF	71.98	70.24	75.34	70.80	65.99	68.44	62.49	-9.49
Jackson	BM					16.71	21.77	17.12	.41 <sup>2</sup>
	WF					69.77	62.81	64.77	-5.00
	BF					66.40	67.57	69.10	2.70
Kalamazoo	BM	27.75	30.94	29.97	25.13	27.61	26.02	26.27	-1.48
	WF	58.63	55.80	55.53	53.72	50.82	51.12	51.11	-7.52
	BF	61.63	66.45	69.05	66.43	66.43	64.04	61.05	-.58
Lansing	BM	34.20	36.86	25.99	29.60	25.32	23.13	22.09	-12.11
	WF	61.40	60.49	57.47	56.09	58.73	55.88	53.15	-8.25
	BF	46.36	47.73	50.11	62.36	65.41	68.57	69.66	23.30
Muskegon	BM	23.02	15.21	15.30	9.26	9.63	23.99	23.93	.91
	WF	82.69	74.55	74.52	74.42	74.46	72.51	68.44	-14.25
	BF	66.23	54.93	70.55	69.73	66.51	67.51	72.68	6.45
Saginaw	BM	16.88	15.46	8.02	9.46	11.04	5.89	14.73	-2.15
	WF	76.51	77.84	77.89	79.03	77.12	74.91	58.03	-18.48
	BF	64.11	63.95	72.32	72.86	67.72	72.65	62.28	-1.83

BM - Black male

<sup>1</sup>Based on 1981-1986

WF - White female

<sup>2</sup>Based on 1984-1986

BF - Black female

can be mostly attributed to the nearly 11 percentage point decline which occurred between 1981 and 1982. Black male occupational desegregation occurred in Flint, Kalamazoo, Saginaw and Grand Rapids to a lesser extent.

The 1986 level of black male segregation ranged from 14.73 percent in Saginaw to 49.04 percent in Bay City. The large increase in Bay City from 1980 can be partly attributed to the effect of the low number of black male employees on the distribution. The 1986 index for Bay City was the highest for black males of any city during the study.

In 1980, the occupational segregation between white females and white males ranged from 57.92 percent in Detroit to 83.71 percent in Bay City (see Table 4.2). The level of occupational segregation was high (i.e., above 50 percent) in every municipality. The high percentages are primarily a result of gender differences and the unequal distributions in the female dominated office/clerical occupations and the male dominated skilled craft and service/maintenance occupations. Occupational segregation was also high in Ann Arbor, Battle Creek and Jackson. The 1981 level of segregation in Ann Arbor was 63.28 percent. The 1984 levels of segregation in Battle Creek and Jackson were 61.6 and 69.77 percent, respectively.

The white female occupational segregation declined in ten of the eleven municipalities during the study. One-half of these municipalities experienced a decrease of over ten percentage points. These municipalities included Grand Rapids (-12.23), Muskegon (-14.25), Detroit (-15.31), Bay City (-17.23) and Saginaw (-18.48). The only city to experience an increase was Battle Creek. The occupational segregation rose 4.02 percentage points between 1984 and 1986. The level of white female occupational segregation in 1986 ranged from 42.61 percent in Detroit to 68.44 percent in Muskegon. Detroit was the only municipality to have its white female occupational segregation below 50 percent.

The high occupational segregation between white males and black females is also a result of the traditionally male and female dominated occupations. Black female occupational segregation in 1980 ranged from 46.36 percent in Lansing to 89.72 percent in Bay City (see Table 4.2). Lansing was the only city to have black female occupational segregation below 50 percent. The high index in Bay City is partly a result of the effect of the small number of black female employees on the distribution. The distribution was comprised of one professional and two office/clerical employees throughout the study. The second highest level of segregation in 1980 was 71.98 percent in Grand Rapids.

Black female occupational segregation declined in six of the eleven municipalities during the study. The largest decline occurred in Ann Arbor as the level of segregation decreased nearly eleven percentage points between 1981 and 1986. Other municipalities to experience a decline greater than five percentage points were Detroit (-5.95) and Grand Rapids (-9.49). The level of segregation increased greater than five percentage points in Muskegon and Lansing between 1980 and 1986. Occupational segregation in Muskegon increased 6.45 percentage points while the segregation in Lansing increased 23.3 percentage points to a segregation level of 69.66 percent in 1986. Occupational segregation in 1986 ranged from 52.38 percent in Detroit to 90.49 percent in Bay City. The index for Bay City was the highest for any group during the study.

The index of dissimilarity was able to demonstrate that the level of occupational segregation for white and black females was high in most municipalities. Only white females in Detroit had a 1986 level of segregation less than 50 percent. The lowest black female level of segregation also occurred in Detroit. The occupational segregation for black males was much lower due to the difference in gender. Comparisons between white and black females indicate that black females experience a higher level of occupational segregation than white females in nine

municipalities in 1986. Black female segregation is lower only in Ann Arbor and Flint. White females have experienced a decrease in occupational segregation in ten cities while a decline has occurred for black females and black males in only five and six cities respectively.

### Median Salary

One tangible indicator of the qualitative employment status of blacks and females is monetary compensation. Salary inequalities may result from a number of factors including the large distribution of blacks and females in lower-level occupations due to lack of qualifications, low seniority or discrimination. A lower income may also be the result of underpayment of blacks and females for work of equal value. Whatever accounts for the salary discrepancies between blacks and females and the white male, the inequalities are important to assess the qualitative progress of blacks and females in municipal governments.

The salary advantage ratios (see Table 4.3) indicate that, as expected, blacks and females have a lower median salary than white males in every municipality during the 1980s. The 1980 black male advantage ratio ranged from .76 in Kalamazoo to .97 in Saginaw. Bay City (.92) was the only other city to have a ratio greater than .90 in 1980. Six of the twelve municipalities had a ratio equal to or greater than .90 during the decade. However, only Bay City (.90) and Saginaw (.94) were equal to or greater than .90 in 1986. In fact, seven of eleven black male advantage ratios declined during the study. The declines resulted as the median salary of white males increased by a larger percentage than the median salary of the black males. Median salaries can be found in Appendix XVI. The largest decline occurred in Muskegon as the ratio dropped eight points between 1980 and 1986. The ratio was as high as .97 in 1982 but decreased to .77 in 1986. The highest ratio during the study was .99 in Saginaw in 1984. The advantage ratios did not improve much during the

Table 4.3  
Advantage Ratios

CITY		1980	1981	1982	1983	1984	1985	1986	1980-6
Ann Arbor	BM		.84	.83	.86	.87	.85	.81	-.03 <sup>1</sup>
	WF		.72	.77	.72	.77	.79	.76	.04
	BF		.70	.77	.71	.79	.80	.78	.08
Battle Creek	BM					.85	.75	.85	.00 <sup>2</sup>
	WF					.86	.76	.76	-.10
	BF					.80	.73	.72	-.08
Bay City	BM	.92	.85	.79	.80	.95	.92	.90	-.02
	WF	.81	.85	.82	.82	.86	.89	.88	.07
	BF	.79	.87	.79	.80	.92	.89	.90	.11
Detroit	BM	.85	.70						-.15 <sup>3</sup>
	WF	.84	.71						-.13
	BF	.72	.66						-.06
Flint	BM	.88	.89	.85	.80	.91	.85	.86	-.02
	WF	.74	.81	.79	.78	.79	.81	.85	.11
	BF	.74	.78	.78	.79	.79	.77	.84	.10
Grand Rapids	BM	.80	.84	.88	.84	.81	.75	.82	.02
	WF	.72	.72	.77	.71	.66	.72	.76	.04
	BF	.70	.70	.75	.70	.65	.66	.69	-.01
Jackson	BM					.93	.86	.87	-.06 <sup>2</sup>
	WF					.69	.74	.75	.06
	BF					.60	.63	.69	.09
Kalamazoo	BM	.76	.74	.75	.72	.77	.79	.76	.00
	WF	.71	.72	.74	.72	.73	.76	.74	.03
	BF	.68	.61	.63	.64	.63	.66	.64	-.04
Lansing	BM	.81	.77	.90	.89	.87	.77	.88	.07
	WF	.71	.70	.75	.78	.82	.74	.76	.05
	BF	.76	.72	.79	.80	.82	.75	.71	-.05
Muskegon	BM	.85	.95	.97	.95	.94	.83	.77	-.08
	WF	.63	.62	.65	.63	.65	.64	.65	.02
	BF	.59	.62	.63	NA	.60	.63	.62	.03
Saginaw	BM	.97	.93	.96	.97	.99	.93	.94	-.03
	WF	.76	.67	.68	.71	.73	.72	.76	.00
	BF	.73	.66	.64	.63	.71	.71	.70	-.03

M - Black males

<sup>1</sup>Based on 1981-1986

WF - White females

<sup>2</sup>Based on 1984-1986

BF - Black females

<sup>3</sup>Based on 1981-1982

study. The ratios increased in only Grand Rapids (.02) and Lansing (.08).

Median salaries for white females were lower than the black male salaries in every municipality in 1986. The white female ratios ranged from .65 in Muskegon to .88 in Bay City. The ratios increased in eight of the 11 municipalities during the study. The largest increase occurred in Flint as the ratio increased .11 points during the decade. The increasing ratios are the consequence of the white female median salary increasing by a greater percentage than the white male median salary. The white female advantage ratio declined in Battle Creek and Detroit during the study. The ratio in Battle Creek declined from .86 to .76 between 1984 and 1986. Median salary was only available in Detroit in 1980 and 1981. The ratio dropped from .84 to .71 during those years. The white female ratio in Saginaw was .76 in 1980 and 1986. The ratio had declined to .67 in 1981 before increasing to its 1986 figure.

The black female median salaries were lower than the white female salaries in eight of ten municipalities in 1986. The black female salaries were larger in only Ann Arbor and Bay City. The 1986 black female ratios ranged from .62 in Muskegon to .90 in Bay City. The figure in Bay City is only a rough estimate since only three black females were employed in the municipality in each of the years of the study. The ratio in six of the eleven declined during the decade. The largest decline occurred in Battle Creek as the ratio dropped from .80 to .72 between 1984 and 1986. Black females of Lansing experienced the second largest decline as the ratio decreased from .76 to .71 between 1980 and 1986. The largest increase occurred in Bay City as the ratio increased from .79 to .90. Other municipalities to experience a large increase were Ann Arbor (.08), Jackson (.09) and Flint (.10).

## CHAPTER 5

### CONCLUSION

#### Summary

Many studies have attempted to measure and explain the employment opportunities of minorities and females in both the public and private sectors. However, a majority of these studies have failed to analyze whether these groups were making annual progress in attaining a representative share of municipal employment including the more responsible and prestigious government positions.

This study was able to measure the annual quantitative and qualitative progress of black and female municipal employees in individual cities in Michigan during the first half of the 1980s.

The percentage of white males, white females, black males, and black females in each city's labor force was calculated and compared to the corresponding percentage in the municipal work force in a number of employment categories to determine the representation of each group in the eleven municipal work forces. These comparisons were made each year during the period of 1980 through 1986 to determine whether blacks and females were making annual progress in attaining a representative work force.

The representation ratio was able to reveal the representation of each municipal work force. The ratios revealed that blacks and females are underrepresented in most of the municipal work forces. Black males were the best represented of the three groups. However, black males were underrepresented in five of the eleven municipalities in 1986. The municipalities included Flint, Grand Rapids, Jackson, Muskegon and

Saginaw. The percentage of black males in the work force decreased in three of these municipalities during the 1980s.

The 1986 representation ratios revealed that white females were largely underrepresented in every municipality during the 1980s. White females were also the most underrepresented of the three groups. The 1986 ratios ranged from .29 in Detroit to .68 in Flint. However, the percentage of white females in the work force increased in seven municipalities during the 1980s.

The representation ratios indicated that black females were underrepresented in nine of eleven municipalities in 1986. Overrepresentation occurred in only Ann Arbor and Bay City. The lowest ratio occurred in Saginaw (.43). The percentage of black females in the work force increased in eight of the nine municipalities where black females were underrepresented. However, black females did not make annual quantitative progress in any of the municipalities. The percentage of black males, white females and black females fluctuated throughout the decade.

An examination between the change in the size of the municipal work and the representation of blacks and females revealed that an association does not exist between the variables. The representation of black males, white females and black females increased and decreased regardless of the direction or size of the change in the work force size.

A comparison of percentages for black males, white females and black females indicated that the representation of each group did not improve in most municipalities. Each group improved in only Lansing and Flint. In the other municipalities, an increase of one group between 1980 and 1986 occurred as one or both of the other groups declined. Interminority competition is said to exist in these municipalities.



A number of measures were used to measure the qualitative position and progress in the Michigan municipalities. The distribution ratios revealed that black males were largely overemployed in the service/maintenance occupation in every municipality throughout the 1980s. Overrepresentation occurred in the skilled craft occupation in six municipalities in 1986. Black males were underrepresented in the protective service occupation in six municipalities in 1986. Black males have traditionally been largely underrepresented in this occupation in the past. The group was also underrepresented in the high-prestige occupations in most municipalities. For these reasons, the stratification ratio for black males in 1986 was less than 1.00 in every municipality with the exception of Muskegon. However, the stratification ratios did increase in eight of the eleven municipalities during the decade.

White females were largely overemployed in the office/clerical positions in every municipality during the 1980s. The 1986 distribution ratios for office/clerical employees ranged from 2.38 in Detroit to 6.33 in Bay City. White females were also overrepresented in the paraprofessional occupation in eight of ten municipalities in 1986. White females were largely underemployed in the traditionally male-dominated occupations in every municipality. The highest ratio for protective service workers was .88 in 1986. The highest ratio for service/maintenance employees was .44. The ratios for the skilled craft occupation ranged from .00 to .26.

White females were also largely underemployed in the high-prestige occupations. The 1986 white female distribution ratio for the official/administrative occupation was greater than 1.00 in only three municipalities. The 1986 ratio for technicians was also greater than 1.00 in three municipalities. White female professionals were overemployed in only one city in 1986. Despite the fact that the white

female stratification ratios increased in nine of ten municipalities, not a single ratio was greater than or equal to 1.00 in 1986. The highest ratio was .73 in Bay City and Kalamazoo. The 1984 ratio in Detroit was 1.68 and would have likely remained high in 1986.

Black females were also overemployed in the office/clerical occupation in every municipality during the decade. The 1986 black female distribution ratios ranged from 3.12 in Detroit to 6.68 in Bay City. Black females were the most likely of the three groups to obtain high-prestige positions. Black females were overemployed in the administrative occupation in four municipalities in 1986. The ratio in professional positions was greater than 1.00 in five municipalities. The ratio for black female technicians was greater than 1.00 in two municipalities. The group did not fare as well in the traditionally male-dominated occupations. The 1986 distribution ratio for service/maintenance employees was greater than 1.00 in only Kalamazoo. The highest black female ratio for protective service workers in 1986 was .50 in Detroit. The ratio for skilled craft positions was greater than .00 in only two municipalities, Detroit (.23) and Kalamazoo (.29).

The stratification ratios indicate that black females are largely relegated to less prestigious occupations. The ratios increased in eight of the eleven municipalities during the study. However, only two municipalities had a black female stratification ratio greater than 1.00 in 1986. The remaining municipalities had a ratio less than .70.

The index of dissimilarity was able to compare the distributions of black males, white females and black females with the distribution of white males. Black male occupational desegregation occurred in only five of the eleven municipalities during the decade. The municipalities included Flint, Grand Rapids, Kalamazoo, Lansing and Saginaw. The largest decline occurred in Lansing as the level of occupational

segregation decreased 12.11 percentage points. The levels of segregation in 1986 ranged from 14.73 in Saginaw to 49.04 in Bay City.

The index of dissimilarity was greater for females in every municipality due to the difference in gender and the unequal distributions in the traditionally male and female-dominated occupations. However, white female occupational desegregation occurred more often than black male desegregation and to a greater degree. White female occupational desegregation occurred in ten of the eleven municipalities during the study. Occupational segregation declined by over ten percentage points in Grand Rapids, Muskegon, Bay City and Detroit. Despite the progress experienced by white females in most municipalities, the 1986 indices ranged from 42.61 percent in Detroit to 68.44 percent in Muskegon. Detroit was the only city to have an index below .50.

The highest levels of segregation for the three groups were experienced by black females. Black females had higher levels of occupational segregation than white females in nine municipalities in 1986. The black female indices ranged from 53.28 in Detroit to 90.49 percent in Bay City. The high index for Bay City is primarily due to the low number of black female municipal employees. Black females did not experience as much progress as white females during the 1980s as occupational desegregation for black females occurred in only six municipalities. The largest decline occurred in Ann Arbor as the level of segregation decreased nearly 11 percentage points between 1981 and 1986. The declines in the remaining cities were below ten percentage points.

The final measure of qualitative progress was the advantage ratio. With the exception of Bay City, black males had the highest median salary of blacks and females in every municipality in 1986. The median salaries for black males and black females were equal in Bay City that

year. The 1986 black male advantage ratios ranged from .76 in Kalamazoo to .94 in Saginaw. The black male advantage ratio did not increase annually in any municipality. In fact, the ratio increased in only two municipalities during the study. The ratio in Grand Rapids increased .02 points while the ratio in Lansing rose .07 points. The advantage ratios in Battle Creek and Kalamazoo were the same in 1986 as they were in the first year data was available for each municipality. However, fluctuations did occur in these municipalities during the study. The black male advantage ratio experienced the greatest decline in Muskegon as the ratio decreased by .08 points between 1980 and 1986.

The 1986 white female advantage ratios ranged from .65 in Muskegon to .88 in Bay City. White females made the most progress of the three groups in terms of the advantage ratio. The ratio increased in eight of ten cities during the study. The largest increase occurred in Flint (.11 points). The only municipality to suffer a decline was Battle Creek. The ratio in this municipality dropped from .86 in 1980 to .76 in 1986. The ratio in Saginaw was the same in 1980 and 1986.

The 1986 black female median salaries were less than the white female median salaries in eight of ten municipalities in 1986. The 1986 advantage ratios for black females ranged from .62 in Muskegon to .90 in Bay City. The ratios increased in five of ten municipalities during the study. The largest gains occurred in Bay City (.11 points) and Flint (.10 points). The largest decline occurred in Battle Creek as the ratio dropped .08 points between 1984 and 1986.

#### Interpretation of the Results

The levels of inequality, quantitative and qualitative, in the municipal employment status of black and female employees have become an important concern since the passage of the Equal Employment Opportunity Act of 1972. During the 1980s, fiscal constraints and the perceived antipathy of the Reagan Administration toward compensatory employment

programs may have resulted in less stringent equal employment and affirmative action policies.

The municipal work forces were clearly not representative of the labor force in any of the eleven Michigan cities in 1980. This may reveal the levels of past discrimination in the public sector. More importantly, for this study, is the quantitative progress of blacks and females in the Michigan municipalities during the 1980s. I have already discussed the problems of using the 1980 labor force composition as a benchmark for measuring representation throughout the decade. However, for purposes of this study, I was forced to assume that the labor force composition remained consistent throughout the 1980s. The ratios revealed that the work forces did not become more representative during the 1980s in every municipality. In municipalities where the representation did improve, the increases tended to be rather small. In most municipalities, the representation of one group increased while the representation of one or two of the other groups declined. One explanation for the lack of considerable progress, especially in municipalities where the representation of underrepresented groups declined, is that the cities lacked sufficient equal employment/affirmative action efforts. Discrimination in the municipal work force would effect the employment opportunities of blacks and females. The municipalities' recruiting and hiring efforts toward members of groups who have suffered past discrimination may have not been adequate to increase their employment opportunities.

A second explanation does not directly concern the equal employment and affirmative action policies of the municipal government. A municipality may have had excellent equal employment and affirmative action efforts and the representation of the work force may have worsened during the 1980s. This phenomenon may be a result of employment opportunities in the private sector. The work force in the

private sector is much larger than the public sector work force. Depending on the level of discrimination in the private sector, the private sector may present more employment opportunities to black and female employees. Blacks and females may seek private sector employment which is likely to provide greater monetary compensation. For these reasons, a work force in which the representation is declining is not necessarily a consequence of discrimination and poor affirmative action efforts.

The percentages of black males, white females and black females in the work force fluctuated throughout the 1980s. Annual progress did not occur in any of the municipalities. The fluctuating percentages would seem to indicate that affirmative action efforts were not consistent during the decade. A city may have been aware that the representation of its municipal work force was declining and became strongly devoted to increasing the percentage of blacks and females. Once the representation of the work force had increased to an adequate level the municipality may have become lackadaisical in its efforts to sustain the level of the percentages. Once the representation of blacks and females become inadequate the municipality would then again become strongly committed to increasing the percentages of blacks and females. This scenario would explain the fluctuating percentage in the eleven municipalities. A second explanation would be that a lack of qualified blacks and females applied for employment positions each year. If these groups do not apply for available positions, then even the most dedicated effort to increase the number of blacks and females will not result in a more representative work force. Recently hired blacks may also be the first individuals to be laid off during work reductions.

The qualitative measures of employment status revealed that blacks and females are underrepresented in the higher-level occupations. Qualitative progress did not occur in every municipality during the

1980s. In municipalities where progress did occur, the improvement was relatively small and not all groups experienced advancement. These results are unsatisfactory considering the importance of black and female representation in policy-making positions.

The large distribution of blacks and females in less prestigious occupations may be a consequence of a number of factors. The first is discrimination. Some municipalities, or those responsible for hiring, may prefer a large percentage of white males in decision-making positions. Blacks and females may be least likely to be hired or promoted to these positions.

A second factor which is important to the black and female representation in occupations which require higher levels of skill is the qualifications of blacks and females. Have blacks and females received the advanced education required to perform tasks in the administrative and professional occupations? If the educational levels of blacks and females are lower than the level for white males then it is unlikely to expect blacks and females to be as representative as white males in higher level occupations. The solution to this problem is to increase educational opportunities for all groups.

The final factor which may explain the representation of blacks and females in high-prestige occupations concerns the private sector. It may be the case that affirmative action efforts in the private sector only benefit blacks of the middle and upper socioeconomic classes. If this is the case, many of these blacks may find more opportunities in higher prestige occupations in the private sector and likely receive a higher salary. The less qualified blacks would find employment in the lower prestige occupations in the public sector. This phenomenon would explain the underrepresentation of blacks in the higher prestige occupations.

This study was able to reveal the position and progress of blacks and females in the eleven Michigan municipal work forces during the 1980s. Black males were overrepresented in a majority of the municipalities. Black females were underrepresented in a majority of the eleven municipalities and white females were largely underrepresented in every municipality. Each group was largely relegated to less prestigious occupations in the municipal work forces. The study does not reveal the reasons which account for the quantitative and qualitative position and progress of black and female municipal employees. The position and progress may be related to either the equal employment/affirmative action efforts, qualifications of blacks and females, or the employment opportunities in the private sector. Whatever the reasons may be, the representation of black and female municipal employees will continue to be an important concern.

#### Future Research

A number of future studies concerning minority and female representation in the municipal work force may be conducted using the same general lines of investigation which were utilized in this study. One may use the same procedures to measure the representation of minorities and females in the work force. However, in order to examine equal employment/affirmative action efforts more directly, a researcher may study the percentage of minorities and females hired each year.

A problem encountered in this study was the use of labor force composition from a single year as the benchmark for the following years. For this reason the representation ratios may have not been accurate after 1980. To control for this problem, one may compare the representation ratios of 1980 and 1990 by utilizing the labor force composition from the 1980 and 1990 U.S. Census. This procedure would allow the researcher to measure the quantitative progress of minorities and females in the municipal work force.



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Many studies have relied on the use of a benchmark, such as the population or labor force composition, to measure the quantitative and qualitative progress of minorities and females in the municipal work force. This procedure allows the researcher to compare the progress between each city. Another study may compare the progress of the public and private sectors in each city. The representativeness, stratification and advantage ratios and the occupational index of dissimilarity may be calculated for both sectors and compared. This study would also allow the researcher to determine the effect of employment opportunities in the private sector on the representation of the municipal work force.

Future research should attempt to determine the importance of equal employment/affirmative action policies and efforts on the representation of the municipal work force.

## **A P P E N D I C E S**

## Appendix I

## Racial and Sexual Makeup of Population

CITY		Population	White		Black	
			Male	Female	Male	Female
Ann Arbor	persons	107,960	46,527	45,990	4,841	5,345
	percent		(43.10)	(42.60)	(4.48)	(4.95)
Battle Creek	persons	35,724	12,353	14,566	3,778	4,306
	percent		(34.58)	(40.77)	(10.58)	(12.05)
Bay City	persons	41,593	18,975	20,738	305	307
	percent		(45.62)	(49.86)	(.73)	(.74)
Detroit	persons	1,203,339	201,841	218,688	355,169	403,299
	percent		(16.77)	(18.17)	(29.52)	(33.51)
Flint	persons	159,611	42,157	47,322	31,197	34,863
	percent		(26.41)	(29.65)	(19.55)	(21.84)
Grand Rapids	persons	181,843	69,027	78,193	13,404	15,407
	percent		(37.96)	(43.00)	(7.37)	(8.47)
Jackson	persons	39,739	15,414	17,418	2,994	3,194
	percent		(38.79)	(43.83)	(7.53)	(8.04)
Kalamazoo	persons	79,722	30,850	34,613	5,810	6,622
	percent		(38.70)	(43.42)	(7.29)	(8.31)
Lansing	persons	130,414	50,308	55,338	8,699	9,382
	percent		(38.58)	(42.43)	(6.67)	(7.19)
Muskegon	persons	40,823	14,487	16,791	4,265	4,449
	percent		(35.49)	(41.13)	(10.45)	(10.90)
Saginaw	persons	77,508	20,867	23,919	12,807	14,791
	percent		(26.92)	(30.86)	(16.52)	(19.08)
Michigan	persons	9,262,078	3,862,082	4,031,196	567,686	629,491
	percent		(41.70)	(43.52)	(6.13)	(6.80)

Source: Computed by the author from data obtained from the U.S. Department of Commerce. Bureau of the Census. 1980 Census of Population - General Social and Economic Characteristics, Volume 1, Part 24.

## Appendix II

## Labor Force Composition

CITY		Labor Force	White		Black	
			Male	Female	Male	Female
Ann Arbor	persons	57,588	26,635	23,794	2,366	2,474
	percent		(46.25)	(41.32)	(4.11)	(4.30)
Battle Creek	persons	14,925	6,492	5,244	1,587	1,349
	percent		(43.50)	(35.14)	(10.63)	(9.04)
Bay City	persons	18,075	10,348	7,152	98	91
	percent		(57.25)	(39.57)	(.54)	(.50)
Detroit	persons	484,895	109,396	74,631	152,156	138,887
	percent		(22.56)	(15.39)	(31.38)	(28.64)
Flint	persons	66,261	22,900	16,335	13,552	11,994
	percent		(34.56)	(24.65)	(20.45)	(18.10)
Grand Rapids	persons	85,906	40,130	32,035	5,675	5,712
	percent		(46.71)	(37.29)	(6.61)	(6.65)
Jackson	persons	17,559	8,537	6,542	1,150	1,082
	percent		(48.62)	(37.26)	(6.55)	(6.16)
Kalamazoo	persons	38,237	17,639	15,273	2,364	2,394
	percent		(46.13)	(39.94)	(6.18)	(6.26)
Lansing	persons	64,476	29,658	24,290	4,111	3,649
	percent		(46.00)	(37.67)	(6.38)	(5.66)
Muskegon	persons	16,462	7,503	6,124	1,220	1,360
	percent		(45.58)	(37.20)	(7.41)	(8.26)
Saginaw	persons	30,112	11,001	8,387	4,628	4,316
	percent		(36.53)	(27.85)	(15.44)	(14.33)
Michigan	persons	4,224,485	2,197,614	1,496,584	239,967	220,381
	percent		(52.02)	(35.43)	(5.68)	(5.22)

Source: Computed by the author from data obtained from the U.S. Department of Commerce. Bureau of the Census. 1980 Census of Population - General Social and Economic Characteristics, Volume 1, Part 24.

## Appendix III

## Description of Occupations

**Officials and Administrators:** Occupations in which employees set broad policies, exercise overall responsibility for execution of these policies, or direct individual departments or special phases of the agency's operations, or provide specialized consultation on a regional, district or area basis. Includes: department heads, bureau chiefs, division chiefs, directors, deputy directors, controllers, examiners, wardens, superintendents, sheriffs, police and fire chiefs and inspectors and kindred workers.

**Professionals:** Occupations which require specialized and theoretical knowledge which is usually acquired through college training or through work experience and other training which provides comparable knowledge. Includes: personnel and labor relations workers, social workers, doctors, psychologists, registered nurses, economists, dieticians, lawyers, system analysts, accountants, engineers, employment and vocational rehabilitation counselors, teachers or instructors, police and fire captains and lieutenants and kindred workers.

**Technicians:** Occupations which require a combination of basic scientific or technical knowledge and manual skill which can be obtained through specialized postsecondary school education or through equivalent on-the-job training. Includes: computer programmers and operators, drafters, surveyors, licensed practical nurses, photographers, radio operators, technical illustrators, highway technicians, technicians (medical, dental, electronic, physical sciences), assessors, inspectors, police and fire sergeants and kindred workers.

**Protective Service Workers:** Occupations in which workers are entrusted with public safety, security and protection from destructive forces. Includes: police patrol officers, fire fighters, guards, deputy sheriffs, bailiffs, correctional officers, detectives, marshalls, harbor patrol officers and kindred workers.

**Paraprofessionals:** Occupations in which workers perform some of the duties of a professional or technician in a supportive role, which usually requires less formal training and/or experience normally required for professional or technical status. Such positions may fall within an identified pattern of staff development and promotion under a "New Careers" concept. Includes: library assistants, research assistants, medical aids, child support workers, policy auxiliary, welfare service aids, recreation assistants, homemakers aides, home health aides, and kindred workers.

## Appendix III (Cont'd).

## Description of Occupations

**Office and Clerical:** Occupations in which workers are responsible for internal and external communication, recording and retrieval of data and/or information and other paperwork required in an office. Includes: bookkeepers, messengers, office machine operators, clerk-typists, stenographers, court transcribers, hearing reporters, statistical clerks, dispatchers, license distribution, payroll clerks and kindred workers.

**Skilled Craft Workers:** Occupations in which workers perform jobs which require special manual skill and a thorough and comprehensive knowledge of the processes involved in the work which is acquired through on-the-job training and experience or through apprenticeship or other formal training programs. Includes: mechanics and repairers, electricians, heavy equipment operators, stationary engineers, skilled machining occupations, carpenters, compositors and typesetters and kindred workers.

**Service-Maintenance:** Occupations in which workers perform duties which result in or contribute to the comfort, convenience, hygiene or safety of the general public or which contribute to the upkeep and care of buildings, facilities or grounds of public property. Workers in this group may operate machinery. Includes: chauffeurs, laundry and dry cleaning operatives, truck drivers, bus drivers, garage laborers, custodial employees, gardeners and groundkeepers, refuse collectors and construction laborers.

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**Source:** The description of these occupations is included in an instruction booklet that accompanies the (EEO-4) form sent to the city.

## Appendix IV

## Municipal Work Force Size

CITY	1980	1981	1982	1983	1984	1985	1986	1980-6
Ann Arbor		856	846	850	836	836	836	-20 <sup>1</sup>
Battle Creek					605	621	621	16 <sup>2</sup>
Bay City	481	458	437	472	444	437	431	-50
Detroit	25,104	20,100	19,833	18,763	17,848	18,843	19,159	-5,945
Flint	1,595	1,421	1,363	1,345	1,305	1,456	1,463	-132
Grand Rapids	1,938	1,878	1,787	1,627	1,591	1,603	1,631	-307
Jackson					364	360	339	-25 <sup>2</sup>
Kalamazoo	1,039	995	1,027	928	851	865	814	-225
Lansing	1,465	1,435	1,357	1,332	1,322	1,317	1,324	-141
Muskegon	336	294	303	276	292	279	301	-35
Saginaw	910	810	665	650	637	631	661	-249

<sup>1</sup>Based on 1981-1986<sup>2</sup>Based on 1984-1986



## Appendix Va

Quantitative Representation of Black Males of Ann Arbor<sup>1</sup>

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1981-6
Official/ Administrator		3 7.50 .55	11 16.92 1.28	6 12.77 1.04	5 12.50 1.03	4 9.30 .73	3 6.67 .54	0 -.83 .01
Professionals		9 10.34 .76	6 8.22 .62	5 5.62 .46	7 8.05 .67	10 9.35 .73	22 13.50 1.09	13 3.16 .33
Technicians		9 7.38 .54	8 8.33 .63	7 5.47 .45	11 6.75 .56	5 5.00 .39	2 3.23 .26	-7 -4.15 -.28
Protective Service		20 9.17 .67	12 5.56 .42	14 7.37 .60	14 7.41 .61	13 6.28 .49	12 5.97 .48	-8 -3.20 -.19
Para- Professionals		0 .00 .00	2 14.29 1.08	0 .00 .00	0 .00 .00	1 8.33 .65	0 .00 .00	0 .00 .00
Office/ Clerical		0 .00 .00	1 .84 .06	1 .84 .07	0 .00 .00	1 .89 .07	2 1.67 .14	2 1.67 .14
Skilled Craft		30 20.98 1.53	20 16.95 1.28	26 19.40 1.59	19 13.48 1.12	40 25.64 2.00	5 9.80 .80	-25 -11.18 -.73
Service/ Maintenance		46 40.00 2.93	52 35.86 2.71	45 33.58 2.74	45 47.87 3.96	33 33.33 2.60	53 33.76 2.74	7 -6.24 -.19
Work Force		117 13.67	112 13.24	104 12.24	101 12.08	107 12.80	99 12.33	-18 -1.34

<sup>1</sup>Data not available for 1980

Number of employees

Percent of occupation

Distribution ratio

## Appendix Vb

Quantitative Representation of White Females of Ann Arbor<sup>1</sup>

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1981-6
Official/ Administrator		2 5.00 .30	3 4.62 .25	2 4.26 .23	2 5.00 .28	1 2.33 .13	3 6.67 .35	1 1.67 .05
Professionals		10 11.49 .68	14 19.18 1.04	15 16.85 .92	12 13.79 .76	17 15.89 .90	19 11.66 .62	9 .17 -.06
Technicians		18 14.75 .88	10 10.42 .56	26 20.31 1.11	36 22.09 1.22	18 18.00 1.02	11 17.74 .94	-7 2.99 .06
Protective Service		17 7.80 .46	27 12.50 .68	9 4.74 .26	9 4.76 .26	11 5.31 .30	10 4.98 .26	-7 -2.82 -.20
Para- Professionals		2 33.33 1.98	4 28.57 1.55	5 55.56 3.05	2 66.67 3.69	8 66.67 3.79	3 75.00 3.99	1 41.67 2.01
Office/ Clerical		91 72.80 4.33	89 74.79 4.06	88 73.95 4.06	86 72.27 4.00	85 75.89 4.32	92 76.67 4.08	1 3.87 -.25
Skilled Craft		1 .70 .04	2 1.69 .09	1 .75 .04	3 2.13 .12	2 1.28 .07	2 3.92 .21	1 3.22 .17
Service/ Maintenance		3 2.61 .16	7 4.83 .26	9 6.72 .37	1 1.06 .06	5 5.05 .29	11 7.01 .37	8 4.40 .21
Work force		144 16.82	156 18.44	155 18.24	151 18.06	147 17.58	151 18.80	7 1.98

<sup>1</sup>Data not available for 1980

Number of employees

Percent of occupation

Distribution ratio

## Appendix Vc

Quantitative Representation of Black Females of Ann Arbor<sup>1</sup>

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1981-6
Official/ Administrator		1 2.50 .47	1 1.54 .31	1 2.13 .40	1 2.50 .49	2 4.65 .97	1 2.22 .41	0 -.28 -.06
Professionals		3 3.45 .64	1 1.37 .28	4 4.49 .85	1 1.15 .22	2 1.87 .39	9 5.52 1.03	6 2.07 .39
Technicians		1 .82 .15	1 1.04 .21	4 3.13 .59	7 4.29 .83	3 3.00 .63	0 .00 .00	-1 -.82 -.15
Protective Service		5 2.29 .43	6 2.78 .56	4 2.11 .40	6 3.17 .62	6 2.90 .61	5 2.49 .46	0 .20 .03
Para- Professionals		3 50.00 9.30	4 28.57 5.76	1 11.11 2.10	0 .00 .00	1 8.33 1.74	0 .00 .00	-3 -50.00 -9.30
Office/ Clerical		27 21.60 4.02	24 20.17 4.06	25 21.01 3.97	27 22.69 4.41	22 19.64 4.11	23 19.17 3.58	-4 -2.43 -.44
Skilled Craft		2 1.40 .26	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	-2 -1.40 -.26
Service/ Maintenance		4 3.48 .65	5 3.45 .69	6 4.48 .85	1 1.06 .21	4 4.04 .84	5 3.18 .59	1 -.30 -.06
Work Force		46 5.37	42 4.96	45 5.29	43 5.14	40 4.78	43 5.35	-3 -.02

<sup>1</sup>Data not available for 1980

Number of employees

Percent of occupation

Distribution ratio

## Appendix VIa

## Quantitative Representation of Black Males of Bay City

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
Official/ Administrator	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00
Professionals	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00
Technicians	1 2.56 1.54	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	-1 -2.56 -1.54
Protective Service	1 .84 .51	1 .94 .86	1 1.00 .73	1 .85 .67	1 .88 .79	1 .91 .79	1 .88 .64	0 .04 .13
Para- Professionals	- - -	- - -	0 .00 .00	- - -	- - -	- - -	- - -	- - -
Office/ Clerical	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00
Skilled Craft	1 1.92 1.16	2 3.77 3.46	1 1.37 1.00	1 1.69 1.33	0 .00 .00	0 .00 .00	0 .00 .00	-1 -1.92 -1.16
Service/ Maintenance	5 3.29 1.98	2 1.34 1.23	4 3.25 2.37	4 2.78 2.19	4 2.58 2.29	4 2.82 2.46	5 3.62 2.60	0 .33 .62
Work force	8 1.66	5 1.09	6 1.37	6 1.27	5 1.13	5 1.14	6 1.39	-2 -.27

Number of employees

Percent of occupation

Distribution ratio

## Appendix VIb

## Quantitative Representation of White Females of Bay City

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
Official/ Administrator	0 .00 .00	0 .00 .00	1 4.55 .35	1 4.00 .31	1 4.76 .41	1 5.26 .45	1 5.26 .40	1 5.26 .40
Professionals	2 4.76 .37	2 4.88 .39	2 4.88 .38	2 4.08 .32	4 9.52 .81	4 10.26 .88	4 11.11 .84	2 6.35 .47
Technicians	6 15.38 1.19	8 25.00 1.97	5 19.23 1.50	6 22.22 1.75	5 17.86 1.52	6 20.00 1.71	6 20.69 1.56	0 5.31 .37
Protective Service	2 1.68 .13	2 1.89 .15	1 1.00 .08	3 2.56 .20	3 2.65 .23	2 1.82 .16	4 3.54 .27	2 1.86 .14
Para- Professionals	- - -	- - -	1 100.00 7.80	- - -	- - -	- - -	- - -	- - -
Office/ Clerical	51 86.44 6.71	45 81.62 6.46	44 86.27 6.73	45 88.24 6.94	37 86.05 7.35	35 85.37 7.31	36 83.72 6.33	-15 -2.72 -.38
Skilled Craft	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	1 1.79 .15	1 1.89 .14	1 1.89 .14
Service/ Maintenance	1 .66 .05	1 .67 .05	2 1.63 .13	3 2.08 .16	2 1.29 .11	2 1.41 .12	5 3.62 .27	4 2.96 .22
Work force	62 12.89	58 12.66	56 12.81	60 12.71	52 11.71	51 11.67	57 13.23	-5 .34

Number of employees

Percent of occupation

Distribution ratio

## Appendix VIc

## Quantitative Representation of Black Females of Bay City

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
Official/ Administrator	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00
Professionals	1 2.38 3.82	1 2.44 3.72	1 2.44 3.55	1 2.04 3.21	1 2.38 3.52	1 2.56 3.74	1 2.78 3.99	0 .40 .17
Technicians	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00
Protective Service	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00
Para- Professionals	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00
Office/ Clerical	2 3.39 5.44	2 3.64 5.55	2 3.92 5.71	2 3.92 6.17	2 4.65 6.88	2 4.88 7.11	2 4.65 6.68	0 1.26 1.24
Skilled Craft	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00
Service/ Maintenance	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00
Work force	3 .62	3 .66	3 .69	3 .64	3 .68	3 .69	3 .70	0 .08

Number of employees

Percent of occupation

Distribution ratio

## Appendix VIIa

Quantitative Representation of Black Males of Battle Creek<sup>1</sup>

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1984-6
Official/ Administrator					2 6.90 .52	1 3.45 .27	1 3.70 .28	-1 -3.20 -.24
Professionals					3 6.82 .52	4 9.52 .75	1 3.13 .24	-2 -3.69 -.28
Technicians					9 14.52 1.10	9 12.86 1.01	14 15.91 1.20	5 -1.39 .10
Protective Service					14 7.37 .56	12 6.25 .49	13 6.50 .49	-1 -.87 -.07
Para- Professionals					0 .00 .00	0 .00 .00	1 25.00 1.89	1 25.00 1.89
Office/ Clerical					0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00
Skilled Craft					6 12.77 .97	7 12.73 1.00	13 22.41 1.70	7 9.64 .73
Service/ Maintenance					46 29.68 2.24	46 29.49 2.32	39 29.32 2.22	-7 -.36 -.02
Work Force					80 13.22	79 12.72	82 13.20	2 -.02

<sup>1</sup>Data not available for 1980-1983

Number of employees

Percent of occupation

Distribution ratio

## Appendix VIIb

Quantitative Representation of White Females of Battle Creek<sup>1</sup>

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1984-6
					5	5	6	1
Official/ Administrator					17.24	17.24	22.22	4.98
					1.10	1.09	1.42	.32
					4	8	8	4
Professionals					9.09	9.52	25.00	15.91
					.58	.60	1.60	1.02
					8	9	6	-2
Technicians					12.90	12.86	6.82	-6.08
					.82	.82	.44	-.38
					7	7	6	-1
Protective Service					3.68	3.65	3.00	-.68
					.23	.23	.19	-.04
					2	2	3	1
Para- Professionals					66.67	66.67	75.00	8.33
					4.25	4.22	4.80	.55
					57	56	57	0
Office/ Clerical					76.00	75.68	72.15	-3.85
					4.84	4.80	4.62	-.22
					1	1	1	0
Skilled Craft					2.13	1.82	1.72	-.41
					.14	.12	.11	-.03
					11	14	10	-4
Service/ Maintenance					7.10	8.97	7.52	.42
					.45	.57	.48	.03
					95	98	97	2
Work Force					15.70	15.78	15.62	-.08

<sup>1</sup>Data not available for 1980-1983

Number of employees

Percent of occupation

Distribution ratio



## Appendix VIIc

Quantitative Representation of Black Females of Battle Creek<sup>1</sup>

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1984-6
					0	0	0	0
Official/ Administrator					.00	.00	.00	.00
					.00	.00	.00	.00
					1	1	0	-1
Professionals					2.27	2.38	.00	-2.27
					.60	.57	.00	-.60
					1	2	3	2
Technicians					1.61	2.86	3.41	1.80
					.42	.68	.78	.36
					2	2	1	-1
Protective Service					1.05	1.04	.50	-.55
					.28	.25	.12	-.13
					0	0	0	0
Para- Professionals					.00	.00	.00	.00
					.00	.00	.00	.00
					15	16	18	3
Office/ Clerical					20.00	21.62	22.78	2.78
					5.26	5.16	5.24	-.02
					0	0	0	0
Skilled Craft					.00	.00	.00	.00
					.00	.00	.00	.00
					4	5	5	1
Service/ Maintenance					2.58	3.21	3.76	1.18
					.68	.77	.86	.18
					23	26	27	4
Work force					3.80	4.19	4.35	.55

<sup>1</sup>Data not available for 1980-1983

Number of employees

Percent of occupation

Distribution ratio

## Appendix VIIla

## Quantitative Representation of Black Males of Detroit

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
Official/ Administrator	161 25.35 .70	155 27.19 .75	108 26.93 .69	121 30.10 .78	120 30.61 .81	125 31.89 .79	120 30.46 .73	-41 5.11 .03
Professionals	400 15.23 .42	403 19.28 .53	386 20.64 .53	354 20.13 .52	323 19.42 .51	380 21.78 .54	330 19.68 .47	-70 4.45 .05
Technicians <sup>1</sup>	300 33.75 .93	242 34.72 .95	619 36.22 .93	268 34.90 .90	267 34.90 .92	570 35.38 .88	547 35.85 .86	
Protective Service	2035 27.17 .75	1462 24.91 .68	1546 26.13 .67	1570 27.00 .70	1467 26.79 .71	1871 30.50 .76	2257 34.03 .81	222 6.86 .06
Para- Professionals <sup>1</sup>	156 22.10 .61	117 25.71 .71	- - -	278 35.10 .91	244 30.58 .80	- - -	- - -	
Office/ Clerical	459 12.53 .34	416 12.94 .35	348 13.29 .34	337 13.15 .34	317 12.47 .33	313 12.39 .31	310 12.16 .29	-149 -.37 -.05
Skilled <sup>2</sup> Craft	4967 65.37 1.79	634 43.19 1.19	697 45.53 1.17	701 48.15 1.25	722 48.46 1.28	823 51.86 1.29	861 53.98 1.29	
Service/ <sup>2</sup> Maintenance	671 44.79 1.23	3895 67.90 1.86	3982 68.81 1.78	3615 69.40 1.80	3322 70.34 1.85	3485 71.90 1.79	3580 74.80 1.79	
Work force	9149 36.44	7324 36.44	7686 38.75	7244 38.61	6782 38.00	7567 40.16	8005 41.78	-1144 5.34

Number of employees

Percent of occupation

Distribution ratio

<sup>1</sup>The data for technicians and para-professional employees was combined in 1982, 1985 and 1986.

<sup>2</sup>A number of skilled craft employees were reclassified as service/maintenance employees in 1981.

## Appendix VIIIb

## Quantitative Representation of White Females of Detroit

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
Official/ Administrator	55 8.66 1.33	51 8.95 1.49	16 3.99 .85	19 4.73 1.00	21 5.36 1.13	17 4.34 .94	17 4.31 .96	-38 -4.35 -.37
Professionals	456 17.36 2.66	303 14.50 2.42	175 9.36 1.99	164 9.32 1.98	168 10.10 2.13	179 10.26 2.23	179 10.67 2.37	-277 -6.69 -.29
Technicians <sup>1</sup>	37 4.16 .64	24 3.44 .58	85 4.97 1.06	33 4.30 .91	32 4.18 .88	87 5.40 1.17	70 4.59 1.02	
Protective Service	278 3.71 .57	173 2.95 .49	191 3.23 .69	187 3.22 .68	164 3.00 .63	215 3.51 .76	264 3.98 .88	-14 .27 .31
Para- <sup>1</sup> Professionals	48 6.80 1.04	35 7.69 1.29	- - -	52 6.57 1.39	52 6.52 1.38	- - -	- - -	
Office/ Clerical	684 18.67 2.86	552 17.16 2.87	405 15.46 3.29	363 14.16 3.01	346 13.61 2.87	303 11.99 2.61	273 10.71 2.38	-411 -7.96 -.48
Skilled <sup>2</sup> Craft	46 .61 .09	12 .82 .14	18 1.18 .25	19 1.30 .28	17 1.14 .24	19 1.20 .26	19 1.19 .26	
Service/ Maintenance	34 2.27 .35	53 .92 .15	43 .74 .16	47 .90 .19	45 .95 .20	47 .97 .21	41 .86 .19	
Work force	1638 6.52	1203 5.99	933 4.70	884 4.71	845 4.73	867 4.60	863 4.50	-775 -2.02

Number of employees

Percent of occupation

Distribution ratio

<sup>1</sup>The data for technicians and para-professional employees was combined in 1982, 1985 and 1986.

<sup>2</sup>A number of the skilled craft employees were reclassified as service/maintenance employees in 1981.

## Appendix VIIIC

## Quantitative Representation of Black Females of Detroit

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
Official/ Administrator	63 9.92 .50	55 9.65 .52	23 5.74 .30	29 7.21 .36	31 7.91 .41	39 9.95 .47	42 10.66 .48	-21 .74 -.02
Professionals	700 26.66 1.34	563 26.94 1.45	526 28.13 1.45	489 27.80 1.39	445 26.76 1.38	525 30.09 1.41	529 31.54 1.42	-171 4.88 .08
Technicians <sup>1</sup>	181 20.36 1.02	113 16.21 .87	560 32.77 1.69	138 17.97 .90	139 18.17 .94	561 34.82 1.63	520 34.08 1.54	
Protective Service	627 8.37 .42	264 4.50 .24	397 6.71 .35	414 7.12 .36	320 5.84 .30	543 8.85 .41	738 11.13 .50	111 2.76 .08
Para- Professionals <sup>1</sup>	362 51.27 2.57	196 43.08 2.31	- - -	382 48.23 2.42	317 39.72 2.05	- - -	- - -	
Office/ Clerical	2074 56.62 2.84	1876 58.33 3.13	1568 59.87 3.08	1599 62.39 3.12	1613 63.45 3.28	1693 67.00 3.13	1763 69.16 3.12	- 311 12.54 .28
Skilled <sup>2</sup> Craft	379 4.99 .25	19 1.29 .07	39 2.55 .13	52 3.57 .18	55 3.69 .19	77 4.85 .23	81 5.08 .23	
Service/ <sup>2</sup> Maintenance	618 41.26 2.07	656 11.44 .61	737 12.74 .66	644 12.36 .62	538 11.39 .59	589 12.15 .57	575 12.01 .54	
Work force	5004 19.93	3742 18.62	3850 19.41	3747 19.97	3458 19.37	4027 21.37	4248 22.17	-756 2.24

Number of employees

Percent of occupation

Distribution ratio

<sup>1</sup>The data for technicians and para-professional employees was combined in 1982, 1985 and 1986.

<sup>2</sup>A number of skilled craft employees were reclassified as service/maintenance employees in 1981.

## Appendix IXa

## Quantitative Representation of Black Males of Flint

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
Official/ Administrator	7 7.07 .60	6 7.69 .67	6 8.70 .73	5 7.94 .67	6 9.23 .73	9 13.24 .86	8 11.43 .71	1 4.36 .11
Professionals	10 6.76 .58	13 9.22 .81	12 9.60 .80	14 11.29 .95	14 13.59 1.07	15 10.71 .70	15 10.71 .66	5 3.95 .08
Technicians	13 6.02 .51	13 7.10 .62	10 5.49 .46	10 6.10 .51	8 4.88 .38	14 7.29 .47	18 9.42 .58	5 3.40 .07
Protective Service	65 15.66 1.34	63 16.58 1.45	61 16.35 1.37	66 15.94 1.34	69 17.78 1.40	78 22.29 1.45	94 24.42 1.51	29 8.76 .17
Para- Professionals	4 9.76 .83	2 8.70 .76	2 7.14 .60	1 6.25 .53	5 16.67 1.31	24 30.00 1.95	7 16.67 1.03	3 6.91 .20
Office/ Clerical	2 .82 .07	2 .89 .08	1 .47 .04	1 .50 .04	4 1.98 .16	3 1.28 .08	3 1.28 .08	1 .46 .01
Skilled Craft	8 8.25 .70	5 4.67 .41	9 9.09 .76	7 7.37 .62	8 8.60 .68	12 10.62 .69	16 13.33 .82	8 5.08 .12
Service/ Maintenance	78 23.28 1.99	58 20.42 1.79	62 22.55 1.89	56 20.90 1.76	52 20.00 1.57	69 24.73 1.61	76 27.05 1.67	-2 3.77 -.32
Work force	187 11.72	162 11.40	163 11.96	160 11.90	166 12.72	224 15.38	237 16.20	50 4.48

Number of employees

Percent of occupation

Distribution ratio

## Appendix IXb

## Quantitative Representation of White Females of Flint

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
Official/ Administrator	8 8.08 .50	4 5.13 .33	3 4.35 .28	4 6.35 .39	4 6.15 .39	4 5.88 .34	5 7.14 .42	-3 -.94 -08
Professionals	29 19.59 1.21	20 14.18 .91	23 18.40 1.18	24 19.35 1.19	17 16.50 1.04	24 17.14 1.00	23 16.43 .97	-6 -3.16 -.24
Technicians	15 6.94 .43	14 7.65 .49	14 7.69 .49	12 7.32 .45	14 8.54 .54	16 8.33 .49	17 8.90 .53	2 1.96 .10
Protective Service	17 4.10 .25	13 3.42 .22	15 4.02 .26	22 5.31 .33	22 5.67 .36	23 6.57 .38	27 7.01 .42	10 2.91 .17
Para- Professionals	13 31.71 1.96	7 30.43 1.95	7 25.00 1.60	2 12.50 .77	1 3.33 .21	14 17.50 1.02	12 28.57 1.69	-1 -3.14 -.27
Office/ Clerical	162 66.39 4.10	156 69.33 4.44	142 66.98 4.29	136 67.66 4.17	136 67.33 4.22	153 65.38 3.82	148 63.25 3.75	-14 -3.14 -.35
Skilled Craft	0 .00 .00	1 .93 .06	1 1.01 .06	1 1.05 .06	1 1.08 .07	1 .88 .05	3 2.50 .15	3 2.50 .15
Service/ Maintenance	14 4.18 .26	7 2.46 .16	8 2.91 .19	17 6.34 .39	13 5.00 .31	14 5.02 .29	12 4.27 .25	-2 .09 -.01
Work force	258 16.18	222 15.62	213 15.63	218 16.21	208 15.94	249 17.10	247 16.88	-11 .70

Number of employees

Percent of occupation

Distribution ratio

## Appendix IXc

## Quantitative Representation of Black Females of Flint

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
Official/ Administrator	4 4.04 .56	3 3.85 .56	3 4.35 .64	4 6.35 .85	4 6.15 .86	6 8.82 1.00	6 8.57 .94	2 4.53 .38
Professionals	8 5.41 .75	9 6.38 .94	8 6.40 .94	9 7.26 .98	7 6.80 .95	12 8.57 .97	13 9.29 1.02	5 3.88 .27
Technicians	8 3.70 .51	7 3.83 .56	7 3.85 .56	6 3.66 .49	7 4.27 .60	13 6.77 .76	14 7.33 .81	6 3.63 .30
Protective Service	25 6.02 .84	18 4.74 .69	16 4.29 .63	18 4.35 .58	16 4.12 .58	13 3.71 .42	17 4.42 .49	-8 -1.60 -.35
Para- Professionals	6 14.63 2.03	3 13.04 1.91	2 7.14 1.05	3 18.75 2.52	5 16.67 2.34	11 13.75 1.55	7 16.67 1.83	1 2.04 -.20
Office/ Clerical	64 26.23 3.64	57 25.33 3.71	57 26.89 1.94	57 28.36 3.81	54 26.73 3.75	70 29.91 3.38	51 30.34 3.34	-13 4.11 -.30
Skilled Craft	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00
Service/ Maintenance	0 .00 .00	0 .00 .00	0 .00 .00	3 1.12 .15	0 .00 .00	4 1.43 .16	5 1.78 .20	5 1.78 .20
Work force	115 7.21	97 6.83	93 6.82	100 7.43	93 7.13	129 8.86	133 9.09	18 1.88

Number of employees

Percent of occupation

Distribution ratio

## Appendix Xa

## Quantitative Representation of Black Males of Grand Rapids

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
Official/ Administrator	4 4.44 .71	4 4.35 .73	5 5.15 .80	3 3.41 .52	5 5.81 .87	6 7.32 1.14	5 6.25 1.02	1 1.81 .31
Professionals	5 2.17 .35	3 1.33 .22	3 1.43 .22	4 2.08 .32	5 2.58 .39	4 2.02 .31	4 1.97 .32	-1 -.20 -.03
Technicians	4 1.94 .31	4 2.19 .37	4 2.30 .36	4 2.38 .37	3 1.84 .28	2 1.21 .19	2 1.13 .18	-2 -.81 -.13
Protective Service	29 6.18 .98	30 6.62 1.11	33 7.71 1.20	32 7.88 1.21	31 7.93 1.19	27 6.75 1.05	31 7.23 1.18	2 1.05 .20
Para- Professionals	1 2.04 .32	0 .00 .00	1 1.79 .28	2 4.17 .64	4 8.70 1.31	1 2.22 .35	0 .00 .00	-1 -2.04 -.32
Office/ Clerical	3 .92 .15	2 .64 .11	2 .67 .10	2 .83 .13	2 .86 .13	3 1.29 .20	0 .00 .00	-3 -.92 -.15
Skilled Craft	8 3.94 .63	7 3.23 .54	7 3.33 .52	8 3.69 .57	8 3.70 .56	12 5.33 .83	12 5.53 .90	4 1.59 .27
Service/ Maintenance	68 18.68 2.97	62 18.62 3.12	60 19.23 2.99	51 19.03 2.92	48 18.32 2.75	48 18.82 2.93	46 17.04 2.78	-22 -1.64 -.19
Work force	122 6.30	112 5.96	115 6.44	106 6.52	106 6.66	103 6.43	100 6.13	-22 -.17

Number of employees

Percent of occupation

Distribution ratio



## Appendix Xb

## Quantitative Representation of White Females of Grand Rapids

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
Official/ Administrator	6 6.67 .35	6 6.52 .33	8 8.25 .41	6 6.82 .39	5 5.81 .32	5 6.10 .32	6 7.50 .39	0 .83 .04
Professionals	49 21.30 1.10	51 22.67 1.14	45 21.43 1.08	37 19.27 1.09	36 18.56 1.03	42 21.21 1.13	45 22.17 1.16	-4 .87 .06
Technicians	25 12.14 .63	19 10.38 .52	15 8.62 .43	17 10.12 .57	16 9.92 .54	17 10.30 .55	21 11.86 .62	-4 -.28 -.01
Protective Service	16 3.41 .18	17 3.75 .19	19 4.44 .22	14 3.45 .19	17 4.35 .24	30 7.50 .40	42 9.79 .51	26 6.38 .33
Para- Professionals	32 65.31 3.38	37 57.81 2.90	31 55.36 2.78	25 52.08 2.94	24 52.17 2.89	26 57.78 3.07	11 57.89 3.02	-21 -7.42 -.36
Office/ Clerical	230 70.34 3.64	226 72.67 3.65	221 73.67 3.70	176 73.33 4.14	176 75.54 4.19	161 69.10 3.67	165 69.92 3.64	-65 -.42 .00
Skilled Craft	0 .00 .00	2 .92 .05	1 .48 .02	1 .46 .03	1 .46 .03	2 .89 .05	2 .92 .05	2 .92 .05
Service/ Maintenance	16 4.40 .23	16 4.80 .24	16 5.13 .26	12 4.48 .25	12 4.58 .25	19 7.45 .40	21 7.78 .41	5 3.38 .18
Work force	374 19.30	374 19.91	356 19.92	288 17.70	287 18.04	302 18.84	313 19.19	-61 -.11

Number of employees

Percent of occupation

Distribution ratio

## Appendix Xc

## Quantitative Representation of Black Females of Grand Rapids

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
Official/ Administrator	1 1.11 .35	1 1.09 .37	2 2.06 .70	4 4.55 1.57	2 2.33 .74	2 2.44 .69	3 3.75 1.00	2 2.64 .65
Professionals	8 3.48 1.11	8 3.56 1.21	5 2.38 .80	5 2.60 .90	8 4.12 1.31	7 3.54 .99	7 3.45 .92	-1 -.03 -.19
Technicians	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	5 2.82 .76	5 2.82 .76
Protective Servic	4 .85 .27	3 .66 .23	2 .47 .16	2 .49 .17	3 .77 .24	3 .75 .21	3 .70 .19	-1 -.15 -.08
Para- Professionals	4 8.16 2.59	7 10.94 3.73	6 10.71 3.61	6 12.50 4.33	5 10.87 3.46	6 13.33 3.75	3 15.79 4.22	-1 7.63 1.63
Office/ Clerical	42 12.84 4.08	33 10.61 3.62	36 12.00 4.05	28 11.67 4.04	28 12.02 3.82	35 15.02 4.22	37 15.68 4.19	-5 2.84 .09
Skilled Craft	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00
Service/ Maintenance	2 .55 .17	3 .90 .31	2 .64 .22	2 .75 .26	4 1.53 .49	4 1.57 .44	3 1.11 .30	1 .56 .13
Work force	61 3.15	55 2.93	53 2.97	47 2.89	50 3.14	57 3.56	61 3.74	0 .59

Number of employees

Percent of occupation

Distribution ratio

## Appendix XIa

Quantitative Representation of Black Males of Jackson<sup>1</sup>

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1984-6
Official/ Administrator					1 4.00 .63	0 .00 .00	1 3.70 .63	0 -.30 .00
Professionals					3 7.14 1.13	3 8.33 1.36	1 2.94 .50	-2 -4.20 -.63
Technicians					4 8.16 1.29	4 8.51 1.39	3 6.98 1.18	-1 -1.18 -.11
Protective Service					5 4.72 .73	5 5.05 .83	5 5.26 .89	0 .54 .16
Para- Professionals					0 .00 .00	0 .00 .00	1 16.67 2.83	1 16.67 2.83
Office/ Clerical					1 1.75 .28	1 1.67 .27	1 1.89 .32	0 .14 .04
Skilled Craft					3 10.00 1.58	3 7.89 1.29	3 8.11 1.37	0 -1.89 -.21
Service/ Maintenance					6 11.76 1.86	6 13.64 2.23	5 11.36 1.93	-1 -.40 .07
Work force					23 6.32	22 6.11	20 5.90	-3 -.42

<sup>1</sup>Data not available for 1980-1983

Number of employees

Percent of occupation

Distribution ratio

## Appendix XIb

Quantitative Representation of White Females of Jackson<sup>1</sup>

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1984-6
Official/ Administrator					4 16.00 .94	6 19.35 1.12	4 14.81 .84	0 -1.19 -.10
Professionals					4 9.52 .56	5 13.89 .81	6 17.65 1.00	2 8.13 .44
Technicians					3 6.12 .36	4 8.51 .49	3 6.98 .39	0 .86 .03
Protective Service					6 5.66 .33	4 4.04 .23	4 4.21 .24	-2 -1.45 -.09
Para- Professionals					2 50.00 2.94	1 20.00 1.16	1 16.67 .94	-1 -33.33 -2.00
Office/ Clerical					42 73.68 4.33	40 66.67 3.87	38 71.70 4.05	-4 -1.98 -.28
Skilled Craft					0 .00 .00	1 2.63 .15	1 2.70 .15	1 2.70 .15
Service/ Maintenance					1 1.96 .12	1 2.27 .13	3 6.82 .39	2 4.86 .27
Work force					62 17.03	62 17.22	60 17.70	-2 .67

<sup>1</sup>Data not available for 1980-1983

Number of employees

Percent of occupation

Distribution ratio

## Appendix XIc

Quantitative Representation of Black Females of Jackson<sup>1</sup>

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1984-6
					1	2	2	1
Official/ Administrator					4.00	6.45	7.41	3.41
					.73	1.22	1.67	.94
					4	2	2	-2
Professionals					9.52	5.56	5.88	-3.64
					1.73	1.05	1.33	-.40
					0	0	0	0
Technicians					.00	.00	.00	.00
					.00	.00	.00	.00
					2	2	2	0
Protective Service					1.89	2.02	2.11	.22
					.34	.38	.48	.14
					1	0	0	-1
Para- Professionals					25.00	.00	.00	-25.00
					4.55	.00	.00	-4.55
					11	13	9	-2
Office/ Clerical					19.30	21.67	16.98	-2.32
					3.51	4.11	3.84	.33
					0	0	0	0
Skilled Craft					.00	.00	.00	.00
					.00	.00	.00	.00
					1	0	0	-1
Service/ Maintenance					1.96	.00	.00	-1.96
					.36	.00	.00	-.36
					20	19	15	-5
Work force					5.49	5.28	4.42	-1.07

<sup>1</sup>Data not available for 1980-1983

Number of employees

Percent of occupation

Distribution ratio

## Appendix XIIa

## Quantitative Representation of Black Males of Kalamazoo

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
Official/ Administrator	1 2.00 .18	1 2.13 .18	1 1.96 .17	1 2.08 .16	0 .00 .00	0 .00 .00	1 2.86 .22	0 .86 .04
Professionals	9 6.04 .53	7 4.93 .41	7 4.61 .39	10 6.76 .52	9 6.21 .48	10 6.94 .53	13 9.09 .69	4 3.05 .16
Technicians	4 3.42 .30	3 2.50 .21	6 4.69 .40	5 5.38 .41	4 4.88 .38	3 5.77 .44	4 7.27 .55	0 3.85 .25
Protective Service	33 15.49 1.36	30 14.63 1.22	31 16.06 1.36	31 16.67 1.28	27 15.98 1.24	27 13.78 1.05	23 12.04 .92	-10 -3.45 -.44
Para- Professionals	3 6.67 .59	5 12.82 1.07	7 18.92 1.61	5 13.89 1.07	5 14.71 1.14	6 15.38 1.17	3 9.38 .71	0 2.71 .12
Office/ Clerical	1 .76 .07	0 .00 .00	0 .00 .00	1 .96 .07	1 1.10 .09	1 1.01 .08	0 .00 .00	-1 -.76 -.07
Skilled Craft	24 16.78 1.48	23 15.54 1.30	24 16.78 1.42	26 18.71 1.43	22 15.94 1.23	24 16.78 1.27	23 16.67 1.27	-1 -.11 -.21
Service/ Maintenance	43 22.51 1.98	50 26.32 2.20	45 23.56 2.00	42 24.14 1.85	42 27.81 2.15	43 27.39 2.08	40 31.75 2.42	-3 9.24 .44
Work force	118 11.36	119 11.96	121 11.78	121 13.04	110 12.93	114 13.18	107 13.14	-11 1.78

Number of employees

Percent of occupation

Distribution ratio

## Appendix XIIb

## Quantitative Representation of White Females of Kalamazoo

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
Official/ Administrator	6 12.00 .66	7 14.89 .99	9 17.65 .98	9 18.75 1.15	8 19.51 1.22	6 17.14 1.04	4 11.43 .69	-2 -.57 .03
Professionals	16 10.74 .59	16 11.27 .74	24 15.79 .88	19 12.84 .79	16 11.03 .69	21 14.58 .88	20 13.99 .84	4 3.25 .25
Technicians	12 10.26 .56	9 7.50 .50	13 10.16 .56	10 10.75 .66	10 12.20 .76	8 15.38 .93	13 23.64 1.43	1 13.38 .87
Protective Service	13 6.10 .34	12 5.85 .39	9 4.66 .26	8 4.30 .26	7 4.14 .26	9 4.59 .28	10 5.24 .32	-3 -.86 -.02
Para- Professionals	13 28.89 1.59	11 28.81 1.88	11 29.73 1.65	13 36.11 2.22	13 38.24 2.39	13 33.33 2.02	10 31.25 1.88	-3 2.36 .29
Office/ Clerical	106 80.92 4.45	78 75.00 5.01	98 74.24 4.12	73 70.19 4.31	60 65.93 4.13	66 66.67 4.03	62 65.96 3.98	-44 -14.96 -.47
Skilled Craft	5 3.50 .19	5 3.38 .23	5 3.50 .19	4 2.88 .18	8 5.80 .36	6 4.20 .25	6 4.35 .26	1 .85 .07
Service/ Maintenance	18 9.42 .52	11 5.79 .39	16 8.38 .47	15 8.62 .53	14 9.27 .58	14 8.92 .54	10 7.94 .48	-8 -1.48 -.04
Work force	189 18.19	149 14.97	185 18.01	151 16.27	136 15.98	143 16.53	135 16.58	-54 -1.61

Number of employees

Percent of occupation

Distribution ratio

## Appendix XIc

## Quantitative Representation of Black Females of Kalamazoo

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
Official/ Administrator	0 .00 .00	0 .00 .00	0 .00 .00	1 2.08 .44	1 2.44 .47	2 5.71 1.03	2 5.71 1.13	2 5.71 1.13
Professionals	2 1.34 .40	1 .70 .18	1 .66 .14	3 2.03 .43	2 1.38 .27	2 1.39 .25	2 1.40 .28	0 .06 -.12
Technicians	1 .85 .25	1 .83 .22	2 1.56 .34	1 1.08 .23	2 2.44 .47	2 3.85 .69	2 3.64 .72	1 2.79 .47
Protective Service	2 .94 .28	2 .98 .26	1 .52 .11	0 .00 .00	0 .00 .00	0 .00 .00	1 .52 .10	-1 -.42 -.18
Para- Professionals	4 8.89 2.64	4 10.26 2.69	4 10.81 2.36	5 13.89 2.93	6 17.65 3.41	4 10.26 1.85	2 6.25 1.24	-2 -2.64 -1.40
Office/ Clerical	16 12.21 3.63	18 17.31 4.53	26 19.70 4.30	22 21.15 4.46	22 24.18 4.68	25 25.25 4.55	23 24.47 4.86	7 12.26 1.23
Skilled Craft	1 .70 .21	1 .68 .18	1 .70 .15	1 .72 .15	2 1.45 .28	2 1.40 .25	2 1.45 .29	1 .75 .08
Service/ Maintenance	9 4.71 1.40	11 5.79 1.52	12 6.28 1.37	11 6.32 1.33	9 5.96 1.15	11 7.01 1.26	7 5.56 1.10	-2 .85 -.30
Work force	35 3.37	38 3.82	47 4.58	44 4.74	44 5.17	48 5.55	41 5.04	6 1.67

Number of employees

Percent of occupation

Distribution ratio



## Appendix XIIIa

## Quantitative Representation of Black Males of Lansing

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
Official/ Administrator	4 3.88 .69	2 2.04 .34	3 3.03 .51	4 4.04 .67	3 4.11 .65	4 5.41 .83	5 6.67 1.01	1 2.79 .32
Professionals	3 1.55 .27	3 1.59 .27	4 2.35 .40	5 2.86 .48	6 3.39 .54	7 3.98 .61	8 4.35 .66	5 2.80 .39
Technicians	11 4.66 .82	11 4.25 .72	13 4.87 .83	10 3.91 .65	10 4.05 .64	11 4.38 .67	8 3.21 .49	-3 -1.45 -.23
Protective Service	14 4.09 .72	21 6.29 1.06	21 6.93 1.18	19 6.33 1.05	19 6.44 1.03	22 7.48 1.15	21 7.19 1.09	7 3.10 .37
Para- Professionals	0 .00 .00	0 .00 .00	1 3.70 .63	2 4.88 .81	2 5.26 .84	1 2.78 .43	1 3.23 .49	1 3.23 .49
Office/ Clerical	1 .50 .09	1 .49 .08	1 .52 .09	0 .00 .00	1 .56 .09	1 .57 .09	2 1.16 .18	1 .66 .09
Skilled Craft	5 5.21 .92	4 3.51 .59	5 4.31 .73	5 4.81 .80	6 7.06 1.12	4 4.76 .73	7 7.87 1.20	2 2.66 .28
Service/ Maintenance	45 16.19 2.86	43 20.87 3.52	32 17.39 2.95	35 18.92 3.15	36 15.79 2.51	36 15.79 2.42	35 15.15 2.31	-10 -1.04 -.55
Work force	83 5.67	85 5.92	80 5.90	80 6.01	83 6.28	86 6.53	87 6.57	4 .90

Number of employees

Percent of occupation

Distribution ratio

## Appendix XIIIb

## Quantitative Representation of White Females of Lansing

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
Official/ Administrator	8 7.77 .45	9 9.18 .51	12 12.12 .65	11 11.11 .60	4 5.48 .30	4 5.41 .29	4 5.33 .28	-4 -2.44 -.17
Professionals	25 12.95 .74	22 11.64 .65	22 12.94 .69	24 13.71 .74	25 14.12 .77	29 16.48 .89	33 17.93 .95	8 4.98 .21
Technicians	34 14.41 .83	34 13.13 .73	37 13.86 .74	35 13.67 .73	32 12.96 .71	32 12.75 .69	35 14.06 .75	1 -.35 -.08
Protective Service	15 4.39 .25	16 4.79 .27	17 5.61 .30	20 6.67 .36	21 7.12 .39	21 7.14 .39	23 7.88 .42	8 3.49 .17
Para- Professionals	5 33.33 1.92	7 24.14 1.35	7 25.93 1.38	11 26.83 1.44	11 28.95 1.59	12 33.33 1.80	10 32.26 1.72	5 -1.07 -.20
Office/ Clerical	157 77.72 4.47	158 76.70 4.28	148 77.49 4.12	137 79.65 4.28	138 77.09 4.23	131 75.29 4.06	128 73.99 3.93	-29 -3.73 .54
Skilled Craft	4 4.17 .24	4 3.51 .20	3 2.59 .14	4 3.85 .21	1 1.18 .06	1 1.19 .06	2 2.25 .12	-2 -1.92 -.12
Service/ Maintenance	7 2.52 .14	7 3.40 .19	9 4.89 .26	6 3.24 .17	9 3.95 .22	14 6.14 .33	14 6.06 .32	7 3.54 .18
Work force	255 17.41	257 17.91	255 18.79	248 18.62	241 18.23	244 18.53	249 18.81	-6 1.40

Number of employees

Percent of occupation

Distribution ratio

## Appendix XIIIc

## Quantitative Representation of Black Females of Lansing

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
Official/ Administrator	2 1.94 .86	2 2.04 .81	2 2.02 .81	1 1.01 .43	2 2.74 1.01	2 2.70 .87	2 2.67 .80	0 .73 -.06
Professionals	5 2.59 1.15	7 3.70 1.48	6 3.53 1.41	8 4.57 1.96	6 3.39 1.24	8 4.55 1.46	8 4.35 1.31	3 1.76 .16
Technicians	5 2.12 .94	5 1.93 .77	5 1.87 .75	2 .78 .34	1 .40 .15	1 .40 .13	1 .40 .12	-4 -1.72 -.82
Protective Service	1 .29 .13	1 .30 .12	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	-1 -.29 -.13
Para- Professionals	1 6.67 2.96	3 10.34 4.12	3 11.11 4.43	5 12.20 5.24	7 18.42 6.76	8 22.22 7.14	7 22.58 6.79	6 15.91 3.83
Office/ Clerical	15 7.43 3.30	14 6.80 2.71	14 7.33 2.93	12 6.98 3.00	17 9.50 3.49	19 10.92 3.51	23 13.29 4.00	8 5.86 .70
Skilled Craft	1 1.04 .46	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	-1 -1.04 -.46
Service/ Maintenance	3 1.08 .48	4 1.94 .77	4 2.17 .87	3 1.62 .70	3 1.32 .48	3 1.32 .42	3 1.30 .39	0 .22 -.09
Work force	33 2.25	36 2.51	34 2.51	31 2.33	36 2.72	41 3.11	44 3.32	11 1.07

Number of employees

Percent of occupation

Distribution ratio

## Appendix XIVa

## Quantitative Representation of Black Males of Muskegon

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
Official/ Administrator	2 12.50 1.68	2 13.33 1.96	2 12.50 2.10	1 6.67 1.08	1 6.25 1.07	1 6.25 .92	1 4.55 .72	-1 -7.95 -.96
Professionals	1 2.70 .36	1 2.86 .42	1 3.03 .51	1 3.45 .56	1 3.03 .52	1 3.03 .44	1 2.70 .43	0 .00 .07
Technicians	4 5.80 .78	3 7.69 1.13	3 8.11 1.36	2 5.56 .90	2 5.41 .93	3 7.89 1.16	3 7.69 1.22	-1 1.89 .44
Protective Service	6 10.53 1.41	7 9.72 1.43	6 8.11 1.36	6 7.89 1.28	6 7.41 1.27	9 11.54 1.69	8 10.00 1.58	2 -.53 .17
Para- Professionals	2 22.22 2.99	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	-2 -22.22 -2.99
Office/ Clerical	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00
Skilled Craft	4 7.14 .96	3 6.12 .90	4 7.84 1.32	4 10.26 1.67	4 9.52 1.64	1 2.50 .37	1 2.50 .40	-3 -4.64 -.56
Service/ Maintenance	6 12.00 1.61	4 9.09 1.34	2 4.17 .70	3 7.50 1.22	3 7.32 1.26	4 11.11 1.63	5 11.90 1.89	-1 -.10 .27
Work force	25 7.44	20 6.80	18 5.94	17 6.16	17 5.82	19 6.81	19 6.31	-6 -1.13

Number of employees

Percent of occupation

Distribution ratio

## Appendix XIVb

## Quantitative Representation of White Females of Muskegon

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
Official/ Administrator	2 12.50 .81	3 20.00 1.11	3 18.75 1.03	3 20.00 1.10	4 25.00 1.38	4 25.00 1.45	4 18.18 1.07	2 5.68 .26
Professionals	1 2.70 .17	2 5.71 .32	2 6.06 .33	1 3.45 .19	2 6.06 .33	2 6.06 .35	2 5.41 .32	1 2.71 .15
Technicians	3 4.35 .28	4 10.26 .57	3 8.11 .45	5 13.39 .77	5 13.51 .74	5 13.16 .76	5 12.82 .76	2 8.47 .48
Protective Service	1 1.75 .11	1 1.39 .08	2 2.70 .15	1 1.32 .07	1 1.23 .07	2 2.56 .15	3 3.75 .22	2 2.00 .11
Para- Professionals	6 66.67 4.31	4 100.00 5.55	3 75.00 4.13	3 75.00 4.14	3 100.00 5.51	3 100.00 5.81	3 100.00 5.90	-3 33.33 1.59
Office/ Clerical	37 88.10 5.69	35 97.22 5.39	38 95.00 5.23	34 91.89 5.07	35 89.74 4.94	30 85.71 4.98	31 81.58 4.81	-6 -6.52 -.88
Skilled Craft	0 .00 .00	1 2.04 .11	1 1.96 .11	0 .00 .00	1 2.38 .13	0 .00 .00	0 .00 .00	0 .00 .00
Service/ Maintenance	2 4.00 .26	3 6.82 .38	3 6.25 .34	3 7.50 .41	2 4.88 .27	2 5.56 .32	3 7.14 .42	1 3.14 .16
Work force	52 15.48	53 18.03	55 18.15	50 18.12	53 18.15	48 17.20	51 16.94	-1 1.46

Number of employees

Percent of occupation

Distribution ratio

## Appendix XIVc

## Quantitative Representation of Black Females of Muskegon

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
Official/ Administrator	0 .00 .00	0 .00 .00	0 .00 .00	1 6.67 2.30	1 6.25 1.83	2 12.50 3.17	4 18.18 4.21	4 18.18 4.21
Professionals	0 .00 .00	1 2.86 1.68	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00
Technicians	4 5.80 1.95	2 5.13 3.02	3 8.11 4.09	3 8.33 2.88	3 8.11 2.37	2 5.26 1.33	2 5.13 1.19	-2 -.67 -.76
Protective Service	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00
Para- Professionals	1 11.11 3.73	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	-1 -11.11 -3.73
Office/ Clerical	4 9.52 3.20	1 2.78 1.63	2 5.00 2.53	3 8.11 2.80	4 10.26 2.99	5 14.29 3.62	6 15.79 3.66	2 6.27 .46
Skilled Craft	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00
Service/ Maintenance	1 2.00 .67	1 2.27 1.34	1 2.08 1.05	1 2.50 .86	2 4.88 1.42	2 5.56 1.41	1 2.38 .55	0 .38 -.12
Work force	10 2.98	5 1.70	6 1.98	8 2.90	10 3.42	11 3.94	13 4.32	3 1.34

Number of employees

Percent of occupation

Distribution ratio

## Appendix XVa

## Quantitative Representation of Black Males of Saginaw

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
Official/ Administrator	3 6.82 .68	4 8.70 .93	4 9.09 1.21	3 6.82 .87	3 7.50 .90	6 13.95 1.31	9 16.67 1.30	6 9.85 .62
Professionals	3 3.80 .38	3 4.29 .46	1 1.92 .26	1 2.13 .27	3 9.38 1.13	4 8.16 .77	2 3.92 .30	-1 .12 -.08
Technicians	17 14.29 1.43	11 11.46 1.22	5 7.35 .98	5 7.69 .98	3 3.70 .45	6 10.00 .94	10 9.52 .74	-7 -4.77 -.69
Protective Service	22 9.73 .97	19 9.60 1.02	18 9.68 1.29	18 10.00 1.27	21 11.41 1.37	22 12.57 1.18	34 17.17 1.34	12 7.44 .37
Para- Professionals	0 .00 .00	0 .00 .00	1 10.00 1.33	1 9.09 1.16	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00
Office/ Clerical	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	0 .00 .00	1 1.39 .11	1 1.39 .11
Skilled Craft	24 11.48 1.15	12 9.30 .99	5 8.33 1.11	6 10.17 1.30	7 8.97 1.08	9 13.04 1.23	9 14.75 1.15	-15 3.27 .00
Service/ Maintenance	22 15.38 1.54	27 14.29 1.52	16 8.89 1.18	17 9.60 1.22	16 10.60 1.27	20 12.66 1.19	20 18.18 1.41	-2 2.80 -.13
Work force	91 10.00	76 9.38	50 7.52	51 7.85	53 8.32	67 10.62	85 12.86	-6 2.86

Number of employees

Percent of occupation

Distribution ratio

## Appendix XVb

## Quantitative Representation of White Females of Saginaw

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
Official/ Administrator	1 2.27 .25	2 4.35 .49	2 4.55 .49	2 4.55 .49	2 5.00 .55	2 4.65 .50	4 7.41 .79	3 5.14 .54
Professionals	2 2.53 .27	1 1.43 .16	1 1.92 .21	0 .00 .00	0 .00 .00	1 2.04 .22	3 5.88 .63	1 3.35 .37
Technicians	13 10.92 1.18	12 12.50 1.41	12 17.65 1.89	10 15.38 1.67	15 18.52 2.03	9 15.00 1.60	12 11.43 1.22	-1 .51 .04
Protective Service	1 .44 .05	1 .51 .06	1 .54 .06	1 .56 .06	1 .54 .06	1 .57 .06	3 1.52 .16	2 1.08 .11
Para- Professionals	1 50.00 5.42	2 66.67 7.50	1 10.00 1.07	2 18.18 1.97	2 18.18 2.00	1 8.33 .89	3 30.00 3.20	2 -20.00 -2.22
Office/ Clerical	60 68.18 7.39	50 63.29 7.12	42 64.62 6.93	42 62.69 6.79	36 60.00 6.59	40 61.54 6.58	33 45.83 4.89	-27 -22.35 -2.50
Skilled Craft	1 .48 .05	1 .78 .09	1 1.67 .18	1 1.69 .18	1 1.28 .14	1 1.45 .15	1 1.64 .17	0 1.16 .12
Service/ Maintenance	5 3.50 .38	3 1.59 .18	2 1.11 .12	2 1.13 .12	1 .66 .07	4 2.53 .27	3 2.73 .29	-2 -.77 -.09
Work force	84 9.23	72 8.89	62 9.32	60 9.23	58 9.11	59 9.35	62 9.38	-22 .15

Number of employees

Percent of occupation

Distribution ratio



## Appendix XVc

## Quantitative Representation of Black Females of Saginaw

OCCUPATION	1980	1981	1982	1983	1984	1985	1986	1980-6
	2	2	2	2	2	2	2	0
Official/ Administrator	4.55 1.01	4.35 .98	4.55 1.12	4.55 1.06	5.00 1.06	6.98 1.29	3.70 .60	-.85 -.41
	1	1	0	0	0	1	1	0
Professionals	1.27 .28	1.43 .32	.00 .00	.00 .00	.00 .00	2.04 .38	1.96 .32	.69 .04
	10	6	5	4	5	7	8	-2
Technicians	8.40 1.87	6.25 1.41	7.35 1.81	6.15 1.43	6.17 1.31	11.67 2.17	7.62 1.23	-.78 -.64
	0	0	0	0	2	0	2	2
Protective Service	.00 .00	.00 .00	.00 .00	.00 .00	1.09 .23	.00 .00	1.01 .16	1.01 .16
	1	0	0	0	0	0	0	-1
Para- Professionals	50.00 11.10	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	-50.00 -11.10
	19	21	17	19	19	20	25	6
Office/ Clerical	21.59 4.79	26.58 5.98	26.15 6.44	28.36 6.58	31.67 6.72	30.77 5.71	34.72 5.60	13.13 .81
	1	0	0	0	0	0	0	-1
Skilled Craft	.48 .11	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	-.48 -.11
	7	6	3	3	2	3	3	-4
Service/ Maintenance	4.90 1.09	3.17 .71	1.67 .41	1.69 .39	1.32 .28	1.90 .35	2.73 .44	-2.17 -.65
	41	36	27	28	30	34	41	0
Work force	4.51	4.44	4.06	4.31	4.71	5.39	6.20	1.69

Number of employees

Percent of occupation

Distribution ratio

## Appendix XVI

## Median Salary

CITY		1980	1981	1982	1983	1984	1985	1986	1980-6
Ann Arbor	WM		21,898	23,159	26,574	27,327	27,992	29,614	7,716 <sup>1</sup>
	BM		18,300	19,235	22,857	23,750	23,750	24,115	5,815
	WF		15,661	19,235	19,041	21,115	22,118	22,370	6,709
	BF		15,438	17,778	18,842	21,718	22,500	23,021	7,583
Battle Creek	WM					22,199	25,350	26,210	4,011 <sup>2</sup>
	BM					18,923	19,098	22,283	3,360
	WF					18,981	19,098	19,878	897
	BF					17,800	18,500	18,842	1,042
Bay City	WM	19,315	21,842	24,104	23,750	24,423	25,145	24,917	5,602
	BM	17,800	18,500	19,000	19,000	23,125	23,125	22,500	4,700
	WF	15,657	18,526	19,833	19,556	20,926	22,365	22,039	6,382
	BF	15,250	19,000	19,000	19,000	22,500	22,500	22,500	7,250
Detroit	WM	22,473	27,407						4,934 <sup>3</sup>
	BM	19,081	19,212						131
	WF	18,938	19,591						653
	BF	16,269	18,180						1,911
Flint	WM	20,400	20,702	21,881	23,481	24,409	26,066	27,012	6,612
	BM	17,883	18,494	18,600	18,897	22,231	22,204	23,310	5,427
	WF	15,143	16,745	17,340	18,345	19,165	21,114	22,830	7,687
	BF	15,071	16,200	17,152	18,480	19,176	20,183	22,654	7,583
Grand Rapids	WM	17,792	21,313	20,059	21,863	24,531	25,810	25,716	7,924
	BM	14,222	17,846	17,746	18,340	19,810	18,464	21,042	6,820
	WF	12,768	15,265	15,441	15,554	16,233	18,464	19,653	6,885
	BF	12,438	14,821	14,974	15,289	15,842	17,000	17,840	5,402
Jackson	WM					23,375	22,568	22,907	-468
	BM					21,786	19,333	20,000	-1,786
	WF					16,211	16,727	17,143	932
	BF					14,125	14,250	15,714	1,589
Kalamazoo	WM	17,128	20,167	21,011	22,038	24,430	23,625	25,260	8,132
	BM	12,950	15,012	15,734	15,789	18,800	18,720	19,153	6,203
	WF	12,205	14,561	15,513	15,877	17,804	18,033	18,627	6,422
	BF	11,568	12,280	13,265	14,059	15,470	15,591	16,154	4,586
Lansing	WM	18,580	21,064	21,589	21,804	22,330	26,188	26,699	8,119
	BM	15,009	16,273	19,333	19,400	19,476	20,000	23,523	8,514
	WF	13,182	14,803	16,228	16,923	18,268	19,301	20,288	7,106
	BF	14,050	15,250	17,000	17,500	18,222	19,625	18,889	4,839
Muskegon	WM	18,353	20,281	20,603	21,297	21,536	23,850	25,485	7,132
	BM	15,591	19,333	20,000	20,313	20,313	19,714	19,750	4,159
	WF	11,556	12,500	13,300	13,429	14,038	15,368	16,667	5,111
	BF	10,750	12,500	13,000	NA	13,000	15,100	15,714	4,964

## Appendix XVI (Cont'd).

## Median Salary

CITY		1980	1981	1982	1983	1984	1985	1986	1980-6
	WM	21,031	22,880	23,750	24,347	24,569	26,333	28,469	7,438
	BM	20,392	21,190	22,879	23,583	24,352	24,609	26,854	6,462
	WF	15,925	15,267	16,222	17,273	17,857	18,882	21,538	5,613
Saginaw	BF	15,423	15,100	15,132	15,333	17,455	18,750	19,895	4,472

<sup>1</sup>Based on 1981-1986<sup>2</sup>Based on 1984-1986<sup>3</sup>Based on 1980-1981

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