Do Black Mayors Improve Black Employment Outcomes? Evidence from Large U.S. Cities

John V.C. Nye[*] Ilia Rainer[**] Thomas Stratmann[***]

November 2010

Abstract

To what extent do politicians reward voters who are members of their own ethnic or racial group? Using data from large cities in the United States, we study how black employment outcomes are affected by changes in the race of the cities' mayors between 1973 and 2004. We find that black employment and labor force participation rise, and the black unemployment rate falls, during the tenure of black mayors both in absolute terms and relative to whites. Black employment gains in municipal government jobs are particularly large, which suggests that our results capture causal effects of black mayors. We also find that by improving the employment outcomes of blacks, black mayors lead to higher black incomes both in absolute terms and relative to white incomes. We show that our results continue to hold when we compare the treated cities to alternative control groups of cities, explicitly control for changing attitudes towards blacks or use regression discontinuity analysis to compare cities that elected black and white mayors in close elections.

[*] George Mason University. E-mail: jnye@gmu.edu
[**] George Mason University. E-mail: irainer@gmu.edu.
[***] George Mason University. E-mail: tstratma@gmu.edu

I. Introduction

Over the past forty years the United States has witnessed a large increase in the number of politicians from various ethnic minorities elected to executive office. Ethnic minorities are now represented at all levels of government. Yet, whether and how the ethnic identity of political leaders matters for economic outcomes remains poorly understood. Recent economic literature on ethnicity in the U.S. suggests that ethnic politicians may pursue policies that improve welfare of their ethnic group (Alesina, Baqir and Easterly 1999, Washington 2006, Trebbi, Aghion and Alesina 2008). But the existing research has found little support for this hypothesis.

Most studies of the effects of ethnic politicians have focused on the consequences of electing African-Americans to local or municipal office. This research examined a variety of outcomes at the local level such as the racial composition of jobs in the municipal workforce, schools, and the police force, the distribution of government expenditures, and the share of government contracts going to African Americans (e.g. Browning, Tabb, and Marshall, 1984; Eisinger, 1982; Mladenka, 1989; Sass and Mehay 2003). These studies find that the benefits to black constituencies from electing a black executive are rather small.[1] Hajnal (2001) summarizes this literature by suggesting that "Even when blacks are elected, their leadership does not greatly improve the economic well-being of African-Americans at the city, regional, or state level" (p.603). Further, "the overall substantive effect [of black incumbents] on most members of the black community is negligible" (p.603).

Yet, despite these findings, there is still a lot of uncertainty about the amount of benefits provided by black political leaders to their coethnics. This may be due to two limitations in the existing work. First, this research has been restricted to cross-sectional analysis and is potentially

[1] In order to simplify presentation, and also to avoid having to distinguish between citizens and residents, in the rest of the paper we will use the term "blacks" instead of "African-Americans" to include all people of African descent.

subject to an omitted variable bias. Second, the outcomes examined by the existing work tend to be narrow in scope and typically do not measure the welfare of the entire local black population.

In this paper we address these issues. We study the effects of electing black mayors on the welfare of blacks in large U.S. cities by employing panel data that spans over thirty years, from 1973 to 2004. Moreover, we focus on broad outcomes measuring the welfare of blacks in a city, namely employment, labor force participation, the unemployment rate and income. Further, we also examine whether any improvement in black economic outcomes came at the expense of worsening white economic outcomes. And we test whether in cities with black mayors the welfare of blacks improved relative to the welfare of whites.

In our regression analysis we employ a difference-in-difference approach to test how black outcomes change in cities that elect a black mayor relative to cities that do not. Furthermore, we utilize a triple-difference approach to test whether the change in black outcomes in cities with and without a black mayor is different from the corresponding change for whites.

Our estimation results show that black employment and black labor force participation increase, black unemployment rate decreases, and the income of blacks rises after a black mayor takes office. The corresponding outcomes of whites are largely unaffected by the presence of a black mayor. We also document that the election of a black mayor reduces the gap between black and white economic outcomes, suggesting that blacks gain relative to whites. We find that our results are robust when comparing the treated cities with different control groups of cities and also show the underlying dynamics of annual changes in black and white employment outcomes before and after the mayoral transitions. The latter analysis confirms that black mayors lead to persistent improvements in employment outcomes for blacks.

We also examine channels through which black mayors affect the welfare of blacks. We find that the increase in black employment is not uniform across all sectors of the economy, but that it is especially large for municipal government jobs. This finding shows that black mayors can exert the strongest influence on the hiring decisions of the government they run.

This finding also supports the hypothesis that the effects of black mayors that we document are both causal and policy driven. In particular, it cannot be easily explained by time-variant omitted variables (e.g. changing attitudes towards blacks that lead both to the rise of black mayors and to improved black outcomes) or by causal explanations that are unrelated to policy (e.g. the role-model effects of black mayors that motivate blacks to be more persistent in their job search).

To further strengthen the causal interpretation of our findings, we perform two additional robustness tests. First, we explicitly control for measures of white racial attitudes in our regressions. Second, we use a regression discontinuity analysis (Lee 2008) to compare cities that elected a black mayor with a narrow margin with cities where a black candidate was defeated with a narrow margin. In both cases, we continue to find strong effects of black mayors on black economic outcomes.

Taken together, our results indicate that black mayors significantly improve the well-being of blacks by affecting economic policies in their cities. These results stand in sharp contrast to the previous literature noted for finding very small effects of minority politicians on same-race members in the polity.

Our paper is related to the work on the economic effects of ethnic diversity in the United States. For example, Alesina, Baqir, and Easterly (1999) find that more racially fragmented cities spend less on the provision of "productive" public goods but more on transfers that can be

targeted to ethnic and racial groups. Similarly, Alesina, Baqir and Easterly (2000) find that spending on public employment is larger in more ethnically fragmented cities, a result consistent with a use of public jobs for ethnically or racially motivated patronage.

Another strand of economic literature looks at the role of race in electoral politics. Washington (2006) studies the importance of candidates' race for turnout. She finds that turnout of both blacks and whites increases with black Democratic candidates on the ballot, and that whites of both parties are less likely to vote for their parties' candidate when that candidate is black. Trebbi, Aghion and Alesina (2008) find that white majorities often manipulated the electoral system in American cities in order to reduce black representation on the city council. The results of both papers suggest that the racial identity of the local political leaders was expected to matter for economic outcomes.

Other works show the importance of race for redistribution. For example, Alesina and La Ferrara (2002) find that in more racially fragmented U.S. communities people are less willing to redistribute income, suggesting that white majority does not want to provide benefits to blacks. Likewise, Luttmer (2001) finds that survey respondents show more support for welfare policies as the share of coethnics in their community increases.

Our paper is also related to broader economic literature on ethnicity. Theoretically, ethnic favoritism has been a prominent theme in formal models of ethnic politics in the developing world. In the models of Fearon (1999), Caselli and Coleman (2006) and Padro i Miguel (2007), ethnic groups that win political competition redistribute resources toward their own members. In support of these models, Pande (2003) and Franck and Rainer (2009) find evidence of ethnic favoritism in India and Sub-Saharan Africa respectively. Like these two papers, the current paper provides evidence of ethnic favoritism, but it does so in the context of American urban politics.

The rest of the paper is organized as follows. Section II provides theoretical background for our empirical analysis. Section III describes our data and econometric framework. Section IV estimates the effects of black mayors on black employment outcomes, while Section V shows that our results are robust to using different comparison groups of cities. Section VI studies the dynamics of changes in black and white employment outcomes. Section VII estimates the effects of black mayors on black employment in private and government sectors. Section VIII examines whether black mayors raise black income. Section IX offers a causal interpretation of our results, discusses alternative explanations and provides additional evidence for causality. Section X concludes.

II. Theoretical background

Borrowing from the literature on distributive politics in democracies (Cox and McCubbins 1986, Lindbeck and Weibull 1987, Dixit and Londregan 1996), three models can describe the relationship between politicians and members of their ethnic groups. We refer to these as the "ethnic altruism", the "psychic benefits", and the "quid pro quo" models of ethnic politics.[2] In this section we discuss the implications of all three models for our empirical work.

The "ethnic altruism" model assumes that the politician derives direct utility from his ethnic group's higher level of well-being. For example, a black mayor's utility may increase when the unemployment rate of blacks in his city decreases or if their income increases. Since this model assumes that the politician has altruistic preferences toward his coethnics, it predicts that a black mayor will want to improve the employment outcomes of blacks simply because their higher utility also increases his own.

[2] Franck and Rainer (2009) employ a similar conceptual framework in their study of ethnic favoritism in Sub-Saharan Africa.

The "psychic benefits" model assumes that the politician is opportunistic. He only cares about winning the election and transfers resources to different ethnic groups in order to maximize his total electoral support. Importantly, the model also assumes that the members of the politician's ethnic group receive large "psychic benefits" (Chandra 2004) from seeing their coethnic in office. For example, the black voters may feel happier if a black politician wins a mayoral election, for the same reason that they may feel happier if a black actor wins an Oscar. The "psychic benefits" model implies that the members of the politician's ethnic group will tend to vote for him unconditionally, without demanding any material benefits in return. As a result, the incumbent politician will have little incentive to cater to his coethnics, and may even prefer to provide greater help to other ethnic groups in order to secure their electoral support. This argument is reminiscent of the probabilistic voting models (e.g. Lindbeck and Weibull 1987), in which redistributive benefits are targeted at groups of "swing voters" rather than "core supporters". In the context of our paper, the "psychic benefits" model implies that black mayors will not improve the employment outcomes of black voters.

The "quid pro quo" model maintains the assumption that the politician is an office-seeker in need of electoral support, but drops the assumption that voters receive psychic benefits from having a person of their own ethnicity in office. Now, the members of the politician's ethnic group (like those of other groups) are assumed to support him at the polls only in exchange for material benefits such as new jobs or higher incomes. In this model, there are two reasons why the politician may favor his ethnic group. First, it may be cheaper for the politician to buy the support of his coethnics (than the support of other groups) because he better understands their demands and can transfer to them benefits more efficiently (Dixit and Londregan 1996). Second, it may be less risky for a risk-averse politician to trust the promises of his own coethnics,

specifically, that they will indeed vote for him in exchange for the benefits he provides. Regardless of the particular mechanism at work, the "quid pro quo" model predicts that a black mayor will create new jobs for black voters if their support at the polls is important for his electoral success.

This discussion shows that the predicted effect of black mayors on the well being of black voters is ambiguous. While the "ethnic altruism" and the "quid pro quo" models predict that black mayors may have the incentives to improve black employment outcomes in their cities, the "psychic benefits" model generates the opposite prediction. Our empirical work will therefore be informative as to which theoretical assumptions are more realistic in the context of American urban politics.

III. The data and the econometric framework

Our data collection starts out with the 60 largest U.S. cities as measured by city population according to the Municipal Governments data file of the 1997 Census of Governments. For each of these 60 cities, starting with 1970, we identified the race of all the mayors who were in office.[3] The names of the mayors and their dates in office are taken from worldstatesmen.org, rulers.org, and other online sources. The information on the mayors' racial origins comes primarily from various publications published by the Joint Center for Political and Economic Studies[4] and from Colburn (2001). We also consulted online sources for data verification purposes.

[3] Elected on November 7, 1967 as a mayor of Cleveland, Carl B. Stokes was the first African American mayor of a major U.S. city. Also in 1967 Walter Washington became the first African American chief executive of Washington, DC.

[4] The center published its annual *Black Elected Officials: A National Roster* from 1970 to 1993 and its *Black Elected Officials: A Statistical Summary* from 1998 to 2002. Similar data for more recent years is available on the center's website at www.jointcenter.org/index.php/data_resources.

For each of the 60 cities, we sought employment data for the entire time period and identified two useful sources of data. Our first source of data is the annual issues of *Geographic Profile of Employment and Unemployment* published by the Bureau of Labor Statistics (BLS). This publication provides city-level employment statistics for black and white workers in 17 cities from 1981 to 2003.[5] Our second data source is the Current Population Survey (IPUMS-CPS). The IPUMS-CPS has individual level data for MSAs from the March survey of the CPS; this data allows us to expand the sample to 33 MSAs and to extend the examined time period to 1973-2004.[6]

The advantage of using the city-level data from the BLS publication is that mayoral policies are likely to have stronger effects on the employment of the city residents than on the employment of people living in the surrounding area. In addition, only the city residents are members of the city's political constituency and have the right to elect the city's mayor. The advantage of the IPUMS-CPS is that it allows us to significantly expand the sample and provides additional outcome variables such as income and weeks worked as well as consistent measures of government versus private employment. MSA-level employment may also be a good (albeit noisy) proxy for the employment situation in the central city, especially since many residents of the suburbs work in the central city. Data from the BLS publication are for individuals from sixteen years of age and above. When we use the IPUMS-CPS, we examine data for individuals between sixteen and sixty-four years of age.

Per the IPUMS-CPS data we computed annual averages, by MSA, for our employment measures separately for whites and blacks. In some cases the averages were based on few

---

[5] Prior to 1981 the BLS publication does not list employment outcomes for blacks, but lists only employment outcomes for "non-whites," which also include Asians and Native Americans.
[6] We collected these data from http://cps.ipums.org/cps/index.shtml.

observations, making the estimated average not very precise. We therefore use only the averages which are based on at least 70 observations in a cell (an MSA/year data point).[7] We do not use the IPUMS-CPS data to compute employment averages for cities, because the IPUMS-CPS does not clearly define central cities, and also because the number of observations that can be used to compute averages for each city/year cell becomes very small.

Table A1 in the appendix shows the list of the 17 cities and the 33 MSAs that we use in our analysis. The table also shows the years for which we have employment data for each city and MSA, and indicates whether a city or a central city of an MSA had black mayors, white mayors or both in this time period.[8] Overall, the data from the BLS publication span from 1981 to 2003 and the IPUMS-CPS sample spans from 1973 to 2004. Among the 17 cities in our sample, 10 had both black and white mayors, 5 had only white mayors and 2 cities (Detroit and Washington, DC) had only black mayors. Likewise, among the central cities in our sample of 33 MSAs, 17 had both black and white mayors, 15 had only white mayors and one (Washington, DC) had only black mayors.[9] The cities that had both black and white mayors identify the effect of black mayors on black employment outcomes in the panel-data framework discussed below.

In the first set of regressions, our dependent variables are black employment outcomes.[10] In the city-level analysis (where the source of our data is the BLS publication *Geographic Profile of Employment and Unemployment*) we use three outcome measures: the black

[7] We tested for the sensitivity of our regression estimates presented in the tables in later sections of this paper by reducing or increasing the minimum number of observations for which we compute the annual MSA averages. We varied the minimum cell size between 50 and 100 and found that our conclusions regarding the effectiveness of black mayors are unchanged when applying these criteria.

[8] In our MSA-level analysis, we assign to each MSA the race of the mayor of its central (i.e. largest) city. For example, the Chicago MSA is assigned the race of the mayor of Chicago.

[9] In our data set, the vast majority of mayors were directly elected. The only exceptions are the mayors of Cincinnati before 2001 and the mayors of Virginia Beach before 1988.

[10] As explained below, our regressions use both black and white employment outcomes as dependent variables. However, our main goal is to estimate the effects of black mayors on black outcomes (absolute or relative to whites).

employment, the black labor force participation rate, and the black unemployment rate.[11] In the MSA-level analysis (where the source of our data is the IPUMS-CPS) we use another measure of black employment – the average number of weeks worked by blacks in a given year – in addition to these dependent variables.[12]

We explain black employment outcomes with the *Black Mayor* variable, which measures for each city (or the central city of each MSA) and year the share of days per year that a black mayor was in office. Thus, *Black Mayor* takes the value of 1 when a black mayor was in office during the entire year, the value of 0 when a white mayor was in office during the entire year, and a value between 0 and 1 when the race of a mayor changed during the year. Table A2 in the appendix shows the summary statistics for the variables employed in the regression framework.

If black mayors create jobs for black workers, we predict an increase in the black employment and in the average number of weeks worked by blacks. The reason we consider the black labor force participation rate as one of our outcome variables is because blacks may decide to look for jobs when a black is a mayor. Blacks may start looking for jobs because they may believe that a black mayor increases their probability of obtaining a job. This would increase their measured labor force participation. Finally, if black mayors increase black employment, they are also likely to reduce the black unemployment rate, although this effect may be mitigated by a potential increase in black labor force participation.

We specify our regressions to be informative not only about the absolute changes in black employment outcomes as a consequence of having a black mayor, but also about the changes in

[11] Employment measures the number of employed as percent of population. The labor force participation rate measures the number of those who are either employed or looking for jobs as percent of population. Finally, the unemployment rate measures the number of unemployed as percent of the labor force.

[12] While the employment and the labor force variables of the CPS pertain to the year of survey, weeks worked (and income) pertain to the previous year. We appropriately adjust for these lags, which explains why the regressions for weeks worked (and income) have slightly different time coverage than other CPS-based regressions.

these outcomes relative to white outcomes. Therefore, we pool observations for black and white outcomes and estimate the following equation:

$$Y_{ctr} = \beta_1 * BlackMayor_{c(t-1)} * BO + \beta_2 * BlackMayor_{c(t-1)} * WO + \alpha_{cr} + \gamma_{tr} + \theta_{cr} t + \varepsilon_{ctr} \qquad (1)$$

Y_{ctr} is the employment outcome for race *r* in city (or MSA) *c* in year *t*. $BlackMayor_{c(t-1)}$ is our independent variable measured for city (or the central city of MSA) *c* and year *t-1*. We lag the *Black Mayor* variable by one year to mitigate the concern of reverse causality, namely that high (or low) black employment leads to a black mayor in office. BO is an indicator equaling one if the outcome pertains to blacks and zero otherwise. WO is a similar indicator variable for white outcomes. The parameters α_{cr} and γ_{tr} denote city (or MSA) fixed effects and year fixed effects separate for each race. In our main specifications we also include city (or MSA) specific linear time trends for each race to account for different secular changes in black and white employment outcomes in different cities (or MSAs). These time trends are denoted by $\theta_{cr} t$.

This framework allows us to estimate the difference-in-difference as well as the triple difference effects of black mayors. β_1 is the difference-in-difference estimator of the effect of black mayors on black employment outcomes. It measures the change in these outcomes in cities that switched from a white to a black mayor (or vice-versa) relative to the corresponding change in cities that did not. Likewise, β_2 is the difference-in-difference estimator of the effect of black mayors on white employment outcomes. Finally, $\beta_1 - \beta_2$ is the triple difference estimator. It measures by how much black outcomes change relative to white outcomes (and relative to cities with no change in their mayors' race) as a consequence of having a black mayor.[13]

[13] Alternatively, we could estimate two separate difference-in-difference regressions, one for black and another for white employment outcomes. The coefficients on *Black Mayor* in these regressions would be identical to β_1 and β_2 in our framework.

An important question is what standard errors to compute. One possibility is to compute robust standard errors. Another possibility is to cluster standard errors by city (or MSA), as recommended by Bertrand, Duflo and Mullainathan (2004). The advantage of the latter strategy is that it takes account of possible serial correlation of error terms within each city (or MSA). However, when the number of clusters is relatively small (we have 17 cities in our city-level analysis), or when there are many time-series observations (we have more than 30 years of data in our MSA-level analysis), clustering can increase standard errors excessively (Djankov, McLiesh, and Shleifer 2007). Since both strategies have advantages and disadvantages, we present both robust and clustered standard errors.

IV. Black mayors and black employment outcomes: main empirical findings

Table 1 shows the effects of black mayors on the employment outcomes of blacks and whites from city-level (columns 1 to 3) and MSA-level (columns 4 to 7) regressions.[14] The regressions in Panel A include city (or MSA) fixed effects and year fixed effects both interacted with black and white outcome indicators. The regressions in Panel B also include these fixed effects, but in addition control for city (or MSA) specific linear time trends for each race. In each panel, columns 1 and 4 show the regression results for employment, columns 2 and 5 for labor force participation, columns 3 and 6 for the unemployment rate, and column 7 for number of weeks worked.[15] For each regression, we report the point estimates and the standard errors of β_1, β_2 and $\beta_1 - \beta_2$. Since we are particularly interested in the effects of black mayors on black outcomes, the results for β_1 and $\beta_1 - \beta_2$ are emphasized in bold.

[14] The city-level results are based on the data from the BLS publication and the MSA-level results are based on data from IPUMS-CPS.

[15] While columns 4 to 6 are for the 1973 to 2004 time span, column 7, which has the average number of weeks worked as the dependent variable, is for the 1975 to 2003 time period. This is because the average number of weeks worked is not available prior to 1975 and the weeks worked question in the CPS pertains to the previous year.

Panel A of Table 1 shows that black mayors have a positive and statistically significant impact on black employment outcomes. When we use robust standard errors, β_1 is statistically significant at the five percent level in all specifications except column 2. When we use clustered standard errors, β_1 is not statistically significant in the city-level regressions, but remains statistically significant at the five percent level in three of the four MSA-level regressions and at the ten percent level in the other regression.

The point estimates imply that for the city sample, black mayors lead to a 1.74 percentage point increase in black employment (Table 1, Panel A, column 1), a 1.02 percentage point increase in black labor force participation (Table 1, Panel A, column 2), and a 1.54 percentage point decrease in the black unemployment rate (Table 1, Panel A, column 3). In the MSA sample, black mayors increase black employment by 2.41 percentage points (Table 1, Panel A, column 4), increase black labor force participation by 1.57 percentage points (Table 1, Panel A, column 5), reduce the black unemployment rate by 1.55 percentage points (Table 1, Panel A, column 6) and increase the average number of weeks worked by blacks by 1.09 (Table 1, Panel A, column 7).[16]

Panel A of Table 1 also shows that black mayors have no effect on white employment outcomes. The point estimates of β_2 are always small in absolute value and statistically insignificant.

The bottom of Panel A of Table 1 shows our triple difference results. These results indicate that during the tenure of black mayors, the black employment outcomes improved not only in absolute (i.e., difference-in-difference) terms, but also relative to similar outcomes for

[16] Given our specification, these quantitative statements are correct in the difference-in-difference sense and with a one-year lag between mayoral tenure and black employment outcomes. For brevity, in the rest of the paper we omit these caveats when describing our results.

white workers (i.e., in triple difference terms). With respect to statistical significance, the triple difference estimates have slightly lower levels of statistical significance than the difference-in-difference estimates. Quantitatively, the triple difference results show that relative to the corresponding white outcomes, black employment is about 1.9 percentage points higher (Table 1, Panel A, columns 1 and 4), black labor force participation is about 1.2 percentage points higher (Table 1, Panel A, columns 2 and 5), the black unemployment rate is about 1.3 percentage points lower (Table 1, Panel A, columns 3 and 6), and the average number of weeks worked by blacks is 0.9 weeks higher (Table 1, Panel A, column 7) when a black mayor holds office.

In Panel B of Table 1 we control for city or MSA-specific linear time trends in our regressions. We then find that the point estimates of β_1 have the same signs as in Panel A and generally tend to be somewhat larger in absolute value. Controlling for time trends also increases statistical significance of most of these estimates.

The point estimates in Panel B imply that, for the city sample, black mayors lead to a 2.50 percentage point increase in black employment (Table 1, Panel B, column 1), a 1.44 percentage point increase in black labor force participation (Table 1, Panel B, column 2), and a 2.28 percentage point decrease in the black unemployment rate (Table 1, Panel B, column 3). In the MSA sample, black mayors increase black employment by 2.55 percentage points (Table 1, Panel B, column 4), increase black labor force participation by 1.14 percentage points (Table 1, Panel B, column 5), reduce the black unemployment rate by 2.31 percentage points (Table 1, Panel B, column 6) and increase the average number of weeks worked by blacks by 1.21 (Table 1, Panel B, column 7).

Panel B of Table 1 confirms that black mayors have little effect on white employment outcomes. Most of the point estimates of β_2 remain small and statistically insignificant. The only

exception to this is the point estimate for white labor force participation in the MSA sample, which is negative and statistically significant.

Panel B of Table 1 also shows that controlling for time trends increases the size (in absolute value) and the statistical significance of our triple difference estimates. All of these estimates become statistically significant at the five percent level when using robust standard errors and this is also the case for clustered standard errors, with the exception of the labor force participation coefficient in the city sample. The triple difference results in Panel B indicate that relative to the corresponding white outcomes, black employment is about 2.9 percentage points higher (Table 1, Panel B, columns 1 and 4), black labor force participation is about 1.8 percentage points higher (Table 1, Panel B, columns 2 and 5), the black unemployment rate is about 2.2 percentage points lower (Table 1, Panel B, columns 3 and 6), and the average number of weeks worked by blacks is 1.5 weeks higher (Table 1, Panel B, column 7) when a black mayor holds office.

In the further discussion of the magnitudes of the estimates in Table 1, we focus on those in Panel B. Controlling for time trends is probably important because different cities could have had different long-term trajectories of economic development, and hence of black and white employment outcomes, for reasons unrelated to the race of their mayors.

The estimated effects of black mayors on black employment outcomes are economically important. A 2.3 percentage point reduction in the black unemployment rate (Table 1, Panel B, columns 3 and 6) is sizable, when evaluated relative to the average unemployment rate of blacks, which stands at about 14 percent in our sample of cities and at about 12 percent in our sample of MSAs (see Table A1). Likewise, a 2.5 percentage-point increase in black employment (Table 1, Panel B, columns 1 and 4) implies that in a city with an adult black population of 100,000 (like

Charlotte or Cincinnati circa 1990) a black mayor created on average 2,500 jobs for black workers.

Another way to interpret the magnitude of the effects is to compare them to typical fluctuations in black outcomes over time. In our samples, the average within-city standard deviation of black employment is 5.15 percentage points and the corresponding average within-MSA standard deviation is 5.84 percentage points.[17] The average within-city and within-MSA standard deviations of black labor force participation are 4.34 for the city and 4.95 for the MSA sample. Finally, the average within-city and within-MSA standard deviations of the black unemployment rate are 4.37 for the city and 5.17 for the MSA sample, and the average within-MSA standard deviation of the number of weeks worked by blacks is 3. Thus, the point estimates in Table 1, Panel B imply that black mayors lead to an increase of about 0.4 standard deviations in the black employment rate, an increase of about 0.3 standard deviations in the black labor force participation, a decrease of about 0.5 standard deviations in the black unemployment rate, and an increase of 0.4 standard deviations in the number of weeks worked by blacks.

Overall, the findings in Table 1 are consistent with the hypothesis that black mayors increase black employment and reduce the black unemployment rate. Further, the results of the labor force participation regressions suggest that more blacks start looking for work when a black mayor takes office.

Clearly, all of our employment outcome variables are related. In particular, the increase in black labor force participation in response to having a black mayor in office explains why we find a somewhat smaller effect of black mayors on the black unemployment rate than on black employment. When more blacks join the labor force some of them may count as unemployed,

[17] We use the "within" standard deviations of black employment outcomes rather than the total ones reported in Table A2, because the latter also capture the cross-sectional variation in black employment which is less relevant here.

making the unemployment rate look worse than it would if they had not entered the labor market. In fact, our estimates for the unemployment rate are numerically consistent with our estimates for employment and labor force participation.[18] Furthermore, comparing our estimate for the number of weeks worked by blacks with our estimate for black employment (Table 1, Panel B, columns 4 and 7) and normalizing by the means of these variables from Table A2, we find that the percent increase in weeks worked by blacks (1.207/30.857=3.91 %) is similar to the percent increase in black employment (2.553/60.966=4.19 %).

V. Black mayors and black employment outcomes: robustness to different comparison groups of cities

In this section, we test for the robustness of our results in Table 1. There are two motivations for these tests. First, cities in our sample (and their MSAs) may not be comparable because they do not experience similar shocks. Specifically, cities in different regions, cities with different size of black population or cities with different levels of black income may experience different shocks in black (and white) employment outcomes. Such differences in shocks would confound our difference-in-difference estimates. One way to address this concern in our robustness analysis is to control for factors that make the employment shocks different. Second, cities with a high probability of having a black mayor may differ from cities where such probability is low. That is, cities in our "treatment" group may be different from cities in our

[18] Denote the black employment as a percent of population by E, the black labor force participation rate by L, and the black unemployment rate by U. By definition U=100*(L-E)/L=100*(1-E/L), so the change in the black unemployment rate should be approximately equal to dU=100*(dL*E-dE*L)/L^2. Focusing on the MSA-level results, the difference-in-difference estimates in columns 4 and 5 of Table 1, Panel B suggest that black mayors raise the black employment (as a percent of population) by dE=2.553 and the black labor force participation rate by dL=1.141. Furthermore, Table A2 shows that an average MSA has E=60.966 and L=69.387. The formula above then implies that in such an average MSA the effect of black mayors on the black unemployment rate should be around dU=-2.235, which is similar to what we find when we estimate the regression in column 6 of Table 1, Panel B.

"control" group. One way to address this concern is to compare outcomes in cities with and without a black mayor within sets of cities that had similar ex ante probabilities of having a black mayor.

In our robustness analysis we divide our sample into different "types" of cities and allow for differences in annual shocks by city type. For example, in one set of regressions we divide cities based on their levels of black employment. This approach controls for differences in employment shocks. In another set of regressions we exclude cities that never had a black mayor, thereby allowing for the possibility that cities with a particularly low probability of having a black mayor may have had different employment shocks. In other regressions we divide cities by region, size of black population, and level of black income. Thus, by using these latter three categories we allow for differences in annual shocks within each division.

Moreover, dividing cities by region, size of black population and level of black income makes our treatment and control groups more comparable because these divisions are correlated with the likelihood of having a black mayor. For example, by allowing for differences by region, we recognize that, in our sample, cities in the South had more years with black mayors than cities in the Northeast. Further, by allowing for differences based on the size of black population we recognize that, in our sample, cities with a larger share of black population had more years with black mayors. And by allowing for differences based on the level of black income we recognize that, in our sample, cities with higher black income are more likely to have black mayors since electoral participation increases with income.

In summary, in our robustness analysis we allow for different shocks based on the likelihood that employment shocks differ, and also allow for differences in shocks based on the probability of having a black mayor.

We show our robustness results in panels A to E of Table 2. Throughout Table 2 we continue to include city (or MSA) specific time trends in our regressions, because we have most confidence in these specifications. Panel A is based on only those cities that had a black mayor at least once in their history. Re-estimating the regression with this sub-sample makes the cities in the sample more comparable to each other, since each of them had a black mayor in at least some years. Panel B allows for differences in annual shocks by four census regions: Northeast, Midwest, South and West. Here, interacting race*year dummies with dummies for the four census regions allows us to make the difference-in-difference comparison only across cities located in the same region. In this way we control for the possibility that, for example, the Northeast experiences different shocks in a given year than the South. Given that we have the dummies by race, it also controls for the fact that these shocks differ for whites and blacks within one census region.

Table 2, Panel C allows for the possibility that annual shocks differ between cities with large and small black populations. We implement this by dividing the cities (or the central cities of the MSAs) into two groups. One group includes cities in which the fraction of black population in 1990 is above 35 percent and another group includes cities in which it is below 35 percent. We then interact race*year dummies with dummies for each of the two groups of cities. The regressions in Table 2, Panel D include separate race*year dummies for three categories of cities, namely those with high, medium, and low black income. These categories are based on black income in the 1990 Census, and include cities with black per capita income above $10,000, between $8,000 and $10,000 and below $8,000 respectively. Likewise, the regressions in Table 2, Panel E include separate sets of race*year dummies for cities with high and low black employment. The high black employment group includes cities in which black employment in

1990 is larger than 52 percent, while the low black employment group has cities in which it is smaller than 52 percent. In all three panels, C, D and E, the main reason for choosing these particular thresholds is that they constitute natural breaks in the data.[19] In addition, these thresholds generate groups with a similar number of cities (or central cities of MSAs) that had a black mayor.[20]

Table 2 shows that, regardless of how we define the comparison groups for our analysis, the estimated effects of black mayors on black employment outcomes remain similar to those in Table 1, both in terms of their magnitude and in terms of their statistical significance. The results become a little stronger when we control for size of black population or black employment (Panels C and E), and a little weaker when we control for regional differences or black income (Panels B and D). Overall, these results confirm that black mayors increase black employment, labor force participation and number of weeks worked, and reduce black unemployment rate. As in Table 1, the estimates for whites tend to be small and statistically insignificant, indicating that black mayors have little effect on white employment outcomes.

With respect to our triple difference results, the point estimates in all panels of Table 2 are similar to those in Table 1. In Table 2, most of the triple difference estimates are statistically significant regardless of whether we use robust or clustered standard errors. This confirms that black employment, labor force participation, and weeks worked improve relative to whites, and that black unemployment declines relative to white unemployment as a consequence of having a black mayor.

---

[19] For example, in our sample of 17 cities, 35 percent of black population is a natural break between about 30 percent (Milwaukee) and 39 percent (Chicago) of blacks. Likewise, among the central cities in our sample of 33 MSAs, 35 percent of blacks is a natural break between about 32 percent (Charlotte) and 38 percent (Cincinnati).

[20] Our black population, employment and income data come from the 1990 Census. Our thresholds are always based on city (as opposed to MSA) data, even in our MSA-level analysis. We do so to assure consistency across city and MSA samples and because city-level variables are better determinants of having a black mayor than MSA-level variables.

In summary, our estimates are robust to using different comparison groups. Regardless of whether we compare the "treated" cities only with cities that had a black mayor, only with cities located in the same region, or only with cities that have similar black population size, black income or black employment, our results continue to show that black mayors improve black employment outcomes both in absolute terms and relative to whites.

VI. Black mayors and black employment outcomes: dynamic analysis

In our analysis so far, we have documented the important effects of black mayors on black employment outcomes. However, the average effects estimated in Tables 1 and 2 do not reveal the dynamics of changes in black and white employment outcomes during the transitions from a mayor of one race to a mayor of another race. For example, when a black mayor replaces a white mayor in office, do black employment outcomes only exhibit a one-year spike or do they continue to improve over time? Furthermore, many cities in our sample experienced transitions from black to white mayors as well as transitions from white to black mayors. It is therefore interesting to compare the dynamics of the two types of transitions and to examine whether the average effects of black mayors are primarily driven by one or the other type of transitions.

In order to study the dynamic effects of black (and white) mayors we transform our original data set, where the cross-sectional units of observation are MSAs, to a new data set where the cross-sectional units of observation are interracial transitions of mayors.[21] We focus on the MSA data set because it has a larger sample size than the city data set.[22] Overall, our new

[21] For example, Philadelphia had white mayors before 1984, a black mayor between 1984 and 1991, a white mayor between 1992 and 1999, and black mayors after 2000. Therefore, we define three transitions for Philadelphia: the two transitions from white to black mayors use observations for 1973-1991 and 1992-2004, and the transition from black to white mayor uses observations for 1984-1999.

[22] Sample size is a relevant consideration because in equation (2) we estimate coefficients on 24 transition dummies. Indeed, when we estimated equation (2) for our city sample, the results were similar to those for the MSA sample, but noisier.

transformed data set includes 23 transitions from white to black mayors and 17 transitions from black to white mayors. Like the original MSA data set, the new data set also includes 11 cities that never had a black mayor.

With the transformed data we estimate the following equation for each of our four employment outcomes:

$$Y_{ctr} = \sum_{k=-2}^{3+} \beta_k^{WBT*BO} WBT_{ct}^k * BO + \sum_{k=-2}^{3+} \beta_k^{WBT*WO} WBT_{ct}^k * WO + \sum_{k=-2}^{3+} \beta_k^{BWT*BO} BWT_{ct}^k * BO + \sum_{k=-2}^{3+} \beta_k^{BWT*WO} BWT_{ct}^k * WO + \alpha_{cr} + \gamma_{tr} + \theta_{cr} t + \varepsilon_{ctr} \quad (2)$$

BO and WO are dummies for black and white outcomes as defined in equation (1). WBT_{ct}^k is a dummy variable equaling 1 k years after the transition from a white to a black mayor in city c. BWT_{ct}^k is the corresponding dummy variable for transitions from black to white mayors. The index k denotes years from year -2 to year 3+. Year 0 is the first year, year 1 is the second year, and year 2 is the third year that a new mayor is in office. Year 3+ stands for all years after a new mayor's third year in office (and as long as he or subsequent mayors of the same race stay in office). Year -1 represents the year prior to a new mayor's taking office and year -2 stands for two years prior to his taking office.[23] In total we estimate 24 coefficients on the indicator variables: six coefficients for black outcomes in white to black mayor transitions, six coefficients for white outcomes in white to black mayor transitions, six coefficients for black outcomes in black to white mayor transitions, and six coefficients for white outcomes in black to white mayor transitions. All 24 coefficients measure the employment outcomes relative to the average values

[23] While in equation (1) we used the fraction of the year that a black mayor holds office as our main explanatory variable, equation (2) requires a binary variable to specify the exact year of each interracial transition. Therefore, we now code a black or a white mayor as being in office in a particular year if he is in office for the majority of that year.

of these outcomes prior to year -2. In all the regressions we continue to control for MSA fixed effects, year fixed effects and MSA-specific linear time trends for each race.

In our regression analysis based on equation (1), we lagged the *Black Mayor* variable by one year, implicitly assuming that the new mayors cannot affect employment outcomes in their first year in office. Thus, under this assumption, it is only in and after year 1 (i.e., in and after their second year in office) that we expect to observe changes in black (and white) employment outcomes due to the policies of a new mayor. In equation (2) we can therefore interpret coefficients associated with changes in employment outcomes from year 0 to year 1 (or year 2) as the short-run effects, and those from year 0 to year 3+ as the long-run effects of new mayors.

In Figures 1 and 2, we plot the estimated coefficients for all four employment outcomes and for both blacks and whites. Figure 1 displays the coefficients for transitions from white to black mayors, while Figure 2 shows the dynamics of transitions from black to white mayors.

The coefficient estimates based on the white to black mayor transitions (Figure 1), indicate that all black employment outcomes show strong improvement in and after year 1 (in and after the second year of a new black mayor in office). In year 1 black employment increases by 2.08 percentage points, black labor force participation increases by 1.31 percentage points, black unemployment rate decreases by 1.33 percentage points and black number of weeks worked increases by 0.2 weeks (these are changes from year 0 to year 1). The long-term improvements (changes between year 0 and year 3+) as a consequence of having a black mayor in office are even larger for black employment (2.67 percentage points), black labor force participation (2.54 percentage points) and black number of weeks worked (1.71 weeks worked), but somewhat smaller for black unemployment rate (0.56 percentage points). Although the white

employment outcomes deteriorate one year after the black mayor takes office, quantitatively the changes in these outcomes appear to be very small in both the short and the long run.

Figure 1 also suggests that the improvements in black employment outcomes after a black mayor takes office are not simply driven by pre-existing trends. In particular, the plots for black labor force participation and black number of weeks worked do not seem to show an upward trend before year 1. As for black employment and black unemployment rate, although these outcomes already improve in years -1 and 0, these improvements are matched by similar changes in the corresponding white outcomes, which is not the case for later years.

Figure 2 shows the coefficient estimates for black to white mayor transitions. The plots show that black employment outcomes deteriorate in either year 1 or year 2 (i.e., in either the second or the third year of a new white mayor in office). Although they partially revert themselves in the long run, the long-term effects (changes from year 0 to year 3+) of new white mayors on black employment outcomes remain substantial. In the long run, black employment decreases by 1.79 percentage points, black labor force participation decreases by 0.74 percentage points, black unemployment rate increases by 1.81 percentage points and black number of weeks worked decreases by 1.65 weeks. White employment outcomes start improving in either year 1 or year 2 and show further improvement in year 3+. In the long run, white employment increases by 1.69 percentage points, white labor force participation increases by 1.48 percentage points, white unemployment rate decreases by 0.51 percentage points and white number of weeks worked increases by 1.81 weeks.

Figure 2 also suggests that changes in black and white employment outcomes occurring after a white mayor takes office are not driven by pre-existing trends. With the exception of

white labor force participation, the white outcomes do not display a significant improvement and the black outcomes do not display a significant deterioration immediately prior to year 1.

Summarizing, the pictures confirm that black mayors lead to better employment outcomes of blacks. This is driven both by improvements in black outcomes when a black mayor comes to office and by deterioration in these outcomes when a black mayor is replaced by a new white mayor, although the former effects are quantitatively more important than the latter. White employment outcomes seem to improve when a white mayor takes office, but show little change when a black mayor comes to power. Further, although the effects of new mayors on black and white employment outcomes can usually be observed as early as in their second or third year in office, they tend to persist in the long run as well. Finally, as discussed before, although some measures of black employment start improving prior to a black mayor coming to office, the figures suggest that the sum of our results in Table 1 is not driven by pre-existing trends in black (or white) employment outcomes. This strengthens a causal interpretation of our empirical results.

VII. Black mayors and black employment in private and government sectors

Besides documenting that black mayors improve black employment outcomes, it is interesting to examine through which channels they do so. Further, as we will discuss later, examining these channels will also help us to rule out some alternative explanations for our findings as well as to mitigate the concern that the *Black Mayor* variable is endogenous.

To investigate the channels through which black mayors improve black employment outcomes, we examine whether black mayors have a differential impact on black employment in the government as opposed to black employment in the private sector. In principle, black

mayors can affect both types of employment. For example, black mayors can increase employment in local governments by implementing new hiring policies. And they can increase black employment in the private sector by granting government contracts or employment subsidies to firms that tend to hire blacks. Anecdotal evidence supports the hypothesis that black mayors make efforts to increase the employment of blacks both in the government and in the private sector. For example, Cleveland mayor Stokes successfully increased black municipal employment and also partnered with firms to increase the employment of blacks in the private sector (Moore 2001, 2002).

If black mayors actively seek to boost the employment of blacks in the government, then one would expect that they are more effective in increasing black employment in the local government as opposed to the federal or the state government. This is because black mayors can exert direct influence on the hiring decisions of the government they run, while they do not have this influence for federal or state government employment.

Thus, in investigating the channels as to how black mayors can affect black employment, we predict that the marginal impact of black mayors is largest for local government employment and is smaller for federal and state government employment as well as for private employment.

The IPUMS-CPS data source allows us to separate government employment from private employment and also to look at subcategories of government employment. Specifically, the IPUMS-CPS has a "Public Administration" employment category, which includes employment in federal, state, and local public administration and employment in postal service. We create the total government employment variables (for blacks and whites) based on this "Public Administration" category. In contrast, the private employment variables (again, for blacks and whites) measure all other civilian employment. We also create variables for two subcategories of

government employment: employment in the federal and state government, and employment in the local government. We define black and white employment in each sector as a percent of black or white population (between ages 16 and 64), and provide summary statistics for these variables in Table A2.[24]

Table 3 shows the effects of black mayors on the employment of blacks and whites in the government and the private sectors. In the first four columns of this table we re-estimate the employment specifications in Table 1, column 4 (Panels A and B) but instead of total employment, our dependent variable is employment in the government sector (Table 3, columns 1 and 2), and employment in the private sector (Table 3, columns 3 and 4). The last four columns of Table 3 show the regressions for the subcategories of government employment. In columns 5 and 6 the dependent variable is employment in the federal and state government, while in columns 7 and 8 the dependent variable is employment in the local government. For each outcome variable we estimate two specifications, one without and one with the MSA-specific time trends. As in the regressions in Tables 1 and 2, the dependent variables are based on observations for both black and white outcomes. Further, as in the previous tables, we report difference-in-difference effects of black mayors on black and white outcomes, as well as triple difference estimates.

Our difference-in-difference estimates show that black mayors increase both black government employment and black private sector employment. When not including MSA trends, we find that black mayors increase black employment in the overall government sector by 0.779 percentage points (0.592 percentage points with MSA trends) and black employment in the

[24] In Table A2 private employment and government employment do not sum up to total employment, because military employment is not included in the government employment category. Similarly, employment in federal and state government and employment in local government do not sum up to total government employment, because postal workers are not included in the federal and state employment category.

private sector by 1.569 percentage points (1.826 percentage points with MSA trends). All of these point estimates are statistically significant using robust and clustered standard errors except the estimate in the government employment regression with MSA trends, which is only statistically significant with robust standard errors. The point estimates imply that black mayors create 2-3 times as many new jobs for blacks in the private sector as they do in the government. This means that for every 100,000 blacks of working age, between 1600 and 1800 new jobs are created in the private sector and between 600 and 800 new jobs in the government sector.

However, in percentage terms, black mayors lead to a much larger increase in black government employment than in black private sector employment. This is because in our sample of MSAs, as shown in Table A2, 55 percent of the black population between ages 16 and 64 works in the private sector, but only 5.5 percent of the black population works in the government. Therefore, our estimates suggest that black mayors increase black government employment by between 11 and 14 percent (0.592/5.55 or 0.779/5.55), while they increase black private sector employment by only about 3 percent (1.826/54.992 or 1.569/54.992). The results in Table 3 also show that the effects of black mayors on white employment in both the government and the private sectors are small and statistically insignificant.

The triple difference estimates in columns 1 and 2 show that black employment in the government sector increases by between 0.55 and 0.57 percentage points relative to white employment. These estimates in Table 3 columns 1 and 2 are very similar in magnitude, statistically significant with robust standard errors and with clustered standard errors in the specification without trends. Further, similar to our difference-in-difference estimates, our triple difference estimates show that the effects of black mayors on government employment are larger than their effects on private employment as percentage of black (or white) employment in each

sector. This is the case regardless of whether we compare the triple difference coefficients in columns 1 and 3 or columns 2 and 4.

Columns 5 to 8 of Table 3 separate government employment into employment in the federal and state government, and employment in the local government. The results show that black mayors increase the employment of blacks in both types of government. Quantitatively, black mayors increase black employment in local government by 0.388 percentage points (0.326 percentage points with MSA trends), and they increase black employment in federal and state government by 0.354 percentage points (0.338 percentage points with MSA trends). However, since fewer blacks work in the local government than in the federal and state government (1.719 versus 2.639 percent of black population in our sample of MSAs), in percentage terms black mayors create more new jobs for blacks in the local government than in the federal and state government. In particular, while the effect of black mayors on black employment in the local government represents an increase of between 19 and 22 percent (0.326/1.719 or 0.388/1.719), the corresponding effect on black employment in the federal and state government represents an increase of only about 13 percent (0.338/2.639 or 0.354/2.639).

Since black mayors also lead to a small increase in white employment in the federal and state government, but not in the local government, the triple difference estimates in the local government regressions are larger than the corresponding estimates in the federal and state government regressions. Specifically, black employment in the local government increases by 0.39-0.44 percentage points relative to white employment, but only by 0.18-0.19 percentage points for the federal and state government employment. Moreover, only in the local government regressions are the triple difference estimates statistically significant.

In sum, Table 3 shows that black mayors are successful in increasing the employment of blacks in both the private and the government sectors. However, the increase in black employment in the government is proportionally larger. Furthermore, the largest percentage increase in black employment occurs in the local government. This last result is consistent with a causal interpretation of our main findings because black mayors have a stronger impact on black employment when and where they can exert more direct influence on hiring decisions.

VIII. Black mayors and black income

So far we have documented that black mayors improve the employment outcomes of blacks. In this section, we test whether improved black employment outcomes also translate into higher income for blacks. Our analysis proceeds in two steps. First, we examine the effect of black mayors on the wage income of blacks. Then, we test whether black mayors also help to raise the total (i.e. wage and non-wage) income of blacks.

When black employment is higher, more blacks earn wages. Therefore, based on our previous results, one may expect that (average) black wage income increases as a consequence of having a black mayor in office. In fact, we can use the estimates from our employment regressions to predict the likely magnitude of such an increase. Specifically, if we assume a) that the wage income of blacks who already have a job when a black mayor comes to office does not change, and b) that the newly employed blacks earn the same income as those who have already been working, we can show that the percent increase in (average) black wage income must be equal to the percent increase in black employment.[25]

[25] To see this, denote the average black wage income by W and the black employment as a percent of population by E. Assuming that both the continuing and the new black workers earn the same constant wage income W_w, we have $W=E*W_w/100$. Since W_w is constant, this implies that $dW/W=dE/E$.

In Table 1, Panel B we showed that in our sample of MSAs a black mayor leads to an about 2.6 percentage point increase in black employment. Evaluated at the mean, this implies a 4.3 (=100*2.6/60.966) percent increase in black employment. Therefore, with assumptions (a) and (b), we expect black mayors to generate a similar 4.3 percent increase in black wage income when controlling for MSA trends. More generally, the increase in black wage income will be larger than 4.3 percent if the wages of blacks who already have a job when a black mayor comes to office also rise, and the increase will be smaller than 4.3 percent if the new black workers earn less than the continuing ones.[26]

In the first two columns of Table 4 we estimate the actual effect of black mayors on the average wage income of blacks (and whites) in our sample of MSAs. The first column shows the regression that does not include MSA-specific time trends, while in the second column we control for these trends. We prefer the specification that controls for trends since secular rates of growth of black and white income could have been different across cities.

In both columns 1 and 2 the point estimate on *Black Mayor* for black outcomes is positive, showing that black mayors are associated with higher black wage incomes. Both estimates are statistically significant for robust standard errors and the estimate that controls for MSA trends is also statistically significant for clustered standard errors. The estimate in column 2 indicates that black mayors lead to a 5.9 percent increase in average black wage income. This increase is larger than our 4.3 percent prediction, which was based on the employment regression with MSA trends and our two aforementioned assumptions. It is therefore consistent with the hypothesis that blacks, who already have a job, also receive a wage increase after a black mayor takes office.

[26] Although the average wage income of blacks can theoretically go down, this would require a large fall in income of the continuing black workers, which is unlikely.

Table 4, column 1 shows that the average wage income of whites increases by 1.6 percent when a black mayor takes office. However, once we control for MSA trends, the point estimate for white wage income becomes small, negative, and statistically insignificant. The triple difference coefficient in the specification with MSA trends shows that black mayors lead to a 6.6 percentage point gain in wage incomes of blacks relative to whites, and this point estimate is statistically significant.

We also examine the effect of black mayors on total income (Table 4, columns 3 and 4). In our specification with MSA trends (column 4) we find that black mayors increase black incomes by 5.0 percent and that this point estimate is statistically significant. As in the case of wage income, the point estimate for white total income is small, negative and not statistically significant. The triple difference estimate suggests that black mayors lead to a 5.3 percentage point gain in wage incomes of blacks relative to whites, and this point estimate is statistically significant. The fact that in our preferred specifications the coefficients for black income and the triple difference estimates are larger for wage income than for total income is consistent with the hypothesis that black mayors can affect labor income, but have little or no influence on other sources of income, such as capital income.

IX. A causal interpretation, alternative explanations and further robustness checks

IX.A. A causal interpretation and alternative explanations

Our evidence indicates that black economic outcomes improve during the tenure of black mayors, both in absolute terms and relative to whites. And our results are consistent with the causal interpretation whereby black mayors undertake policies that benefit blacks.

Under this interpretation, our findings have implications for our theoretical understanding of the relationship between an ethnic politician and the members of his ethnic group. In particular, our results are inconsistent with the "psychic benefits" model in which the politician is opportunistic but the group members derive direct utility from their leader's political success. In this model the politician has little reason to provide material benefits to the members of his ethnic group, because they are willing to support him regardless of the amount of benefit he provides (see Section II).

In contrast, our results are consistent with both the "ethnic altruism" and the quid pro quo" models of ethnic politics. In the "ethnic altruism" model, black mayors want to improve black employment outcomes because of their intrinsic altruism toward black workers. In the "quid pro quo" model, black mayors create jobs for black workers in exchange for political support they expect to receive from the black constituency.

In this paper, our data do not allow us to assess the relative importance of ethnic altruism and quid pro quo in the context of American urban politics. Our results are consistent with both models. We now discuss several alternative explanations for our findings and show that these alternative explanations are unlikely to explain our empirical results.

One alternative explanation regarding the estimates in Tables 1, 2 and 4 may be that the findings are due to time-variant omitted variables. For example, white attitudes towards blacks may affect both the likelihood of a black mayor being elected and black employment outcomes. Another related concern may be reverse causality. Specifically, if employment and income of blacks increase, this could make blacks more likely to participate in the political process leading to the election of a black mayor. Finally, even if the effects of black mayors are causal, they may be unrelated to their policies. Instead, black mayors may serve as role models for blacks living in

the city in which a black mayor was elected, and a black mayor's electoral success may motivate black citizens to increase their labor market participation and be more persistent in their job search.

However, these alternative explanations cannot account for our more nuanced empirical findings. In particular, a general change in white racial attitudes or the role model effects of black mayors should have generated a uniform increase in black employment across all sectors of the labor market. However, we showed in Table 3 that black employment gains after black mayors take office are much larger in the local government than in the federal and state government or in the private sector. This finding can be explained by a policy-driven effect of black mayors, but is inconsistent with the change in racial attitudes or the role model explanations.

As for the possibility of reverse causality, we partially addressed this issue by lagging the *Black Mayor* variable in all our regressions. We also showed in Figures 1 and 2 that our results are not driven by pre-existing trends in black employment outcomes. Further, our findings for local government employment make the reverse causality explanation less likely. If the election of a black mayor is caused by a general increase in welfare of blacks, then we would observe similar increases in the employment of blacks in private sector and federal government as we do in local government. But our results show that this is not the case. It is also hard to see why the increases in local government employment of blacks would be especially conducive to the election of a black mayor.

IX.B. Additional evidence in favor of the causal interpretation]

To further strengthen the causal interpretation of the results in Tables 1, 2 and 4, we perform two additional robustness tests. First, we directly address the concern that changing attitudes towards blacks generate an omitted variable bias by controlling for measures of white racial attitudes in our regressions. Second, we exploit the fact that some of the mayoral elections were close, and use a regression discontinuity analysis (Lee 2008) to compare cities that elected a black mayor with a narrow margin with cities where a black candidate was defeated with a narrow margin.

Controlling for changing attitudes towards blacks

Using the General Social Survey (GSS), we computed three measures of white racial attitudes: the share of whites who favor laws against black-white marriages, the share of whites who would vote for a black president and the share of whites who had a black friend home for dinner. For all three measures, we only use data for urban respondents (living in MSAs with central cities larger than 50,000) and compute the relevant shares of whites for each of the nine Census divisions.[27] We then use these shares as proxies for attitudes towards blacks in each city/MSA in the corresponding Census division.[28] In some years GSS did not ask one or several of the three questions; for these years we impute the data by linear interpolation. As one would expect, all three measures show an improvement in attitudes towards blacks over time. For example, the share of whites who favor laws against black-white marriages (for urban respondents in the entire country) declines from 0.293 in 1972 to 0.215 in 1987 to 0.101 in 2002.

[27] The nine Census divisions are New England, Middle Atlantic, East North Central, West North Central, South Atlantic, East South Central, West South Central, Mountain and Pacific.

[28] The publicly available GSS file does not provide information on the respondents' city (or MSA) of residence. But even if such information was available, a small number of respondents in each city would make constructing direct city-level measures of racial attitudes problematic.

To evaluate the robustness of our main employment and income results, we reran the regressions of Table 1, Panel B and Table 4, columns 2 and 4 (i.e. the specifications with city/MSA time trends) but now controlling for one of the three measures of attitudes towards blacks (interacted with black and white outcomes). In Table 5 we report the results of regressions that include the share of whites who favor laws against black-white marriages. Since we find very similar results when we control for the other two racial attitudes variables, we do not report them in order to save space.[29]

Table 5 shows that our results are robust to controlling for the share of whites who oppose black-white marriages. The point estimates on black mayors remain very similar to those in the original regressions of Tables 1 and 4, both in terms of magnitude and statistical significance. Table 5 also shows that the interactions of the control variable itself with black and white outcomes tend to produce coefficients which are small and statistically insignificant. Thus, conditional on having a black mayor (and the city/MSA time trends) the racial attitudes of whites appear to have little effect on black (and white) employment and income. In contrast, black mayors continue to improve black economic outcomes even controlling for changing attitudes towards blacks.

Regression discontinuity analysis

Using newspaper reports from LexisNexis and a variety of internet sources, we were able to collect data on mayoral elections for all 17 cities in our city sample and for 31 out of 33 (central) cities in our MSA sample. Our electoral data cover the vast majority of elections held in these cities during the period under study, and contain information on 91 elections in our city

[29] We chose to report the regressions that control for the share of whites who favor laws against black-white marriages because in our sample period this GSS question was asked more frequently than the other two.

sample and 177 elections in our MSA sample. For each election, we obtained the vote shares and race of all candidates who won at least 10 percent of the votes. We then computed the *Black Margin of Victory* as the difference between the total share of votes won by all black candidates and the total share of votes won by all white candidates. Thus, the *Black Margin of Victory* is positive (negative) when a black (white) candidate wins the election. Its value is near 0 in close elections between a black and a white candidate, and it is near 1 (-1) when only black (only white) candidates compete in the election.[30]

To implement the regression discontinuity analysis, we estimate the regressions similar to those in Table 1, Panel B and Table 4, columns 2 and 4 (i.e. with city/MSA time trends), which now also include a cubic polynomial of the *Black Margin of Victory* interacted with the indicators for black and white electoral victory (and with black and white outcomes). Conditional on these new controls, the coefficients on black mayors can now be interpreted as weighted average treatment effects of black mayors on black and white economic outcomes, with the weights proportional to the probability of having a close election between a black and a white candidate (Lee and Lemieux 2009).[31]

Table 6 shows the results of our regression discontinuity regressions. The point estimates on black mayors are similar, in terms of their sign and magnitudes, to those in Table 1, Panel B and Table 4, columns 2 and 4. For the city sample, they indicate somewhat larger effects of black mayors on black employment outcomes than in our original regressions. For the MSA sample,

[30] We also used an alternative measure of black margin of victory, defined as the difference between the vote shares won by the best black and the best white candidates. The results of the regression discontinuity analysis based on this alternative measure were similar to the results we report. Conceptually, we prefer our main measure because it seems to better capture the relative political power of the black and white communities. It also has a more natural interpretation in elections with only black or only white candidates.

[31] We continue to include city/MSA fixed effects, year fixed effects and city/MSA specific time trends (all interacted with black and white outcome indicators) in our regressions. Although the inclusion of these covariates should no longer be necessary for identification, it may help to reduce the sampling variability in the regression discontinuity estimates (Lee and Lemieux 2009).

they show larger effects of black mayors on black employment, labor force participation and wage or total income, but somewhat smaller effects of black mayors on black unemployment rate and average weeks worked. These patterns also hold when we consider the effects of black mayors on the economic outcomes of blacks relative to whites. Some of the black mayor coefficients in Table 6 are imprecisely estimated, which is most likely due to the fact that changes at the discontinuity are effectively estimated off fewer observations than the corresponding point estimates in our original regressions. But since the magnitudes of the estimated coefficients remain similar, the regression discontinuity regressions confirm the causal interpretation of our original results.

In Figure 3 we illustrate some of our regression discontinuity results graphically. The top picture illustrates the results for black employment, while the bottom picture does it for black total income (in both cases based on our MSA sample). We create these pictures in two steps. First, we regress each of the corresponding outcomes on MSA fixed effects, year fixed effects and MSA specific time trends, and compute the residuals. Then, we display the local averages of these residuals (i.e. average residuals for each value of *Black Margin of Victory*) and the fitted values from regressing these residuals on the cubic polynomial of *Black Margin of Victory* (allowing for different intercepts and slopes on each side of the 0 threshold).

Although the data are somewhat noisy, the pictures show a clear jump at the 0 threshold in both black employment and black total income. At the discontinuity threshold, black employment increases by 3.421 percentage points and black total income increases by 0.067 log points (i.e. by 6.7 percent). These changes are similar to (albeit a little smaller than) the

corresponding effects of black mayors estimated by the regression discontinuity regressions in columns 4 and 9 of Table 6.[32]

IX.C. Other robustness checks

Another potential concern with our estimates may be that they do not capture the effects of black mayors' race but the effects of their party. In particular, a black mayor may be more likely to be a Democrat, and a Democratic mayor may have different policies than a Republican. Recent work by Ferreira and Gyourko (2009) shows that a mayor's party affiliation does not affect city policies or government size, and therefore casts doubt on this explanation. Nonetheless, as a robustness test, we also included party affiliation in all our regressions and found that the inclusion of this variable did not alter any of our conclusions regarding the effectiveness of black mayors for black outcomes.

Finally, in some cities, referred to as mayor-council cities, mayors fulfill all executive functions. In other cities, so-called council-manager cities, mayors share some of these functions with a city manager who is appointed by the council.[33] Although even in council-manager cities mayors are often directly elected and play important role in policy making, they are sometimes considered less influential than mayors in mayor-council cities (DeSantis and Renner 2002).

Given the possibility that mayors in council-manager cities may on average be weaker than those in mayor-council cities, we examined the sensitivity of our results to the exclusion of council-manager cities from our regressions. Depending on whether we use the BLS publication

[32] The regression discontinuity estimates based on panel regressions (as in Table 6) do not have to be the same as the corresponding estimates based on using the residuals (as in Figure 3). So the fact that for black employment and black total income the two methods produce similar results is reassuring for our regression discontinuity methodology.

[33] Several recent papers examine the economic effects of the mayor-council and the council-manager systems of local government. See, for example, Coate and Knight (2009) and Enikolopov (2009).

or the IPUMS-CPS data, between ten and twenty percent of our observations pertain to cities that have a city manager. These cities tend to be among the smaller cities in our data set and most of them never had a black mayor. The results from regressions that exclude council-manager cities lead to the same conclusions regarding the effectiveness of black mayors for black outcomes, as those based on the tables in this paper. While the results were similar in most specifications, in some cases the point estimates were somewhat stronger in support of the hypothesis that black mayors improve black economic outcomes.[34]

X. Conclusions

Using data from large U.S. cities, we find that black employment and income in a city significantly improve after a black mayor takes office. We also find that the corresponding white outcomes are largely unaffected by the presence of a black mayor. Thus, during the tenure of black mayors, black economic outcomes tend to improve not only in absolute terms but also relative to whites. Our findings are robust to using different sources of data, different econometric specifications and different comparison groups of cities.

Further evidence suggests that these results capture causal effects of black mayors who pursue policies that benefit blacks. In particular, we find that black employment gains are concentrated in local government sector where mayors can exert direct influence on hiring decisions. Support for the causal interpretation also comes from our analysis of the dynamics of changes in black and white employment outcomes, suggesting that our results are not driven by pre-existing trends. Finally, we show that our results continue to hold when we explicitly control for changing attitudes towards blacks or use regression discontinuity analysis to compare cities that elected black and white mayors in close elections.

[34] All results from our robustness tests are available from the authors upon request.

From a broader theoretical perspective, large positive effects of black mayors on black economic outcomes cast doubt on the empirical relevance of the "psychic benefits" model in the context of American urban politics. On the other hand, our results are consistent with both the "ethnic altruism" and the "quid pro quo" models of ethnic politics. In future research it would be interesting to test for relative importance of ethnic altruism and ethnic quid pro quo in American cities.

While we show that urban blacks benefit from having a black mayor in office, we do not have enough evidence to assess the overall impact of black mayors on social welfare. In particular, it remains unclear whether improvements in the condition of urban blacks were a result of the efficiency-enhancing removal of previous discrimination against blacks or whether they were a result of new discrimination in favor of blacks. It is also possible that gains to blacks came at the expense of other groups. Although our results suggest that gains to urban blacks were not accompanied by losses to urban whites, these gains could still represent a rent transfer from rural workers, taxpayers or business investors. Future research may examine these broader consequences of black political rule in major U.S. cities. More generally, understanding the effects of the rise of blacks to executive office may help identify the sources of black-white income differentials and the extent to which political choices may have affected this divide.

References

Alesina, Alberto, Reza Baqir and William Easterly, 1999. "Public Goods and Ethnic Divisions", *Quarterly Journal of Economics*, 114 (4), 1243-1284.

Alesina, Alberto, Reza Baqir, and William Easterly. 2000. "Redistributive Public Employment", *Journal of Urban Economics*, 48(2): 219-41.

Alesina, Alberto and Eliana La Ferrara, 2005. "Ethnic Diversity and Economic Performance", *Journal of Economic Literature*, 43, 721-761.

Bertrand, Marianne, Duflo, Esther and Mullainathan, Sendhil, 2004. "How Much Should We Trust Differences-in-Differences Estimates?" *Quarterly Journal of Economics,* 119 (1), 249-275.

Browning, Rufus P., Dale Rogers Marshall, and David H. Tabb, 1984. *Protest is Not Enough: The Struggle of Blacks and Hispanics for Equality in Urban Politics*, University of California Press.

Chandra, Kanchan, 2004. *Why Ethnic Parties Succeed: Patronage and Ethnic Headcounts in India*. Cambridge: Cambridge University Press.

Coate, Stephen and Brian Knight. 2009. "Government Form and Public Spending: Theory and Evidence from U.S. Municipalities", Working Paper.

Cox, Gary W. and Mathew D. McCubbins, 1986. "Electoral Politics as a Redistributive Game", *Journal of Politics*, 48(2), 370-389.

DeSantis, Victor S. and Tari Renner, 2002. "City Government Structures: An Attempt at Clarification", *State and Local Government Review*, 34(2), 95–104.

Dixit, Avinash and John Londregan, 1996. "The Determinants of Success of Special Interests in Redistributive Politics", *Journal of Politics*, 58(4), 1132-1155.

Djankov, Simeon & McLiesh, Caralee and Shleifer, Andrei, 2007. "Private credit in 129 countries", *Journal of Financial Economics*, 84(2), 299-329.

Eisinger, Peter K. 1982. "Black Employment in Municipal Jobs: The Impact of Black Political Power," *American Political Science Review*, 76(2), 380-392.

Enikolopov, Ruben. 2009. "Politicians, Bureaucrats and Targeted Redistribution: The Role of Career Concerns", Working Paper.

Ferreira, Fernando and Joseph Gyourko, 2009. "Do Political Parties Matter? Evidence from U.S. Cities", *Quarterly Journal of Economics*, 124(1), 399-422.

Franck, Raphael and Ilia Rainer. 2009. "Does the Leader's Ethnicity Matter? Ethnic Favoritism, Education and Health in Sub-Saharan Africa", Working Paper.

Hahn, Harlan, David Klingman, and Harry Pachon, 1976. "Cleavages, Coalitions and the Black Candidate: The Los Angeles Mayoralty Elections of 1969 and 1973", *Western Political Quarterly*, 29, 521-530.

Hajnal, Zoltan, 2001. "White Residents, Black Incumbents, and a Declining Racial Divide", *American Political Science Review.* 95(3), 603-617.

Lindbeck, Assar and Jörgen W. Weibull, 1987. "Balanced-Budget Redistribution as the Outcome of Political Competition", *Public Choice*, 52(3), 273-297.

Lee, David S. 2008. "Randomized Experiments from Non-random Selection in U.S. House Elections," *Journal of Econometrics*, 142(2), 675–697.

Lee, David S. and Thomas Lemieux, 2009. "Regression Discontinuity Designs in Economics," NBER Working Paper 14723.

Mladenka, Kenneth R. 1989. "Blacks and Hispanics in Urban Politics," American Political Science Review, 83(1), 165-191.

Moore, Leonard N. 2001. "Carl Stokes: Mayor of Cleveland" in Colburn, David R. and Jeffrey S. Adler, eds. , *African-American Mayors: Race, Politics, and the American City.* Urbana and Chicago: University of Illinois Press.

Moore, Leonard N. 2002. *Carl B. Stokes and the Rise of Black Political Power*. Urbana and Chicago: University of Illinois Press.

Parker, Heather R. 2001. "Tom Bradley and the Politics of Race" in Colburn, David R. and Jeffrey S. Adler, eds. , *African-American Mayors: Race, Politics, and the American City.* Urbana and Chicago: University of Illinois Press.

Parker, Heather R. 2001. "Tom Bradley and the Politics of Race" in Colburn, David R. and Jeffrey S. Adler, eds. , *African-American Mayors: Race, Politics, and the American City.* Urbana and Chicago: University of Illinois Press.

Trebbi, Francesco, Philippe Aghion and Alberto Alesina. 2008. "Electoral Rules and Minority Representation in U.S. Cities," *Quarterly Journal of Economics,* 128, 325-58.

Sass, Tim and Stephen Mehay, 2003. "Minority Representation, Election Method, and Policy Influence," *Economics and Politics*, 15(3), 323-339.

Washington, Ebonya. 2006. "How Black Candidates Affect Voter Turnout" *Quarterly Journal of Economics*, 121(3), 973-998.

Table 1: Black mayors and employment outcomes of blacks and whites

Panel A: Without city or MSA specific time trends

	City Sample			*MSA Sample*			
	Employment	Labor Force Participation	Unemployment Rate	Employment	Labor Force Participation	Unemployment Rate	Average Weeks Worked
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Black Mayor (t-1) * Black Outcome (β_1)	**1.738**	**1.020**	**-1.535**	**2.414**	**1.570**	**-1.551**	**1.092**
	(0.721)**	**(0.703)**	**(0.541)*****	**(0.652)*****	**(0.587)*****	**(0.608)****	**(0.311)*****
	[1.480]	**[1.329]**	**[1.387]**	**[0.950]****	**[0.717]****	**[0.786]***	**[0.419]****
Black Mayor (t-1) * White Outcome (β_2)	-0.113	-0.317	-0.301	0.522	0.379	-0.188	0.209
	(0.554)	(0.540)	(0.280)	(0.338)	(0.302)	(0.178)	(0.169)
	[1.078]	[0.954]	[0.589]	[0.613]	[0.539]	[0.276]	[0.325]
Number of Cities or MSAs	17	17	17	33	33	33	33
Observations	578	578	578	1184	1184	1184	1080
R-squared	0.85	0.81	0.79	0.81	0.74	0.68	0.83
Black Mayor (t-1) * Black Outcome	**1.850**	**1.337**	**-1.234**	**1.892**	**1.191**	**-1.363**	**0.883**
minus	**(0.909)****	**(0.887)**	**(0.610)****	**(0.734)****	**(0.660)***	**(0.633)****	**(0.354)****
Black Mayor (t-1) * White Outcome	**[1.311]**	**[1.326]**	**[0.920]**	**[0.931]***	**[0.813]**	**[0.623]****	**[0.461]***

Table 1 (continued)

Panel B: With city or MSA specific time trends

	City Sample			*MSA Sample*			
	Employment	Labor Force Participation	Unemployment Rate	Employment	Labor Force Participation	Unemployment Rate	Average Weeks Worked
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Black Mayor (t-1) * Black Outcome (β_1)	**2.501**	**1.442**	**-2.278**	**2.553**	**1.141**	**-2.309**	**1.207**
	(0.695)* **	**(0.732)** **	**(0.592)*** **	**(0.734)*** **	**(0.631)***	**(0.719)*** **	**(0.368)*** **
	[1.068] **	**[1.395]**	**[1.259]***	**[0.927]*** **	**[0.682]**	**[1.051]** **	**[0.446]** **
Black Mayor (t-1) * White Outcome (β_2)	-0.333	-0.429	-0.066	-0.477	-0.673	-0.206	-0.289
	(0.548)	(0.556)	(0.310)	(0.342)	(0.297)**	(0.225)	(0.182)
	[0.632]	[0.601]	[0.644]	[0.455]	[0.354]*	[0.367]	[0.325]
Number of Cities or MSAs	17	17	17	33	33	33	33
Observations	578	578	578	1184	1184	1184	1080
R-squared	0.9	0.85	0.87	0.85	0.79	0.72	0.86
Black Mayor (t-1) * Black Outcome	**2.833**	**1.870**	**-2.211**	**3.030**	**1.814**	**-2.103**	**1.496**
minus	**(0.885)*** **	**(0.920)** **	**(0.668)*** **	**(0.810)*** **	**(0.697)*** **	**(0.753)*** **	**(0.410)*** **
Black Mayor (t-1) * White Outcome	**[1.209]** **	**[1.328]**	**[0.821]** **	**[0.681]*** **	**[0.624]*** **	**[0.818]** **	**[0.512]*** **

Notes: The regressions pool observations for black and white employment outcomes. All the regressions control for city/MSA and year fixed effects interacted with black and white outcome indicators. The regressions in Panel B in addition control for city or MSA specific time trends for each race. Employment data for the city sample are from the BLS publication *Geographic Profile of Employment and Unemployment* and are for people above age 16. Employment data for the MSA sample are from the IPUMS-CPS and are for people between ages 16 and 64. Employment and labor force participation variables are defined as a percent of black or white population of these age groups. Robust standard errors and standard errors clustered at the city or MSA level are in parentheses and square brackets respectively. *** denotes significance at the 1% level, ** at the 5% level, * at the 10% level.

Table 2: Black mayors and employment outcomes of blacks and whites - robustness to different comparison groups

Panel A: Only cities that ever had a black mayor

	City Sample			*MSA Sample*			
	Employment	Labor Force Participation	Unemployment Rate	Employment	Labor Force Participation	Unemployment Rate	Average Weeks Worked
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Black Mayor (t-1) * Black Outcome (β_1)	**2.493**	**1.449**	**-2.273**	**2.435**	**1.056**	**-2.250**	**1.178**
	(0.694)* **	**(0.728)** **	**(0.592)*** **	**(0.736)*** **	**(0.625)***	**(0.718)*** **	**(0.367)*** **
	[1.091] **	**[1.401]**	**[1.245]***	**[0.942]** **	**[0.660]**	**[1.077]** **	**[0.449]** **
Black Mayor (t-1) * White Outcome (β_2)	-0.291	-0.428	-0.125	-0.458	-0.643	-0.194	-0.268
	(0.533)	(0.549)	(0.305)	(0.342)	(0.299)**	(0.225)	(0.180)
	[0.593]	[0.640]	[0.600]	[0.480]	[0.382]	[0.384]	[0.317]
Number of Cities or MSAs	12	12	12	22	22	22	22
Observations	494	494	494	978	978	978	882
R-squared	0.9	0.86	0.87	0.86	0.82	0.73	0.87
Black Mayor (t-1) * Black Outcome minus Black Mayor (t-1) * White Outcome	**2.785**	**1.877**	**-2.149**	**2.893**	**1.700**	**-2.056**	**1.446**
	(0.875)* **	**(0.911)** **	**(0.666)*** **	**(0.812)*** **	**(0.693)** **	**(0.752)*** **	**(0.408)*** **
	[1.123] **	**[1.255]**	**[0.831]** **	**[0.708]*** **	**[0.630]** **	**[0.819]** **	**[0.525]** **

Table 2 (continued)

Panel B: Within four Census regions

	City Sample			*MSA Sample*			
	Employment	Labor Force Participation	Unemployment Rate	Employment	Labor Force Participation	Unemployment Rate	Average Weeks Worked
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Black Mayor (t-1) * Black Outcome (β_1)	**2.523**	**1.820**	**-1.744**	**2.071**	**1.407**	**-1.207**	**0.950**
	(0.823)* **	**(0.819)** **	**(0.664)*** **	**(0.813)** **	**(0.743)***	**(0.723)***	**(0.381)** **
	[0.922] **	**[1.332]**	**[0.845]***	**[0.898]** **	**[0.833]**	**[0.764]**	**[0.394]** **
Black Mayor (t-1) * White Outcome (β_2)	-0.501	-0.502	0.078	-0.723	-0.692	0.107	-0.181
	(0.653)	(0.699)	(0.367)	(0.391)*	(0.358)*	(0.237)	(0.209)
	[0.739]	[0.630]	[0.451]	[0.453]	[0.420]	[0.330]	[0.324]
Number of Cities or MSAs	17	17	17	33	33	33	33
Observations	578	578	578	1184	1184	1184	1080
R-squared	0.92	0.89	0.9	0.88	0.82	0.8	0.88
Black Mayor (t-1) * Black Outcome	**3.024**	**2.322**	**-1.822**	**2.795**	**2.098**	**-1.314**	**1.131**
minus	**(1.050)*** **	**(1.077)** **	**(0.758)** **	**(0.903)*** **	**(0.825)** **	**(0.761)***	**(0.434)*** **
Black Mayor (t-1) * White Outcome	**[1.311]** **	**[1.404]**	**[0.725]** **	**[0.738]*** **	**[0.778]** **	**[0.604]** **	**[0.390]*** **

Table 2 (continued)

Panel C: Within cities with large and small black population

	City Sample			*MSA Sample*			
	Employment	Labor Force Participation	Unemployment Rate	Employment	Labor Force Participation	Unemployment Rate	Average Weeks Worked
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Black Mayor (t-1) * Black Outcome (β_1)	**3.041**	**2.153**	**-2.147**	**2.652**	**1.179**	**-2.407**	**1.219**
	(0.707)* **	**(0.764)*** **	**(0.597)*** **	**(0.758)*** **	**(0.658)***	**(0.729)*** **	**(0.368)*** **
	[0.953]* **	**[1.311]**	**[1.260]**	**[0.935]*** **	**[0.700]**	**[1.067]** **	**[0.471]** **
Black Mayor (t-1) * White Outcome (β_2)	-0.477	-0.488	0.086	-0.632	-0.773	-0.122	-0.425
	(0.565)	(0.574)	(0.343)	(0.342)*	(0.295)***	(0.233)	(0.180)**
	[0.586]	[0.563]	[0.693]	[0.497]	[0.360]**	[0.409]	[0.310]
Number of Cities or MSAs	17	17	17	33	33	33	33
Observations	578	578	578	1184	1184	1184	1080
R-squared	0.91	0.86	0.88	0.86	0.8	0.74	0.86
Black Mayor (t-1) * Black Outcome	**3.518**	**2.641**	**-2.234**	**3.284**	**1.952**	**-2.285**	**1.644**
minus	**(0.905)*** **	**(0.956)*** **	**(0.689)*** **	**(0.831)*** **	**(0.721)*** **	**(0.766)*** **	**(0.410)*** **
Black Mayor (t-1) * White Outcome	**[1.128]*** **	**[1.198]** **	**[0.807]** **	**[0.730]*** **	**[0.618]*** **	**[0.827]*** **	**[0.566]*** **

Table 2 (continued)

Panel D: Within cities with high, medium and low black income

	City Sample			*MSA Sample*			
	Employment	Labor Force Participation	Unemployment Rate	Employment	Labor Force Participation	Unemployment Rate	Average Weeks Worked
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Black Mayor (t-1) * Black Outcome (β_1)	**2.424**	**1.679**	**-1.803**	**2.284**	**0.506**	**-2.714**	**1.028**
	(0.764)* **	**(0.802)** **	**(0.741)** **	**(0.825)*** **	**(0.721)**	**(0.766)*** **	**(0.419)** **
	[1.162]*	**[1.581]**	**[1.495]**	**[1.188]***	**[0.779]**	**[1.377]***	**[0.568]***
Black Mayor (t-1) * White Outcome (β_2)	-0.613	-0.787	-0.148	-0.512	-0.765	-0.283	-0.208
	(0.595)	(0.643)	(0.426)	(0.375)	(0.319)**	(0.261)	(0.196)
	[0.620]	[0.676]	[1.022]	[0.579]	[0.445]*	[0.488]	[0.344]
Number of Cities or MSAs	17	17	17	33	33	33	33
Observations	578	578	578	1184	1184	1184	1080
R-squared	0.92	0.89	0.89	0.87	0.82	0.77	0.88
Black Mayor (t-1) * Black Outcome	**3.036**	**2.466**	**-1.655**	**2.797**	**1.271**	**-2.432**	**1.236**
minus	**(0.968)*** **	**(1.028)** **	**(0.855)***	**(0.906)*** **	**(0.789)**	**(0.809)*** **	**(0.462)*** **
Black Mayor (t-1) * White Outcome	**[1.1940]** **	**[1.207]***	**[0.785]***	**[0.854]*** **	**[0.593]** **	**[1.034]** **	**[0.590]** **

Table 2 (continued)

Panel E: Within cities with high and low black employment

	City Sample			*MSA Sample*			
	Employment	Labor Force Participation	Unemployment Rate	Employment	Labor Force Participation	Unemployment Rate	Average Weeks Worked
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Black Mayor (t-1) * Black Outcome (β_1)	**2.969**	**1.813**	**-2.513**	**3.303**	**1.789**	**-2.626**	**1.517**
	(0.745)* **	**(0.769)** **	**(0.593)*** **	**(0.751)*** **	**(0.675)*** **	**(0.718)*** **	**(0.380)*** **
	[0.884]* **	**[1.065]**	**[1.107]** **	**[0.961]*** **	**[0.841]** **	**[0.962]** **	**[0.436]*** **
Black Mayor (t-1) * White Outcome (β_2)	-0.201	-0.295	-0.111	-0.275	-0.535	-0.293	-0.187
	(0.599)	(0.607)	(0.314)	(0.359)	(0.311)*	(0.231)	(0.194)
	[0.654]	[0.639]	[0.496]	[0.480]	[0.381]	[0.354]	[0.332]
Number of Cities or MSAs	17	17	17	33	33	33	33
Observations	578	578	578	1184	1184	1184	1080
R-squared	0.91	0.87	0.88	0.86	0.8	0.74	0.86
Black Mayor (t-1) * Black Outcome	**3.169**	**2.108**	**-2.402**	**3.578**	**2.324**	**-2.333**	**1.705**
minus	**(0.956)*** **	**(0.979)** **	**(0.671)*** **	**(0.833)*** **	**(0.743)*** **	**(0.754)*** **	**(0.427)*** **
Black Mayor (t-1) * White Outcome	**[0.965]*** **	**[1.011]***	**[0.750]*** **	**[0.778]*** **	**[0.824]*** **	**[0.764]*** **	**[0.553]*** **

Notes: The regressions pool observations for black and white employment outcomes. All the regressions control for city or MSA fixed effects and city or MSA specific time trends interacted with black and white outcome indicators. In addition, the regressions control for year fixed effects interacted with race in Panel A; with race and dummies for four Census regions in Panel B; with race and dummies for cities with large and small black population in Panel C; with race and dummies for cities with high, medium and low black income in Panel D; with race and dummies for cities with high and low black employment in Panel E. For all Panels, the data sources and the definitions of employment variables are the same as in Table 1. Robust standard errors and standard errors clustered at the city or MSA level are in parentheses and square brackets respectively. *** denotes significance at the 1% level, ** at the 5% level, * at the 10% level.

Table 3: Black mayors and employment of blacks and whites in private and government sectors

	Employment in Government		Employment in Private Sector		Employment in Federal and State Government		Employment in Local Government	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Black Mayor (t-1) * Black Outcome (β_1)	**0.779**	**0.592**	**1.569**	**1.826**	**0.354**	**0.338**	**0.388**	**0.326**
	(0.261)* **	**(0.286)** **	**(0.649)** **	**(0.736)** **	**(0.177)** **	**(0.182)***	**(0.144)*** **	**(0.164)** **
	[0.291] **	**[0.423]**	**[0.914]***	**[0.884]** **	**[0.245]**	**[0.202]**	**[0.178]** **	**[0.217]**
Black Mayor (t-1) * White Outcome (β_2)	0.212	0.045	0.370	-0.560	0.176	0.146	-0.007	-0.114
	(0.135)	(0.134)	(0.351)	(0.351)	(0.101)*	(0.096)	(0.070)	(0.074)
	[0.195]	[0.113]	[0.694]	[0.509]	[0.213]	[0.106]	[0.106]	[0.085]
MSA specific time trends	NO	YES	NO	YES	NO	YES	NO	YES
Number of MSAs	33	33	33	33	33	33	33	33
Observations	1184	1184	1184	1184	1184	1184	1184	1184
R-squared	0.78	0.82	0.83	0.87	0.81	0.87	0.32	0.39
Black Mayor (t-1) * Black Outcome minus Black Mayor (t-1) * White Outcome	**0.567**	**0.548**	**1.199**	**2.385**	**0.179**	**0.192**	**0.395**	**0.440**
	(0.294)*	**(0.316)***	**(0.738)**	**(0.815)*** **	**(0.204)**	**(0.205)**	**(0.160)** **	**(0.180)** **
	[0.221] **	**[0.422]**	**[0.792]**	**[0.686]*** **	**[0.175]**	**[0.242]**	**[0.181]** **	**[0.254]***

Notes: The regressions pool observations for black and white employment outcomes. All the regressions control for MSA and year fixed effects interacted with black and white outcome indicators. Employment data are from the IPUMS-CPS and are for people between ages 16 and 64. Dependent variables measure the number of blacks or whites employed in a particular sector as a percent of black or white population of this age group. Robust standard errors and standard errors clustered at the MSA level are in parentheses and square brackets respectively. *** denotes significance at the 1% level, ** at the 5% level, * at the 10% level.

Table 4: Black mayors and income of blacks and whites

	Log of Average Wage Income		Log of Average Total Income	
	(1)	(2)	(3)	(4)
Black Mayor (t-1) * Black Outcome (β_1)	**0.042**	**0.059**	**0.035**	**0.050**
	(0.017)**	**(0.019)*****	**(0.015)****	**(0.016)*****
	[0.025]	**[0.022]****	**[0.024]**	**[0.020]****
Black Mayor (t-1) * White Outcome (β_2)	0.016	-0.007	0.022	-0.003
	(0.010)*	(0.009)	(0.009)**	(0.008)
	[0.023]	[0.013]	[0.022]	[0.010]
MSA specific time trends	NO	YES	NO	YES
Number of MSAs	33	33	33	33
Observations	1184	1184	1184	1184
R-squared	0.89	0.91	0.91	0.93
Black Mayor (t-1) * Black Outcome	**0.026**	**0.066**	**0.013**	**0.053**
minus	**(0.019)**	**(0.021)*****	**(0.017)**	**(0.018)*****
Black Mayor (t-1) * White Outcome	**[0.034]**	**[0.023]*****	**[0.033]**	**[0.021]****

Notes: The regressions pool observations for black and white income. All the regressions control for MSA and year fixed effects interacted with black and white outcome indicators. Income data are from the IPUMS-CPS and are for people between ages 16 to 64. Robust standard errors and standard errors clustered at the MSA level are in parentheses and square brackets respectively. *** denotes significance at the 1% level, ** at the 5% level, * at the 10% level.

Table 5: Black mayors, employment outcomes and income of blacks and whites - controlling for changing attitudes towards blacks

	City Sample			*MSA Sample*					
	Employment	Labor Force Participation	Unemployment Rate	Employment	Labor Force Participation	Unemployment Rate	Average Weeks Worked	Log of Average Wage Income	Log of Average Total Income
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Black Mayor (t-1) * Black Outcome (β_1)	**2.654**	**1.718**	**-2.137**	**2.688**	**1.194**	**-2.421**	**1.196**	**0.062**	**0.053**
	(0.687)* **	**(0.733)** **	**(0.612)*** **	**(0.745)*** **	**(0.642)***	**(0.745)*** **	**(0.371)*** **	**(0.020)*** **	**(0.017)*** **
	[0.927] **	**[1.214]**	**[1.314]**	**[0.990]** **	**[0.685]***	**[1.164]** **	**[0.458]** **	**[0.024]** **	**[0.020]** **
Black Mayor (t-1) * White Outcome (β_2)	**-0.436**	**-0.485**	**0.001**	**-0.539**	**-0.719**	**-0.185**	**-0.308**	**-0.009**	**-0.005**
	(0.561)	**(0.568)**	**(0.328)**	**(0.365)**	**(0.310)** **	**(0.239)**	**(0.184)***	**(0.010)**	**(0.008)**
	[0.635]	**[0.621]**	**[0.649]**	**[0.527]**	**[0.397]***	**[0.383]**	**[0.331]**	**[0.013]**	**[0.011]**
Whites Favoring Laws Against Black-White Marriages (t-1) * Black Outcome	-8.459	-15.279	-7.763	1.569	-3.613	-7.461	1.006	0.243	0.179
	(5.821)	(5.722)***	(5.371)	(5.685)	(4.954)	(5.160)	(2.718)	(0.134)*	(0.113)
	[9.793]	[9.635]	[6.849]	[7.772]	[5.834]	[8.044]	[2.884]	[0.190]	[0.154]
Whites Favoring Laws Against Black-White Marriages (t-1) * White Outcome	5.675	3.102	-3.716	5.331	3.961	-1.891	1.684	0.025	0.040
	(4.198)	(4.308)	(2.712)	(2.449)**	(1.997)**	(1.890)	(1.255)	(0.070)	(0.071)
	[4.408]	[5.185]	[4.241]	[3.383]	[2.470]	[2.773]	[1.297]	[0.092]	[0.085]
Number of Cities or MSAs	17	17	17	32	32	32	33	33	33
Observations	578	578	578	1130	1130	1130	1080	1152	1152
R-squared	0.9	0.85	0.87	0.85	0.79	0.72	0.86	0.91	0.93
Black Mayor (t-1) * Black Outcome minus Black Mayor (t-1) * White Outcome	**3.089**	**2.203**	**-2.138**	**3.227**	**1.913**	**-2.236**	**1.504**	**0.071**	**0.058**
	(0.887)* **	**(0.927)** **	**(0.694)*** **	**(0.830)*** **	**(0.712)*** **	**(0.782)*** **	**(0.414)*** **	**(0.022)*** **	**(0.019)*** **
	[1.014]* **	**[1.121]***	**[0.836]** **	**[0.690]*** **	**[0.582]*** **	**[0.918]** **	**[0.513]*** **	**[0.023]*** **	**[0.020]*** **

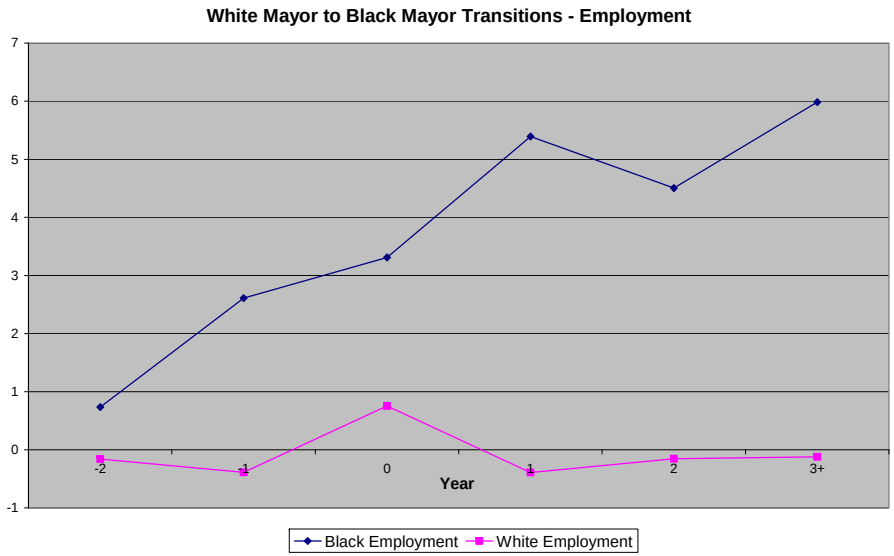
Notes: The regressions pool observations for black and white outcomes. All the regressions control for city or MSA fixed effects, year fixed effects and city or MSA specific time trends, all interacted with black and white outcome indicators. Employment data for the city sample are from the BLS publication *Geographic Profile of Employment and Unemployment* and are for people above age 16. Employment and income data for the MSA sample are from the IPUMS-CPS and are for people between ages 16 and 64. Employment and labor force participation variables are defined as a percent of black or white population of these age groups. Robust standard errors and standard errors clustered at the city or MSA level are in parentheses and square brackets respectively. *** denotes significance at the 1% level, ** at the 5% level, * at the 10% level.

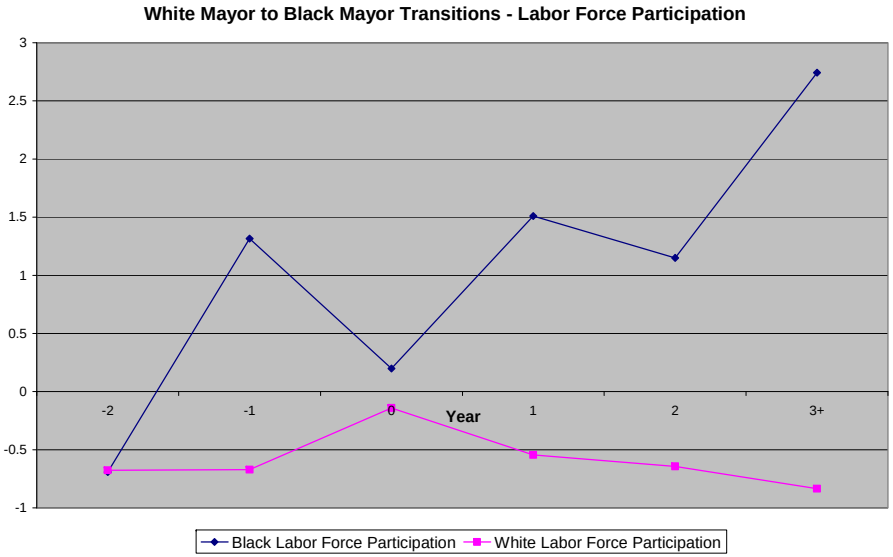
Table 6: Black mayors, employment outcomes and income of blacks and whites - regression discontinuity analysis

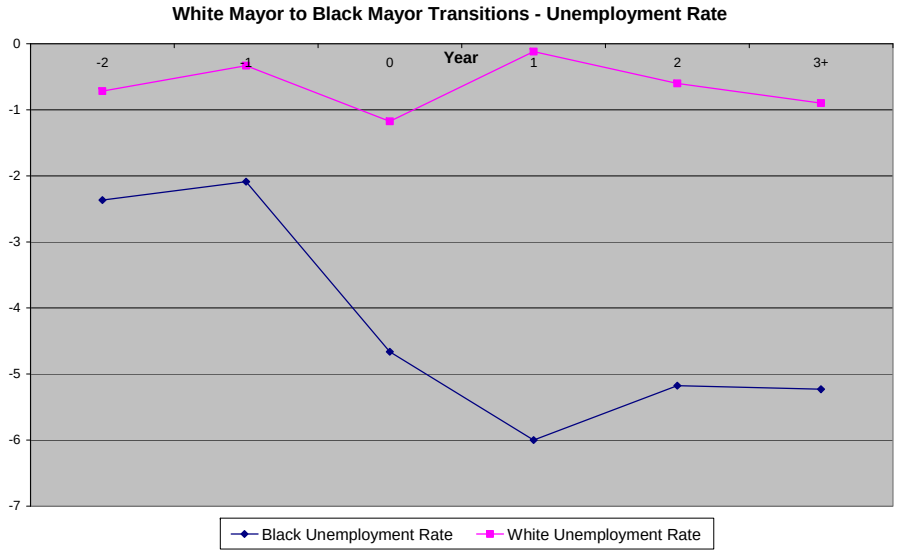
	City Sample			*MSA Sample*					
	Employment	Labor Force Participation	Unemployment Rate	Employment	Labor Force Participation	Unemployment Rate	Average Weeks Worked	Log of Average Wage Income	Log of Average Total Income
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Black Mayor (t-1) * Black Outcome (β_1)	**3.147**	**1.643**	**-2.758**	**4.089**	**3.642**	**-1.343**	**0.862**	**0.086**	**0.080**
	(1.295)**	**(1.115)**	**(1.517)***	**(1.608)****	**(1.338)*****	**(1.834)**	**(0.916)**	**(0.050)***	**(0.040)****
	[1.156]**	**[1.112]**	**[1.773]**	**[1.509]****	**[1.041]*****	**[2.195]**	**[1.664]**	**[0.078]**	**[0.063]**
Black Mayor (t-1) * White Outcome (β_2)	0.132	-0.053	-0.313	0.188	-0.323	-0.627	-0.331	-0.008	-0.006
	(1.327)	(1.336)	(0.566)	(0.834)	(0.715)	(0.594)	(0.493)	(0.021)	(0.021)
	[1.796]	[1.718]	[0.670]	[0.721]	[0.740]	[0.600]	[0.513]	[0.017]	[0.016]
Number of Cities or MSAs	17	17	17	31	31	31	30	30	30
Observations	546	546	546	1024	1024	1024	926	998	998
R-squared	0.91	0.86	0.88	0.88	0.84	0.73	0.88	0.92	0.94
Black Mayor (t-1) * Black Outcome	**3.015**	**1.696**	**-2.446**	**3.901**	**3.966**	**-0.716**	**1.193**	**0.093**	**0.085**
minus	**(1.854)**	**(1.740)**	**(1.619)**	**(1.811)****	**(1.517)*****	**(1.928)**	**(1.040)**	**(0.054)***	**(0.045)***
Black Mayor (t-1) * White Outcome	**[1.659]***	**[2.403]**	**[1.721]**	**[1.378]*****	**[0.952]*****	**[1.822]**	**[1.827]**	**[0.085]**	**[0.072]**

Notes: The regressions pool observations for black and white outcomes. All the regressions control for city or MSA fixed effects, year fixed effects and city or MSA specific time trends, all interacted indicators for black and white outcomes. In addition, all the regressions control for a cubic polynomial of the *Black Margin of Victory* interacted with indicators for black and white electoral victory, and indicators for black and white outcomes. Employment data for the city sample are from the BLS publication *Geographic Profile of Employment and Unemployment* and are for people above age 16. Employment and income data for the MSA sample are from the IPUMS-CPS and are for people between ages 16 and 64. Employment and labor force participation variables are defined as a percent of black or white population of these age groups. Robust standard errors and standard errors clustered at the city or MSA level are in parentheses and square brackets respectively. *** denotes significance at the 1% level, ** at the 5% level, * at the 10% level.

Figure 1: Dynamics of the white mayor to black mayor transitions – MSA sample.







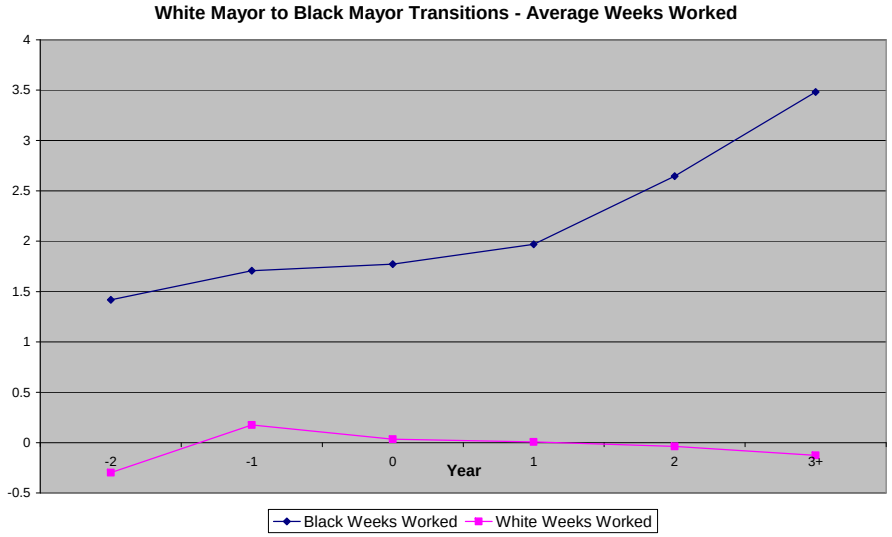
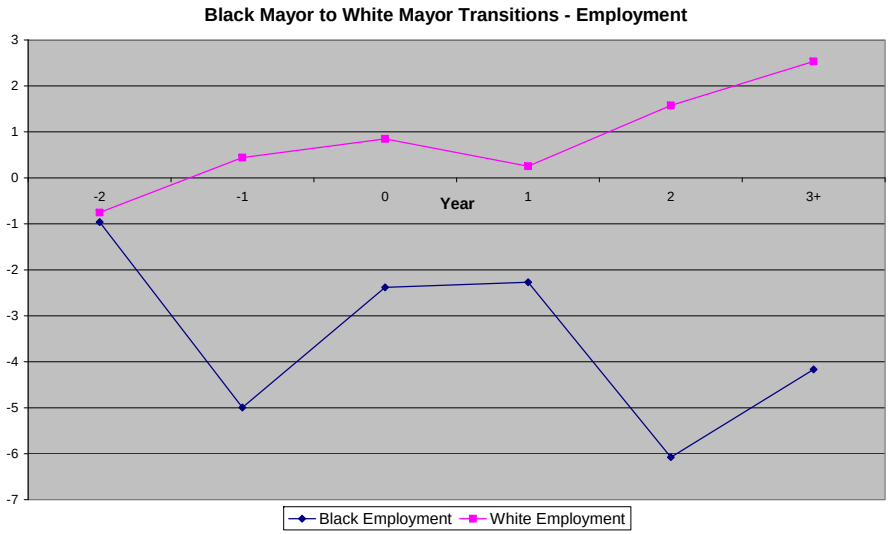
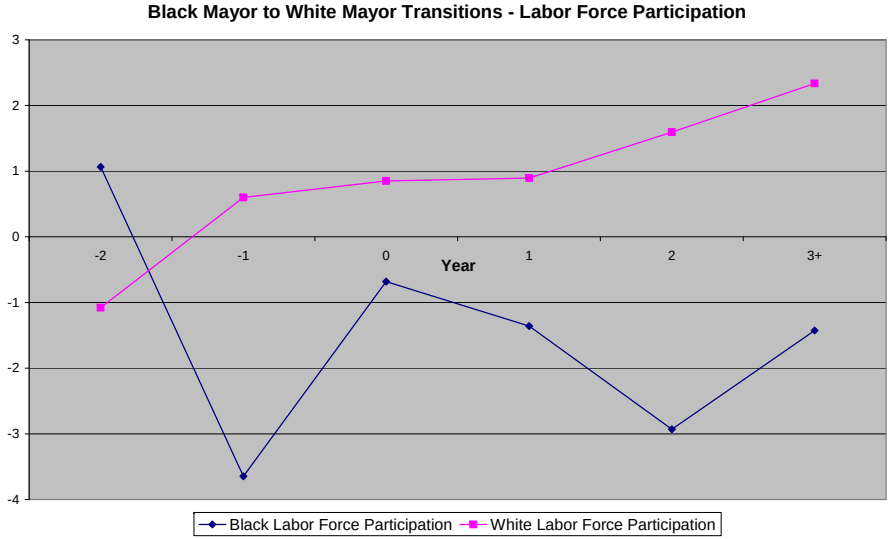
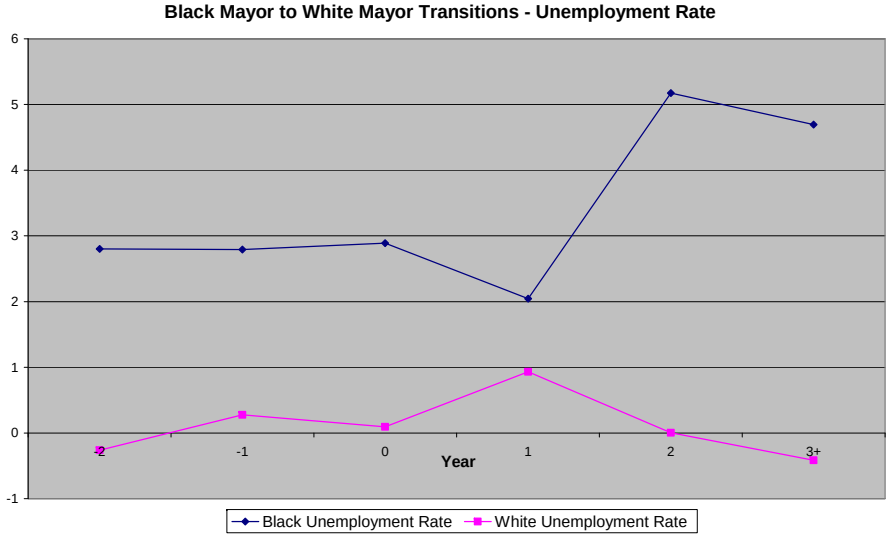


Figure 2: Dynamics of the black mayor to white mayor transitions – MSA sample.







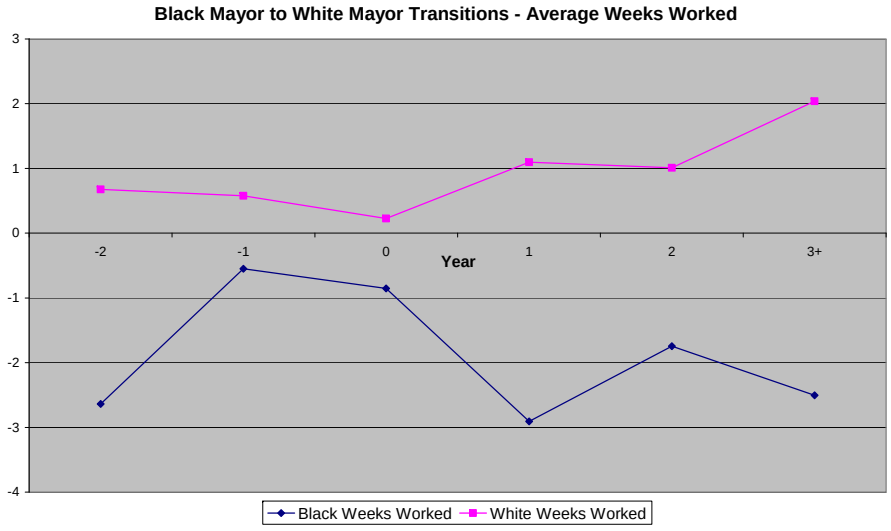
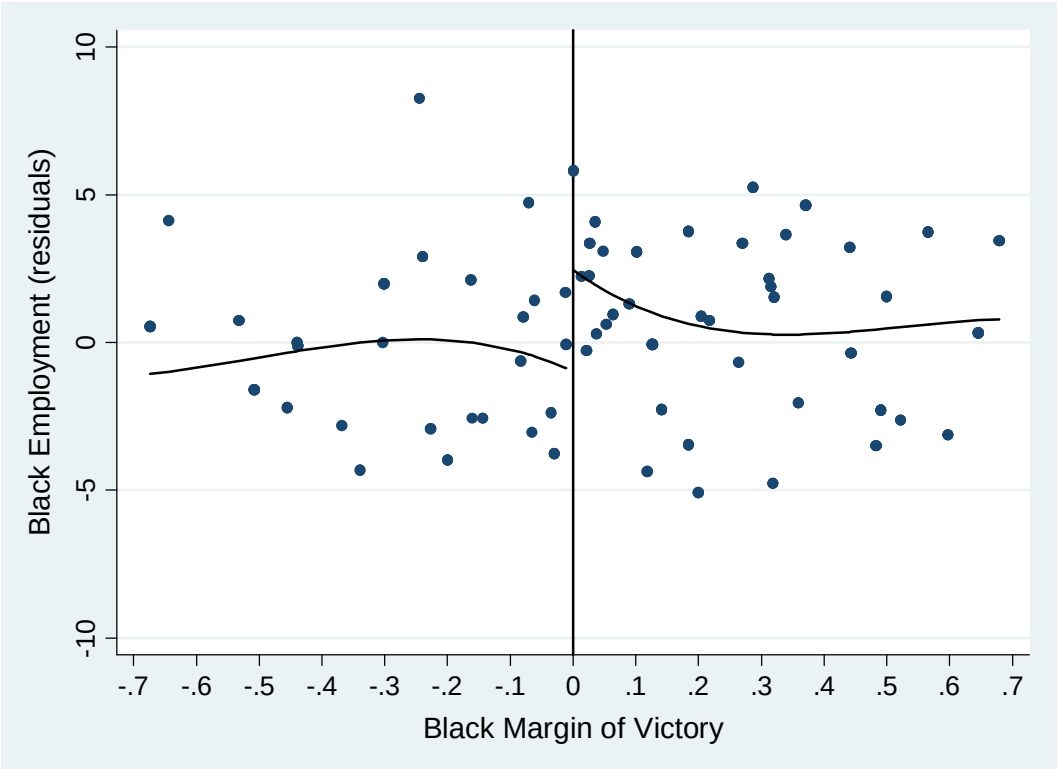
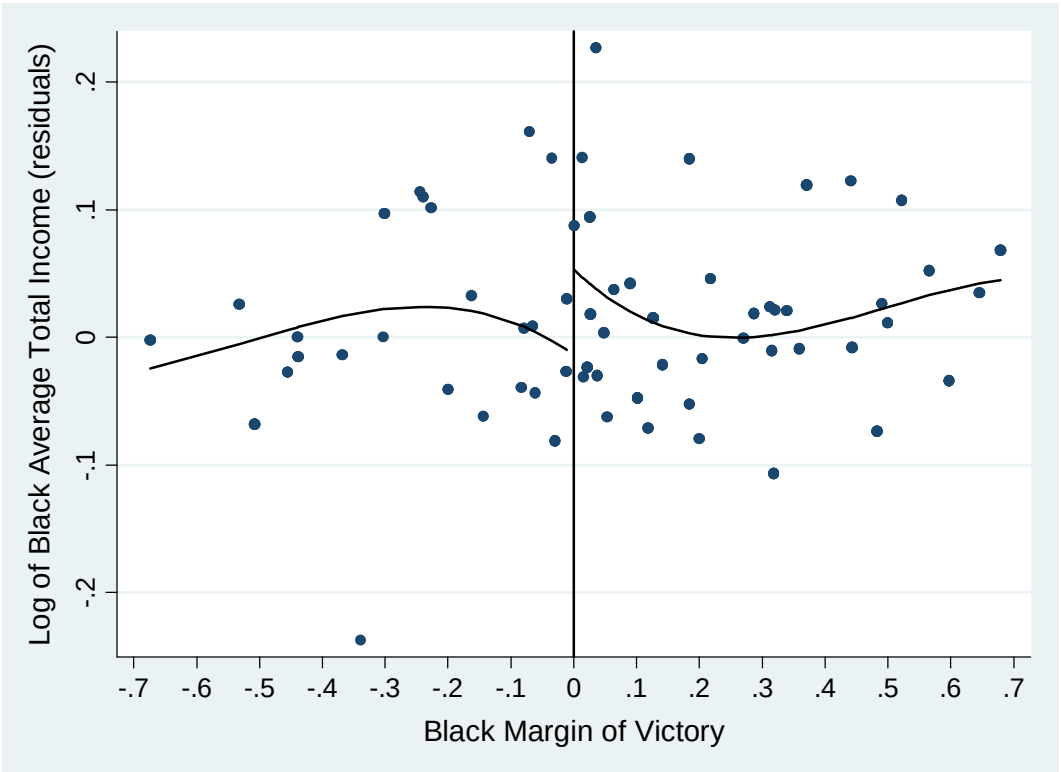


Figure 3: Black employment and total income by black margin of victory in the preceding election: local averages and polynomial fit of residuals from MSA sample.





Appendix

Table A1: Cities and MSAs used in the analysis

City Sample (BLS Publication)						*MSA Sample (IPUMS-CPS)*					
	Observations			Mayors			Observations			Mayors	
City	**First**	**Last**	**All**	**BL**	**WH**	**MSA**	**First**	**Last**	**All**	**BL**	**WH**
Baltimore	1981	2003	23	Yes	Yes	Atlanta	1973	2004	32	Yes	Yes
Chicago	1981	2003	23	Yes	Yes	Baltimore	1973	2004	32	Yes	Yes
Cleveland	1981	2003	23	Yes	Yes	Boston	1979	2004	20	No	Yes
Dallas	1981	2003	23	Yes	Yes	Charlotte	1986	2004	19	Yes	Yes
Detroit	1981	2003	23	Yes	No	Chicago	1973	2004	32	Yes	Yes
Houston	1981	2003	23	Yes	Yes	Cincinnati	1974	2002	11	Yes	Yes
Indianapolis	1986	2003	16	No	Yes	Cleveland	1973	2004	32	Yes	Yes
Los Angeles	1986	2003	18	Yes	Yes	Columbus	1986	2004	8	Yes	Yes
Milwaukee	1983	2003	21	No	Yes	Dallas	1973	2004	32	Yes	Yes
New York	1981	2003	23	Yes	Yes	Denver	2003	2004	2	Yes	Yes
Philadelphia	1981	2003	23	Yes	Yes	Detroit	1973	2004	32	Yes	Yes
Phoenix	1997	2003	3	No	Yes	Fort Worth	1992	2004	3	No	Yes
Saint Louis	1981	2003	20	Yes	Yes	Houston	1973	2004	32	Yes	Yes
San Antonio	1998	1998	1	No	Yes	Indianapolis	2002	2004	3	No	Yes
San Diego	1995	1995	1	No	Yes	Jacksonville	1986	2004	8	No	Yes
San Francisco	1987	2003	2	Yes	Yes	Kansas City	1973	2004	10	No	Yes
Washington	1981	2003	23	Yes	No	Las Vegas	1988	2004	4	No	Yes
						Los Angeles	1973	2004	32	Yes	Yes
						Memphis	1986	2004	17	Yes	Yes
						Miami	1973	2004	32	No	Yes
						Milwaukee	2002	2004	3	No	Yes
						Minneapolis	2004	2004	1	No	Yes
						New Orleans	1973	2004	31	Yes	Yes
						New York	1973	2004	32	Yes	Yes
						Oakland	2002	2003	2	No	Yes
						Omaha	2003	2003	1	No	Yes
						Philadelphia	1973	2004	32	Yes	Yes
						Pittsburgh	1985	1985	1	No	Yes
						Saint Louis	1973	2004	23	Yes	Yes
						San Francisco	1973	1985	13	No	Yes
						Tampa	1986	2003	8	No	Yes
						Virginia Beach	1981	2004	20	No	Yes
						Washington	1973	2004	32	Yes	No

Notes: In the MSA sample, black and white mayors refer to mayors of the MSA's largest city.

Table A2: Summary statistics

City Sample (BLS Publication, 1981-2003)	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
Dependent variables					
Black Employment	289	51.480	7.564	35.4	73.2
Black Labor Force Participation	289	60.042	7.006	44.6	81.2
Black Unemployment Rate	289	14.431	5.422	4.1	33.7
White Employment	289	60.519	8.746	39	78.5
White Labor Force Participation	289	64.439	8.207	43.6	80.5
White Unemployment Rate	289	6.269	2.772	1.7	16.2
Independent variable					
Black Mayor (t-1)	289	0.412	0.488	0	1
MSA Sample (IPUMS-CPS, 1973-2004)					
Dependent variables					
Black Employment	592	60.966	8.618	33.352	84.629
Black Labor Force Participation	592	69.387	7.310	51.138	92.338
Black Unemployment Rate	592	12.320	6.186	1.232	43.409
Black Average Weeks Worked	540	30.857	4.181	20.354	42.325
Black Employment in Government Sector	592	5.550	3.686	0	27.111
Black Employment in Private Sector	592	54.992	8.256	29.249	82.725
Black Employment in Federal and State Gov	592	2.639	2.924	0	19.255
Black Employment in Local Government	592	1.719	1.308	0	6.912
White Employment	592	72.320	5.332	58.402	86.315
White Labor Force Participation	592	76.080	4.630	64.190	87.825
White Unemployment Rate	592	4.998	2.294	0	16.135
White Average Weeks Worked	540	36.425	2.602	29.512	43.155
White Employment in Government Sector	592	3.832	2.854	0.508	17.581
White Employment in Private Sector	592	67.850	5.663	51.289	81.02
White Employment in Federal and State Gov	592	2.006	2.499	0	16.437
White Employment in Local Government	592	1.421	0.714	0	5.986
Independent variable					
Black Mayor (t-1)	592	0.380	0.482	0	1
MSA Sample (IPUMS-CPS, 1972-2003)					
Dependent variables					
Log of Black Average Wage Income	592	9.128	0.208	8.534	9.728
Log of Black Average Total Income	592	9.283	0.191	8.718	9.842
Log of White Average Wage Income	592	9.588	0.176	9.115	10.203
Log of White Average Total Income	592	9.753	0.168	9.274	10.358
Independent variable					
Black Mayor (t-1)	592	0.374	0.480	0	1

Notes: Employment data from the BLS publication are for people above age 16. Employment and income data from the IPUMS-CPS are for people between ages 16 and 64. Black (white) employment and labor force participation variables are defined as a percent of black (white) population of these age groups.