

The Impact of City Contracting Set-Asides on Black Self-Employment and Employment*

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ABSTRACT

Many U.S. cities initiated programs in the 1980s which reserved a fixed proportion of local government contracts for minority-owned businesses. Utilizing a novel dataset of program implementation dates, the staggered introduction of these set-aside programs across cities is used to estimate their impact on the self-employment and employment rates of black men. Black self-employed business ownership rates increase significantly after program initiation, with the black-white gap falling three percentage points within five years. The racial gap in the employment-to-population ratio also falls following the implementation of set-aside programs. Consistent with large program effects, we find that the gains in black self-employment and employment were driven by targeted industries such as construction. There is also no evidence of a pre-existing trend in self-employment in the targeted industries or of post-program gains in industries that were not targeted. In aggregate, the programs redistributed self-employment and employment from whites to blacks, with little change in cities' total male self-employment and employment rates. These results offer some of the first robust empirical evidence on the impact of affirmative action in contracting and provide several useful insights into policies that seek to promote entrepreneurship.

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I. Introduction

Since the early 1970s, tens of billions of dollars have been spent on programs that set aside government contracts for minority-owned firms and subcontractors. This figure is an order of magnitude larger than the total amount spent by the federal government on enforcement of statutes legislating antidiscrimination and affirmative action in employment – e.g., Title VII of the 1964 Civil Rights Act and Executive Order 11246.¹ In particular, the 1980s witnessed substantial growth in the value of *city* government contracts reserved for minority-owned business. The stated purpose of these set-aside programs was to develop minority enterprise, counter the effects of past discrimination, and reduce the high unemployment rates among urban minorities during the 1980s.

Over the last two decades, however, the city programs established in the 1980s have been both judicially and legislatively challenged and dismantled. The *City of Richmond v Croson Co.* Supreme Court decision in January 1989 invalidated the use of such programs unless they were used as narrowly tailored remedies for identified discrimination. The 1995 *Adarand Constructors, Inc. v Peña* Supreme Court decision and state referendums passed in California (1996), Washington (1998) and other states further brought into question the future of government-sponsored set-asides.

Given the controversy over these affirmative action programs, it is perhaps surprising that little is known about the actual effects of the original programs. In this study, we evaluate the impact of the programs passed in large cities during the 1980s on the self-employment and employment rates of black men. Black self-employment is a natural outcome of interest since self-employed business ownership has historically been a route of economic advancement for disadvantaged groups. Indeed, scholars have

¹ For example, in fiscal year 2001, the Equal Employment Opportunity Commission (EEOC) obtained \$247.8 million for charges filed and resolved under all statutes enforced by the EEOC (Title VII, ADA, ADEA, and EPA); while the Office of Federal Contract Compliance Programs (OFCCP) – charged with enforcing Executive Order 11246, Section 503 of the 1973 Rehabilitation Act, and the 1974 Vietnam Era Veterans' Readjustment Assistance Act – obtained 29.0 million in financial remedies. By contrast, procurement of city government contracts to minority-owned firms located in Washington D.C. alone was \$170 million in 1985.

argued that promoting black-owned businesses may have implications for wealth accumulation, economic advancement and job creation among African-Americans (Boston 1999, 2006; and Bradford 2003).

Using comprehensive Current Population Survey data from 1979-1989, we first document the evolution of black self-employment rates during the 1980s. A striking empirical regularity emerges from the analysis. We find that self-employment rates for black men rose substantially in the mid-1980s in cities in which set-aside programs were implemented concurrently. On the other hand, the self-employment rates of white men were stable in these same cities during this period. Next, we utilize the staggered timing of set-aside programs across U.S. cities during this period to estimate their impact on black self-employment rates. To test for endogeneity bias induced by the potential nonrandom location and timing of these programs we use an “event study” methodology, based on the exact dates of program implementation, to examine trends in black self-employment rates before program implementation. We also contrast these trends with the self-employment rates of white men before and after program implementation.

Remarkably, there is little consensus in the literature on the exact dates that city programs were implemented. To address this limitation, we provide a new compilation of implementation date information from four sources. In addition to using two existing sources, we collect information from an extensive search of federal and state court cases, and numerous personal interviews with program officials, which have not been previously done. This unique dataset allows us to investigate the impact of set aside programs much more comprehensively than prior studies. The results suggest large increases in black self-employed business ownership rates immediately after program initiation, with the black-white self-employment gap narrowing three percentage points in the first five years of the programs. There is no evidence of a pre-existing trend in black self-employment or of post-program gains in industries that did not benefit from the programs. We also find a reduction in the black-white gap in the employment-to-population ratio after program implementation. While there is evidence of increased employment among younger, less-educated black men – a primary target of the programs – there are also decisive gains for their older, more-educated counterparts. In aggregate, the programs led to a redistribution of self-

employment and employment from white to black men, with little change in total male employment rates in the targeted cities. Our paper is the first to examine the aggregate impact of these set aside programs on self-employment and employment.

The paper is organized as follows. In the next section, we describe the city set aside programs in greater detail and discuss the few previous studies exploring the impact of these programs. Section III describes how we collected the data on set-aside programs. Section IV presents our empirical approach. In Section V, we discuss the CPS data and document trends in black self-employment and employment over the 1980s. In Section VI, we present the empirical results. Section VII concludes.

II. City Set-Aside Programs

Background

The purpose of minority business set-aside programs is to develop minority enterprise, counter the effects of past discrimination, and reduce unemployment among minorities in urban communities. These programs originated from government policies that attempted to strengthen the viability of small businesses. Initially, set-asides were focused on economically disadvantaged entrepreneurs with the goal of increasing the number of minority-owned firms during the late 1960s and early 1970s. During the next fifteen years, however, set-asides were increasingly targeted to businesses that had greater future growth potential (Bates 1985).

In general, there are two types of set-aside programs. In one variant, a specified percentage of the number or total dollar value of government contracts is allotted to minority-owned businesses. In the other type, prime contractors are required to allot a specified percentage of the total amount of government contracts to minority-owned subcontractors and/or suppliers (Rice 1991 and Myers 1997).² The percentage goals vary across programs and sometimes within programs for different purchases, such as construction contracts, procurement of goods and services, and professional services. Data on local

² The constitutionality of this type of set-aside was challenged in the 1995 *Adarand v. Peña* Supreme Court case.

set-aside programs listed in MBELDEF (1988) indicate that these goals range from 1 to 50 percent, with most programs having goals of 5 to 15 percent. A large proportion of the program coverage appears to be targeted towards the construction sector (MBELDEF 1988). Set-aside programs are also often complemented with procurement officials who aid minority-owned businesses in obtaining assistance (Bates and Williams 1993). During the 1980s, set asides were available to both incorporated and unincorporated businesses.

Set-aside programs exist at the federal, state, city, county, and special district (e.g. airport, water, sanitary, park, and school) level. A well-known program at the federal level is the Small Business Administration's (SBA) 8(a) program, established in 1968 as an amendment to section 8 of the Small Business Administration Act of 1953. In this program, the SBA serves as the prime contractor for goods and services to various federal agencies and then provides subcontracts to firms that are owned by individuals who are socially and economically disadvantaged.³ These SBA 8(a) contracts totaled \$2.3 billion in 1983 (Bates 1985). Another important federal program is the 1977 Public Works Employment Act, which required that 10 percent of all federal public works contracts be given to minority-owned businesses. This program earmarked \$400 million of local public works to minority-owned firms (Bates 1985). The constitutionality of this program was soon challenged leading to the U.S. Supreme Court's ruling in *Fullilove v. Klutznick*, which upheld the federal government's use of these programs. *Fullilove v. Klutznick* sparked the creation of set-aside provisions among other federal agencies, and state and local governments. Minority business set-asides were mandated for federal transportation and highway construction, national defense, NASA contracts, international development grants, and for the development, construction and operation of the super collider (Myers 1997). The federal government reported \$4.4 billion in contract awards to minority and disadvantaged firms in FY 1986 (Rice 1991).⁴

³ The SBA considers blacks, Hispanics, Native Americans, and Asian Pacific Americans as socially disadvantaged. In 1978, 96 percent of 8(a) firms were owned by minorities (Bates, 1985).

⁴ Of the total, three billion dollars in contract awards were through the 8(a) set-aside program (Rice 1991).

Most states also created set-aside programs for minority-owned businesses.⁵ This was a direct response to requirements that state departments of transportation administering federal highway grants and contracts oversee implementation of the federal set-aside provisions (Myers 1997). Another response to the *Fullilove v. Klutznick* ruling was the creation of minority business set-aside programs by more than 200 local governments (Myers 1997). Most of these programs were created in the early to mid-1980s (MBELDEF 1988), and many of them, especially in large central cities, were quite substantial (Bates 1985). For example, minority- and white female-owned businesses received \$191 million between 1979 and 1989 through Atlanta's set-aside program (Boston 1999).⁶

Potential Effects of Programs

What are the potential effects of these programs? Set-aside programs may play an important role in alleviating several constraints that restrict the optimal level of black business ownership, performance and employment. The classic argument supporting affirmative action contracting programs is that they are necessary to combat discrimination against black firms. More specifically, set-aside programs may counteract the alleged effects of consumer discrimination against black-owned businesses (see Borjas and Bronars 1989, Meyer 1990 and Kawaguchi 2004) and may alleviate constraints in penetrating networks, such as those documented in construction (see Bates 1993, Feagin and Imani 1994, Bates and Howell 1997 for example). Furthermore, potential suppliers, prime contractors, bonding firms and governments may discriminate against blacks creating barriers to business entry and growth.

Set-aside programs may also play a role in alleviating the well-documented liquidity constraints facing black-owned businesses.⁷ Blacks have substantially lower levels of wealth than whites. The median level of net worth for black households is only \$5,500, which is fourteen times lower than the

⁵ Rice (1991) reports that 36 states had set-aside programs in place by the late 1980s. To provide an example of the size of these programs, Myers and Chan (1996) report that the state of New Jersey awarded \$93 million (or 3.2 percent of the total amount awarded) of public procurement and construction prime contracts to minority-owned firms in 1988.

⁶ Procurement in Washington, D.C. to minority-owned firms was \$170 million in 1985 (Rice, 1991).

median level of net worth for white households (U.S. Census Bureau 2008). Indeed, previous research indicates that these low levels of black wealth are associated with lower levels of business ownership among blacks, and less startup capital and worse outcomes among black-owned businesses (Fairlie 1999, Bates 1997, Fairlie and Robb 2008, Bates and Lofstrom 2008).⁸ Hamilton (1999) finds that even among the top quartile of the self-employed, the gap in self employment earnings between white and black entrepreneurs is substantial. Recent evidence also indicates that black-owned businesses experience higher loan denial probabilities and pay higher interest rates than white-owned businesses even after controlling for differences in size and credit history (Blanchflower, Levine and Zimmerman 2004; Cavalluzzo, Cavalluzzo, and Wolken 2002). A comparable loan filed by a firm owned by blacks is twice as likely to be denied than if the application was filed by a white owner even after controlling for credit scores, wealth and many other relevant owner and firm characteristics. Finally, set aside programs may have an especially large effect on alleviating liquidity constraints in industries such as construction in which working capital is difficult to obtain and the posting of bonds is required (Blanchflower and Wainright 2005).

All of these constraints may result in a suboptimal level of black self-employment and resulting employment. Set-aside programs may alleviate some of these barriers to entry for black entrepreneurs allowing them to get a foot-hold. Minority government contracting programs may also circumvent some of the barriers to raising capital by providing a steady expected revenue source that allows black firms to expand. Thus, the creation of set-aside programs may result in more black-owned businesses, and in turn, employment. Indeed, prior research has concluded that black businesses hire a disproportionate share of black employees (U.S. Census Bureau 1997, Boston 1999, 2006).

⁷ See Parker (2004) for a review of the literature.

⁸ The extremely low levels of wealth among blacks may limit entrepreneurship because of the importance of personal and family equity invested in the business and the common use of personal assets for collateral for business liabilities and guarantees (Avery, Bostic and Samolyk 1998, U.S. Census Bureau 2006). Cavalluzzo and Wolken

Previous Literature

Minority business set-asides represent a multi-billion dollar annual governmental expenditure and have recently become very controversial both politically (e.g., Proposition 209 in California) and judicially (e.g., the 1995 *Adarand Constructors, Inc. v. Peña* Supreme Court decision). Given the controversy and amount spent through these programs, remarkably, little is known about their actual effectiveness in promoting growth in the number of minority-owned businesses and in alleviating unemployment among blacks in the inner city. In particular, only a handful of studies have attempted to analyze whether these programs have met their goals.

The first question is whether set-aside programs actually increased the number and/or total dollar amount of government contracts received by minority-owned businesses. In their study of federal and state transportation contracting, Blanchflower and Wainwright (2005) find that set aside programs increase the value of contracts awarded to minority owned businesses. When the programs are removed, minority business participation often drops precipitously. For example, in their analysis of a program that was discontinued in Minnesota, the authors find that contract awards to minority men fell from \$6.5 million to \$841,000 after the program was eliminated in 1999. When a Chicago Water Department program ended in the middle of the 1989, \$19.6 million had been awarded to minority businesses. In the 2nd half of the year, only \$6.9 million was awarded to minority owned firms in the absence of the program. Across numerous other U.S. cities, Blanchflower and Wainwright (2005) find that removal of set aside programs led to 80-99% declines in minority business participation.

Myers and Chan (1996) examine the award of public procurement and construction contracts to minority- and non-minority-owned firms before, during, and after the implementation of the state of New Jersey's set-aside program.⁹ They find that the total number of minority owned firms receiving contracts increased, as did the volume of contracts, but that the success rate of minority business bids was actually

(2005) find that personal wealth, primarily through home ownership, decreases the probability of loan denials among existing business owners.

⁹ New Jersey's set-aside program started in 1985 and was suspended in 1989 due to the *City of Richmond v. Croson*

lower after the set aside program was enacted. This pattern is likely due to an increase in the number of minority owned firms bidding for contracts.

Finally, Boston (1999) finds that minority participation dramatically increased in Atlanta following the enactment of set asides in 1975, growing from 0.13% in 1973 to over 38% in 1978. Further analysis indicates that minority owned firms received \$191 million in contracts during the 1980s in Atlanta, or about 15% of all contracts awarded in terms of value (Boston, 1999). Black owned firms in Atlanta also obtained business through subcontracts. Of the \$163 million in subcontracts awarded between 1992-1995, \$72 million went to black owned firms.

Additional evidence on the “first-stage” relationship between set-aside programs and contract awards is provided in a recent review of 58 disparity studies conducted in response to the *Richmond v. Croson* decision by the Urban Institute (Enchautegui, et al., 1996). Disparity is defined as the ratio of the percentage of total contract dollars awarded to minority-owned firms to the percentage of all available firms that are minority-owned. The study finds evidence of greater disparity in contract awards (i.e., lower disparity ratios) in jurisdictions without affirmative action programs, suggesting that such programs positively affect the amount of government contracts received by minority-owned firms.

The next natural question is whether set-aside programs have had an effect on the number of minority-owned firms. There is little evidence on this question. Boston (1998) uses published data from the Survey of Minority-Owned Business Enterprises (SMOBE) to examine the growth rate in the number of black-owned businesses in cities that implemented affirmative action programs in the 1980s relative to cities that did not. The data on which cities installed affirmative action programs and their dates come from MBELDEF (1988). He finds that the average growth rate from 1982 to 1992 was 65 percent in cities with programs and 61 percent in cities without programs, but that this difference is not statistically significant.

decision. The authors define the pre-, during, and post-periods as 1980-84, 1985-88, and 1989-90, respectively.

Bates and Williams (1993) find that from 1982 to 1987 the number of black firms and total sales by black businesses increased more in cities with black mayors than in cities without black mayors. Citing evidence from case studies suggesting that black mayors place a high priority on contracting with minority-owned businesses, Bates and Williams argue that the positive effect of black mayors on black business outcomes is partly due to their support of minority business set-aside programs. Bates and Williams (1995) explore whether the characteristics of preferential procurement programs have an effect on survival among minority-owned businesses. The authors and the Joint Center for Political and Economic Studies (JCPES) collected detailed profiles on minority-business set-aside programs in 28 large cities in the United States (JCPES 1994). The profiles include information on program dates, program assistance staffing, provision of capital assistance, bonding, downsizing of large procurement contracts, certification of minority business enterprises, penalties for violation of certification or program regulations, and treatment of brokers. They find higher survival rates among minority-owned businesses that derive 1-24 percent of their sales from state and local governments in cities with affirmative action programs that have a rigorous certification process, a staff assigned to assist minority firms, routinely waive bonding requirements or provide bonding, and/or provide working capital assistance to minority firms receiving contracts. Their results are less clear for minority firms that derive at least 25 percent of their sales from state and local governments.

We conclude that very little is known about whether set-aside programs have met the goal of increasing the number of minority-owned businesses. To fill this void in the literature, we examine whether the set-aside programs established in many of the largest U.S. cities during the 1980s had an impact on self-employment rates among black men relative to white men.¹⁰

¹⁰ We focus on city programs because state-level set-aside programs are much less substantive than city-level programs and that most county-level programs follow the city programs since targeted minorities generally live in central cities (based on personal communications with Thomas Boston and Timothy Bates).

III. Data on City-Level Set-Aside Programs

A major limitation for previous research on the impacts of set-aside programs has been finding accurate data on program implementation dates. Because the programs are administered by different cities there is no centralized source of information on their programs. Additionally, the focus of the programs and offices running them have changed substantially over time, especially due to Croson (1989), making it extremely difficult to determine when programs were created. We conduct an extensive analysis of information from several sources to create a novel dataset of city program implementation dates.

As mentioned above, the vast majority of city-level set-aside programs were implemented during the early and mid-1980s. Our data on the years in which these programs were enacted come from the two sources previously used in the literature and two new sources that have not been used. The first source is the 1988 Report on the Minority Business Enterprise Programs of State and Local Governments by the Minority Business Enterprise Legal Defense and Education Fund. This report was originally intended to represent a complete list of local affirmative action programs existing in the United States as of 1988, although this task proved to be very difficult.¹¹ The report contains information on program initiation dates, authority, coverage, and percentage goals for most programs. These data were previously used in Boston (1998).

A second source of data on program dates is a report to the U.S. Department of Commerce Minority Business Development Agency entitled, Assessment of Minority Business Development Programs, by the Joint Center for Political and Economic Studies (JCPES) in 1994. This report contains detailed profiles on minority-business set-aside programs in 28 large cities in the United States. For our analysis the most important information contained in the profiles is the program initiation dates, although the profiles contain much more information as noted above in our review of Bates and Williams (1995).

¹¹ Information from other sources revealed that a few cities with programs existing in 1988 are not listed in the report and that the listed starting date for several programs are incorrect. A personal communication with Franklin M. Lee, Chief Counsel of MBELDEF confirmed that the report is not a complete list.

Appendix Table 1 presents the program dates provided in MBELDEF (1988) and JCPES (1994) in the 44 cities identifiable in the Current Population Survey. Altogether, these two sources provide program date information for 33 of the 44 MSAs. The 11 cities without listed set-aside dates may still have had programs since previous work (Bates 1996, Boston 1998) suggested that both data sources may be incomplete.¹² According to both sources, most city-level programs were passed in the early to mid-1980s, particularly from 1983-85. Seventy percent (14 of 21) of the dates from MBELDEF are in the 1983-85 period. Although the mode of the JCPES dates is also 1983-84, the JCPES distribution is more spread out during the 1980s.

Both MBELDEF and JCPES contain information on 12 of the cities. Remarkably, it appears that there is little consensus on even the dates in which cities passed set-aside programs. The two sources agree on only 4 of the 12 cities (Los Angeles, San Jose, San Francisco, and Boston). The two sources disagree by at least 2 years for 7 cities and by at least 5 years for 4 cities. Consequently, we are very concerned about the reliability of these dates, and are concerned that all subsequent analyses based on these dates may be suspect.¹³

Because obtaining the correct dates is crucial to the analysis, we obtained program dates from two additional sources. The first source is based on a search of court cases brought against the cities. Using Westlaw, we conducted an extensive and time-consuming search of all federal and state court cases that involved minority business programs and the 44 cities identified in our sample. For 14 cities, we found information on program start dates from court cases, which typically involved a lawsuit by a white-owned construction firm against the city's minority contracting program following *Croson*. Unfortunately, the availability of information on additional aspects of the programs was limited.

¹² For example, Bates informed us that the original goal of JCPES (1994) was to get data for 50 cities, but some cities refused to answer while others did not have programs.

¹³ Additional complications exist with respect to the timing of the programs listed in the two sources. For the MBELDEF data, the date of the administrative order or resolution can often be an inaccurate measure of the date that the program started. In many cases, the actual program did not start for several years after the order/resolution. Boston found that the MBELDEF dates were wrong for Atlanta. Bates suggested similar problems with the JCPES data. His guess is that the actual start date for several programs was about 2-3 years after the passing of the

Our fourth source of data was personal correspondence with city officials who were involved in the set-aside programs or worked in the successor agencies to promote small business. We attempted to contact every city in our sample, and in total, we discussed the programs with key administrators in more than 30 different cities either by phone or email over a 2 year period. In each case, we spoke with current city employees or affiliates of an auxiliary business outreach program and conducted semi-structured interviews. During these conversations, the dates of the city set asides programs from other sources were cross-checked and additional documentation was requested when applicable.

Due the confusion in the prior literature as to the exact dates of each city set-aside program, this data collection process was essential to conducting a comprehensive study of these programs. With four sources of data, we were able to verify the dates with much greater confidence than previous studies and the personal interviews provided us with valuable institutional detail on the programs. This unique dataset allows us to rigorously investigate the impact of contracting set asides for the first time.

Appendix Table 1 shows the dates from all four sources. For many cities there is agreement with the MBELDEF and JCPES dates, for quite a few there is disagreement. The below analysis will utilize two different estimation samples – the 17 cities with cross-validated dates and the 25 cities with either cross-validated dates or dates from only 1 source. Thus, we drop the remaining cities that we could not get program data from or that had a conflicting date in multiple sources. Note that the 17 cities with non-conflicting dates comprise the majority of the population in the 25-city sample.

IV. CPS Data and Trends in Self-Employment

The primary data source on self-employment and employment comes from the 1979 to 1989 Current Population Survey (CPS) Merged Outgoing Rotation Group (ORG) files. The CPS is conducted monthly by the U.S. Census Bureau and the Bureau of Labor Statistics, and represents the entire U.S. population with observations for more than 130,000 people each month. The ORG files contain annual

resolution/ordinance. He also found that city contacts often did not know the start dates, and that different people would sometimes give him different start dates.

samples that are roughly three times larger than those from a monthly CPS, such as the commonly used March Annual Demographic Files. The large sample sizes are important since a group of interest, self-employed black men, is small relative to the population. In addition, it allows for a more informative, disaggregated city-level analysis. On the other hand, the ORGs only include data on work characteristics in the survey week and do not contain information on self-employment income.

From these data we construct annual information on patterns of minority and non-minority self-employed business ownership rates from 1979 to 1989. The self-employment rate is defined as the ratio of the number of self-employed business owners to the adult population. Self-employed workers are defined as those individuals who identify themselves as self-employed in their own not incorporated or incorporated business on the class of worker question. The class of worker question refers to the job with the most hours during the reference week in the ORG files. The CPS microdata capture all business owners, including those who are employers or non-employers. We focus on the years 1979 to 1989 because they encompass the period when most major cities in the United States created set-aside programs. The period after 1989 is not included in the analysis of self-employment rates because the 1989 *Crosby* decision led to the suspension or dismantling of set-aside programs in several cities. We focus on examining the impact of the creation of the original set-aside programs prior to the many changes that occurred to programs after the *Crosby* decision. Additionally, we do not focus on more recent state initiatives such as those in California and Washington because of potentially confounding effects on government jobs (Fairlie and Marion 2008).

We include only non-Hispanic white and black men aged 20 to 64 in this analysis. We do not include women in the analysis because of substantially lower business ownership rates and concentrations in industries, such as construction, that are likely to be affected by the creation of contracting set-aside programs. The fraction of black women who are self-employed is 1.8 percent and the fraction of self-employed black women in the construction industry is 1.1 percent. All group specific self-employment rates are taken relative to the entire race-specific populations. The reliance on self-reported business ownership status lessens concerns over the potential inclusion of "fronts" in which white, male-owned businesses include minority owners in name only to secure government contracts.

Since the analysis is focused on city-level changes in racial self-employment rates, consistently matching cities over time in the CPS data is imperative. In the ORG files, the 44 largest Metropolitan Statistical Areas (SMSAs) can be identified from 1979 to September 1985 based on their 1970 Census population size ranking (57 MSA identifiers). After 1985, the city coding scheme changed to a more detailed system with 252 Consolidated MSA (CMSA) ranking identifiers, some subdivided into as many as 12 Primary MSA (PMSA) ranking codes. Matches for the 1986-89 cities to the 1979-85 cities in the ORG were based on making the CMSA and PMSA rankings compatible with the MSA rankings. Population totals were examined to gauge the quality of the match. City identifiers are missing for all records during the last three months of 1985. The resulting sample includes the 44 MSAs that can be consistently matched over the entire decade.¹⁴

Summary information on the characteristics of all black and white men (Panel A) and self-employed men (Panel B) for the 1979 to 1989 ORG data are reported in Table 1. Estimates for the entire United States and for the full 44 MSA sample are reported. There are several points of interest. First, similar to findings from previous studies the CPS data indicate that black men are much less likely to be self-employed than white men. Black men are also less likely to be employed and in the labor force than are white men. Another major difference between the two groups is that blacks are much more likely to live in central cities than are whites. Comparing self-employed business owners to the full population we find that the self-employed are older and more educated than the rest of the population. All of the results hold for both the total U.S. sample and the full MSA sample. The full sample of MSAs captures roughly 50 percent of the total black population and 30 percent of the total white population.

Table 1 also reports estimates for the 25-MSA and 17-MSA samples that are used extensively in the analyses below. These are the MSAs that we find to have reliable information on program initiation dates. Estimates for these two samples are very representative of the full MSA sample from the CPS, which is not surprising given that they capture such a large share of the MSA population especially for

¹⁴ It is worth noting that the matched MSAs are the largest cities and contain a substantial fraction of the black population.

blacks. The general patterns of low black self-employment, employment and labor force participation rates, and high central city concentrations found for these MSA samples also hold for the broader U.S. sample. The more restrictive MSA samples with valid program information represent a large share of all blacks and whites in the United States and appear to be representative of total U.S. characteristics.

To illustrate the location of self-employment, Table 2 shows the distribution of self-employment across industries by race. The industries are roughly ordered from top to bottom by sectors that are more and less likely to be impacted by minority business set-asides. Construction should be the most affected industry followed by wholesale trade, business and repair services, and transportation, communication, and other utilities (Bates 1993, 1997). Slightly more than 20 percent of black self-employed business owners and 18 percent of white business owners are in the construction industry. Black business owners are also heavily concentrated in transportation, communications and utilities, and retail trade industries, which are potentially more affected industries. They are less concentrated in the industries comprising the less-affected category. For both industry groups, black business owners are more likely to be located in central cities. All of these patterns are similar for the two analysis subsamples of MSAs.

Self-Employment and Employment Trends

What happened to black self-employment in the 1980s when city programs were being created? To explore this question, Figure 1A plots the self-employment rate for whites and blacks in the United States and full MSA sample for 1979 to 1989. A striking empirical fact emerges from these estimates from the CPS -- black self-employment rates in MSAs were relatively stable at about 4.5 percent from 1979 to 1983, but then jumped to more than 5 percent in 1984 and 1985 and remained at this higher level for the rest of the decade.¹⁵ These trends also indicate that the gains in black self-employment in the United States in the mid-1980s were driven entirely by gains in MSAs. White self-employment rates also rose during the 1980s, but most of the increase occurred prior to the mid-1980s. Trends for white self-

¹⁵ Examining trends from 1910 to 1990 using microdata from the decennial censuses, Fairlie and Meyer (2000) find that while the relative black-white self-employment rate ratio declined from 1970-1980, it increased from 1980-1990.

employment rates over the 1980s generally indicate an early and late rise in the decade with roughly flat rates in the middle of the decade.

We next examine racial employment patterns over the 1980s with the CPS data. Figure 1B graphs employment-population ratios by race in the United States and in U.S. cities during this period.

Employment rates declined sharply for black men from 1979 to 1982, but rebounded and rose steadily after 1983. White employment rates appear to be less cyclically sensitive, but also show a decline in the early 1980s and rising rates through the rest of the 1980s corresponding with the overall economy. These patterns indicate that the jump in self-employment rates for black men in the mid-1980s does not seem to be attributable to worsening economic conditions for blacks. In addition, although the trends are only suggestive, the rebound in overall black employment rates coincided with the growth in black self-employment.¹⁶

These patterns are suggestive of a potential impact of city-level set-aside programs. The black self-employment rate increased in the mid-1980s when many cities created set-aside programs, whereas white rates were relatively flat during this period. Additionally, black employment levels were rising relative to white levels during the creation of set-aside programs. The natural next step is to try to measure the factors that underlie the large changes in relative black self-employment that occurred in the early to mid 1980s. The timing of the gains suggests that one important explanatory factor may be city-level minority business set-aside programs.

V. Econometric Models

To focus on the timing of the creation of city contracting programs in the 1980s and control for potentially confounding factors, we estimate regression models for the probability of being self-employed. We present results from two regression specifications. First, we estimate the unrestricted “program effects” using an event study analysis that derives the set-aside response function:

¹⁶ Trends in average education and age during the 1980s are very similar for self-employed black and white men and black and white workers.

$$(1) \quad y_{ijt} = \alpha_j + \lambda_t^r + X_{ijt}' \beta^r + \sum_{t-s=-8}^8 \theta_{t-s}^r \cdot 1(t_{ij} - s_j = t - s) + u_{ijt},$$

where y_{ijt} is an indicator variable equal to one if person i in city j is self-employed in survey year t ; α_j are MSA-level fixed effects; λ_t^r are survey year fixed effects that are allowed to vary by race r ; X_{ijt} is a vector of unrestricted dummy variables for age and education whose effects can vary by race (β^r); and u_{ijt} is an error term that is allowed to be heteroskedastic and correlated over time at the MSA-level. The analyses are weighted by the CPS sampling weights.

The indicator variables, $1(t_{ij} - s_j = t - s)$, measure the program response function – i.e., each equals one if the survey year for an individual in city j (t_{ij}) minus the year of set-aside program initiation in city j (s_j) is equal to a value between -8 and $+8$, for example. This specification allows the program effects (θ_{t-s}^r) to vary by race, and is used to plot the unrestricted responses of black and white self-employment rates, as well as their differences. The specification allows us to move from analyzing trends in black self-employment rates by year to one in which we analyze trends in black self-employment rates relative to program initiation dates. Without more structure, however, it is difficult to summarize potential program effects.

To derive estimates of the magnitude and statistical significance of the program effects we estimate a more restrictive model. In this case, the effects for pre-program initiation dates are not estimated:

$$(2) \quad y_{ijt} = \alpha_j + \lambda_t^r + X_{ijt}' \beta^r + \delta_r \cdot (t - s) + \sum_{t-s=0}^5 \gamma_{t-s} \cdot 1(t_{ij} - s_j = t - s) + \sum_{t-s=0}^5 \theta_{t-s} \cdot Black_{ijt} \cdot 1(t_{ij} - s_j = t - s) + u_{ijt},$$

where t and s are the survey year and year of program initiation, respectively; $(t - s)$ is a time trend relative to the program initiation year that varies by race; the indicators, $1(t_{ij} - s_j = t - s)$, equal one if $(t - s)$ equals a value between 0 and 5; $Black$ is an indicator equal to one if the individual is black; and u_{ijt} is an error that is allowed to be heteroskedastic and correlated over time at the city-level. The analyses are again weighted by the CPS sampling weights. Here, the parameters of interest are θ_{t-s} , which measure the deviation of post-program, black-white outcome differences from per-program trends in the gap. These

parameters capture the effects of set-asides in each year after implementation allowing these effects to differ.

Equations (1) and (2) are estimated for both the 17-MSA and 25-MSA samples. The results are insensitive to including unrestricted interactions between the age and education indicators, and to estimating marginal probability effects using a probit model instead of a linear probability regression. In addition to examining the effects of program implementation on self-employment we explore effects for black employment. In this case, the dependent variable in equations (1) and (2) is the employment probability for each individual. Commensurate effects on black employment may have resulted with the expanded opportunities for black-owned businesses. We also estimate the *aggregate* effects of the set-aside programs on MSA-wide self-employment, employment, population levels and per-capita income. To do this, we estimate versions of equations (1) and (2) in which none of the variables are interacted with race. These results provide some suggestive evidence on crowding-out, migration and the efficiency of set-aside programs.

VI. Empirical Results on the Impact of Set-Asides

Before turning to the regression results, it is useful to examine trends in relative black self-employment rates around the timing of the initiation of city set-aside programs. For now we focus on programs created in the 1980s and in 1985. Figure 2 plots the black-white differences in self-employment rates for groups of cities with different timing in the initiation of their set-aside programs. We find higher relative black self employment rates (defined as the black minus the white rate) throughout the 1980s in cities that had a set-aside program established before 1980 than in cities without a set-aside program during the 1980s. We also find an increase in relative black self-employment rates after 1985 in cities that initiated a program in 1985 relative to cities that had no program during the 1980s. Finally, we find a post-1985 convergence in relative black self-employment rates in cities initiating a program in 1985 toward black self-employment rates in cities that had a program throughout the 1980s. The timing and

sign of the changes in relative black self-employment rates over the 1980s are consistent with set-aside programs having a direct effect on black self-employment rates.

To further focus on the timing of set-aside programs, we limit the sample to cities in which we can identify program start dates and examine black-white differences in self-employment rates relative to when programs were initiated. We also control for MSA fixed effects, race-specific year effects and unrestricted indicators for education and age by estimating equation (1). Figure 3 plots estimates of these regression-adjusted black-white differences in self-employment for the 17-MSA sample (Panel A) and the 25-MSA sample (Panel B). The patterns are highly consistent with a large relative gain in black self-employment rates after the program initiation date that is a clear deviation from pre-program trends. There also appears to be a steady decline in the black-white self-employment gap in the years following program initiation. The clear pattern of increasing relative black self-employment rates after program initiation holds within both samples.

Although the plots of the unrestricted specification are informative, we turn to the more restrictive model characterized by equation (2) to discuss magnitudes and statistical significance of program effects. Table 3 reports estimates for both MSA samples and including different sets of controls. In the base specification using the larger MSA sample, we find large, positive and statistically significant coefficient estimates on the post-program year dummies. The estimates indicate consistently higher relative black self-employment rates over the 5-year period after the initiation of set-aside programs compared to the pre-program trend. The estimated program effects are highly significant and imply a reduction in the black/white self-employment gap of 3 percentage points within five years of program initiation. Another important finding is that there does not appear to be a pre-program trend in the racial gap in self-employment. The reported estimates are robust to including controls for individual characteristics such as age and education, and interactions between these controls and race. The use of the subset of 17 MSAs also does not alter the results.

These patterns indicate that the set-aside programs created in many cities in the 1980s increased black self-employment rates relative to white levels and pre-existing trends. We find no evidence of a pre-

existing trend in self-employment or relative black self-employment suggesting that the potential bias due to the programs' non-random location and timing is small. Another concern with the results is that there might have been other major policy changes occurring during this period that coincided with the creation of city contracting programs. Although it is difficult to rule out the effects of all policy changes we find no significant increases in other important public programs, such as unemployment insurance and welfare, that coincided with the patterns in black self-employment. We also did not find evidence of significant changes in total city expenditures in response to the enactment of set-aside programs.¹⁷ For this analysis, we collected yearly budget data from every city in our sample using the U.S. Census's report "City Government Finances." It is also important to keep in mind that any change in policies that favor small businesses in general is controlled for by the focus on black self-employment rates relative to white self-employment rates.

Another concern is that there was movement of blacks into the cities that created set-aside programs potentially biasing estimates of effects. We do not find that to be the case, however, when we estimate equations (1) and (2) using the total black population. We found no impact of set-aside programs on black population. The results also may be biased due to changing economic conditions over the period which may have been partly responsible for the estimated program effects. Again, economic conditions that affect black and white self-employment are implicitly controlled for by focusing on relative black self-employment rates. Nevertheless, we examine this question further.

Employment Effects

Figure 3 plots estimates for black/white differences in employment in addition to the estimates for relative self-employment rates. Two interesting patterns emerge with regards to employment. First, cities tended to initiate set-aside programs after 3-4 years of a decline in relative black employment rates – thus, the programs may have been a response to worsening employment conditions for black men. Next, this

¹⁷ Yearly budget data from every city in our sample using the U.S. Census's report "City Government Finances" are

trend is reversed after program initiation, with black relative employment rates reaching levels significantly higher than in the pre-program within eight years of program adoption.

To further investigate these patterns we estimate equation (2) using employment as the dependent variable. Table 4 reports estimates for both samples of MSAs. In each case, we find significant convergence in the black-white gap in employment after the date of program initiation. The results are insensitive to controlling for individual characteristics. There is evidence of a negative, pre-program trend in the racial gap in employment, though it is weaker for the 25-MSA sample. The estimated program effects are significant by the second year after program initiation and imply that the employment gap falls 2-3 percentage points for every percentage point reduction in the self-employment gap. This implies that the newly self-employed blacks hired (a disproportionate share) of black men who were either unemployed or out of the labor force, meaning that our finding cannot be the result of the hiring black men who were already employed.

Although we cannot examine this question directly because the CPS does not provide information on the racial composition of employment of self-employed business owners, estimates from the Characteristics of Business Owners (CBO) reveal strong racial patterns in hiring decisions (U.S. Census Bureau 1997). For two-thirds of black-owned businesses with employees, minority workers comprise more than 90 percent of the workforce. Eighty percent of employer black firms hire at least 50 percent minorities. In recent surveys of fast growing black firms ("gazelles"), Boston (2006) finds that 64 percent of the workforce is black.

Industry Results

The aggregate estimates provide strong evidence that black self-employment rates rose relative to white rates coinciding precisely with program initiation dates. To lend credibility to the interpretation that set-aside programs are responsible for these results we would expect to see similar or stronger patterns for

used for this analysis.

the industries that are most likely to be affected by contracting programs and weaker patterns for the least likely affected industries. Figure 4 shows the estimates from equation (1) for the 25-MSA sample, separately for those industries most and least affected by city set aside programs.¹⁸ Indeed, the estimates indicate a larger increase in relative black self-employment rates after program initiation for more-affected industries than less-affected industries. Estimates reported in Table 5 that fits equation (2) to the patterns in Figure 4 indicate that the program initiation effects on relative black self-employment rates are roughly 2.5 to 3.0 percentage points. In contrast, the point estimates for the less-affected industry results are smaller and in most cases statistically insignificant. All of the self-employment gains for blacks appear to have occurred in the targeted industries. These results provide further support that the creation of set-aside programs increased black self-employment relative to white levels and pre-existing trends.

Turning to employment, we also find that all of the employment gains for blacks occurred in the targeted industries. Estimates displayed in Figure 4.B indicate an increase in relative black employment rates in most-affected industries after program implementation, but no clear change in the less-affected industries. The results for the more restrictive equation (2) are generally similar. Interestingly, the pre-program, negative trend in black-white employment rates in the targeted industries is relatively weak and the pre-program decline in black employment was occurring mostly in the unaffected industries. This suggests that set-aside programs were effective in moving blacks who had recently lost jobs in the unaffected industries to jobs in the affected sector.

Another interesting finding is that for both self-employment and employment, the racial gaps in the more-affected industries converged to the smaller gaps in the less-affected industries after program initiation. The relative black self-employment rate was much lower for the most-affected industries than

¹⁸ See Table 2 for the list of industries that were more or less targeted for set asides; from Bates (1997). Construction, business services, and wholesale trade are the sectors that were targeted the most by set-aside programs. Construction is the largest in terms of dollar amounts, and business services is the largest in terms of number of firms. Examining the MBELDEF (1988) document, it appears that the bulk of city-level program coverage was targeted at minority construction firms.

the rate for the less-affected industries in the early 1980s, but this difference largely disappeared by the end of the 1980s.

Finally, the differential results are consistent with the exogeneity of the creation of set-aside programs. First, we find no evidence of a pre-existing trend in self-employment in the targeted industries. Second, we find little evidence of post-program gains in industries that were not targeted. Both of these findings lend additional support to the argument that the potential bias due to the programs' nonrandom location and timing is small.

Central Cities and Skills

Which locations and groups of the black population did the set-aside programs help the most? We first examine whether the effects of set-asides were concentrated in the central city or outlying areas. Figure 5 displays estimates equation (1), separately for black residents of the central city and outside the central city areas of an MSA for the 25 MSA sample. The comparison group is all white men in the MSA. Panel A shows a particularly sharp post-program gain in black self-employment among central city residents. The patterns for those who reside outside the central city are noisier since more blacks reside in the central city area of an MSA but also indicate a large increase post program initiation. Turning to the more restrictive results from equation (2), however, we find large, positive and precisely measured program effects for both central city residents and outside of central city residents. Estimates are reported in Table 6. The strong effects of set-aside programs are not limited to blacks residing in central city areas.

In Panel B of Figure 5, we examine the black-white difference in employment rates relative to program start dates. There is some evidence of an increase in employment rates for both geographical areas, but the rise appears to be sharper for blacks who live outside the central city. Estimates of equation (2) indicate positive point estimates for all post-program years, but are not precisely measured for several of these years. Overall, the results do not differ substantially between central city residents and those living outside the central city.

To further investigate whether the benefits of set-aside programs were more concentrated among specific subsets of the black population we estimate separate specifications for young, less-educated men and older, better-educated men. We define young, less-educated men as those aged 20-29 with 12 years or less of completed education and older, better-educated men as those aged 30-64 with 12 years or more of education. Figure 6 presents the black-white gaps for both groups using the 25-MSA sample. Panel A shows that most of the post-program gains in black self-employment occurred among older, better-educated men. The estimates indicate a steep rise in relative black self-employment rates for older, better-educated men. The black-white difference in self-employment rates also rose for young, less-educated men, but the increase was much smaller. Estimates reported in Table 7 confirm these findings. For older, better-educated men, we find large, positive and statistically significant program effects. For the younger, less-educated group, we find smaller, positive point estimates, but the coefficients are not significant.

We also find that the employment gains are larger in magnitude – and more statistically decisive – for older, better educated black men as well. Relative black employment was declining among older, more-educated blacks, but then rebounded after the creation of set-aside programs. There is also some evidence that young, less-educated blacks experienced relative employment gains, but these gains showed up only several years after the set-aside programs were started.

Aggregate Effects

There is substantial evidence supporting the hypothesis that the city set-aside programs created in the 1980s increased black self-employment relative to white self-employment, but what happened to aggregate self-employment rates in these cities? Did black-owned businesses substitute for white-owned businesses that were previously awarded contracts? Or, was there an increase in business ownership because of projects requiring more total businesses because of the newer less efficient black firms? Were there any negative effects on total employment?

To address these questions, we estimate equations (1) and (2) without the race interactions. The estimates reported in Figure 7 and Table 8 capture the aggregate impact of the programs on overall self-

employment and employment rates in the 25-MSA sample. The results show that the programs had no impact on total self-employment. The self-employment rate displayed in Figure 7 shows an increase at the end of the study period, but the result does not hold up in the more restrictive regression specification reported in Table 8. The coefficient estimates on the program effects are small, negative and statistically insignificant in all years. There might have been some redistribution of self-employment from blacks to whites, which seems plausible given the design of the set-asides. The results do not provide evidence that the set-aside programs were grossly inefficient by providing contracts to less-productive black-owned businesses. If the set-aside programs attracted less-productive firms then cities would have to compensate by hiring more firms in aggregate to complete their projects. Providing some additional support to this argument we find no evidence of an increase in total city expenditures following implementation of the set-aside programs as noted above.

We also examine aggregate employment effects from the set-aside programs. Similar to the findings for self-employment we do not find evidence of changes in total employment after the initiation of programs. We also estimate separate models for younger, less-educated workers and older, more-educated workers and find similar results. The set-aside programs do not appear to have resulted in a net loss in employment rates. Instead, there may have been some redistribution from white to black employment in those cities.

VII. Conclusions

Our study is the first to rigorously explore the impact of local set aside programs, a crucial set of policies that represented some of the most significant civil rights legislation since the 1960s. We find that city set aside programs during the 1980s had a large and economically significant impact on black self-employment and employment. Using a novel data set of program dates created from extensive searches of legal cases and personal interviews of program staff as well as other sources, we estimate that the black-white gap fell three percentage points within five years following the implementation of set aside programs. All of the gains in black self-employment were realized in the industries targeted for set-asides

such as construction. Consistent with black firms hiring a disproportionate number of black employees, we also find that the racial gap in the employment-to-population ratio falls significantly after the implementation of set-aside programs. There was increased employment among younger, less-educated black men but, the gains are more decisive for their older, better-educated counterparts. It thus seems unlikely that the new city contracts went to entrenched businesses or that widespread corruption occurred (in the form of front ownership by blacks).

From a long-run perspective, the implementation of set-aside programs in the 1980s may have prevented a downward trend in the black-white self-employment rate gap from continuing from the 1970s. The relative black self-employment declined in the 1970s, but rebounded in the 1980s (Fairlie and Meyer 2000). Focusing on the cities implementing set-aside programs, we find that without the implementation of set-aside programs, the black self-employment rate would have declined substantially relative to the white rate. By the end of the decade, we estimate that the black-white self-employment rate difference was a few percentage points lower in aggregate in those cities than at the start of the decade because of the set-aside programs. We also find that black employment levels were higher because of the creation of set-aside programs in the 1980s. These results lend some support for the argument that promoting black business growth may be a more effective method of reducing black unemployment than overall economic and employment growth (Boston 1999, 2006).

Although not conclusive, the finding of a positive impact of set-aside programs on black business ownership relative to white business ownership in targeted industries is consistent with the existence of entry constraints suppressing black self-employment. For example, if liquidity constraints are especially binding for blacks, perhaps due to low levels of wealth and lending discrimination, then set-aside programs may have a large effect on the number of black-owned businesses. Black entrepreneurs facing financing constraints may have been able to more easily borrow against the accounts receivable from government contracts or use the initial receipt of government contracts to expand.

Although our findings contribute to the policy debate on affirmative action and represent the most comprehensive evaluation of contracting set-asides to date, we note several caveats and areas where

additional research is needed. First, more detailed data on the “first-stage” importance of set aside programs (e.g., contract awards and amounts) is needed. We provide some evidence that the number of contracts going to minority-owned businesses increased after the implementation of affirmative action programs from other studies (Boston, 1998; Blanchflower and Wainwright, 2005; Myers and Chan, 1996), but more extensive evidence would offer further credibility to the results. Second, ideally we would like to exploit the variation in goals, enforcement, and total amount of government contracting dollars set-aside for minority businesses as well as the timing of program implementation across cities and industrial sectors to identify effects. We are forced to treat all of the programs as identical because we were unable to obtain reliable and consistent information on program characteristics from legal searches, interviews, and existing sources. Finally, we are limited in estimating only the benefits of these programs in terms of black business ownership and employment, and do not provide evidence on the potential costs of these programs. We provide some suggestive evidence that there were not large losses in inefficiency, but future research should further investigate the true cost of these set aside programs, not just in terms of contracts awarded but also in the form of increased project costs.¹⁹ However, as we have seen in several recent examples (e.g. post-Hurricane Katrina rebuilding and Iraq reconstruction) we should not assume that the ex ante allocation of contracts was efficient. Noting the caveats above, this analysis represents the first step towards understanding the impact of local set aside programs on minority business and lays the foundation for future empirical work on the costs and benefits of affirmative action programs.

¹⁹ For example, in his study of California highway contracts, Marion (2009) finds that while minority entrepreneurs were no less productive than white entrepreneurs in the same location, those located in high minority areas did face higher costs.

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Table 1: Summary statistics for black and white men aged 20-64 in 1979 to 1989 CPS-ORG data

	Entire United States		U.S. MSA ranked in CPS		25-MSA sample		17-MSA sample	
	Black (1a)	White (1b)	Black (2a)	White (2b)	Black (3a)	White (3b)	Black (4a)	White (4b)
A. All men								
Age	37.4	39.3	37.4	39.3	37.5	39.3	37.6	39.4
Under 30 years old (%)	33.9	27.8	33.7	28.0	33.7	28.0	33.5	27.6
Education	11.7	13.0	12.1	13.5	12.0	13.5	12.1	13.6
HS grad or more (%)	67.4	83.0	71.9	86.9	71.4	87.0	71.4	87.1
Unemployed (%)	10.91	4.66	11.11	4.24	11.25	4.24	11.57	4.25
Out of the labor force (%)	16.46	9.88	16.76	9.06	17.43	9.35	18.20	9.51
Self-employed (%)	4.64	14.98	4.83	13.56	4.69	13.17	4.67	13.02
Central city resident (%)	51.2	19.6	70.5	28.4	73.1	29.4	74.2	29.5
Number of observations	111,142	1,115,886	56,433	341,808	39,520	214,342	33,689	171,455
B. Self-employed men								
Age	42.9	43.1	42.3	42.9	42.1	42.8	42.2	42.9
Under 30 years old (%)	13.1	13.6	13.7	13.6	14.5	13.7	13.8	13.5
Education	12.0	13.4	12.5	14.1	12.5	14.1	12.6	14.1
HS grad or more (%)	67.1	84.3	74.3	88.9	74.1	88.7	75.0	89.0
Incorporated (%)	13.2	27.0	16.1	34.9	16.0	34.7	16.8	35.0
Central city resident (%)	48.3	16.5	65.6	26.8	67.5	27.9	68.0	27.9
Number of observations	5,321	177,348	2,805	46,277	1,927	28,295	1,653	22,392

Notes: Data come from the 1979 to 1989 Merged Outgoing Rotation Groups files of the Current Population Survey, and are limited to observations that are aged 20-64; are black or non-Hispanic white men; and have one or more years of potential experience (age – education – 6). The statistics are weighted by the CPS sample weights. The samples underlying each set of columns are explained in the text and in the Appendix table.

Table 2: Distribution of self-employment across industries and other characteristics, men aged 20-64 in 1979 to 1989 CPS-ORG data

	U.S. MSA ranked in CPS		25-MSA sample		17-MSA sample	
	Black	White	Black	White	Black	White
	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)
A. More affected industries						
<i>Percent of all self-employment</i>						
Construction	20.33	18.35	18.49	18.08	18.33	17.11
Professional services	8.73	16.40	8.55	16.88	9.02	17.40
Transport, communicat, and utilities	11.37	3.92	12.61	4.02	12.41	3.91
Business services	7.77	6.81	8.61	6.88	7.79	7.11
Repair services	9.88	5.51	9.87	5.43	10.09	5.39
Retail trade	13.14	14.30	14.06	14.55	14.74	14.96
<i>Self-employed traits</i>						
Ratio to population (%)	3.44	8.85	3.38	8.67	3.38	8.58
Under 30 years old (%)	13.3	14.3	14.2	14.4	13.5	13.8
HS grad or more (%)	73.4	88.0	73.8	87.9	73.8	88.2
Central city reside (%)	66.8	27.1	69.6	28.4	70.3	28.5
<i>Employed traits</i>						
Ratio to population (%)	40.0	44.8	40.0	45.1	39.4	44.7
Under 30 years old (%)	33.3	30.1	32.7	30.0	32.3	29.3
HS grad or more (%)	77.8	88.5	77.6	88.7	78.1	89.0
Central city reside (%)	67.8	28.7	70.4	30.1	70.6	30.1
B. Less affected industries						
<i>Percent of all self-employment</i>						
Finance, insurance, and real estate	4.27	7.49	3.50	7.38	3.67	7.43
Wholesale trade	3.14	6.91	2.88	6.80	2.78	6.81
Personal services	5.04	2.88	5.17	2.92	5.18	2.99
Entertainment and HH services	5.23	3.08	5.30	3.16	5.80	3.20
Manufacturing	2.29	7.18	2.42	6.86	2.56	6.99
Agriculture	4.10	3.64	3.68	3.56	2.72	3.29
Mining, forest, fishery	0.18	0.55	0.18	0.45	0.22	0.34
Public administration	0.00	0.03	0.00	0.04	0.00	0.06
<i>Self-employed traits</i>						
Ratio to population (%)	1.17	4.31	1.08	4.10	1.07	4.05
Under 30 years old (%)	14.9	12.2	15.7	12.4	15.1	12.6
HS grad or more (%)	80.0	92.0	78.7	91.6	82.5	91.7
Central city reside (%)	61.1	25.8	60.7	26.5	59.9	26.2
<i>Employed traits</i>						
Ratio to population (%)	32.1	41.9	31.3	41.4	30.8	41.5
Under 30 years old (%)	28.4	24.9	28.2	24.8	26.8	24.4
HS grad or more (%)	77.3	89.5	76.5	89.5	76.7	89.5
Central city reside (%)	66.8	26.2	69.5	26.7	70.9	26.7
Percent of self-employ in other sectors	4.52	2.95	4.66	2.99	4.70	3.01

Notes: See notes to Table 1. Data come from the 1979 to 1989 Merged Outgoing Rotation Groups files of the Current Population Survey, and are limited to observations that are aged 20-64; are black or non-Hispanic white men; and have one or more years of potential experience (age – education – 6). The statistics are weighted by the CPS sample weights.

Table 3: Changes in black-white difference in self-employment rate after set-aside program initiation, relative to pre-program trends

Prob. effect (x100)	Post-program effects deviated from pre-program trends					
	17-MSA sample			25-MSA sample		
	(1a)	(1b)	(1c)	(2a)	(2b)	(2c)
Pre-program black diff	-6.81 ^{***} (1.04)	-5.49 ^{***} (0.99)	---	-7.07 ^{***} (0.99)	-5.80 ^{***} (0.97)	---
Pre-program trend diff	0.073 (0.158)	-0.016 (0.162)	0.010 (0.166)	0.075 (0.150)	-0.007 (0.155)	0.003 (0.159)
Post-program black-white difference (relative to pre-program trend)						
Year 0	2.63 ^{***} (0.65)	2.74 ^{***} (0.66)	2.61 ^{***} (0.68)	3.24 ^{***} (0.68)	3.33 ^{***} (0.70)	3.31 ^{***} (0.71)
Year 1	3.21 ^{***} (0.90)	3.38 ^{***} (0.84)	3.21 ^{***} (0.91)	2.83 ^{***} (0.98)	3.03 ^{***} (0.94)	2.97 ^{***} (0.98)
Year 2	1.90 (1.15)	2.32 [*] (1.13)	2.17 [*] (1.20)	1.87 [*] (1.03)	2.28 ^{**} (1.02)	2.25 ^{**} (1.08)
Year 3	2.27 [*] (1.21)	2.75 ^{**} (1.22)	2.61 [*] (1.33)	2.90 ^{**} (1.15)	3.30 ^{***} (1.20)	3.28 ^{**} (1.28)
Year 4	2.46 [*] (1.28)	2.94 ^{**} (1.42)	2.85 [*] (1.49)	2.94 ^{**} (1.23)	3.45 ^{**} (1.38)	3.42 ^{**} (1.42)
Year 5	2.66 [*] (1.33)	3.32 ^{**} (1.39)	3.27 ^{**} (1.52)	2.59 ^{**} (1.19)	3.38 ^{**} (1.31)	3.33 ^{**} (1.40)
Pre-program white level	11.85 ^{***} (0.64)	---	---	14.01 ^{***} (0.53)	---	---
Pre-program white trend	-0.148 (0.114)	-0.110 (0.134)	-0.113 (0.137)	0.011 (0.099)	0.044 (0.115)	0.045 (0.118)
MSA fixed effects	Y	Y	Y	Y	Y	Y
Race-specific year effects	Y	Y	Y	Y	Y	Y
Age, education indicators	N	Y	Y	N	Y	Y
Race-specific age, educ.	N	N	Y	N	N	Y
Number of observations	175,660	175,660	175,660	223,765	223,765	223,765

Notes: See notes to Table 1. The dependent variable is equal to one if the person reports being self-employed and zero otherwise. The table presents the estimated probability effects from a linear probability model. Probability effects derived from a probit model lead to similar findings, with slightly larger magnitudes. The sample is limited to observations that are no more than eight years before and seven years after the year of set-aside program initiation in the city. The standard errors have been corrected for heteroskedasticity and cross-sectional and time-series clustering in the residuals at the MSA level. The education and age controls are unrestricted indicator variables. Results including unrestricted interactions between education and age are similar. The regressions are weighted by the CPS sample weights.

***, **, and * indicate statistical significance at the 1, 5, and 10 percent level, respectively.

Table 4: Changes in black-white difference in employment rate after set-aside program initiation, relative to pre-program trends

Prob. effect (x100)	Post-program effects deviated from pre-program trends					
	17-MSA sample			25-MSA sample		
	(1a)	(1b)	(1c)	(2a)	(2b)	(2c)
Pre-program black diff	-18.32*** (1.82)	-15.21*** (1.86)	---	-16.44*** (2.09)	-13.37*** (2.11)	---
Pre-program trend diff	-1.09*** (0.33)	-1.08*** (0.36)	-1.07*** (0.32)	-0.74** (0.35)	-0.73* (0.37)	-0.70** (0.34)
Post-program black-white difference (relative to pre-program trend)						
Year 0	2.36 (2.00)	2.04 (2.15)	1.95 (1.89)	1.26 (1.71)	0.91 (1.79)	0.76 (1.63)
Year 1	3.55* (1.85)	3.37 (2.19)	3.20 (2.10)	2.38 (1.54)	2.28 (1.81)	2.04 (1.74)
Year 2	6.26** (2.46)	6.29** (2.65)	6.02** (2.36)	4.97** (2.15)	4.96** (2.24)	4.68** (2.04)
Year 3	8.87* (3.30)	8.69* (3.56)	8.48* (3.24)	6.15** (2.70)	5.82* (2.92)	5.55** (2.64)
Year 4	7.16* (3.63)	7.65* (3.75)	7.20** (3.30)	5.51* (3.04)	5.80* (3.19)	5.42* (2.83)
Year 5	8.99** (4.10)	9.36** (4.30)	8.75** (3.99)	7.48** (3.33)	7.91** (3.40)	7.55** (3.11)
Pre-program white level	85.99*** (1.55)	---	---	88.37*** (1.20)	---	---
Pre-program white trend	0.167 (0.172)	0.170 (0.169)	0.163 (0.170)	0.362** (0.161)	0.231 (0.152)	0.223 (0.154)
MSA fixed effects	Y	Y	Y	Y	Y	Y
Race-specific year effects	Y	Y	Y	Y	Y	Y
Age, education indicators	N	Y	Y	N	Y	Y
Race-specific age, educ.	N	N	Y	N	N	Y
Number of observations	175,660	175,660	175,660	223,765	223,765	223,765

Notes: See notes to Table 1. The dependent variable is equal to one if the person reports being employed and zero otherwise. The table presents the estimated probability effects from a linear probability model. Probability effects derived from a probit model lead to similar findings, with slightly larger magnitudes. The sample is limited to observations that are no more than eight years before and seven years after the year of set-aside program initiation in the city. The standard errors have been corrected for heteroskedasticity and cross-sectional and time-series clustering in the residuals at the MSA level. The education and age controls are unrestricted indicator variables. Results including unrestricted interactions between education and age are similar. The regressions are weighted by the CPS sample weights.

***, **, and * indicate statistical significance at the 1, 5, and 10 percent level, respectively.

Table 5: Changes in black-white difference in self-employment and employment rates after set-aside program initiation, by more and less affected industry groups in 25-MSA sample

	Self employment rate (in percent)				Employment rate (in percent)			
	More affected industries		Less affected industries		More affected industries		Less affected industries	
	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)	(4a)	(4b)
Pre-program black diff	-4.12 ^{***} (0.80)	---	-1.55 ^{***} (0.42)	---	-8.88 ^{***} (1.43)	---	-4.49 ^{**} (1.77)	---
Pre-program trend diff	-0.101 (0.118)	-0.098 (0.122)	0.065 (0.053)	0.073 (0.052)	-0.387 (0.284)	-0.364 (0.282)	-0.343 (0.333)	-0.339 (0.347)
Post-program black-white difference (relative to pre-program trend)								
Year 0	2.36 ^{***} (0.54)	2.38 ^{***} (0.54)	0.90 ^{**} (0.39)	0.87 ^{**} (0.39)	1.29 (2.02)	1.21 (1.93)	-0.38 (1.44)	-0.45 (1.44)
Year 1	3.00 ^{***} (0.87)	2.98 ^{***} (0.88)	0.18 (0.44)	0.14 (0.44)	3.61 [*] (2.03)	3.41 [*] (2.01)	-1.33 (1.69)	-1.37 (1.68)
Year 2	2.42 ^{***} (0.72)	2.42 ^{***} (0.77)	0.05 (0.59)	0.04 (0.61)	5.46 ^{**} (2.50)	5.12 ^{**} (2.28)	-0.50 (1.92)	-0.44 (1.97)
Year 3	2.62 ^{***} (0.84)	2.67 ^{***} (0.88)	0.65 (0.62)	0.59 (0.65)	3.37 (2.79)	3.06 (2.51)	2.45 (2.38)	2.49 (2.39)
Year 4	2.86 ^{***} (1.06)	2.89 ^{***} (1.07)	0.73 (0.51)	0.67 (0.54)	4.01 (3.39)	3.66 (2.15)	1.79 (2.90)	1.76 (2.92)
Year 5	2.46 ^{**} (1.12)	2.46 ^{**} (1.15)	1.01 (0.65)	0.95 (0.71)	3.21 (3.42)	2.84 (3.18)	4.70 (2.94)	4.71 (2.99)
Pre-program white trend	0.021 (0.094)	0.021 (0.095)	0.025 (0.029)	0.025 (0.030)	-0.140 (0.186)	-0.144 (0.184)	0.370 (0.228)	0.368 (0.229)
MSA fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Race-specific year effects	Y	Y	Y	Y	Y	Y	Y	Y
Age, education indicators	Y	Y	Y	Y	Y	Y	Y	Y
Race-specific age, educ.	N	Y	N	Y	N	Y	N	Y
Number of observations	223,765	223,765	223,765	223,765	223,765	223,765	223,765	223,765

Notes: See notes to Tables 3 and 4. See Table 2 for the listing of industries in the “more affected” and “less affected” industry groups. The standard errors have been corrected for heteroskedasticity and cross-sectional and time-series clustering in the residuals at the MSA level. The regressions are weighted by the CPS sample weights. ^{***}, ^{**}, and ^{*} indicate statistical significance at the 1, 5, and 10 percent level, respectively.

Table 6: Changes in black-white difference in self-employment and employment rates after set-aside program initiation, black men residing in central city and outside of central city in 25-MSA sample

	Self employment rate (in percent)				Employment rate (in percent)			
	Black central city resident		Black outside central city		Black central city resident		Black outside central city	
	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)	(4a)	(4b)
Pre-program black diff	-5.68 ^{***} (0.92)	---	-5.92 ^{**} (2.45)	---	-14.88 ^{***} (2.31)	---	-10.74 ^{***} (2.08)	---
Pre-program trend diff	-0.029 (0.127)	-0.024 (0.128)	0.079 (0.494)	0.074 (0.499)	-0.904 ^{**} (0.378)	-0.877 ^{**} (0.362)	-0.539 (0.540)	-0.410 (0.557)
Post-program black-white difference (relative to pre-program trend)								
Year 0	3.45 ^{***} (0.76)	3.45 ^{***} (0.78)	3.03 [*] (1.56)	2.96 [*] (1.60)	0.73 (2.15)	0.53 (1.97)	0.62 (2.26)	0.31 (2.42)
Year 1	3.54 ^{***} (0.95)	3.48 ^{***} (0.98)	1.90 (1.99)	1.82 (2.04)	1.41 (2.27)	1.24 (2.28)	2.51 (2.47)	2.14 (2.62)
Year 2	2.06 [*] (1.03)	2.03 [*] (1.06)	2.81 (2.51)	2.82 (2.57)	3.40 (2.21)	3.27 (2.16)	6.60 ^{**} (3.26)	5.83 [*] (3.18)
Year 3	3.18 ^{***} (1.13)	3.07 ^{***} (1.16)	3.72 (2.99)	4.05 (3.08)	4.98 [*] (2.71)	5.14 ^{**} (2.55)	6.01 (3.69)	4.68 (3.54)
Year 4	3.65 ^{***} (1.38)	3.58 ^{**} (1.39)	3.14 (3.27)	3.38 (3.20)	5.70 ^{**} (2.68)	5.60 ^{**} (2.46)	3.74 (4.31)	2.34 (4.24)
Year 5	3.85 ^{***} (1.32)	3.76 ^{***} (1.39)	2.22 (3.51)	2.46 (3.53)	5.37 [*] (2.73)	5.36 ^{**} (2.60)	10.95 ^{**} (5.17)	9.51 [*] (5.22)
Pre-program white trend	-0.110 (0.115)	-0.110 (0.117)	0.040 (0.108)	0.039 (0.109)	0.182 (0.149)	0.167 (0.150)	0.202 (0.152)	0.201 (0.153)
MSA fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Race-specific year effects	Y	Y	Y	Y	Y	Y	Y	Y
Age, education indicators	Y	Y	Y	Y	Y	Y	Y	Y
Race-specific age, educ.	N	Y	N	Y	N	Y	N	Y
Number of observations	215,557	215,557	199,949	199,949	215,557	215,557	199,949	199,949

Notes: See notes to Tables 3 and 4. The analyses separately compare black men residing in central city part of MSA and black men residing outside of the central city to all white men in the MSA. The standard errors have been corrected for heteroskedasticity and cross-sectional and time-series clustering in the residuals at the MSA level. The regressions are weighted by the CPS sample weights.

***, **, and * indicate statistical significance at the 1, 5, and 10 percent level, respectively.

Table 7: Changes in black-white difference in self-employment and employment rates after set-aside program initiation, by age and education groups in 25-MSA sample

	Self employment rate (in percent)				Employment rate (in percent)			
	Age ≤ 29 and Education ≤ 12		Age ≥ 30 and Education ≥ 12		Age ≤ 29 and Education ≤ 12		Age ≥ 30 and Education ≥ 12	
	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)	(4a)	(4b)
Pre-program black diff	-4.08 ^{***} (1.21)	---	-7.00 ^{***} (1.35)	---	-22.95 ^{***} (3.13)	---	-10.86 ^{***} (2.38)	---
Pre-program trend diff	0.110 (0.195)	0.114 (0.193)	-0.054 (0.189)	-0.061 (0.199)	-0.679 (0.403)	-0.891 ^{**} (0.397)	-1.001 ^{**} (0.394)	-0.955 ^{**} (0.372)
Post-program black-white difference (relative to pre-program trend)								
Year 0	1.66 (1.27)	1.81 (1.27)	3.59 ^{***} (1.26)	3.57 ^{***} (1.22)	-1.45 (2.89)	-1.50 (2.85)	1.31 (1.83)	1.16 (1.78)
Year 1	1.96 (1.21)	1.82 (1.19)	3.25 [*] (1.74)	3.19 [*] (1.78)	-2.35 (2.53)	-1.71 (2.35)	3.79 ^{**} (1.78)	3.35 [*] (1.71)
Year 2	0.09 (1.55)	0.20 (1.52)	3.21 [*] (1.87)	3.26 [*] (1.91)	5.32 (3.18)	5.88 [*] (3.44)	5.84 ^{**} (2.83)	5.30 [*] (2.67)
Year 3	1.06 (1.92)	1.16 (1.97)	4.78 ^{**} (2.27)	4.85 ^{**} (2.33)	5.77 (4.39)	6.55 (4.48)	9.07 ^{***} (2.84)	8.45 ^{***} (2.61)
Year 4	0.69 (1.70)	0.79 (1.69)	4.70 [*] (2.57)	4.81 [*] (2.63)	5.05 (4.51)	6.25 (4.68)	8.44 ^{**} (3.39)	7.83 ^{**} (3.15)
Year 5	0.57 (2.39)	0.63 (2.38)	5.03 [*] (2.62)	5.10 [*] (2.73)	12.83 ^{**} (5.98)	14.06 ^{**} (6.30)	9.25 ^{***} (3.25)	8.76 ^{***} (3.02)
Pre-program white trend	-0.065 (0.134)	-0.066 (0.135)	-0.083 (0.167)	-0.086 (1.66)	0.177 (0.258)	0.199 (0.248)	-0.043 (0.126)	-0.037 (0.125)
MSA fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Race-specific year effects	Y	Y	Y	Y	Y	Y	Y	Y
Age, education indicators	Y	Y	Y	Y	Y	Y	Y	Y
Race-specific age, educ.	N	Y	N	Y	N	Y	N	Y
Number of observations	32,035	32,035	133,674	133,674	32,035	32,035	133,674	133,674

Notes: See notes to Tables 3 and 4. The standard errors have been corrected for heteroskedasticity and cross-sectional and time-series clustering in the residuals at the MSA level. The regressions are weighted by the CPS sample weights.

***, **, and * indicate statistical significance at the 1, 5, and 10 percent level, respectively.

Table 8: Changes in overall self-employment and employment rates after set-aside program after set-aside program initiation, 25-MSA sample

	Self employment rate (in percent)		Employment rate (in percent)					
			All men		Age ≤ 29 and Education ≤ 12		Age ≥ 30 and Education ≥ 12	
	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)	(4a)	(4b)
Pre-program trend	0.156** (0.076)	0.144 (0.087)	0.484*** (0.170)	0.296* (0.163)	0.788** (0.315)	0.568* (0.333)	-0.077 (0.140)	-0.142 (0.134)
Post-program deviation from pre-program trend								
Year 0	-0.13 (0.30)	-0.11 (0.30)	-0.21 (0.33)	-0.04 (0.35)	-1.20 (1.10)	-0.52 (1.13)	0.14 (0.44)	0.33 (0.45)
Year 1	0.01 (0.49)	0.06 (0.48)	-0.26 (0.51)	0.14 (0.47)	-0.31 (1.50)	0.53 (1.53)	0.10 (0.61)	0.48 (0.63)
Year 2	-0.81 (0.55)	-0.69 (0.59)	-0.87 (0.92)	-0.36 (0.85)	-0.03 (1.79)	0.88 (1.92)	-0.42 (0.75)	0.12 (0.73)
Year 3	-0.95 (0.66)	-0.82 (0.74)	-1.49 (1.20)	-0.83 (1.20)	-0.74 (2.91)	0.44 (2.91)	-0.11 (1.00)	0.43 (1.01)
Year 4	-0.90 (0.69)	-0.80 (0.78)	-1.42 (1.57)	-0.66 (1.55)	-0.97 (3.03)	0.24 (3.07)	-0.54 (1.26)	0.26 (1.28)
Year 5	-0.43 (0.74)	-0.38 (0.83)	-1.68 (1.77)	-0.93 (1.69)	-0.59 (3.89)	0.74 (3.91)	-0.19 (1.49)	0.55 (1.45)
Pre-program level	13.41*** (0.49)	---	87.35*** (1.23)	---	83.57*** (2.19)	---	87.85*** (0.94)	---
MSA fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Year effects	Y	Y	Y	Y	Y	Y	Y	Y
Age, education indicators	N	Y	N	Y	N	Y	N	Y
Number of observations	223,765	223,765	223,765	223,765	32,035	32,035	133,674	133,674

Notes: See notes to Tables 3 and 4. The standard errors have been corrected for heteroskedasticity and cross-sectional and time-series clustering in the residuals at the MSA level. The regressions are weighted by the CPS sample weights.

***, **, and * indicate statistical significance at the 1, 5, and 10 percent level, respectively.

Appendix Table 1: Dates of Set-Aside programs in United States cities from four different sources

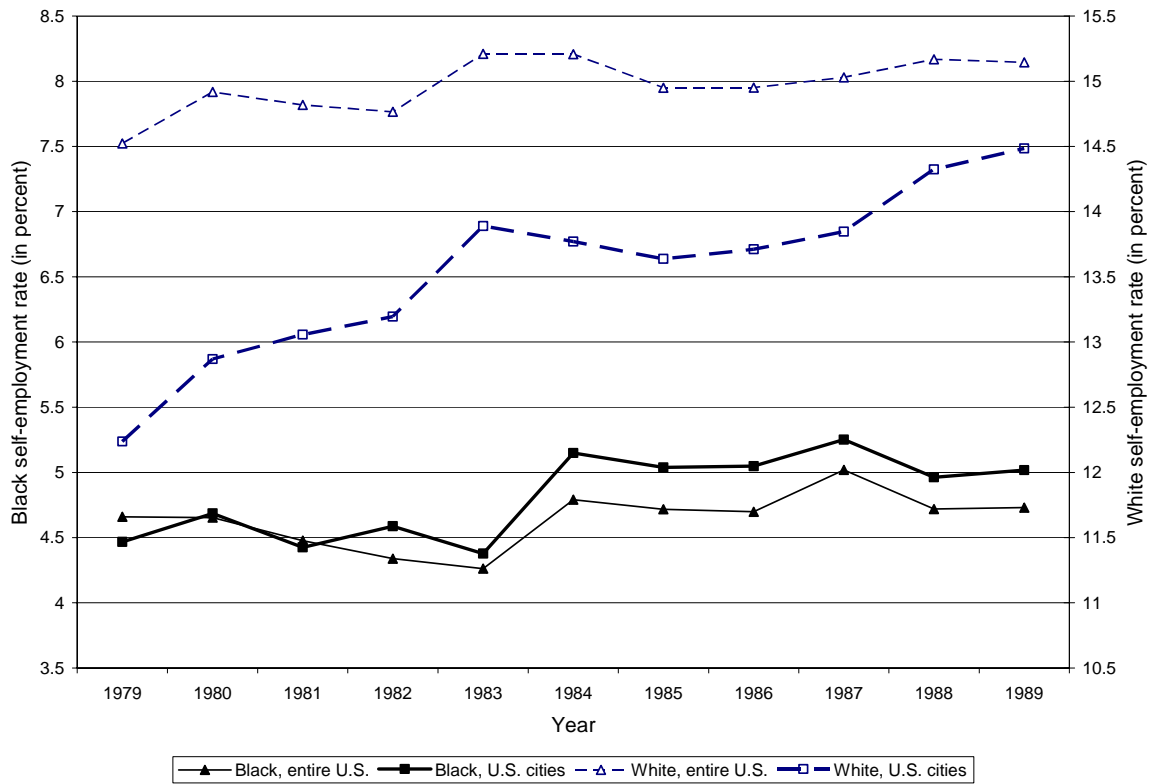
Name of MSA	CPS Rank of MSA	Year of initiation of city set-aside program from various sources					Assigned year of Set-aside program
		MBELDEF (1988)	JCPEs (1993)		City record	Court case	
			Ordinance	Enacted			
Akron, OH	49	1984	---	---	---	---	1984 ^b
Albany, NY	46	1984	---	---	1984	---	1984 ^a
Anaheim, CA	19	1985	---	---	No program	---	---
Atlanta, GA	21	1982	1970s	1991	1975	1982	---
Baltimore, MD	12	1982	1987	1988	---	1986	---
Birmingham, AL	45	1980	---	---	---	1977	1977 ^a
Boston, MA	8	1987	1987	1987	1987	---	1987 ^a
Buffalo, NY	25	---	---	---	---	---	---
Chicago, IL	3	---	1985	1985	1985	1985	1985 ^a
Cincinnati, OH	22	1983	1978	1978	---	---	---
Cleveland, OH	13	1984	1982	1982	1994	---	---
Columbus, OH	36	1983	1980	1981	---	1981	---
Dallas, TX	17	---	1984	1984	---	---	1984 ^b
Denver, CO	28	---	1983	1983	1983	1983	1983 ^a
Detroit, MI	5	---	1983	1983	---	1983	1983 ^a
Fort Worth, TX	44	---	1986	1986	1988	---	---
Gary, IN	53	---	---	---	---	---	---
Greensboro, NC	57	---	---	---	1985	---	1985 ^a
Houston, TX	14	---	1981	1981	1984	---	---
Indianapolis, IN	30	---	1984	1984	---	1987	---
Kansas City, MO	27	---	1981	1981	---	---	1981 ^b
Los Angeles, CA	2	1983	1983	1983	1987	1983	---
Miami, FL	26	1985	---	---	1985	---	1985 ^a
Milwaukee, WI	20	1987	1989	1989	---	---	---
Minneapolis, MN	16	---	1980	1980	---	---	1980 ^b
Nassau, NY	9	---	---	---	No program	---	No program
New Orleans, LA	32	---	1984	1984	---	---	1984 ^b
New York, NY	1	---	1991	1992	1992	1992	1992 ^a
Newark, NJ	15	1984	---	---	---	---	1984 ^b
Norfolk, VA	48	---	---	---	No program	---	No program
Passaic, NJ	23	---	---	---	No program	---	No program
Philadelphia, PA	4	1984	1982	1983	1982	1982	1982 ^a
Pittsburgh, PA	10	---	---	---	1980	---	1980 ^a
Portland, OR	34	---	---	---	1977	---	1977 ^a
Rochester, NY	38	---	---	---	1980	---	1980 ^a
Sacramento, CA	42	1985	---	---	---	---	1985 ^b
Saint Louis, MO	11	---	---	---	---	---	---
San Bernardino, CA	29	---	---	---	---	---	---
San Diego, CA	24	---	1986	1986	1985	---	1985 ^a
San Francisco, CA	6	1984	1984	1984	1984	1984	1984 ^a
San Jose, CA	31	1983	1983	1983	1984	1983	1983 ^a
Seattle, WA	18	1986	1980	1980	Before 1984	---	---
Tampa, FL	33	1985	---	---	---	---	1985 ^b
Washington DC	7	1980	1975	1975	---	1977	1977 ^a

Notes: See text for details on the data sources.

^a Included in the "17-MSA" and "25-MSA" samples.^b Included in only the "25-MSA" sample.

Figure 1: Black and white self-employment and employment rates from 1979 to 1989

A. Self-employment rates (in percent) in entire United States and in U.S. cities



B. Employment rates (in percent) in entire United States and in U.S. cities

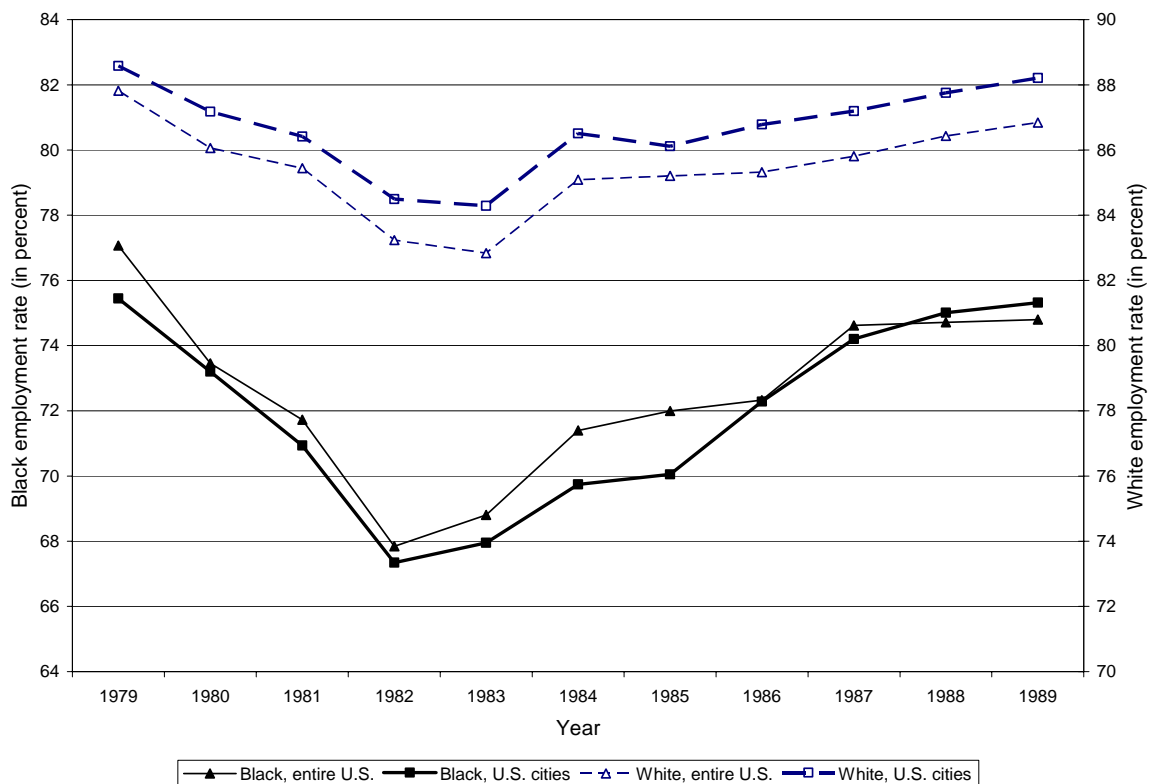


Figure 2: Difference in black-white differences in self-employment rates between cities initiating a set-aside program i) in 1980 or before, ii) in 1985, and iii) after the 1980s or never

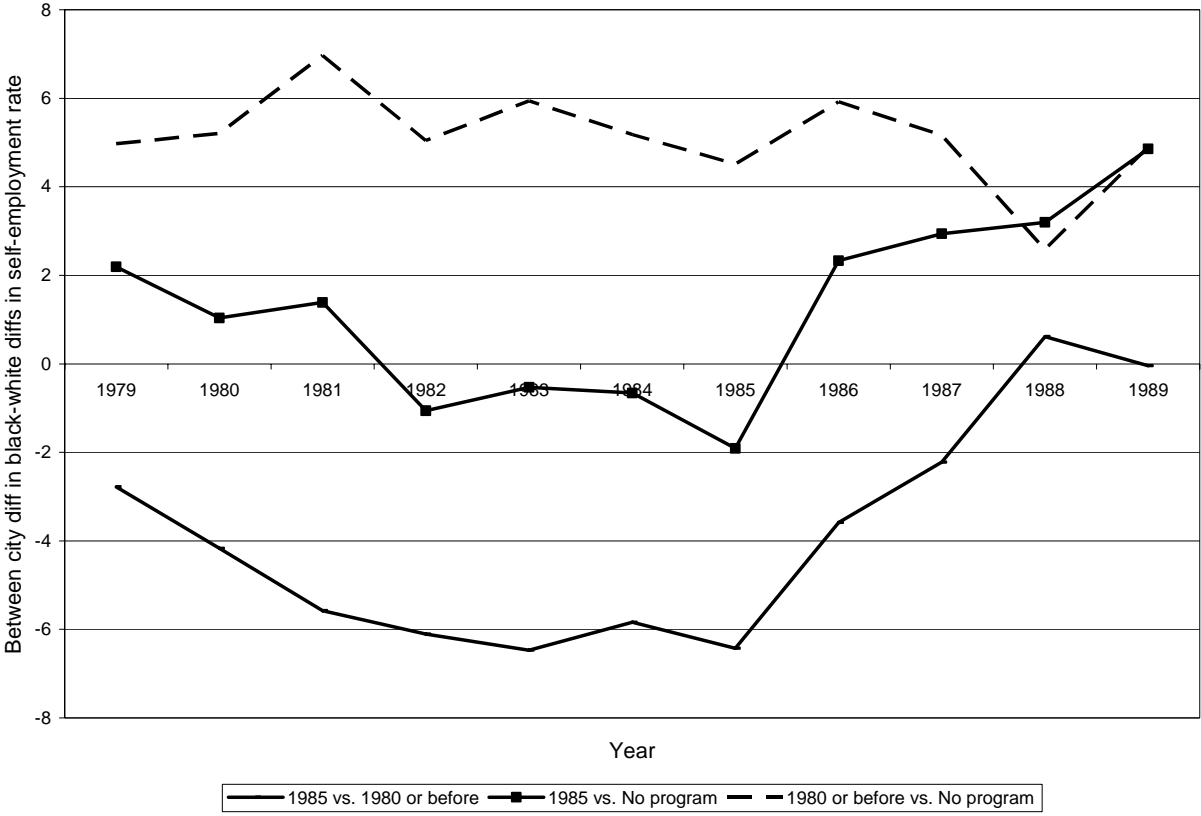
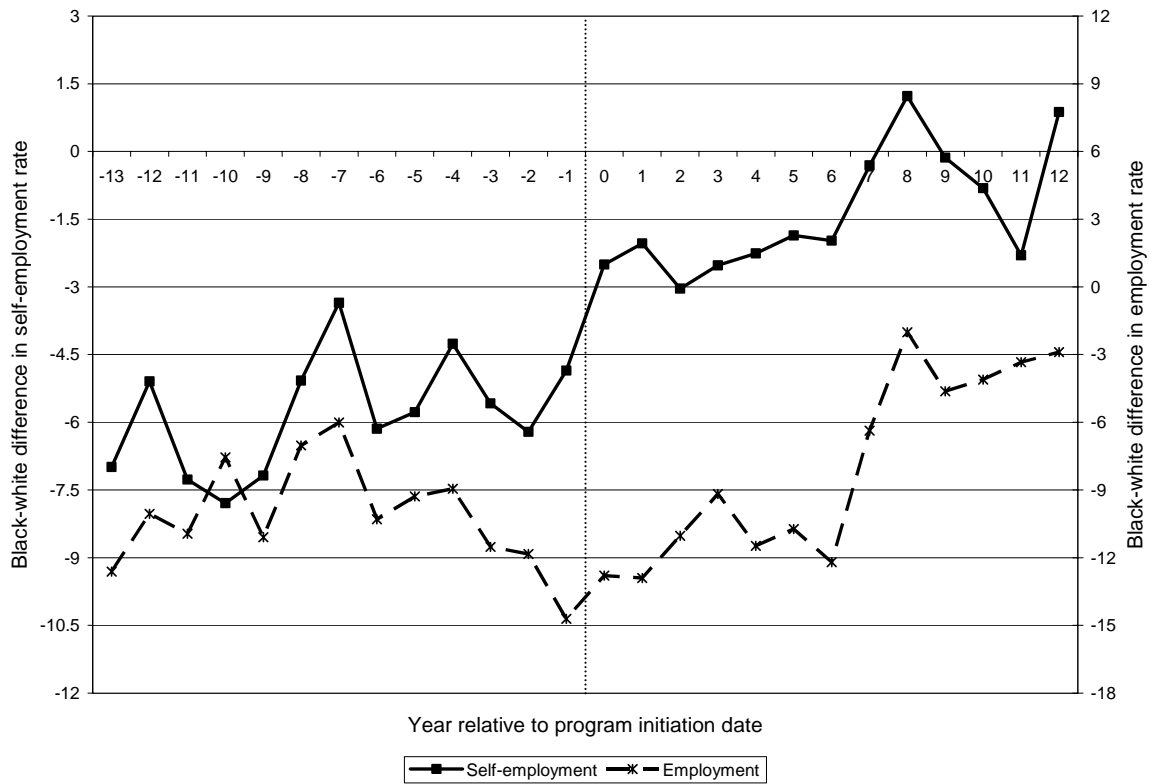
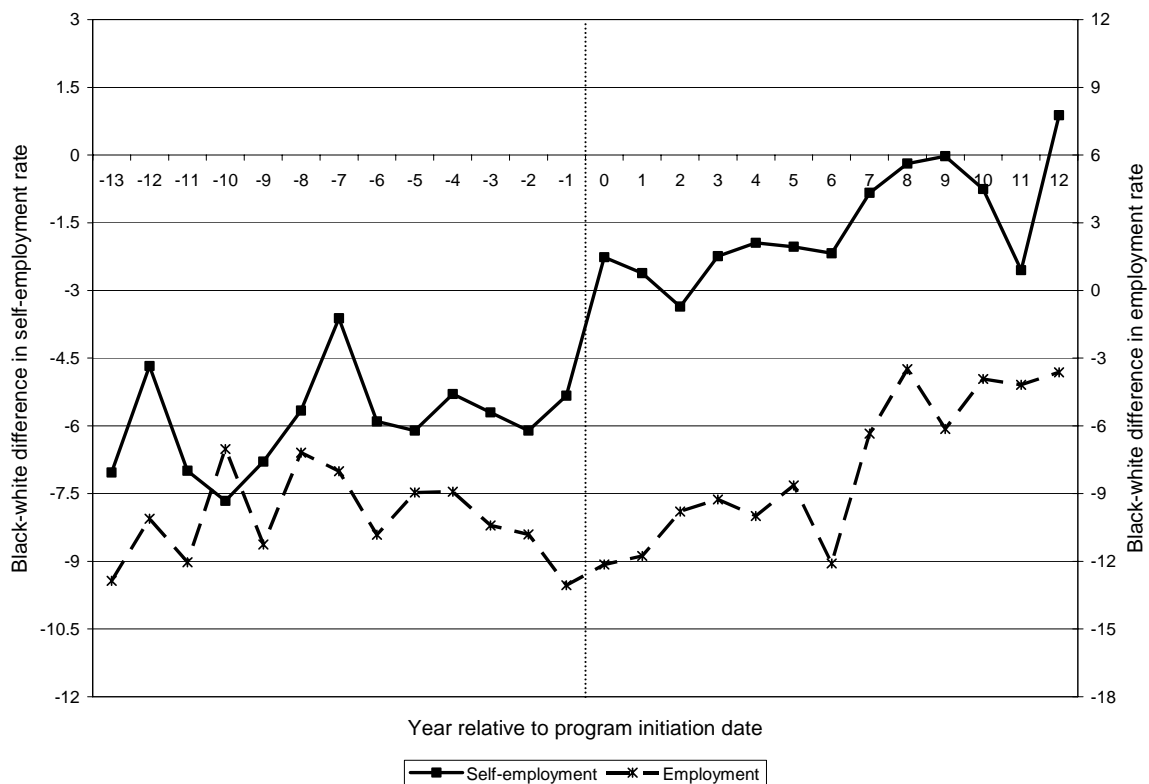


Figure 3: Event study results for black-white differences in self-employment and employment rates

A. Event study for 17-MSA sample



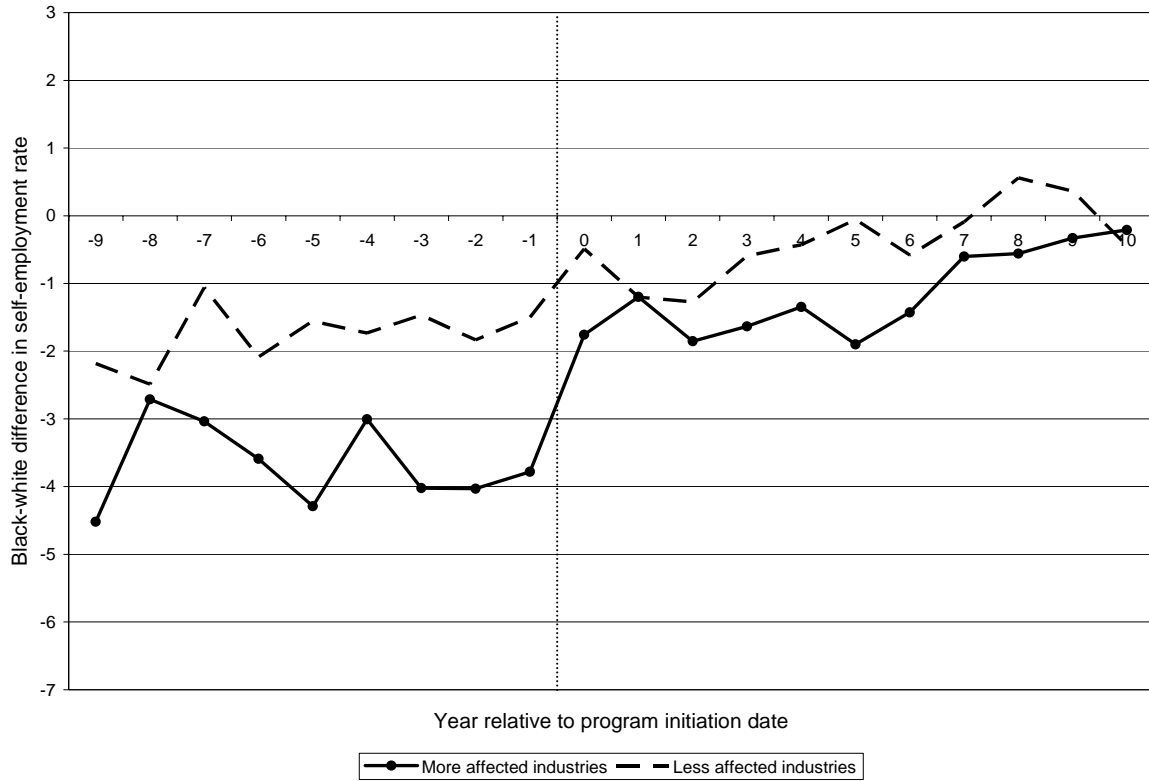
B. Event study for 25-MSA sample



Notes: Series come from linear probability models that include MSA fixed-effects, race-specific year effects and unrestricted indicators for education and age.

Figure 4: Black-white differences in self-employment and employment rates for more and less affected industry groups, 25-MSA sample

A. Self-employment, adjusted



B. Employment, adjusted

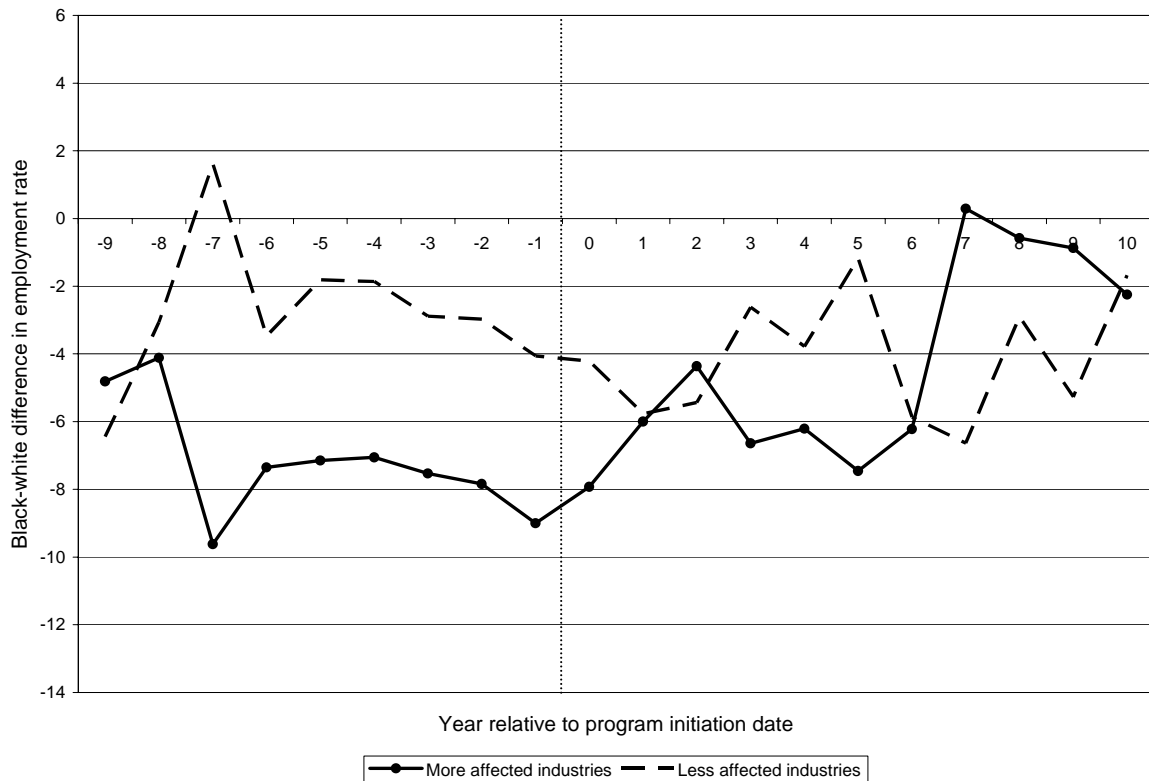
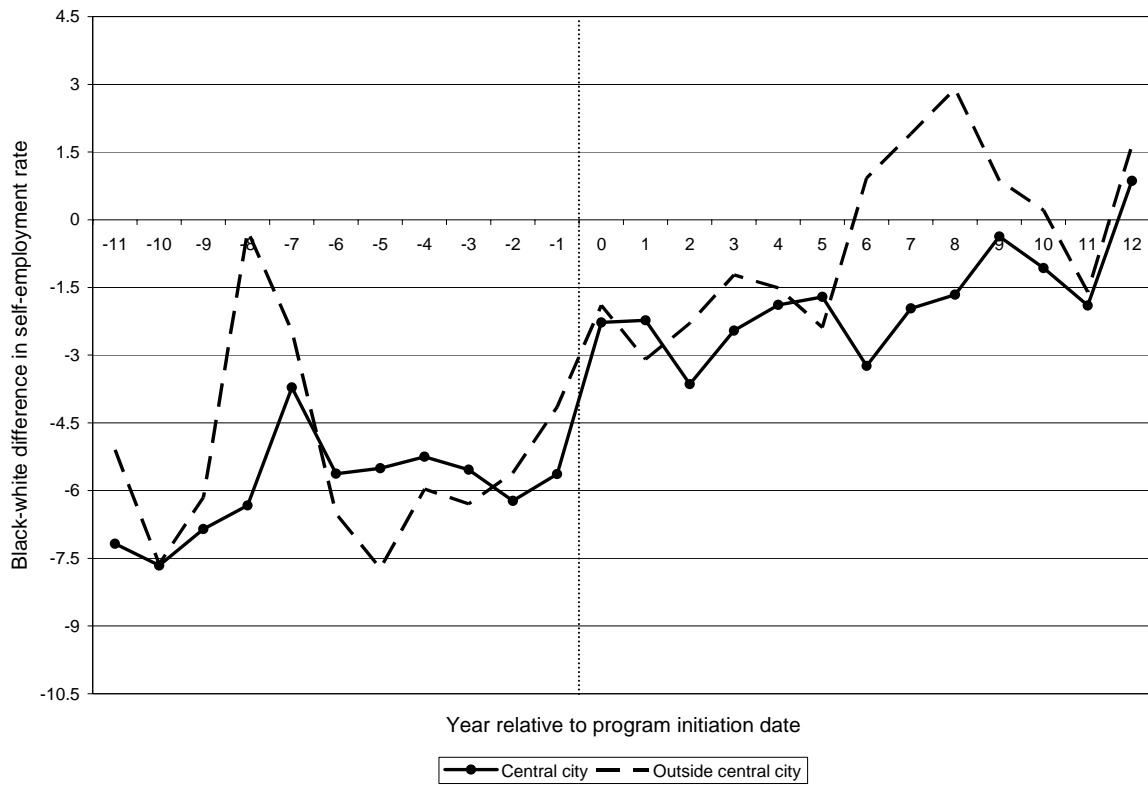


Figure 5: Differences between black men in central city (black men outside central city) and white men in MSA, 25-MSA sample

A. Self-employment, adjusted



B. Employment, adjusted

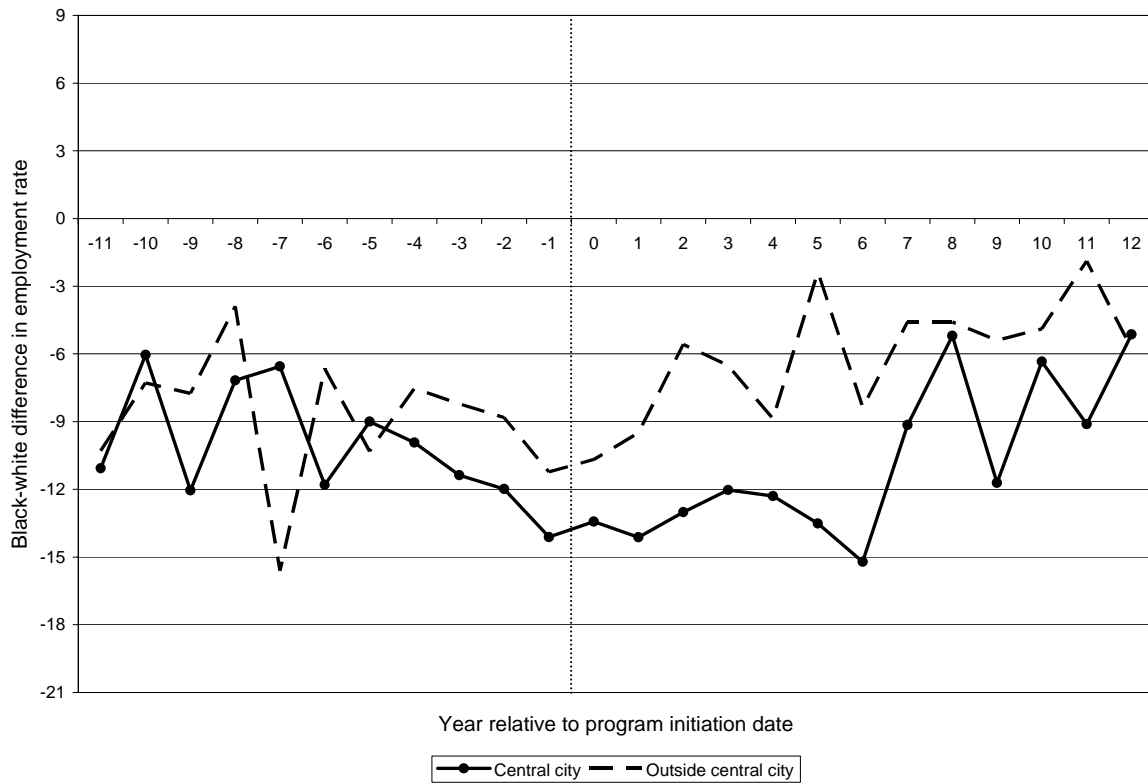
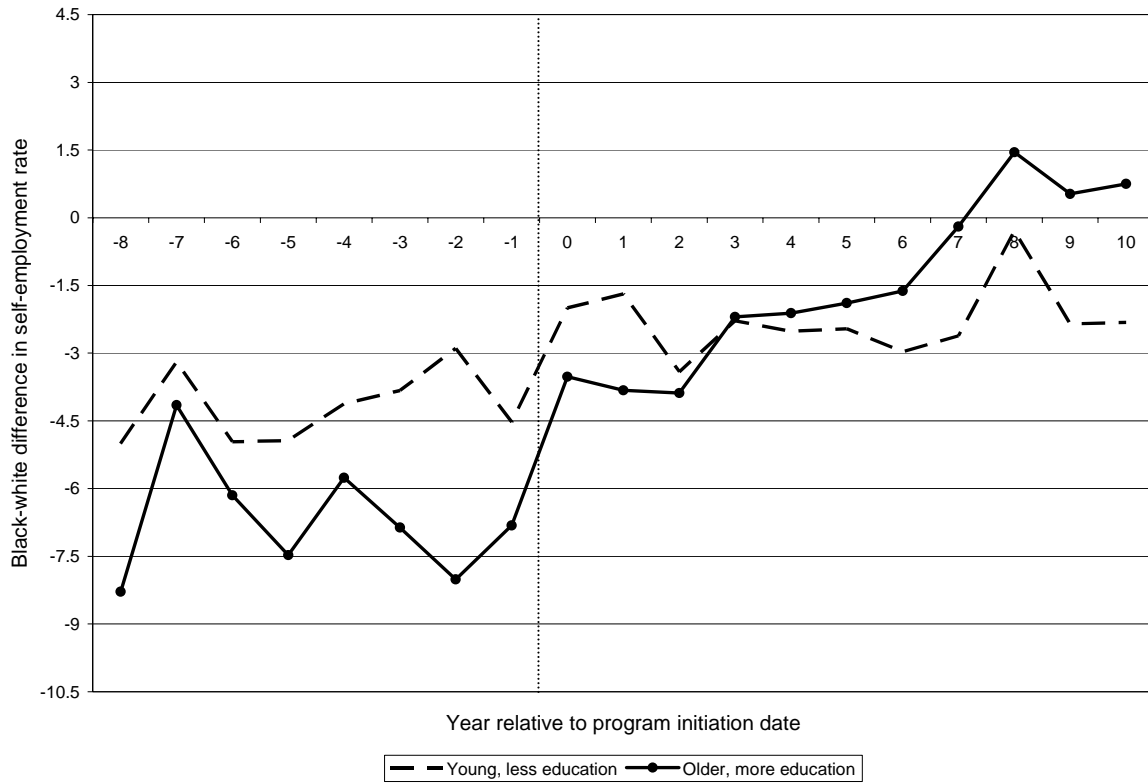


Figure 6: Black-white differences for young, less-educated men and for older, more-educated men
25-MSA sample

A. Self-employment, adjusted



B. Employment, adjusted

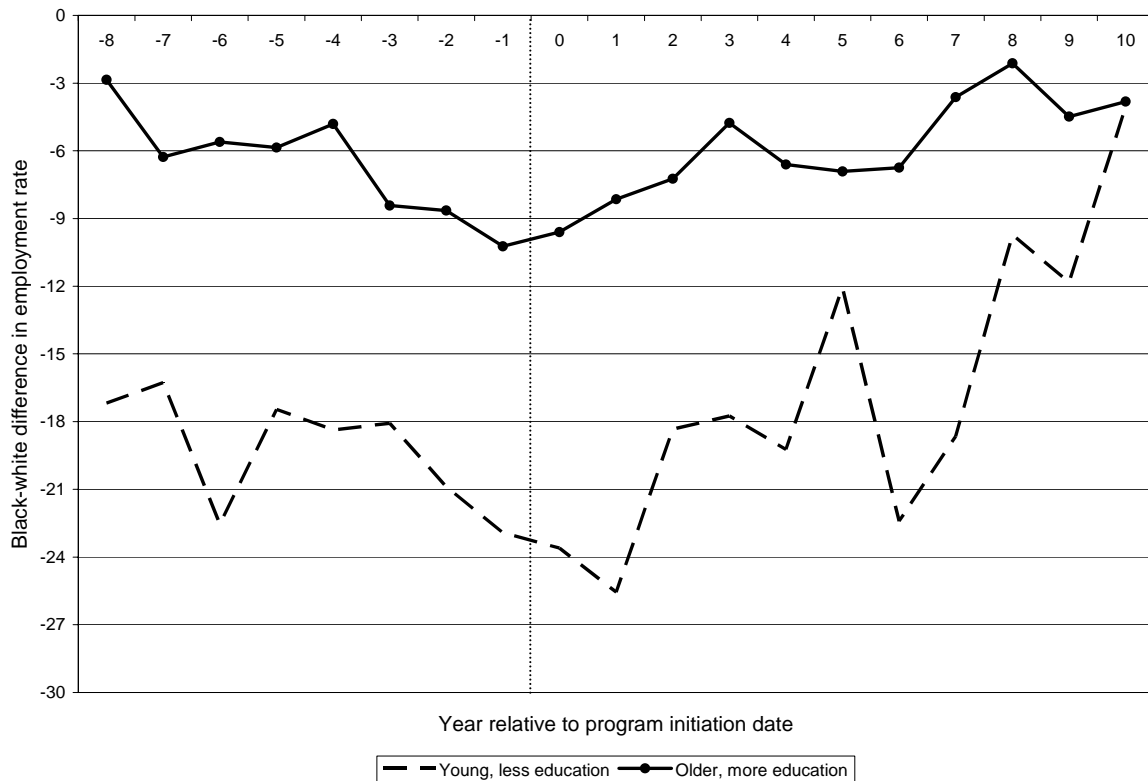
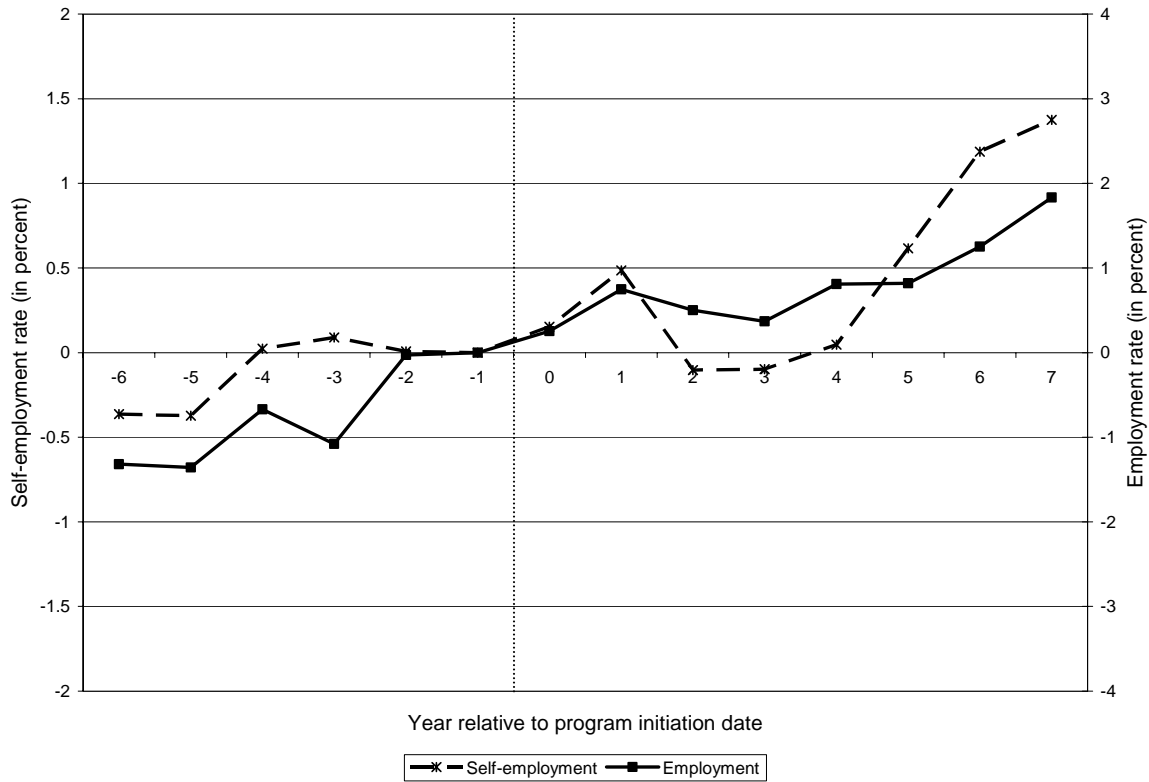


Figure 7: Aggregate self-employment and employment rates for the 25-MSA sample

A. Self-employment and employment rates, adjusted



B. Employment rates by skill group, adjusted

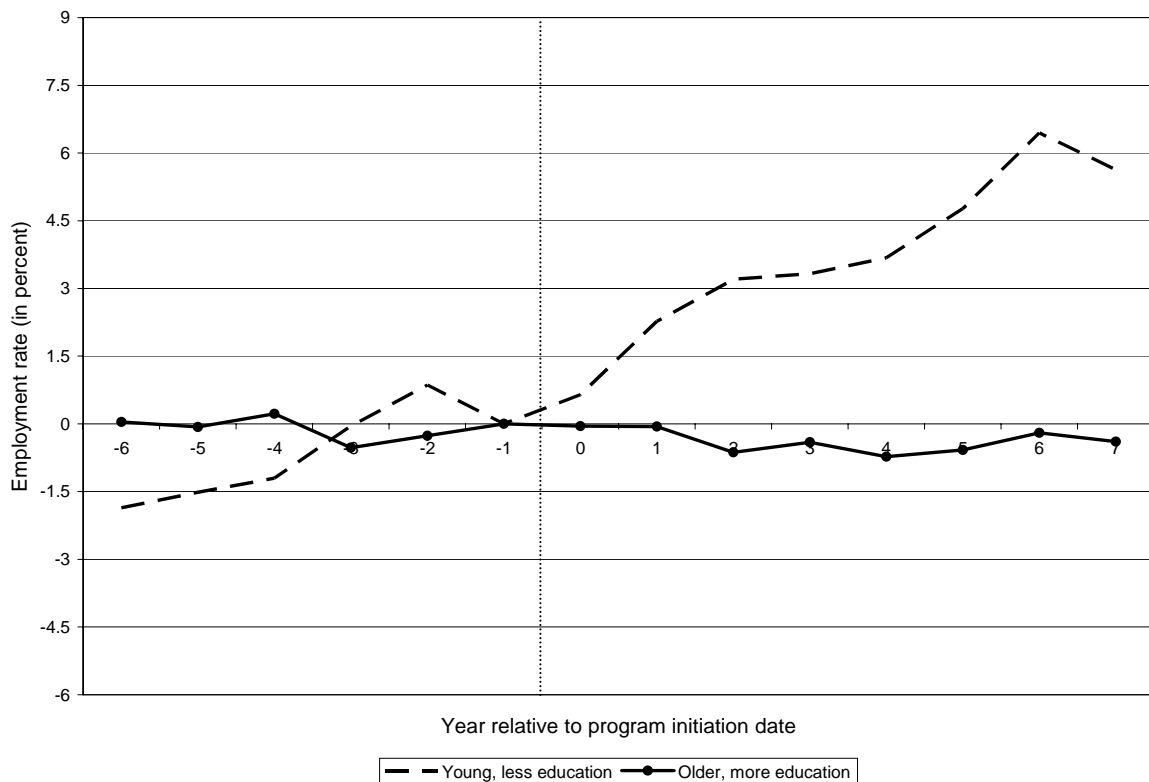
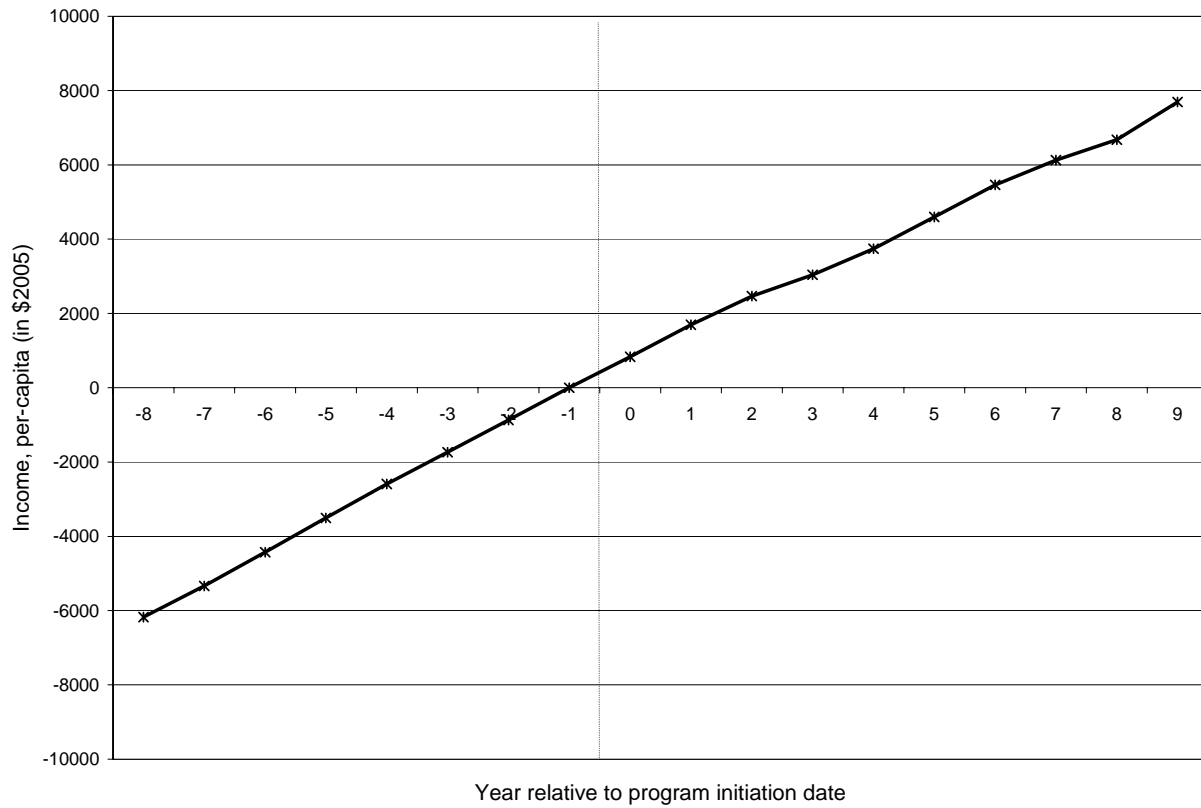
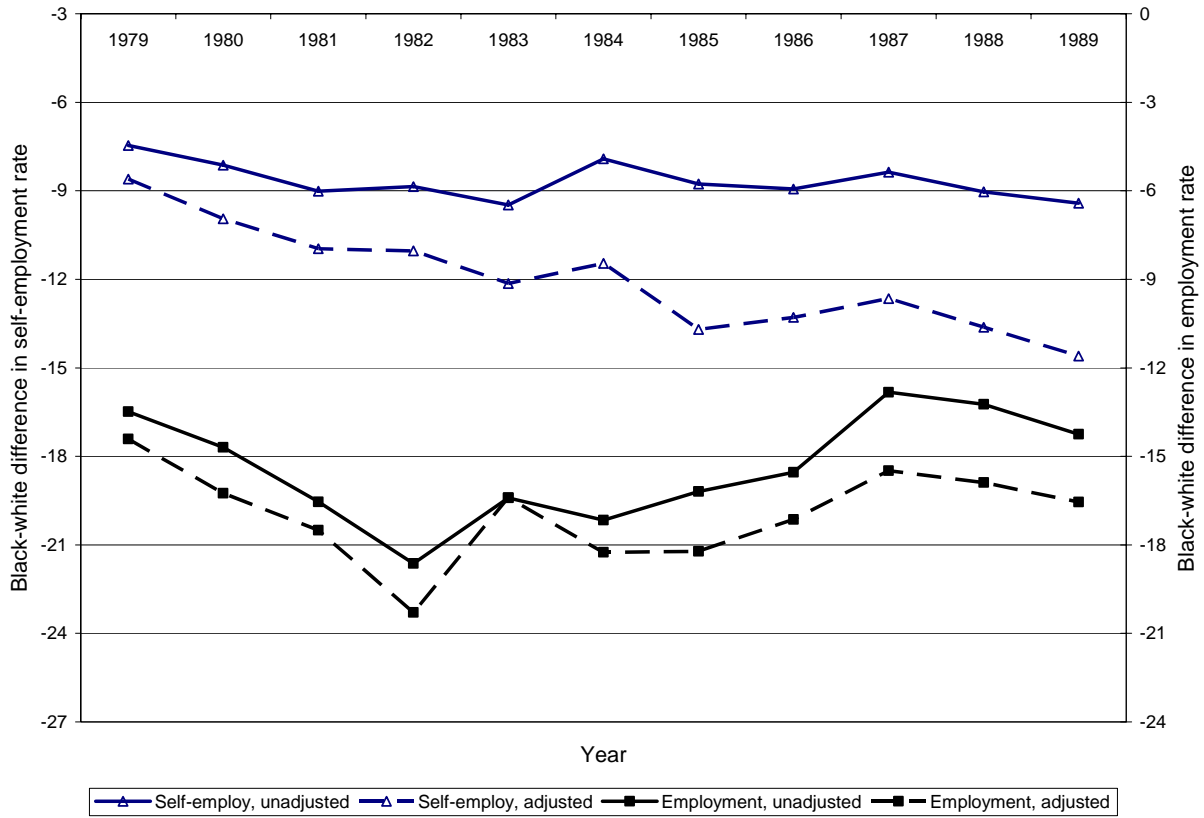


Figure 8: Aggregate income per-capita for the 25-MSA sample



Notes: Based on annual, MSA-level data from the *Regional Economic Accounts* of the Bureau of Economic Analysis for 1969 to 1989. Series comes from models that also include unrestricted year effects and MSA fixed-effects.

Figure 9: Black-white difference in year effects in self-employment and employment rates, unadjusted and adjusted for program date effects, 25-MSA sample



Notes: “Unadjusted” series come from linear probability models that include MSA fixed effects. “Adjusted” series come from models that also include race-specific, set-aside program dummies – i.e., indicators for respondent’s survey year minus the year in which the program was initiated in the respondent’s city.