Employment Shifts among Low-skill Workers during the Recession

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ABSTRACT

We analyze labor force participation and employment rates for Whites, Blacks, and immigrants from Mexico and Central America (MXCAs) without a high school diploma. We use CPS-MORG data from the first quarter of 2006 to the fourth quarter of 2010, so that we can see trends before, during and immediately after the recession. Among males, employment rates during the recession fell for all groups, but they fell deeper and faster among Blacks, who were also the last to begin to recover after the recession. Among low-skill women, the most apparent response to the recession was an increase in the LFPR of MXCAs. We offer four hypotheses for why low-skill Black males fared much worse than low-skill MXCA males in terms of employment rates during the recession. Of these, the most plausible appears to be that employer preferences for immigrant over Black workers became more pronounced during the recession.

Introduction

We examine employment rates and labor force participation of those without a high school diploma before, during and after the "Great Recession". Those without a high school diploma (hereafter "low-skill workers") are the most vulnerable workers, and our primary research interest is study how the severe economic downturn affected them. This is important for various reasons:

a) Employment rates for Black male dropouts were improving before the recession, and the recession reversed the trend;

b) A large component of the low-skill workforce is immigrant, in particular from Mexico and Central America, and the recession affected immigration patterns;

c) The recession would have presumably exacerbated competition for jobs among low-skill workers, in particular between groups such as US-born Blacks and immigrants, a contentious issue in the migration field;

d) The recession disproportionately affected minorities. A Pew Research Center study (Kochhar, Fry & Taylor 2011) found an increase in the White-to-Black average wealth ratio from 11-to-1 in 2004 to 19-to-1 in 2009. From 2005 to 2009, inflation-adjusted median wealth fell by 66% among Hispanic households and 53% among black households, compared with just 16% among white households.

We focus on male workers age 18-64, although we provide basic figures for women. Our main interest is in US-born blacks (hereafter Blacks) and immigrants from Mexico and Central America (hereafter MXCAs). We also consider whites briefly.

When selecting immigrants, the choice of Mexicans and Central Americans responds to the current consensus that immigrants from these places face the greatest constraints to social mobility and successful incorporation in American Society, even beyond the immigrant generation (Alba & Nee 2005, Telles & Ortiz 2009).

The low-skill labor market

There are three predominant views on the dynamics of the low-skill labor market as it pertains to ethnic groups.

The competitive view

In this view low-skill immigrants compete with low-skill natives. Those who endorse this approach tend to focus on estimating the impact of immigration on the labor market prospects of native workers. Borjas (2003), for example, estimated that a 10-percent increase in immigration is associated with a 3 to 4 percent decline in wages, with a much stronger effect among dropouts.[1]

Particularly relevant to the competitive view are employer preferences. In particular, the literature has documented a preference for immigrants over native workers, in particular Blacks, among employers in various settings (Ong & Valenzuela Jr. 1996, Saucedo 2006, Waldinger 1997, Waldinger & Lichter 2003, Zamudio & Lichter 2008). In a zero-sum view of the labor market, employer preferences lead to the replacement of native workers with immigrant workers.

The stratified view

In this view, the labor market is characterized by niches where particular groups are predominant. There is not much direct competition for jobs among individuals. Rather, ethnic groups occupy niches in the labor market and a process of ethnic succession determines movement in and out of these niches (Waldinger 2000). As groups move up, niches become available. A corollary of this approach is that vulnerability to the perils of an economic downturn is a property of niches more than it is a property of individuals. In addition, it has been proposed that competition for jobs between immigrants and natives vary inversely with industry segregation (Bean, Fossett and Park 1993). There is some evidence that a growing presence of immigrants in low-skill niches can be accompanied by depreciation in median pay for both immigrant and native incumbents (Catanzarite 2002).

[1] At the core of Borjas' analysis is an assumption of perfect susbtitutatibility between comparable immigrant and US-born workers. If imperfect substitutability is allowed for, Ottaviano and Peri (2012) find that increased immigrant labor supply had a negligible effect on the wages of low-skill native workers from 1990 to 2006.

The complementary view

According to this variant, immigration, even of low-skill workers, creates economic opportunities. The low-skill labor market should not be seen as a zero-sum game. Instead, abundant low-skill labor generates opportunities for economic growth from whom native workers can benefit (Ottaviano, Peri & Wright 2010). A common example given by proponents of this is that a growing immigrant population implies growing school enrollment, which enhances job prospects for those in the public education sector, thus benefiting Black workers (Rosenfeld & Tienda 1999). More generally, as immigration increases, public sector employment to provide services for an increasing population expands as well, particularly benefiting Blacks (Muller & Espenshade 1985).

Recession and the labor market

In a model of labor market dynamics during a recession, Hodge (1973) proposed a view of the labor force as a queue, a theoretical approach also endorsed by Lieberson (1981). A depressed economy increases the gap between those at the top and those at the bottom of the queue. In the case of the US economy, Black workers have traditionally been relegated to the last positions in this queue, which leads us to expect them to be the most affected by an economic downturn. Research on the Great Depression, for example, identified a significant worsening of labor market outcomes of Blacks compared to those of Whites (Sundstrom 1992).

One mechanism for this outcome is provided by the "Last hired, first fired" hypothesis, according to which Black workers are the first to lose their jobs when an economic downturn hits, and the last to recover once economic growth resumes (Freeman 1973; Couch & Fairlie 2010). It is possible, however, that Black workers' longer unemployment spells result not only from discrimination but from relatively high reservation wages as well (Holzer 1986), but this is subject to debate (Petterson 1998). In this respect it is worth noting that minimum wage increases trigger increases in reservation wages (Falk, Fehr and Zehnder 2006) and that the U.S. minimum wage was raised 13.6% a few months before the recession (in July 2007), after being fixed for ten years[2].

Data and Method

We use the CPS Merged Outgoing Rotation Groups (MORG) data files, assembled by the National Bureau of Economic Research[3]. We aggregate data by quarters and produce three-quarter moving averages to smooth out sampling error. We consider the period from the first quarter of 2006 to the fourth quarter of 2010. The recession lasted from December 2007 to June 2009, i.e. from the end of the fourth quarter of 2007 to the end of the second quarter of 2009.

[2] It was raised again in July 2008 (from $5.85/hour to $6.55/hour) and July 2009 (from $6.55/hour to $7.25/hour) (http://www.dol.gov/whd/minwage/chart.htm).
[3] http://www.nber.org/data/morg.html.

As mentioned above, we select those without a high school diploma, men and women, age 18-64. We limit the analysis to US-born Blacks, Mexican & Central American immigrants (MXCAs, the large majority of whom are Mexican) and Whites, with our emphasis placed on the first two groups.

This is largely a descriptive paper. We do not go much further than an exploration of trends and rates, offering a standard demographic decomposition technique to disentangle what we consider the most striking trend: a dramatic increase in the MXCA-to-Black ratio among employed low-skill male workers.

We do not offer ultimate conclusions about the low-skill labor market processes at work during the recession, but describe those processes instead as a first step for further research. We do offer alternative hypotheses to explain the better employment outcomes experienced by MXCA males relative to Black males. We do not go as far as to systematically evaluate these hypotheses in this paper, but we do provide some first data-based assessment on their plausibility.

Results

Labor force participation and employment rates

Figures 1 and 2 show size and labor force participation rates of the population of interest—an average of the 2006-2010 period. Among the low-skill population, MXCAs largely outnumber Blacks, with Whites being the most numerous group. Labor force participation rates are quite high among MXCA males (92%), above the figures for Whites (68%) and Blacks (55%). This is in stark contrast to the female population, for whom labor force participation rates are quite similar across groups, hovering around 50 percent.

Figures 3 through 6 show employment and labor force participation rates for men and women, in addition to GDP growth rates, by quarter, 2006-2010.

Figure 3 shows employment rates for males. Early on in the period, employment rates for Blacks were improving. Employment rates for all three groups plummeted during the recession, but they did not do so evenly. By the end of the period all gaps (between MXCAs and Whites, MXCAs and Blacks, and Whites and Blacks) have increased. Employment rates for Black male workers started to decline first and began to increase last. MXCA employment rates stopped falling right at the end of the recession—second quarter of 2009. By contrast, both White and Black employment rates continued to deteriorate during the period of "jobless recovery". The trends in Black employment rates, as shown in the figure, are consistent with the "last hired, first fired" hypothesis.

Effects of the recession on labor force participation rates for males, shown in Figure 4, are not obvious to the naked eye.

Figure 5 shows employment rates among women. The trends seem to mirror those among male workers, with the gaps again being larger at the end of the period than before the recession. Sampling error is likely responsible for the spike of Black employment rates in the second quarter of 2010.

Figure 6 suggests that female labor force participation rates were affected by the recession. LFPRs of MXCA women went up substantially during the recession, and those of White women increased moderately but steadily during the recession. These trends suggest that many women joined the labor force during a time when household income likely deteriorated and their contributions were needed.

Employment ratios

As a consequence of these trends, the ratio between MXCA and Black workers increased substantially during the period under study. Employment ratios offer a useful indicator of labor market dynamics when the interest is in evaluating the relative performance of groups. They are also intuitive from the layperson's point of view, as they offer a quick snapshot of what the employed labor force looks like.

In short, the employed low-skill workforce has been, in relative terms, becoming more Mexican and Central American and less Black, in particular during the recession. Figure 7 shows the ratios for men and women. While there were a little less than five MXCA workers per Black worker among the low-skill before the recession, at the end of the period under study the ratio is approaching 7. For women, it increased from about 2 to about 2.5.

Employment ratio decomposition

A more nuanced description can be obtained by subjecting the trend in these ratios to a decomposition exercise. In particular, employment ratios among low-skill workers can change as a consequence of various processes:

a) Changes in employment rates among low-skill workers
b) Changes in labor force participation rates among the low-skilled
c) Changes in the proportions with no HS diploma among MXCAs and Blacks
d) Overall population change

The following equation summarizes it:

$$\frac{W^{M,D}}{W^{B,D}} = \frac{\frac{W^{M,D}}{L^{M,D}}}{\frac{W^{B,D}}{L^{M,D}}} \times \frac{\frac{L^{M,D}}{D^{M}}}{\frac{L^{B,D}}{D^{B}}} \times \frac{\frac{D^{M}}{M}}{\frac{D^{B}}{B}} \times \frac{M}{B}$$

Where:

M stands for MXCAs and B for Blacks; W means workers, L labor force, and D low-skill.

Thus, in the equation above the left term is the employment ratio between MXCA and Black low-skill workers and the right-hand side terms can be thought of as:

a) Employment rate ratio
b) Ratio of LFPRs

c) Low-skill ratio, or ratio between the proportion of low-skill in both populations
d) Population ratio

Thus, changes in the employment ratio are the result of changes in these four factors, which can be associated with different processes. Changes in relative employment rates may be due to job competition, employment preferences, occupational niches or industries where each of the groups is employed, or the degree to which the two groups complement each other on the job market. Changes in LFPR may arise from withdrawal from the labor force as a result of discouragement, reservation wages, or other factors. In the case of the MORG data, changes in low-skill ratios are probably a result of sampling error more than a reflection of real processes. Changes in population are, almost certainly, mostly related to immigration trends.

We apply a typical decomposition and standardization technique proposed by Das Gupta (1993). It addresses the question: what would have been the change in employment ratios if only factor x had changed with the other three remaining constant?[4]

Figures 8 and 9 show the standardized ratios that result from the decomposition analysis, for men and women. At first glance the figure for men indicates that the increase in the MXCA-to-Black employment ratio is largely explained by changes in the employment rate ratio between the two groups. The figure for women shows a different picture, where changes in LFPRs seem to explain most of the change in the employment ratio.

Tables 1 and 2 present the proportion of the change in the employment ratio that is attributable to each of the four factors, for the whole period (2006 Q1 to 2010 Q4) and selected subperiods within it. For both men and women, the change during the recession is mostly explained by changes in the employment rates of both groups, strikingly so in the case of men. This is true for men when looking at the whole period as well, but for women changes in LFPRs explain most of the change when looking at subperiods other than the recession—assuming that the low-skill effect can be mostly attributed to sampling error.

A closer look at MXCA and Black employment rates for men

The main story for MXCA and Black males, then, is related to the different trends in their employment rates as a consequence of the recession. The question is: Why did MXCA males fare much better than Black males in terms of employment rates?

We identify the following hypotheses:

a) Occupational or industry niches: Blacks were disproportionately employed in occupational niches or industries that were most affected by the recession, or conversely, MXCAs were disproportionately occupied in industries that were less affected by it

[4] Because this technique is well-known to demographers, we will not explain it here. The reader may consult Das Gupta (1993). Alternatively Sana (2008) offers a straightforward explanation for an exercise analogous to the one applied here.

b) Blacks having a higher reservation wage than MXCAs: this would lead Blacks to turn down job offers, or to give up on looking for certain jobs, to the detriment of their employment rates

c) Internal competition among Black workers: Black low-skill workers being displaced by higher-skilled Black workers (i.e. workers with a high school diploma)

d) Employer preference, through its various mechanisms (substitution of MXCA for Black workers, or Blacks last hired, first fired)

We briefly address the prima-facie plausibility of each of these.

Industries

Figure 10 shows the distribution of MXCA and Black male dropouts by industry at the beginning of the period, and the distribution of job losses by industry for all low-skill males during 2006-2010. This provides a first approximation to the plausibility of the hypothesis that Black employment rates fared worse than MXCA's because of the industries in which Black male workers concentrated. Except for the "all other" industry category, the industries are sorted by job loss.

The four industries with the heaviest job losses were construction (about 25% of job loss among all low-skill men), retail trade, manufacturing, and accommodation & food services. Of these, MXCAs were by far more concentrated in construction than Blacks, and they were also more concentrated in manufacturing. Thus, at first sight, it does not look like low-skill Black males were in the "wrong" industries.

Figure 11 shows the distribution of job loss among Black and MXCA male dropouts. The most striking feature of the figure is the enormous concentration of job loss among MXCAs in the construction industry. Perhaps the second striking feature is the job gains that MXCAs secured in various industries, in particular administrative support and services. Blacks, on the other hand, seem to have been unable to secure significant job gains in any industry, and the industries were they had a stronghold, health care and public administration, did not act as protective niches for them[5]. This seems to suggest that MXCAs were more resourceful, perhaps as a result of cross-industry networks, than Blacks. Conversely, it suggests little flexibility on the part of low-skill Blacks to switch industries, probably as a result of few cross-industry networks. The picture that emerges, then, at first sight, is not one in which industry location was decisive, but one in which the ability to switch across industries was.

Reservation wage

A relatively high reservation wage among low-skill Black workers has been presumed to be an explanation for low Black labor force participation rates coupled with improvements in Black wages (Holzer 1986), something that has been contested (Petterson 1998). In general, reservation wages seem

[5] While overall employment in health care actually increased during the recession (http://www.bls.gov/spotlight/2012/recession/pdf/recession_bls_spotlight.pdf), the industry seems not to have been kind to its lowest-skilled employees.

relevant to explain variation in labor force participation rates, and analysis of Black-White (or other groups') wage ratios needs to be sensitive to selectivity issues (Chandra 2003).

If one observes only the employed population and their wages, a relatively high reservation wage for Blacks should lead to low LFPRs coupled with relatively high, or at least, average wages. Figure 12 shows, however, that among low-skill men Black hourly wages actually declined during the recession while MXCA wages increased, so that during the recession, and almost *only* during the recession, MXCA hourly wages surpassed those of Blacks. Thus, the basic descriptive data on wages alone suggests that Blacks' reservation wage is not the reason for MXCA employment rates faring better during the recession, since a high reservation wage for Blacks implies that they would not be willing to work for lower wages. Of course, it is entirely possible that heterogeneity accounts for this result, with those Blacks with higher reservation wages choosing to go or remain unemployed. A more detailed empirical analysis should study this possibility, as well as comparable heterogeneity among MXCA workers.

Internal competition among Black workers

In this scenario, more qualified Black workers (those with a high school diploma) would, in the absence of better options, take jobs that are normally held by low-skill Blacks. In order to take a cursory look at this hypothesis, we classified a number of occupations as low-skill and, selecting men, computed the proportion of workers in those occupations that are low-skill Blacks and the proportion that are Blacks with a high school diploma.

We produced three alternative classifications using the detailed occupational variable in the MORG files (a total of 567 occupations), using data from all five years under analysis. We calculated the percent of each occupation that was comprised of workers with no high school diploma. The three alternative classifications, from most to least inclusive, correspond to occupations where at least 10 percent of workers are low-skill (198 occupations, or 35% of the total), occupations where at least 20 percent of workers are low-skill (93 occupations, or 16% of the total), and occupations where at least 30 percent of workers are low-skill (41 occupations, or 7% of the total).

Figure 13 shows the percent of male workers in those occupations that were low-skill Blacks or Blacks with high school diplomas. Substitution of more skilled workers for low-skill workers during the recession would translate into a fall in the proportions of low-skill workers coupled with an increase in the proportion of workers with high school diplomas. The former seems to have happened in the most restrictive definition of low-skill occupations. The latter appears to be the case in the most restrictive classification of low-skill occupations and, early on during the recession, in the second most restrictive. The overall trend for the 2006-2010 period, however, is of Black workers with high school diplomas becoming less of a presence in low-skill occupations, highlighting the need to better understand recession dynamics in the Black low-skill workforce.

Employer preference

At this point, we have not yet addressed this possibility, which we consider quite plausible. Employer preference is difficult to study with data such as the CPS. One can look at evidence for substitution of

workers within industries and specific occupations (and we do plan to show something to this effect at PAA), but even in the presence of substitution there often are alternative explanations for it other than employer preference. In the literature, employer preference has usually been studied with qualitative methods, with firm-specific studies, or with survey research especially designed to address the issue.

Preliminary conclusions

In the analysis above we selected workers without a high school diploma, that is, vulnerable workers regardless of their race or ethnicity, and we examined their employment outcomes between the first quarter of 2006 and the last quarter of 2010, which includes the period dubbed as the "Great Recession" (December 2007 – June 2009). We noticed that the recession affected employment rates among all groups considered, but was especially harmful for Black workers. Black male workers fared worse than immigrant workers from Mexico and Central America (MXCAs), which is reflected in a growing MXCA-to-Black ratio in the low-skill male workforce—from nearly five MXCAs per Black worker early in 2006 to nearly 7 by the end of 2010. A decomposition of this trend confirms that, by far, the main factor explaining it was the different trajectory of employment rates for these two groups.

We proposed four possible hypotheses to explain these different employment rate trajectories, and cursorily considered the plausibility of each. We concluded that it is unlikely that the observed employment rate trends resulted from industry-related job placement among MXCAs and Blacks workers. Indeed, MXCAs seem to have been as likely as, if not more likely than, Blacks to have been working in the industries most badly hit by the recession, but they proved to be more resourceful to switch industries in the midst of economic slowdown. We also doubt that a Black relatively high reservation wage can account for the trends, as Black hourly wages actually declined below those of MXCAs during the recession, in contrast with their higher wages during the rest of the period under study. We speculate that Black internal job market competition, whereas Black workers with high school diplomas would have been willing to take low-skill jobs during the recession (potentially displacing low-skill Black workers from them), might have been to some extent at work. Finally, we believe that the well-documented employer preference for immigrant workers over Black workers may have become more prevalent during the recession, although a close look at this possibility is at this point pending. All four hypotheses need further research, as we have only provided a first speculative cursory look.

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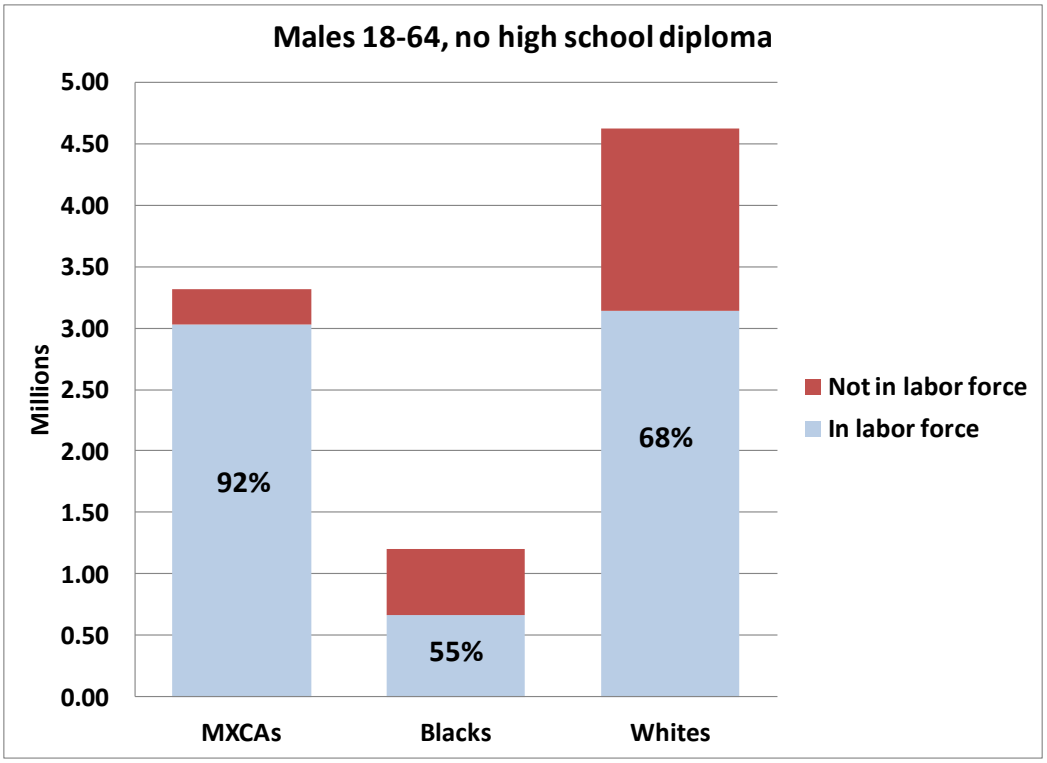


Figure 1

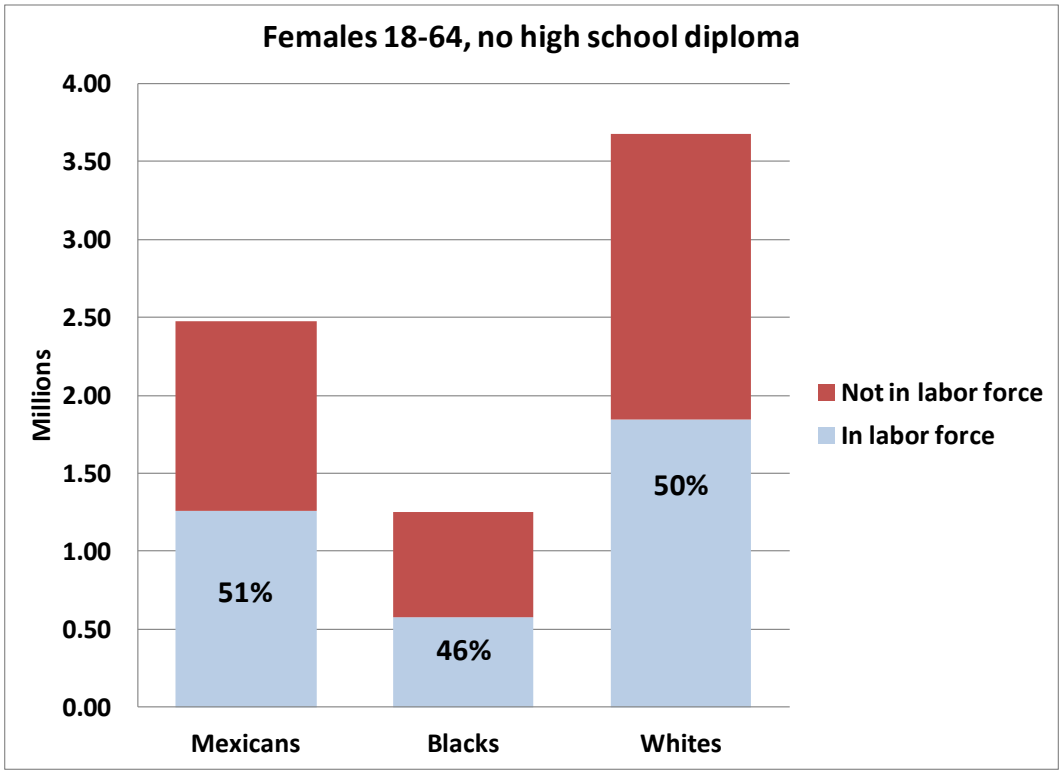
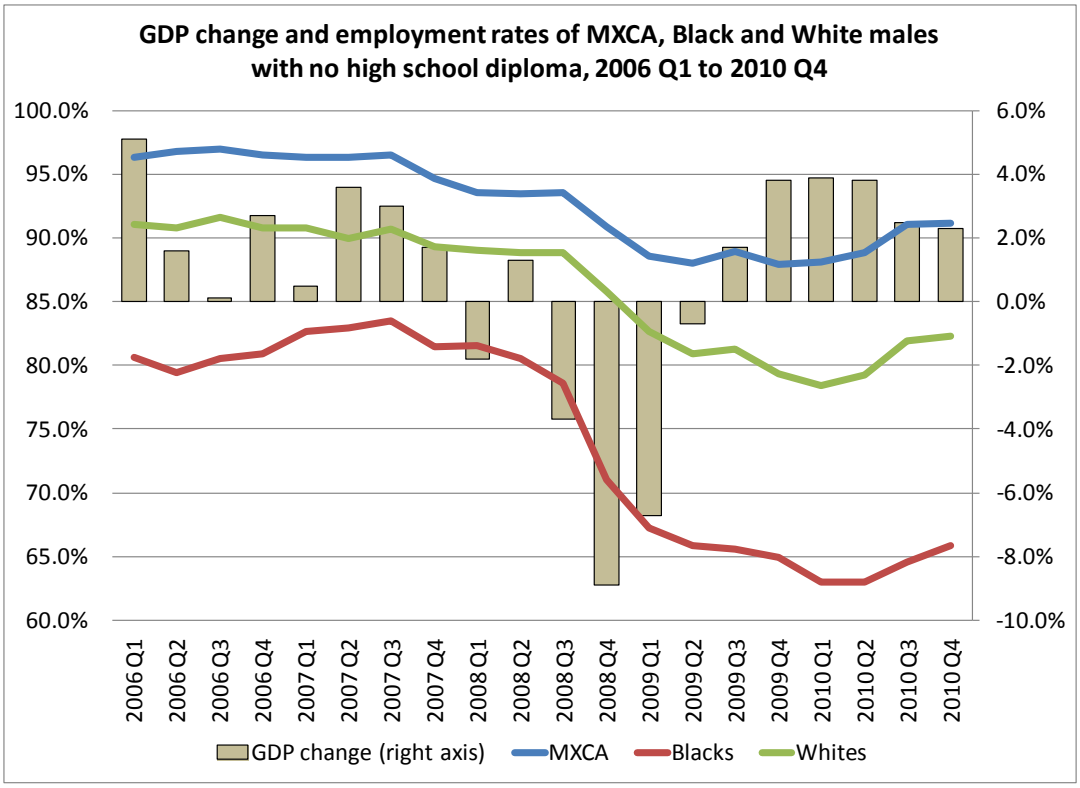


Figure 2



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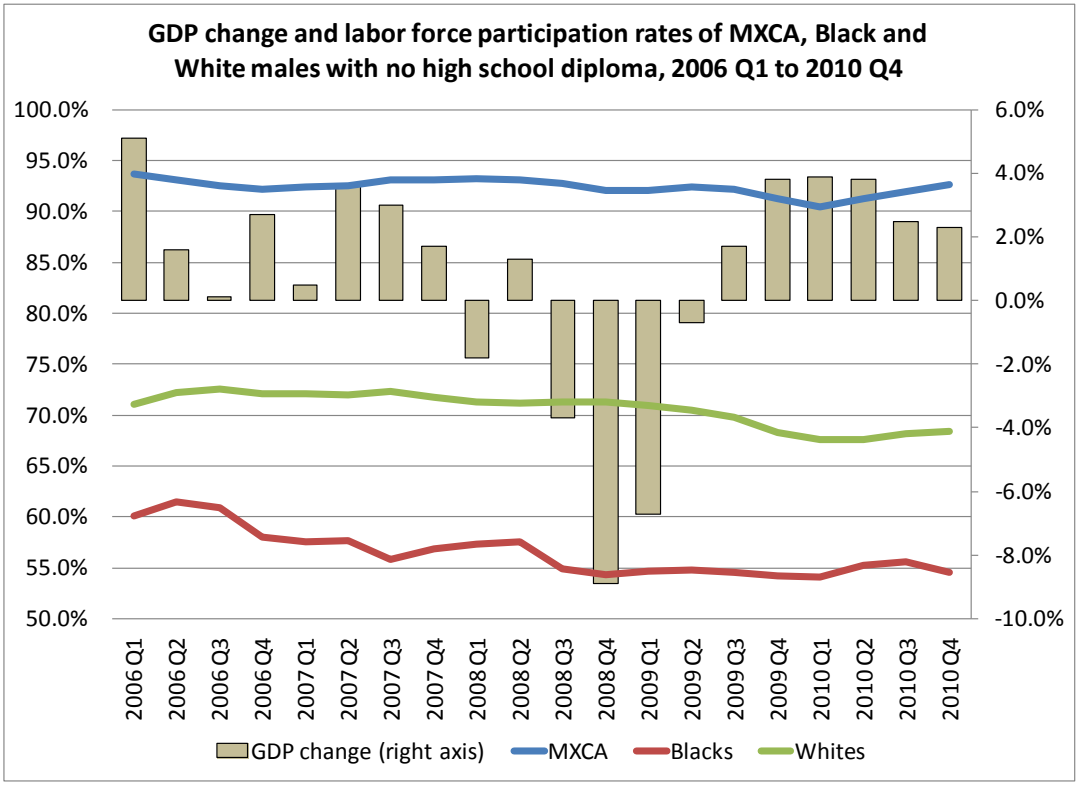

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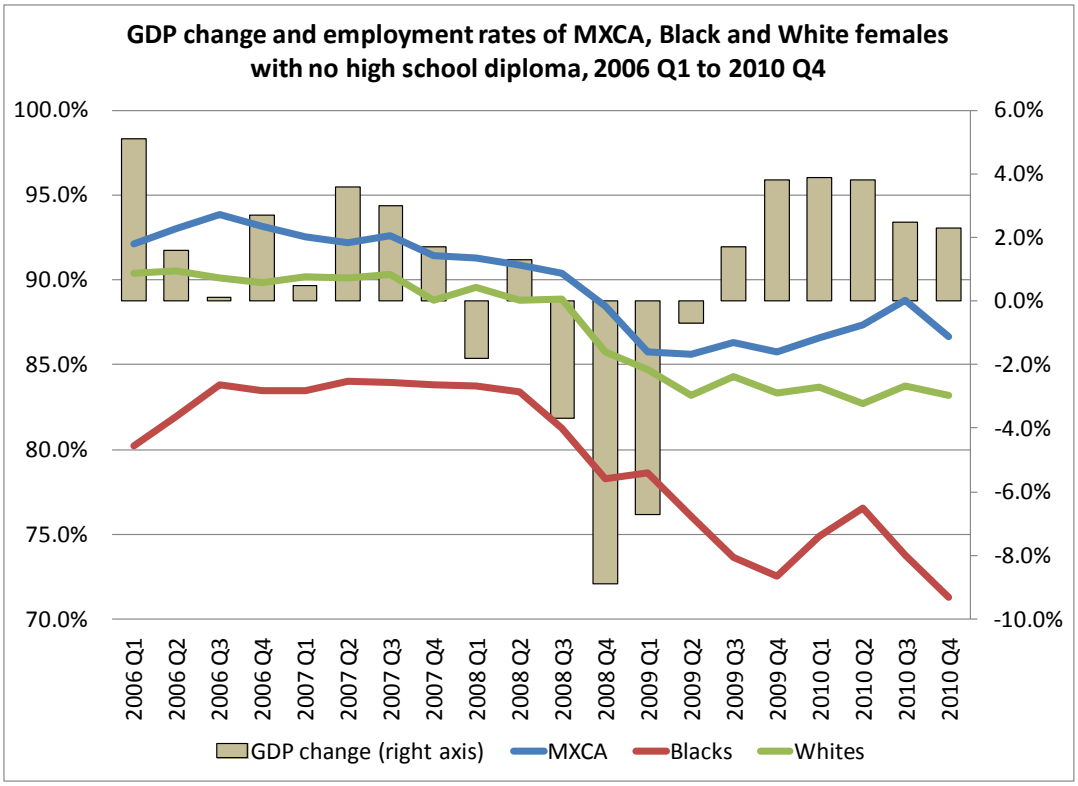

Figure 5

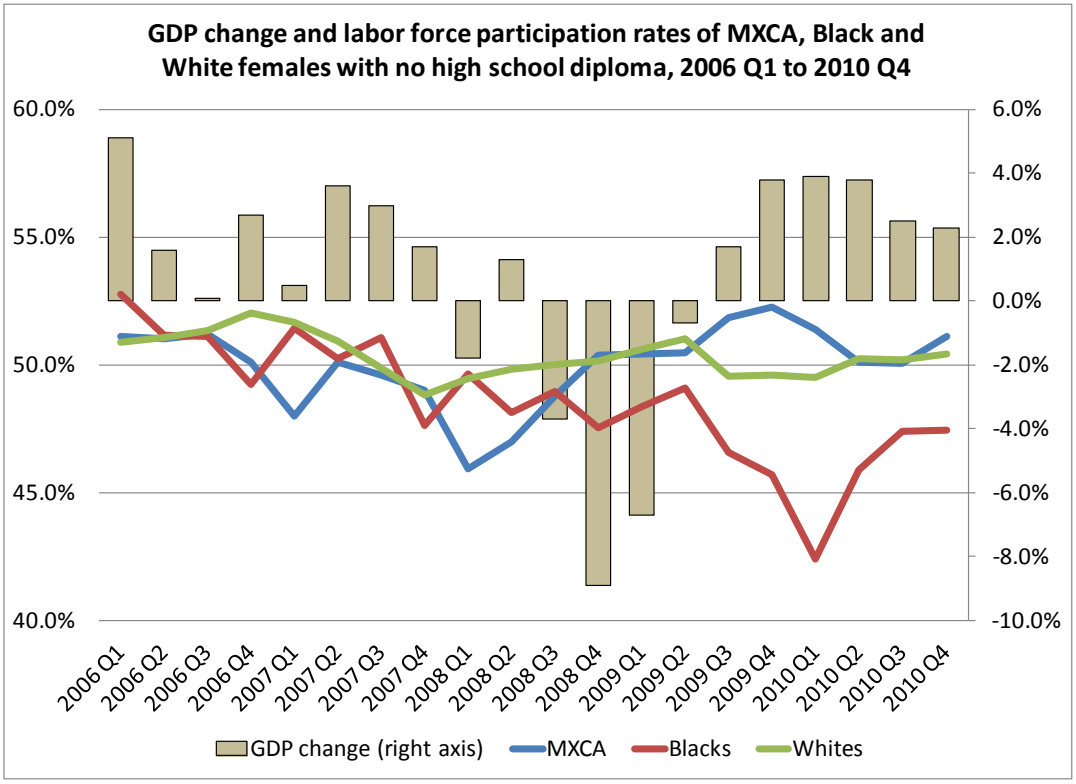

Figure 6

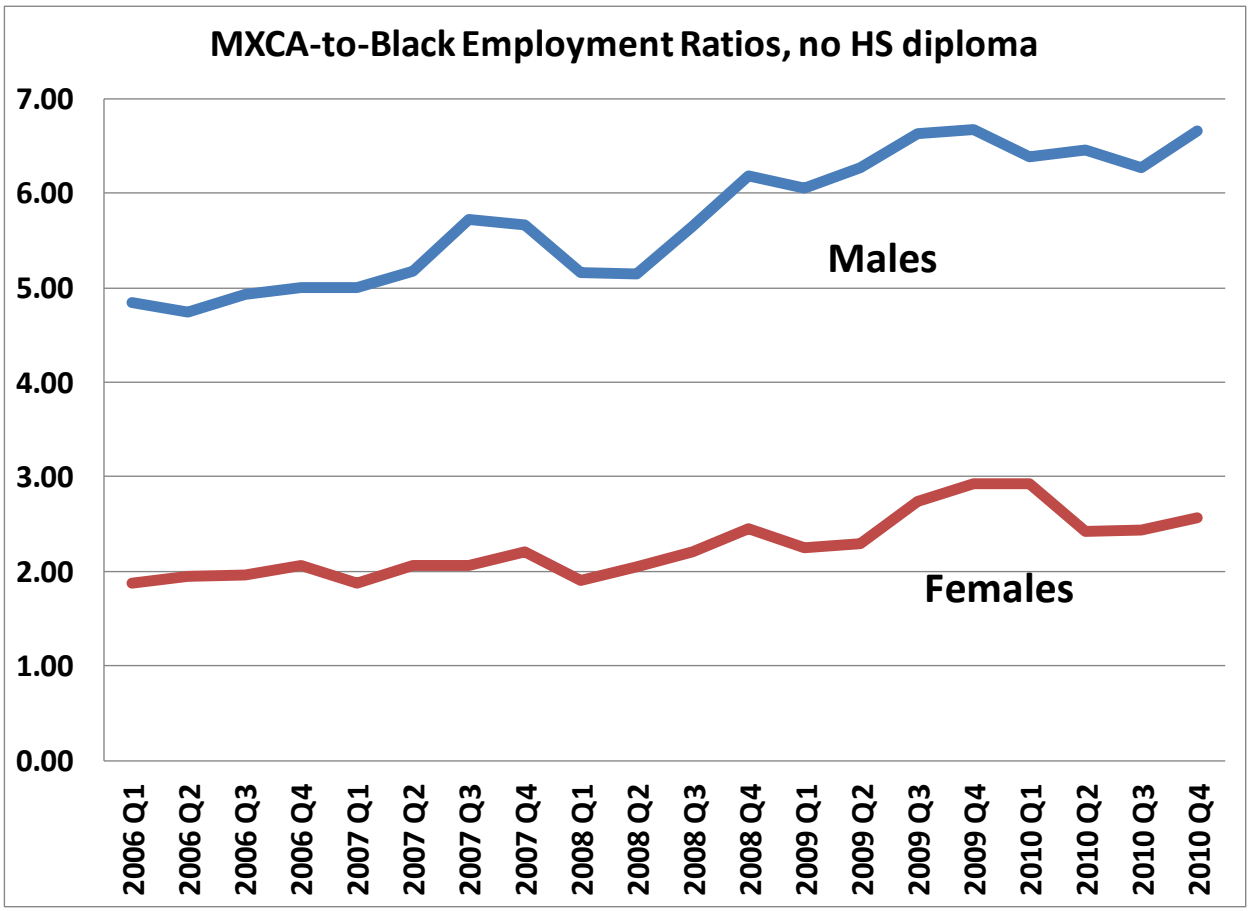
MXCA-to-Black Employment Ratios, no HS diploma
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
Males
Females
2006 Q1
2006 Q2
2006 Q3
2006 Q4
2007 Q1
2007 Q2
2007 Q3
2007 Q4
2008 Q1
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Figure 7

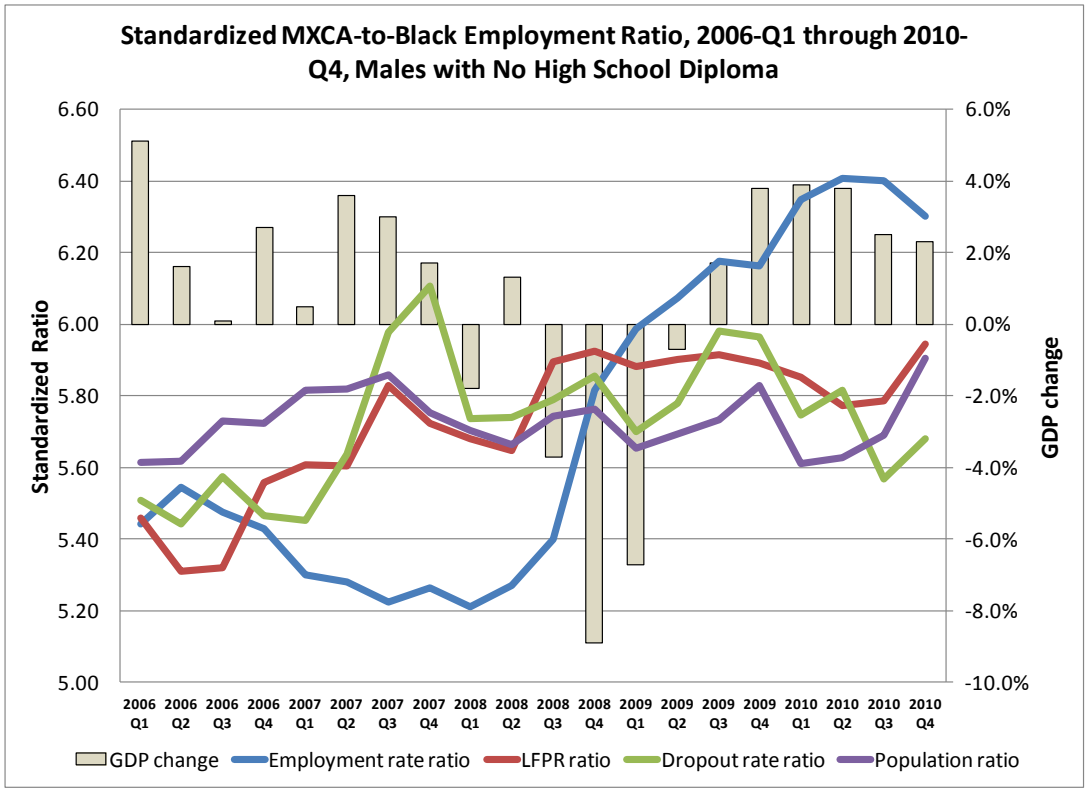

Figure 8

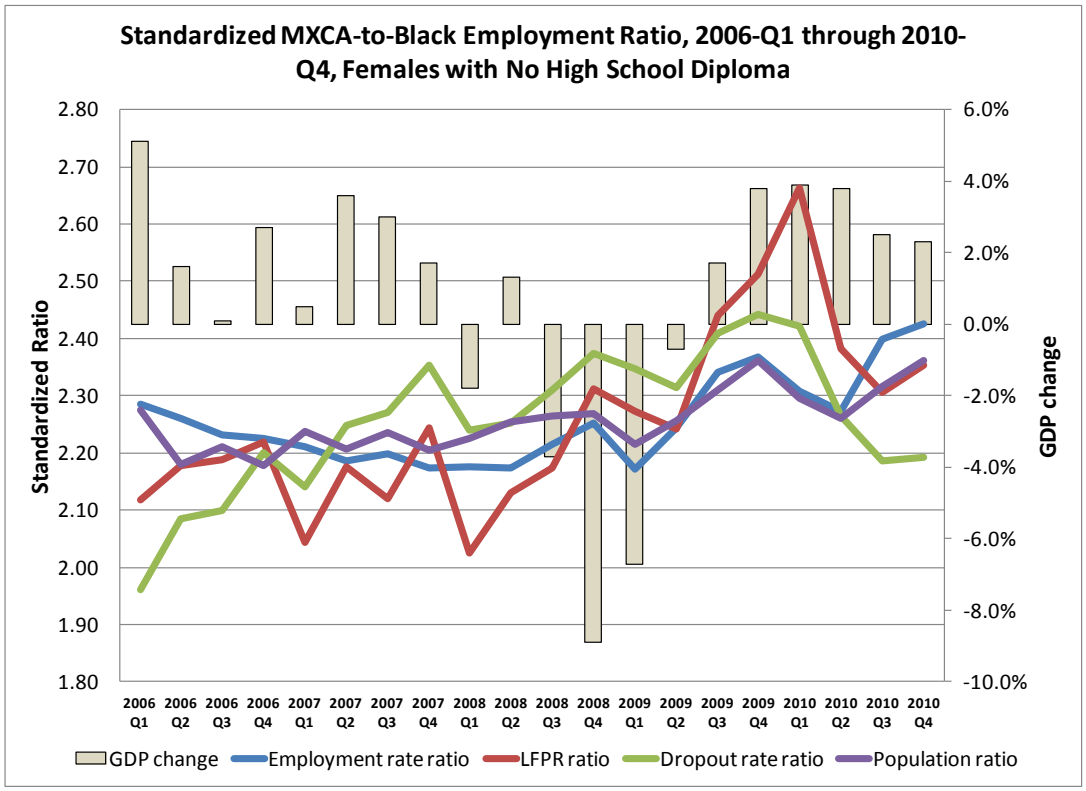

Figure 9

Decomposition results, males

	Employment rate effect	LFP effect	Low-skill effect	Population effect	Total change in ratio
Whole period					
2006 Q1 to 2010 Q4	0.86	0.49	0.17	0.29	1.81
	47.5%	26.9%	9.5%	16.1%	100%
Before the recession					
2006 Q1 to 2007 Q4	-0.18	0.26	0.60	0.14	0.82
	-21.8%	32.2%	72.6%	16.9%	100%
Recession					
2007 Q4 to 2009 Q2	0.81	0.18	-0.33	-0.06	0.60
	134.3%	29.6%	-54.1%	-9.8%	100%
After the recession					
2009 Q2 to 2010 Q4	0.23	0.04	-0.10	0.21	0.38
	59.3%	11.0%	-25.9%	55.6%	100%
Selected period					
2008 Q1 to 2010 Q2	1.20	0.09	0.08	-0.07	1.30
	92.2%	7.3%	6.3%	-5.8%	100%

Table 1

Decomposition results, females

	Employment rate effect	LFP effect	Low-skill effect	Population effect	Total change in ratio
Whole period					
2006 Q1 to 2010 Q4	0.14	0.24	0.23	0.09	0.69
	20.4%	34.0%	33.2%	12.4%	100%
Before the recession					
2006 Q1 to 2007 Q4	-0.11	0.12	0.39	-0.07	0.33
	-33.5%	37.4%	117.5%	-21.4%	100%
Recession					
2007 Q4 to 2009 Q2	0.07	0.00	-0.04	0.05	0.08
	86.9%	-3.1%	-47.8%	64.0%	100%
After the recession					
2009 Q2 to 2010 Q4	0.18	0.11	-0.12	0.11	0.28
	65.5%	40.5%	-44.0%	38.0%	100%
Selected period					
2008 Q1 to 2010 Q2	0.10	0.36	0.02	0.04	0.51
	18.7%	69.8%	4.6%	6.9%	100%

Table 2

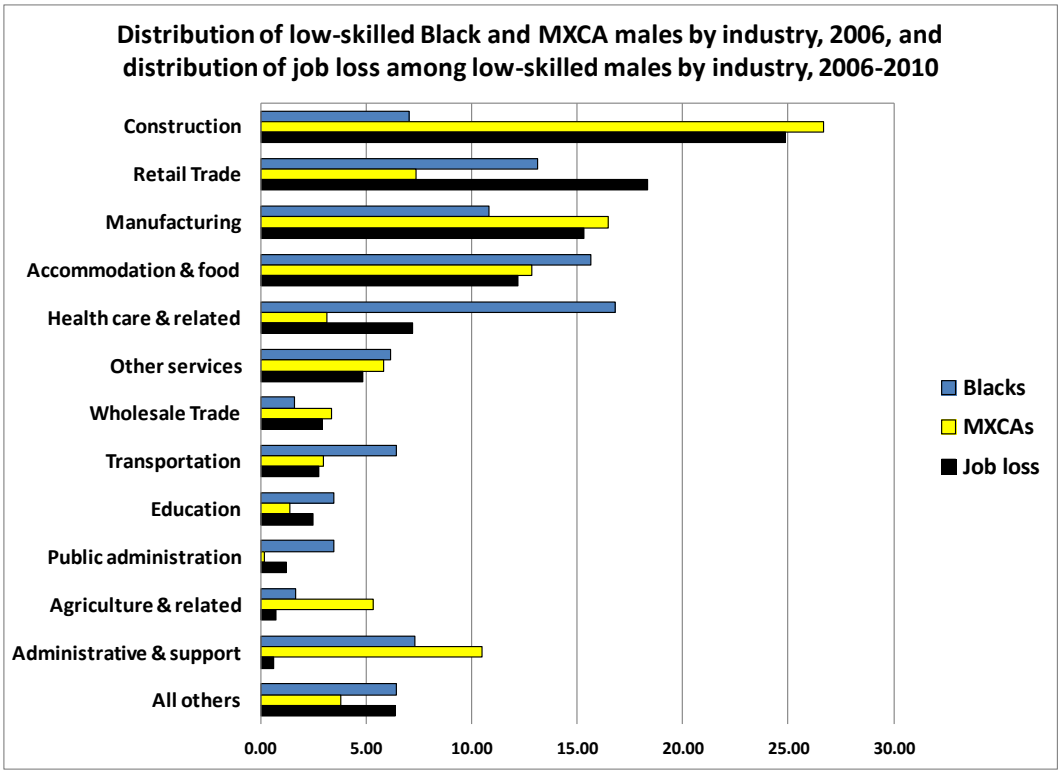

Figure 10

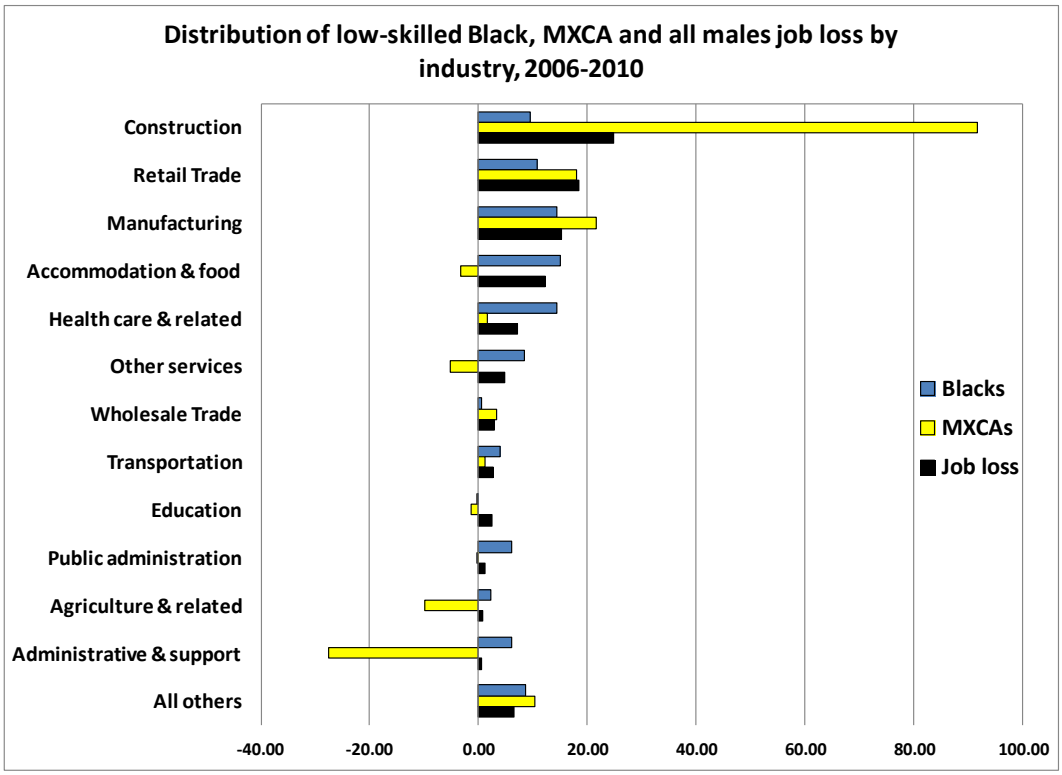

Figure 11

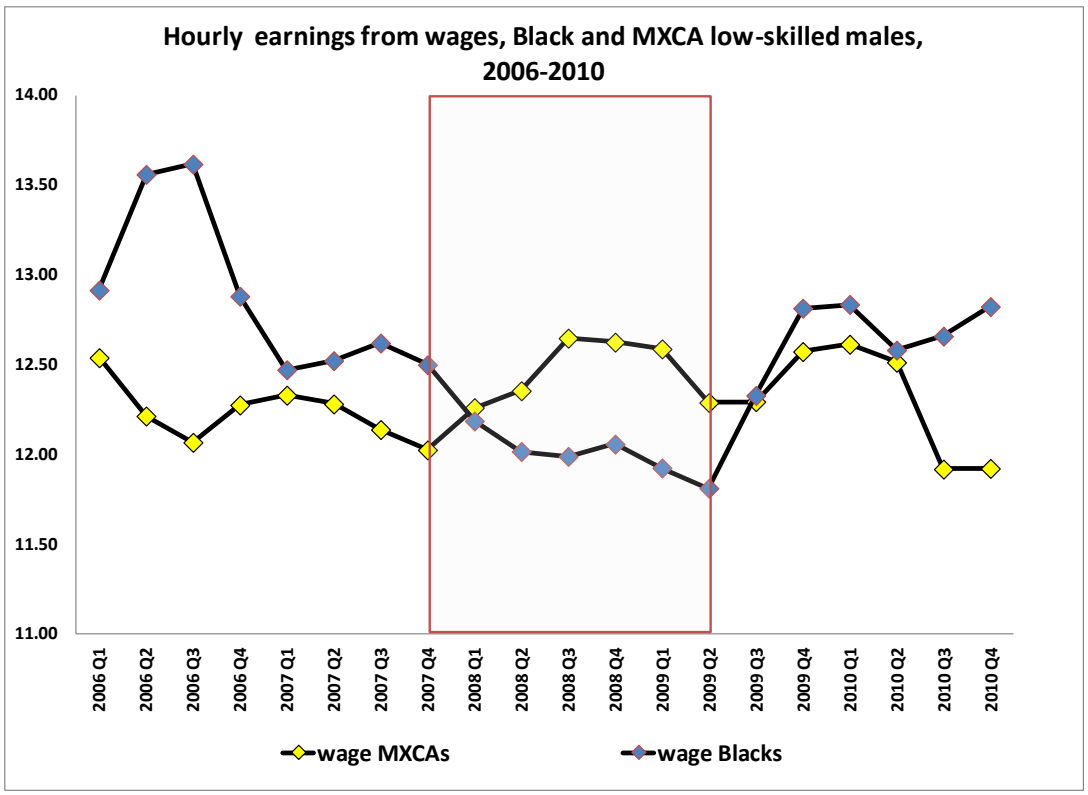

Figure 12

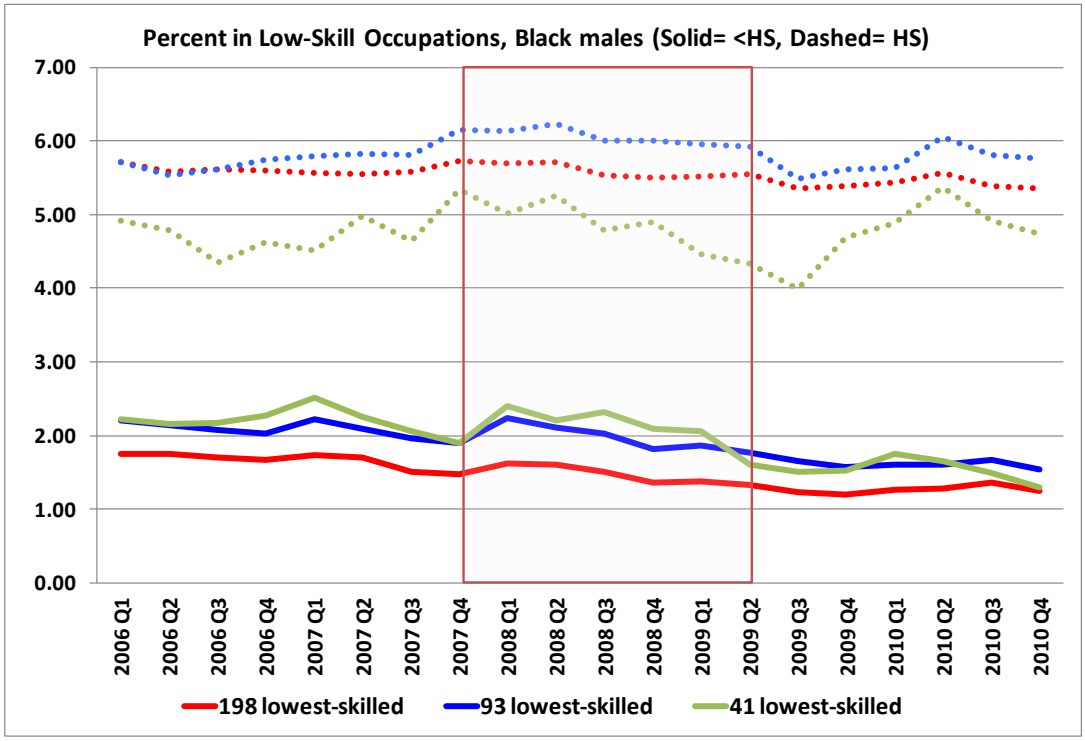

Figure 13