Mass Incarceration and Labor Market Outcomes:

Do prior incarceration and sentencing policies affect labor market outcomes of young Black, Hispanic and White Men differently?

An Honors Thesis for the Department of Economics

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Abstract

This paper examines the relationship between state-level corrections policies, incarceration rates, and labor force outcomes. Each state's sentencing policy regime is coded according to its structure, determinacy, and the presence of three-strikes legislation. Using National Prisoner Statistics (NPS) and Current Population Survey (CPS) data for the period 1991-2015, I first estimate the impact of these policy regimes on Black, Hispanic and White male incarceration rates, before estimating their impact on state-level labor force participation rates and employment rates of young Black, Hispanic and White men aged (i) 18 to 24 years old, and (ii) 25 to 34 years old. I also control for prior incarceration, prior unemployment, age, female employment and education are the control variables. I find that more structured and/or more determinate regimes have consistently higher incarceration rates, and effects are greater for Black men than for White and Hispanic men. Sentencing policies also have direct effects on labor market outcomes: three-strikes legislation is associated with lower Black male labor force activity, while determinate regimes see increased Black male labor force activity, relative to White and Hispanic male labor force outcomes.

Contents

1. Introduction

1.1 Mass Incarceration

The United States has an "exceptionally high" incarceration rate, especially when compared to other Western high-income countries (Raphael and Stoll 2013). At its peak in 2008, the incarcerated population in the United States reached more than 2.3 million people (Bureau of Justice Statistics). Since then, this figure has only declined slightly since: as of 2014, upwards of 2.2 million people remain incarcerated in prisons, jails, and other correctional facilities in the United States. This phenomenon is known as mass incarceration, and its roots lie with the "tough on crime" criminal justice policies that have been implemented since 1975 (Tonry 2013).

Mass incarceration reflects the tremendous racial inequalities in the United States. African-Americans are far more likely to be incarcerated than whites. As of 2014, the average Black man is nearly six times as likely to be in a state/federal prison as a White man. Young Black men aged 18 to 19 (1,072 prisoners per 100,000 residents) are 10 times more likely to be imprisoned than young White men in the same age category (102 per 100,000) (BJS). While Black/African Americans make up just 13% of the US resident population (US Census Bureau), Black men constitute 30% of federal and state male prisoners (BJS).

Mass incarceration is also a key contributor to the lack of significant progress in Black-White differences in education, employment and income levels (Neal and Rick 2014). In particular, Holzer, Offner and Sorenson (2005) find that prior incarceration is associated with lower labor force participation among Black men. This agrees with conventional economic theory, which suggests that a prolonged absence from the labor market through incarceration is likely to lead to deskilling and the loss of human capital. Indeed, Neal and Rick (2014) note that

the combination of increasingly higher incarceration rates and lower labor force participation rates among Black men (particularly after the 2008 recession) has contributed to the persistence of Black-White relative income inequality.

1.2 Labor Force Participation

Meanwhile, a secular decline in the labor force participation rate has been observed across the general population due to a number of cyclical and demographic factors (Fujita 2014). The Great Recession of 2007-8 led to a prolonged period of limited job opportunities. As more baby boomers retire, and more millennials attend college, the labor force participation rate declined. However, mass incarceration is likely to have exacerbated this trend among men, and especially Black men, in the United States. Investigating the impact that mass incarceration, along with the criminal justice policies that led to this phenomenon, has had on labor market outcomes could prove invaluable to policymakers.

This study will examine the relationship between the state-level corrections policies and state-level labor force outcomes. To do this, I merge state-level data on the structure and determinacy of state-level sentencing regimes with National Prisoner Statistics (NPS) data. I first estimate the impact of these sentencing regimes on incarceration rates, and find that increased structure and determinacy tend to lead to higher incarceration rates. These effects are also stronger for Black men than they are for Whites and Hispanics.

Using Current Population Survey (CPS) Outgoing Rotation Group (ORG) data, I then estimate the impact of prior incarceration rates, as well as the impact of the sentencing regimes on same-state labor force participation rates of young Black, Hispanic and White men (i) aged 18

to 24 years old, and (ii) 25 to 34 years old while controlling for demographic factors like age and education. I also do this with employment rates in place of labor force participation rates. While I find that prior incarceration does not have statistically significant effects on the labor market outcomes of young men after accounting for state-and year-fixed effects, I do find that sentencing policies have direct effects on labor force participation and employment rates. States with determinate sentencing regimes tend to have higher labor force participation and employment rates than states with indeterminate systems. Finally, three-strikes legislation has greater negative effects on Black male labor market outcomes than they do on White and Hispanic male labor market outcomes.

2. Literature Review

2.1 Trends in Sentencing Policies

Sentencing policy in the United States went through four stages in the past five decades (Tonry 2013). In the first period (1930-75), "indeterminate sentencing" was the main sentencing model for both federal and state justice systems. The rehabilitation of the offender was a priority, and sentences were often tailored to the individual depending on the circumstances and details of the case (Tonry 2013). A parole board would usually determine when offenders were released (Ditton and Wilson 1999). Sentences and penalties were intended to be "as unrestrictive as possible" (Tonry 2013).

The second period (1975 to 1984) saw a series of sentencing reforms aimed at reducing "arbitrary" (often race-based) disparities in sentencing outcomes. Parole guidelines, "voluntary" sentencing guidelines, and presumptive sentencing guidelines are three examples of reforms introduced in this period (Tonry 2013). The idea was to reduce the discretion that judges and parole boards had in determining sentence length and actual time served. Parole guidelines reduced the arbitrary nature of parole release decisions. Voluntary sentencing guidelines based on past sentencing patterns were introduced, and helped reduce the incidence of "outlier"-type sentences. Presumptive sentencing guidelines were prescribed by specially formed sentencing commissions; judges then had to justify themselves if they deviated from these guidelines in meting out sentences. Reduced discretion led to reduced sentencing disparities, but also significantly higher incarceration rates (Tonry 2013).

In the third period (1985-1996), laws were passed to increase sentence length and reduce sentencing discretion. Mandatory minimums, three-strikes laws, truth-in-sentencing, and life-

without-possibility-of-parole laws were all introduced in this period to this effect (Tonry 2013). These policy changes were introduced at least initially, in part due to the consistently high crime rates of the 1970s and 80s, and the rise of the crack epidemic. However, towards the end of this period, many of these policy changes had become heavily politicized, and proposed changes were no longer a response to changes in the crime rate. This suggests that for the purposes of my analysis, these new laws are effectively exogenous changes that were independent of changes in the crime rate. As Alexander (2010) argues, these policy changes were instead motivated by racial politics; getting "tough" on crime could be seen as a conservative political reaction to Civil Rights movement.

As law and order become a national political issue, successive presidential administrations from Nixon to Reagan promised to "get tough" on crime, while simultaneously declaring war on drugs. These new policies led to, on average, much longer sentences for offenders. Mandatory minimum sentences are imposed by laws that require the offender to be sentenced to a specified amount of time upon conviction[1] (Ditton and Wilson 1999). Three-strikes laws often impose a minimum of a 25-year sentence upon conviction of a third felony (Tonry 2013), which has also had the effect of increasing average sentence lengths and time served. Truth-in-sentencing laws tend to require that offenders serve at least 85% of their sentence; this limits the scope for offenders to be released early on parole or have their sentences reduced by 'good-time' credits earned through good behavior (Ditton and Wilson 1999). The

[1]As Tonry (2011) points out, the use of the term 'mandatory minimums' can be misleading, as "no penalty is mandatory". For example, prosecutors often charge the offender with a different, lesser charge. They may also offer a plea-bargain deal: if the offender pleads guilty to a lesser crime (often unaffected by the mandatory penalty), the prosecutor may then dismiss the charge associated with a mandatory minimum. Alternatively, juries, knowing that a conviction of a particular crime may lead to a severe penalty due to a mandatory minimum statute, may opt to find an offender guilty only of a lesser charge or crime. Mandatory minimums could thus exacerbate sentencing disparities, rather than reduce them as originally intended.

Violent Crime Control and Law Enforcement Act of 1994 (amended in 1996), using the carrot of federal funding for prison construction, greatly incentivized states to pass truth-in-sentencing laws (Tonry 2013).

The fourth and most recent period (1997 onwards) has proved difficult to characterize in the same general terms (Tonry 2013). Many of the "get tough" policies from the third period are still in place, which contributes to persistently high incarceration rates across the nation. However, states are also increasingly coming to terms with the high prison expenditures and social costs on the communities devastated by mass incarceration. A patchwork of sentencing policies from the previous eras, along with reforms in response to the unsustainably high costs of incarceration, means that state-level differences in criminal justice systems are at their most varied. This variation in state-level policies allows us to examine their differing impact on the labor market outcomes of Black, Hispanic, and White men.

Changes in the incarceration rate since the third period are presented in Figures 2.1 and 2.2. From Figure 2.1, we see that the Black male incarceration rate was already multiple times higher than that of the rate for their White and Hispanic counterparts at the beginning of the third period. However, the incarceration rate of Black men continued to increase at a faster pace than that of White and Hispanic men throughout the 1990s, before flattening in the 2000s. Meanwhile, from Figure 2.2, we see that while the South has consistently had the highest incarceration rates, the national trend in incarceration rates is reflected regionally. The steep increases of the 1980s continue throughout the 1990s before peaking around 2007-8. The slight decline in incarceration rates since then reflects a growing recognition by state governments that such continued growth in incarceration rates may not be fiscally sustainable.

Figure 2.1: State Incarceration Rates, by Race (1985-2015)

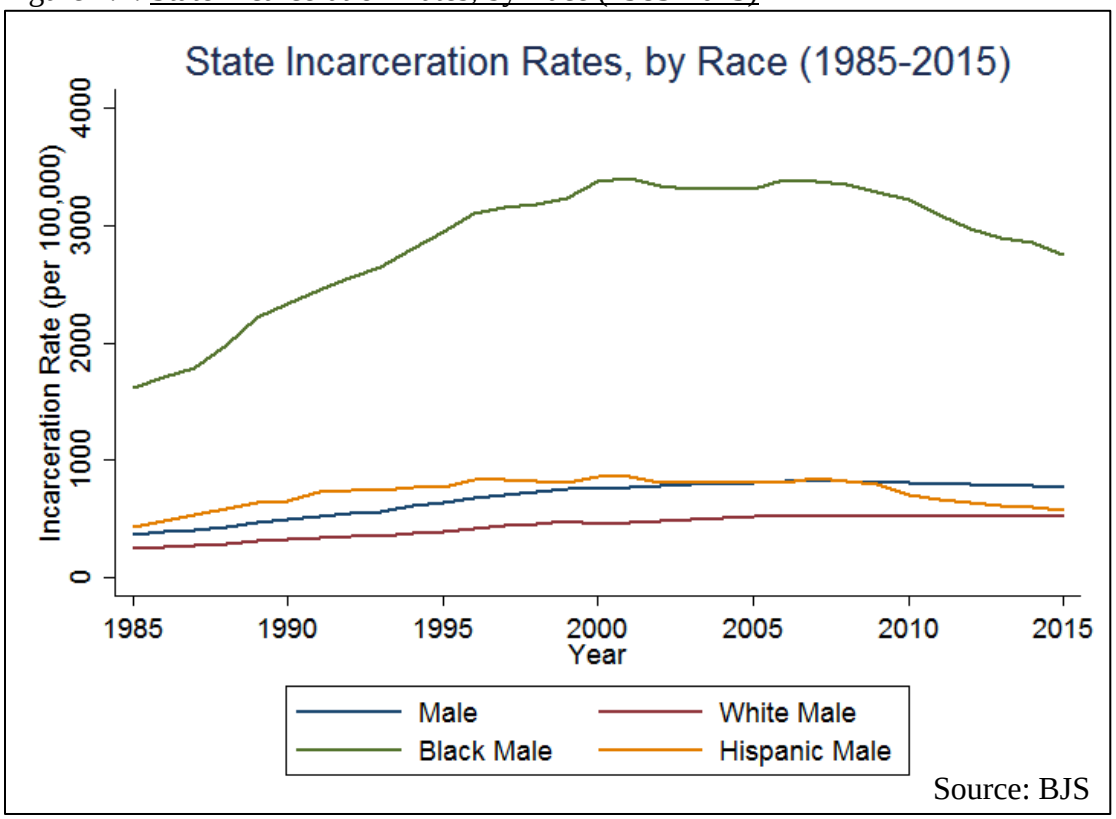
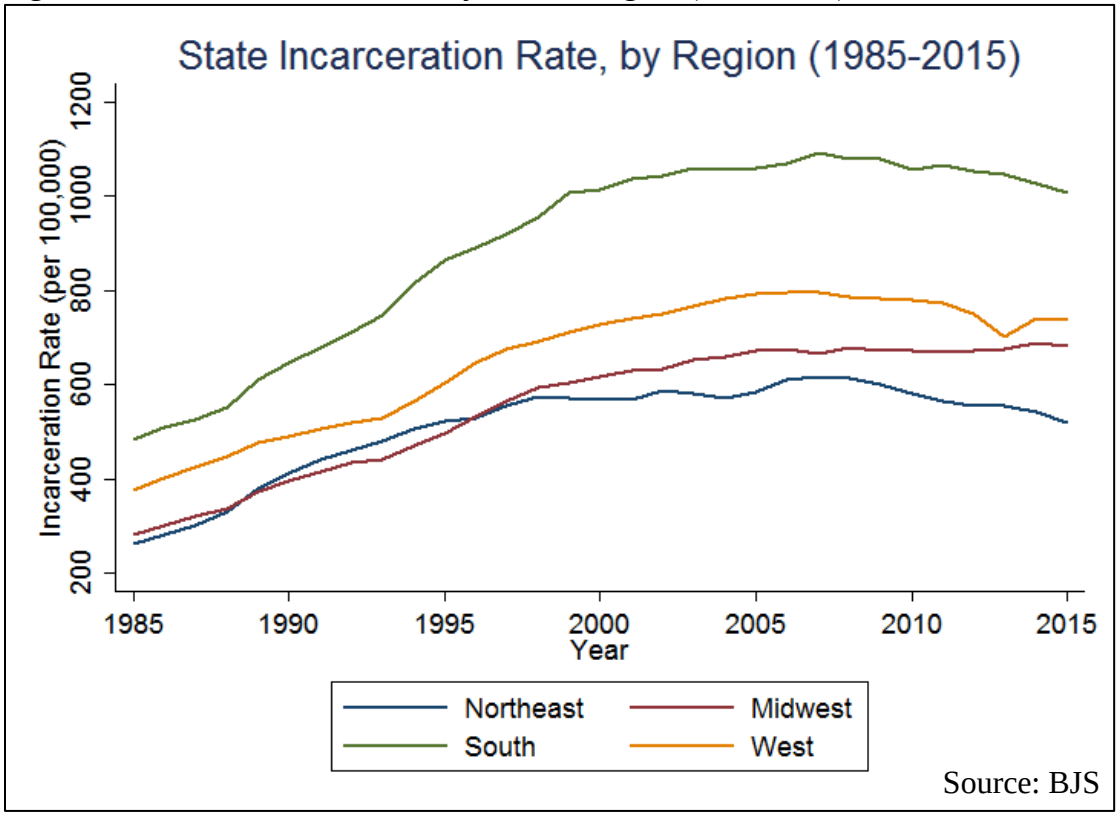


Figure 2.2: State Incarcerate Rate, by Census Region (1985-2015)



2.2 Mass Incarceration

The dramatic increases in incarceration rates since 1975 cannot only be seen in relation to changes in sentencing policies and the criminal justice system. The broader social context in which such changes have had a tremendous impact needs to be examined as well. The criminal justice system and the "larger web of laws, rules, policies, and customs that control those labeled criminals both in and out of prison" together make up the phenomenon of mass incarceration (Alexander 2010). These "laws, rules, policies and customs" often prevent ex-offenders from voting, serving on juries, finding work, seeking housing and applying for public benefits (Alexander 2010). As Alexander (2010) notes, a prison sentence is often a one-way ticket into an underclass of disenfranchised "second-class" citizens (many of whom are African-Americans) much like in the Jim Crow era. Mass incarceration could thus be seen as a racial caste system, one that is designed without explicit mention of race, but which perpetuates tremendous racial inequities (Alexander 2010).

One way in which offenders and ex-offenders are disenfranchised by mass incarceration is simply their "invisibility" in government statistics. Pettit (2012) notes that "inmates and former inmates are categorically and systematically excluded" from data collection efforts in policy and social science research. In the context of this study, labor force statistics compiled by the Bureau of Labor Statistics (BLS) are one such example. The labor force participation rate[2] and the employment rate (or employment-population ratio)[3] are both calculated with reference to the civilian noninstitutional population. The definition of the civilian noninstitutional population

[2] The labor force participation rate is the number of people who are employed plus the number of people who are unemployed (jobless and looking for work), divided by the civilian noninstitutional population.

[3] The employment rate, or employment-population ratio, is the ratio of employed persons to the civilian noninstitutional population.

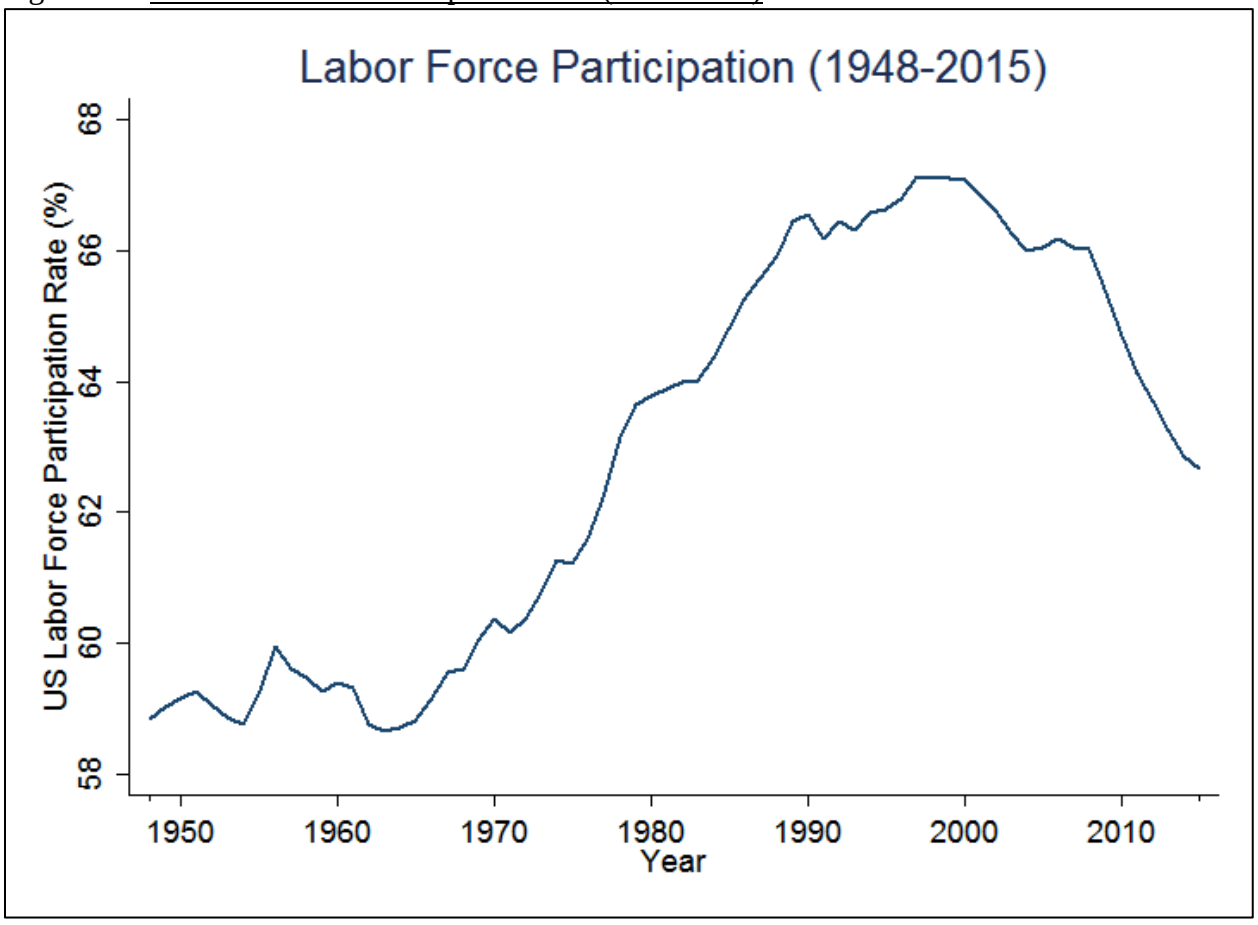
excludes anyone who is currently incarcerated at a correctional institution. Meanwhile, the unemployment rate only counts those who are "jobless, looking for a job, and available for work" (BLS). Again, this statistic does not reflect ex-offenders who stopped looking for work because they have been shut out of the labor market by discriminatory practices or have few employable skills upon release from prison. The relative invisibility of offenders and ex-offenders in official statistics, and particularly labor statistics, suggests that there is significant scope for expansion in our understanding how incarceration impacts their labor market outcomes.

Given that the growth in incarceration has been especially concentrated amongst Black men with comparatively lower levels of education, the invisibility of ex-offenders and offenders in official statistics also results in the calculation of measures that overstate the "educational and economic progress and political engagement of African-Americans" (Pettit 2012). In a comprehensive study of how policy changes have driven growth in state prison populations and how such growth has driven Black-White inequality, Neal and Rick (2014) find that "relative to Whites, labor market outcomes among Black men are no better now and possibly worse than they were in 1970" [p.2]. Our tendency to overstate relative economic progress, driven by the fact that much of the available public data excludes offenders and ex-offenders, may in turn lead to policies that fail to adequately address the persistence of relative Black-White inequality.

This study thus aims to further the understanding of the impact that the criminal justice system has had on labor market outcomes of Black, Hispanic and White men. In measuring the impact of these policies, data on the incarcerated population from the Bureau of Justice Statistics has predictably been included. In measuring labor market outcomes, however, I have attempted to move away from using unemployment statistics for abovementioned reasons: the

unemployment rate does not include discouraged persons who may simply have given up looking for work, and may hence understate the actual impact of prior incarceration. I have instead chosen to focus on alternative measures. By looking at the labor force participation rate, or rather, the proportion of the population that is *not* participating in the labor force, we are better able to get a sense of how prior incarceration and sentencing policies may have impacted the labor market prospects of Black, Hispanic and White men. The employment rate, which measures the proportion of the population that have a job, has also been included in the analysis to provide a more complete picture.

Figure 2.3: US Labor Force Participation Rate (1948-2015)



Source: BLS

2.3 Secular Decline in the Labor Force Participation Rate

To measure if having more punitive state corrections policies leads to lower labor force participation, other factors that affect labor force participation must be taken into account. Figure 2.3 shows the national labor force participation rate between 1948 and 2015. The changes in labor force participation may be understood in three broad phases. In the first phase (1948 to mid-1960s), the participation rate was fairly stable; in the second phase (mid-1960s to 2000), the rate was increasing; in the third phase (2000 onwards), the rate has been declining (Van Zandweghe 2012).

Understanding the causes behind these broad trends helps one decide what to control for in the model. In the second phase (1960s-2000), the upward trend in labor force participation was due primarily to the entry of baby boomers into the workforce, as well as the increased presence of women in the workforce (Van Zandweghe 2012). The period since 2000, however, has seen a steady secular decline in labor force participation. As the baby boomers retire, and more young people stay in school for longer, overall labor force participation declines (Van Zandweghe 2012). It is essential to control for the age composition of both Black and White populations when analyzing the impact of state corrections policies on their respective labor force participation levels, to avoid falsely attributing any age composition-based effects to racial differences. By focusing on young men aged 18-34 years old, my analysis addresses this important issue. Additionally, trends in male and female labor force participation are distinct. While female labor force participation has been increasing as more women enter the workforce, male labor force participation has been on the decline. Female labor force activity is thus another important factor to be controlled for in our empirical analysis.

Importantly, the labor force participation rate declined by more than 4 percentage points between 2000 and 2014, more than half of this decline (2.2. percentage points) occurred between October 2009 and December 2013 (Fujita 2013). As can be seen, while the overall decline starts around 2000, the rate is roughly stable between 2004 and 2007, before declining again after 2007 (Fujita 2013). The implication is that the Great Recession of 2007-8 has had a significant impact on overall labor force participation. This could happen in a few ways. Firstly, the greatly lowered job prospects in the aftermath of the recession may have discouraged the unemployed and led to their dropping out from the workforce altogether. Secondly, the recession may have encouraged retirement-age workers to retire from the workforce earlier. Thirdly, the recession may also have encouraged young people to stay in school longer and seek more post-secondary education, such that they would enter the workforce when job prospects are better.

Controlling for the way that the labor force participation rate has become more responsive to cyclical factors since 2007 is thus another important consideration. This is a significant departure from a previously upheld historical fact in labor economics: over the past fifty years, changes in aggregate labor supply have been largely non-cyclical (Erceg and Levin 2013). However, there is a growing consensus that this may no longer be true. Using a Beveridge-Nelson decomposition, Van Zandweghe (2012) makes the case that demographic trend factors and post-recession cyclical factors each account for about half of the decline in the labor force participation rate since 2007. Erceg and Levin (2013) similarly argue that cyclical factors account for the most of the post-2007 decline in the labor force participation rate (Erceg and Levin 2013). I address this issue in my analysis by including lagged unemployment rates as well as year-fixed effects.

2.4 Impact of Incarceration on Labor Market Outcomes

The literature examining the impact of incarceration on labor market outcomes is varied. It is often intuitively assumed that prior incarceration is likely to lead to worse labor market outcomes for the ex-offender, due to discriminatory hiring practices that may discourage the ex-offender from seeking work and the de-skilling that naturally results from being institutionalized and out of the labor market for a sustained length of time. However, Kling (2006) points out that a spell in prison may incentivize the ex-offender, for a variety of reasons, to stay away from crime and seek work instead. Firstly, the sentence may have a post-release deterrent effect upon the ex-offender, which means work becomes a more attractive option than turning back to crime. Secondly, the ex-offender may undergo rehabilitation and post-release supervision as part of his sentence. Thirdly, an ex-offender's social ties to crime may weaken during his incarceration.

Most studies that examine the impact of incarceration on labor market outcomes typically conduct their analysis at the level of the individual offender. Here, it may be important to distinguish the impact of incarceration on labor market outcomes on the extensive margin (the impact of having been incarcerated) and on the intensive margin (the differential impact of the length of incarceration, if one has been incarcerated). In a review of existing literature, Lyons and Pettit (2011) find that there is generally a consensus among researchers' findings that incarceration, on the extensive margin, has "strong negative effects on earnings immediately after release" (Lyons and Pettit 2011, p.259). In other words, a prior history of incarceration is likely to lead to lower earnings for ex-offenders upon release. This negative impact of incarceration on one's earnings ranges between 10 to 30 percent right after the ex-offender's release from prison (Western, Kling, and Weiman 2001).

On the intensive margin, incarceration length appears to have minimal, or even positive impacts on labor market outcomes. Kling's study (2006), which analyzes offender-level data from Florida's state prison system and California's federal judicial system, finds that spending a longer time in prison may actually have minimal impact on the ex-offender's employment and earnings prospects upon release. A similar study by Jung (2011) that also looked at offender-level data, this time from the Illinois state prison system, finds that an ex-offender's length of incarceration may even lead to better post-release earnings and employment prospects. Another offender-level study by Lyons and Pettit (2011) that tracked over a 14-year period how prior incarceration impacts the wage outcomes for a cohort of men finds that wage growth slows significantly after incarceration, particularly for Black men relative to White men. This highlights the implication that race-based differences in how incarceration affects labor market outcomes on the intensive margin are likely to be significant.

There has been little research on the direct relationship between sentencing policies and market-level (as opposed to individual offender-level studies like those discussed above) labor market outcomes due to empirical difficulties in identifying any causal impacts. A study by Holzer, Offner and Sorenson (2005) does attempt to address this gap, however, and finds that past growth in prison populations is negatively correlated with the employment and labor force participation rates of young, less-educated Black men. The findings from Holzer et al (2005) indicate that previous incarceration and strengthened enforcement of child support policies explains a large degree of the decline in employment activity among Black men aged 25-34.

There are a couple of reasons why I hope to pick up from where Holzer et al (2005) left off. Firstly, it has now been more than a decade since the paper by Holzer et al (2005) was published, and it may be time to re-examine if previous growth in prison populations has

continued to have a significant impact on employment activity of Black men. Secondly, the role of child support enforcement, emphasized by Holzer et al (2005) as having played a key role in the decline in employment activity among Black men, may no longer further explain continued declines in employment activity during the 2000s. According to the index constructed by Holzer et al to measure the strength of enforcement of child support enforcement policies, the average score across all states had almost reached the maximum level by 2000. This allows me to better isolate the effects of incarceration and criminal justice punitiveness on differences in labor market outcomes among Black, Hispanic and White men.

3. Data

This study makes use of two main types of data. The first data category allows us to classify state-level criminal justice policies; the second provides information on state-level labor market outcomes. Although some of the data extends back to 1985, the main period of interest is 1991-2015, as this study is focused on measuring how labor market outcomes have been affected by the partial transition from an era of increasingly punitive sentencing policies, as more states increasingly come to terms with the growing financial and costs of mass incarceration.

3.1 State-level Punitiveness

3.1.1 Incarceration rates

The National Prisoner Statistics (NPS) series collated by the Bureau of Justice Statistics (BJS) provides information on the number of persons in state and federal prisons each year. The NPS series also includes data on key demographic characteristics of the prisoners (BJS, NPS, 1978-2015). Incarceration rates for Black and White men in each state are then calculated using the NPS dataset and annual US Census Bureau estimates of the size of Black and White male populations in each state[4].

3.1.2 State sentencing and corrections policies

I draw heavily upon Stemen and Rengifo's (2012) work in constructing a dataset that classifies each state by their sentencing and corrections policies. Stemen and Rengifo (2012) make the case that these policies may be differentiated in two dimensions: structure and

[4] I opted to use NPS data instead of National Corrections Reporting Program (NCRP) data due to concerns over the quality and consistency of data collation in the NCRP series (Neal and Rick 2014).

determinacy[5]. As defined by Stemen and Rengifo (2012), structured sentencing guides or controls "sentencing decisions", while determinate systems control "release decisions" [p.12]. A state with more structured sentencing would tend to see less variation between initial sentences for different offenders convicted of the same offence. Meanwhile, a state with a determinate sentencing regime has less parole discretion and release after the offender has already been convicted and admitted into prison.

Sentencing structure may be operationalized as described in Table 3.1:

Table 3.1**:** Sentencing Structure

Sentencing System	**Single recommended prison term for each offense**	**Multiple recommended sentences for each offense**	**Recommended sentences can be enforced through appellate review**
Presumptive sentences	X		X
Presumptive sentencing guidelines		X	X
Advisory sentences	X		
Voluntary sentencing guidelines		X	
Unstructured sentencing			

Presumptive sentences and advisory sentences are both structured sentencing systems that recommend a specific prison term for each offense. These are typically dependent only on the

[5] It should be noted here that structure and determinacy have been defined differently by different authors. For example, sentencing guidelines have sometimes been described as either "determinate, or structured sentencing" (Driesen and Durham, 2002, p.634). For clarity, I have adopted Stemen and Rengifo's (2012) definitions by restricting the meaning of (in)determinacy to the (presence or) absence of discretionary parole release, and aim to build on their efforts to standardize these definitions in discussions of sentencing and corrections policies.

severity of the offense, and do not consider the offender's prior criminal record. The main difference between states with presumptive sentences and states with advisory sentences, however, is that in the former, these recommended sentences can be enforced when the cases are subject to appellate review.

Presumptive sentencing guidelines and voluntary sentencing guidelines are also structured sentencing systems. Both systems prescribe multiple recommended sentences for each offense; these vary depending on the severity of the offense and the offender's prior record. However, while states with presumptive sentencing guidelines may have these recommended sentences enforced upon appellate review, this is not the case for voluntary sentencing guidelines.

In grouping these various structured sentencing systems, states with presumptive sentences and states with presumptive sentencing guidelines may be classified as having "presumptive" structured systems, given that the prescribed recommendations may be reimposed by a higher court should a case be subject to appellate review. Meanwhile, states with advisory sentences and states with voluntary sentencing guidelines may be classified as having "voluntary" structured systems, given that the prescribed recommendations may not necessarily be enforced by a higher court upon appellate review. Lastly, states with unstructured sentencing do not have specific recommended sentences, although they do tend to have statutory minimum and maximum sentences (Stemen and Rengifo, 2012).

Determinacy, the other dimension to a state's sentencing regime, may be distinguished by the level of discretion the state's corrections system is granted over parole and release decisions. The "presence of a paroling authority that has the power to release an offender from prison before the completion of his or her sentence" (Stemen and Rengifo, 2012, pp.13-14) is a

distinctive feature of all indeterminate sentencing systems. Determinate sentencing systems, on the other hand, seek to control "how release is determined" (Stemen and Rengifo, 2012, p.14). In determinate systems, actual time served is thus determined to a greater extent by the initial sentence length imposed by a judge rather than by discretionary release through a paroling authority. Mixed determinacy systems may restrict discretionary release to a subset of offenders, by offense type (e.g. violent offenses) or through the judge (i.e. the judge may exercise discretion in denying an offender the possibility of parole even at the sentencing stage).

Using this framework, I code each state's sentencing regime for the period 1985-2015 using dummy variables. Tables 3.2(a) and 3.2(b) indicate the interacted structure-determinacy sentencing regimes that each state has in the years 1990 and 2015 respectively. While indeterminate, unstructured sentencing regimes are the most common system, there has been an increasing trend towards adopting more structured systems during this period. Additionally, I also code for the presence of three-strikes laws, which became increasingly prevalent during the 1990s after the state of Washington first adopted three-strikes legislation (as we know it today) in 1993.

Table 3.2(a): State Sentencing Structure and Determinacy (1990)

		Structure			
		Unstructured		**Presumptive**	**Voluntary**
Determinacy	**Indeterminate**	Alabama Arkansas Georgia Kansas Kentucky Louisiana Massachusetts Mississippi Missouri Nebraska Nevada New Hampshire	New York North Dakota Ohio Oklahoma Rhode Island South Carolina South Dakota Texas Vermont Virginia West Virginia Wyoming	Alaska Arizona Colorado Hawaii Iowa New Jersey Pennsylvania Tennessee	Delaware Maryland Michigan Utah Wisconsin
	Determinate	Connecticut Illinois Maine		California Indiana Minnesota New Mexico North Carolina Oregon Washington	Florida
	Mixed	Idaho Montana			

Table 3.2(b): State Sentencing Structure and Determinacy (2015)

		Structure			
		Unstructured		**Presumptive**	**Voluntary**
Determinacy	**Indeterminate**	Connecticut Georgia Kentucky Nebraska Nevada New Hampshire New Jersey North Dakota	Oklahoma South Carolina South Dakota Texas Vermont West Virginia Wyoming	Alaska Colorado Hawaii Iowa Michigan Pennsylvania Rhode Island Tennessee	Alabama Louisiana Maryland Massachusetts Missouri Utah
	Determinate	California Florida Illinois Maine Ohio Wisconsin		Arizona Kansas Minnesota New Mexico North Carolina Oregon Washington	Delaware Indiana Virginia
	Mixed	Idaho Mississippi Montana New York			Arkansas

Table 3.3: Variable Descriptions

Variable	Description
INCARC	Placeholder for MRATE, WMRATE, BMRATE, HMRATE
MRATE	Overall male incarceration rate
WMRATE	White male incarceration rate
BMRATE	Black male incarceration rate
HMRATE	Hispanic male incarceration rate
POLICY	Placeholder for policy variables: INDET*PRE, INDET*VOL, DET*UNSTR, DET*PRE, DET*VOL, MIXED*UNSTR, MIXED*VOL, and THRSTR. INDET*UNSTR and MIXED*PRE are the omitted variables
INDET	Indeterminate sentencing system
DET	Determinate sentencing system
MIXED	Mixed determinacy sentencing system
UNSTR	Unstructured sentencing
PRE	Presumptive guidelines or presumptive sentences
VOL	Voluntary sentencing guidelines or advisory sentences
THRSTR	Three-strikes legislation
LFPR	Labor force participation rate of each (sub)group
EMP	Employment rate of each (sub)group
UNEM	Unemployment rate of each (sub)group
HSPLUS	The proportion of each (sub)group that has completed at least high school education
COLLPLUS	The proportion of each (sub)group (only those aged 25-34 years old) that has completed at least college education
FEMEMP	The proportion of the state's employed workforce that are female workers
MANUF	The proportion of the state's employed workforce that is employed in manufacturing

3.2 CPS-ORG Data

Building upon Holzer et al's (2005) model, I also use the CPS-ORG data to obtain estimates of characteristics of young Black, Hispanic and White men in each state and in each year of the period of study. I do this for two separate age groups: (i) 18-24 years old, and (ii) 25-34 years old[6]. This yields a total of two main age groups, and six further subgroups. I also obtain

[6] These two age groups are also the ones by which inmates are classified in the National Corrections Reporting Program (NCRP) data series collated by the Bureau of Justice Statistics (BJS).

estimates of relevant characteristics of each age group and subgroup from the CPS-ORG data. This includes:

- The unemployment rates of each (sub)group
- The mean age of each (sub)group
- The proportion of each (sub)group that has completed at least high school education
- The proportion of each (sub)group aged 25-34 years old that has completed at least college education

I also estimate two other relevant state-level characteristics: the percentage of the workforce that is female, and the percentage of the workforce that is employed in the manufacturing sector. The former is an important influence on male labor force activity generally, while the latter is a useful proxy for the proportion of blue collar jobs in the state. The variable names and descriptions are set out in Table 3.3 above.

4. Results

This section is divided into three sub-sections. In the first, I examine how sentencing regimes impact incarceration rates. In the second sub-section, I present my findings on the relationship between prior incarceration rates and current labor force outcomes. Finally, I examine if sentencing policy regimes directly affect current labor force outcomes when prior incarceration has been controlled for.

4.1 Sentencing Regime Effects on Incarceration Rates

I begin by first examining sentencing regime effects on incarceration rates in the period 1985-2015. As set out earlier, each state may be classified based on its structure *and* its determinacy in its sentencing regimes. I create dummy variables for each type of structure and determinacy, and interact them to form a dummy variable for each sentencing regime type. I also include a separate dummy variable for the presence of three-strikes laws in the state. I then estimate the effect of each sentencing regime type on overall, White, Black, and Hispanic male incarceration states in each state. The dummy variables for (i) indeterminate, unstructured sentencing regimes and (ii) mixed determinacy, presumptive sentencing regimes have been omitted. The latter was omitted because no state had a mixed determinacy, presumptive sentencing regime throughout this period, while the former was omitted because of collinearity.

Table 4.1 shows four different specifications of the model I used to estimate sentencing regime effects on incarceration rates. Model (1) has no state- or year-fixed effects; state effects are introduced in Model (2); state and year effects are included in Model (3); and Model (4)

replaces year effects with a quadratic time trend. A quadratic time trend is used because incarceration rate peaked in the late 2000s and declined slightly after.

Table 4.1: Sentencing Regime Effects on Male Incarceration Rates (per 100,000)

VARIABLES	(1)	(2)	(3)	(4)
INDET*PRE	30.135	176.420**	22.734	27.990
	(88.385)	(69.907)	(64.680)	(62.319)
INDET*VOL	90.648	160.823*	50.284	49.286
	(144.346)	(80.055)	(76.147)	(73.680)
DET*PRE	-92.939	166.604*	-13.547	-4.792
	(86.012)	(85.413)	(50.443)	(49.032)
DET*VOL	314.491	262.380***	67.946	73.358
	(208.181)	(90.070)	(51.386)	(50.051)
DET*UNSTR	-48.103	156.535	-21.921	-16.514
	(106.992)	(110.982)	(63.947)	(61.057)
MIXED*VOL	159.889**	138.915***	99.529***	100.992***
	(70.116)	(28.765)	(26.009)	(25.874)
MIXED*UNSTR	110.992	367.389*	76.256	89.823
	(160.969)	(194.212)	(197.644)	(194.680)
THRSTR	153.449**	251.255***	-25.324	-8.854
	(60.264)	(30.135)	(36.815)	(30.305)
TIME				41.020***
				(3.998)
TIME2				-0.879***
				(0.104)
Constant	605.507***	964.315***	682.998***	649.418***
	(52.843)	(23.242)	(33.198)	(36.789)
Observations	1,549	1,549	1,549	1,549
R-squared	0.144	0.798	0.915	0.913
State Fixed Effects	No	Yes	Yes	Yes
Year Fixed Effects	No	No	Yes	No
Time Trend	No	No	No	Yes

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Introducing state-fixed effects drastically increases the fit of the model, while including year-fixed effects has a similar fit as when a quadratic time trend is used instead. Model (2) is my preferred specification, however. While including year-fixed effects or a time trend does improve the fit of the model, both year fixed effects and time trends interfere with the policy

regime dummies (which are coded for year on year). This is particularly likely to be true for the three-strikes dummy variable, since states tended to introduce them together in separate waves during the 1990s. The impact of sentencing regimes on overall, White, Black, Hispanic male incarceration rates, as estimated using the specification in Model (2), is presented in Table 4.2.

Table 4.2**:** Sentencing Regime Effects on Incarceration Rates (per 100,000)

	(1)	(2)	(3)	(4)
VARIABLES	Male	White Male	Black Male	Hispanic Male
INDET*PRE	176.420**	139.241***	557.638***	29.506
	(69.907)	(38.802)	(117.788)	(132.894)
INDET*VOL	160.823*	103.754*	121.764	27.041
	(80.055)	(56.402)	(311.990)	(49.858)
DET*PRE	166.604*	105.564**	399.180*	70.993
	(85.413)	(44.991)	(201.849)	(101.905)
DET*VOL	262.380***	152.639**	869.793***	50.875
	(90.070)	(58.996)	(315.505)	(91.878)
DET*UNSTR	156.535	116.538*	286.214	-107.134
	(110.982)	(68.581)	(357.181)	(113.111)
MIXED*VOL	138.915***	171.121***	272.086*	-142.988***
	(28.765)	(22.502)	(137.132)	(49.181)
MIXED*UNSTR	367.389*	133.630	706.335*	-64.718
	(194.212)	(159.559)	(353.806)	(168.699)
THRSTR	251.255***	121.084***	876.333***	192.396***
	(30.135)	(23.574)	(143.662)	(51.523)
Constant	964.315***	507.446***	2,503.281***	15.715***
	(23.242)	(16.375)	(90.578)	(0.000)
Observations	1,549	1,547	1,538	1,344
R-squared	0.798	0.664	0.700	0.784
State Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	No	No	No	No
Time Trend	No	No	No	No

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

4.1.1 Overall Male Incarceration Rate

From column (1) of Table 4.2, we see that each sentencing regime type is associated with a higher male incarceration rate than indeterminate, unstructured regimes (the omitted group).

Conversely, this also means that indeterminate, unstructured regimes are likely to produce the lowest incarceration rates on average. This is largely in line with what current literature on sentencing policy changes suggests; increasing the determinacy and/or the structure of sentencing policies is likely to lead to an increase in male incarceration rates.

States with indeterminate, presumptive sentencing regimes, on average, have approximately 176 more male inmates per 100,000 men than states with indeterminate, unstructured regimes. At the mean, this is a difference of 27.1% in the male incarceration rate between these two types of regimes.

States with determinate, voluntary sentencing regimes, on average, have about 262 male inmates per 100,000 in population than states with indeterminate, unstructured regimes. At the mean, this is a difference of 40.3% between these two groups. Importantly, this is the largest difference in incarceration rates between policy regimes that is also statistically significant at the 1% level.

The mixed determinacy, voluntary sentencing regime, on average, has an incarceration rate that is higher by 139 inmates per 100,000 than indeterminate, unstructured regimes. At the mean, the mixed determinacy, voluntary sentencing regime has an incarceration rate that is 21.3% higher than that of indeterminate, unstructured regimes. A notable caveat, however, is that during the time period of interest (1985-2015), Arkansas is the only state to have had this particular combination of structure and determinacy. Including state fixed effects in our model helps address this issue; it is also likely that the most significant intertemporal change for Arkansas during the period of study was when the state moved away from an indeterminate, unstructured sentencing regime, and adopted a mixed determinacy and voluntary guidelines system in 1994.

Indeterminate, voluntary sentencing regimes, and determinate, presumptive sentencing regimes, on average, both have incarceration rates that are higher by about 25% higher than the omitted policy regime. The coefficients for these, however, are only marginally statistically significant at the 10% level. Mixed determinacy, unstructured sentencing regimes appear to have to the highest incarceration rates – 53.9% higher than that of indeterminate, unstructured regimes – but this is again only significant at the 10% level.

Lastly, the presence of three-strikes legislation also leads to significantly increased incarceration rates. On average, the presence of three-strikes legislation is associated with an increase of 251 inmates per 100,000; at the mean, this is a difference of 40.3% relative to states without three-strikes. Three-strikes legislation was likely a significant factor in raising overall incarceration rates during the 1990s, and the results here bears this out. While the coefficient for three-strikes legislation becomes negative and statistically insignificant when year fixed effects, as in Model (3), or a time trend, as in Model (4) is introduced, this is attributable to the way in which states introduced three-strikes legislation in two main waves during the mid-1990s. After the state of Washington introduced three-strikes legislation (as currently conceived[7]) in 1993, 11 states followed in 1994[8], and 12 more followed in 1995[9].

Broadly speaking, increasing the determinacy of a state's sentencing regime (from indeterminate to mixed determinacy or determinate systems) is likely to lead to increased male incarceration rates. This is the case across all the board – even where the coefficient for

[7] Texas has had a version of three-strikes legislation since 1952, but the phenomenon of three-strikes legislation only took off in the 1990s after Washington first introduced it in 1993.
[8] California, Colorado, Connecticut, Indiana, Kansas, Louisania, Maryland, New Mexico, North Carolina, Virginia and Wisconsin introduced three-strikes legislation in 1994.
[9] Arkansas, Florida, Georgia, Montana, Nevada, New Jersey, North Dakota, Pennsylvania, South Carolina, Tennessee, Utah and Vermont followed in 1995.

determinate, unstructured regimes is statistically insignificant, its sign is positive and reflects this trend.

Meanwhile, increasing the structure of a state's sentencing regime is likely to lead to an increase in male incarceration rates too. Presumptive sentencing regimes are associated with about an increase by around 25% in male incarceration rates, while voluntary (or advisory) sentencing regimes are associated with an increase of 20-39% in male incarceration rates. The policy interactions between the structure and determinacy of a state's sentencing regime are important, and I now turn to examine how these interactions may affect Black and Hispanic men differently[10].

4.1.2 Black Male Incarceration Rate

Column (3) of Table 4.2 presents estimates for sentencing regime effects on Black male incarceration rates. Two of these are statistically significant at the 1% level. Firstly, states with indeterminate, presumptive sentencing regimes have Black male incarceration rates that are, on average, 558 inmates per 100,000 Black men higher than states with those of indeterminate, unstructured regimes. At the mean, this is a 20.2% difference between the former and the latter states. Secondly, states with determinate, voluntary sentencing regimes, have on average 870 more inmates per 100,000 than states with indeterminate, unstructured regimes. At the mean, this is a 31.5% difference between the two groups.

Meanwhile, determinate, presumptive regimes have Black male incarceration rates that are, on average, 399 inmates per 100,000 higher than indeterminate, unstructured regimes, but

[10] On the whole, the observable trends in the OLS estimates (presented in Column (2) of Table 4.2) of the impact of sentencing regimes on White male incarceration rates are qualitatively very similar to those of overall male incarceration rates (presented in Column (1) of Table 5.1).

this is only marginally significant at the 10% level. This is a 14.4% difference between the two regimes at the mean.

States with mixed determinacy systems see marginally significant (at the 10% level) increases in the Black male incarceration rate over states with indeterminate, unstructured regimes. Mixed determinacy, voluntary sentencing regimes see an increase of 9.8% in the Black male incarceration rate over states with indeterminate, unstructured regimes; mixed determinacy, unstructured sentencing regimes see an increase of 25.6% in the same rate over states in the omitted group.

The broad trends in the effects of the determinacy and structure of sentencing regimes on states' overall male incarceration rates hold true too for Black male incarceration rates. Increasing the structure and/or the determinacy of a state's sentencing regime is also likely to increase Black male incarceration rates. However, the estimates for the effects of the various sentencing regimes on Black men are consistently larger than those for the other subgroups. This indicates that a policy change (such as intruding three-strikes legislation, or adopting voluntary sentencing guidelines) that is likely to lead to increased incarceration rates is likely to lead to greater increases in Black male incarceration rates than in the overall, While, or Hispanic male incarceration rates.

It is also important to note that Black male incarceration rates are, on average, several times higher than those for White men, Hispanic men, and men overall. In the context of this model, the mean incarceration rate for Black men in states with indeterminate, unstructured regimes (2764 inmates per 100,000) is more than six times that of the mean incarceration rate for White men in those same states, more than four times that of the mean overall male incarceration rate in those states, and more than three times that of the mean rate for Hispanic men in the same

states. As such, while the calculated semi-elasticities of sentencing regime effects on incarceration rates for Black men are comparable in magnitude to those of the other groups, the much higher mean incarceration rate for Black men translates into far larger increases in incarceration rates for Black men.

The estimate for the impact of three-strikes legislation on Black male incarceration rates illustrates this well. At the mean, the Black male incarceration rate in states with three-strikes legislation is 32.9% higher than in states without three-strikes legislation. This is in line with the 40.3% difference in overall male incarceration rates between states with and without three-strikes legislation, the 28.9% difference in White male incarceration rates between states with and without three-strikes. However, as measured by the results presented in Table 4.2, the impact of three-strikes legislation on the Black male incarceration rate (on average, 876 more inmates per 100,000 Black men in three-strikes states than in states without three-strikes) is about 3.5 times that of its impact on the overall male incarceration rate, 7.2 times that of its impact on the White male incarceration rate, and 4.6 times that of its impact on the Hispanic male incarceration rate.

4.1.3 Hispanic Male Incarceration Rate

The trends discussed so far, however, look a little different for Hispanic men, as we note from Column (4) in Table 4.2. The coefficients on the effects of the various sentencing regimes on the Hispanic male incarceration rate are mostly statistically insignificant, and much smaller in magnitude. However, the mixed determinacy, voluntary sentencing regime is associated with an incarceration rate that is on average 143 inmates per 100,000 Hispanic men *lower* (statistically significant at the 1% level) than that in states with indeterminate, unstructured regimes.

Three-strikes legislation continues to be associated with an increase in incarceration rates. At the mean, the Hispanic male incarceration rate is 27.7% higher in states with three-strikes legislation than in states without, and just as with the other groups, this effect is statistically significant at the 1% level.

4.2 Prior Incarceration Effects on Labor Force Outcomes

To examine the impact of prior incarceration on labor force outcomes, I estimate the following equations[11] for each age group, and each subgroup in both age groups (Black, Hispanic, White) for the years 1991-2015[12]:

(1) $LFPR_{i,s,t} = \boldsymbol{INCARC_{i,s,t-2}} + UNEM_{i,s,t-2} + AGE_{i,s,t} + FEMEMP_{s,t} + MANUF_{i,s,t} + HSPLUS_{i,s,t}\ (+COLLPLUS_{i,s,t}) + u_{i,s,t}$

(2) $EMP_{i,s,t} = \boldsymbol{INCARC_{i,s,t-2}} + UNEM_{i,s,t-2} + AGE_{i,s,t} + FEMEMP_{s,t} + MANUF_{s,t} + HSPLUS_{i,s,t}\ (+COLLPLUS_{i,s,t}) + u_{i,s,t}$

The results are presented in Columns (1) through (3) of Tables 4.3 to 4.6, which are found in the Appendix. Column (3) in all these tables presents the preferred specification as it includes both state and year fixed effects, but the specifications in Column (1), which does not include either state- or year-fixed effects, and in Column (2), which includes just state-fixed effects, have been included for comparison. The figures cited in this sub-section (§4.2) are all drawn from the preferred specification set out in Column (3) of Tables 4.3 to 4.6, unless otherwise specified.

[11] The subscripts *i*, *s*, and *t* denote the (sub)group, state, and the year respectively. Errors are clustered by state. COLLPLUS, or the proportion of the (sub)group that has completed at least college education, is omitted in the estimates for the 18-24 year old (sub)groups. Refer to Table 3.3 for more detailed variable descriptions.

[12] The main period of interest is 1991 to 2015, although data going back to 1989 has been included to allow for incarceration rates and unemployment rates to be lagged by two years.

The incarceration rate is lagged by two years in this model, as average time served in state corrections systems is just over two years, while the median length of time served is about 15 months (Bradley and Engen, 2016). Additionally, the unemployment rate is also lagged by two years to account for the possibility that prior unemployment may lead to discouraged workers dropping out of the labor force entirely, and for other cyclical trends in labor force activity.

4.2.1 Prior Incarceration Effects on Overall Male Labor Force Outcomes

As can be seen from Table 4.3, prior incarceration has no statistically significant effect on overall male labor force participation and employment, once state- and year-fixed effects are accounted for. Indeed, the coefficients that represent the effect of prior incarceration on labor force activity are all positive once state- and year-fixed effects are included.

Column (1) of Table 4.3, however, indicates that the lagged incarceration may still have a negative and statistically significant (at the 1% level) impact on male labor force participation and employment for 18-24 year old men, when state- and year-fixed effects have yet to be included in the model. In this specification, a 1 percentage point increase in the incarceration rate of two years ago translates, on average, into a 4.8 percentage point decrease in the male labor force participation rate and a 5.0 percentage point decrease in the employment rate. This raises the possibility that prior incarceration may have more of an impact on younger 18-24 year old men than the relatively older 25-34 year old age group.

The control variables largely work as expected. Firstly, lagged male unemployment is observed to generally have a negative effect on male labor force activity for both age groups. In the preferred specification, a percentage point increase in the unemployment rate two years

before translates, on average, into a 0.16 percentage point decrease in the employment rate of men aged 18-24 years old in the current year, and a 0.21 percentage point decrease in the employment rate of men aged 25-34 years old in the current year. The effects on labor force participation are negative too, but are of less economic significance. The one exception is that lagged male unemployment does not have a statistically significant effect on labor force participation for the 18-24 year old age group once state- and year-fixed effects have been included, but even then the estimated effect before including state and year fixed effects are negative and statistically significant.

Secondly, the mean age of men in the younger age group (18-24 years old) has a positive correlation with male labor force participation and employment, while the effect of the mean age in the older age group's (25-34 years old) labor force activity is negligible. If the mean age of young men aged 18-24 year old within a state increases by a year, this translates, on average, into a 5.8 percentage point increase in their labor force participation rate and 6.0 percentage point increase in their employment rate. However, the same effect is nearly zero for the older age group (25-34 years old). This is unsurprising, as age is a proxy for work experience. Thus, if the mean age of young men within the 18-24 year old age group in each state is higher, it means that collectively the group has greater average work experience, and we would expect labor force activity to be higher. Men in the older group (25-34 year old) are in the early prime of their working life, and hence the marginal returns in increased overall labor activity from an additional year of work experience may have diminished to nearly zero.

Thirdly, female employment is negatively correlated with male labor force activity in both age groups. This effect is statistically significant at the 1% level on all fronts. A percentage point increase in the proportion of the employed workforce that is female translates, on average,

into a 0.72 percentage point decrease in the labor force participation rate and a 1.1 percentage point decrease in the employment rate for 18-24 year old men. As for 25-34 year old men, a similar percentage point increase translates, on average, into a 0.45 percentage point decrease in their labor force participation rate, and a 0.34 percentage point decrease in their employment rate.

Fourthly, an increase in the proportion of jobs in the state that are in the manufacturing sector is positively correlated with male labor force activity. While this effect is statistically significant at the 1% level across both age groups, its economic significance (as measured by the elasticity) is at most marginal. A percentage point increase in the proportion of jobs that are in manufacturing translates, on average, into a 0.154 percentage point increase in the labor force participation rate and a 0.25 percentage point increase in the employment rate of 18-24 year old men. A similar increase for 25-34 year old men translates into a 0.07 percentage point increase in their labor force participation rate and a 0.13 percentage point increase in their employment rate.

Lastly, the education control variables were mostly statistically insignificant once state- and year-fixed effects were included. Even when the effects of high school completion and college completion rates on the employment rate of 25-34 year old men were statistically significant, the economic significance was low (with elasticities of 0.12 and 0.087, respectively).

4.2.2 Effects of Prior Incarceration on Black Male Labor Force Outcomes

While prior incarceration again has no statistically significant effect on Black male labor force participation and employment once state- and year-fixed effects are included, the sign on the relevant coefficients in Table 4.5 are now negative. Additionally, before state and year fixed effects are added, the impact of the lagged incarceration rate on the labor force participation of

25-34 year old Black men is marginally statistically significant at the 10% level, as we see in Column (1) of Table 4.5(c). In this specification, a percentage point increase in the Black male incarceration rate decreases the labor force participation of 25-34 year old Black men by 0.55 percentage points on average. Furthermore, as we may note from Column (1) of Table 4.5(d), a percentage point increase in the Black male incarceration rate decreases the employment rate of 25-34 year old Black men by 1.1 percentage points on average.

As for the control variables, lagged unemployment does not have statistically significant effects for Black male labor force activity. Mean age's effects on Black male labor force activity resemble its effects on overall male labor activity. Female employment does not have a statistically significant effect on Black male labor force participation across all specifications, but a percentage point increase in the proportion of the state's employed workforce that is female does translate into a statistically significant (at the 5% level) 1.2 percentage point decrease in the employment rate for Black men aged 25-34 years old. Having more manufacturing jobs in a state does appear to have a positive impact on the state's Black labor force activity, although this effect tends to become smaller or even not statistically insignificant once fixed effects are introduced.

Greater average educational levels (measured in high school or college completion rates) also tend to result in stronger effects on the labor outcomes of Black young men as compared to their White and Hispanic counterparts. However, these effects are still only of marginal economic significance. On average, a percentage point increase in the proportion of the workforce to have completed at least high school raises labor force participation for young black men from 0.10 percentage points to 0.13 percentage points, as we note from Tables 4.5(a) and (c).

4.2.3 Prior Incarceration Effects on Hispanic Male Labor Force Outcomes

As can be seen from Table 4.6, while the impact of lagged incarceration on labor force participation and employment of Hispanic young men in both age groups is still not statistically significant, the signs on the coefficients are consistently negative. Additionally, a percentage point increase in prior incarceration leads to, on average, a 3.9 percentage point decrease in the employment rate of Hispanic men aged 25-34 years old; this effect is marginally statistically significant at the 10% level. In the specifications without fixed effects, the negative impact of prior incarceration on Hispanic male labor force activity is statistically significant at the 1% level across both age groups, and this effect is also larger in magnitude than it is for Black and White young men. Prior incarceration appears to have stronger negative effects on the labor outcomes of Hispanic young men as a whole relative to the other two groups.

As for the control variables, lagged unemployment appears to have minimal impact on the labor force activity of Hispanic young men. The impacts of age, female employment, manufacturing sector jobs, and education levels are as we would expect, and resemble the impacts on overall male labor force activity that were discussed in §4.2.1 earlier.

4.3 Sentencing Policy Effects on Labor Force Outcomes

In this final sub-section, I examine if sentencing policy regimes directly affect current labor force outcomes. To do this, I add policy dummy variables into equations (1) and (2) and estimate the following equations[13]:

[13] As in equations (1) and (2), The subscripts *i, s,* and *t* denote the (sub)group, state, and the year respectively. Errors are clustered by state. Table 3.3 contains detailed variable descriptions.

(3) $LFPR_{i,s,t} = INCARC_{i,s,t-2} + \boldsymbol{POLICY_{st}} + UNEM_{i,s,t-2} + AGE_{i,s,t} + FEMEMP_{s,t} + MANUF_{i,s,t} + HSPLUS_{i,s,t}\ (+COLLPLUS_{i,s,t}) + u_{i,s,t}$

(4) $EMP_{i,s,t} = INCARC_{i,s,t-2} + \boldsymbol{POLICY_{st}} + UNEM_{i,s,t-2} + AGE_{i,s,t} + FEMEMP_{s,t} + MANUF_{s,t} + HSPLUS_{i,s,t}\ (+COLLPLUS_{i,s,t}) + u_{i,s,t}$

POLICY is a placeholder for the sentencing regime dummy variables (interacted structure and determinacy dummy variables) and the three-strikes dummy variable, which were discussed in detail in §4.1. As before, the omitted policy variables are the (i) indeterminate, unstructured sentencing regime and the (ii) mixed determinacy, presumptive sentencing regime. Indeterminate, unstructured sentencing regimes are omitted to avoid collinearity and are hence the regime type by which the others are compared to. Meanwhile, no state has a mixed determinacy, presumptive sentencing regime throughout the period of study (1991-2015), and hence this variable has been omitted as well. The three specifications of the model are presented in Columns (4) through (6) of Tables 4.3 to 4.6 in the Appendix. Column (6), which includes both state- and year-fixed effects, is the preferred specification, and any figures cited throughout this sub-section will by default refer to this Column unless otherwise specified[14]. The specification without any fixed effects, as presented in Column (4), and the specification with just state-fixed effects, as presented in Column (5), have been included for comparison.

4.3.1 Sentencing Policy Effects on Overall Male Labor Force Outcomes

Most of the policy regimes do not tend to have individually statistically significant effects on male labor force participation or employment once state- and year-fixed effects are included However, the results reveal a consistent relationship between three-strikes legislation and labor force activity may be noted: the presence of three-strikes is associated with a slight decline in

[14] A fourth specification that replaces year-fixed effects with a quadratic time trend yields very similar results to the preferred specification (state- and year-fixed effects), and is thus not presented in the discussion here.

overall male labor force activity. This impact is also likely to be greater for the younger age group. On average, states with three-strikes may have a labor force participation rate that is 1.2 percentage points (significant at the 10% level) lower for 18-24 year old men than states without such legislation, and an employment rate that is 1.9 percentage points (significant at the 5% level) lower for the same group.

Given that prior male incarceration has already been taken into account, this is indicative of direct effects that state-level criminal justice policies (and especially three-strikes legislation) may have on labor market outcomes. Such effects may operate in a couple of ways: firstly, it is possible that changes in criminal justice policies may directly impact employer discrimination between workers of different races. Recent work on "ban-the-box" policies suggests that employers respond very quickly (within the year) in responding to newly-implemented legislation that forbids employers from asking about a potential new hire's criminal record at the outset of hiring; employers often respond by discriminating against Black men more than before, and the gap in callback rates between White and Black applicants widens from 7% to 45% after "ban-the-box" policies are introduced (Agan and Starr 2016). Secondly, given that the "law and order" rhetoric surrounding criminal justice policy changes is often embedded with racial overtones (Alexander 2010), increased structure, determinacy, or punitiveness in the criminal justice system may be indicative of greater discrimination levels in the state that also manifest themselves in the labor market.

Two other observations on policy regime effects on male labor force activity are notable. Mixed determinacy, unstructured sentencing regimes are likely to have a negative impact on male labor force participation and employment relative to indeterminate, unstructured regimes; on average, a mixed determinacy, unstructured regime has a labor force participation rate that is

1 percentage point lower for 25-34 year old men (significant at the 5% level). Also, the mixed determinacy, voluntary sentencing regime tends to have higher labor force activity relative to indeterminate, unstructured regimes, although it must be pointed out again that Arkansas is the only state with a mixed determinacy, voluntary sentencing regime throughout our analysis (between the years 1994-2015). Nevertheless, with all the controls in place, having a mixed determinacy, voluntary sentencing regime translates on average into an employment rate that is 3.5 percentage points higher for 18-24 year old men and a labor force participation that is 0.6-0.9 percentage points higher for both age groups than in the latter states.

4.3.2 Sentencing Policy Effects on White Male Labor Force Outcomes

While the impact of the policy variables on White male labor force participation and employment are rather similar to those observed in overall male labor force activity, a few differences may be noted when it comes to the direct effects of sentencing policy regimes. Firstly, and arguably most importantly, the effects of three-strikes on White male labor force participation and employment are minimal and not statistically significant, although the coefficients are still negative. This is the case even when fixed effects have not been included in the model. This is consistent with the interpretation that direct effects are indicative of racial discrimination in the labor market discussed above in §4.3.1.

Secondly, states with indeterminate, voluntary sentencing regimes may see marginally lower White male labor force activity in the younger age group (18-24 years old). On average, states with such regimes have a White male labor force participation rate that is 2.1 percentage points (marginally significant at the 10% level) lower and a White male employment rate that is 1.0 percentage points (significant at the 5% level) lower than in states with indeterminate, unstructured sentencing. These effects, however, are not evident amongst the older age group.

Lastly, the mixed determinacy, voluntary sentencing regime (unique to Arkansas in the period 1994-2015) is associated with a slight increase in employment for 18-24 year old White men over states with indeterminate, unstructured sentencing, even with all controls and state- and year-fixed effects included in the model. On average, White male employment is 1.4 percentage points (significant at the 5% level) higher for 18-24 year old White men in such a regime than in indeterminate, unstructured sentencing regimes. This effect may be detected amongst the other White male subgroups' labor force outcomes but only when year fixed effects have yet to be included in the model, as in Column (5) of Table 4.4.

4.3.3 Sentencing Policy Effects on Black Male Labor Force Outcomes

The direct effects of three-strikes legislation on labor force activity are greatest for 18-24 year old Black men. On average, states with three-strikes have a Black male labor force participation rate that is 5 percentage points lower, and a Black male employment rate that is 5.8 percentage points lower for the younger age group (both significant at the 5% level). At the mean, this is a 7.4% difference in Black male labor force participation and a 10.5% difference in Black male employment for 18-24 year old men between states with three-strikes and states without. Again, this is consistent with the interpretation that direct sentencing policy effects on labor outcomes may reflect racial discrimination in the labor market.

A second notable observation is that states with determinate sentencing regimes tend to have noticeably higher Black male labor force and employment rates. For 18-24 year old Black men, labor force participation is as much as 7.0 to 8.1 percentage points higher, and employment is 7.0 to 9.7 percentage points higher than in states with indeterminate, unstructured regimes. Meanwhile, the effect for 25-34 year old Black men is about half that of their younger counterparts; labor force participation for 25-34 year old Black men in determinate regimes is

3.4 to 3.9 percentage points higher than in indeterminate, unstructured regimes, while employment is similarly 3.0 to 3.9 percentage points higher. One way of interpreting this is that indeterminate systems have lower Black male labor force activity in comparison to determinate systems. This raises the possibility that reducing arbitrariness and discretion in release decisions, as determinate systems do, may help reduce the adverse impact of incarceration on labor market outcomes for Black men, although this is done at the cost of increasing incarceration rates in the first place.

4.3.4 Sentencing Policy Effects on Hispanic Male Labor Force Outcomes

In contrast with the observed results for overall male and Black male labor market outcomes, the presence of three-strikes legislation has minimal impact on the labor market outcomes of Hispanic young men, as the relevant coefficients are all statistically insignificant. In this regard, this estimated effect is similar to that of three-strikes legislation having minimal impact on the labor force activity of young White men, and both are consistent with the interpretation of three-strikes legislation signaling negative labor market treatment of Black men.

Another striking set of results can also be observed in the effects that mixed determinacy regimes may have on the labor market outcomes of young Hispanic men. The mixed determinacy, voluntary sentencing regime (unique to Arkansas during 1994-2015) is associated with higher labor force participation and employment among Hispanic men aged 18-24 years old, but lower labor force participation and employment among Hispanic men aged 25-34 years old, as compared to labor market outcomes in states with indeterminate, unstructured sentencing. These effects are all statistically significant at the 1% level even after controlling for state- and year-fixed effects, as can be seen in Table 4.6. In this specification, the presence of a mixed determinacy, voluntary sentencing regime leads to on average a 12.7 percentage point *increase*

in labor force participation and an 18 percentage point *increase* in employment for the younger age group; the same regime is on average associated with a 4.6 percent *decrease* in labor force participation and a 9.7 percentage point *decrease* in employment for the older age group. Similar effects may be observed for mixed determinacy, unstructured sentencing regimes, although the effects are less pronounced and are only statistically significant (1% level) for the employment rate of Hispanic men aged 18-24 years old. These are the most widely differing effects between two age groups of the same race.

5. Conclusion

In summary, I find that sentencing policies have significant and direct effects on incarceration rates and on the labor market outcomes of young men. Critically, these effects may differ by race: sentencing policies tend to affect the incarceration rates and labor market outcomes of Black men more than they do for Hispanic and White men. The policy implications of this finding are wide-ranging, and understanding the interactions between sentencing policies, incarceration rates, and labor market outcomes is critical towards addressing issues such as criminal justice reform, racial inequality, and declining labor force participation.

Firstly, increasing the structure and/or the determinacy of sentencing regimes is likely to lead to higher incarceration rates. These effects are also consistently larger for Black men than they are for Hispanic and White men. Sentencing regime effects on the Hispanic male incarceration rate are largely statistically insignificant, while the regime effects on the Black male incarceration rate are as high as 1.5 to 5 times higher than their effects on the incarceration rate of White men. Similarly, the effects of three-strikes legislation on the Black male incarceration rate are more than 7 times that of its impact on the White male incarceration rate, and more than 4 times its impact on the Hispanic male incarceration rate. A potential policy implication is that these differential effects should perhaps be considered when sentencing policy changes are mooted, given the disproportionately larger impact that changes to sentencing policies have on Black men.

Secondly, I find that prior incarceration may perhaps be negatively correlated with male labor force participation and employment. However, this result is not conclusive, as the relationship does not hold after state- and year-fixed effects are included. Direct sentencing policy effects on labor market outcomes are thus perhaps more significant.

Thirdly, I find that sentencing policies may have direct effects on the labor force participation and employment rates of young men aged 18-34 years old, even after accounting for prior incarceration, as well as state- and year-fixed effects. A key finding is that three-strikes legislation is likely to decrease labor force participation and employment for Black men more than it does for the other groups. However, states with determinate systems do tend to see higher Black male labor force participation and employment than states with indeterminate, unstructured sentencing systems.

There are a few possible explanations for why such direct effects on labor market outcomes are observable even after controlling for prior incarceration. First, employers may perhaps be responding to changes in criminal justice policies by discriminating more against minority populations. These policy changes may lead employers to perceive that there are more minority men in prison. Consequently, their attitudes towards hiring minority men may also become more discriminatory. As a recent study on "ban-the-box" policies suggests, employers do respond relatively quickly to any changes in criminal justice policies that might affect their perception of the labor market (Agan and Starr 2016). A second explanation is that such changes in sentencing policies may merely reflect growing discrimination and changing attitudes towards minority populations. In this view, such increased discrimination may manifest itself both in the sentencing policy changes, and also the labor market outcomes of minority populations. A third possibility may explain why labor market outcomes are relatively more positive for Black men in states with determinate systems than in states with indeterminate, unstructured systems. States with determinate systems have reduced discretion in release decisions; this may perhaps reduce discrimination towards non-incarcerated minorities and thus relatively better labor market outcomes for Black men. Even if this effect is at work here, it is important to remember that this

comes at the cost of significantly higher incarceration rates.

The above three explanations are all distinct possibilities worth investigating. A panel data approach that tracks the labor market outcomes of young men before and after incarceration may perhaps better assess if such direct sentencing policy effects on labor market outcomes do indeed exist, and if so, which causal mechanisms behind such effects are.

A final noteworthy observation is that direct policy effects on labor market outcomes tend to be larger for the younger 18-24 year old group than they are for the 25-34 year old group. This is unsurprising as there is generally greater variation in the labor force participation and employment of young men, and they are less likely to have permanently dropped out of the labor force or the civilian noninstitutional population altogether. Meanwhile, the older cohort is in the early prime of their working lives, and ex-offenders who have regular interactions with the criminal justice system are perhaps more likely to have dropped out of the labor force altogether. The externalities that result from having such a greater portion of the community incarcerated may also affect the labor market outcomes of younger men more than they do for the older group.

The outsized impact of criminal justice policies on not just the incarceration rates, but also the labor market outcomes of young men, especially young Black men, is an important policy implication when considering any changes to state-level criminal justice systems. Any comprehensive attempt to understand and address racial inequality in the United States should also consider the role that criminal justice policies play in perpetuating race-based differences in economic outcomes, such as those in the labor market examined here.

6. Appendix: Regression Tables

Table 4.3(a): Male Labor Force Participation (18-24 years old)

VARIABLES	(1) LFPR	(2) LFPR	(3) LFPR	(4) LFPR	(5) LFPR	(6) LFPR
L2.MRATE	-4.788***	-1.177	1.519	-5.215***	-1.341	1.497
	(1.473)	(1.642)	(1.443)	(1.517)	(1.609)	(1.492)
L2.UNEM	-0.480***	-0.229***	-0.069	-0.476***	-0.220***	-0.064
	(0.077)	(0.055)	(0.051)	(0.070)	(0.054)	(0.051)
AGE	0.050***	0.028***	0.058***	0.047***	0.028***	0.057***
	(0.015)	(0.009)	(0.007)	(0.014)	(0.010)	(0.007)
INDET*PRE				0.011	0.019	0.008
				(0.010)	(0.013)	(0.006)
INDET*VOL				0.009	-0.007	-0.005
				(0.014)	(0.008)	(0.006)
DET*UNSTR				-0.007	0.008	0.013
				(0.014)	(0.013)	(0.014)
DET*PRE				0.004	0.029**	0.018
				(0.010)	(0.013)	(0.011)
DET*VOL				0.012	0.006	0.004
				(0.015)	(0.012)	(0.009)
MIXED*UNSTR				-0.023	-0.003	-0.012
				(0.029)	(0.007)	(0.014)
MIXED*VOL				0.021**	0.015	0.002
				(0.008)	(0.009)	(0.006)
THRSTR				-0.008	0.004	-0.012*
				(0.009)	(0.010)	(0.007)
FEMEMPPCT	-0.926***	-0.728***	-0.718***	-0.978***	-0.741***	-0.750***
	(0.312)	(0.218)	(0.135)	(0.299)	(0.220)	(0.134)
MANUFPCT	0.301***	0.411***	0.154***	0.272***	0.421***	0.151***
	(0.056)	(0.033)	(0.045)	(0.058)	(0.038)	(0.045)
HSPLUS	-0.198**	-0.363***	-0.030	-0.229***	-0.342***	-0.025
	(0.084)	(0.056)	(0.053)	(0.077)	(0.054)	(0.050)
Constant	0.311	0.685***	-0.161	0.435	0.681***	-0.128
	(0.324)	(0.238)	(0.174)	(0.307)	(0.248)	(0.180)
Observations	1,249	1,249	1,249	1,249	1,249	1,249
R-squared	0.461	0.730	0.805	0.480	0.735	0.808
State Fixed Effects	No	Yes	Yes	No	Yes	Yes
Year Fixed Effects	No	No	Yes	No	No	Yes

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4.3(b): Male Employment (18-24 years old)

VARIABLES	(1) EMP	(2) EMP	(3) EMP	(4) EMP	(5) EMP	(6) EMP
L2.MRATE	-5.003***	0.415	0.807	-5.795***	-0.269	0.649
	(1.738)	(1.720)	(1.677)	(1.779)	(1.826)	(1.761)
L2.UNEM	-0.829***	-0.402***	-0.163***	-0.803***	-0.381***	-0.149***
	(0.089)	(0.063)	(0.055)	(0.085)	(0.065)	(0.054)
AGE	0.048***	0.022**	0.060***	0.046***	0.023**	0.058***
	(0.014)	(0.010)	(0.008)	(0.014)	(0.011)	(0.008)
INDET*PRE				0.007	0.026	0.006
				(0.012)	(0.021)	(0.014)
INDET*VOL				0.007	-0.017	-0.015*
				(0.015)	(0.011)	(0.009)
DET*UNSTR				-0.014	0.006	0.008
				(0.016)	(0.011)	(0.012)
DET*PRE				-0.001	0.039***	0.016
				(0.013)	(0.013)	(0.010)
DET*VOL				0.018	0.005	0.002
				(0.018)	(0.012)	(0.008)
MIXED*UNSTR				-0.024	0.022***	-0.003
				(0.028)	(0.007)	(0.011)
MIXED*VOL				0.022**	0.050***	0.035***
				(0.009)	(0.010)	(0.006)
THRSTR				-0.002	0.018	-0.019**
				(0.010)	(0.013)	(0.008)
FEMEMPPCT	-1.183***	-1.334***	-1.132***	-1.219***	-1.356***	-1.181***
	(0.322)	(0.239)	(0.139)	(0.307)	(0.247)	(0.138)
MANUFPCT	0.319***	0.421***	0.254***	0.293***	0.460***	0.252***
	(0.061)	(0.044)	(0.054)	(0.064)	(0.057)	(0.052)
HSPLUS	-0.116	-0.398***	0.036	-0.150	-0.360***	0.040
	(0.098)	(0.060)	(0.048)	(0.096)	(0.062)	(0.044)
Constant	0.330	1.030***	-0.200	0.444	0.997***	-0.137
	(0.318)	(0.237)	(0.158)	(0.313)	(0.240)	(0.155)
Observations	1,249	1,249	1,249	1,249	1,249	1,249
R-squared	0.453	0.696	0.834	0.467	0.708	0.837
State Fixed Effects	No	Yes	Yes	No	Yes	Yes
Year Fixed Effects	No	No	Yes	No	No	Yes

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4.3(c): Male Labor Force Participation (25-34 years old)

VARIABLES	(1) LFPR	(2) LFPR	(3) LFPR	(4) LFPR	(5) LFPR	(6)
L2.MRATE	-0.662	-0.412	0.210	-1.116	-0.538	0.250
	(0.759)	(0.780)	(0.779)	(0.710)	(0.781)	(0.733)
L2.UNEM	-0.374***	-0.253***	-0.084**	-0.360***	-0.244***	-0.082**
	(0.044)	(0.026)	(0.039)	(0.041)	(0.028)	(0.039)
AGE	0.012**	0.009*	0.004	0.012**	0.008*	0.005
	(0.005)	(0.005)	(0.004)	(0.005)	(0.005)	(0.004)
INDET*PRE				0.002	0.002	-0.002
				(0.004)	(0.007)	(0.006)
INDET*VOL				0.001	0.000	0.001
				(0.006)	(0.005)	(0.003)
DET*UNSTR				-0.001	0.003	0.003
				(0.005)	(0.005)	(0.005)
DET*PRE				-0.003	0.010*	0.005
				(0.005)	(0.005)	(0.006)
DET*VOL				0.011*	0.007	0.003
				(0.007)	(0.005)	(0.004)
MIXED*UNSTR				-0.001	-0.004	-0.010**
				(0.008)	(0.003)	(0.004)
MIXED*VOL				0.001	0.009**	0.006**
				(0.004)	(0.003)	(0.003)
THRSTR				0.005	0.004	-0.001
				(0.003)	(0.003)	(0.003)
FEMEMPPCT	-0.538***	-0.422***	-0.449***	-0.530***	-0.412***	-0.440***
	(0.117)	(0.083)	(0.065)	(0.116)	(0.085)	(0.068)
MANUFPCT	0.141***	0.126***	0.066***	0.142***	0.136***	0.067***
	(0.027)	(0.018)	(0.024)	(0.029)	(0.022)	(0.025)
HSPLUS	0.134***	0.030	0.056	0.124***	0.032	0.063
	(0.041)	(0.046)	(0.040)	(0.045)	(0.047)	(0.042)
COLLPLUS	0.011	-0.084***	0.026	-0.001	-0.086***	0.027
	(0.028)	(0.022)	(0.023)	(0.027)	(0.022)	(0.024)
Constant	0.672***	0.796***	0.917***	0.705***	0.813***	0.900***
	(0.159)	(0.158)	(0.140)	(0.154)	(0.162)	(0.145)
Observations	1,249	1,249	1,249	1,249	1,249	1,249
R-squared	0.489	0.678	0.730	0.504	0.681	0.731
State Fixed Effects	No	Yes	Yes	No	Yes	Yes
Year Fixed Effects	No	No	Yes	No	No	Yes

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4.3(d): Male Employment (25-34 years old)

VARIABLES	(1) EMP	(2) EMP	(3) EMP	(4) EMP	(5) EMP	(6) EMP
L2.MRATE	-0.430	-0.130	0.234	-1.031	-0.596	0.241
	(0.977)	(1.297)	(1.316)	(0.924)	(1.384)	(1.182)
L2.UNEM	-0.784***	-0.541***	-0.211***	-0.750***	-0.508***	-0.201***
	(0.064)	(0.041)	(0.049)	(0.060)	(0.049)	(0.049)
AGE	0.020***	0.019***	0.006	0.019***	0.017***	0.007
	(0.006)	(0.006)	(0.004)	(0.006)	(0.005)	(0.004)
INDET*PRE				-0.002	0.013	0.001
				(0.006)	(0.012)	(0.010)
INDET*VOL				0.003	0.005	0.006
				(0.008)	(0.011)	(0.008)
DET*UNSTR				-0.007	0.004	-0.000
				(0.006)	(0.009)	(0.007)
DET*PRE				-0.004	0.021***	0.001
				(0.006)	(0.008)	(0.008)
DET*VOL				0.013	0.007	-0.003
				(0.010)	(0.009)	(0.007)
MIXED*UNSTR				-0.003	0.006	-0.014
				(0.008)	(0.013)	(0.014)
MIXED*VOL				0.003	0.016***	0.009***
				(0.004)	(0.005)	(0.003)
THRSTR				0.007*	0.015**	-0.007*
				(0.004)	(0.006)	(0.004)
FEMEMPPCT	-0.917***	-1.006***	-0.797***	-0.889***	-0.994***	-0.800***
	(0.128)	(0.152)	(0.101)	(0.130)	(0.155)	(0.100)
MANUFPCT	0.156***	0.157***	0.130***	0.157***	0.187***	0.130***
	(0.031)	(0.036)	(0.037)	(0.035)	(0.045)	(0.037)
HSPLUS	0.248***	0.197***	0.120**	0.250***	0.183***	0.125**
	(0.055)	(0.063)	(0.047)	(0.055)	(0.062)	(0.048)
COLLPLUS	0.036	-0.047	0.087***	0.018	-0.053	0.093***
	(0.033)	(0.040)	(0.032)	(0.031)	(0.040)	(0.032)
Constant	0.490**	0.566***	0.877***	0.501**	0.636***	0.844***
	(0.190)	(0.189)	(0.156)	(0.195)	(0.182)	(0.153)
Observations	1,249	1,249	1,249	1,249	1,249	1,249
R-squared	0.483	0.615	0.795	0.497	0.625	0.797
State Fixed Effects	No	Yes	Yes	No	Yes	Yes
Year Fixed Effects	No	No	Yes	No	No	Yes

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4.4(a): White Male Labor Force Participation (18-24 years old)

VARIABLES	(1) LFPR	(2) LFPR	(3) LFPR	(4) LFPR	(5) LFPR	(6) LFPR
L2.WMRATE	0.706	-0.216	2.811	0.570	-0.267	2.583
	(2.660)	(3.258)	(1.911)	(2.694)	(3.221)	(1.938)
L2.UNEM	-0.417***	-0.267***	-0.116**	-0.447***	-0.242***	-0.114**
	(0.073)	(0.049)	(0.046)	(0.071)	(0.049)	(0.046)
AGE	0.063***	0.039***	0.068***	0.060***	0.040***	0.067***
	(0.017)	(0.011)	(0.008)	(0.016)	(0.011)	(0.009)
INDET*PRE				0.009	0.030**	0.014**
				(0.011)	(0.014)	(0.007)
INDET*VOL				0.012	-0.009	-0.010**
				(0.014)	(0.008)	(0.005)
DET*UNSTR				-0.001	0.008	0.014
				(0.015)	(0.015)	(0.014)
DET*PRE				0.012	0.037**	0.020
				(0.012)	(0.016)	(0.014)
DET*VOL				-0.000	0.017	0.007
				(0.014)	(0.011)	(0.010)
MIXED*UNSTR				-0.006	-0.001	-0.005
				(0.026)	(0.005)	(0.010)
MIXED*VOL				0.005	0.016*	-0.004
				(0.010)	(0.009)	(0.006)
THRSTR				-0.010	0.009	-0.007
				(0.008)	(0.011)	(0.007)
FEMEMPPCT	-0.803**	-0.552*	-0.500**	-0.834***	-0.567**	-0.536***
	(0.307)	(0.280)	(0.195)	(0.302)	(0.279)	(0.196)
MANUFPCT	0.377***	0.477***	0.169**	0.355***	0.502***	0.170**
	(0.054)	(0.043)	(0.074)	(0.058)	(0.047)	(0.075)
HSPLUS*WHITEM18	-0.172*	-0.275***	-0.119**	-0.176**	-0.265***	-0.118*
	(0.087)	(0.063)	(0.058)	(0.086)	(0.063)	(0.060)
Constant	-0.108	0.309	-0.366*	-0.017	0.290	-0.332
	(0.365)	(0.278)	(0.196)	(0.329)	(0.283)	(0.199)
Observations	1,248	1,248	1,248	1,248	1,248	1,248
R-squared	0.392	0.633	0.725	0.403	0.642	0.728
State Fixed Effects	No	Yes	Yes	No	Yes	Yes
Year Fixed Effects	No	No	Yes	No	No	Yes

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4.4(b): White Male Employment (18-24 years old)

VARIABLES	(1) EMP	(2) EMP	(3) EMP	(4) EMP	(5) EMP	(6) EMP
L2.WMRATE	-0.006	-0.692	1.011	-0.126	-0.462	0.743
	(2.921)	(2.924)	(1.783)	(3.082)	(3.044)	(1.879)
L2.UNEM	-0.775***	-0.451***	-0.217***	-0.774***	-0.404***	-0.210***
	(0.083)	(0.055)	(0.068)	(0.083)	(0.057)	(0.070)
AGE	0.062***	0.030**	0.065***	0.059***	0.033***	0.064***
	(0.016)	(0.012)	(0.008)	(0.016)	(0.012)	(0.008)
INDET*PRE				0.004	0.038	0.014
				(0.013)	(0.024)	(0.015)
INDET*VOL				0.011	-0.018	-0.021*
				(0.016)	(0.015)	(0.011)
DET*UNSTR				-0.009	0.009	0.012
				(0.017)	(0.015)	(0.015)
DET*PRE				0.006	0.051***	0.021
				(0.014)	(0.018)	(0.015)
DET*VOL				0.002	0.013	-0.001
				(0.017)	(0.014)	(0.010)
MIXED*UNSTR				-0.005	0.025***	0.001
				(0.024)	(0.006)	(0.008)
MIXED*VOL				0.008	0.037***	0.014**
				(0.011)	(0.009)	(0.006)
THRSTR				-0.003	0.026**	-0.011
				(0.009)	(0.012)	(0.008)
FEMEMPPCT	-1.014***	-1.199***	-1.011***	-1.018***	-1.233***	-1.062***
	(0.324)	(0.273)	(0.162)	(0.324)	(0.274)	(0.157)
MANUFPCT	0.388***	0.462***	0.287***	0.378***	0.528***	0.281***
	(0.062)	(0.050)	(0.075)	(0.068)	(0.062)	(0.076)
HSPLUS	-0.127	-0.278***	-0.074	-0.127	-0.263***	-0.077
	(0.100)	(0.070)	(0.060)	(0.101)	(0.068)	(0.061)
Constant	-0.062	0.743***	-0.242	0.005	0.682**	-0.193
	(0.359)	(0.276)	(0.161)	(0.349)	(0.276)	(0.160)
Observations	1,248	1,248	1,248	1,248	1,248	1,248
R-squared	0.398	0.617	0.761	0.402	0.635	0.765
State Fixed Effects	No	Yes	Yes	No	Yes	Yes
Year Fixed Effects	No	No	Yes	No	No	Yes

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4.4(c): White Male Labor Force Participation (25-34 years old)

VARIABLES	(1) LFPR	(2) LFPR	(3) LFPR	(4) LFPR	(5) LFPR	(6) LFPR
L2.WMRATE	-1.013	0.113	1.159	-0.969	0.119	1.092
	(1.100)	(1.467)	(1.090)	(1.027)	(1.499)	(1.138)
L2.UNEM	-0.350***	-0.199***	-0.060	-0.320***	-0.185***	-0.059
	(0.055)	(0.031)	(0.050)	(0.045)	(0.032)	(0.050)
AGE	0.010***	0.010**	0.002	0.012***	0.009**	0.002
	(0.004)	(0.004)	(0.003)	(0.004)	(0.004)	(0.003)
INDET*PRE				0.001	0.005	0.002
				(0.004)	(0.007)	(0.006)
INDET*VOL				0.008	0.002	0.002
				(0.006)	(0.005)	(0.004)
DET*UNSTR				-0.005	0.003	0.003
				(0.005)	(0.005)	(0.006)
DET*PRE				-0.007*	0.013**	0.008
				(0.004)	(0.005)	(0.006)
DET*VOL				0.006	0.004	0.001
				(0.008)	(0.005)	(0.005)
MIXED*UNSTR				0.005	0.001	-0.002
				(0.006)	(0.003)	(0.002)
MIXED*VOL				-0.000	0.011***	0.005
				(0.004)	(0.004)	(0.004)
THRSTR				0.004	0.004	-0.001
				(0.003)	(0.003)	(0.003)
FEMEMPPCT	-0.243**	-0.330***	-0.342***	-0.253**	-0.329***	-0.343***
	(0.111)	(0.094)	(0.078)	(0.109)	(0.095)	(0.081)
MANUFPCT	0.166***	0.185***	0.104***	0.177***	0.194***	0.103***
	(0.031)	(0.021)	(0.028)	(0.031)	(0.024)	(0.029)
HSPLUS	0.211***	0.109**	0.130***	0.236***	0.103**	0.131***
	(0.046)	(0.046)	(0.041)	(0.040)	(0.048)	(0.043)
COLLPLUS	-0.033	-0.066***	-0.015	-0.043*	-0.069***	-0.015
	(0.028)	(0.022)	(0.020)	(0.025)	(0.021)	(0.019)
Constant	0.538***	0.667***	0.882***	0.463***	0.695***	0.883***
	(0.124)	(0.140)	(0.119)	(0.140)	(0.141)	(0.122)
Observations	1,248	1,248	1,248	1,248	1,248	1,248
R-squared	0.455	0.636	0.688	0.480	0.640	0.689
State Fixed Effects	No	Yes	Yes	No	Yes	Yes
Year Fixed Effects	No	No	Yes	No	No	Yes

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4.5(d): White Male Employment (25-34 years old)

VARIABLES	(1) EMP	(2) EMP	(3) EMP	(4) EMP	(5) EMP	(6) EMP
L2.WMRATE	-1.078	-0.374	0.530	-0.971	-0.241	0.185
	(1.416)	(1.526)	(1.034)	(1.328)	(1.643)	(1.060)
L2.UNEM	-0.760***	-0.446***	-0.155***	-0.699***	-0.399***	-0.144***
	(0.077)	(0.042)	(0.048)	(0.064)	(0.050)	(0.047)
AGE	0.016***	0.018***	0.004	0.019***	0.016***	0.004
	(0.005)	(0.005)	(0.004)	(0.005)	(0.004)	(0.004)
INDET*PRE				-0.004	0.021	0.011
				(0.005)	(0.013)	(0.011)
INDET*VOL				0.011	0.009	0.008
				(0.008)	(0.011)	(0.009)
DET*UNSTR				-0.011	0.004	0.002
				(0.008)	(0.007)	(0.007)
DET*PRE				-0.011*	0.022***	0.005
				(0.005)	(0.007)	(0.007)
DET*VOL				0.006	0.004	-0.004
				(0.011)	(0.008)	(0.007)
MIXED*UNSTR				0.005	0.016**	0.000
				(0.006)	(0.008)	(0.008)
MIXED*VOL				0.002	0.016***	0.006
				(0.005)	(0.004)	(0.004)
THRSTR				0.008**	0.016***	-0.006
				(0.004)	(0.006)	(0.004)
FEMEMPPCT	-0.439***	-0.783***	-0.642***	-0.422***	-0.801***	-0.667***
	(0.143)	(0.146)	(0.099)	(0.135)	(0.151)	(0.099)
MANUFPCT	0.181***	0.206***	0.170***	0.199***	0.243***	0.169***
	(0.040)	(0.034)	(0.041)	(0.042)	(0.041)	(0.041)
HSPLUS	0.234***	0.196***	0.156***	0.281***	0.173***	0.157***
	(0.069)	(0.051)	(0.039)	(0.061)	(0.053)	(0.040)
COLLPLUS	-0.011	-0.032	0.006	-0.027	-0.041	0.011
	(0.038)	(0.033)	(0.022)	(0.033)	(0.032)	(0.021)
Constant	0.400***	0.497***	0.865***	0.245	0.578***	0.866***
	(0.149)	(0.148)	(0.133)	(0.163)	(0.140)	(0.132)
Observations	1,248	1,248	1,248	1,248	1,248	1,248
R-squared	0.429	0.591	0.759	0.459	0.605	0.762
State Fixed Effects	No	Yes	Yes	No	Yes	Yes
Year Fixed Effects	No	No	Yes	No	No	Yes

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4.6(a): Black Male Labor Force Participation (18-24 years old)

VARIABLES	(1) LFPR	(2) LFPR	(3) LFPR	(4) LFPR	(5) LFPR	(6) LFPR
L2.BMRATE	-0.056	0.585	-0.254	-0.435	0.566	-0.446
	(0.795)	(1.230)	(1.751)	(0.802)	(1.199)	(1.649)
L2.UNEM	-0.112	-0.052	-0.050	-0.115	-0.051	-0.048
	(0.082)	(0.075)	(0.074)	(0.079)	(0.076)	(0.076)
AGE	0.062***	0.059***	0.060***	0.066***	0.060***	0.061***
	(0.012)	(0.011)	(0.011)	(0.012)	(0.011)	(0.011)
INDET*PRE				0.014	0.002	-0.009
				(0.024)	(0.027)	(0.026)
INDET*VOL				0.016	0.027	0.024
				(0.033)	(0.024)	(0.020)
DET*UNSTR				-0.044*	0.068**	0.071
				(0.024)	(0.031)	(0.043)
DET*PRE				0.012	0.096***	0.081**
				(0.019)	(0.028)	(0.038)
DET*VOL				0.005	0.053	0.053
				(0.023)	(0.035)	(0.040)
MIXED*UNSTR				-0.125**	-0.008	-0.024
				(0.049)	(0.030)	(0.033)
MIXED*VOL				0.008	-0.007	-0.018
				(0.016)	(0.016)	(0.015)
THRSTR				0.003	-0.029	-0.051**
				(0.018)	(0.021)	(0.021)
FEMEMPPCT	-0.427	-0.095	0.271	-0.341	-0.146	0.179
	(0.629)	(0.701)	(0.693)	(0.610)	(0.698)	(0.691)
MANUFPCT	0.305***	0.473***	0.358	0.257***	0.435***	0.332
	(0.074)	(0.087)	(0.273)	(0.081)	(0.103)	(0.267)
HSPLUS	0.072	0.047	0.058	0.062	0.044	0.055
	(0.050)	(0.047)	(0.050)	(0.051)	(0.045)	(0.049)
Constant	-0.533	-0.744**	-0.902**	-0.631	-0.731**	-0.889**
	(0.411)	(0.356)	(0.346)	(0.399)	(0.353)	(0.343)
Observations	1,157	1,157	1,157	1,157	1,157	1,157
R-squared	0.119	0.284	0.303	0.152	0.289	0.309
State Fixed Effects	No	Yes	Yes	No	Yes	Yes
Year Fixed Effects	No	No	Yes	No	No	Yes

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4.6(b): Black Male Employment (18-24 years old)

VARIABLES	(1) EMP	(2) EMP	(3) EMP	(4) EMP	(5) EMP	(6) EMP
L2.BMRATE	-0.434	2.494**	0.721	-0.806	1.994	0.093
	(1.085)	(1.158)	(1.265)	(1.125)	(1.244)	(1.177)
L2.UNEM	-0.200**	0.003	0.021	-0.188**	0.009	0.027
	(0.084)	(0.036)	(0.035)	(0.078)	(0.036)	(0.035)
AGE	0.064***	0.046***	0.048***	0.066***	0.046***	0.049***
	(0.011)	(0.010)	(0.010)	(0.011)	(0.010)	(0.010)
INDET*PRE				-0.000	-0.007	-0.031
				(0.033)	(0.041)	(0.027)
INDET*VOL				-0.012	0.020	0.012
				(0.040)	(0.025)	(0.019)
DET*UNSTR				-0.072*	0.078**	0.081***
				(0.037)	(0.035)	(0.029)
DET*PRE				-0.002	0.096***	0.070**
				(0.027)	(0.035)	(0.030)
DET*VOL				0.013	0.103***	0.097**
				(0.031)	(0.034)	(0.036)
MIXED*UNSTR				-0.088*	0.028	-0.010
				(0.050)	(0.024)	(0.026)
MIXED*VOL				-0.030	0.104***	0.090***
				(0.025)	(0.021)	(0.019)
THRSTR				0.000	-0.011	-0.058**
				(0.022)	(0.025)	(0.026)
FEMEMPPCT	-1.195	-0.917	-0.513	-1.056	-0.950	-0.594
	(0.760)	(0.810)	(0.765)	(0.833)	(0.825)	(0.763)
MANUFPCT	0.217**	0.549***	0.328	0.165	0.572***	0.320
	(0.093)	(0.094)	(0.254)	(0.100)	(0.113)	(0.244)
HSPLUS	0.185***	0.127***	0.146***	0.171***	0.127***	0.144***
	(0.049)	(0.047)	(0.047)	(0.050)	(0.045)	(0.045)
Constant	-0.394	-0.364	-0.533	-0.459	-0.359	-0.525
	(0.437)	(0.355)	(0.330)	(0.446)	(0.355)	(0.323)
Observations	1,132	1,132	1,132	1,132	1,132	1,132
R-squared	0.145	0.412	0.448	0.164	0.417	0.455
State Fixed Effects	No	Yes	Yes	No	Yes	Yes
Year Fixed Effects	No	No	Yes	No	No	Yes

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4.6(c): Black Male Labor Force Participation (25-34 years old)

VARIABLES	(1) LFPR	(2) LFPR	(3) LFPR	(4) LFPR	(5) LFPR	(6) LFPR
L2.BMRATE	-0.546*	0.329	-0.135	-0.725**	0.120	-0.245
	(0.289)	(0.895)	(1.054)	(0.290)	(0.841)	(0.927)
L2.UNEM	-0.046	0.001	0.016	-0.046	0.000	0.013
	(0.036)	(0.039)	(0.045)	(0.036)	(0.039)	(0.045)
AGE	0.001	-0.001	-0.001	0.001	-0.001	-0.001
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
INDET*PRE				-0.006	-0.008	-0.017
				(0.014)	(0.017)	(0.018)
INDET*VOL				-0.013	0.003	0.004
				(0.012)	(0.020)	(0.019)
DET*UNSTR				-0.029**	0.033**	0.039**
				(0.015)	(0.016)	(0.019)
DET*PRE				-0.012	0.042**	0.036**
				(0.008)	(0.016)	(0.018)
DET*VOL				0.007	0.034	0.034
				(0.019)	(0.024)	(0.025)
MIXED*UNSTR				-0.031*	-0.011	-0.013
				(0.017)	(0.011)	(0.015)
MIXED*VOL				-0.023***	0.004	0.001
				(0.008)	(0.012)	(0.012)
THRSTR				0.001	0.012	0.005
				(0.009)	(0.014)	(0.016)
FEMEMPPCT	-0.410	-0.569	-0.476	-0.411	-0.543	-0.447
	(0.249)	(0.371)	(0.374)	(0.249)	(0.389)	(0.396)
MANUFPCT	0.192***	0.375***	0.211	0.176***	0.407***	0.221
	(0.053)	(0.059)	(0.163)	(0.060)	(0.068)	(0.165)
HSPLUS	0.170***	0.147**	0.133**	0.167***	0.146**	0.133**
	(0.062)	(0.056)	(0.054)	(0.060)	(0.056)	(0.054)
COLLPLUS	0.042	0.058*	0.061*	0.044	0.056	0.060*
	(0.031)	(0.034)	(0.034)	(0.033)	(0.034)	(0.034)
Constant	0.833***	0.876***	0.914***	0.852***	0.869***	0.912***
	(0.136)	(0.187)	(0.207)	(0.150)	(0.195)	(0.217)
Observations	1,193	1,193	1,193	1,193	1,193	1,193
R-squared	0.055	0.162	0.178	0.065	0.166	0.181
State Fixed Effects	No	Yes	Yes	No	Yes	Yes
Year Fixed Effects	No	No	Yes	No	No	Yes

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4.6(d): Black Male Employment (25-34 years old)

VARIABLES	(1) EMP	(2) EMP	(3) EMP	(4) EMP	(5) EMP	(6) EMP
L2.BMRATE	-1.007*	0.966	-0.613	-1.253**	0.771	-0.655
	(0.546)	(1.048)	(1.131)	(0.524)	(1.110)	(1.138)
L2.UNEM	-0.114*	-0.006	0.053	-0.107*	-0.002	0.055
	(0.061)	(0.060)	(0.069)	(0.061)	(0.061)	(0.070)
AGE	0.014***	0.012**	0.012**	0.014***	0.012**	0.012**
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
INDET*PRE				-0.007	0.022	-0.006
				(0.019)	(0.021)	(0.028)
INDET*VOL				0.001	0.032	0.030
				(0.016)	(0.036)	(0.027)
DET*UNSTR				-0.038	0.027	0.032*
				(0.026)	(0.024)	(0.017)
DET*PRE				-0.003	0.065***	0.030
				(0.012)	(0.019)	(0.019)
DET*VOL				0.023	0.032	0.027
				(0.030)	(0.025)	(0.020)
MIXED*UNSTR				-0.024	-0.003	-0.037*
				(0.023)	(0.020)	(0.019)
MIXED*VOL				-0.031***	0.030*	0.015
				(0.011)	(0.016)	(0.013)
THRSTR				0.008	0.023	-0.022
				(0.013)	(0.021)	(0.017)
FEMEMPPCT	-1.012***	-1.386***	-1.126**	-0.983***	-1.368***	-1.128**
	(0.353)	(0.402)	(0.444)	(0.341)	(0.419)	(0.473)
MANUFPCT	0.210***	0.478***	0.328**	0.203**	0.534***	0.321**
	(0.064)	(0.085)	(0.151)	(0.077)	(0.093)	(0.151)
HSPLUS	0.181**	0.159***	0.092	0.180***	0.157***	0.092
	(0.068)	(0.058)	(0.058)	(0.067)	(0.058)	(0.059)
COLLPLUS	0.135***	0.146**	0.138**	0.135***	0.145**	0.139**
	(0.048)	(0.056)	(0.053)	(0.049)	(0.056)	(0.053)
Constant	0.638***	0.726**	0.699**	0.628***	0.707**	0.681**
	(0.215)	(0.278)	(0.265)	(0.216)	(0.283)	(0.279)
Observations	1,194	1,194	1,194	1,194	1,194	1,194
R-squared	0.081	0.205	0.272	0.091	0.210	0.275
State Fixed Effects	No	Yes	Yes	No	Yes	Yes
Year Fixed Effects	No	No	Yes	No	No	Yes

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4.7(a): Hispanic Male Labor Force Participation (18-24 years old)

VARIABLES	(1) LFPR	(2) LFPR	(3) LFPR	(4) LFPR	(5) LFPR	(6) LFPR
L2.HMRATE	-3.930***	1.930	-1.450	-4.229***	1.940	-1.178
	(1.034)	(2.576)	(2.416)	(1.107)	(2.498)	(2.469)
L2.UNEM	-0.019	-0.001	0.045	-0.018	0.001	0.047
	(0.064)	(0.065)	(0.063)	(0.065)	(0.066)	(0.064)
AGE	0.064***	0.056***	0.055***	0.063***	0.056***	0.055***
	(0.009)	(0.010)	(0.010)	(0.009)	(0.010)	(0.010)
INDET*PRE				0.002	-0.000	-0.017
				(0.015)	(0.021)	(0.021)
INDET*VOL				-0.030*	-0.051	-0.062
				(0.017)	(0.041)	(0.039)
DET*UNSTR				-0.032**	-0.031	-0.029
				(0.014)	(0.024)	(0.026)
DET*PRE				0.002	-0.005	-0.019
				(0.012)	(0.021)	(0.023)
DET*VOL				0.000	0.013	-0.006
				(0.011)	(0.025)	(0.024)
MIXED*UNSTR				-0.026	0.061***	0.031
				(0.043)	(0.013)	(0.022)
MIXED*VOL				-0.004	0.124***	0.106***
				(0.013)	(0.023)	(0.026)
THRSTR				-0.002	0.003	-0.007
				(0.010)	(0.027)	(0.026)
FEMEMPPCT	-1.048**	-1.201**	-1.574***	-1.042**	-1.224**	-1.593***
	(0.403)	(0.508)	(0.549)	(0.399)	(0.512)	(0.551)
MANUFPCT	0.346***	0.394***	0.019	0.331***	0.417***	0.019
	(0.079)	(0.078)	(0.134)	(0.074)	(0.089)	(0.138)
HSPLUS	-0.066**	-0.053	-0.006	-0.064**	-0.051	-0.007
	(0.029)	(0.033)	(0.035)	(0.029)	(0.034)	(0.035)
Constant	-0.071	0.152	0.385	-0.041	0.146	0.387
	(0.280)	(0.320)	(0.311)	(0.285)	(0.317)	(0.309)
Observations	1,042	1,042	1,042	1,042	1,042	1,042
R-squared	0.189	0.286	0.322	0.196	0.292	0.326
State Fixed Effects	No	Yes	Yes	No	Yes	Yes
Year Fixed Effects	No	No	Yes	No	No	Yes

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4.7(b): Hispanic Male Employment (18-24 years old)

VARIABLES	(1) EMP	(2) EMP	(3) EMP	(4) EMP	(5) EMP	(6) EMP
L2.HMRATE	-7.729***	3.392	-0.607	-8.265***	3.785	0.228
	(1.363)	(3.663)	(3.872)	(1.416)	(3.611)	(3.879)
L2.UNEM	-0.094	-0.039	0.010	-0.082	-0.033	0.015
	(0.066)	(0.069)	(0.068)	(0.067)	(0.070)	(0.069)
AGE	0.061***	0.046***	0.044***	0.059***	0.046***	0.044***
	(0.011)	(0.012)	(0.011)	(0.011)	(0.011)	(0.011)
INDET*PRE				-0.024	0.019	-0.012
				(0.019)	(0.053)	(0.045)
INDET*VOL				-0.052***	-0.050	-0.063
				(0.018)	(0.065)	(0.063)
DET*UNSTR				-0.063***	0.028	0.024
				(0.017)	(0.055)	(0.048)
DET*PRE				-0.027*	0.057	0.026
				(0.015)	(0.046)	(0.044)
DET*VOL				-0.009	0.055	0.033
				(0.022)	(0.050)	(0.045)
MIXED*UNSTR				-0.041	0.128***	0.074***
				(0.042)	(0.015)	(0.026)
MIXED*VOL				0.001	0.206***	0.180***
				(0.015)	(0.026)	(0.028)
THRSTR				-0.007	-0.013	-0.042
				(0.014)	(0.032)	(0.031)
FEMEMPPCT	-1.115**	-2.004***	-2.065***	-1.139**	-2.061***	-2.098***
	(0.472)	(0.634)	(0.697)	(0.467)	(0.642)	(0.703)
MANUFPCT	0.405***	0.476***	0.213	0.379***	0.507***	0.222
	(0.093)	(0.097)	(0.189)	(0.084)	(0.112)	(0.179)
HSPLUS	-0.051*	-0.034	0.032	-0.046	-0.030	0.032
	(0.030)	(0.033)	(0.034)	(0.029)	(0.032)	(0.034)
Constant	-0.037	0.723*	0.808**	0.052	0.729**	0.812**
	(0.332)	(0.360)	(0.321)	(0.345)	(0.361)	(0.324)
Observations	1,030	1,030	1,030	1,030	1,030	1,030
R-squared	0.209	0.342	0.389	0.225	0.353	0.398
State Fixed Effects	No	Yes	Yes	No	Yes	Yes
Year Fixed Effects	No	No	Yes	No	No	Yes

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4.8(c): Hispanic Male Labor Force Participation (25-34 years old)

VARIABLES	(1) LFPR	(2) LFPR	(3) LFPR	(4) LFPR	(5) LFPR	(6) LFPR
L2.HMRATE	-2.688***	-2.189	-3.973*	-2.975***	-2.434	-4.320*
	(0.626)	(2.024)	(2.180)	(0.558)	(2.092)	(2.228)
L2.UNEM	-0.072	-0.052	-0.027	-0.060	-0.054	-0.028
	(0.048)	(0.047)	(0.048)	(0.047)	(0.048)	(0.047)
AGE	-0.001	-0.002	-0.000	-0.002	-0.002	-0.000
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
INDET*PRE				-0.017***	0.021	0.015
				(0.006)	(0.013)	(0.010)
INDET*VOL				-0.025**	-0.006	-0.009
				(0.009)	(0.018)	(0.017)
DET*UNSTR				-0.016*	0.015	0.018
				(0.009)	(0.013)	(0.013)
DET*PRE				-0.016**	0.016	0.014
				(0.006)	(0.011)	(0.010)
DET*VOL				0.011**	0.039**	0.039**
				(0.005)	(0.015)	(0.017)
MIXED*UNSTR				-0.005	-0.004	-0.018
				(0.007)	(0.026)	(0.024)
MIXED*VOL				-0.024***	-0.041***	-0.046***
				(0.007)	(0.008)	(0.009)
THRSTR				0.006	0.000	-0.007
				(0.005)	(0.010)	(0.011)
FEMEMPPCT	-0.722***	-0.128	-0.142	-0.717***	-0.143	-0.150
	(0.193)	(0.308)	(0.331)	(0.189)	(0.319)	(0.341)
MANUFPCT	0.071**	0.115**	0.067	0.081***	0.125**	0.096
	(0.032)	(0.046)	(0.086)	(0.028)	(0.061)	(0.096)
HSPLUS	-0.015	0.010	0.023	-0.012	0.012	0.025
	(0.020)	(0.024)	(0.023)	(0.019)	(0.024)	(0.024)
COLLPLUS	0.043*	0.051**	0.053**	0.039	0.049**	0.051**
	(0.024)	(0.023)	(0.025)	(0.024)	(0.023)	(0.025)
Constant	1.317***	1.020***	0.996***	1.326***	1.021***	0.983***
	(0.172)	(0.178)	(0.167)	(0.156)	(0.181)	(0.175)
Observations	1,070	1,070	1,070	1,070	1,070	1,070
R-squared	0.078	0.151	0.188	0.098	0.157	0.194
State Fixed Effects	No	Yes	Yes	No	Yes	Yes
Year Fixed Effects	No	No	Yes	No	No	Yes

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4.9(d): Hispanic Male Employment (25-34 years old)

VARIABLES	(1) EMP	(2) EMP	(3) EMP	(4) EMP	(5) EMP	(6) EMP
L2.HMRATE	-4.570***	-1.621	-3.793	-5.009***	-1.760	-3.781
	(0.756)	(3.034)	(3.037)	(0.740)	(3.106)	(3.073)
L2.UNEM	-0.083	-0.005	0.050	-0.058	-0.003	0.055
	(0.056)	(0.048)	(0.049)	(0.053)	(0.049)	(0.049)
AGE	-0.006	-0.005	-0.002	-0.006	-0.005	-0.002
	(0.006)	(0.006)	(0.005)	(0.006)	(0.006)	(0.006)
INDET*PRE				-0.032***	0.008	-0.017
				(0.010)	(0.015)	(0.011)
INDET*VOL				-0.046***	-0.026	-0.035
				(0.012)	(0.025)	(0.022)
DET*UNSTR				-0.037***	0.001	-0.002
				(0.012)	(0.026)	(0.022)
DET*PRE				-0.027***	0.012	-0.009
				(0.008)	(0.023)	(0.020)
DET*VOL				0.008	0.016	0.006
				(0.013)	(0.027)	(0.023)
MIXED*UNSTR				-0.021*	0.040	0.006
				(0.012)	(0.036)	(0.034)
MIXED*VOL				-0.031***	-0.085***	-0.097***
				(0.009)	(0.014)	(0.016)
THRSTR				0.005	0.007	-0.021
				(0.007)	(0.016)	(0.017)
FEMEMPPCT	-1.135***	-0.440	-0.177	-1.108***	-0.497	-0.224
	(0.286)	(0.445)	(0.513)	(0.267)	(0.452)	(0.517)
MANUFPCT	0.093**	0.157**	0.140	0.095**	0.170**	0.134
	(0.045)	(0.060)	(0.113)	(0.038)	(0.069)	(0.119)
HSPLUS	-0.008	0.036	0.062	-0.002	0.040	0.064
	(0.035)	(0.041)	(0.042)	(0.033)	(0.041)	(0.042)
COLLPLUS	0.073**	0.064*	0.056	0.066**	0.059*	0.051
	(0.032)	(0.035)	(0.040)	(0.029)	(0.034)	(0.040)
Constant	1.587***	1.201***	0.991***	1.604***	1.217***	1.005***
	(0.248)	(0.266)	(0.271)	(0.221)	(0.267)	(0.272)
Observations	1,070	1,070	1,070	1,070	1,070	1,070
R-squared	0.091	0.174	0.240	0.119	0.179	0.246
State Fixed Effects	No	Yes	Yes	No	Yes	Yes
Year Fixed Effects	No	No	Yes	No	No	Yes

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

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