STREET DREAMS: THE EFFECT OF INCARCERATION ON ILLEGAL EARNINGS

DISSERTATION

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By Donald T. Hutcherson II, B.A., M.A.

The Ohio State University

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Dissertation Committee:

Professor Ruth D. Peterson, Advisor

Professor Robert L. Kaufman

Professor Lauren J. Krivo

Approved by

_______________________
Advisor
Graduate Program in Sociology
ABSTRACT

Theory and research on the employment lives of the ex-incarcerated suggests that imprisonment can decrease earnings in the conventional labor market for young adults (e.g., Sampson and Laub, 1993; Sampson and Laub, 2003; Western, 2002; Western, 2006). However, little is known about the influence of imprisonment on criminal earnings. To fill this gap, the research reported below addresses the following question: How does incarceration influence criminal earnings for adolescents and young adults? Drawing on theories regarding stigma, social and human capital, and opportunity structure, I develop an argument to explain how incarceration can yield returns in the form of greater illegal earnings. Briefly, the case is made that due to failures in the conventional labor market, the ex-incarcerated are forced to rely on criminal earnings from illegal opportunity structures during the life course. Thus, illegal earnings will be greater for this group than for their counterparts who have not been incarcerated.

To assess the role of prior incarceration on illegal earnings, this study estimates random-effects models for adolescents and young adult male ex-offenders and non-offenders using the National Longitudinal Survey of Youth (NLSY97) for 1997-2005. Consistent with the theoretical arguments, the findings reveal that individuals with an incarceration history earn significantly higher annual illegal
earnings than those who do not have such a history. This is true net of a variety of predictors of illegal income, including factors related to ‘persistent heterogeneity’. The analyses also reveal an interaction effect of prior incarceration and African-American racial status on illegal earnings, whereby formerly incarcerated African-American males earn much higher predicted illegal income than former incarcerees from other race/ethnic backgrounds.

To assess the role of different sources of illegal earnings, I also investigated the influence of prior incarceration on illegal earnings from drug trafficking. These analyses demonstrated a strong positive relationship between incarceration history and annual illegal income from this source. Further, interaction models revealed that ex-incarcerated African-American males earn significantly higher predicted logged income from drug trafficking than Hispanic and White ex-offenders and those never incarcerated. There is also an interaction between prior incarceration and hardcore drug use for this outcome. Formerly incarcerated individuals who use hardcore drugs earn much higher predicted logged annual illegal income from drug sales than ex-incarcerated non-drug users, non-incarcerated drug users and non-incarcerated individuals that do not use drugs.
For my family, who dared to take this incredible journey with me.
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Our deepest fear is not that we are inadequate. Our deepest fear is that we are powerful beyond measure. It is our light, not our darkness, that frightens us most.
And when we let our own light shine, we unconsciously give other people permission to do the same. As we are liberated from our own fear, our presence automatically liberates others.

~Marianne Williamson

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VITA

December 8, 1968 ................................. Born – Cleveland, Ohio

1992 .................................................. B.A. Sociology, Bowling Green State University

1994 .................................................. M.A., Sociology, Bowling Green State University

1998 .................................................. M.A., Criminal Justice Policy University at Albany (SUNY)

2002 – Present ...................................... Graduate Research and Teaching Associate, The Ohio State University

2007 – Present ................................. Visiting Assistant Professor Ohio University – Lancaster Campus

PUBLICATIONS


FIELDS OF STUDY

Major Field: Sociology
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CHAPTER 1

STATEMENT OF RESEARCH PROBLEM AND AIMS

There are two paths that adolescents involved in criminal activity can take as they make the transition to adulthood. Most adolescents are drawn into adult society by moving through a sequence of traditional life course stages (e.g., completing high school, entering college or the military, gaining conventional employment, getting married, having children, etc.). These life course stages integrate young adults into mainstream society, and offer adult offenders a way out of a life of crime. Some suggest that those involved in crime that can find steady work and a stable marriage also become embedded in a web of social supports and obligations (Sampson and Laub, 1993; Western, 2006). It is these social bonds that help young adult criminals refrain from further offending.

The second path that crime-involved adolescents can take does not end so positively. For many Americans, incarceration has become a key life event that can harmfully alter traditional life course stages. At the end of 2006, the Nation’s jail and prison population stood at over two million persons (Sabol et al., 2007). This means that one out of every 150 U.S. residents are in prison or jail. The current U.S. rate of
incarceration of 726 inmates per 100,000 population is the highest of any country in the world (Garland, 2001).

At least 95 percent of all state prisoners will be released from prison at some point, and nearly 80 percent will be released to parole supervision (Hughes, Wilson and Beck, 2001). Close to 70 percent of these offenders will be rearrested in three years or less. It is evident that the ex-incarcerated have a difficult time becoming a part of mainstream society. The story of what happens to these individuals after release from prison is not fully developed in the research literature. However, we know that employment and related income is a key factor in determining the direction of the life course of the ex-incarcerated. For example, recent research suggests that spending time in prison can negatively influence earnings in the conventional labor market (e.g., see Sampson and Laub, 1993; Sampson and Laub, 2003; Western and Beckett, 1999; Western, 2002). Specifically, the work of Sampson and Laub (1993, 2003) and Western (2002, 2006) highlights that conventional employment and related income is a path out of crime as adolescents make their transition into adulthood. These same studies reveal that conventional employment and related income is difficult to obtain for the ex-incarcerated.

Crime as a source of income provides an attractive alternative to closed opportunities in the legitimate labor market (Cloward and Ohlin, 1960; Western, 2006). Activities such as drug dealing, robbery, theft, and fencing stolen property often aid in filling the economic gap for individuals who fair poorly in the conventional labor market and/or are in areas drained by the deindustrialization of
blue-collar jobs. Fagan and Freeman (1999) probably best characterize the relationship between those involved in crime to the conventional labor market, offering that men are not fully engaged in either crime or legitimate employment. Instead, they drift back and forth as the possibilities for legal and illegal income ebb and flow.

If young offenders are blocked from legitimate opportunities in the labor market, it stands to reason that their activity leading to illegal earnings will increase. While the impact of imprisonment on conventional employment prospects and related earnings is clear, what is less clear is the extent to which imprisonment impacts opportunities in the illegal economy, specifically illegal earnings.

1.1 Theory and Research Linking Incarceration and Illegal Earnings

There are several causal mechanisms that explain how incarceration can lead to increased illegal earnings. First, formerly incarcerated offenders are stigmatized by their incarceration past. The literature suggests that employers are less likely to hire the ex-incarcerated compared to those without prison records (Boshier and Johnson, 1974; Buikhuisen and Dijkstra, 1971; Holzer, 1996; Pager, 2003). A combination of criminal history and race can be especially stigmatizing for many ex-incarcerated men of color (Pager, 2003). Second, due to spending significant time incarcerated, these individuals are prevented from acquiring human capital, or the job skills and experience necessary for conventional labor market success (Becker, 1968; Holzer, Raphael and Stoll, 2003; Kling, 1999). Third, spending significant time
incarcerated can erode the social networks necessary for stable conventional employment opportunities (Coleman, 1988; Hagan, 1993). Consequently, due to the stigma of incarceration and race, and a lack of human and social capital, the ex-incarcerated may be forced into illegal opportunity structures that yield high illegal earnings. Cloward and Ohlin (1960) suggest that individuals are faced with two opportunity structures, one legitimate and the other illegitimate. For those formerly incarcerated offenders that are denied entry and success in the conventional labor market, illegitimate opportunity structures and related criminal earnings may be a lucrative and an attractive option. This dissertation will integrate these theoretical perspectives when analyzing the relationship between incarceration and illegal earnings.

To date, only two studies have tested the relationship between incarceration and illegal earnings. Levitt and Venkatesh (2001) produce research on the illegal earnings of Chicago street gangs. These researchers reveal that the formerly incarcerated are more likely to participate in drug trafficking. In the second study, Uggen and Thompson (2003) analyze a sample of ex-drug addicts and offenders to predict month-to-month changes in illegal earnings. They find that spending significant time in prison may reduce illegal earnings in the short-term, because incarcerated offenders are blocked from earning income outside of jail or prison. Unfortunately, both of these studies have significant conceptual and methodological issues that prevent them from being representative of populations beyond their limited samples. As a result, very little is known about the influence of incarceration
on illegal earnings once individuals are released from secure confinement back into the community. The current research will begin to fill this literature gap.

1.2 Research Question and Contributions to the Illegal Earnings Literature

In light of the paucity of research on the influence of past incarceration on criminal earnings, this study will address the following research question: How does incarceration influence criminal earnings for adolescents and young adults? This study estimates random-effects models to examine criminal earnings for adolescents and young adult ex-offenders and non-offenders using the National Longitudinal Survey of Youth (NLSY97) for 1997-2005. This dissertation makes several contributions to the literature, which will be described in detail in this section.

An Extension of the Incarceration and Earnings Research. This dissertation extends the research on the impact of incarceration on legal earnings. In sum, these studies reveal that spending time in prison can negatively influence employment and earnings in the conventional labor market (e.g., see Huebner, 2005; Johnson, 2003; Sampson and Laub, 1993; Sampson and Laub, 2003; Western and Beckett, 1999; Western, 2002). Specifically, the work of Sampson and Laub (1993, 2003) and Western (2002, 2006) highlights that conventional employment is a path out of crime as adolescents make their transition into adulthood.

However, due to data and other limitations, these studies fail to analyze the effect of incarceration on illegal earnings. Western’s (2006) review of the literature on employment for the ex-incarcerated suggest that these individuals often fail in the
conventional labor market, and are often forced to turn towards crimes such as drug trafficking, robbery, theft and fencing stolen property to help to fill the economic void.

**Modern Sampling Period.** One of the two studies that investigate the link between incarceration and criminal earnings (Uggen and Thompson, 2003) utilize data from the National Supported Work job program, which operated between April 1975 and December 1978. However, the researchers are careful to note that there are important differences between the illegal economy of the recession-era 1970s and today’s illegal economy during a period of mass incarceration, unstable drug markets (crack cocaine, in particular) and related violence and welfare reform (also see Levitt and Venkatesh, 2001 for a discussion of recent economic and social climate changes).

For example, the African-American male unemployment rate during the 1970s was as high as 11 percent, whereas it falls significantly over the subsequent decade (Uggen and Thompson, 2003). Also, the African-American male imprisonment rate doubled from 1974 to 1986, and doubled again by the year 2000 (Blumstein and Beck, 1999). In fact, the number of offenders serving time for drugs during this period rises by 600 percent. All of the factors above should inflate the risks associated with illegal activities such as drug use and trafficking, which makes the analysis of a modern sample crucial for understanding the source of criminal earnings.
To overcome the historical period limitations of previous research, this study utilizes a contemporary sample of youth and young adults affected by these dramatic macro-level changes to the economic and social life of the ex-incarcerated and never incarcerated during the past few decades (NLSY 1997-2005).

**Representative Sample.** In addition to using a nationally representative sample, this study pays specific attention to race differences in illegal earnings. Currently, the only study that analyzes between-person differences in the relationship between incarceration and illegal earnings utilizes a non-random sample of Chicago male gang members (Levitt and Venkatesh, 2001). As a result, their research does not capture the incarceration and illegal earnings experiences of those beyond this very limited sample, in particular, non-Black offenders.

While the experiences of young African-American men in the illegal economy dominate most of the research in this area, some suggest that the recent expansion of the drug economy created new opportunities for both middle-class and economically disadvantaged Whites and Hispanics in the illicit labor market (Freeman and Fagan, 1999). Therefore, this study investigates the involvement of economically disadvantaged White and Hispanic adolescents and young adult men in the illegal economy.

Furthermore, Uggen and Thompson (2003) wisely point out that studies that investigate illegal earnings changes during one person’s lifetime (within-person changes) allow for the disentanglement of important scientific and policy questions, such as whether drug use is a cause or spurious correlate of illegal earnings (also see
arguments made by Gottfredson and Hirschi, 1990). In fact, Uggen and Thompson’s (2003) analysis is constructed to look at these within-person changes. However, this approach ignores important differences in fixed regressors such as race and gender. The between-person approach has the potential to capture important race/ethnicity differences in illegal earnings.

Also, studies of within-person changes in illegal earnings can only utilize incarceration as a measure of short-term illegal earnings via incapacitation (e.g., see Uggen and Thompson, 2003). However, within-person studies cannot analyze important differences in criminal earnings between the ex-incarcerated vs. never incarcerated populations. This study utilizes a between-group approach to identify crucial differences by race and incarceration history, with the use of random-effects statistical models.

**Distinguishing Between Various Sources of Illegal Earnings.** Freeman and Fagan (1999) contend that there are significant obstacles in collecting accurate data on illegal earnings since it is difficult to place value on non-cash exchanges, which includes discounts in fencing stolen goods. Consequently, the measurement of illegal income can range from hourly and annual estimates of income, to crime income as a percentage of total income (including income from conventional sources). Survey research measuring illegal income as an hourly or annual estimate will typically calculate income across several categories of crimes and offender crime involvement, followed by a sum of these estimates (e.g., see Freeman, 1992; Reuter, MacCoun & Murphy, 1990; Viscusi, 1986; Wilson & Abrahamse, 1992).
However, no study to date analyzes the relationship between incarceration and specific activities that produce illegal earnings. For example, there may be distinct differences between incarceration and illegal earnings from drug trafficking vs. criminal earnings from other offenses. The NLSY97 dataset allows for the breakdown of specific categories of illegal earnings.

Three categories of illegal income are captured in the NLSY97. First, respondents are asked about the frequency of theft offenses over the past year and the amount of cash they received for the items stolen or would have received if they had sold them. Second, respondents are queried about the frequency of activity in other property crimes during the past year (e.g., fencing, receiving/possessing/selling stolen property, or cheating someone by selling them something that was worthless or worth much less than what was stated) and income earned from these property crimes. The final category of illegal employment from the NLSY97 is the frequency of drug selling activity by respondents in the past year and the amount of cash income made from selling drugs. This study analyzes focuses specifically on income from drug sales, comparing this to income from all three crime categories in the NLSY97.

*A Comprehensive Model of Illegal Earnings.* No study to date tests a comprehensive model of the incarceration and illegal earnings relationship that includes most of the correlates of illegal earnings found in past research. This study attempts to capture important theoretical variables found to be predictors of illegal earnings in prior research.
Finally, Gottfredson and Hirschi (1990) and others argue that the association between adult social factors and criminal outcomes could be the result of “persistent heterogeneity”, or the notion that individual characteristics such as low-self control and low IQ determine who selects to persist in or desist from crime (Nagin and Paternoster, 1991). Consequently, researchers have controlled for these variables when analyzing the relationship between social factors (i.e. incarceration history) and crime outcomes (e.g., see Sampson and Laub, 1993; Uggen, 2000).

To investigate the influence of heterogeneity on the relationship between incarceration and illegal earnings, this study will examine the impact of hardcore drug abuse on illegal earnings. Hardcore drug abuse is seen as a persistent trait that could explain the motivation for illegal earnings attainment during adolescence and adulthood (e.g., see Gottfredson and Hirschi, 1990). There is strong evidence that drug abuse among those involved in the illegal economy may be an indicator of illegal earnings attainment (Fagan, 1992; Uggen and Thompson, 2003). This study incorporates hardcore drug use as a measure of persistent heterogeneity.

1.3 Organization of Subsequent Chapters

This dissertation is divided into several sections. Chapter two sets the stage for the analyses by presenting a model of illegal earnings based upon earlier theoretical and empirical work in both the earnings literature and past research on the unintended consequences of incarceration on earnings outcomes. Chapter two also provides a review of the literature on illegal earnings. Finally, chapter two proposes
several hypotheses related to the analyses in chapters four and five. Chapter three describes the methodology of the study with a description of the National Longitudinal Survey of Youth 1997 dataset. This dataset is ideal for analyzing the transition from school to work for adolescents and young adults, including barriers to the transition to work for adolescents making their way into adulthood. Chapter three also presents the measures and the type of statistical analyses used in this study.

Chapter four begins by providing descriptive patterns of the data on illegal earnings from all criminal activity. This chapter also presents results of the test of the full conceptual model of illegal earnings using random-effects statistical methods, with special attention given to the relationship between incarceration and illegal earnings. Finally, chapter four tests the interaction of prior incarceration and race/ethnicity on illegal earnings. Chapter five offers a descriptive analysis of illegal earnings from drug trafficking. This chapter will then analyze a model of illegal earnings from drug trafficking utilizing random-effects statistical techniques. Chapter five tests the influence of four interactions on illegal earnings from drug trafficking: (1) incarceration and hardcore drug use, (2) incarceration and gang membership, and (3) incarceration and race, and (4) incarceration and ethnicity. Chapter six draws conclusions and offers policy recommendations based upon the findings from this study.
CHAPTER 2

THE IMPORTANCE OF INCARCERATION ON ILLEGAL EARNINGS

This chapter highlights this study’s theoretical orientation, and the research literature related to illegal earnings is reviewed. In the first four sections of this chapter, questions are answered pertaining to the theoretical and empirical relationship between stigma and illegal income, human capital and illegal income, social capital and illegal income and illegal opportunity structures and illegal income. These four causal mechanisms explain how past incarceration can yield increased criminal earnings. Second, the literature on the relationship between incarceration and conventional income is reviewed. Third, this chapter offers a review of the general illegal earnings literature, with a specific focus on illegal earnings from drug trafficking. Fourth, a small handful of studies testing the relationship between incarceration and illegal income are discussed. In the last section of this chapter, several hypotheses related to this study’s research question are proposed.

To summarize, there are several causal mechanisms that explain how incarceration can lead to increased illegal earnings: (1) the stigma of incarceration history and race; (2) underdeveloped human capital; (3) a lack of social capital; and (4) the availability of criminal opportunity structures. This dissertation integrates
these theoretical perspectives when analyzing the relationship between incarceration and illegal earnings. The next few sections elaborate on these theoretical perspectives.

2.1 How Does Stigma Influence Illegal Earnings?

Goffman (1963) defines “stigma” as an expectation of a discrediting judgment of oneself by others in a particular context, and he distinguishes between “actual” vs. “virtual” identities in his characterization of the stigmatization process. Actual identity consists of the attributes a stigmatized person could in fact be proved to possess. Conversely, one’s virtual identity is based not on known facts, but rather on assumptions as to what we believe an individual ought to be in public, including the capabilities, belief systems and morality that are placed upon the stigmatized person by those around him/her. While virtual identities are not real, they can take on the “master status” by those being stigmatized.

Becker (1963) argues that deviance is socially constructed because it is nothing more than the infraction of some agreed upon rule. Social groups create deviance by making rules that, when violated, constitute deviance/crime. Thus, deviance is not a quality of the act the person commits, but rather a consequence of the application of rules and sanctions by others. Drawing on symbolic interactionism, labeling theorist such as Becker argue that self-perception is shaped by messages other people give about who one is. Even with resistance, most individuals over time eventually embrace their new identity, which makes choosing crime more likely.
After being stigmatized, the person loses conventional social relationships (social bonding theory), is forced to associate mainly with other criminals (learning theory), and as an ex-offender is denied legitimate opportunities (strain theory). Thus, the labeled are constrained to pursuing a life of crime.

Theories of racial stigma provide some insight into how race can influence illegal earnings. The concept of racial stigma was articulated over a century ago when W.E.B. DuBois eloquently described the consequences of stigma for African-Americans in *The Souls of Black Folk* (1903). DuBois argues that African-Americans suffer from “double-consciousness”. The “double-consciousness” concept is very similar to Erving Goffman’s distinction between actual and virtual identities.

Lenhardt (2004) provides an excellent example of how actual and virtual identities differ for the stigmatized African-American male:

A young African-American male, dressed in jeans, a red pullover and sneakers, walks down an affluent, predominantly white neighborhood street on a summer night. A third-year student at the area’s most prestigious law school and a member of the law review, he is returning home after having dinner with a law professor from his school who recognized his talent early on and has been grooming him to assume a prestigious job as a law clerk or possibly even a legal academic upon his graduation. In the law school context, the student’s unique abilities, as well as his easy-going manner and overall affability, are legendary among students and faculty members alike. Individuals in that environment generally approach him with a mixture of admiration and affection. On the street, however, things are different. As the student makes his way home on this particular evening, he encounters three individuals, each of whom reacts to his presence with either suspicion or fear. The first person, a young white woman, walks towards him for about a block, but then she abruptly walks across the street as she gets close. The second person, a middle-aged white male, does not cross the street, but he refuses to meet the student’s gaze as he approaches. As the man looks away, he reflexively clutches the bag of department store purchases he carries close to his chest. The third, a seasoned police officer who is also white, sees the
student and begins following him as he makes his way down the street. Suspecting possible criminal or gang activity, the police officer decides to stop the student. He detains the young man for quite some time, demanding identification and a detailed explanation of the student’s presence in the neighborhood. Upon seeing the young man’s student identification card, however, the police officer seems to recognize that he made a mistake. Eventually, he permits the student to continue his journey home (pp. 819-820).

In each of the above encounters, the actual identity of the student is invisible, while the virtual identity becomes dominant for individuals doing the stigmatizing. Instead of simply being a law student, the young man is transformed as a source of danger, a young African-American male whose perceived intention is to cause criminal harm to potential victims.

Studies of stigma attached to having a prison record suggest that the ex-incarcerated do poorly in the conventional labor market. For example, Pager (2003) investigates the stigma of having a criminal history in determining employment outcomes. Pager’s work tests two competing hypotheses. The main hypothesis, the direct causation model (from incarceration to employment outcomes), suggests that preexisting traits which may have gotten ex-offenders incarcerated also prevent them from attaining valuable employment after incarceration. The second hypothesis, the spurious effects model, offers that such traits are merely coincidental and are of less significance.

Pager’s model perceives a criminal record as a “negative credential,” which is a legitimate way to stigmatize and differentiate individuals considered for employment. Race is another key negative credential in Pager’s model. Pager
distinguishes between important employment characteristics (physical appearance and style of self-representation) for both black and white applicants. Applicants are assigned matched educational attainment and work experience attributes, while criminal records are randomly assigned. Black applicants are subjected to additional tests due to the fact that they are called back for interviews less often.

Regarding criminal history as a stigma, Pager finds that those with criminal records are half as likely to get callbacks. Regarding race as a stigma, the study finds that clearly blacks are less favored in employment. Specifically, Pager reveals that black applicants without criminal records are less likely to get a callback in comparison to whites with criminal records. Pager concludes that experiences between racial pairs are significantly different, and that racial stigmas are at play (blacks being questioned about criminal history up front while whites not questioned up front).

The review above implies that the stigma of having a prison record occurs because employers tend to view the ex-incarcerated as unpredictable and untrustworthy (for similar findings, also see Boshier and Johnson, 1974; Buikhuisen and Dijkstra, 1971; Holzer, 1976; Waldfogel, 1994). This study contends that stigma associated with having a prison record and racial stigma impedes entry into the conventional labor market, and creates opportunities for increased criminal earnings.
2.2 How Does Human Capital Influence Illegal Earnings?

The majority of literature on conventional and criminal earnings draws upon the theoretical perspective of Theodore W. Schultz (1961), Gary Becker (1968) and human capital theory. This theory suggests that workers in the conventional labor market are rewarded with earnings due to their human capital (a combination of skills and experience). Earnings differences across individuals are simply reflective of differences in the acquisition of human capital. Several economists and sociologist extend Becker’s theory in studies of legal employment (e.g., see Aliaga, 2001; Becker, 1993; Benhabib and Spiegel, 1994; Engelbrecht, 2003; Hendricks, 2002; Lucas, 1988). Some studies have found that the ex-incarcerated are prevented from acquiring human capital, or the job skills and experience necessary for conventional labor market success, due to time spent in jail or prison (Holzer, Raphael and Stoll, 2003; Kling, 1999). For criminal offenders, the development of similar skills and experience lead to the quality and quantity of illegal earnings. McCarthy and Hagan (2001), for example, found that offense specialization as a measure of criminal human capital is strongly related to illegal earnings (also see Hagan & McCarthy, 1997). This study offers that spending significant time in jail or prison impedes the development of human capital, which is a necessary ingredient for success in the conventional labor market. Therefore, the ex-incarcerated may turn to activities that lead to illegal earnings.
2.3 How Does Social Capital Influence Illegal Earnings?

One of the driving forces behind much of the research on neighborhood mechanisms is the concept of social capital, which is generally conceptualized as a resource that is realized through social relationships (Coleman 1988). The studies in this area include measures that tap several dimensions of social relations, such as the level or density of social ties between neighbors (Elliott et al., 1996; Morenoff et al., 2001; Rountree and Warner 1999; Veysey and Messner 1999), the frequency of social interaction among neighbors (Bellair 1997), and patterns of neighboring (Bellair, 2000; Warner and Roundtree 1997).

A common theme among recidivism research with longitudinal data is that either social capital (social bonding) or social learning mechanisms can influence the process of criminal desistance, or the process by which offenders cease to commit crime (Maruna, 2001). For example, studies show that strong social bonds to employment, along with bonds to pro-social spouses, help to facilitate the criminal desistance process (Horney, Osgood and Marshall, 1995; Laub, Nagin and Sampson, 1998; Sampson and Laub, 1993). Moreover, recent research by Browning, Feinberg and Dietz (2004) indicates that strong social networks in disadvantaged neighborhoods may increase social capital for offenders, and thus, reduce collective efficacy in a neighborhood. The development of criminal social capital, or associations with skilled offenders, is seen as important for offenders involved in the illicit employment market (Hagan, 1993; McCarthy and Hagan, 2001). This study offers that incarceration erodes the social networks necessary for stable conventional
employment opportunities that lead to conventional earnings. The ex-incarcerated are then forced to turn towards earnings related to illegal opportunity structures.

2.4 How Do Illegal Opportunity Structures Influence Illegal Earnings?

Cloward and Ohlin (1960) link the structure of opportunities to illegal behavior by offering that offenders are faced with both legitimate and illegitimate opportunity structures. More recently, theories of opportunity structure and illegal earnings contend that sanctions such as incarceration, probation and parole constrain criminal opportunities through incapacitation and surveillance (Duneier, 1999; Huebner, 2005; Steffensmeier, 1986; Western, 2002). These theories suggest that in terms of legitimate opportunities for individuals, the ex-incarcerated are denied access to conventional earnings due to the stigma of a prison record and the lack of human and social capital.

Illegitimate opportunity structures and related criminal earnings at the individual level may be a lucrative and attractive option for the ex-incarcerated. This study contends that, due to the stigma of incarceration and race, and the lack of human and social capital, formerly incarcerated individuals fail in the conventional labor market. As a consequence, these individuals turn towards illegal opportunity structures that lead to increased illegal earnings.
2.5 What is the Relationship between Incarceration and Conventional Income?

Thus far, the stigma of incarceration history, and a lack of human and social capital are identified as key correlates of illegal earnings. This study posits that these factors prevent opportunities for conventional earnings, while opening the door for illegal earnings opportunities. Several studies directly test the connection between incarceration and conventional earnings. The majority of these studies show that the ex-incarcerated fair poorly in the conventional labor market compared with those without a prison past. Sampson and Laub’s (1993) age-graded theory of informal social control suggests that incarceration can negatively influence the intervening mechanisms that facilitate the criminal desistance process. In their view, incarceration has the effect of cutting off social bonds such as marriage and employment, two turning points that lead to desistance from crime. They study the cumulative effect of incarceration during three stages of the life course: adolescence (under age 17), young adulthood (ages 17-25) and adulthood (ages 25-32) (Sampson and Laub, 1993). Their findings reveal that increased time served in juvenile and adult prison is associated with decreased job stability, controlling for prior record and self-reported delinquency and crime.

Specifically, they find that those incarcerated for long periods of time as an adolescent have more difficulty securing stable jobs as they enter young adulthood compared to delinquents with a shorter incarceration history. For the adult males between ages 25-32, the length of incarceration in both adolescence and young
adulthood has significant negative effects on job stability, controlling for juvenile crime and deviance, adult crime and excessive drinking as a young adult. This research concludes that incarceration has a cumulative negative effect because the bonds to stable employment are underdeveloped.

Freeman and Fagan (1999) follow up earlier ethnographic research by analyzing data from the 1979 National Longitudinal Survey of Youth (NLSY79) to assess the effects of crime and legal work in late adolescence on later work experience and incarceration. They find that the effects of involvement in crime, detachment from legal work, and human capital on incarceration in later waves of the NLSY79 are stable and consistent. Specifically, Freeman and Fagan found that the percentage of income from illegal activity significantly contributes to the probability of incarceration in later years for those in the sample. This is true when the sample included those without any legal income.

Freeman and Fagan also estimated models for two employment outcomes: weeks worked during the year and legal income. Specific to the effects of incarceration, they found that incarceration produces a significant negative effect on each of the two employment outcomes, even after controlling for race, human capital and intelligence. Furthermore, results show that early incarceration negatively affects later work outcomes, independent of criminal activity during earlier waves. In conclusion, trends suggest that adolescent incarceration, exclusion from the workforce during adolescence, and human capital are characteristics that endure over
time. Freeman and Fagan, however, do not analyze the effects of adolescent or young adult incarceration on illegal income. The current research addresses this issue.

A series of studies by Bruce Western and colleagues highlight the impact of incarceration on labor market outcomes for the ex-incarcerated (e.g., Western and Beckett, 1999; Western, 2002). Using NLSY79 data, one study reveals that juvenile incarceration is associated with a small but persistent decrease in weeks worked after seven years (Western and Beckett, 1999). Moreover, it is shown that the negative effect of youth incarceration on adult employment can last for over a decade, and that adult incarceration decreases subsequent paid employment participation by five to ten weeks a year.

NLSY79 data are used to determine that imprisonment can decrease work force participation of offenders (Western, 2002). It is also estimated that the earnings loss associated with incarceration ranges from between 10% and 30%, and that incarceration is also associated with decreased earnings growth. This same research argues that life events or transitions can be affected by incarceration, and earnings mobility is affected by stable employment, which is highly problematic for disadvantaged African American men (for similar findings, also see Western, Kling and Weiman, 2001).

In sum, spending time in prison negatively influences employment prospects in the conventional labor market (e.g., see Sampson and Laub, 1993; Sampson and Laub, 2003; Western and Beckett, 1999; Western, 2002). The research highlights that conventional employment and related earnings are a path out of crime as
adolescents make their transition into adulthood. Other studies find that criminal justice sanctions can damage future conventional employment prospects (see Freeman, 1992; Freeman, 1996; Kling, 1999; Nagin and Waldfogel, 1998; Pager, 2003; Waldfogel, 1994; and Western, Lopoo and McLanahan, 2004).

2.6 The Illegal Earnings Literature

The U.S. Department of Justice (2005) notes that almost 90 percent of the serious offenses reported in the U.S. each year involve remunerative crimes. Thus, most serious crime is economic in nature. There is a long and extensive ethnographic literature on those who view crime as an avenue towards earnings, with early descriptive studies characterizing crime as similar to conventional employment (Cressey, 1953; Eistadter, 1969; Hall, 1952; Jackson, 1969; Letkermann, 1973; Maurer, 1940 and 1964; Polsky, 1967; Shaw, 1930; Sutherland, 1937; Waldorf, 1973). Several recent quantitative studies highlight the attraction of illicit earnings as an alternative to legitimate earnings for less-skilled men (e.g., Fagan, 1992; Fagan, 1997; Freeman, 1992; Freeman and Fagan, 1999; Grogger, 1994; Grogger, 1995; Grogger, 1998; Hagan and McCarthy, 1997; Levitt and Venkatesh, 2001; McCarthy and Hagan, 2001; McCarthy, 2002; Matsueda et al., 1992; Pager, 2003; Reuter, MacCoun and Murphy, 1990; Tremblay and Morselli, 2000; Uggen and Thompson, 2003; Western and Beckett, 1999; Western and Petit, 2002; Western, 2006; Wilson and Abrahamse, 1992).
Despite the rich classical and contemporary literature on illegal employment, only a handful of these studies specifically focus on the amount of income earned from illegal activity. Research on illegal earnings as an outcome measure is reviewed below, while the few studies testing the influence of incarceration on illegal earnings are covered in later sections.

**Illegal Earnings from All Crimes.** It is believed that the relationship between legal and illegal earnings remains under-theorized and under-studied (McCarthy and Hagan, 2001; Uggen and Thompson, 2003). In fact, some suggest that since people self-select into legal as well as illegal work, it is difficult to determine whether lawful employment and related earnings are causes or consequences of crime (Uggen and Thompson, 2003).

While criminal behavior is often complex and varied, the illegal earnings literature implies certain crime types and offenders. For example, research finds that crimes that net illegal earnings require both monetary returns and time allocation (Freeman and Fagan, 1999). Crimes that share these elements include drug dealing, prostitution, vehicle theft, burglary, robbery and similar offenses. However, this same research notes that there are significant obstacles to collecting accurate data on illegal earnings since it is difficult to place value on non-cash exchanges, which includes discounts for fencing stolen goods.

The few studies that calculate the total amount of illegal earnings rely on self-report data on crime frequencies and related income. The measurement of illegal income ranges from hourly and annual estimates of income, to crime income as a
percentage of total income (including income from conventional sources). Survey research measuring illegal income as an hourly or annual estimate typically calculates income across several categories of crimes and offender crime involvement, followed by a sum of these estimates (e.g., see Fagan, 1992; Freeman, 1992; Freeman and Fagan, 1999; Grogger, 1994; Hagan and McCarthy, 1997; Kling, 1999; Reuter, MacCoun and Murphy, 1990; Tremblay and Morselli, 2000; Wilson and Abrahamse, 1992).

The research on illegal income in this section is based on self-reported data of individuals that are asked to recall illegal economic activity, regardless of whether it results in jail or prison. None of the studies reviewed analyzes the relationship between incarceration and criminal earnings after release.

**Illegal Earnings from Drug Trafficking.** There are several reasons for the interest in illegal earnings from drug trafficking. In terms of growth over time, drug offenders stand out as the largest class of the incarcerated. From 1980 to 1996, the drug incarceration rate (the rate of offenders incarcerated for drug offenses) increased dramatically from less than 15 inmates per 100,000 U.S. adults to 148 offenders per 100,000 adults (Blumstein and Beck, 1999). In fact, 45 percent of the growth in the prison population during this time period can be attributed to the increased number of drug offenders incarcerated.

Also, many observers assert that the crack economy forever changed drug markets in the United States (e.g., see Levitt and Venkatesh, 2001; Uggen and Thompson, 2003). These two factors should inflate the risks and rewards (in the form
of criminal earnings) associated with drug trafficking for more recent samples of
individuals. Despite these influences on criminal earnings, only a few studies attempt
to calculate the amount of illegal earnings from drug trafficking (Fagan, 1992; Levitt
& Venkatesh, 2001; Reuter, MacCoun and Murphy, 1990). None of these studies
analyze the relationship between incarceration and illegal earnings from drug
trafficking on a modern, nationally representative sample. Table 2.1 summarizes the
literature on illegal earnings by identifying how illegal income is measured, and the
average illegal income amounts for each study.
<table>
<thead>
<tr>
<th>Study</th>
<th>How Illegal Income Is Measured (Hourly, Monthly, Annually)</th>
<th>Average Illegal Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reuter, MacCoun, and Murphy, 1990</td>
<td>Monthly</td>
<td>$2,014 (drug trafficking)</td>
</tr>
</tbody>
</table>
| Freeman, 1992                     | Hourly, Annually                                         | Hourly – b/w $9.75 - $88  
                                    |                           | Annually – b/w $752 - $5,376 |
| Wilson and Abrahamse, 1992        | Annually                                                 | b/w $29 - $5,711        |
| Fagan, 1992                       | Monthly, Annually                                        | Monthly – b/w $2,000 - $4,800  
                                    |                           | Annually – b/w $6,000 - $27,000  
                                    |                           | (both from drug trafficking) |
| Grogger, 1994                     | Annually                                                 | $1,187                  |
| Hagan and McCarthy, 1997          | Daily                                                    | $101                    |
| Fagan and Freeman, 1999           | N/A                                                      | N/A                     |
| Freeman and Fagan, 1999           | N/A                                                      | N/A                     |
| Tremblay and Morselli, 2000       | N/A                                                      | N/A                     |
| Levitt and Venkatesh, 2001        | Annually                                                 | b/w 2,569 - $8,081 (drug trafficking) |
| Uggen and Thompson, 2003          | Monthly                                                  | $333¹                   |

Table 2.1. Average Illegal Income from Previous Studies of Illegal Earnings

¹ Uggen and Thompson (2003) note that there was great variation around this mean.
**Pertinent Issues from the Illegal Earnings Literature.** There are several pertinent issues from the illegal earnings literature that should be considered in future research. First, the tradeoff in wages between legal and illegal work leads one to believe that those entering the drug trade are doing so as rational calculators of potential gains (Fagan, 1992; Freeman and Fagan, 1999). In fact, the acquisition of income from legal and illegal work is not mutually exclusive for many, as many legal workers “double up” in both economies (Freeman and Fagan, 1999; Grogger, 1994; Grogger, 1998; Tremblay and Morselli, 2000). In U.S. inner cities, this may be more of an issue since split or dual labor markets have forced some in the economy towards jobs with little or no wage growth, skills acquisition and job stability (e.g., see Crutchfield, 1989; Crutchfield, 1995; Crutchfield and Pitchford, 1997).

For example, Fagan (1992) finds that drug incomes in his study range from $2,000 monthly to $4,800 monthly. Once average drug expenses are adjusted for, net annual drug incomes range from $6,000 to $27,600. Despite the large criminal earnings from drug trafficking, roughly 25 percent of the drug dealers in his study have legal incomes ranging from $150 to $750 a month. In terms of taxed legal income, the percentage of income from legal wages for the drug dealers in his study range from seven to 33 percent.

Furthermore, the choice of illegal work seems to be based on the fact that the alternative is low legal wages tied to unskilled or entry-level employment (Grogger, 1994; Grogger, 1998). Grogger (1994), for example, shows that crime incomes increase with lower legal market wages.
Also, despite the increase in state and national levels of incarceration, the threat of punishment does not seem to be a strong enough cost of crime. In fact, some would suggest that the social stigma due to incarceration has almost evaporated for certain segments of offenders (Levitt & Venkatesh, 2001; Uggen and Thompson, 2003). For example, Levitt and Venkatesh (2001) reveal that the formerly incarcerated are more likely to be involved in drug dealing than individuals never incarcerated.

Finally, the decision to desist from crime is heavily influenced by the strength of legal work opportunities and related income (Fagan, 1992; Grogger, 1998). Fagan’s (1992) research suggests that there is a logical incentive for drug dealers to participate in both legal and illegal work, although it is clear that they make exponentially more money involved in illegal activities. Drug dealers in his study typically view illegal activity as temporary, hoping that legal work will pay off in the long run.

**Predictors of Illegal Earnings.** The literature identifies several key correlates of illegal earnings. Young men are involved in the underground economy more frequently than women (Freeman, 1996; Short, 1997). Therefore, men are more likely than women to have higher illegal earnings. However, some suggest that the recent expansion of the drug economy in the past few decades has increased opportunities and related income for women in the illegal labor market (Freeman and Fagan, 1999).
Research demonstrates that hardcore drug use is closely connected with illegal earnings, although it is difficult to establish the causal ordering between drug use and illegal earnings (Uggen and Thompson, 2003; for a detailed discussion of the causal ordering issue, also see Akers, 1992; Faupel and Klockars, 1987; Goode, 1997; White, Pandina and LaGrange, 1987). There is strong evidence that hardcore drug use may be the driving force behind illegal earnings (Uggen and Thompson, 2003).

Measures of conventional human capital (e.g., education, employment and related income) reduce the amount of criminal earnings (Levitt and Venkatesh, 2001; McCarthy and Hagan, 2001; for a contrasting view of this relationship, see Tremblay and Morselli, 2000). Conversely, the literature suggests a positive relationship between criminal human capital measures and illegal earnings (Grogger, 1998; McCarthy and Hagan, 2001; Uggen and Thompson, 2003). Finally, criminal social capital measures increase the amount of criminal earnings (McCarthy and Hagan, 2001).

2.7 What is the Relationship between Incarceration and Illegal Income?

Thus far, the theoretical connection is made between past incarceration and predictors of criminal earnings (e.g., the stigma of a prison record and the stigma of race, the lack of human and social capital, and available illegal opportunity structures). This portion of the chapter reviews theory and research related to these mechanisms and illegal earnings. Also, studies that test the direct relationship
between incarceration and conventional earnings are discussed. Finally, correlates of illegal earnings based on the literature are identified in the previous sections.

However, only a few studies to date test the relationship between incarceration and illegal earnings. Using a snowball sample of men from a Chicago housing project, Levitt and Venkatesh (2001) detail the financial activities of urban street gangs in Chicago. The researchers found that low-level drug dealers earn little more than minimum wage and are forced to supplement their incomes with legal earnings. Regarding the influence of incarceration on illegal employment, they reveal that the formerly incarcerated are more likely to be involved in drug sales than those never incarcerated. This suggests that individuals turned away from the conventional labor market are forced to utilize the employment opportunities from crime (for similar arguments, see Cloward and Ohlin, 1960).

Finally, Levitt and Venkatesh found that imprisonment increases long-term illegal earnings among gang members in this Chicago housing project. Unfortunately, this study utilizes a non-random sample of Chicago male gang members (Levitt and Venkatesh, 2001). As a consequence, it is not clear whether their research effectively captures the incarceration and illegal earnings experiences of individuals beyond this limited sample.

Uggen and Thompson (2003) used a national sample of ex-drug addicts and ex-offenders to estimate fixed effect models predicting month-to-month changes in illegal earnings. The researchers also constructed a conceptual model of “social embeddedness” in criminal and conventional labor markets to explain illegal earnings
among criminal offenders. Their conceptual model of illegal earnings attainment is
generalized from sociological theories of lawful attainment and criminological
research on substance abuse. They hypothesize from their model that criminal
experience, embeddedness in criminal and conventional networks, opportunity
structure and subjective perceptions of risk and reward explain illegal earnings, in
ways similar to how they affect legal earnings.

Uggen and Thompson’s analysis showed that embeddedness in conventional
social relationships, licit and illicit opportunities, and subjective perceptions of risks
and rewards all influence criminal earnings. They also found strong evidence for a
relationship between serious drug use and illegal earnings. Uggen and Thompson
suggest that, at least for their sample, drug use may be a major predictor of illegal
earnings attainment. It should be noted that Uggen and Thompson incorporate
incarceration status as a measure of opportunity structure (along with unemployment
rate and illegal opportunities). They reveal that incarceration dramatically reduces
monthly illegal earnings, suggesting an incapacitation effect. However, they do not
test the effect of incarceration (as a youth or adult) on illegal earnings once the ex-
incarcerated are released from jail or prison.

Uggen and Thompson’s study utilize data from the National Supported Work
job program, which operated between April 1975 and December 1978. The
researchers are careful to note that there are important differences between the
underground economy of the recession-era 1970s and today’s underground economy
during a period of mass incarceration, unstable drug markets and related violence and
welfare reform. For example, Uggen and Thompson point out that the African-American male unemployment rate during the 1970s was as high as 11 percent, whereas it has fallen significantly over the subsequent decade. They also aptly show that the African-American male imprisonment rate doubled from 1974 to 1986, and doubled again by the year 2000. In fact, the number of offenders serving time for drugs during this period rose by 600 percent.

Third, Uggen and Thompson point to the recent use of drug courts as influencing illegal earnings. If drug courts carry out their mission of treatment, Uggen and Thompson contend that the duration of drug use and its effect on illegal earnings should decrease. Finally, their data are collected prior to the explosion of the crack cocaine epidemic of the 1980s. Many observers assert that the crack economy forever changed drug markets in the United States (e.g., see Levitt and Venkatesh, 2001). All of these factors should inflate the risks and rewards (in the form of illegal earnings) associated with activities such as drug use and trafficking for more recent samples of individuals. These historical period limitations are addressed in this study with the use of the NLSY97 dataset, which covers illegal earnings from the late 1990’s to the present.

Summary of Research on Incarceration and Illegal Earnings. Only two studies directly test the influence of incarceration on illegal earnings (Levitt and Venkatesh, 2001; Uggen and Thompson, 2003). They reveal that the formerly incarcerated are more likely to be involved in drug dealing than individuals who are

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2 Other studies describing illegal labor markets include Bourgois, 1995; Fagan, 1997; Grogger, 1998; and Duneier, 1999.
never incarcerated (Levitt and Venkatesh, 2001). Research finds that imprisonment can reduce short-term illegal earnings via incapacitation (Uggen and Thompson, 2003).

Finally, prior research reveals that imprisonment can increase long-term illegal earnings for a non-random sample of Chicago drug dealers (Levitt and Venkatesh, 2001). However, as stated earlier and in subsequent sections, these two studies carry with them significant conceptual and methodological flaws that are addressed with the current study. Table 2.2 below provides a summary of the literature on illegal earnings, identifying the key variables involved in the research and whether the relationship between incarceration and illegal earnings is analyzed.
<table>
<thead>
<tr>
<th>Study</th>
<th>Key Variable(s)</th>
<th>Analyzed Relationship B/W Incarceration and Illegal Earnings?*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reuter, MacCoun, and Murphy, 1990</td>
<td>Self-reported earnings from drug trafficking</td>
<td>No</td>
</tr>
<tr>
<td>Freeman, 1992</td>
<td>Self-reported earnings from illegal activities</td>
<td>No</td>
</tr>
<tr>
<td>Wilson and Abrahamse, 1992</td>
<td>Self-reported earnings from illegal activities</td>
<td>No</td>
</tr>
<tr>
<td>Fagan, 1992</td>
<td>Self-reported earnings from both legal and illegal drug earnings</td>
<td>No</td>
</tr>
<tr>
<td>Grogger, 1994</td>
<td>Estimates of illegal income</td>
<td>No</td>
</tr>
<tr>
<td>Hagan and McCarthy, 1997</td>
<td>Factors influencing illicit labor market success</td>
<td>No</td>
</tr>
<tr>
<td>Fagan and Freeman, 1999</td>
<td>Illegal income and future incarceration</td>
<td>Yes (Negative; On Legal Earnings)</td>
</tr>
<tr>
<td>Freeman and Fagan, 1999</td>
<td>Motivations for illegal activity involvement</td>
<td>No</td>
</tr>
<tr>
<td>Tremblay and Morselli, 2000</td>
<td>Self-reported earnings from illegal activities</td>
<td>No</td>
</tr>
<tr>
<td>Levitt and Venkatesh, 2001</td>
<td>The impact of incarceration on illegal earnings</td>
<td>Yes (Positive)</td>
</tr>
<tr>
<td>Uggen and Thompson, 2003</td>
<td>Factors influencing illicit labor market earnings</td>
<td>Yes (Positive)</td>
</tr>
</tbody>
</table>

*Note: Yes means that the researchers found that their key variables influenced illegal earnings increases/decreases due to extended prison time, and no suggests that they did not.

Table 2.2. Summary of Research on Illegal Earnings
2.8 Hypotheses

H1: The formerly incarcerated will earn significantly higher illegal income than the never incarcerated, controlling for other predictors of illegal income.

The literature suggests that the formerly incarcerated are more likely to be involved in drug dealing than the never incarcerated (Freeman and Fagan, 1999; Levitt and Venkatesh, 2001; Uggen and Thompson, 2003). However, these studies include non-representative or limited samples.

Also, prior crime and the related stigma of serving time in secure confinement as a measure of criminal human capital is a predictor of illegal activity in the illegal earnings literature (e.g., see Grogger, 1998; McCarthy and Hagan, 2001; Uggen and Thompson, 2003). Also, developmental and life course theory and research suggests that the association between adult social factors and criminal outcomes could be the result of “persistent heterogeneity”, or the notion that individual characteristics such as low-self control and low IQ determine who selects to persist in or desist from crime (Gottfredson and Hirschi, 1990; Nagin and Paternoster, 1991). Consequently, researchers control for these factors (e.g., see Sampson and Laub, 1993; Uggen, 2000).

H2: Individuals that are serious, hardcore drug users will earn significantly higher illegal income than infrequent or non-users of drugs, controlling for other predictors of illegal income.
Recent research reveals that drug use is so intimately connected with other criminal activities, it is difficult statistically to establish causal ordering (Akers, 1992; Faupel and Klockars, 1987; Goode, 1997; Uggen and Thompson, 2003; White, Pandina and LaGrange, 1987). However, there is strong evidence for a relationship between serious drug use and illegal earnings, and drug use may be a major predictor of illegal earnings attainment (Fagan, 1992; Uggen and Thompson, 2003).

H3: Respondents with considerable human capital will earn significantly smaller illegal income than those with a paucity of conventional human capital, controlling for other predictors of illegal income.

A strong link is found between conventional human capital characteristics and legal employment (e.g., see Aliaga, 2001; Becker, 1993; Benhabib and Spiegel, 1994; Engelbrecht, 2003; Hendricks, 2002; and Lucas, 1998). As a measure of human capital, research suggests that greater legal earnings and other conventional income reduces criminal earnings (Bourgois, 1995; Levitt and Venkatesh, 2001; McCarthy and Hagan, 2001; for a contrasting outcome, see Tremblay and Morselli, 2000). Also, ASVAB scores (a military math and verbal IQ test), as a measure of human capital, are considered in previous studies of illicit earnings (Freeman and Fagan, 1999).
**H4:** Individuals with considerable criminal social capital will earn significantly higher illegal income than those with a paucity of criminal social capital, controlling for other predictors of illegal income.

The development of criminal social capital, or associations with skilled offenders, is important for offenders involved in the illicit employment market (McCarthy & Hagan, 2001). Also, close ties to delinquent peers is associated with criminal behavior (Haynie, 2001; Warr, 1991; Warr, 1993). The connection between gang membership (as a measure of criminal social capital) and drug trafficking is important in the literature, which suggests that gang membership should influence the incarceration and illegal earnings from drug trafficking relationship (Fagan, 1993; Levitt and Venkatesh, 2001; Uggen and Thompson, 2003). Finally, a common theme found in criminological research with longitudinal data is that close ties to a significant other (through social bonding or social learning mechanisms) act to decrease involvement in criminal behavior (e.g., see Horney, Osgood and Marshall, 1995; Laub, Nagin and Sampson, 1998; Sampson and Laub, 1993; Sampson and Laub, 2003; Warr, 1998).

**H5:** African-American and Hispanic respondents will earn significantly higher illegal income than White respondents, controlling for other predictors of illegal income.

Only a few studies within the illegal earnings literature identify race as a predictor of illegal income (e.g., see McCarthy & Hagan, 2001). Criminological
research, however, contends that there may be racial differences in conventional employment outcomes, with speculation that this is due to racial stigmas (e.g., see Pager, 2003).

In addition to testing the above hypotheses, this study contributes to the literature on illegal earnings by analyzing the relationship between past incarceration and earnings from criminal activity. Also, this research utilizes a modern, nationally representative sample of adolescents and young adults to analyze the relationship between incarceration and illegal earnings. This topic is the focus of the next chapter.
CHAPTER 3

METHODOLOGY

This chapter on methodology describes the sample used in this study, including the rationale for using a male sample. Second, the measures considered in the analyses are reviewed, with a specific focus on the arguments made for the use of a logged form of illegal earnings. Finally, this chapter explains the analytical strategy used to test the main hypotheses in this study. This section highlights the use of random-effects models by contrasting this analytical strategy with others used for a longitudinal, person-period data format.

3.1 The Sample

To examine the relationship between past incarceration and illegal earnings, I use data from the National Longitudinal Survey of Youth 1997 (NLSY97), which is the most recent survey in the National Longitudinal Surveys program. The survey documents the transition from school to work for adolescents and young adults. The NLSY97 consists of two samples: (1) a cross-sectional sample of 6,748 respondents designed to be representative of people living in the United States during the initial survey round and born between January 1, 1980, and December 31, 1984; and (2) a
supplemental sample of 2,236 respondents designed to over-sample Hispanics and African-Americans living in the United States during the initial survey round and born during the same period as the cross-sectional sample (Center for Human Resource Research, 2003). In sum, the NLSY97 cohort includes 8,984 individuals.

In addition to this sample, the NLSY97 provides a separate geocode file with a variety of statistics for the counties where respondents lived at each interview date. Most of these data are based on the most recent edition of the U.S. Census Bureau’s *County and City Data Book (1994)*. With this geocoded data, users can link individuals to county-level structural measures related to local labor markets and characteristics of the population (e.g. poverty rates, crime rates, etc.).

There are currently nine rounds of the NLSY97 survey (1997-2005). It contains detailed information on self-reported criminal behavior and subsequent criminal justice responses for juveniles and young adults, including data on arrests, convictions and incarceration experiences of the sample’s respondents. The NLSY97 also includes data on the labor market experiences of its subjects, both in the conventional labor market and from criminal activity. Consequently, the NLSY97’s longitudinal design provides a unique opportunity to study the consequences of incarceration on both illegal and conventional labor market experiences of adolescents and young adults. The first wave of the NLSY97 includes adolescents ages 12 to 16 (see Table 3.1). These same individuals are between the ages of 20 and 24 by wave nine in 2005.
<table>
<thead>
<tr>
<th>NLSY97 Waves &amp; Years</th>
<th>All Ages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wave 1 – 1997</td>
<td>12 to 16 years old</td>
</tr>
<tr>
<td>Wave 2 – 1998</td>
<td>13 to 17 years old</td>
</tr>
<tr>
<td>Wave 3 – 1999</td>
<td>14 to 18 years old</td>
</tr>
<tr>
<td>Wave 4 – 2000</td>
<td>15 to 19 years old</td>
</tr>
<tr>
<td>Wave 5 – 2001</td>
<td>16 to 20 years old</td>
</tr>
<tr>
<td>Wave 6 – 2002</td>
<td>17 to 21 years old</td>
</tr>
<tr>
<td>Wave 7 – 2003</td>
<td>18 to 22 years old</td>
</tr>
<tr>
<td>Wave 8 – 2004</td>
<td>19 to 23 years old</td>
</tr>
<tr>
<td>Wave 9 – 2005</td>
<td>20 to 24 years old</td>
</tr>
</tbody>
</table>

**Table 3.1. NLSY 97 Waves and Age Cohorts (n=8,984)**

*Male Sample.* This study is restricted to a sample of men, since very few female respondents had a prison record. In the NLSY97, 136 out of 39,465 person-period women (0.3 percent) have spent significant time in jail or prison during the nine waves/years. Previous studies argue that due to the extremely high ratio of men incarcerated compared to females, analysis of the effects of incarceration using NLSY samples should be restricted to males (Huebner, 2005; Johnson, 2003; Western,
2002). The male person-period sample size in the NLSY97 is 41,391. Of these, 619 men have an incarceration history (1.5 percent of the sub-sample; see Table 3.2).
<table>
<thead>
<tr>
<th>NLSY97 Waves &amp; Years</th>
<th>Total (% of Entire Sample)</th>
<th>Male (% of All Males)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wave 1 – 1997</td>
<td>61 (0.7%)</td>
<td>39 (0.8%)</td>
</tr>
<tr>
<td>Wave 2 – 1998</td>
<td>112 (1.2%)</td>
<td>94 (2.0%)</td>
</tr>
<tr>
<td>Wave 3 – 1999</td>
<td>73 (0.8%)</td>
<td>60 (1.3%)</td>
</tr>
<tr>
<td>Wave 4 – 2000</td>
<td>128 (1.4%)</td>
<td>110 (2.4%)</td>
</tr>
<tr>
<td>Wave 5 – 2001</td>
<td>114 (1.3%)</td>
<td>96 (2.1%)</td>
</tr>
<tr>
<td>Wave 6 – 2002</td>
<td>135 (1.5%)</td>
<td>113 (2.5%)</td>
</tr>
<tr>
<td>Wave 7 – 2003</td>
<td>17 (0.2%)</td>
<td>14 (0.3%)</td>
</tr>
<tr>
<td>Wave 8 – 2004</td>
<td>73 (0.8%)</td>
<td>57 (1.2%)</td>
</tr>
<tr>
<td>Wave 9 – 2005</td>
<td>42 (0.5%)</td>
<td>36 (0.8%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>755 (0.9%)</strong></td>
<td><strong>619 (1.5%)</strong></td>
</tr>
<tr>
<td>N=80,856 observations</td>
<td></td>
<td>N=41,391 observations</td>
</tr>
</tbody>
</table>

*Note: The sample size for each wave is 8,984 for the entire sample and 4,599 for the male sample. The percentages for each wave are a reflection of these sample sizes. Over the nine year sampling period, the person-period sample size is 41,391 observations (4,599x9) for the male sample. Also, Respondents can be incarcerated multiple times across multiple years. The frequencies above reflect the number of incidents of incarceration across all eight waves.

*Males consist of 51.2 percent of the total NLSY97 sample.

Table 3.2. Frequency of Respondents Incarcerated in Jail & Prison (Total vs. Male Sample), NLSY97, 1997-2005
Regarding the dependent variable, annual illegal income, males are much more likely to be involved in activities that yield illegal earnings than females. In fact, there are 3,781 records of men with illegal income during the sampling period (1997-2005), compared with 1,650 for women (see Table 3.3).

A person-period data structure for the male sub-sample produces 41,391 potential records to analyze over the nine year sampling period. Of these records, there are 619 records of males with an incarceration history and 3,781 records of males that earn illegal incomes during the sampling period. One of the advantages of using a person-period data format is that individuals do not have to be excluded entirely if they are missing some observations on the dependent variable (e.g., see Allison, 1994; Johnson, 2003). On average, each respondent in the sample contributed 6.9 observations to the data set. It should also be noted that non-random sample attrition can bias the analysis of panel data using long time periods (Western, 2002). However, further analysis of attrition from this sample finds that response rates are almost identical for the ex-incarcerated vs. never incarcerated men.  

---

3 Attrition rates for both the formerly incarcerated and never incarcerated are determined by conducting frequencies of respondents participating in each wave by incarceration history.
<table>
<thead>
<tr>
<th>NLSY97 Waves &amp; Years</th>
<th>Total (% of Entire Sample)</th>
<th>Male (% of All Males)**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wave 1 – 1997</td>
<td>928 (10.3%)</td>
<td>637 (13.9%)</td>
</tr>
<tr>
<td>Wave 2 – 1998</td>
<td>946 (10.5%)</td>
<td>638 (13.9%)</td>
</tr>
<tr>
<td>Wave 3 – 1999</td>
<td>826 (9.2%)</td>
<td>569 (12.4%)</td>
</tr>
<tr>
<td>Wave 4 – 2000</td>
<td>765 (8.5%)</td>
<td>542 (11.8%)</td>
</tr>
<tr>
<td>Wave 5 – 2001</td>
<td>671 (7.5%)</td>
<td>451 (9.8%)</td>
</tr>
<tr>
<td>Wave 6 – 2002</td>
<td>565 (6.3%)</td>
<td>404 (8.7%)</td>
</tr>
<tr>
<td>Wave 7 – 2003</td>
<td>452 (5.0%)</td>
<td>321 (7.0%)</td>
</tr>
<tr>
<td>Wave 8 – 2004</td>
<td>128 (1.4%)</td>
<td>101 (2.2%)</td>
</tr>
<tr>
<td>Wave 9 – 2005</td>
<td>120 (1.3%)</td>
<td>88 (1.9%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5,431 (6.7%)</strong></td>
<td><strong>3,781 (9.1%)</strong></td>
</tr>
</tbody>
</table>

Table 3.3. Frequency of Respondents Earning Illegal Income (Total vs. Male Sample), NLSY97, 1997-2005
3.2 The Measures

Dependent Variable

Logged Illegal Income. Table 3.4 introduces the dependent, independent and control variables used in this analysis. While criminal behavior is often complex and varied, the relationship between crime and illegal earnings implies certain crime types and offenders. Fagan and Freeman (1999), for example, contend that certain crimes require the following characteristics: (1) monetary returns; and (2) time allocation. Crimes that have these characteristics include drug dealing, prostitution, vehicle theft, burglary, robbery and similar offenses. However, Fagan and Freeman note that there are significant obstacles in collecting accurate data on illegal earnings since it is difficult to place value on non-cash exchanges, which includes discounts on fencing stolen goods. However, the NLSY97 captures the values on non-cash exchanges from theft and other property offenses.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Year Measured</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variable</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual Illegal Income (Log)</td>
<td>Logged annual illegal income based on three sources of criminal activity in a given year: (1) theft offenses, (2) other property crimes, and (3) drug trafficking.</td>
<td>All years</td>
</tr>
<tr>
<td><strong>Independent Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prior Incarceration</td>
<td>Dummy variable for those spending at least one month in jail or prison. Those incarcerated in year t-1 or earlier are coded as 1; those not incarcerated in year t-1 or earlier are coded as 0.</td>
<td>All years</td>
</tr>
<tr>
<td>Current Incarceration</td>
<td>Dummy variable for those spending at least one month in jail or prison in year t (the past year). Those incarcerated in year t are coded as 1; those not incarcerated in year t are coded as 0.</td>
<td>All years</td>
</tr>
<tr>
<td><strong>Control Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current School Attendance</td>
<td>Dummy variable for full-time attendance in junior high school, high school or college in the past year. Those attending full time are coded as 1; those not attending or missing significant time are coded as 0.</td>
<td>All years</td>
</tr>
<tr>
<td>Hardcore Drug Use</td>
<td>Count of the frequency of use of powder cocaine, crack, heroin and other drugs in the past year.</td>
<td>All years</td>
</tr>
<tr>
<td>Human Capital Legal Income (Log)</td>
<td>Log of annual legal income from wages and salary in the past year.</td>
<td>All years</td>
</tr>
<tr>
<td>Employment Status</td>
<td>Dummy variable for employment in the past year. Those employed are coded as 1; those not employed are coded as 0.</td>
<td>All years</td>
</tr>
<tr>
<td>ASVAB Scores</td>
<td>Percentile score on the Armed Services Vocational Aptitude Battery (ASVAB). Scores range b/w 0 and 100.</td>
<td>1999</td>
</tr>
<tr>
<td>Social Capital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delinquent/Criminal Peers</td>
<td>Dummy variable for friend or sibling gang involvement in the past year. Those with delinquent peers coded as 1; those without delinquent peers coded as 0.</td>
<td>All years</td>
</tr>
<tr>
<td>Gang Membership</td>
<td>Dummy variable for respondent gang involvement in the past year. Gang members coded as 1; non-gang members coded as 0.</td>
<td>All years</td>
</tr>
<tr>
<td>Significant Other</td>
<td>Dummy variable for being involved in a relationship with a girlfriend or spouse in the past year. Those with S/O coded as 1; those without S/O coded as 0.</td>
<td>All years</td>
</tr>
<tr>
<td><strong>Demographic Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (Log)</td>
<td>Log of age at the time of the interview in years.</td>
<td>All years</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td>Dummy variables for non-Hispanic Blacks and Hispanics. Black or Hispanic coded as 1; non-Black or non-Hispanic coded as 0.</td>
<td>1997</td>
</tr>
</tbody>
</table>

Table 3.4. Descriptions of Dependent, Independent and Control Variables, NLSY 1997-2005
The measurement of illegal earnings can range from hourly and annual estimates of income to crime income as a percentage of total income, including income from conventional sources. Survey research measuring illegal income as an hourly or annual estimate typically calculates income across several categories of crimes and offender crime involvement, followed by a sum of these estimates (e.g., see Freeman, 1991; Freeman, 1992; Reuter, MacCoun and Murphy, 1990; Viscusi, 1986; Wilson and Abrahamse, 1992). For example, Wilson and Abrahamse (1992) calculate self-reported illegal income from prison inmates by collecting annual income across several crime categories, then summing these for a total annual income earned from illegal wages. The researchers also distinguish between the frequency of offending and related illegal earnings by separating those in their sample that are mid-rate vs. high-rate offenders.

For this study, the amount of raw illegal income is taken from follow-up questions in each wave/round regarding delinquent and criminal behavior during the previous 12 months. If the respondent committed remunerative crimes (e.g., property crimes, drug trafficking, etc.) during this period, they are asked about any monetary rewards (the total cash received or the total cash he or she would have received) from selling these items within the past year. There are three categories of illegal income captured in the NLSY97. First, respondents are asked about the frequency of theft offenses over the past year and the amount of cash they received for the items stolen or would have received if they had sold them. Second, respondents are queried about the frequency of activity in other property crimes during the past year (e.g., fencing,
receiving/possessing/selling stolen property, or cheating someone by selling them something that was worthless or worth much less than what they stated). For these other property offenses, respondents are also asked about the total cash income received from these crimes. The final category of illegal earnings activity in the NLSY97 is the frequency of drug selling activity by respondents in the past year and the amount of cash income made from selling drugs. Annual raw illegal income in each wave/round is calculated by adding all monetary rewards received from these three categories of illegal earnings during the previous 12 months.

The issue of selecting the most appropriate functional form of earnings is debated in both the conventional and illegal earnings literature (e.g., see Hauser, 1980; Hodson, 1985; Peterson, 1989; Portes and Zhou, 1996). The proponents of analyzing raw dollars contend that doing so will preserve the influence of outliers, which some suggest may have important substantive implications (Uggen and Thompson, 2003). For example, Portes and Zhou (1996) find effects only when the full dollar range of earnings are utilized. The direct interpretation of coefficients in these models is that dollar increases or decreases are associated with a unit change in the independent variables. In contrast, the benefit of logging income is that it reduces skewness and the influence of extreme outliers, which can improve model fit (Vogt, 1999). Prior research finds that illegal earnings follow a logarithmic functional form (McCarthy and Hagan, 2001). Because of the benefits of logging income, most research on earnings analyze logged data (e.g., see McCarthy and Hagan, 2001; Western, 2002). Logged income estimates are interpreted as the average percentage
change in earnings associated with a unit change in the independent variables. This study logs both annual illegal and legal income for the analyses (see Table 3.4).\(^4\)

\textit{A Note Regarding Zero Earners.} Another debate that exists in the illegal earnings literature is how to code zero earners, or those subjects that claim that they have no income during a specified period. Some contend that whether to restrict analyses to a minimum amount (for example, $1 or $100), or include zero earners is important conceptually to any study (Hauser, 1980; Uggen and Thompson, 2003; Western, 2002). By counting zero earners, the earnings distribution can be skewed and important questions can be raised about sample selectivity. For example, Western (2002) leaves out observations with zero wages for conventional income earners and argues that this is the standard method of measuring earnings using the NLSY79. The drawback of this approach to measuring earnings is that you ignore unemployed individuals. In contrast, Uggen and Thompson (2003) include zero earners when analyzing illegal income. The researchers offer that the inclusion of zero earners marks a key conceptual transition from $0 to $1, highlighting the transition from no criminal activity to recidivism or parole violation. This study includes zero earners in the analysis of illegal earnings.

\(^4\) To note, zero values have no natural log. Therefore, when logging annual illegal income, those individuals that did not participate in any of the three crime categories are given a value of 1 prior to logging their income amounts. In fact, $1 is added to all observations in the sample prior to logging income.
Independent Variables

Prior Incarceration. Prior incarceration is considered the primary independent variable for the models in this study. Criminal human capital refers to personal characteristics that enhance success as a criminal (Grogger, 1998). Prior incarceration as a measure of criminal human capital is associated with illegal earnings in the literature (Levitt and Venkatesh, 2001; Uggen and Thompson, 2003).

Information on delinquency, crime, and arrest in the NLSY97 is collected in the self-administered section of the youth instrument. For each wave/round, respondents are asked about criminal behavior during the past year, including behavior that leads to official criminal justice processing. For each crime that results in an arrest, respondents are asked about the sanction that is given, including arrests that lead to juvenile and adult jail or prison time.

The NLSY97 data are good for comparing the incarceration experiences of adolescents and young adults with both never incarcerated offenders and non-offenders. For each wave/round, respondents answer a series of questions regarding whether they have been incarcerated in either a jail or prison (either at a juvenile or adult correctional facility) in the past year.

The prior incarceration measure is a dummy variable, with those spending at least one month or more in jail or prison as a juvenile and/or adult in the year t-1 or
earlier coded as 1. Respondents in the study who did not spend significant time in jail and/or prison as a youth or young adult during this period are coded as 0.

*Current Incarceration.* The current incarceration measure accounts for the contemporaneous effect of incarceration on the respondent’s ability to earn illegal income. This is a dummy variable scored 1 for respondents who spent at least one month or more in jail or prison in year t, and 0 otherwise.

*Control Variables*

A number of control variables are included in the analyses because prior research has found them to be associated with criminal earnings.

*Current School Attendance.* It is suggested earlier that being confined in a secure environment such as jail or prison during the same year that respondents earn illegal income reduces their ability to earn illegal income. The same is argued for spending significant time attending school. Full-time students have much less time to earn illegal income compared with individuals not in school full-time. Therefore, studies of illegal earnings have controlled for school attendance (e.g., see Uggen and Thompson, 2003). The current school attendance variable is a dummy variable that captures full-time attendance in junior high school, high school or college. Individuals attending school full-time in these educational settings with close to perfect attendance records are coded as 1, while those not attending school or missing a significant number of months of school are coded as 0.

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5 The NLSY97 allows for the calculation of the amount of time, in months, that a respondent served confined in a correctional institution.
**Hardcore Drug Use.** It has been noted in previous research that drug use is so intimately connected with other criminal activities that it is difficult statistically to establish causal ordering (Akers, 1992; Faupel and Klockars, 1987; Goode, 1997; Uggen and Thompson, 2003; White, Pandina and LaGrange, 1987). Uggen and Thompson (2003) found strong evidence for a relationship between serious drug use and illegal earnings, and suggest that at least for their sample, drug use may be a strong predictor of illegal earnings attainment (also see Fagan, 1992). As a persistent individual ‘trait’ starting in adolescence and lasting throughout the life course, hardcore drug use is used to explain the connection between social factors and crime outcomes such as illegal earnings (e.g., see Gottfredson and Hirschi, 1990; Nagin and Paternoster, 1991; Sampson and Laub, 1993; Uggen, 2000).

All respondents in the NLSY97 are surveyed on their experience with marijuana, powder cocaine, crack, heroin and other substances not prescribed by a doctor and used in order to get high or achieve an altered state. The substance abuse measure in this study is a count of how often subjects used hardcore drugs (powder cocaine, crack, heroin, etc.) during the survey year.

**Human Capital**

Conventional human capital captures ability and work experience at the individual-level. Research finds a strong link between human capital characteristics and legal/conventional earnings (e.g., see Aliaga, 2001; Becker, 1993; Benhabib and

Conventional human capital measures used in this study are described below.

*Logged Legal Income.* Studies find that greater legal earnings reduces criminal earnings (Bourgois, 1995; Levitt and Venkatesh, 2001; McCarthy and Hagan, 2001; for a contrasting outcome, see Tremblay and Morselli, 2000). The amount of raw legal income used in this study is collected from a NLSY97 question asking respondents to provide all income from wages and salary in the past year. As noted earlier, the benefit of logging income is that it reduces skewness and the influence of extreme outliers, which can improve model fit (Vogt, 1999). Therefore, logged annual legal income is considered in this study.

*Employment Status.* As a measure of conventional human capital, employment status has been linked to both conventional and criminal earnings (e.g., see Levitt and Venkatesh, 2001; McCarthy and Hagan, 2001; Tremblay and Morselli, 2000). Employment status is measured in this study based on a question asking whether the respondent received salary from conventional employment in the months prior to the interview. Employment status is dummied, with those employed coded as 1 and the non-employed coded as 0.

*ASVAB Scores.* As a measure of conventional human capital, scores from the Armed Services Vocational Aptitude Battery (ASVAB), a national achievement test, have been considered in previous studies of illegal earnings (Freeman and Fagan, 1999). In round one of the NLSY97, most respondents participated in the

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6 To note, zero values have no natural log. Therefore, when logging annual legal income, those individuals who did not participate in the workforce were given a value of 1.
administration of the ASVAB. The NLS Program staff computed a percentile score to represent the average performance on both the math and verbal sections of the ASVAB. ASVAB scores range between 0 and 100, with higher scores suggesting greater achievement. These scores are included in my analyses.

**Social Capital**

The development of social capital, conceptualized as a resource that is realized through social relationships, is crucial in the development of both conventional and criminal earnings (e.g., see Hagan, 1993; McCarthy & Hagan, 2001). The measures for social capital are described below.

*Delinquent or Criminal Peers.* Criminal social capital is the association with skilled offenders that leads to increased illegal earnings (McCarthy and Hagan, 2001). As a measure of criminal social capital, close ties to delinquent or criminal peers are associated with criminal behavior that can yield illegal income (Haynie, 2001; Warr, 1991; Warr, 1993). To measure the type of social capital/networks that would be more likely to influence criminal earnings, this analysis includes direct measures of delinquent or criminal peer associations. The delinquent or criminal peer measure in this analysis is a dummy variable taken from a question that asks if the respondent’s siblings or friends belonged to a criminal gang in the previous year. Those with siblings or friends who participated in gang activity are coded as 1, and respondents without gang-involved siblings and friends are coded as 0.
**Gang Membership.** Recent literature on gang activity suggests that urban street gangs are more involved in the trafficking of hardcore drugs (Hagedorn, 1988; Padilla, 1992; Sanchez Jankowski, 1991; Spergel, 1995; Sullivan, 1989; Taylor, 1990; Venkatesh, 2000). The connection between gang membership and drug trafficking can be tied to the crack cocaine epidemic of the 1980’s (Fagan, 1993; Levitt and Venkatesh, 2001; Uggen and Thompson, 2003). This research suggests that gang membership should influence the relationship between incarceration and illegal earnings from drug trafficking.

As a measure of criminal social capital, respondent gang membership represents a good proxy variable for the influence of delinquent and criminal peers. The gang membership measure used in this study is a dummy variable taken from a question asking if the respondent belonged to a criminal gang in the previous year. Respondents involved in a gang are coded as 1, with those not involved in gang activity coded as 0.

**Significant Other.** A common theme found in criminological research with longitudinal data is that either social bonding/control or social learning mechanisms related to having a significant other (girlfriend or spouse) can influence criminal behavior (e.g., see Horney, Osgood and Marshall, 1995; Laub, Nagin and Sampson, 1998; Sampson and Laub, 1993 and 2003; Warr, 1998).

As a measure of social capital, the significant other measure used in this study is taken from a NLSY97 question asking how attached or close respondents felt towards their girlfriend or spouse in the previous year. This study measures
significant other as a dummy variable. Thus, respondents with a significant other are coded as 1, and those without a significant other are coded as 0 in this research.

**Demographics**

*Logged Age.* The age-criminal earnings profile, similar to the age-conventional earnings profile, is non-linear (Western, 2002). Logging age reduces the skewness of illegal earnings as respondents grow older. Age is measured here as the logged value of age of the respondent in year t (at the time of the interview).

*Race/Ethnicity.* Only a few studies within the illegal earnings literature identify race as a predictor of illegal income (e.g., see McCarthy & Hagan, 2001). Employment research offers that there may be racial differences in conventional employment outcomes, with speculation that this is due to racial stigmas (e.g., see Pager, 2003).

The race and ethnicity of each respondent in the NLSY97 is identified separately from the first wave/round of the study. The ethnicity question identifies individuals of Hispanic origin. For the purposes of this analysis, each category of race and ethnicity is measured as a dummy variable. African American is coded as 1, and is distinguished from Whites (coded as 0). Hispanic is coded as 1, and is distinguished from non-Hispanic Whites and African Americans (coded as 0).
3.3 Analytic Strategy

This study estimates random-effects models to examine illegal income for adolescents and young adult ex-offenders and non-offenders using the National Longitudinal Survey of Youth for 1997-2005. The two most common analytic strategies considered for a longitudinal, person-period data format are random-effects models and fixed-effects models. Random effects models are selected over fixed-effects models in this study because variables with unchanging values cannot be used in a fixed effects model\(^7\). Race and ethnicity (as measures of stigma) are two such variables with unchanging values over time. Since these variables are crucial to this study’s theoretical model, random effects models will be used as the analytic strategy of this research (Johnston and DiNardo 1997; Long and Freese 2003; Wooldridge 2002).

Subsequent Chapters. In order to assess the influence of incarceration on illegal earnings, the following analyses are conducted. Chapter four offers descriptive patterns of the data on illegal earnings from all criminal activity, which includes means and standard deviations of the dependent, independent and control

\(^7\) In contrast, fixed-effects models can only utilize time-varying explanatory variables. There are two benefits to the fixed-effects approach. First, it controls for time-invariant observed and unobserved differences between individuals, regardless of whether those differences are related to the likelihood of event occurrence (Allison, 1994). Second, fixed-effects models capture the influence of omitted variables that may be correlated with both the observed predictors (e.g., going to jail or prison) and the dependent variable (e.g., illegal earnings). It addresses the ‘unobserved heterogeneity’ argument made by Gottfredson and Hirschi (1990) and others by holding constant individual characteristics such as intelligence, low self-control and other so-called traits. However, as stated earlier, if your model consists of fixed demographic characteristics such as race and ethnicity, one could only use fixed effects models by estimating separate models for each category of race and ethnicity. With random-effect models, simply using race, ethnicity and other fixed demographic characteristics as controls will address the heterogeneity problem.
variables in the analyses. This chapter also analyzes the full conceptual model of illegal earnings using random-effects statistical methods, while highlighting the relationship between incarceration and illegal earnings. Finally, chapter four investigates the interaction of prior incarceration and race/ethnicity on illegal earnings. Chapter five provides a descriptive analysis of illegal earnings from drug trafficking. This chapter also analyzes a model of illegal earnings from drug trafficking utilizing random-effects statistical techniques. Chapter five tests the influence of three interactions on illegal earnings from drug trafficking: (1) prior incarceration and hardcore drug use, (2) prior incarceration and gang membership, and (3) prior incarceration and race/ethnicity. Chapter six provides a discussion of the findings, draws conclusions, highlights theoretical and policy implications based on the study, and offers limitations and suggestions for future research.
CHAPTER 4

TESTING THE RELATIONSHIP BETWEEN INCARCERATION AND ILLEGAL INCOME

The first few chapters of this manuscript reviewed the literature on incarceration and illegal earnings, and highlight the contributions this study makes to the criminal earnings literature. The research literature suggests that spending significant time in prison may reduce illegal earnings while individuals are in jail or prison because incarcerated offenders are most likely blocked from earning income outside of jail or prison due to incapacitation (Uggen & Thompson, 2003). However, very little is known about the influence of incarceration on illegal earnings once individuals are released from prison back into the community. This dissertation argues that incarceration leads to the stigma of a prison record (and race stigma) and erodes human and social capital, all factors that contribute to failure in the conventional labor market. These circumstances force the ex-incarcerated into illegal employment opportunity structures that yield increased illegal earnings.

To test this hypothesis, this chapter estimates random-effects models at the individual level to examine criminal earnings for adolescents and young adult ex-offenders and non-offenders using the National Longitudinal Survey of Youth.
(NLSY97) for 1997-2005. This study hypothesizes that the formerly incarcerated will earn significantly higher illegal income than the never incarcerated, controlling for other predictors of illegal income.

4.1 Summary Statistics

Table 4.1 presents means and standard deviations of the dependent, independent and control variables used in the analyses for the total sample and for the ex-incarcerated compared to the never incarcerated. The ex-incarcerated, on average, have higher logged annual illegal incomes than the never incarcerated (.15 vs. .13, respectively). Of those with an incarceration history, 8 percent are incarcerated during the year of the interview (year t). In contrast, only 1 percent of those never incarcerated prior to year t are incarcerated during the year of the interview. This table also shows that the ex-incarcerated in this sample are older based on logged age, compared with those never incarcerated. The ex-incarcerated are less likely to attend school full-time (92 percent vs. 94 percent, respectively) and much more likely to use hardcore drugs (20.80 vs. 2.20 on the use frequency scale) than those never incarcerated.

Based on the summary statistics, the ex-incarcerated earn less logged legal income annually from wages than their counterparts who were never incarcerated (.18 vs. .44, respectively). Also, the ex-incarcerated are less likely to be employed than those who were never incarcerated (42 percent vs. 47 percent, respectively).

Regarding social capital measures, the ex-incarcerated are much more likely to have
delinquent peers that are involved in gangs (26 percent vs. 9 percent, respectively).

The ex-incarcerated are also involved in gangs more frequently than those never incarcerated (16 percent vs. 2 percent). Finally, the ex-incarcerated are more likely to have a significant other compared to those never incarcerated (12 percent vs. 9 percent, respectively). Finally, while White respondents consist of 53 percent of the total sample, they comprise a much smaller percentage of those ever incarcerated (36 percent). Conversely, while African-Americans make up 25 percent of the overall sample, they consist of a much larger percentage of the ex-incarcerated (37 percent). Compared to the overall sample, the percentage of Hispanics that are ex-incarcerated is slightly higher (25 percent vs. 21 percent).
### Table 4.1. Means and Standard Deviations (in Parentheses) of Dependent, Independent and Control Variables, NLSY 1997-2005

<table>
<thead>
<tr>
<th></th>
<th>Ex-Incarcerated</th>
<th>Never Incarcerated</th>
<th>Total Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variable</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual Illegal Income</td>
<td>.15 (.56)</td>
<td>.13 (.69)</td>
<td>.13 (.69)</td>
</tr>
<tr>
<td>(Logged)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Independent Variables</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prior Incarceration</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Current Incarceration</td>
<td>.08 (.28)</td>
<td>.01 (.11)</td>
<td>.01 (.12)</td>
</tr>
<tr>
<td><strong>Control Variables</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Attendance</td>
<td>.92 (.18)</td>
<td>.94 (.25)</td>
<td>.93 (.25)</td>
</tr>
<tr>
<td>Hardcore Drug Use</td>
<td>20.80 (40.51)</td>
<td>2.20 (25.74)</td>
<td>2.48 (26.68)</td>
</tr>
<tr>
<td><strong>Human Capital</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual Legal Income</td>
<td>.18 (1.09)</td>
<td>.44 (1.62)</td>
<td>.40 (1.60)</td>
</tr>
<tr>
<td>(Logged)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment Status</td>
<td>.42 (.12)</td>
<td>.47 (.22)</td>
<td>.47 (.21)</td>
</tr>
<tr>
<td>ASVAB Scores</td>
<td>24.67 (22.54)</td>
<td>44.60 (29.72)</td>
<td>44.33 (29.71)</td>
</tr>
<tr>
<td><strong>Social Capital</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delinquent/Crim. Peers</td>
<td>.26 (.44)</td>
<td>.09 (.29)</td>
<td>.09 (.29)</td>
</tr>
<tr>
<td>Gang Membership</td>
<td>.16 (.37)</td>
<td>.02 (.14)</td>
<td>.02 (.15)</td>
</tr>
<tr>
<td>Significant Other</td>
<td>.12 (.10)</td>
<td>.09 (.06)</td>
<td>.10 (.07)</td>
</tr>
<tr>
<td><strong>Demographic Variables</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (Logged)</td>
<td>3.03 (.11)</td>
<td>2.95 (.17)</td>
<td>2.95 (.17)</td>
</tr>
<tr>
<td>Race*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>.36 (.48)</td>
<td>.53 (.50)</td>
<td>.52 (.50)</td>
</tr>
<tr>
<td>African-Am.</td>
<td>.37 (.49)</td>
<td>.25 (.43)</td>
<td>.25 (.44)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>.25 (.43)</td>
<td>.21 (.41)</td>
<td>.21 (.41)</td>
</tr>
<tr>
<td><strong>Number of Observations</strong></td>
<td>619</td>
<td>40,772</td>
<td>41,391</td>
</tr>
</tbody>
</table>

8 The percentages for the ex-incarcerated, never incarcerated and the total sample will not equal 100 percent because there are ‘other’ racial categories that consist of a very small percentage of the NLSY97 sample.
*To note, data on 12 years olds with an incarceration history are not collected in the NLSY97 sample.

Figure 4.1. Logged Annual Illegal Income by Incarceration Status, Ages 13-24
Logged Annual Illegal Income by Incarceration Status, Ages 13-24. Figure 4.1 charts the observed logged annual illegal income trajectories of the ex-incarcerated versus the never incarcerated between the ages of 13 and 24 (the age cohorts for this study). During the early adolescent years, logged annual illegal income for the ex-incarcerated was slightly higher than earnings for the never incarcerated. By the age of 14, the gap in illegal income increases greatly between the ex-incarcerated compared to their never incarcerated counterparts. Logged annual illegal income peaks at age 17 for the formerly incarcerated at .48. In contrast, annual income peaks at age 15 for those never incarcerated at .33, but declines dramatically in subsequent years. It should be noted that the figure above does not control for the correlates of logged annual illegal income. Consequently, there could be other factors that explain the illegal income disparity between the ex-incarcerated and never incarcerated during the sampling period.

4.2 Main Effects

In the random effects main model, logged annual illegal income is predicted to be a product of incarceration net of other predictors of illegal income. Since the random effects procedure is a straightforward extension of bivariate regression, parameter estimation and interpretation follow the same principles. This is also the case for significance tests and the R-square measure of explained variation. Random effects multiple-regression techniques enable the researcher to analyze virtually any
set of quantitative data (Lewis-Beck, 1980). This is especially true with an analysis that focuses on variables with unchanging values such as race.

In this analysis, main effects are estimated as follows:

\[ Y_{it} = \alpha_t + \beta_1 \text{Prison}_{it} + \beta_2 \text{Prior Prison}_{it} + \beta_3 X'_{it} + \varepsilon_{it} \]

…where,

\[ Y_{it} = \text{Logged annual illegal income for respondents (i) in year t for the period 1997-2005} \]

\[ \alpha_t = \text{Random effect} \]

\[ \beta_1 \text{Prison}_{it} = \text{Current incarceration status} \]

\[ \beta_2 \text{Prior Prison}_{it} = \text{Prior incarceration} \]

\[ \beta_3 X'_{it} = \text{Time-varying covariates} \]

\[ \varepsilon_{it} = \text{Error term} \]

4.3 Analyzing Logged Illegal Income

As stated in earlier sections, the benefit of logging illegal income is that it reduces skewness and the influence of extreme outliers, which can improve model fit (McCarthy & Hagan, 2001; Uggen & Thompson, 2003). This is certainly true in the case of this model. To predict the amount of annual illegal income in logged dollars from respondents in the sample, the following predictors are considered: past incarceration, current incarceration, logged age, school attendance, substance abuse, measures of human and social capital and race/ethnicity. Table 4.2 shows the
unstandardized coefficients and the standard errors (in parentheses) from the regression of logged annual income on incarceration.

The main effects results (model 1) show that the incarceration and illegal earnings relationship is clearly significant. After all of the independent and control variables are introduced in model one, the past incarceration and illegal earnings relationship is statistically significant at the .01 level. Those with a past incarceration earned significantly higher illegal incomes than those who were never incarcerated. In fact, the ex-incarcerated earn roughly five percent more logged illegal income than those never incarcerated.
<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>1.073***</td>
<td>1.073***</td>
</tr>
<tr>
<td></td>
<td>(.073)</td>
<td>(.34)</td>
</tr>
<tr>
<td>Past Incarceration</td>
<td>.047**</td>
<td>.022*</td>
</tr>
<tr>
<td></td>
<td>(.020)</td>
<td>(.030)</td>
</tr>
<tr>
<td>Current Incarceration</td>
<td>.157***</td>
<td>.156***</td>
</tr>
<tr>
<td></td>
<td>(.027)</td>
<td>(.027)</td>
</tr>
<tr>
<td>School Attendance</td>
<td>.017</td>
<td>-.016</td>
</tr>
<tr>
<td></td>
<td>(.111)</td>
<td>(.12)</td>
</tr>
<tr>
<td>Hardcore Drug Use</td>
<td>.001***</td>
<td>.001***</td>
</tr>
<tr>
<td></td>
<td>(.01)</td>
<td>(.01)</td>
</tr>
<tr>
<td><strong>HUMAN CAPITAL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal Income (Logged)</td>
<td>.128***</td>
<td>.128***</td>
</tr>
<tr>
<td></td>
<td>(.007)</td>
<td>(.007)</td>
</tr>
<tr>
<td>Employment Status</td>
<td>-.421***</td>
<td>-.422***</td>
</tr>
<tr>
<td></td>
<td>(.054)</td>
<td>(.054)</td>
</tr>
<tr>
<td>ASVAB Scores</td>
<td>-.001</td>
<td>-.001</td>
</tr>
<tr>
<td></td>
<td>(.001)</td>
<td>(.001)</td>
</tr>
<tr>
<td><strong>SOCIAL CAPITAL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delinquent/Crim. Peers</td>
<td>.054***</td>
<td>.053***</td>
</tr>
<tr>
<td></td>
<td>(.013)</td>
<td>(.013)</td>
</tr>
<tr>
<td>Gang Membership</td>
<td>.266***</td>
<td>.266***</td>
</tr>
<tr>
<td></td>
<td>(.025)</td>
<td>(.025)</td>
</tr>
<tr>
<td>Significant Other</td>
<td>-.247***</td>
<td>-.248***</td>
</tr>
<tr>
<td></td>
<td>(.045)</td>
<td>(.045)</td>
</tr>
<tr>
<td><strong>DEMOGRAPHIC VARIABLES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (Logged)</td>
<td>-.331***</td>
<td>-.331***</td>
</tr>
<tr>
<td></td>
<td>(.024)</td>
<td>(.024)</td>
</tr>
<tr>
<td>Race</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>White</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>African-Am.</td>
<td>-.022</td>
<td>-.028*</td>
</tr>
<tr>
<td></td>
<td>(.015)</td>
<td>(.015)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>-.034**</td>
<td>-.032**</td>
</tr>
<tr>
<td></td>
<td>(.015)</td>
<td>(.015)</td>
</tr>
<tr>
<td><strong>INTERACTIONS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Past Incarc. * African A.</td>
<td>---</td>
<td>.097**</td>
</tr>
<tr>
<td></td>
<td>---</td>
<td>(.046)</td>
</tr>
<tr>
<td>Past Incarc. * Hispanic</td>
<td>---</td>
<td>-.021</td>
</tr>
<tr>
<td></td>
<td>---</td>
<td>(.050)</td>
</tr>
<tr>
<td>R²</td>
<td>.18</td>
<td>.18</td>
</tr>
<tr>
<td>Number of Observations</td>
<td>25,662</td>
<td>25,662</td>
</tr>
</tbody>
</table>

Note: All regressions are estimated using random effects regression. Standard errors are in parentheses. *p<.05, **p<.01, ***p<.001 (one-tailed)

Table 4.2. Unstandardized Coefficients from the Regression of Logged Annual Illegal Income on Incarceration, Main and Interaction Effects Models, NLSY Men, 1997 to 2005
Parameter Estimates & Their Significance Levels for Logged Illegal Income

Table 4.2 (model 1) above reports the regression of a number of predictors of annualized logged illegal income. The statistically significant predictors of illegal income are past incarceration, current incarceration, hardcore drug use, the log of legal income, employment status, delinquent peers, gang membership, significant other, the log of age and ethnicity. The logged age and logged illegal income relationship suggests that younger individuals earn significantly higher logged illegal income than older male respondents. Also, individuals that use hardcore drugs earn significantly higher logged illegal income than those who do not use such drugs.

In terms of human capital variables, there is a significant and positive relationship between logged legal and illegal earnings. This finding is contrary to the stated hypothesis in chapter two regarding the relationship between legal and illegal earnings. Some earlier studies of illegal earnings contend that a positive relationship between legal and illegal income may occur because many legal workers “double up” in both economies, especially in areas with split or dual labor markets that provide jobs with very little wage growth over time (Freeman and Fagan, 1999; Grogger, 1994; Grogger, 1998; Tremblay and Morselli, 2000). Furthermore, some speculate that there is a logical incentive for drug dealers to participate in both legal and illegal work, with the hope that legal work will pay off in the long run (Fagan, 1992).

Employed males in this sample earn significantly less logged illegal income than those who are not employed. Regarding the social capital measures, males that have delinquent or criminal peers earn much higher logged illegal income than those
without delinquent peers. Not surprisingly, gang members earn significantly higher logged illegal income than non-gang members. As a measure of social capital, individuals with a significant other earn less logged illegal income than those without a significant other. Finally, non-Latino males earn significantly higher logged illegal incomes than Latino males. The R-square of this particular model is .18.

4.4. Interaction Effects

Prior Incarceration and Race/Ethnicity

Interaction effects are appropriate when there is reason to believe that the impact of a given independent variable may depend or be conditional on another independent variable (Aiken and West, 1991). In addition to analyzing the effects of incarceration on logged annual illegal income, I examine how incarceration and race interact to affect illegal income. It is shown elsewhere that incarceration is a common life course occurrence for certain cohorts of minority men (Bonczar, 2003; Harrison and Beck, 2005; Western, 2002; Western and Beckett, 1999). For example, when incarceration rates are estimated separately by age group, it is found that 8.4% of black males age 25 to 29 were in prison on December 31, 2004 versus 2.5% of Hispanic males and about 1.2% of white males in the same age group (Harrison and Beck, 2005). If current incarceration rates remain unchanged, roughly 1 in 3 black males, 1 in 6 Hispanic males, and 1 in 17 white males are expected to go to prison during their lifetimes (Bonczar, 2003).
Also, it is argued that the combination of having an incarceration history and being minority produces severely negative conventional employment outcomes (e.g., see Pager, 1993; Sampson and Laub, 1993; Western, 2002). This manuscript contends that the stigma of incarceration and race, along with underdeveloped human and social capital, forces individuals into criminal opportunity structures that yield high illegal earnings. However, only a few studies to date offer evidence that the combination of incarceration and race can make employment life unstable for certain individuals. The most influential of these studies is Pager’s (2003) experimental research on the nexus of racial stigma and criminal history in determining employment outcomes. Regarding criminal history as a stigma, Pager found that those with criminal records are half as likely to get callbacks from employers during their job search. Regarding race as a stigma, the study found that blacks are less favored in employment. Specifically, Pager found that black applicants without criminal records are less likely to get a callback in comparison to whites with criminal records. Pager concludes that racial stigmas are a key barrier to employment for African-American men.

In this analysis, interaction effects are estimated as follows:

\[ Y_{it} = \alpha + \beta_1 \text{Prison}_{it} + \beta_2 \text{Prior Prison}_{it} + \beta_3 X’_{it} + \]

\[ B_4 \text{Prior Prison} \times \text{African-American} + B_5 \text{Prior Prison} \times \text{Hispanic} + \epsilon_{it} \]

...where,

\[ Y_{it} = \text{Logged annual illegal income for respondents (i) in year t for the period 1997-2005} \]
\( \alpha_t = \text{Random effect} \)

\( \beta_1 \text{ Prison}_{it} = \text{Current incarceration status} \)

\( \beta_2 \text{ Prior Prison}_{it} = \text{Prior incarceration} \)

\( \beta_3 X’_{it} = \text{Time-varying covariates} \)

\( \beta_4 \text{ Prior Prison} * \text{African American} = \text{Interaction between prior incarceration and African-American} \)

\( \beta_5 \text{ Prior Prison} * \text{Hispanic} = \text{Interaction between prior incarceration and Hispanic} \)

\( \varepsilon_{it} = \text{Error term} \)

Table 4.2 above shows that the interaction between prior incarceration and African-American is positive and significant (model 2). In other words, African-American men with an incarceration history have significantly higher logged illegal income than other combinations of incarceration history and race. However, model 2 fails to reveal an interaction effect for prior incarceration and Hispanic. The overall model, including the two interactions, has an R-square of .18. Further investigation of the interaction between past incarceration and race/ethnicity reveals several patterns, which will be covered in the next few sections.

**Probing the Past Incarceration by Race/Ethnicity Interaction**

Figure 4.2 displays the pattern of effects found in this interaction model. It presents predicted levels of illegal earnings for African American, White and
Hispanic males who have been previously incarcerated compared to those who have never been incarcerated based on model 2 in Table 4.2. In computing these predicted mean values, all other independent variables are held constant at their mean levels.
The category that stands out from the rest is ex-incarcerated African-American males. Their predicted value of .70 is considerably higher than any other combination of incarceration history and race/ethnicity. With incarceration history as the moderator variable in Figure 4.2, having an incarceration history increases predicted illegal income by 13 percent for African American males. In fact, when compared to Hispanic and White males with an incarceration history, African-American males earn 13 and 7 percent more predicted illegal income, respectively.
4.5 Conclusion

This chapter estimates random effects regression models to examine illegal earnings for adolescents and young adult ex-offenders and non-offenders using the National Longitudinal Survey of Youth (NLSY97). Specifically, this study is interested in whether individuals with an incarceration history earn higher illegal income than those without an incarceration history. The findings related to this hypothesis are reviewed below.

In earlier chapters, it is hypothesized that the formerly incarcerated would earn significantly higher illegal incomes than individuals never incarcerated, controlling for other predictors of illegal income. The analysis in this chapter found that individuals that have spent time in either a juvenile or adult secure placement facility (jail or prison) earn significantly higher logged annual illegal income compared with those that do not have an incarceration history. This is true after controlling for several predictors of illegal income.

Finally, interaction effects reveal that the interaction between prior incarceration and African-American racial status is significant at the .01 level. Predicting illegal income values for this interaction effect shows that formerly incarcerated African-American males earn much higher predicted illegal income than other categories of race/ethnicity and incarceration history. Indeed, it appears that prior incarceration actually increased illegal earnings only among African American males.
CHAPTER 5

A CLOSER LOOK AT ILLEGAL INCOME AS AN OUTCOME VARIABLE:
INCOME FROM DRUG TRAFFICKING

The previous chapter provides an analysis of the merging of three categories of illegal income captured in the NLSY97. First, respondents are asked about the frequency of theft offenses over the past year and the amount of cash they received for the items stolen or would have received if they had sold them. Second, respondents are queried about the frequency of activity in other property crimes during the past year (e.g., fencing, receiving/possessing/selling stolen property, or cheating someone by selling them something that was worthless or worth much less than what they stated). For these other property offenses, respondents were also asked about the total cash income received from these crimes.

The final category of illegal income utilized from the NLSY97 is the frequency of drug selling activity by respondents in the past year and the amount of cash income made from selling drugs. In the last chapter, income from all three of these categories is summed to produce an annual illegal income dependent variable. This chapter is concerned with the final category of illegal earnings considered in this study: income from drug trafficking.
The interest in illegal income from drug trafficking is derived from several different sources. First, the NLSY97 presents a unique opportunity to study drug crimes in today’s illegal economy during a period of mass incarceration, unstable drug markets and related violence and welfare reform. In terms of growth over time, drug offenders stand out as the largest class of the incarcerated. From 1980 to 1996, the drug incarceration rate (the rate of offenders incarcerated for drug offenses) increases dramatically from less than 15 inmates per 100,000 U.S. adults to 148 offenders per 100,000 adults (Blumstein and Beck, 1999). In fact, 45 percent of the growth in the prison population during this time period can be attributed to the increased number of drug offenders incarcerated.

Many observers assert that the crack economy dramatically changed drug markets in the U.S. (e.g., see Levitt and Venkatesh, 2001; Uggen and Thompson, 2003). All of these factors should inflate the risks associated with drug trafficking for more recent samples of individuals. Only a handful of studies directly test the influence of incarceration on illegal activity and earnings (Levitt and Venkatesh, 2001; Uggen and Thompson, 2003). The evidence suggests that the formerly incarcerated are more likely to be involved in drug dealing than those never incarcerated. However, prior studies are limited by using non-modern samples (Uggen & Thompson, 2003) or the use of non-random samples (Levitt & Venkatesh, 2001).

The analyses in the last chapter reveal that the use of hardcore drugs has a strong influence on annual illegal income. Prior research suggests a link between the
two (e.g., see Akers, 1992; Faupel and Klockars, 1987; Goode, 1997; Uggen and Thompson, 2003; White, Pandina and LaGrange, 1987). By using a nationally representative sample of youth and young adults in the NLSY97, this study analyzes the relationship between incarceration and illegal income from drug trafficking, controlling for other predictors of illegal income.

Also, recent ethnographic and quantitative research on gang activity suggests that urban street gangs have become more involved in the crack cocaine economy, so this should influence the incarceration and illegal earnings relationship (Hagedorn, 1988; Padilla, 1992; Sanchez Jankowski, 1991; Spergel, 1995; Sullivan, 1989; Taylor, 1990; Venkatesh, 2000). Finally, given the findings related to incarceration history and race found in the last chapter, this interaction will be explored for earnings from drug trafficking in this chapter. Interactions of past incarceration and hardcore drug use, past incarceration and gang membership, and past incarceration and race/ethnicity will be analyzed in this chapter.

5.1 Summary Statistics

Logged Annual Illegal Income from Drug Trafficking by Incarceration Status, Ages 13-24. Figure 5.1 charts the observed logged annual illegal income trajectories from drug trafficking for the ex-incarcerated versus the never incarcerated between the ages of 13 and 24 (the age cohorts for this study).
* To note, data on 12 years olds with an incarceration history are not collected in the NLSY97 sample.

Figure 5.1. Logged Annual Illegal Income from Drug Trafficking by Incarceration Status, Ages 13-24
During the early adolescent years, logged annual illegal income from drug sales for the ex-incarcerated is slightly higher than earnings for those never incarcerated. By age 14, logged illegal income from drug trafficking increases dramatically for the ex-incarcerated. Logged annual illegal income from drug trafficking peaks at age 18 for the formerly incarcerated (at .48), and then slopes downward as this group grows older. In contrast, logged annual income from drug trafficking peaks at age 15 (at .28), and then stays relatively low and stable across subsequent years for those never incarcerated, although there is a slight slope downward as these individuals age. It should be noted that the figure above does not control for the correlates of logged annual illegal income from drug trafficking. Consequently, there could be other factors that explain the illegal income disparity between the ex-incarcerated and those never incarcerated during the sampling period.

5.2 Main Effects

In the random effects main model, annual illegal income from drug trafficking is predicted to be a function of incarceration, net of other predictors of illegal income. In this analysis, main effects are estimated as follows:

\[ Y_{it} = \alpha_t + \beta_1 \text{Prison}_{it} + \beta_2 \text{Prior Prison}_{it} + \beta_3 X'_{it} + \varepsilon_{it} \]

...where,

\[ Y_{it} = \text{Logged annual illegal income from drug trafficking for respondents (i) in year t for the period 1997-2005} \]

\[ \alpha_t = \text{Random effect} \]
\[ \beta_1 \text{Prison}_{it} = \text{Current incarceration status} \]
\[ \beta_2 \text{Prior Prison}_{it} = \text{Prior incarceration} \]
\[ \beta_3 X'_{it} = \text{Time-varying covariates} \]
\[ \epsilon_{it} = \text{Error term} \]

5.3 Analyzing Logged Illegal Income from Drug Trafficking

To predict the amount of annual illegal income in logged dollars from drug trafficking for respondents in the sample, the following predictors are considered: past incarceration, current incarceration, logged age, school attendance, substance abuse, measures of human and social capital and race. Table 5.1 presents the results of this regression analysis by presenting the unstandardized coefficients from the regression of logged annual income from drug trafficking on incarceration.
<table>
<thead>
<tr>
<th>Model</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intercept</td>
<td>1.044***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.063)</td>
</tr>
<tr>
<td></td>
<td>Past Incarceration</td>
<td>.064***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.017)</td>
</tr>
<tr>
<td></td>
<td>Current Incarceration</td>
<td>.071**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.023)</td>
</tr>
<tr>
<td></td>
<td>School Attendance</td>
<td>.021*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.010)</td>
</tr>
<tr>
<td></td>
<td>Hardcore Drug Use</td>
<td>.001***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.001)</td>
</tr>
<tr>
<td></td>
<td>HUMAN CAPITAL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Legal Income (Logged)</td>
<td>.141***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.006)</td>
</tr>
<tr>
<td></td>
<td>Employment Status</td>
<td>-.496***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.047)</td>
</tr>
<tr>
<td></td>
<td>ASVAB Scores</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>(.001)</td>
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<tr>
<td></td>
<td>SOCIAL CAPITAL</td>
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<td></td>
<td>Delinquent/Crim. Peers</td>
<td>.025**</td>
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<td></td>
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<tr>
<td></td>
<td>Gang Membership</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>(.021)</td>
</tr>
<tr>
<td></td>
<td>Significant Other</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>(.039)</td>
</tr>
<tr>
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<td>DEMOGRAPHIC VARIABLES</td>
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</tr>
<tr>
<td></td>
<td>Age (Logged)</td>
<td>-.330***</td>
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<tr>
<td></td>
<td></td>
<td>(.021)</td>
</tr>
<tr>
<td></td>
<td>Race</td>
<td></td>
</tr>
<tr>
<td></td>
<td>White</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>African-Am.</td>
<td>-.012</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.012)</td>
</tr>
<tr>
<td></td>
<td>Hispanic</td>
<td>-.026**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.012)</td>
</tr>
<tr>
<td></td>
<td>INTERACTIONS</td>
<td></td>
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<tr>
<td></td>
<td>Past Incarc. * African A.</td>
<td>---</td>
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<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Past Incarc. * Hispanic</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Past Incarc. * Drug</td>
<td>---</td>
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<td></td>
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<tr>
<td></td>
<td>Past Incarc. * Gang</td>
<td>---</td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td>R²</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Number of Observations</td>
<td>25,662</td>
</tr>
</tbody>
</table>

*Note: All regressions are estimated using random-effects regression. Standard errors are in parentheses. *p<.05, **p<.01, ***p<.001 (one-tailed)

Table 5.1. Unstandardized Coefficients from the Regression of Logged Annual Illegal Income from Drug Trafficking on Incarceration, Main and Interaction Effects Model, NLSY Men, 1997 to 2005
Parameter Estimates & Their Significance Levels for Logged Illegal Income from Drug Trafficking

Model 1 from Table 5.1 above reports the regression of several predictors of annualized logged illegal income from drug trafficking. The statistically significant predictors of illegal income from drug trafficking are past incarceration, current incarceration, school attendance, hardcore drug use, the log of legal earnings, employment status, delinquent peers, gang membership, significant other, the log of age and ethnicity. The R-square of this particular model is .21.

Model 1 of Table 5.1 shows that the past incarceration and illegal income from drug trafficking relationship is significant at the .001 level, even with all of the independent and control variables introduced. The ex-incarcerated earn 6 percent more logged illegal income from drug trafficking than those never incarcerated.

The findings from model 1 also reveal that individuals that are younger based on logged age have significantly higher logged illegal income from drug sales than older respondents in the sample (at the .001 level). Also, those that attend school regularly earn less logged illegal income from drug sales than individuals that attend school infrequently or not at all (at the .01 level). Hardcore drug users earn significantly higher logged illegal income from drug trafficking than those that do not use hardcore drugs (at the .001 level).

In terms of human capital, there is a positive relationship between logged legal and illegal income from drug sales (at the .001 level). As stated in chapter four, this unexpected finding may exist for two reasons. First, split or dual labor markets
with little wage growth in metropolitan areas may force some individuals to “double up” in both legal and illegal economies (e.g., see Freeman and Fagan, 1999; Grogger, 1994; Grogger, 1998; Tremblay and Morselli, 2000). Second, some contend that those involved in both legal and illegal economies do so with the hope that there will be a long-term payoff in staying connected to the conventional labor market (Fagan, 1992). Individuals that take this approach view illegal work as temporary.

Conversely, individuals that are employed earn significantly less logged illegal income from drug trafficking than those not employed (at the .001 level). Regarding social capital, males in the sample with delinquent or criminal peers (that are gang members) earn significantly higher logged illegal income from drug sales than individuals without delinquent peers (at the .01 level). Similarly, gang members earn significantly higher logged illegal income from drug trafficking than those that do not belong to a gang (at the .001 level). The final measure of social capital, having a significant other, suggests that those with a significant other earn less logged illegal income from drug sales than individuals without a significant other (at the .001 level). Finally, Hispanic males earn significantly less logged illegal income from drug trafficking than non-Hispanic males (at the .01 level).

5.4. Interaction Effects

In this analysis, interaction effects are estimated as follows:

\[ Y_{it} = \alpha + \beta_1 \text{Prison}_{it} + \beta_2 \text{Prior Prison}_{it} + \beta_3 X'_{it} + \beta_4 \text{Prior Prison} \times \text{African-American} + \beta_5 \text{Prior Prison} \times \text{Hispanic} + \]
...where,

\[ Y_{it} = \text{Logged annual illegal income from drug trafficking for respondents (i) in year t for the period 1997-2005} \]

\[ \alpha_t = \text{Random effect} \]

\[ \beta_1 \text{Prison}_{it} = \text{Current incarceration status} \]

\[ \beta_2 \text{Prior Prison}_{it} = \text{Prior incarceration} \]

\[ \beta_3 X'_{it} = \text{Time-varying covariates} \]

\[ \beta_4 \text{Prior Prison} \times \text{African-American} = \text{Interaction between Prior incarceration and African-American} \]

\[ \beta_5 \text{Prior Prison} \times \text{Hispanic} = \text{Interaction between Prior incarceration and Hispanic} \]

\[ \beta_6 \text{Prior Prison} \times \text{Hardcore Drug Use} = \text{Interaction between Prior incarceration and Hardcore Drug Use} \]

\[ \beta_7 \text{Prior Prison} \times \text{Gang Membership} = \text{Interaction between Prior incarceration and Gang Membership} \]

\[ \varepsilon_{it} = \text{Error term} \]

\[ \beta_6 \text{Prior Prison} \times \text{Drug Use} + \beta_7 \text{Prior Prison} \times \text{Gang Membership} + \varepsilon_{it} \]

_Prior Incarceration and Race and Ethnicity_

As with overall illegal earnings, there is reason to believe that the relationship between past incarceration and illegal earnings from drug trafficking is influenced by race and ethnicity. The literature suggests that the combination of having an
incarceration history and being minority produces severely negative conventional employment outcomes (e.g., see Pager, 2003; Sampson and Laub, 1993; Western, 2002). This section investigates whether this same combination produces consequences for illegal earnings from drug trafficking. The main model testing the effect of incarceration on logged illegal income from drug trafficking (model 1 from Table 5.1) finds that being Hispanic is negatively related to logged illegal income from drug trafficking, at the .01 level. However, the interaction effects from model 2 in Table 5.1 reveals that only the prior incarceration and African American interaction is statistically significant (at the .01 level).

**Probing the Past Incarceration by Race Interaction**

Figure 5.2 highlights the predicted levels of illegal earnings for African American, White and Hispanic male ex-incarcerated and never incarcerated individuals. It should be noted that all other variables are held constant at their mean levels while computing these predicted mean values. Using the equation above to substitute dummy variable values for X’s and solve for Y, one can calculate the predicted values for all combinations of incarceration history and race/ethnicity in Figure 5.2.
Similar to the findings regarding the interaction of incarceration history and race/ethnicity on general illegal income in chapter four, the category that stands out from the rest in Figure 5.2 is ex-incarcerated African-American males. Their predicted value of .66 is significantly higher than any other combination of incarceration history and race/ethnicity. With incarceration history as the moderator variable in Figure 5.2, having an incarceration history increases the predicted illegal income from drug trafficking by 8 percent for African American males. In fact, when
compared to Hispanic and White males with an incarceration history, ex-incarcerated African-American males earn 8 percent more predicted illegal income from drug trafficking than ex-incarcerated Hispanic and White males.

**Prior Incarceration and Hardcore Drug Use**

There is reason to believe that hardcore drug use may impact the incarceration and illegal earnings from drug trafficking relationship. The findings from the main model analysis reveal that respondents that use hardcore drugs (cocaine, etc.) earn higher income related to drug trafficking than individuals that do not use hardcore drugs. Prior literature finds a similar relationship between serious drug use and illegal earnings, with the suggestion that drug use may be the main predictor of illegal earnings attainment (e.g., see Fagan, 1992; Hagan and McCarthy, 1997; Uggen and Thompson, 2003). Model 2 from Table 5.1 shows that the interaction between prior incarceration and hardcore drug use on logged illegal earnings from drug trafficking is significant at the .001 level. The predicted logged income values are calculated for all combinations of incarceration history and hardcore drug use in Figure 5.3.
Figure 5.3. Predicted Illegal Income by Hardcore Drug Use and Incarceration History

Figure 5.3 above details the predicted levels of illegal earnings from drug trafficking for ex-incarcerated and never incarcerated hardcore drug users and non-hardcore drug users. To compute the above predicted means, all other variables are held constant at their mean levels. The figure clearly shows that ex-incarcerated hardcore drug users earned significantly more predicted illegal income from drug trafficking than the three other categories (with a predicted value of .69). With incarceration history as the moderator variable in Figure 5.3, having an incarceration
history increases the predicted illegal income from drug trafficking by 17 percent for hardcore drug users. Considering drug use as the moderator variable, using hardcore drugs increases the predicted illegal income from drug trafficking by 17 percent for the formerly incarcerated.

**Prior Incarceration and Gang Membership**

Ethnographic and quantitative research on gang activity in the past decade suggests that urban street gangs have become more involved in the drug trade compared to prior decades (Hagedorn, 1988; Padilla, 1992; Sanchez Jankowski, 1991; Spergel, 1995; Sullivan, 1989; Taylor, 1990; Venkatesh, 2000). The connection between gang membership and drug trafficking can be tied to the crack cocaine epidemic of the 1980’s (Fagan, 1993; Levitt and Venkatesh, 2001; Uggen and Thompson, 2003). This literature suggests that gang membership should influence the incarceration and illegal earnings from drug trafficking relationship.

Model 1 from Table 5.1 reveals that gang membership is positively related to illegal earnings from drug trafficking at the .001 level. However, the interaction of past incarceration and gang membership is non-significant in model 2 of Table 5.1. Therefore, gang membership does not impact the incarceration and illegal earnings from drug trafficking relationship in this study.
Conclusion

This study estimates random effects regression models to examine illegal income from drug trafficking for adolescents and young adult ex-offenders and non-offenders using the National Longitudinal Survey of Youth (NLSY97). Specifically, this chapter is interested in the correlates of income from drug trafficking, with a focus on the interaction between past incarceration and hardcore drug users, individuals that belonged to a gang and race/ethnicity. The findings related to this chapter are reviewed below.

Individuals with an incarceration history as an adolescent or young adult are indeed more likely to earn higher illegal income from drug trafficking. The findings also reveal an interaction effect between incarceration history and race. Further investigation of this interaction in Figure 5.2 finds that ex-incarcerated African-American males earn significantly higher predicted logged income from drug trafficking compared with Hispanic and White ex-offenders and those never incarcerated.

As predicted, the use of hardcore drugs is significantly related to drug trafficking income, once all other predictors are controlled. Clearly, individuals who use hardcore drugs (cocaine, heroin, etc.) earn higher income related to drug trafficking than those who do not. These findings are similar to prior studies that find strong evidence for a relationship between serious drug use and illegal earnings, with the suggestion that drug use is a major correlate of illegal earnings attainment (e.g., see Fagan, 1992; Hagan and McCarthy, 1997; Uggen and Thompson, 2003). To
investigate further the above assertion, the interaction between incarceration and hardcore drug use is examined. The findings show that formerly incarcerated individuals that use hardcore drugs earn much higher predicted logged annual illegal income from drug sales than ex-incarcerated non-drug users, non-incarcerated drug users and non-incarcerated individuals that do not use drugs. Finally, literature that ties gang membership and drug trafficking led to the testing of the interaction between incarceration and gang membership on illegal earnings from drug trafficking (Fagan, 1993; Levitt and Venkatesh, 2001; Uggen and Thompson, 2003). This study finds that gang members earn significantly higher logged illegal income from drug trafficking than non-gang members. However, this study does not show an interaction effect between past incarceration and gang membership in regards to illegal earnings from drug trafficking.
CHAPTER 6

DISCUSSION AND CONCLUSION

This study began by telling the story of what happens to most individuals during the life course. Specifically, the transition from adolescence to adulthood involves moving through a sequence of traditional life course stages (e.g., completing high school, entering college or the military, gaining conventional employment, getting married, having children, etc.). These life course stages integrate young adults into mainstream society and offer adult offenders a way out of a life of crime. The literature review in chapter two highlights that those involved in crime that can find steady work and a stable marriage also become embedded in a web of social supports and obligations (e.g., see Sampson and Laub, 1993; Western, 2006). These social bonds help young adult criminals refrain from further offending.

The literature review also reveals that, for many Americans, incarceration is a key life event that can harmfully alter traditional life course stages (e.g., see Sampson and Laub, 2003; Western, 2002; Western and Beckett, 1999). However, until this study, very little was known about the influence of incarceration on illegal earnings once individuals are released from prison back into the community. This dissertation argues that incarceration leads to the stigma of a prison record and racial status, and
erodes human and social capital, all factors that contribute to failure in the conventional labor market. These circumstances force the ex-incarcerated into illegal employment opportunity structures that yield increased illegal earnings.

In line with this viewpoint, this study addresses the following research question: How does incarceration influence criminal earnings for adolescents and young adults? To answer this question, I examine random-effects models of criminal earnings for adolescents and young adult ex-offenders and non-offenders using the National Longitudinal Survey of Youth for 1997-2005. In doing so, this dissertation makes several contributions to the literature. First, this study extends the work on incarceration and conventional earnings by focusing exclusively on earnings from criminal activity. Second, a modern, nationally representative sample is used, with specific attention given to race differences. This sample is preferred because there are only two studies that analyze the relationship between incarceration and illegal earnings, and both have major sampling flaws. The first study utilizes data from a national sample of drug users from the mid 1970’s (Uggen and Thompson, 2003). Therefore, their findings are based on data prior to the U.S. prison boom over the past three decades, the explosion of the crack cocaine economy and related violence in many U.S. cities in the 1980’s, and the focus of state and federal criminal justice legislation and enforcement on drug trafficking and drug use since the 1970’s. The second study that highlights the connection between incarceration and illegal earnings uses a snowball sample of gang members from a small section of Chicago (Levitt and Venkatesh, 2001). Given the sampling shortcomings of these two research studies, a
modern, nationally representative sample helps fill the literature gap in this area.
Third, income from drug trafficking is considered and compared with general illegal earnings, which has not been witnessed in prior research on incarceration and illegal earnings. Finally, this study includes many previously identified correlates of illegal earnings. The study’s findings are reviewed below.

6.1 Major Findings

This manuscript hypothesizes that the formerly incarcerated will earn significantly higher illegal income than individuals never incarcerated, controlling for other predictors of illegal income (hypothesis one). The analysis in chapter four shows that individuals with an incarceration history earn significantly higher annual illegal income from criminal activity compared with respondents without an incarceration history. This is true when controlling for several predictors of illegal income. The analysis in chapter five reveals that individuals with an incarceration history earn significantly higher annual illegal income from drug trafficking compared with individuals without an incarceration history. Again, this holds true when controlling for several predictors of illegal income. These findings are consistent with prior literature on illegal earnings that find that the formerly incarcerated are more likely to be involved in drug dealing than individuals that were never incarcerated (Levitt and Venkatesh, 2001; Uggen and Thompson, 2003).

This dissertation also hypothesizes that individuals that are hardcore drug users earn significantly higher illegal income than non-users of drugs, controlling for
other predictors of illegal income (hypothesis two). As predicted, this study finds that hardcore drug users earn significantly higher illegal income than those who do not use hardcore drugs. Analysis of the interaction between past incarceration and hardcore drug use highlights that formerly incarcerated individuals who use hardcore drugs have much higher annual illegal income from drug trafficking than formerly incarcerated males who do not use hardcore drugs, hardcore drug users without an incarceration history, and non-hardcore drug users without an incarceration history. This study also shows that having an incarceration history increases predicted logged income considerably for hardcore drug users. These findings are consistent with research that shows that drug use is intimately connected with other criminal activities such as drug trafficking (Akers, 1992; Faupel and Klockars, 1987; Goode, 1997; Uggen and Thompson, 2003; White, Pandina and LaGrange, 1987).

Third, this study hypothesizes that respondents with considerable conventional human capital will earn significantly smaller illegal income than those with a paucity of conventional human capital, controlling for other predictors of illegal income (hypothesis three). This study finds evidence that human capital measures are linked to logged annual illegal income. In the analysis of logged illegal earnings from all crimes, and illegal income from drug trafficking, the relationship between logged legal and logged illegal earnings is positive and statistically significant. The reason for this unexpected finding may be twofold. First, several illegal earnings studies offer that split or dual labor markets with little wage growth in many cities may force some individuals to “double up” in both legal and illegal
economies (e.g., see Freeman and Fagan, 1999; Grogger, 1994; Grogger, 1998; Tremblay and Morselli, 2000). Second, research suggests that those involved in both legal and illegal work view crime and related earnings as temporary (e.g. see Fagan, 1992). The hope is that persistence in the conventional labor market will reap long-term stability and wage growth that will allow them to refrain from crime completely.

Fourth, this study hypothesizes that individuals with considerable criminal social capital will earn significantly higher illegal income than those with a paucity of criminal social capital, controlling for other predictors of illegal income (hypothesis four). There is strong evidence from this study that social capital measures (delinquent peers, gang membership and having a significant other) are related to criminal earnings. Specifically, gang members and individuals with delinquent or criminal peers earn significantly higher illegal earnings. This is consistent with research that shows that the development of criminal social capital, or associations with skilled offenders, is important for offenders involved in crime as a source of income (McCarthy & Hagan, 2001). The findings related to having a significant other are consistent with studies that show that close ties to a significant other act to decrease involvement in criminal behavior (e.g., see Horney, Osgood and Marshall, 1995; Laub, Nagin and Sampson, 1998; Sampson and Laub, 1993; Sampson and Laub, 2003; Warr, 1998).

Finally, this study hypothesizes that African-American and Hispanic respondents will earn significantly higher illegal income than White respondents, controlling for other predictors of illegal income (hypothesis five). In terms of illegal
earnings from all crimes, interaction effects reveal that a combination of incarceration history and African-American was positively related to logged illegal income. In fact, this study found that ex-incarcerated African-American males earn significantly higher illegal income from all crimes, and income from drug sales, compared with ex-incarcerated Whites and Latinos, and never incarcerated individuals of any race or ethnicity. This is consistent with studies of illegal earnings that identify minority racial status as a predictor of illegal income (McCarthy & Hagan, 2001). However, it is important to note that the influence of incarceration on illegal earnings is not consistent for all minority groups. The interaction effect of past incarceration and Hispanic is statistically non-significant for both general illegal earnings and income from drug sales.

6.2 Substantive and Policy Implications

Western (2006) asserts that incarceration is a pathway to the secondary sector labor market, because the ex-incarcerated earn lower hourly wages and annual income and are at greater risk of unemployment than their never incarcerated counterparts (for further evidence, also see Freeman, 1992; Freeman, 1996; Kling, 1999; Nagin and Waldfogel, 1998; Pager, 2003; Sampson and Laub, 2003; Waldfogel, 1994; Western and Beckett, 1999; Western, Kling and Weiman, 2001; and Western, Lopoo and McLanahan, 2004). Some offer that crime as a source of income provides an attractive alternative to closed opportunities in the legitimate labor market (Cloward and Ohlin, 1960). The analysis reported above provides
strong evidence that individuals with an incarceration history earn more illegal income than those that do not have an incarceration history. This is especially true for the ex-incarcerated involved in the drug trade, as adolescents and young adults with an incarceration history earn significantly higher annual illegal income from drug trafficking compared with those that do not have an incarceration history. The findings reported above have substantive and policy implications.

**Recommendation #1**

Future research on criminal earnings must consider the substantive findings from this study. First, theories of criminal earnings must take into account the influence of past incarceration experiences on illegal income. This study reveals that individuals that spend significant time in jail or prison earn much higher income from crime than those without an incarceration history. Until recently, most of the research concerning the effect of imprisonment on society has focused on the degree to which incarceration affects recidivism or a reduction in crime rates (for example, see Blumstein, Nagin and Cohen, 1978; Levitt, 1996). However, in the past decade, research has focused on the collateral consequences of imprisonment on individuals, families and communities (e.g., see Lynch and Sabol, 2004; Rose and Clear, 1998; Western, 2002). While conventional wisdom implies that imprisonment should reduce crime rates and make society safer in the short and long-term, collateral consequences research shows that this may be a faulty assumption. These studies show that high levels of incarceration can damage neighborhoods (Lynch and Sabol,
2004; Rose and Clear, 1998), and at the individual level, incarceration can harm future earnings (Western, 2002). The current research adds to the growing body of literature on the collateral consequences of incarceration by showing that spending significant time in jail or prison may force the ex-incarcerated into illegal opportunity structures to obtain income.

Second, future models must take into account that the acquisition of illegal income, specifically from drug trafficking, may be motivated partly by hardcore drug use for adolescents and young adults. This was found in both the main model and interactions of past incarceration and hardcore drug use. Earlier chapters highlight that drug crimes explain a large proportion of the dramatic increase in the use of incarceration in the U.S. since the mid 1970’s. However, if indeed drug trafficking and related income is influenced in part by hardcore drug use, public health solutions may be more effective than criminal justice legislation to combat this problem. Sociological research comparing community drug treatment programs to criminal justice sanctions would reveal which approach is more effective on crime and related income.

Third, regarding human capital variables, respondents in this study who earn high income from conventional sources also earn high income from crime. In contrast, employed individuals in the sample earned less income than their not employed counterparts. Human capital measures are shown to influence success in the conventional labor market (e.g., see Aliaga, 2001; Becker, 1993). However, this study shows that human capital may be crucial to success or failure in the criminal
labor market. Fourth, the influence of social capital is important to future models of illegal earnings. The main effects model of past incarceration and general illegal earnings, and income from drug sales, reveals that delinquent or criminal peers and gang membership may be mechanisms for increased criminal earnings. In contrast, having a pro-social bond to a significant other means less criminal earnings. Earlier studies reveal that social capital measures lead towards success in the conventional labor market (e.g., see Aliaga, 2001; Becker, 1993; Laub, Nagin and Sampson, 1998; Sampson and Laub, 1993). This study shows, however, that the choice between pro-social versus anti-social capital determines which economic markets adolescents and young adults will choose. Associations with delinquent peers lead to increased criminal earnings, while bonding with pro-social peers typically means that individuals will refrain from crime as a source of income.

Finally, in terms of race effects, the fact that formerly incarcerated African American males earn much higher annual illegal incomes than other racial/ethnic groups must be integrated into future models of illegal earnings. This study highlights the importance of the combination of incarceration and race in determining the path of the ex-incarcerated. Similar to Pager (2003), the stigma of both incarceration history and race may work together to deny entry into the conventional labor market, while creating illegal employment opportunities similar to what Cloward and Ohlin (1960) described over a half century ago.
Recommendation #2

In terms of developing human capital, the criminal justice system and other social agencies must make an effort to develop the skills and experience necessary for success in the conventional labor market for the ex-incarcerated. Regarding producing conventional social capital, the criminal justice system and other social agencies must also be responsible for building the social networks necessary for stable conventional employment opportunities for the ex-incarcerated.

Experts on policies and programming for the ex-incarcerated have offered several recommendations to increase human and social capital related to success in the conventional labor market. For example, Taxman (2006) offers that the development of human and social capital for the ex-incarcerated must involve a behavioral management approach. There are several key components to this approach related to employment. First, corrections agencies should use standardized risk and needs assessment tools to identify needs related to employment preparation. Also, needs that indirectly affect employment, such as addressing antisocial peers and networks, dysfunctional families, substance abuse, and low self-control, are included in this behavioral management approach. Second, individuals under community supervision after release from prison must be matched to services that address their employment needs. Those at greater risk for re-arrest should be focused on first according to this approach, followed by medium and low-risk ex-offenders.

Unfortunately, many of the strategies suggested appear to be band-aids to a more serious societal problem. Recent ethnographic research emphasizes the
attraction of illegal work within the context of structural developments in
neighborhoods and cities (e.g., see Anderson, 1992; Anderson, 1999; Massey and
Denton, 1993; Wilson, 1987; Wilson, 1996). This work suggests that the
infrastructure is not in place to address the human and social capital needs of the ex-
incarcerated. In *The Truly Disadvantaged* (1987) for example, William Julius Wilson
outlines an approach to understand the plight of the modern ghetto underclass. He
argues that the answer does not solely rely on historical discrimination or
contemporary racism, but rather on the macro-structural changes that took place in
the 1970s and 1980s. These changes produced environments where even law-abiding
citizens have little access to human and social capital.

Wilson focuses on the important economic changes involving the switch from
a goods producing (manufacturing) economy to a service economy. Specifically,
Wilson shows that manufacturing jobs left U.S. central cities, and the result is the
polarization of either high or low wages. These economic changes, coupled with the
exodus of the black middle and working class from the central cities, left a population
particularly vulnerable to these changes. Wilson argues that without middle and
working class African Americans present in the inner city, a social buffer to
employment and other conventional institutions has been removed. Having a
working middle class in the neighborhood used to mean that those who were jobless
still had contact with persons who were working. Wilson emphasizes that the
presence of working and middle class families in segregated neighborhoods provide
mainstream role models who heavily value education, employment over welfare, and
family stability. For the modern urban underclass, this is no longer the case. As a result of the exodus of these middle-class families, inner city neighborhoods are left with a concentrated amount of ‘disadvantage’, which refers to the simultaneous presence of female-headed families, male joblessness, and a dearth of conventional role models.

In *When Work Disappears* (1996), Wilson further documents the dramatic transformation of inner city neighborhoods in the U.S. by showing how joblessness erodes the social organization of communities (e.g., social networks, collective supervision, and rate of resident participation in voluntary and formal organizations). Wilson also highlights how race and class segregation led to less employment training and opportunities, which weakened informal employment networks and contributed to the social isolation of individuals and families. In fact, Wilson views working as providing a framework for social and family life since it emphasizes the values of discipline and regularity. Wilson contends that, due to persistent joblessness in a given area, a host of social problems are produced such as a context conducive to using drugs, drug trafficking (and the presence of guns) that undermines safety and security among neighborhood residents, the use of guns for protection (in lieu of police protection), high levels of social integration but low levels of informal social control (or reduced feelings of being able to control the immediate environment including of one’s children), the inability of communities to control children due to a lack of institutional support (such as schools or organizations), and a paucity of self-efficacy.
The work of Wilson is important to the study of the illegal earnings literature in several respects. First, Wilson’s work details the structural conditions and factors that are responsible for blocked conventional employment opportunities for those involved in crime as a source of income. Second, Wilson’s research shows that these same structural forces are also responsible for providing the context for remunerative crimes that center on the trafficking of drugs. The notion of blocked opportunities in the conventional employment market and drug trafficking as a primary means of financial support for young men are two central themes in modern illegal earnings research.

Other recent ethnographic research on illegal earnings has documented the transformation of the structural and economic climate and its influence on illegal earnings. For example, Anderson’s (1990, 1999) characterization of Philadelphia street life shows how young inner-city males regard the drug economy as a primary source of employment, and how status and control are the result of elaborate delinquent street networks. The work of Bourgois (1989, 1995) suggests that a crime-based economy for many drug traffickers is more dignified and provides more status than the low wages and subtle humiliation and racism of conventional employment in the secondary labor market. The processes of deindustrialization and their influence on drug economies can also be seen in the work of Hagedorn (1988, 1994), Moore (1992), Padilla (1992) and Taylor (1990). Until these structural economic conditions are addressed, opportunities for criminal earnings will be
attractive to those that face the stigma of incarceration history and race, and that lack
the human and social capital to succeed in the conventional labor market.

This country has embarked upon a massive expansion of its criminal justice system to deal with the populations affected by the economic transformations described by Wilson (1987 and 1996) and others. From 1925 until the early 1970’s, the incarceration rate was relatively stable, averaging roughly 110 adults in state and federal prisons per 100,000 residents in the population (Blumstein and Beck, 1999). Only slight fluctuations occurred during this period, with a rise at the end of the Great Depression and a small dip during World War II. However, the prison population in the United States has increased fourfold since the early 1970’s (Garland, 2001).

The total number of prisoners under the jurisdiction of Federal or State adult correctional authorities was 1,496,629 by the end of 2004 (Harrison and Beck, 2005). The rate of incarceration in prison at the end of 2004 was 486 sentenced inmates per 100,000 U.S. residents, which is greater than the rate of 411 in 1995. Approximately 1 in every 109 men and 1 in every 1,563 women were sentenced prisoners under the jurisdiction of State or Federal authorities. Bonczar (2003) estimates that if current incarceration rates remain unchanged, 6.6% of U.S. residents born in 2001 will go to prison at some time during their lifetimes.

Who Is Being Incarcerated?

Offender Type. Most penal scholars argue that the types of offenders that have been incarcerated during America’s prison boom are a direct reflection of crime
policies and decisions enacted since the early 1970’s, most notably, determinate sentencing structures, legislation related to the War on Drugs, and mandatory and truth in sentencing policies (Garland, 2001). In 1996, less than half of those incarcerated in prisons in the United States were violent offenders, while 23 percent were non-violent drug offenders and 23 percent were non-violent property offenders (Caplow and Simon, 1999).

In terms of growth over time, drug offenders stand out as the largest class of the incarcerated. From 1980 to 1996, the drug incarceration rate (the rate of offenders incarcerated for drug offenses) increased dramatically from less than 15 inmates per 100,000 U.S. adults to 148 offenders per 100,000 adults (Blumstein and Beck, 1999). In fact, 45 percent of the growth in the prison population during this time period can be attributed to the increased number of drug offenders.

Class Composition. Most prisoners come from classes of poverty, and typically have low levels of education. A 1991 Bureau of Justice Statistics survey of state prison inmates shows that the median pre-incarceration income of current prisoners was barely a third of the national median income for year-round, full-time workers (Beck et al., 1993). Only 34 percent of prisoners stated that they had completed high school, compared to 79 percent of the national population. Lynch and Sabol’s (2000) analysis of class composition changes of the State prison

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9 For example, New York’s Rockefeller Drug Laws, adopted in 1973 and considered one of the harshest drug policies in the nation, calls for a 15 year prison sentence for drug offenders who were convicted of selling 2 ounces or possessing 4 ounces of narcotics, regardless of criminal history (Mauer, 2001).
population revealed that the incarceration rate for underclass males increased by 139 percent between 1979 and 1986.

*Racial Composition and Disproportionality.* Since 1989, African-Americans have made up the majority of those incarcerated, although they consist of only 12 percent of the United States population (Wacquant, 2001). As of 2002, 10 percent of all African-American males between the ages of 25 and 29 are incarcerated in prisons and jails in the U.S. Also, it is estimated that roughly 17 percent of all adult African-American males are current or former State or Federal prisoners, a rate that is twice that of Hispanic males (8 percent) and 6 times that of White males (3 percent) (Bonczar, 2003). Since the beginning of the prison boom in the early 1970’s, the ethnic composition of the U.S. jail and prison population has reversed, moving from 70 percent White to nearly 70 percent African-American and Latino. In the past two decades, the gap between the imprisonment rates of African-Americans and Whites, usually referred to as ‘racial disproportionality’, has widened from about 5 to 1 to roughly 8.5 to 1. As stated in the introduction, most of these offenders will return to their communities at some point. However, it is estimated that close to 70 percent of these offenders will be rearrested in three years or less. It is clear that, given the recidivism rates above, the reintegration process in the community is not always successful.

It will take more than criminal justice policies to affect such a large population of U.S. citizens. Policies at the federal, state and local levels are needed to address millions of the ex-incarcerated. Earlier generations of Americans that served
their country in the military have benefitted from the Servicemen’s Readjustment Act of 1944, better known as the G.I. Bill. This massive federal program provided for college and vocational education for returning World War II veterans as well as one year of unemployment compensation (Keane, 2001). For the past half century, millions of Americans have benefitted from this program, and it is argued that the G.I. Bill has provided access to human and social capital to many Americans who would otherwise not have access. The positive benefits of such a bill to the U.S. economy are documented elsewhere (e.g., see Humes, 2006). The same approach taken towards military personnel under the G.I. Bill can be taken for the ex-incarcerated. Providing the formerly incarcerated with college and vocational education and temporary unemployment compensation until they find suitable employment is a bold step politically, but would certainly offer ex-offenders the human and social capital needed to integrate back into mainstream society. This approach does not have to come at the expense of the taxpayer, however. To repay the education, training and compensation that the formerly incarcerated would receive, these individuals could take part in mandatory community service programs and work in areas of need (e.g., underclass communities).

Also, this study’s theoretical orientation makes reference to Cloward and Ohlin’s (1960) criminal opportunity theory to make the connection between closed opportunities in the conventional labor market and illegal earnings. Cloward and Ohlin (1960) links the structure of opportunities to illegal behavior by offering that offenders are faced with both legitimate and illegitimate opportunity structures. As a
result of Cloward and Ohlin’s strain theory and research on crime and delinquency, Lloyd Ohlin was asked by then-attorney general Robert Kennedy to help develop a new federal policy on juvenile delinquency that stressed improving education, creating work opportunities, organizing lower-class neighborhoods, and providing services to individuals, gangs and families (Empey, 1982). These programs were later expanded to include the entire U.S. poor population and became the basis for Lyndon Johnson’s War on Poverty, and billions of dollars were poured into these programs. Critics argue that the War on Poverty was misdirected, since the true intention of this federal policy was to change social structural conditions for the poor (Rose, 1972). Instead, the War on Poverty was focused on changing the behavior of the poor, which is the reason that it failed to produce the desired results. For the millions of American citizens affected by the dramatic increase in the use of incarceration, a similar federal effort to the G.I. Bill could be instituted by the Federal government to address the lack of human and social capital and the social stigma of the ex-incarcerated. But in order for such a program to be accepted politically, it may have to be as a part of a general program that targets the underclass, similar to the War on Poverty initiative of the 1960’s. It will take innovative thinking and strong political will for such a large-scale program to be designed and implemented.

**Recommendation #3**

In terms of repairing the stigma of incarceration, the mark of a criminal record should not exist for the entire life course for the ex-incarcerated. An effort must be
made to repair the stigma of incarceration that often prevents individuals from conventional labor market entry and success. While criminal history records may be useful for law enforcement to track the whereabouts of those with a criminal past, it has also been used by employers to block job opportunities that could lead to criminal desistance. In other areas of social life (e.g., medical records in the field of medicine), information is kept confidential to protect the privacy of individuals. An argument can be made that once an offender serves his or her time in prison, the criminal histories must be kept confidential to ensure that the stigma of an incarceration past will not block the transition back into society.

When discussing the reintegration into society of the ex-incarcerated, Holzer and colleagues (2003) distinguish between employment barriers related to the offender (supply-side barriers) and those related to the employer (demand-side barriers). Supply-side barriers refer to the lack of human and social capital, important factors that lead to success in the conventional labor market. Holzer and colleagues also highlight what they call demand-side barriers to employment, or the stigma of having a prison record. There is no denying that many employers are less likely to hire the ex-incarcerated due to this stigma (e.g., see Pager, 2003). There is some evidence, however, that intermediary agencies can help to reduce the stigma or mark of a criminal record by acting as a third party on behalf of the ex-incarcerated (Holzer, 1996).

The Urban Institute’s Reentry Roundtable believes that a variety of efforts can also be undertaken by policymakers to reduce the demand-side barriers that ex-
offenders face, thereby improving their employment and earnings opportunities (Holzer, Raphael and Stoll, 2003). First, policymakers must make it easier for employers to hire prisoners while they are still incarcerated. Second, policymakers must review legal barriers to employment of ex-offenders and perhaps regulate the quality of public information on criminal history. Third, federal, state and local governments must provide greater funding to assist intermediary agencies in linking recently released offenders with the labor market. Fourth, these same governmental agencies must expand funding and/or outreach efforts for bonds or tax credits to employers who hire them. Finally, federal, state and local governments must expand financial incentives for ex-offenders (and other low-income men) to accept and retain low-wage employment.

The recommendations above combine both policy and research concerns. Criminologists and others interested in research on illegal earnings can improve upon their research by integrating the following recommendations. However, the recommendations related to political and governmental influence may prove to be tougher to implement. Politicians and governmental officials do not often have the political will to aid the ex-incarcerated, mainly because the ex-incarcerated do not have a political constituency outside of close family and friends. Advocates of the above policy changes must be able to convince politicians and citizens alike that society will benefit from the suggested recommendations. This will be a big challenge, but there is hope. Recently, state correctional department directors such as Terry Collins in Ohio have attempted to convince Ohio politicians that sending a
multitude of non-violent drug offenders to prison with no plan to integrate them back into society is not only dangerous to prison staff and the prison system, but it makes society unsafe.

6.3 Limitations and Suggestions for Future Research

To advance the efforts of future research in the area of incarceration and illegal earnings, the following suggestions should be considered. First, the influence of labor markets on illegal earnings is worthy of analysis. Second, the literature suggests that the effects of race found in studies of individuals may be due to both racial stigmas and differences in neighborhood quality. Third, while this study considers the influence of incarceration and illegal earnings for adolescent and young adult men, it does not consider the same relationship for adolescent and young adult women. Each of the above suggestions for future research will be elaborated on in the next few sections.

Labor market strength and organization is shown to influence the relationship between incarceration and conventional earnings (Johnson, 2003; Western, 2002). As stated in earlier chapters, split or dual labor markets in many U.S. inner cities have forced some in the economy towards jobs with little or no wage growth, skills acquisition and job stability (e.g., see Crutchfield, 1989; Crutchfield, 1995; Crutchfield and Pitchford, 1997). One has to wonder if these same depleted and inferior labor markets can push many towards crime as a source of earnings. Future
research should give consideration to the influence of labor markets at either the county or city level on the incarceration and illegal earnings relationship.

Race effects as a correlate of illegal income are found in earlier chapters. However, empirical research speculates that racial differences in crime are the result of contextual differences in communities (Krivo and Peterson, 1996; Krivo and Peterson, 2000; McNulty, 2001). Neighborhood differentiation measures typically fall into two categories. The first category uses objective or administrative indicators based on census tracts or block groups collected from census data (Sampson, Morenoff and Gannon-Rowley, 2002). The second category of neighborhood differentiation measures utilize perceptual indicators of neighborhood quality based on reports of a person’s surroundings, either from respondents in the sample or those interviewing respondents in the sample (e.g., see Pratt, Turner and Piquero, 2004). Some argue that administrative indicators of neighborhoods fail to measure the informal processes of socialization that occur in and around neighborhoods, whereas perceptual measures allow for the understanding of informal processes (e.g., see Bursik and Grasmick, 1993; Pratt, Turner and Piquero, 2004).

No study to date has incorporated the influence of neighborhoods when analyzing the relationship between incarceration and illegal earnings. The problem with measuring neighborhood conditions and related processes is accessing census tract data in the NLSY. However, Pratt, Turner and Piquero (2004) measured the structural sources of low self control by looking at the effect of adverse neighborhood conditions using the NLSY79 (Children of the NLSY). Perceptions of neighborhood
conditions can also be found in the NLSY97 from the interviewer remarks section. Future research should utilize these measures of neighborhood conditions based on the perceptions of the interviewers in this sample.10

The relationship between gender and illegal income is underdeveloped, as most studies of illegal behavior have focused on young males. This is due to the fact that young men commit a disproportionate number of crimes compared to women (Freeman, 1996; Short, 1997). Research on females and illicit employment tend to isolate them to specific criminal roles such as petty hustles and prostitution (e.g., see Fagan, 1994). However, some suggest that the recent expansion of the drug economy created new opportunities for females in the illicit labor market (Freeman and Fagan, 1999). Future research that highlights the activity and income of females in the illegal economy can determine if the process by which incarceration influences illegal earnings is similar across gender.

In conclusion, this study shows that spending significant time in prison can increase illegal earnings. As such, the research helps to fill the literature gap by showing what happens to the ex-incarcerated who are turned away from the conventional labor market. Along with prior studies on the collateral consequences of incarceration, this study highlights that incarceration at the individual-level can lead to increased criminal earnings for many young Americans.

10 The problem with this approach, however, is that it may not be an accurate measure of neighborhoods. You are relying on one interviewer to offer perceptions of neighborhood conditions. By viewing neighborhood quality this way, one would have to treat social processes as individual-level characteristics rather than as emergent properties of neighborhoods (Sampson, Morenoff and Gannon-Rowley, 2002). A better approach would be to obtain census tract data to measure emergent properties of the respondent’s neighborhood. Obtaining this data from the U.S. Department of Labor involves an application process that takes a few months.
LIST OF REFERENCES


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Maurer, David. 1940. The Big Con. Indianapolis: Bobbs-Merrill.


