

Pushers: The Effect of Incarceration on Earnings from Drug Trafficking



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Abstract

Despite the rapid and dramatic increase in the incarceration rate of drug offenders in the American criminal justice system over the past few decades, little is known about the influence of imprisonment on illegal drug earnings. To shed light on this topic, this study uses a person-period sample to estimate a tobit regression model for adolescents and young adult male ex-offenders and non-offenders using the National Longitudinal Survey of Youth (NLSY97) for the years 1997-2005. The analysis reveals that the ex-incarcerated earn more drug trafficking income than individuals that have never been incarcerated. In addition, the results suggest that spending a significant amount of time incarcerated reduces social and human capital and increases earnings in illegal opportunity structures. Finally, the study shows that racial and ethnic minorities with jail or prison records make less from drug sales than their white counterparts. Implications and suggestions for policy changes are discussed.

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Introduction

Until recently, most of the research concerning the effect of imprisonment on society has focused on whether incarceration affects recidivism or reduces crime rates (Blumstein, Nagin and Cohen, 1978; Levitt, 1996). However, in the past decade, studies have focused on the collateral consequences of imprisonment on individuals, families and communities (Hutcherson, 2012; Alexander, 2010; Lynch and Sabol, 2004; Rose and Clear, 1998; Western, 2002). While conventional wisdom implies that imprisonment should reduce crime rates and make society safer, the research on the collateral consequences of incarceration suggests that this may be a faulty assumption. These studies show that on a macro-level, high levels of incarceration damages neighborhoods (Lynch and Sabol, 2004; Rose and Clear, 1998), and at the micro-level, incarceration can reduce future earnings (Hutcherson, 2012; Western, 2002). The current study adds to the body of literature on the collateral consequences of incarceration by showing that spending a significant amount of time in jail or prison reduces human and social capital and may force the ex-incarcerated into illegal drug opportunity structures to obtain income post-release.

In recent decades, there has been strong interest in illegal drug trafficking as a source of income (Dunlap, Johnson, Kotarba, and Fackler, 2010; Fagan, 1992; Levitt and Venkatesh, 2001a; Reuter, MacCoun and Murphy, 1990; United Nations Office on Drugs and Crime, 2011; Werb, Kerr, Li, Montaner, and Wood, 2008). One of the reasons for increased interest in studying drug crimes is due to the growth of drug offenses over time. Currently, drug offenders stand out as the largest category of incarcerated offenders. This hasn't always been the case but this shift has occurred gradually over many years. For example, from 1980 to 1996, the drug incarceration rate increased dramatically from less than 15 offenders 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 increase in the number of drug offenders who have been incarcerated, largely due to mandatory sentences that stemmed from the war on drugs. Furthermore, according to the U.S. Department of Justice, Bureau of Justice Statistics over half of federal prisoners were incarcerated for drug crimes in 2010, and the number of people in federal prison for drug offenses spiked from 74,276 in 2000 to 97,472 in 2010 (Carson and Sabol, 2011). While research has focused on the dramatic increases in the incarceration of drug offenders, the story of what happens to these individuals once released from confinement is not fully developed in the literature.

Previous studies have taught us that employment and related income is a key factor in determining whether ex-offenders will successfully reintegrate into the

community. Research by Sampson and Laub (1993, 2003) and Western (2002, 2006) highlights that conventional employment and related income can contribute to desistance from crime adolescents make their transition into adulthood. Unfortunately, these same studies reveal that conventional employment and related income is difficult to obtain for the ex-incarcerated.

This study contends that drug trafficking as a source of illegitimate income may provide an attractive alternative for the ex-incarcerated who may find it particularly difficult to find work in the legitimate labor market (Cloward and Ohlin, 1960; Western, 2006). Drug sales may help to fill an economic gap for individuals who lack social and human capital and fare poorly in the conventional labor market and/or are in areas drained by the deindustrialization of blue-collar jobs. Hence, not only may offenders lack both the personal resources and social relationships necessary to sustain an identity as a law-abiding employee, they may also not have a realistic understanding of what that role entails (Behrens, 2004). Freeman and Fagan (1999) characterize the relationship between those involved in crime and the conventional labor market, and suggest that individuals are not fully engaged in either crime or legitimate employment. Instead, most offenders drift back and forth as the possibilities for legal and illegal income arise (Uggen and Thompson, 2003). If young offenders cannot find legal work after their release from prison or jail, it stands to reason that their illegal drug earnings may 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 influences opportunities in the illegal economy, specifically earnings from drug sales.

The impact of incarceration on social and human capital

There are several causal mechanisms that explain how incarceration can lead to increased earnings from drug trafficking. Fundamentally, spending a significant time incarcerated prevents people 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). Ideally, individuals choose to allocate their time to work and training with the goal of maximizing their income. Education and training increase human capital levels and wages, both of which reduce the likelihood of engaging in crime (Lochner, 2004). Additionally, several studies have found a significant negative association between wages and crime (Freeman, 1996; Grogger 1998; and Gould et al., 2002). It is estimated that young workers spend as much as 50-60 percent of their time on the job investing in new skill (Heckman et al, 1998). If time is spent in prison rather than investing in a skill, it is likely than many offenders will fail when they enter the labor market after release.

Importantly, aside from the wages and work experience, human capital also expands to include being familiar with work culture. Like most acquired skills, formerly incarcerated young men need to learn how to engage in the workplace, follow orders, show up every day, be on time, and how to effectively work with others (Tomaskovic-Devey, Thomas, and Johnson, 2005).

Therefore, it stands to reason that marginalized men who have been out of the workforce for stints of time may have a difficult time succeeding at work if they have not spent the necessary time acquiring the skills and learning the culture to be successful in a conventional job.

It is equally important for the formerly incarcerated to acquire social capital in their quest for economic viability. Social capital is the asset of social relationships and the expected collective or economic benefits derived from the preferential treatment and cooperation between individuals and groups. It includes the collective value of all social networks and the inclinations that arise from these networks to do things for each other. Scholars emphasize that the stability and legitimacy that comes with social support prevents crime by building and reinforcing norms within the individuals against criminal behavior (Colvin, Cullen and Vander Van, 2002). These same social ties also connect offenders to prosocial activities and opportunities that inhibit criminal activity (Wolff and Draine, 2004). Each individual has a stock of social capital that allows them to draw on the resources and connections of others in times of need. The benefits that an offender can draw from their accumulation of social capital largely depend on the strength of their ties to other people and on the resources and social connections of those with whom they are connected. These established social bonds strengthen with time but they are weakened by instability due to changes in situations or expectations (Wolff and Draine, 2004). Ex-prisoners may attempt to draw on their social capital when they are reentering the community after a period of incarceration. Previous research suggest that as connections in the community are weakened during incarceration, ex-offenders often identify more with prison culture and the social connections they established while incarcerated for survival (Gordon and McConnell, 1999). Therefore, it seems plausible that illegitimate underground drug networks may be more easily accessible to the formerly incarcerated.

Incarcerated offenders are also stigmatized by their formerly-incarcerated status which can erode their ability to obtain the social capital necessary for stable conventional employment opportunities (Coleman, 1988; Hagan, 1993). Studies consistently indicate that employers are less likely to hire the ex-incarcerated compared to those without incarceration records (Pager, 2003). Like most

individuals, prisoners tend to socialize with those who are most like them. Ironically, this creates a system of stratification that diminishes their social capital. Being in prison or jail, to varying degrees, changes relationships in ways that weaken the bond, trust and culture that binds people together, which in turn, weakens their access to resources. For those formerly incarcerated offenders that do not have the social capital or social networks to circumvent the stigma of their incarceration via legitimate opportunities, illegitimate opportunity structures and related earnings from drug sales may be a viable option.

Comparative examinations point out that race is intertwined with existing collateral consequence of incarceration in the U.S. (Pinard, 2010). Moreover, research has demonstrated that the combination of criminal history and race can be especially stigmatizing for many ex-incarcerated men of color (Pager, 2003). Consequently, formerly incarcerated men of color who lack human capital, social capital, and are stigmatized by a prison record may be particularly prone to turn to drug dealing as an illegal opportunity to yield earnings (Haynie, 2001; Warr, 1993, 1998). This study will integrate the aforementioned perspectives when analyzing the relationship between incarceration and illegal earnings from drug trafficking.

Earnings from drug trafficking

The U.S. Department of Justice (2005) highlights that nine out of ten serious offenses reported in the U.S. each year involve remunerative (e.g., theft, robbery, drug trafficking) crimes. Thus, most serious crime is economic in nature. There is an extensive ethnographic literature on those who view crime as an avenue towards earnings, with early descriptive studies characterizing crime as similar to conventional employment (Eistadter, 1969; Polsky, 1967; Sutherland, 1937; Waldorf, 1973). Several recent quantitative studies also highlight the attraction of illicit earnings as an alternative to legitimate earnings for less-skilled men (Fagan, 1992, 1997; Freeman and Fagan, 1999; Grogger, 1995, 1998; Levitt and Venkatesh, 2001a; McCarthy and Hagan, 2001; Tremblay and Morselli, 2000; Uggen and Thompson, 2003; Western and Beckett, 1999; Western and Petit, 2002).

Despite the vast amount of literature on illegal employment, only a handful of studies specifically focus on the amount of income earned from drug trafficking (Fagan, 1992; Levitt and Venkatesh, 2001a; Reuter et al., MacCoun and Murphy, 1990; Shook, Vaughn, Goodkind, and Johnson, 2011; Werb et al., 2008). The existing evidence suggests that the formerly incarcerated are more likely to be involved in drug dealing than those who have never been incarcerated. However, prior studies analyzing the relationship between incarceration and illegal earnings from drug

trafficking are limited by the use of non-modern samples (Uggen and Thompson, 2003) or non-random samples (Levitt and Venkatesh, 2001a). As a result, very little is known about the influence of incarceration on drug earnings once individuals are released from confinement back into the community.

Current study

In light of the paucity of research, this study makes important contributions to the literature by assessing how incarceration influences earnings from drug trafficking for adolescents and young adults. To begin, this study enriches the literature by utilizing a national and contemporary sample of youth and young adults impacted by dramatic macro-level changes to the economic and social lives of Americans during the past few decades. Uggen and Thompson (2003), investigate the link between incarceration and illegitimate earnings utilizing data from the National Supported Work job program, which operated between April 1975 and December 1978. However, there are important differences between the illegal economy of the recession-era of the 1970s and today's illegal economy embedded in a period characterized by mass incarceration, unstable drug markets (particularly crack cocaine and heroin), violence, and welfare reform (Levitt and Venkatesh, 2001b). In fact, the number of offenders serving time for drug offenses during this same period rose by 600 percent (Alexander, 2010). Thus, a more contemporary analysis of the relationship between incarceration and drug trafficking earnings is overdue.

Notably, this study also contributes to our growing body of knowledge on illegal income by giving attention to racial differences in illegal earnings from drug trafficking. To date, the only study that analyzes a modern sample testing the differences in the relationship between incarceration and illegal earnings from drug trafficking rely on a non-random sample of African-American, male, gang members (Levitt and Venkatesh, 2001a). Thus, previous research does not capture the effect of incarceration on the drug earnings experiences of non-Black offenders and individuals who are not gang affiliated. While the experiences of young African-American men in the illegal economy dominate most of the research, some scholars suggest that the recent expansion of the drug economy created opportunities for both middle-class and disadvantaged Whites and Hispanics in the illicit labor market (Freeman and Fagan, 1999).

The data

This study uses survey data from the National Longitudinal Survey of Youth 1997 (NLSY97). The NLSY97 is a longitudinal project that follows the lives of a sample of American youth born between 1980 through 1984 and includes 8,984 respondents who were ages 12-17 when first interviewed in 1997. These same individuals are between the ages of 20 and 25 by wave nine in 2005. The NLSY97 consists of two samples: (1) a cross-sectional sample of 6,748 respondents designed to be representative of people living in the U.S. and (2) a supplemental sample of 2,236 respondents designed to over-sample Hispanics and African-Americans (Center for Human Resource Research, 2003). The analysis uses nine waves of the survey (1997-2005) which contains information on self-reported criminal behavior and subsequent criminal justice responses for juveniles and young adults, including data on the incarceration experiences of the respondents. The data also contain information on conventional labor market experiences and earnings from criminal activities such as drug trafficking. Moreover, the longitudinal design provides a unique opportunity to study the consequences of incarceration on drug trafficking and related income for adolescents and young adults.

The male person-period sample

Previous studies argue that due to the extremely high ratio of males incarcerated compared to females, analysis of the effects of incarceration using NLSY samples should be restricted to males (Huebner, 2005; Johnson, 2003; Western, 2002). Thus, the optimal sample size for this study is 41,391 observations, which is calculated by the original sample of 4,599 males analyzed over nine years from 1997 to 2005. However, the final sample analyzed in the tobit regression model is reduced to 28,720 due to missing observations on one or more of the independent variables in the model.

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 (Allison, 1994; Johnson, 2003). 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 versus never incarcerated men.² There are 2,059 cases, or five percent of the sample, that served

² Attrition rates for both the formerly incarcerated and never incarcerated are determined by conducting frequencies of respondents participating in each wave by incarceration history.

prison or jail time in the year prior to the interview. There are also 2,361 observations that earned income from drug trafficking, representing roughly six percent of the sample.

Measures

Table 1. provides a description of the dependent, independent, demographic and control variables included in the analysis. With the exception of the ASVAB scores which are from 1999 and the race variable which was recorded in 1997 all of the variables include data for the years 1997-2005.

Dependent variable

*Annual illegal income from drug trafficking*³. While criminal behavior is often complex and varied, the relationship between crime and illegal earnings implies certain types of crime and offenders. Freeman and Fagan (1999), for example, contend that certain crimes require monetary returns and time allocation. Crimes that have these characteristics include drug dealing, prostitution, vehicle theft, burglary, and robbery. Measurements of illegal earnings range from hourly and annual estimates to crime income as a percentage of total income.

For this study, the amount of raw income from drug trafficking is taken from follow-up questions in each wave regarding delinquent and criminal behavior during the previous 12 months. If the respondent committed remunerative crimes during this period, they are asked about any monetary rewards, including the total cash or the total cash he would have acquired, from these crimes. Annual raw income from drug trafficking is based on the annual income in U.S. dollars from drug offenses.⁴

³ All income is in U.S. dollars.

⁴ Regarding "zero earners," a debate exists in the illegal earnings literature is how to code those subjects that report that they did not attempt to earn money from drug trafficking and those that failed at their attempt to earn money from drug trafficking during the study 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 use of tobit regression adjusts the skewed earnings distributions of drug traffickers. This study includes zero earners in the analysis of illegal earnings.

Independent variable

Prior incarceration. Prior incarceration is the primary independent variable in this study. Prior incarceration is a measure of criminal capital because it is a personal characteristic that enhances success as a criminal (Grogger, 1998). Thus, prior incarceration as a measure of criminal capital is associated with illegal earnings (Levitt and Venkatesh, 2001b; and Uggen and Thompson, 2003). Respondents answer questions regarding whether they have been incarcerated in either a juvenile or adult correctional facility in the past year. The prior incarceration measure includes 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.⁵

Table 1 Descriptions of dependent, independent and control variables

Variable	Description	Year(s)
<i>Dependent Variable</i>		
Drug trafficking income	Annual illegal income from drug trafficking, in dollars	All years
<i>Independent Variables</i>		
Prior drug trafficking income	Illegal income in dollars from drug trafficking in year t-1 or earlier	All years
Prior incarceration	Dummy for one month or more in jail or prison in year t-1 or prior Incarceration = 1; No incarceration = 0	All years
Current incarceration	Dummy for one month or more in jail or prison in year t (past year) Incarceration in year t = 1; No incarceration in year t = 0.	All years
<i>Control Variables</i>		
Other illegal income	Annual illegal income in dollars from crime excluding theft and drug dealing	All years
Income from theft	Annual illegal income in dollars from theft	All years
School attendance	Dummy for full-time attendance in school in the past year Attending full time = 1; Not attending or missing significant time = 0	All years
Hardcore drug use	Frequency of cocaine, heroin and other illegal drug use in past year	All years
<i>Human capital</i>		
Legal income	Annual legal income in dollars from wages and salary in past year	All years
Employment status	Employment in the past year dummy; Employed = 1; Unemployed = 0	All years
ASVAB scores	Percentile score on the Armed Services Vocational Aptitude Battery	1999
<i>Social capital</i>		
Delinquent/criminal peers	Dummy for friend or sibling gang involvement in the past year Delinquent peers = 1; No delinquent peers = 0	All years
Gang membership	Dummy for gang member; Gang member = 1; Non-gang members = 0	All years
Significant other	Dummy for romantic relationship with a girlfriend or spouse in past year; Those with S/O = 1; Those without S/O = 0	All years

⁵ The NLSY97 allows for the calculation of the amount of time, in months, that a respondent served confined in a correctional institution.

Variable	Description	Year(s)
<i>Demographic Variables</i>		
Age	Age in years at the time of the interviews	All years
Race/ethnicity	Black or Hispanic coded as 1; Non-Black or non-Hispanic coded as 0	1997

Control variables

A number of control variables are included in the analysis because prior research has found them to be associated with criminal earnings. Before conducting the tobit regression analysis, the independent variables in the model were tested for multicollinearity.

Prior illegal income from drug trafficking. Prior illegal drug income is the primary control variable in this analysis because there could be a spurious relationship between incarceration and prior illegal drug earnings. It is very likely that illegal income from drug trafficking earned prior to incarceration could explain both incarceration as well as present illegal income from drug dealing. Given that the best predictor of present illegal income from drug trafficking is prior illegal income from drug trafficking, controlling for prior illegal income from drug trafficking will highlight the independent effect of incarceration on illegal income from drug trafficking for formerly incarcerated offenders. Prior illegal income from drug trafficking is calculated by adding all monetary rewards in U.S. dollars received from remunerative drug offenses during the years t-1.

Current incarceration. The current incarceration measure accounts for the contemporaneous effect of incarceration on the respondent's ability to earn illegal income. It should be noted that since a respondent can serve as little as one month in jail or prison, he is capable of earning illegal income during the year of incarceration. Previous research also suggest that this is the optimal time for an offender to be involved in crime, since jail or prison time is a clear indicator of criminal activity (Western, 2006). The current incarceration measure captures whether respondents spent one month or more in jail or prison in year t.

Other illegal income. 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 (Sampson

and Laub, 1993; Uggen, 2000) when explaining illegal earnings. This variable captures income from criminal activity, excluding income from theft and drug sales. Specifically, the respondents are queried about the frequency of activity in other illegal activities during the past year (e.g., fencing, receiving/selling stolen property, or cheating someone). For these other property offenses, respondents report the total monetary income received from such crimes.

Income from theft. This measure of illegal income from theft is included because prior research has shown that drug selling is strongly associated with theft and fraud (Van Kammen and Lober, 1994). In addition, the bulk of literature on crime specialization indicates that criminals tend to be versatile and crime specialization is the exception (Kempf, 1987). The NLSY97 captures the values of non-cash exchanges from theft. 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.

School attendance. It has been suggested 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 a significant amount of 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 (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 attending.

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 methodologically to establish causal ordering (Faupel and Klockars, 1987; Goode, 1997; Uggen and Thompson, 2003; White, Pandina and LaGrange, 1987). Prior studies have found strong evidence for a relationship between serious drug use and illegal earnings, and suggest that drug use may be a strong predictor of illegal earnings attainment (Hutcherson, 2012; Uggen and Thompson, 2003). As a persistent individual 'trait' starting in adolescence and lasting throughout the life course, hardcore drug use helps to explain the connection between social factors and crime outcomes that reap illegal earnings (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 that are used 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 (e.g. cocaine, heroin, and methamphetamine) 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 earnings (Aliaga, 2001; Becker, 1993; Benhabib and Spiegel, 1994; Engelbrecht, 2003; Hendricks, 2002; and Lucas, 1988). The conventional human capital measures used in this study are described below.

Legal income. Studies find that greater legal earnings reduce criminal earnings (Bourgois, 1995; Levitt and Venkatesh, 2001a; 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 report all legitimate income from wages and salary in the past year.

Employment status. As a measure of conventional human capital, employment status has been linked to both conventional and criminal earnings (Levitt and Venkatesh, 2001b; McCarthy and Hagan, 2001; Tremblay and Morselli, 2000). Employment status is measured as a dummy variable in this study based on whether the respondent received salary from conventional employment in the 12 months prior to the interview.

Armed Services Vocational Aptitude Battery (ASVAB) scores. As a measure of conventional human capital, scores from a national achievement test have been included as a proxy for intellectual aptitude. Presumably, levels of intelligence vary among drug offenders and individuals with a higher score on such a test may be better equipped to earn more money and avoid detection. Such measures have been considered in previous studies of illegal earnings (Freeman and Fagan, 1999). In round one of the NLSY97, most respondents participated in the administration of the ASVAB. The NLSY Program staff computed a percentile score to represent the average performance on both the math and verbal sections of the ASVAB. The

scores range between 0 and 100, with higher scores suggesting greater achievement.

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 (Hagan, 1993; McCarthy and Hagan, 2001). The measures of 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 behaviors that can yield illegal income (Haynie, 2001; Warr, 1991, 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.

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, 2001a; 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, respondents' gang membership represents a good proxy variable for the involvement with delinquent and criminal peers. The gang membership measure in this study is a dummy variable taken from a question asking if the respondent belonged to a criminal gang in the previous year.

Significant other. A common theme found in criminological research with longitudinal data is that social bonding, social control, and/or social learning mechanisms related to having a romantic partner can influence criminal behavior (Horney, Osgood and Marshall, 1995; Laub, Nagin and Sampson, 1998; Sampson

and Laub, 1993, 2003; Warr, 1998). As a measure of social capital, the significant other measure used in this study is taken from a NLSY97 question asking whether the respondent had a girlfriend or spouse in the previous year. This study measures significant other as a dummy variable.

Demographic variables

Age. The age-criminal earnings profile, similar to the age-conventional earnings profile, is non-linear (Western, 2002). Age is measured as the age of the respondent in year t during the interview.

Race/Ethnicity. Only a few studies within the illegal earnings literature identify race as a predictor of illegal income (McCarthy and Hagan, 2001). Employment research offers that there may be racial differences in conventional employment outcomes, with speculation that this is due to racial stigmas (Pager, 2003). The race and ethnicity of each respondent is identified separately in the first wave of the study. The ethnicity question identifies individuals of Hispanic origin. Each category of race and ethnicity is measured as a dummy variable.

Analytic strategy

This study estimates a tobit regression model to examine illegal income from drug trafficking for young adult ex-offenders and non-offenders. Tobit regression techniques are useful when the dependent variable consists of a large proportion of zero values. Almost 10 percent of the sample earned illegal income over the nine year sampling period with six percent earning income from drug trafficking. Tobit regression analysis addresses the limited floor value of the dependent variable, illegal income from drug trafficking, by censoring all cases with zero values (Roncek, 1992) allowing cases with real dollar values to be analyzed. The tobit regression coefficients are predicted values and are interpreted in a manner similar to OLS regression coefficients. However, the linear effect is on the uncensored latent variable, not the observed outcome (McDonald, 1980). Thus, beta estimates in tobit regression represent the marginal effect of x on y^* , the latent variable and not y .

Results

Descriptive statistics

Table 2. presents the mean and standard deviations of the dependent, independent, and control variables by incarceration history. The descriptive statistics indicate that, on average, the ex-incarcerated earn more annual income from drug trafficking than the never incarcerated (\$2,641 vs. \$459). Of those with an incarceration history, nine percent are incarcerated at some point during the year of the interview (year t). In contrast, only one percent of those never incarcerated prior to year t are incarcerated during this same period. Table 2. also shows that the differences in legal earnings are negligible between the formerly and never incarcerated (\$4,780 vs. \$4,785). Albeit legal earnings are similar between these two groups, the ex-incarcerated earn more than double than their never incarcerated counterparts from theft (\$273 vs. \$124) and almost five times more from other types of illegal activities (\$3,537 vs. \$734).

Tobit regression model

The findings from the tobit regression analysis shown in Table 3 indicate that the past incarceration and drug earnings relationship is statistically significant at the .001 level. Those with an incarceration history earn significantly more drug income than those who were never incarcerated. Specifically, the results suggest that on average, the ex-incarcerated earn \$6,985 more from drug trafficking than those who have never been incarcerated.

As expected, individuals that attend school on a regular basis are predicted to earn less income from drug trafficking than those individuals who do not attend school. In addition, hard core drug use predicts higher drug earnings. Regarding the human capital variables, there is a significant and negative relationship between legal and illegal earnings. Specifically, the model suggests that individuals who earn legal income earn less from selling illegal drugs. Employed individuals earn, on average, \$4,785 less drug income per year than unemployed respondents.

Table 2 Means and standard deviations (in parentheses) of dependent, independent and control variables, NLSY 1997-2005

	Ex-Incarcerated		Never Incarcerated	
Dependent Variable				
Drug trafficking income	\$2,641	(\$35,348)	\$459	(\$16,637)
Independent Variables				
Prior drug trafficking income	\$16,912	(\$103,860)	\$1,569	(\$39,696)
Prior incarceration	---		---	
Current incarceration	.09	(.28)	.01	(.11)
Control Variables				
Other illegal income	\$3,537	(\$43,803)	\$734	(\$27,848)
Income from theft	\$273	(\$4,009)	\$124	(\$8,433)
School attendance	.96	(.18)	.93	(.26)
Hardcore drug use	6.16	(40.52)	2.58	(27.38)
Legal income	\$4,780	(\$9,273)	\$4,785	(\$9,330)
Employment status	.61	(.49)	.52	(.50)
ASVAB scores	27.79	(22.54)	45.35	(29.71)
Delinquent/criminal peers	.14	(.34)	.08	(.27)
Gang membership	.06	(.24)	.02	(.13)
Significant other	.78	(.41)	.91	(.29)
Age	16.70	(9.82)	16.04	(8.57)
Race ⁶	---		---	
White	.37	(.48)	.53	(.50)
African-American	.38	(.49)	.25	(.43)
Hispanic	.25	(.43)	.21	(.41)
Number of observations ⁷	2,059		34,733	

There is also strong evidence to suggest that social capital measures are positively related to drug earnings. Individuals with criminal peers earn an additional \$17,721 and gang members earn roughly \$18,819 more from drug income than those without criminal peers and those individuals who are not gang affiliated, respectively. Contrary to previous research regarding significant others (Sampson and Laub, 2003), individuals with a significant other earn about \$5,311 more from drug income than individuals without a significant other and this effect is significant at the .001 level.

⁶ The percentages for the ex-incarcerated, never incarcerated and the total sample will not equal 100% because there are other racial categories that consist of a very small percentage of the NLSY97 sample.

⁷ The ASVAB variable has a total of 1,423 observations among ex-offenders and 27,297 among those in the sample who were never incarcerated.

With regard to the demographic variables, the analysis indicates that older respondents earn significantly more drug income than younger individuals. Finally, African Americans earn the least from illegal drug earnings. Whites earn about \$8,187 more illegal drug income relative to African Americans and about \$4,035 more than Latinos.

Discussion

This study estimates a tobit regression model to examine earnings from drug dealing for adolescents and young adult ex-offenders and non-offenders using the National Longitudinal Survey of Youth (NLSY97). This paper assesses whether individuals with an incarceration history earn more from drug trafficking compared to individuals without an incarceration history. As hypothesized, the substantive findings from this study reveal that individuals that spend time in jail or prison earn significantly more income from drug trafficking than those without an incarceration history.

Existing literature reveals that for many Americans incarceration is a pivotal life event that can harmfully alter traditional life course stages (Sampson and Laub, 2003; Western, 2002; Western and Beckett, 1999). Until this study, very little was known about what happens to the ex-incarcerated who often have a difficult time earning wages in the conventional labor market. This study finds that incarceration leads to the stigma of a prison record, and erodes human and social capital, all factors that contribute to failure in the conventional labor market. These circumstances may propel the ex-incarcerated into illegal opportunity structures that yield increased earnings from drug trafficking.

As expected, those individuals that are employed are less likely to earn income from selling drugs. In addition, there is a significant and negative relationship between legal income and criminal earnings. This confirms prior studies that found that greater legal income reduces criminal earnings (Levitt and Venkatesh, 2001b). The social capital measures also predict increased earnings from drug trafficking. Those who associate with criminal peers and who are gang members earn considerably more than those who do not have criminal peers and who are not gang affiliated. These findings related to having criminal peers and being in a gang are consistent with prior 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 and Hagan, 2001). However, counter to previous research that contends that close ties to a significant other (through social bonding or social learning mechanisms) acts to decrease

involvement in criminal behavior (Horney et al., 1995; Laub, et al., 1998; Sampson and Laub, 1993, 2003; Warr, 1998), this study finds that having a significant other actually leads to increased earnings from drug trafficking. Given the average age of the respondents in this sample, it stands to reason that individuals who lack human and social capital combined with the stigma of a prison record may turn to illegitimate opportunity such as drug trafficking to support themselves, their children, and/or their significant others.

Table 3 Unstandardized coefficients: Annual drug trafficking income on incarceration

Variable	Tobit Regression Model	
	B	SE
Intercept	-71,122.76***	3,404.18
Prior drug trafficking income	.02***	.01
Other illegal income	.73***	.01
Income from theft	-1.43***	.06
Past incarceration	6,984.76***	1,742.53
Current incarceration	16,302.44**	2,441.31
School attendance	-3,713**	1,484.05
Hardcore drug use	116.43***	7.83
Human Capital		
Legal income	-.43***	.07
Employment status	-4,784.99***	1,032.95
ASVAB scores	23.53***	16.62
Social Capital		

	<i>Tobit Regression Model</i>	
<i>Variable</i>	<i>B</i>	<i>SE</i>
Criminal peers	17,720.68***	1,327.67
Gang membership	18,818.99***	2,022.44
Significant other	5,310.70***	1,604.84
Demographic Variables		
Age	843.31***	99.75
Race		
White	---	---
African-American	-8,187.15***	1,238.64
Hispanic	-4,035.14***	1,205.40
R ² ⁸	.08 (pseudo R ²)	
Number of Observations	28,720	
*p < .05. **p < .01. ***p < .001		

Unfortunately, many of the strategies proposed to increase human and social capital among the ex-incarcerated are remnants to more serious societal problems (Taxman, 2006). Recent ethnographic research emphasizes the attraction of illegal work within the context of structural developments in neighborhoods and cities (Anderson, 1992, 1999; Massey and Denton, 1993; Wilson, 1987, 1996). This work suggests that the infrastructure to address the human and social capital needs of the ex-incarcerated is not in place.

⁸ R² for logit or other categorical data models cannot be interpreted the same way it is in an OLS regression model for several reasons (for a more complete explanation see Freese and Long, 2006).

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 dealers is more dignified and provides more status than the low wages, subtle humiliation, and racial bias experienced in conventional jobs 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 particularly attractive to marginalized men who face the stigma of an incarceration history, and lack the human and social capital required to succeed in the conventional labor market.

Another unexpected finding from this study is that racial and ethnic minorities make less from drug sales than their white counterparts. Only a few studies within the illegal earnings literature identify race as a predictor of illegal income (Hutcherson, 2012; McCarthy and Hagan, 2001), but these studies do not focus exclusively on drug sales. Employment research offers that there may be racial differences in conventional employment outcomes, with speculation that this is due to racial bias (Pager, 2003). In this study, the same obstacles that occur in the conventional labor market for racial and ethnic minorities exist in the underground economy as it relates to drug income.

Conclusion

In sum, the current research adds to the growing body of literature that focuses on illegitimate income and 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 from drug trafficking. However, it should also be noted what the findings do not suggest as well. There is growing speculation that prisons play the role of finishing schools for the incarcerated, a place where prison inmates can build the skills and techniques necessary to become more efficient criminals. That is not being asserted here, since that is not what the model is testing. This paper focuses exclusively on the stigma of having a prison record, the underdevelopment of both conventional social and human capital while spending time in jail or prison, and the failure of the ex-incarcerated to find steady employment with a living wage once released from jail or prison. These

factors alone, according to this study, can lead to increased earnings from drug sales.

As such, this research suggests that policies that fail to address the post-release needs of the formerly incarcerated need to be revamped. Currently, the collateral consequences of an incarceration are overly broad and in some cases occur automatically (i.e. loss of voting rights). Typically, the collateral consequences faced by individuals are not tailored toward the specific crime the offender has been convicted of. Thus, courts should have the discretion to *not* impose consequences particularly if the consequence is not directly related to the underlying conviction. The get tough approach to the war on drugs has created policies that, for example, prevent parolees in California from occupations in real estate, physical therapy and education (Petersilia, 2001).

Additionally, many agencies and organizations require licenses that ex-offenders are ineligible to earn. To make matters worse, many state and municipal licensing agencies have the authority to conduct background checks and reserve the right to use their discretion to deny licenses based on an applicant's criminal history (Pinard, 2010). For instance, in Maryland, over 500 jobs require licenses including electricians, massage therapist, and retail merchants. Other states prevent the acquisition of a license in health care occupations, barbering, or jobs that serve the elderly or adults with special needs (Love, 2006). These economic hurdles to a successful re-entry into the community are inherently contradictory. Such consequences should be attenuated by antidiscrimination statutes that provide protection to individuals with criminal records. If the criminal justice system spends millions on rehabilitation, and encourages, and in some instances, requires legitimate employment after release, ex-offenders should be barred from as few occupations and the economic rewards that come with them as possible.

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