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Abstract

This study draws on theories of stigma, social and human capital, and opportunity structure to assess the role of prior incarceration on illegal earnings. Tobit regression models are estimated for young adult ex-offenders and nonoffenders using the National Longitudinal Survey of Youth for 1997 to 2005. 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 a variety of predictors of illegal income, including race and ethnicity. The current research indicates that spending significant time in jail or prison may force the ex-incarcerated into illegal opportunity structures to obtain income.

Keywords

young adult offenders, prior incarceration, illegal earnings

Introduction

There are two paths that young adults involved in criminal activity can take as they make the transition to adulthood. Most young adults are drawn into

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conventional 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 & Laub, 1993; Western, 2006). It is these social bonds that help young adult criminals refrain from furthermore offending.

The second path that crime-involved young adults 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 more than two million persons (Sabol, Minton, & Harrison, 2007). This means that one out of every 150 U.S. residents is in jail or prison. The current United States rate of incarceration of 726 inmates per 100,000 population is the highest of any country in the world (Garland, 2001).

At least 95% of all state prisoners will be released from prison at some point (Hughes, Wilson, & Beck, 2001). Close to 70% of these offenders will be rearrested in 3 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 (see, for example, Sampson & Laub, 1993; Sampson & Laub, 2003; Western & Beckett, 1999; Western, 2002). This research highlights that conventional employment and related income is a path out of crime for young adults. These same studies reveal that conventional employment and related income is difficult to obtain for the ex-incarcerated. Although the affect of imprisonment on conventional employment prospects and related earnings is clear, what is less clear is the extent to which imprisonment affects opportunities in the illegal economy, specifically illegal earnings.

Theory 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 with those without prison

records (Boshier & Johnson, 1974; Buikhuisen & Dijkster-huis, 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, & 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 an attractive and lucrative option. This study will integrate these theoretical perspectives when analyzing the relationship between incarceration and illegal earnings.

The Present Study: Testing the Effect of Past Incarceration on Illegal Earnings

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 young adults? This study estimates tobit regression models to examine criminal earnings for young adult ex-offenders and nonoffenders using the National Longitudinal Survey of Youth (NLSY97) for the years 1997 through 2005. This study extends the research on the affect of incarceration on legal earnings. In sum, these studies reveal that spending time in prison can lead to reduced employment and earnings in the conventional labor market (e.g., see Huebner, 2005; Johnson, 2003; Sampson & Laub, 1993; Sampson & Laub, 2003; Western & Beckett, 1999; Western, 2002). However, due to data and other limitations, these studies fail to analyze the effect of incarceration on illegal earnings.

To date, only two studies have tested the relationship between incarceration and illegal earnings. In the first study, 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 than individuals never incarcerated. 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 flaws 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 jail or prison back into the community. The current research will begin to fill this literature gap.

The Sample

To examine the relationship between past incarceration and illegal earnings, data from the NLSY97 were used, that 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: (a) 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 (b) a supplemental sample of 2,236 respondents designed to oversample 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.

This study uses nine rounds of the NLSY97 survey (1997 to 2005). It contains detailed information on self-reported criminal behavior and subsequent criminal justice responses for 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 young adults. The first wave of the NLSY97 includes adolescents aged 12 to 16. These same individuals are aged between 20 and 24 by wave nine in 2005.

This study is restricted to a sample of young adults 18 years of age and older. As stated in the theoretical section, the influence of human and social capital is crucial during this stage of the life course. This study also uses a person-period data structure. 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 (see, for example, Allison, 1994; Johnson, 2003). On average, each respondent in the sample contributed 7.3 observations to the data set. The sample size for the person-period dataset over the entire 9 year sampling period is 46,178 observations. It should also be noted that nonrandom sample attrition can bias the analysis of panel data using longtime periods (Western, 2002). However, furthermore analysis of attrition from this sample finds that response rates are almost identical for the ex-incarcerated versus never incarcerated individuals.

The Measures

Dependent Variable

Illegal income. Table 1 introduces the dependent, independent, and control variables used in this analysis. For this study, the amount of raw illegal income is taken from follow-up questions in each wave/round regarding 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 last year. There are three categories of illegal income captured in the NLSY97. First, respondents are asked about the frequency of theft offenses over the last 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 last 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 last 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.

A note regarding zero earners. A 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 (e.g., US\$1 or US\$100), or include zero earners is important conceptually to any study (Hauser, 1980; Uggen & Thompson, 2003; Western, 2002). By counting zero earners, the earnings

Table 1. Descriptions of Dependent, Independent, and Control Variables, NLSY97

Variable	Description	Year measured
Dependent variable		
Annual illegal income	Raw 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.	All years
Independent variables		
Prior incarceration	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.	All years
Control variables		
Prior illegal income	Raw illegal income in year t-1 or earlier. Illegal income is based on three sources of criminal activity in a given year: (a) theft offenses, (b) other property crimes, and (c) drug trafficking.	All years
Current incarceration	Dummy variable for those spending at least one month in jail or prison in year t (the last year). Those incarcerated in year t are coded as 1; those not incarcerated in year t are coded as 0.	All years
Current school attendance	Dummy variable for full-time attendance in junior high school, high school or college in the last year. Those attending full time are coded as 1; those not attending or missing significant time are coded as 0.	All years
Hardcore drug use	Count of the frequency of use of powder cocaine, crack, heroin and other drugs in the last year.	All years
Human capital		
Legal income	Annual legal income from wages and salary in the last year.	All years
Employment status	Dummy variable for employment in the last year. Those employed are coded as 1; those not employed are coded as 0.	All years
ASVAB scores	Percentile score on the Armed Services Vocational Aptitude Battery (ASVAB). Scores range b/w 0 and 100.	1999

(continued)

Table 1. (continued)

Variable	Description	Year measured
Social capital		
Criminal peers	Dummy variable for friend or sibling gang involvement in the last year. Those with criminal peers coded as 1; those without criminal peers coded as 0.	All years
Gang membership	Dummy variable for respondent gang involvement in the last year. Gang members coded as 1; nongang members coded as 0.	All years
Significant other	Dummy variable for being involved in a relationship with a girlfriend or spouse in the last year. Those with S/O coded as 1; those without S/O coded as 0.	All years
Demographic variables		
Age	Age at the time of the interview in years.	All years
Race/ethnicity	Dummy variables for non-Hispanic Blacks and Hispanics. Black or Hispanic coded as 1; non-Black or non-Hispanic coded as 0.	1997
Gender	Dummy variable for gender. Males coded as 1 and females coded as 0.	1997

distribution can be skewed and important questions can be raised about sample selectivity. The drawback of this approach to measuring earnings is that one ignores unemployed individuals. This study includes zero earners in the analysis of illegal earnings, as doing so highlights the distinction between criminals and noncriminals.

Independent Variables

Prior incarceration. Prior incarceration is considered the primary independent variable for the models in this study. Information on crime and arrest in the NLSY97 is collected in the self-administered section of the youth/young adult instrument. For each wave/round, respondents are asked about criminal behavior during the last 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. Therefore, NLSY97 data are good for comparing the incarceration experiences of young adults with both never incarcerated offenders and nonoffenders. 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.

Control Variables

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

Prior illegal income. The primary control variable in this analysis is prior illegal income, as there could be a spurious relationship between incarceration and illegal income. It is very likely that illegal income earned prior to incarceration could explain both incarceration and present illegal income, so controlling for prior illegal income will highlight the independent effect of incarceration on illegal income for formerly incarcerated offenders. Prior illegal income is calculated by adding all monetary rewards received from illegal earnings 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. This is a dummy variable scored 1 for respondents who spent at least 1 month or more in jail or prison in year t , and 0 otherwise. 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. The current school attendance variable is a dummy variable that captures full-time attendance in 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.

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

Legal income. 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 last year.

Employment status. Employment status is measured in this study based on a question inquiring 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 nonemployed 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, will be controlled for in this study. In round one of the NLSY97, most respondents participated in the 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 this analysis.

Social capital. The measures for social capital are described below.

Criminal peers. To measure the type of social capital or networks that would be more likely to influence criminal earnings, this analysis includes direct measures of criminal peer associations. The 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. As a measure of criminal social capital, respondent gang membership represents a good proxy variable for the influence of 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. 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 toward 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/age. Age is measured here as the value of age of the respondent in year t (at the time of the interview).

Race/ethnicity. 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).

Gender. For the variable gender, males are coded as 1, while females are coded as 0.

Analytic Strategy

This study estimates and compares both random effects and tobit regression models to examine illegal income for young adult ex-offenders and nonoffenders using the NLSY97 for 1997 to 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. Race and ethnicity (as measures of stigma) are two such variables with unchanging values over time. As these variables are crucial to this study's theoretical model, random effects models will be used as the analytic strategy of this research (Johnston & DiNardo, 1997; Long & Freese, 2003; Wooldridge, 2002).

Although random effects models are useful for analyzing longitudinal, person-period data with unchanging values over time (see, for example, Johnston & DiNardo, 1997; Long & Freese, 2003; Wooldridge, 2002), tobit regression techniques are useful when the dependent variable consists of a large proportion of zero values. Close to 10% of the study's 46,178 observations earn illegal income over the 9-year sampling period. Tobit regression addresses the limited floor value of the dependent variable in this analysis, illegal income, by censoring all cases with zero values (Roncek, 1992). Therefore, cases with real dollar values can be analyzed. Beta estimates in tobit regression represent the marginal effect of x on y^* , the latent variable (observed illegal income amounts in this study), and not y .

Results

Table 2 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 with the never incarcerated. The ex-incarcerated,

Table 2. Means and Standard Deviations (in Parentheses) of Dependent, Independent, and Control Variables, NLSY 1997-2005 (*N* = 46,178 observations)

Variable	Ex-incarcerated (U.S. dollar)	Never incarcerated(U.S. dollar)	Total sample (U.S. dollar)
Dependent variable			
Annual illegal income	\$1,070 (\$8,986)	\$120 (\$2,623)	\$162 (\$3,195)
Independent variables			
Prior incarceration	—	—	—
Control variables			
Prior illegal income	\$20,801 (\$100,145)	\$1,362 (\$26,799)	\$2,230 (\$33,902)
Current incarceration	0.07 (0.25)	0.01 (0.08)	0.01 (0.10)
School attendance	0.97 (0.18)	0.91 (0.29)	0.91 (0.29)
Hardcore drug use	6.61 (43.80)	1.91 (22.83)	2.12 (24.17)
Human capital			
Annual legal income	\$4,604 (\$8,988)	\$5,311 (\$9,237)	\$5,278 (\$9,226)
Employment status	0.38 (0.49)	0.50 (0.50)	0.49 (0.50)
ASVAB scores	25.54 (22.86)	45.98 (29.10)	45.16 (29.15)
Social capital			
Criminal peers	0.12 (0.33)	0.05 (0.22)	0.05 (0.23)
Gang membership	0.05 (0.22)	0.01 (0.09)	0.01 (0.10)
Significant other	0.27 (0.44)	0.17 (0.37)	0.17 (0.38)
Demographic variables			
Age	21.23 (1.98)	20.56 (1.94)	20.59 (1.96)
Race			
White	0.39 (0.49)	0.52 (0.50)	0.52 (0.50)
African American	0.35 (0.48)	0.26 (0.44)	0.26 (0.44)
Hispanic	0.24 (0.43)	0.21 (0.41)	0.21 (0.41)
Gender	0.79 (0.41)	0.50 (0.50)	0.51 (0.50)

on average, have higher annual illegal income than the never incarcerated (US\$1,070 vs. US\$120, respectively). The ex-incarcerated have also accumulated US\$20,801 of past illegal income, compared with US\$1,362 for those never incarcerated. Of those with an incarceration history, 7% are incarcerated during the year of the interview (year *t*). In contrast, only 1% of those never incarcerated prior to year *t* are incarcerated during the year of the interview. The ex-incarcerated are more likely to use hardcore drugs (6.61 vs. 1.91 on the use frequency scale) than those never incarcerated.

Based on the summary statistics, the ex-incarcerated earn less legal income annually from wages than their counterparts who were never incarcerated (US\$4,604 vs. US\$5,311, respectively). Also, the ex-incarcerated are less likely to be employed than those who were never incarcerated (38% vs. 50%, respectively). Regarding social capital measures, the ex-incarcerated are much more likely to have criminal peers that are involved in gangs (12% vs. 5%, respectively). The ex-incarcerated are also involved in gangs more frequently than those never incarcerated (5% vs. 1%, respectively). The formerly incarcerated are much more likely to have a significant other (27%) than those never incarcerated (17%).

This table also shows that the ex-incarcerated in this sample are slightly older compared with those never incarcerated (21.23 years vs. 20.56 years, respectively). Finally, while White male respondents consist of 52% of the total sample, they comprise a much smaller percentage of those ever incarcerated (39%). Conversely, while African Americans make up 26% of the overall sample, they consist of a much higher percentage of the ex-incarcerated (35%). Compared with the overall sample, the percentage of Hispanics that are ex-incarcerated is slightly higher (21% vs. 24%, respectively). Finally, while males make up roughly one half of the entire sample, they consist of a much higher percentage of those incarcerated in the past (79%) compared with females.

Main Model Comparison: Random Effects Versus Tobit Regression

For comparison with the tobit model, this study conducted a random effects regression analysis of the data. In both the random effects and tobit regression main model, annual illegal income is predicted to be a product of incarceration, net of other predictors of illegal income. To predict the amount of annual illegal income in raw dollars from respondents in the sample, the following predictors are considered: past illegal income, past incarceration, current incarceration, school attendance, substance abuse, measures of human and social capital, age, race/ethnicity, and gender. Table 3 shows the unstandardized coefficients and the standard errors (in parentheses) for both the random effects and tobit regression of annual income on incarceration.

The statistically significant predictors of illegal income in the random effects model are past illegal income, past incarceration, current incarceration, hardcore drug use, legal income, ASVAB scores, criminal peers, gang membership, significant other, age, Hispanic origin, and gender. The main effects results show that the past incarceration and illegal earnings relationship

Table 3. Unstandardized Coefficients From the Regression of Annual Illegal Income on Incarceration, Random Effects Versus Tobit Models, NLSY Men, 1997 to 2005

Variable	Random effects model		Tobit model	
	<i>b</i>	SE	<i>B</i>	SE
Intercept	760***	198	9,613***	2,176
Past illegal income	0.01***	0.01	0.03***	0.01
Past incarceration	471***	107	6,294***	667
Current incarceration	1,795***	168	11,729***	992
School attendance	32	52	-0.558	494
Hardcore drug use	11***	0.64	63***	3
Human capital				
Legal income	1***	1	0.01*	0.02
Employment status	33	51	973**	409
ASVAB scores	-2**	0.88	12*	7
Social capital				
Criminal peers	343***	76	7,862***	544
Gang membership	3,294***	174	10,964***	965
Significant other	98*	47	-269*	497
Demographic variables				
Age	-0.37***	10	-1,904***	114
Race				
White	—		—	
African American	-25	60	-2,619***	462
Hispanic	-100*	63	-1,764***	463
Gender	185***	46	5,171***	360
<i>R</i> ²	.05		.04 (pseudo <i>R</i> ²)	
Number of observations	37,338		37,338	

Note: Standard errors are in parentheses.

p* < .05. *p* < .01. ****p* < .001 (one-tailed).

is statistically significant at the .001 level. Those with a past incarceration earn statistically significantly higher illegal income than those who were never incarcerated. In fact, the ex-incarcerated earn just US\$471 more illegal income than those never incarcerated, on average.

The random effects regression model also reveals that individuals that use hardcore drugs earn significantly higher illegal income than those who do not

use such drugs. In terms of human capital variables, there is a significant and positive relationship between legal and illegal earnings. Those with lower ASVAB scores also earn significantly higher illegal income than individuals with higher scores. Regarding the social capital measures, those with criminal peers earn significantly higher illegal income compared with those without criminal peers. Gang members, too, earn significantly higher illegal income than nongang members. Individuals with a significant other earn higher illegal income than those without a significant other. For the demographic variables, younger respondents earn significantly higher illegal income than older individuals. Non-Latinos earn significantly higher illegal income than Latinos. Finally, males earn significantly higher illegal income than females.

This study then conducted a tobit regression analysis of the data (Table 3). The tobit regression analysis, which modeled the underlying amount of illegal income earned, proved to be more robust than the random effects regression analysis. Focusing exclusively on the main effects results from the tobit regression model, it is found that the past incarceration and illegal earnings relationship is statistically significant at the .001 level. Those with a past incarceration earn significantly higher illegal income than those who were never incarcerated. In fact, the ex-incarcerated earn US\$6,294 more illegal income than those never incarcerated, on average. The coefficients for the tobit regression model are consistently much larger than the coefficients from the random effects regression model.

The tobit regression analysis above reports more predictors of annualized illegal income compared with the random effects model. The statistically significant predictors of illegal income in the tobit model are past illegal income, past incarceration, current incarceration, hardcore drug use, legal income, employment status, ASVAB scores, criminal peers, gang membership, significant other, age, race/African American, Hispanic origin and gender. Individuals that use hardcore drugs earn significantly higher illegal income than those who do not use such drugs. In terms of human capital variables, there is a significant and positive relationship between legal and illegal earnings. Employed individuals earn significantly higher illegal income than unemployed respondents, although this same relationship is nonsignificant in the random effects regression model. Finally, those with lower ASVAB scores earn significantly higher illegal income than individuals with higher ASVAB scores.

Regarding the social capital measures in the tobit regression model, those with criminal peers earn significantly higher illegal income compared with those without criminal peers. In addition, gang members earn significantly

higher illegal income than nongang members. Individuals without a significant other earn higher illegal income than those without a significant other. For the demographic variables, younger respondents earn significantly higher illegal income than older individuals. Non-African Americans earn significantly higher illegal income than African Americans in the tobit model, although this same relationship is nonsignificant in the random effects model. Non-Latinos earn significantly higher illegal income than Latinos. Finally, males earn significantly higher illegal income than females.

Interaction effects are appropriate when there is reason to believe that the affect of a given independent variable may depend or be conditional on another independent variable (Aiken & West, 1991). The interaction effects tobit regression analysis (Table 4, Model 2) reveals that the only statistically significant interactions are between Prior incarceration \times African American, Incarceration \times Legal income, and Incarceration \times Gang membership. Specifically, the model shows that the Prior incarceration \times African American interaction is statistically significant and positive at the .05 level. Also, the Prior incarceration \times Legal income interaction is statistically significant and positive at the .05 level. The strongest interaction is between Prior incarceration \times Gang membership, which is significant and negative at the .001 level.

Discussion

This study compares random effects models with tobit regression models to examine illegal earnings for young adult ex-offenders and nonoffenders using the NLSY97. Specifically, this study is interested in whether individuals with an incarceration history earn higher illegal income than those without an incarceration history.

This study hypothesized that the formerly incarcerated will earn significantly higher illegal income than individuals never incarcerated, controlling for other predictors of illegal income. The analysis clearly 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. Also, respondents that use hardcore drugs earn significantly more illegal income than those that do not use hardcore drugs. This finding concurs with prior research offering evidence for a strong, positive relationship between serious drug use and illegal earnings (Fagan, 1992; Uggen & Thompson, 2003).

This study presents evidence that human and social capital measures are linked to annual illegal income. In terms of human capital, the relationship

Table 4. Unstandardized Coefficients From the Regression of Annual Illegal Income on Incarceration, Main and Interaction Effects of Tobit Models, NLSY 1997 to 2005

Variable	Model 1		Model 2	
	<i>b</i>	SE	<i>B</i>	SE
Intercept	9,613***	2,176	9,552***	2,183
Past illegal income	0.03***	0.01	0.03***	0.01
Past incarceration	6,294***	667	8,566***	1,826
Current incarceration	11,729***	992	11,852***	996
School attendance	-558	494	-567	494
Hardcore drug use	63***	3	64***	4
Human capital				
Legal income	0.01*	0.02	0.01*	0.02
Employment status	973**	409	971**	424
ASVAB scores	12*	7	10*	7
Social capital				
Criminal peers	7,862***	544	7,778***	578
Gang membership	10,964***	965	12,514***	1,079
Significant other	-269*	497	-298*	532
Demographic variables				
Age	-1,904***	114	-1,893***	114
Race				
White	—	—	—	—
African American	-2,619***	462	-2,899***	485
Hispanic	-1,764***	463	-1,567***	1,717
Gender	5,171***	361	5,209***	370
Interactions				
Past incarceration × Drug use	—	—	-10	9
Past incarceration × African American	—	—	3,398*	1,656
Past incarceration × Hispanic	—	—	-1,517	1,717
Past incarceration × Gender	—	—	-2,117	1,591
Past incarceration × Legal income	—	—	0.15*	0.08
Past incarceration × Employment status	—	—	139	1,571
Past incarceration × ASVAB	—	—	35	29
Past incarceration × Criminal peers	—	—	-277	1,656
Past incarceration × Gang membership	—	—	-6,742***	2,438
Past incarceration × Significant other	—	—	-130	1,464
Sigma (ancillary parameter)	14,463	230	14,439	230
Pseudo <i>R</i> ²	.04		.05	
Number of observations	37,338		37,338	

Note: All regressions are estimated using tobit regression.

p* < .05. *p* < .01. ****p* < .001 (one-tailed).

between logged legal and logged illegal earnings is positive and statistically significant. Also, those that are employed earn significantly higher illegal income than those that are unemployed. Finally, this study finds that respondents with high ASVAB scores earn significantly more illegal income compared with those with low ASVAB scores. One can conclude based on the above findings that, although studies have found that the ex-incarcerated are prevented from acquiring human capital due to time spent in jail or prison (Holzer, Raphael, & Stoll, 2003; Kling, 1999), the same human capital variables that lead to success in the conventional labor market also lead to success in the illegal economy.

Regarding the social capital measures, there is strong evidence from this study that having criminal peers and gang membership increases criminal 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). Also, this study finds that respondents with a significant other earn less illegal income than those without a significant other. This result supports research that show that strong social bonds to spouses help to facilitate the criminal desistance process (Horney, Osgood, & Marshall, 1995; Laub, Nagin, & Sampson, 1998; Sampson & Laub, 1993).

The demographic variables highlight that males earn significantly higher illegal income than females. This is not surprising, as prior research suggests that young men are more involved in the underground economy than women (Freeman, 1996; Short, 1997). Also, younger respondents earn significantly higher illegal income than older individuals. Keep in mind that the sample consists of young adults that are 18 years of age or older. Life course criminology has produced some revealing facts about crime. First, there exists an age-crime curve (Farrington, 1986). This curve shows that the peak age of criminal activity is 17 years old, whereas the peak age of desistance is between 20 and 28 years (Farrington, 2003). It is expected that younger adults would earn more income from crime than their older adult counterparts. Finally, non-African Americans and non-Latinos earn more illegal income than their African American and Latino counterparts. It is revealed in this study that those with more human and social capital earn both more legal and illegal income, regardless of race and ethnicity. If White respondents possess more human and social capital than their ethnic and racial minority counterparts, this may explain their relatively higher earnings from crime. Although the experiences of African Americans and Latinos in the illegal economy dominate most of the research in this area, some suggest that the recent expansion of the drug economy have created new opportunities for

economically disadvantaged Whites in the illicit labor market (Freeman & Fagan, 1999). This study supports this hypothesis.

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 furthermore evidence, also see Freeman, 1992; Freeman, 1996; Kling, 1999; Nagin & Waldfogel, 1998; Pager, 2003; Sampson & Laub, 2003; Waldfogel, 1994; Western & Beckett, 1999; Western, Kling, & Weiman, 2001; Western, Lopoo, & McLanahan, 2004). Some offer that crime as a source of income provides an attractive alternative to closed opportunities in the legitimate labor market (Cloward & Ohlin, 1960). 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.

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