Does Criminal History Impact Labor Force Participation of Prime-Age Men?

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Abstract

This paper investigates the relationship between criminal background from youth and future labor force participation for prime-age men (25-54 years old) in the United States. Since January 1980, the percentage of prime-age males not in the labor force has increased from 5.5% to 12.3%, which coincides with an increasing proportion of previously incarcerated prime-age men due to increased incarceration rates during the 1980s and 1990s. Previous studies have shown that supply-side factors, such as disability insurance or working spouses, do not account for most of the decline in prime-age male labor force participation. Using NLSY79 data, this study uses linear regression analysis and finds that criminal charges received at a young stage in life are associated with more weeks out of the labor force, even up to 26 years in the future. This suggests that a large number of previously incarcerated prime-age men may be dropping out of the labor force due to discouragement in finding work. Further research, however, is required to imply causality by assessing the extent to which men with criminal backgrounds would have struggled in the labor market regardless of conflict with the law due to lifestyle or personal attributes.

Why is an increasing proportion of prime-age American men each year choosing not to work? The labor force participation rate measures the proportion of people age 16 and older who are either working or actively seeking work (Hipple, 2016). Therefore, people who are unemployed but looking for work are still counted as being in the labor force. Sixty years ago, the civilian labor force participation rate for prime-age men (25-54 years old) in the U.S. was over 97% (U.S. Bureau of Labor Statistics), but that number has been dwindling ever since, which can be seen in Figure 1. The average rate for 2016, for example, was 88.5%. The U.S. currently has the third lowest labor force participation rate out of all 34 OECD countries (Thompson, 2016). The decline in the prime-age labor participation rate is even more concerning than the decline in the overall labor force participation rate since the latter rate is affected by retirees as well as young people who choose not to work for reasons such as schooling. This paper investigates a demand-side explanation for the decline in prime-age male labor force participation, criminal history, and finds that incarceration during one's youth (23 years old at the latest) corresponds to lower labor force participation even 26 years after reporting having received criminal charges.

The U.S. has the highest incarceration rate in the world—about five times the average rate for OECD countries. According to an estimate by the Bureau of Justice Statistics (see Anderson & Carson, 2016), the U.S. rate of male incarceration in 2015 was 863 per 100,000 males in the population. Schmitt and Warner (2010) estimated the ex-felon population to be between 12.3 and 13.9 million people. If incarceration and criminal history in general have a significant effect on the ability of individuals to find jobs, this could mean a large number of capable, prime-age men are choosing to drop out of the labor force due to discouragement, since "the stigma of incarceration can reduce demand for the labor services of the formerly incarcerated even years after their reentry into society" (Council of Economic Advisers, 2016, p. 32). It is possible that this stigma can affect demand for an applicant's services many years after the crime has been committed, depending on how far back into an applicant's history employers go for their background checks. As the U.S. incarceration rate continues to increase, the proportion of prime-age men susceptible to dropping out of the labor force also increases.

Why does it matter if prime-age men give up looking for work due to discouragement? One issue is the effect on the validity of unemployment statistics. While the U.S. has had low unemployment rates several years running, these numbers only account for people actively seeking work. Therefore, unemployment rates alone provide

a misleading representation of the country's labor market health. If a person drops out of the labor force due to a persistent inability to find a job, the unemployment rate goes down, causing the illusion of an improving economy when in fact the labor market simply forced a citizen to give up seeking employment. Juhn and Potter (2006) found that dropping out of the labor force, rather than entering unemployment, has become the primary response to poor labor market conditions. Another problem with men exiting the labor force due to discouragement is their increased likelihood of turning to desperate measures such as crime in order to survive. According to Western (2002), an increase in the length of one's incarceration contributes to the learning of illegal skills. Graves (2014) notes that regardless of the source of decline in prime-age male labor force participation, this decline indicates a problem for economic growth, as historically this is the group that has comprised the largest share of the U.S. workforce.
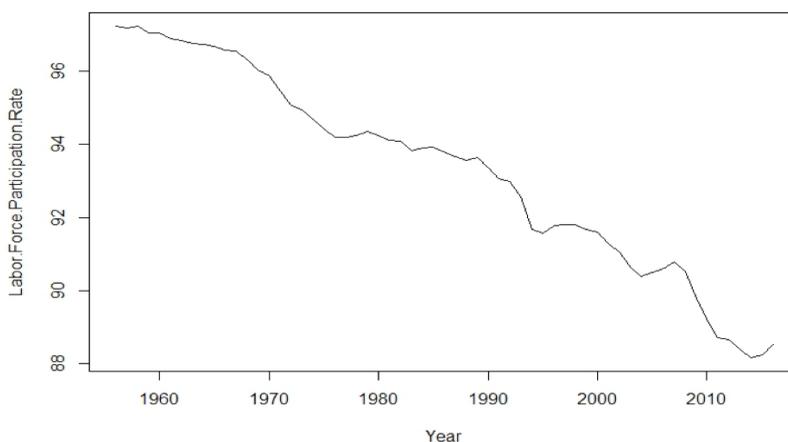
Figure 1. The decline in the U.S. prime-age male labor force participation from 1956-2016.

Literature Review

The Council of Economic Advisors of the U.S. Executive Office (2016) argues that the long-term decline in labor participation for prime-age men is not primarily due to changes in labor supply—for example, men choosing not to work due to working wives or public assistance. According to the Council, nearly 36% of prime-age men not in the labor force lived in poverty in 2014—casting doubt on the hypothesis that non-participation represents a choice enabled by other personal means or income sources. Supply-driven decreases in labor participation are not a cause for concern because they indicate people are choosing to drop out of the labor

force because they have a better alternative. There is reason to believe that demand for labor as well as institutional factors, criminal history in particular, better explain the change in labor force participation for prime-age men. This should cause concern as it leaves both workers and the labor market worse off by eroding human capital and stunting economic growth. Black, Furman, Rackstraw, and Rao (2016) claim that labor supply explanations do not account for both declining workforce participation and lower relative wages. If men with a criminal background were simply choosing to work less, wages would increase for their peers who continue participating in the workforce. Instead, wages are declining, which suggests the demand curve for labor from formerly incarcerated workers has shifted inward.

While few empirical studies focus on the effect of criminal history on labor force participation, the effect of criminal history on labor outcomes other than labor force participation, such as employment and wages, is well documented. Using data from over one million unique defendants in a Texas county, Mueller-Smith (2015) finds each additional year of incarceration reduces post-release employment by 3.6%. Pettit and Lyons (2009) analyzed the age-graded labor market effects of incarceration and found that the negative effect of incarceration on employment was higher among men imprisoned after age 30 while the negative effect on wages was mostly consistent for all ages. Western and Beckett (1999) found a consistent decrease in weeks worked per year, even after 15 years since having reported being incarcerated, for people incarcerated during youth. On the other hand, some research has found temporary positive effects on employment and wages after release from prison compared to before incarceration. Bushway, Stoll, and Weiman (2007) found immediate spikes in employment after being released from prison, which they attributed to a new mindset about the importance of work and staying out of prison. Nonetheless, they also noted that employment rates returned to pre-prison rates within 18 months.

Kling, Weiman, and Western (2001) articulate the common endogeneity problem for most research on the economic effects of criminal history: "Are the labor market experiences of ex-offenders due to the effects of conviction or incarceration, or are they due to characteristics of offenders that simultaneously place them at risk of arrest and low earnings or employment?" (411). Incarceration effects, they note, cannot be wholly reduced to offender behavior since they are also a function of policy choice. For example, the increased incarceration rates in the 1980s and 1990s were not due to behavioral shifts but rather changes in sentencing and post-release supervision polices.

Despite many sources citing criminal history as a likely determinant of labor force participation, no empirical studies specifically test for this relationship for prime-age men. I will use data from the 1979 cohort of the National Longitudinal Survey of Youth (NLSY79) to test the impact of criminal history incurred during youth on future labor force participation for prime-age men.

Data and Methodology

The Bureau of Labor Statistics has collected the NLSY79 survey data, a nationally representative sample of Americans born between 1957-64. Respondents were first interviewed in 1979 and were interviewed annually until 1994, after which they were interviewed every two years. For the current analysis, three cross-sectional linear regression models were created to test the relationship between criminal history and future labor force participation for male respondents of the NLSY79, one for each of the following years: 1988, 1998, and 2006. These models measure the impact of criminal history incurred at youth on future labor participation for different periods in the individuals' lives. In all three years, all men in the cohort are at prime working age (25-54 years old).

To measure criminal background, two variables are included: whether the individual has received charges for illegal activity and whether the individual has been stopped by police for anything except a minor traffic offense. The latter variable is included to test whether less serious encounters with the law may be showing up in future background checks, which could affect labor participation. Data for both variables is only available for the year 1980, as surveyors only asked respondents in 1980 about their criminal history, at which time all respondents were between the ages of 16 and 23. Therefore, these models can only measure the effect of criminal history during youth on future labor force participation. Considering the eight-year variation in age of respondents, some respondents had more time to get involved in criminal activity than others. The dependent variable in these linear regression models is weeks out of the labor force. We expect criminal history to correlate positively with weeks per year out of the labor force. Control variables to account for variability among respondents include: age in 1980 and dummy variables for black; live in an urban area; live in the south; currently in jail; married; and have a health limitation for work. For the 1988 model, a variable is also included for whether or not the individual in 1980 expected to be working in five years. Including this variable attempts to account for people who planned to be in school for an extended length of time, thus affecting their future labor force participation.

Results

Descriptive statistics for the 1988 model are shown in Table 1, and the regression results are shown in Table 2. Having received criminal charges in the past produced a significant, positive effect on weeks out of the labor force for individuals in 1988, meaning individuals were less likely to be in the labor force in 1988 if they had received criminal charges by 1980. Being stopped by the police for something other than a minor traffic offense by 1980 also added weeks out of the labor force but was not significant under the t-test. We can assume from this result, therefore, that being stopped by the police for something other than a minor traffic offense will not show up on future background checks. The R^2 value shows this model explained 14.58% of the variation in male labor force participation in 1988. It is assumed that there is omitted variable bias, as there are other variables that could help explain why these men may be out of the labor force, thus accounting for the relatively low explanatory power of the model. For example, we are not including whether the individual receives disability insurance or any current enrollment in an educational program. Except for living in the south, which was surprisingly associated with fewer weeks out of the labor force, all variables produced the expected coefficient signs. Variance inflation factors (VIFs) were calculated for all variables, all of which were less than 1.2, showing multicollinearity not to be present. The Breusch-Pagan test revealed heteroskedasticity in the model ($p = 0.000$), so White's robust variance-covariance matrix was used to correct the standard errors of the coefficients. With corrected standard errors, the effect of criminal charges received in or before 1980 on labor participation is 2.22 more weeks out of the labor force in 1988. The RESET test showed the linear model to be an appropriate specification for the data ($p = 0.0018$), and the Shapiro-Wilk test found the residuals are normally distributed ($p = 0.000$).

Table 1

Descriptive Statistics for 1988

	Min	**Max**	**Mean**	**Std. Dev.**
lfp88	0	52	7.1531	15.1467
black	0	1	0.2682	0.4431
age	15	23	18.5317	2.2598
charges	0	1	0.1659	0.3720
stoppolice	0	1	0.2862	0.4520
south88	0	1	0.3796	0.4853
work5yrs	0	1	0.9528	0.2122
urban88	0	1	0.7509	0.4325
jail88	0	1	0.0233	0.1509
married88	0	1	0.4461	0.4971
health88	0	1	0.0366	0.1879

Table 2

1988 Regression Results

	Estimate	Std. Error	t value	Pr(>|t|)
(Intercept)	25.7503	1.9069	13.5039	0.0000***
black	3.6530	0.4867	7.5062	0.0000***
age	-0.5594	0.0928	-6.0284	0.0000***
charges	2.2190	0.5884	3.7710	0.0002***
stoppolice	0.6160	0.4801	1.2830	0.1995
south88	-2.5022	0.4422	-5.6578	0.0000***
work5yrs	-3.0759	0.9680	-3.1775	0.0015***
urban88	-7.9192	0.4841	-16.3584	0.0000***
jail88	24.2812	1.3871	17.5045	0.0000***
married88	-1.4166	0.4316	-3.2825	0.0010***
health88	3.7954	1.0879	3.4887	0.0005***

Note: $R^2 = 0.1458$, N = 4,721

Significance codes: *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Descriptive statistics for the 1998 model are shown in Table 3. Results from the 1998 regression model (Table 4) were similar to those of the 1988 model (Table 2), but the effect of incarceration on labor force participation was even stronger for the 1998 model. Receiving a criminal charge during youth had a significant, positive effect on weeks out of the labor force even eighteen years after respondents were asked about having criminal history in 1980. Once again, being stopped by the police for something other than a minor traffic offense was not significant under the t-test. Heteroskedasticity was also present for this model and, as before, was corrected using White's method. After correcting the standard errors, having a criminal charge by 1980 led to 3.65 more weeks out of the labor force in the year 1998. This represents an increase of 1.43 weeks out of the labor force from the 1988 model. The 1998 model had an issue of misspecification by the RESET test ($p = 0.3757$), meaning a non-linear model could have fit the data better. The model explained 12.62% of the variation in labor force participation for 1998.

Table 3

Descriptive Statistics for 1998

	Min	Max	Mean	Std. Dev.
lfp98	0	52	5.9096	15.1212
black	0	1	0.3018	0.4591
age	15	23	18.4740	2.2594
charges	0	1	0.1529	0.3599
stoppolice	0	1	0.2784	0.4483
south98	0	1	0.3828	0.4861
urban98	0	1	0.6911	0.4621
jail98	0	1	0.0312	0.1740
married98	0	1	0.5740	0.4946
health98	0	1	0.0343	0.1820

Table 4

1998 Regression Results

	Estimate	Std. Error	t value	Pr(>|t|)
(Intercept)	9.7801	1.9313	5.0640	0.0000***
black	2.5451	0.5300	4.8020	0.0000***
age	-0.1355	0.1007	-1.3459	0.1784
charges	3.6467	0.6703	5.4402	0.0000***
stoppolice	0.1540	0.5321	0.2894	0.7723
south98	-1.8096	0.4855	-3.7272	0.0002***
urban98	-1.4398	0.5000	-2.8798	0.0040***
jail98	23.2325	1.3330	17.4288	0.0000***
married98	-3.3242	0.4810	-6.9104	0.0000***
health98	3.9344	1.2432	3.1647	0.0016***

Note. $R^2 = 0.1262$, N = 3,937

Significance codes: *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Descriptive statistics for the 2006 model are shown in Table 5. Table 6 shows that criminal charges still had a significant positive effect on weeks out of the labor force in 2006, twenty-six or more years after the men had received the charges. Despite having fewer total significant explanatory variables, the 2006 model explained 31.52% of the variation in labor force participation for 2006. After correcting for heteroskedasticity, criminal charges received by 1980 led to 2.7 more weeks out of the labor force for men in 2006 compared to those who had not received criminal charges by 1980. Overall, criminal charges had the highest effect in the 1998 model, eighteen years after respondents reported having received the charges, but for all models criminal charges correlated with at least a two-week increase in weeks out of the labor force.

Table 5

Descriptive Statistics for 2006

	Min	Max	Mean	Std. Dev.
lfp06	0	52	6.4605	15.9842
black	0	1	0.3159	0.4649
age	15	23	18.4874	2.2564
charges	0	1	0.1508	0.3579
stoppolice	0	1	0.2779	0.4480
south06	0	1	0.4047	0.4909
urban06	0	1	0.6625	0.4729
jail06	0	1	0.0187	0.1355
married06	0	1	0.1040	0.3053
health06	0	1	0.5809	0.4935

Table 6
2006 Regression Results

	Estimate	Std. Error	t value	Pr(>|t|)
(Intercept)	6.3057	1.9393	3.2515	0.0012***
black	1.9806	0.5253	3.7706	0.0002***
age	-0.1108	0.1008	-1.0991	0.2718
charges	2.7011	0.6777	3.9855	0.0001***
stoppolice	-0.3708	0.5355	-0.6925	0.4887
south06	-0.0519	0.4843	-0.1073	0.9146
urban06	0.5045	0.4902	1.0291	0.3035
jail06	21.7622	1.7085	12.7377	0.0000***
married06	25.0577	0.7539	33.2372	0.0000***
health06	-3.5357	0.4834	-7.3141	0.0000***

Note. R^2 = 0.3152, N = 3,422; Significance codes: *** p<0.01, ** p<0.05, * p<0.1

Ex-Ante Discussion

There are several issues with using data for criminal history from only during an individual's youth, as was done in this analysis. We cannot see the individual's subsequent crimes, if any, which would also affect their labor force participation. Bushway and Reuter (2001) found that the effects of crime vary over one's life course. In particular, the negative effects of incarceration are more severe during later periods of life. In addition, some employers only look back a certain number of years when conducting background checks, so possibly charges received as a young adult may not show up in background checks later in one's career. This being said, the fact that receiving a criminal charge during youth significantly increased weeks out of the labor force up to 26 years later implies that the effect of total criminal charges received over a lifetime would have a very substantial impact for men on their labor force participation.

As previously mentioned, omitted variable bias likely affects the models, which could be biasing the significance of criminal charges on labor participation. It would be useful to have data for whether individuals are currently in school or some other institution (other than jail) that would deter or prevent labor participation. There is also a problem of endogeneity—that is, men who have received criminal charges may possess common characteristics that predispose them to non-participation in the labor force. In other words, it could be something about their natural disposition or lifestyle that caused them to be involved in crime, which is also the factor affecting their labor participation rather than the fact that they received criminal charges in the past. Future research could be improved by including variables that measure various personality and lifestyle characteristics of individuals.

Conclusion

Losing millions of prime-age workers in the U.S. labor force is a major loss of productive capacity for the economy. This study found that prime-age male labor force participation is negatively affected over one's lifetime by having received a criminal charge during a young stage in one's life. However, the relatively less serious matter of being stopped by police for something other than a minor traffic offense did not affect male labor participation in a significant manner. The results for criminal charges present a major problem for our labor market; prime-age U.S. males are being discouraged from participating in the labor force long after their crime was committed. It is likely that this effect grows stronger the later in life one receives charges. As the U.S. has the highest incarceration rate in the world, an increasingly significant portion of our working-age population is being affected. Jacobs (2015) proposes criminal justice reform policies as a way to reduce the persistence of this problem. She suggests that while "ban the box" policies that limit employers' ability to see applicants' criminal history during the hiring process would be a short-term goal, we need a much more rigorous change in our criminal justice system as a whole to reduce the inflow of prisoners as a long-term solution. For this kind of reform to become a reality, more studies with evidence on the detrimental effects of crime on labor force participation must be done. Unfortunately, while criminal justice reform could improve the labor force participation of prime-age men, it would not help the men who have already received charges. Therefore, even if reform does happen, it would take years for the effects on labor force participation to show up in data.

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