

Mass Incarceration and the Underground Economy in America

Bryan L. Sykes
Department of Criminology, Law and Society
University of California-Irvine

Amanda Geller
Department of Sociology
New York University

Fragile Families Working Paper:17-03-FF

Mass Incarceration and the Underground Economy in America

Bryan L. Sykes
Department of Criminology, Law and Society
University of California-Irvine

Amanda Geller
Department of Sociology
New York University

Abstract

With more than 850,000 people returning home from prisons and jails annually during an era of decarceration, understanding the labor market opportunities available to formerly incarcerated people is important for public policy. Yet, the mark of a criminal record has profound impacts on the employment and wage trajectories of disadvantaged men. Correspondence and audit studies routinely find that low-wage, secondary sector employers actively discriminate against those with criminal records, even when firms say they are open to hiring the formerly incarcerated. In this paper, we investigate whether the underground economy provides employment opportunities for men with criminal histories. Specifically, we assess whether formerly incarcerated men are more likely than their never-incarcerated counterparts to work in the underground economy, and how macroeconomic conditions shape the likelihood of working in the informal economy. We find that formerly incarcerated men are indeed more likely to work underground; however, the extent to which the macroeconomy shapes their odds of employment in either the formal or underground economies is significantly different for incarcerated men than their never-incarcerated counterparts. Our results have implications for understanding patterns of employment and wage mobility among disadvantaged men.

Key Words: incarceration, dual labor markets, employment stratification, underground economy, informal economy

Mass Incarceration and the Underground Economy in America

INTRODUCTION

After decades of growth in the American correctional system, the number of men and women under supervision has steadily declined since 2007 (Glaze et al. 2015). Nearly 25% of the world's inmates are located in American prisons and jails (NRC 2014), making the United States the global leader of incarceration. Currently, 6.8 million Americans are either incarcerated or under community supervision, representing approximately 2.8% of the U.S. population (Glaze et al. 2015). The risk of incarceration is highly stratified by race and educational attainment; on any given day, over 1 in 3 young, black men without a high school diploma is behind bars, and their lifetime cumulative risk of incarceration now hovers near 70% (Pettit and Western 2004; Pettit et al. 2009; Pettit 2012; Pettit and Sykes 2015).

The consequences of criminal justice contact are striking and well known: having a criminal record bars civic participation (Uggen and Manza 2002); increases the risk of mortality, morbidity, stress and other negative health outcomes (Patterson 2010; 2013; Wildeman 2012; Wildeman and Mueller 2012; Massoglia 2008; Binswanger et al. 2007; Sykes and Piquero 2009); constrains housing and residential opportunities, thereby increasing the risk of homelessness (Alexander 2010; Geller and Curtis 2011; Harding et al. 2014; Hebert et al. 2015); increases the likelihood of relationship dissolution while simultaneously lowering marital prospects (Lopoo and Western, 2005; Edin and Kefelas, 2005; Sampson et al., 2006; Massoglia et al., 2011); and creates new forms of non-dischargeable debt owed to the criminal justice system (Harris et al. 2010; Harris 2016).

Furthermore, the consequences of incarceration diffuse beyond current or former offenders to implicate their entire social network (Lum et al. 2014). Non-incarcerated family and community members share the burden of witnessing and experiencing the negative ramifications

of the penal system. Romantic partners and immediate kin commute long distances to maintain relationships (Comfort 2008), and children exposed to parental incarceration are at an increased risk of economic and residential instability (Geller et al. 2009; 2011; Wildeman 2014; Sykes and Pettit 2015). The material deprivation children experience due to parental incarceration is associated with increased enrollment in government assistance programs to mitigate their economic hardship (Schwartz-Soicher et al. 2011; Sugie 2012; Sykes and Pettit 2015).

Of all the social and familial difficulties experienced during the reentry process, locating work is perhaps the most daunting and discouraging endeavor for ex-offenders. Having a felony record marks former offenders while seeking employment (Pager 2007). Even when employers indicate a greater likelihood of hiring an ex-offender, firms are no more likely to do so in practice (Pager and Quillian 2005). Field experiments routinely demonstrate that having a prison record reduces employment outcomes in low-wage labor markets due to discrimination, particularly against African-Americans (Pager et al. 2009a; 2009b; Pager and Karafin 2009), resulting in lower employment rates and stunted wage growth over the life-course (Western and Pettit 2000; 2005; Western 2002; 2006; Pettit 2012). In fact, recent research shows that statistical discrimination by employers accounts for at least one-third of the black-white wage gap (Fryer et al. 2013). With more than 850,000 people returning home from correctional institutions at the end of 2014 (Glaze et al. 2015), understanding the labor market opportunities available to them is important for public policy.

Yet, little empirical research has explored an alternative system of employment that runs parallel to dual and low-wage labor markets: the underground economy. In this paper, we investigate whether formerly incarcerated men are more likely than their never-incarcerated counterparts to work in the underground economy, and how macroeconomic conditions shape their likelihood of working in the formal and informal economy.

These questions are important for two reasons. First, the underground economy is a story of exclusion, invisibility, and intergenerational inequality. Because the poor and stigmatized are largely excluded from labor markets, some adults take up both conventional and unconventional forms of work in the underground economy in order to meet their basic needs or to supplement their formal earnings. A dearth of research on the underground economy renders it invisible, concealing significant variation in occupational attainment and wages. The formal-legal consequences for participation may even threaten the stability of underground economic exchanges that are outside the purview of governmental regulation. Thus, it could be that the underground economy serves as a potential avenue for wage mobility and re-incarceration, depending on the nature and legality of the work being performed.

Second, little is known about the structure of the underground economy across cities. Although recent research has focused on the labor supply of informal workers (Gunter 2017), most of the work on the underground economy is largely ethnographic. For instance, Sullivan (1989), Venkatesh (2006), and Goffman (2015) draw attention to a variety of normative and illegal occupations and services that the urban poor leverage in order to get by on a daily basis. However, most quantitative studies on the underground economy largely focus on the returns to street-level drug selling in either Washington D.C. or Chicago (MacCoun and Reuter 1992; Saner et al. 1995; Levitt and Venkatesh 2000). We seek to broaden both the geographic scope and occupational opportunities that underlie immersion in the underground economy before, during, and after The Great Recession to understand how men with incarceration histories find work. Thus, we focus on both informal and illegal forms of work within the underground economy.

Our study makes three contributions to the literature. First, we document the importance of the underground economy in the lives of fathers, who may avoid discrimination in the secondary, low-wage labor market and may be better positioned to remit resources to their

households. Second, we show that labor market exclusion may not translate into labor inactivity, particularly given the rich heterogeneity of underground occupations. Finally, we establish how The Great Recession affected the structure of underground employment for disadvantaged men who may have been excluded from primary and secondary sectors of the economy during labor market contraction. We begin with a conceptual framework for understanding employment in the underground economy and its distinguishing features from formal economic systems.

Conceptualizing the Underground Economy

The underground economy runs parallel to the formal economy, insofar as the availability of work in either economic system produces employment and wage opportunities for laborers. However, in its earliest conception, Castells and Portes (1989:12) conceived of the underground economy as an informal sector comprised of “all income-earning activities that are not regulated by the state in social environments where similar activities are regulated.” Feige (1990) extends this conceptual definition by proposing a taxonomy that classifies forms of exchange based on the institutional rules attached to particular economic activities. Under Feige’s (1990: 992) classification, the underground economy represents an amalgamation of the *illegal economy*—the production and distribution of legally prohibited goods and services; the *unreported economy*—income and earnings unreported to tax authorities; the *unrecorded economy*—activities and enterprises that do not report to government statistical agencies; and the *informal economy*—economic exchanges that circumvent the laws and administrative rules governing “property relationships, commercial licensing, labor contracts, torts, financial credit, and social security systems” in order to lower transaction costs. Informal and formal day labor (Valenzuela 2003: 308-309) —which differ based on the visibility and location of hiring— represent forms of employment belonging to the informal economy, whereas drug trafficking, prostitution, and illegal gambling fall within the purview of the illegal economy (Portes and Haller 2010). Yet, both forms of work constitute employment in the underground economy.

Thus, the underground economy includes all forms of illegal, informal, unrecorded, and unreported economic activity.

The growth and continuity of the underground economy are an artifact of increasing state regulation and policy changes. Portes and Haller (2010) illustrate the paradox of state control, namely, that as state regulations increase, so too does the scope of possible informal (and illegal) activity. Criminal background checks are one form of expanding state control in the formal economic sector. State interference and disruption of certain controlled goods can shift the process of production and distribution from the formal economy to illegal economies (Castells and Portes 1989). Similarly, the demand for goods and new income-earning opportunities can shift production and distribution from the illegal to the informal economy.

The fluidity with which occupations are embedded in multiple economies—formal, informal, unreported, unrecorded, and illegal—is the result of market dynamics and macroeconomic conditions associated with state regulations and policy reforms. In his discussion of increasing joblessness, Wilson (1996:74) observes: “To be officially unemployed or officially outside the labor market does not mean that one is totally removed from all forms of work activity. Many people who are officially jobless are nonetheless involved in informal kinds of work activity, ranging from unpaid housework to work in the informal or illegal economies that provide income.” These forms of work in the underground economy have been observed routinely in studies of women and families on welfare. For instance, Edin and Lein (1997a) show that single mothers receive earnings from both reported and unreported work, as well as from work in the underground economy. Approximately 39% of the women they studied were employed in unreported work, and roughly 8% of these mothers labored in the underground economy (Edin and Lein 1997a:44). Changes in welfare requirements at the close of the 20th century meant that many welfare recipients relied not only on “a mix of public benefits but also

on a combination of formal employment, underground employment, and help from friends and relatives to survive” (Gustafson 2011:116).

Furthermore, ethnographic research draws attention to the rich heterogeneity that exists in the occupations and services within the underground economy. Venkatesh’s (2006) study of a neighborhood gang in Chicago exposed him to an entire web of intricate exchanges in the underground economy, representing illicit work (drug selling, prostitution, etc.) and more normative occupations within the informal economy (mechanics, construction workers, security/lookouts, unlicensed cab drivers, accountants, painters). Similarly, Goffman’s (2015) ethnography of a Philadelphia neighborhood finds a variety of additional economic opportunities that exist outside the purview of the formal labor market (selling drug-free urine and fake identification, fabricating documents, babysitting children, rendering unlicensed medical services, etc.). Thus, there is reason to believe that the most disadvantaged members of society may increasingly depend on underground (both informal and illegal) work to make ends meet, particularly if a background check is a condition of, and barrier to, formal employment.

Incarceration and the Labor Market

Social isolation, joblessness, and incarceration are longstanding social problems affecting the underclass in the urban core (Wilson 1987). Increasing joblessness and incarceration throughout the latter decades of the twentieth century concealed social dislocations that fueled rising economic inequality and material hardship (Garland 2001; Western 2006). Neoliberal shifts in the structure of the economy began to reconstitute the racial hierarchies of both the penal system and the ghetto (Wacquant 2000; 2001), transforming the institutional logics of market regulation and the social safety-net through reductions in welfare state benefits and increasing workfare and prisonfare among the underclass (Wacquant 2010). A consequence of welfare state devolution has been to camouflage the true unemployment rate in America.

Although states with more generous welfare systems have lower incarceration rates (Beckett and Western 2001), the use of incarceration decreases conventional unemployment measures by removing working-aged men from the labor-force (Western and Beckett 1999; Western and Pettit 2005; Pettit 2012). Furthermore, the structure of labor market segmentation is known to exacerbate the inverse relationship between welfare benefits and rates of imprisonment (Colvin 1990). However, in the long run, past incarceration will increase the unemployment rate when re-entry cohorts return to society and face barriers to formal work (Western and Beckett 1999).

As a result, understanding the impediments to finding legitimate work in the formal labor market has received increasing scholarly attention. Pager (2007) shows that spending time in prison or jail is a negative credential that marks former offenders, resulting lower job call back rates than men without the negative credentialing. Employer attitudes about ex-offenders are often contradictory. For instance, employers who indicated a greater likelihood of hiring ex-offenders were no more likely to hire an ex-offender in practice (Pager and Quillian 2005), and when interviewed about their attitudes about black and white workers, employers perceived black men as threatening or having a criminal demeanor (Pager and Karafin 2009). Thus, employer attitudes and misperceptions shape the labor inactivity of former inmates, especially for black and Latino men (Pager et al. 2009a; 2009b).

Employer based decisions affect both observed employment rates and wage differentials between black and white men, as well as non-offenders and ex-offenders. Western (2002) finds that incarceration produces slow wage growth, and that imprisonment increases race and ethnic wage inequality. Claims that the robust economy of the 1990s lessened racial inequality in wages is a statistical artifact of sample selectivity; once inmate wages are included in labor market statistics, the black-white wage gap increases by 7-20% and rises to nearly 60% among young, disadvantaged men (Western and Pettit 2005).

Labor Market Segmentation and the Underground Economy

Why should the underground economy matter for employment and wage mobility among ex-offenders? We argue that the economic exchanges in the underground economy may buffer and (partially) attenuate the social effects of exclusion from, and discrimination in, the formal labor market. Our argument is situated in two theoretical perspectives: labor market segmentation and work as a turning point in the life-course.

The labor force consists of two distinct sectors that results in a segmented (or dual) labor market (Doeringer 1967; Doeringer and Piore 1971). Dual labor market theory posits that the American labor force has become dichotomized over time into “primary” and “secondary” workers, and that these two workforces differ in employer and employee expectations, pay scales, autonomy, and other attributes of jobs (Doeringer and Piore 1971; Reich et al. 1973). The behavioral rules under which the markets operate are also different. The secondary labor market is associated with menial tasks, employment instability, low wages and no benefits, and poor and unsafe working conditions (Reich et al. 1973). A key feature of the secondary labor market is that there is little to no chance of advancement (Reich et al. 1973). The primary labor market, on the other hand, is characterized by good wages, better working conditions, and a chance for advancement (Reich et al. 1973). Labor market segmentation is known to produce wage differentials by race, gender, and educational attainment (Castellini 1980; Reid and Rubin 2003)

The separation of markets occurs for a number of reasons, one of which is discrimination in the behavioral requirements imposed on the workforce (Piore 1972). Extrapolating dual labor market theory to the illicit economy of crime, Bales (1984) argues that the secondary market uniquely structured, or routed, men into criminal careers due to the very nature of the market’s functioning. Working in the underground economy may represent one form of system avoidance (Brayne 2014). However, to the extent that men work in both the formal and informal labor market, such a finding would undercut theories of system exclusion and avoidance. Empirical

evidence supports Bales' contention, as economic research shows that street-level drug dealers are employed in both illicit work and low wage jobs in the formal economy (MacCoun and Reuter 1992; Saner et al. 1995; Levitt and Venkatesh 2000). Thus, earnings from the underground economy largely supplement, rather than supplant, secondary labor market earnings. Yet, it is unknown whether a deep recession may have pushed men and women out of the secondary labor market and into the underground economy as a primary source of employment.

Additionally, there is reason to believe that legal prohibitions, stigma, and rational action also lead men into the underground economy. Pager's (2007) work on criminal credentialing implicates the secondary labor market in exclusionary job hiring practices; ethnographic research buttresses the relationship between low-wage formal work and the underground economy as a route to additional wage mobility (Edin and Kafalas 2005; Venkatesh 2006; Goffman 2015); and rationality in illicit drug activity, as a consequence of secondary labor market participation, has also been raised as an explanation for working in the underground economy (Levitt and Venkatesh 2000). Interestingly, the increased risk of injury, death, or disease does not result in greater wage compensation among secondary sector workers (Graham and Shakow 1990), undermining rational motivation for working in the secondary labor market. Collectively, these studies highlight the unique path to the underground economy created by the secondary, low-wage labor market, particularly for the underclass residing in the urban core. Dual labor market theory implies that formerly incarcerated fathers should be more likely to work in the underground and informal economies due to social exclusion from both sectors of the formal labor market.

Moreover, criminological theories of crime and deviance are aligned with the dual labor market approach. Merton (1938), for example, contends that crime results from a disjuncture between culturally defined success goals and the institutional means to achieve those goals, and

research shows that the quality of employment for less educated workers in metropolitan areas is statistically associated with higher rates of violent and property crime (Weiss and Reid 2005). Similarly, Cloward and Ohlin (1960) argue that legitimate and illegitimate opportunity structures are differentially accessible to individuals, suggesting that illicit, economically motivated crime requires access to delinquent social networks. These approaches to cultural and economic transmission have important implications for the emergence, composition, and continuity of the underground economy, chiefly, that — like the dual labor market approach — those shut out of legitimate means for upward wage mobility may turn to crime or the informal labor market for relief. In doing so, the underground economy acts as a safety net or buffer zone for those who seek culturally defined success goals but lack legitimate opportunities — due to either legal prohibitions, social exclusion, or the mark of a criminal record.

Yet, life-course theorists argue that attachments to work and family should cause desistance (Sampson and Laub 1993), suggesting that recently incarcerated men would not labor in the underground economy for fear of recidivating or violating possible terms of probation or parole, if formal work is a precondition of community supervision. Although work is known to be a turning point in the life-course for disadvantaged men (Sampson and Laub 1993; Uggen 2000), it is unclear whether the same forces that predisposed men to commit crime — unemployment, underemployment, employment instability, and low wage jobs — may inevitably place or replace them on the path to the underground economy. Work, as a turning point, may be sector specific in the formal labor market. Nevertheless, this paradigm implies that formerly incarcerated people should be less likely to work in the underground economy, if employed in the formal labor market, in order to prevent recidivating.

Current Contributions

The current analysis uses a dataset of urban families with young children – many of whom have fathers with criminal histories – to examine of the labor market activities of formerly incarcerated men. In so doing, we provide new information on the relationship between the primary, secondary, and underground labor markets, and the macroeconomic forces shaping participation in each. Our work also informs the criminology literature; increased participation in the underground economy may follow incarceration as a potential “collateral consequence” further challenging the re-entry population after the completion of their sentences. While underground work need not be inherently criminal, it carries fewer protections for workers than employment in either the primary or secondary formal sectors, and may introduce additional risk into the lives of the formerly incarcerated.

Additionally, our findings have implications for family wellbeing, particularly the wellbeing of families with incarcerated and formerly incarcerated fathers. Incarceration has been shown to compromise fathers’ financial contributions to their partners and children, and child support payments are relatively low among formerly incarcerated men. To the extent that underground work enables low-income fathers to circumvent the formal child support system, increased underground activity among formerly incarcerated men has consequences not only for the men themselves, but also for their partners and children. Indeed, research shows that living in cities with stricter child support enforcement is associated with working fewer hours in the underground economy (Rich, Garfinkel, and Gao 2007).

Finally, our work extends recent inquiries into the dynamics of informal labor supply in America. Gunter (2017) finds that over half of all urban fathers and nearly a third of all urban mothers engage in informal work. Consistent with past scholarship (MacCoun and Reuter 1992; Saner et al. 1995; Levitt and Venkatesh 2000), Gunter (2017) reports that informal work occurs in tandem with formal employment. Yet, our article departs from Gunter’s (2017) research in

several notable ways. First, we include all forms of non-traditional work, including illicit activities and non-cash work, as the underground economy consists of informal, illegal, unreported, and unrecorded economic exchanges (Feige 1990) that directly affect the production and distribution of goods and services between formal, informal, and criminal sectors of the economy (Portes and Haller 2010). Second, we examine how local labor market conditions facilitate employment in the underground economy and structure the nature of work for men with criminal records. Gunter's (2017) analysis relies on state-level macroeconomic conditions (state unemployment rate, state minimum wage, etc.) instead of conceiving work as a process that occurs under local labor market conditions. This distinction is critical, as recent research shows that the spatial mismatch between low-skilled job seekers in central cities and job opportunities in outlying areas often form barriers to formal employment for men re-entering society from prison (Sugie and Lens 2017). Lastly, our analytical design adds additional controls for other local economic conditions (e.g., poverty) that are known to affect the likelihood of working in the underground economy (Edin and Lein 1997; Gustfason 2011; Wilson 1996).

DATA AND MEASURES

Data

Data are drawn from the Fragile Families and Child Wellbeing Study (FFCWS), a population-based longitudinal survey of nearly 5,000 couples (N=4,898) with children. The study systematically oversamples unmarried parents but, when weighted, is nationally representative of families with children born between 1998 and 2000 in cities of population 200,000 or more with different welfare regimes and labor market characteristics. The FFCWS oversample of unmarried parents provides a sample facing significant socioeconomic disadvantage, with high rates of incarceration among the fathers (Geller, Cooper, Garfinkel, Schwartz-Soicher, & Mincy, 2012). The majority (54%) of incarcerated individuals are parents

of minor children (The Pew Charitable Trusts, 2010), suggesting that FFCWS fathers with incarceration histories may be representative of a significant portion of incarcerated and formerly incarcerated men.

Baseline data were collected between 1998 and 2000, in hospitals in 20 large U.S. cities; Reichman, Teitler, Garfinkel, and McLanahan (2001) provide a complete description of the study design. The study was initially designed to examine nonmarital childbearing, the role of fathers, and welfare reform and has since expanded to examine other aspects of social disadvantage. Geller, Jaeger, and Pace (Forthcoming) describe the study's contemporary capabilities.

The FFCWS survey data were supplemented with local area population, employment and unemployment data from the U.S. Census Bureau and the Bureau of Labor Statistics (BLS). In most cases (94-99% per survey wave) fathers are matched to their local areas based on their Core Based Statistical Areas (CBSAs¹) of residence at the time of each of their interviews. For fathers who did not reside within a CBSA boundary, local area data were provided based on their county of residence (0-2% per survey wave). No estimates were provided for fathers living outside of the U.S., or who resided at an address that could not be determined (0-5% per wave).

¹ CBSAs are geographic regions centered around an urban center of 10,000 people or more, and were defined by the U.S. Office of Management and Budget during the 2000 Census. They consist of two different types of areas: Metropolitan Statistical Areas (MSAs) and Micropolitan Statistical areas (MISAs), and cover approximately 94% of the U.S. population. CBSAs are used by the U.S. Census Bureau and Bureau of Labor Statistics, among other groups (Bendheim-Thoman Center for Research in Child Wellbeing, 2013).

Key Constructs

Employment

Fathers' employment in the formal and underground economies is coded based on self-reports of past-year employment at each wave. Fathers are recorded as having worked in the formal economy if they noted that they "did any regular work for pay" in the past week, that they "have a job", that they "have their own business", or that the last month and year they had worked was within 12 months of their interview date. Fathers are recorded as having worked in the underground economy in the past year based on their responses to four questions: whether they made money in the past year (1) off the books or under the table, (2) in their own business², (3) illegally (i.e., "selling stolen goods, selling/delivering drugs, or other hustles"), or in (4) "other activities"³. We define fathers as having "doubled up" over the past year if they report both formal and underground work in this period.

² Respondents asked about informal work in their "own business" are explicitly asked not to report work already mentioned in the questions about "regular work", or that done in the formal economy. This suggests that informal earnings from a respondent's own business are not a duplicate report of income reported as formal earnings.

³ Notably, the measure of underground employment at Year 5 and Year 9 is based only on the indicators of fathers working in their own business, in illegal activity, or in "something else". The "off books or under the table" question is not asked. We therefore estimate additional models of underground employment that include a dummy variable to identify observations in the two most recent waves, in which underground employment was measured with the more limited indicator. Results suggest that fathers were significantly less likely to report underground

Incarceration

We identify fathers as having histories of incarceration if the FFCWS contains any indication of fathers having been incarcerated at any point leading up to any of the survey waves. Fathers may be identified as incarcerated through self-reports, through the reports of their partners, or what we refer to as “indirect indicators” – such as one of the parents reports incarceration led to their breakup or precluded the father from working, or the survey contractors reporting that the father was incarcerated and unavailable for interview at some point (Geller et al., 2012). Following much of the parental incarceration literature, our indicator is an inclusive measure: fathers are identified as having an incarceration history based on any single report of having been to a correctional institution, even if there is disagreement between parental reports (Geller, Jaeger, and Pace, 2016). Fathers as reported as having no indication of incarceration if no such report appeared in their history by Year 9.⁴

work with this more limited measure; however, the other associations of interest were not substantially changed.

⁴ We use the “constructed” indicators of having ever been incarcerated released with the FFCWS data. Notably, 631 fathers are incarcerated for the first time between the Year 1 and Year 9 follow-up studies, and another 132 fathers have unknown status at the first follow-up wave. Sensitivity analyses exclude fathers who did not have incarceration histories for the entire study period; substantive results are robust to their exclusion.

Macroeconomic Conditions

We consider two indicators of macroeconomic conditions in our analysis: a CBSA-level employment rate that divides the total number of employed people by the working-age population (16-64), and a CBSA-level unemployment rate⁵.

Covariates

The relationship between macroeconomic conditions, incarceration, and fathers' labor market participation is assessed in the context of several potential confounders. Specifically, we examine fathers' race, ethnicity, nativity, baseline age, educational attainment, relationship status with their "focal partner", and poverty level.

ANALYTIC STRATEGY

Data Structure and Analysis Sample

Our analysis structures the FFCWS as an unbalanced panel, and examines fathers based on the calendar year of each interview. As noted, FFCWS baseline interviews took place between 1998 and 2000; details on the timing of follow-up interviews are provided in Table 1.

[Table 1 about here]

Our analysis sample consists of all 13,065 observations of fathers in which they report past-year participation (or non-participation) in the formal and underground labor markets, and in which their macroeconomic conditions were recorded. 3,249 fathers appear at least once over the study's five waves: approximately half (1,581) appear in every wave, with successively declining numbers appearing in 4, 3, 2, and 1 wave.

⁵ Both measures are scaled in percentage points and are modeled to run from 0-100%.

Modeling Strategy

We model the associations between incarceration, formal and underground employment, and macroeconomic conditions using a series of logistic regression models. The first set of models predicts past-year employment in the formal market, and the second predicts past-year employment in the underground market, controlling for formal employment in the same time period. In each set of models, the first model estimated is a bivariate model that predicts labor force participation as a function of fathers' incarceration history. The second model is a multivariate model that examines fathers' incarceration in the context of the covariates in Table 2, as predictors of fathers' labor force participation. The third model is another bivariate model predicting past-year employment as a function of the local employment rate. The fourth model examines both incarceration and local employment conditions, including the same covariates as Table 2, as well as an interaction term to assess whether local employment rates are differentially related to labor force participation for fathers with and without histories of incarceration.

Models of underground employment follow the same general pattern as those of formal employment; however, underground employment models include an additional control for formal work in the same time period, to identify the extent to which our predictors are associated with underground work beyond their association with formal employment⁶. In addition, models of off-books employment include a fixed effect that distinguishes reports from the baseline, Y1, and Y3 waves and reports from the Y5 and Y9 waves⁷.

⁶ A sensitivity analysis examines the extent to which conclusions change when the “formal work” control is excluded.

⁷ Models predicting off-books employment are similar to models of formal employment, but a sensitivity analysis includes a fixed effect that distinguishes baseline, Y1, and Y3 reports from

EMPIRICAL RESULTS

Sample Description

A description of the fathers in our analysis sample is provided in Table 2. As in the FFCWS more generally, the analysis sample is “majority minority” (approximately 75% black or Hispanic), with just under 75% of couples unmarried at the time of the focal child’s birth. Underscoring the disadvantage faced by the analysis sample, more than two-thirds of fathers have only a High School degree or less, and more than half have been incarcerated at least once before the Y9 survey.

Table 2 also indicates significant differences between fathers with and without histories of incarceration: those incarcerated at some point before Y9 are significantly more likely to be black (and nonwhite more generally), are younger, less educated, and less likely to be married to their focal partner at baseline.

[Table 2 about here]

Employment Trends

We examine fathers’ participation in the formal and underground labor markets in the context of significant macroeconomic changes over the study’s first five waves, which were felt differently across cities. Figure 1 presents unemployment trends over the 13 years of FFCWS data collection in the CBSA of each of the sample cities. Although unemployment fluctuated throughout the data collection period, with observable variation across cities, unemployment increased significantly during the Great Recession of 2007-2009, most notably in the Detroit

reports in Y5 and Y9. In the two most recent waves, one of the four survey items used to identify underground work was dropped from the survey, and models including this fixed effect allow the assessment of whether the measurement difference has broader implications for modeling results.

CBSA. We hypothesize that these broad social changes had significant implications for men's labor force participation, and that men with incarceration histories were particularly vulnerable in periods of high unemployment.

[Figure 1 about here]

Figure 2 presents the percent of fathers in our analysis sample working in the formal and underground labor markets throughout the interview period. Most notably, employment in the formal market is relatively common, with more than 90% of fathers in our analysis sample reporting having done “regular work” at some point in the year leading up to their interviews. However, fathers' employment patterns in the formal market show some fluctuation with macroeconomic trends, with formal employment less prevalent during the Great Recession.

Approximately 29% of fathers report working “off-books” in the underground labor market. However, very few fathers work exclusively in the underground market: nearly all fathers reporting underground work in the year leading up to each interview “double up”, and also work in the formal market at some point over the year. Notably, underground work declined in the early 2000's, a time of diminishing unemployment in the formal market (as shown in Figure 1). However, as formal employment declined in our analysis sample during the Great Recession, underground work increased slightly.

[Figure 2 about here]

Figure 3 presents formal and underground employment patterns by fathers' histories of incarceration. Fathers with incarceration histories are significantly less likely to report that they have worked in the formal labor market in the year leading up to their interviews, and significantly more likely to report having worked in the underground market. However, even among men with incarceration histories, employment rates are relatively high: more than 80% of fathers interviewed report having worked in the formal market in the year leading up to their

interviews. Of particular note, underground work is not only more prevalent among fathers with incarceration histories, the sensitivity of underground work to macroeconomic conditions appears to be greater for men reporting histories of incarceration.

[Figure 3 about here]

Modeling Results

Models testing the association between formal and underground work and fathers' incarceration are presented in Tables 3 and 4. Table 3 presents results from models predicting fathers' work in the formal economy over the past year. Models 1 and 2 indicate that men with incarceration histories have significantly lower odds of working in the formal labor market. A substantial portion of the observed relationship between incarceration and past-year employment is associated with fathers' background characteristics (e.g., race, age) and baseline socioeconomic disadvantage (e.g., poverty, low education); however, the odds of formal employment remain significantly lower for formerly incarcerated men when these characteristics are controlled for. Models 3 and 4 indicate that an individual's odds of formal employment are significantly tied to local macroeconomic conditions: greater as CBSA employment rates increase, and as CBSA unemployment rates decrease.

Examining the role of incarceration in the context of local macroeconomic conditions, CBSA employment and unemployment rates remain significant predictors of individual employment in the formal market; controlling for individual incarceration history and background characteristics only slightly alter the magnitudes of association. However, the association between incarceration and individual formal employment is somewhat sensitive to our measurement choice for macroeconomic conditions. Controlling for local employment rates (Model 5), the relative odds of employment for incarceration increase (OR increases from .516 in Model 2 to 0.830 in Model 5) to the point of statistical insignificance. On the other hand,

controlling for local unemployment rates (Model 6), the gap between formerly incarcerated and never incarcerated men widens. In both Models 5 and 6, the interaction between macroeconomic conditions and incarceration is small and statistically insignificant, suggesting that while the formal employment of both formerly-incarcerated and never-incarcerated men is vulnerable to macroeconomic conditions, formerly incarcerated men are at no greater risk from economic downturns than their counterparts.

Table 4 presents results examining men's underground employment. Results suggest that underground work serves, to some extent, as a substitute for formal work, as demonstrated by "formal employment" odds ratios consistently predicting lower odds of underground work for those working in the formal market. (However, this relationship is only statistically significant in models controlling only for macroeconomic conditions, rather than personal characteristics.) Accordingly, controlling for formal employment, Models 1 and 2 of Table 4 suggest that formerly incarcerated men have greater odds of informal employment than their never-incarcerated counterparts. On the other hand, the association between macroeconomic conditions and underground work in Models 3 and 4 suggests that like formal work, underground work is more prevalent when the economy is strong. As in our models of formal employment, Models 5 and 6 suggest that the association between incarceration and underground work is explained in part by macroeconomic conditions; the increase in odds of underground work associated with incarceration is itself diminished when controlling for macroeconomic conditions. (Controlling for CBSA employment rates in Model 5, incarceration is again a statistically insignificant predictor of underground work. While the association between incarceration and underground work is statistically significant when controlling for local unemployment rates in Model 6, its magnitude is diminished.)

[Tables 3 and 4 about here]

The majority of men in the FFCWS with incarceration histories (1,116 out of the 1,693 formerly incarcerated men in our analysis sample) were incarcerated for the first time before entry into the survey. Because the remaining 577 were incarcerated for the first time over the course of the FFCWS, any associations between their incarceration history and labor market behavior may be confounded by their change in status over time. We therefore assess the sensitivity of the results in Tables 3 and 4 to their exclusion from our analysis sample, and find our substantive findings to be unchanged.

DISCUSSION AND CONCLUSION

We find that formerly incarcerated men indeed look to the underground labor market to compensate for their disadvantages in the formal market. However, men's work in both the formal and underground markets are sensitive to macroeconomic conditions, suggesting that a weak local economy could threaten opportunities in the underground market as well as more stable formal work. As a result, even the limited opportunities offered by underground work may be difficult to maintain during broadly challenging times. Although our findings are limited by our inability to identify a causal effect of incarceration, local employment conditions are a more exogenous "treatment". While the FFCWS sample faces significant residential instability, far more families move within CBSAs than between them, suggesting that the macroeconomic conditions faced by the fathers in our survey are driven by external factors rather than selection into economically favorable (or unfavorable) locations.

Our results also suggest that formerly incarcerated men, while at a significant disadvantage in the formal labor market, are no more vulnerable to economic downturns than their never-incarcerated counterparts. This finding is important, as recent research shows that men released from prison often experience extensive material hardship and labor inactivity. Western, Braga, Davis and Sirois (2015) report that over one-half to two-thirds of the former

inmates they interviewed were unemployed or on public assistance, resulting in mental stresses that strained existing social relationships with loved ones. Furthermore, growing economic and income insecurity for children from low-income households (Western et al. 2012; 2016) means that the financial well-being of families may partly depend on the underground opportunities and resources available to severely disadvantaged parents. Edin and Lein (1997a; 1997b) and Gustafson (2011) document how the informal and illegal economies are a central necessity for the economic survival of single mothers, and Sampson (1987) shows how joblessness among urban black men can produce feedback effects that disrupt the black family and increase violent crime rates. Thus, while the social safety net mitigated child poverty during the Great Recession (Bitler, Hoynes, and Kuka 2016), opportunities in the underground sector of the economy may also increase economic stability for children with parents excluded from the formal labor market.

Despite our contributions to the punishment and inequality literature, our study contains several limitations. First, the data used in our analysis only paints a partial picture of economic opportunities in local labor markets. Because selection into the sample was limited to adults for whom a new child was added to their family-unit, it could be that men without children labor in the underground economy at different rates. We examined this possibility using data from the Survey of Inmates, which reports on the employment of men and women in custody a month before their incarceration. After standardizing the age distribution of children in the Survey of Inmates to match that of minors in the Fragile Families data, we did not observe differences in illegal employment among inmates with and without children. However, it is unclear whether illegal employment reported in the Survey of Inmates includes work that is informal, unreported, unrecorded, or indeed illegal, as these four distinctions matter for the underground economy (Feige 1990). The practical consequence is that respondents may have interpreted illegal employment in different ways as they evaluated whether their employment was indeed “illegal”.

A second limitation of our study is that our findings are only generalizable to the 20 urban cities in the data. While the Fragile Families data are generalizable to children born in the late 1990s in those cities, it is unclear whether these findings extend more broadly to underground markets in other cities and rural areas. Future research should explore whether these findings hold using nationally representative, cross-sectional data, as the spatial exclusion and temporal selection of families in our sample may not account for the full underground experience of American families.

Nevertheless, our findings raise several of implications for research on punishment and inequality. First, a burgeoning literature on mass incarceration and wealth inequality has documented how criminal justice contact affects the accumulation of assets, debt, and other financial goods and services (Maroto 2015; Maroto and Sykes 2017; Schneider and Turney 2015; Sykes and Maroto 2016; Turney and Schneider 2016; Zaw et al. 2016). Sykes and Maroto (2016) show that institutionalization affects the wealth generation of all household members, primarily due to the labor inactivity of former inmates, and Maroto and Sykes (2017) illustrate that nearly 20% of the difference in assets between never and ever incarcerated millennials is due to income differences within their birth-cohort. Yet, little is known about whether earnings from the underground economy are immediately consumed or partially saved for future consumption. Future research should document the ways in which earnings from the underground economy are used among disadvantaged families.

Second, our research has implications for financial remittances in support of children. Geller et al. (2011) find that formerly incarcerated men are less likely to contribute to their children, in part, due to their low earnings and non-residential status, and Rich et al. (2007) report a negative association between the strength child support enforcement regimes in cities and the number of hours worked in the underground economy. However, whether formerly incarcerated men who work in the underground economy are more likely to support their

children remains unknown. Given that the underground employment is a necessary requirement for single mothers (Edin and Lein 1997a; b; Gustfason 2011), it could be that, among men with criminal records, those who work in the underground economy may be better positioned to remit and contribute resources to their children and families than men who are unemployed in both the formal and underground economies. Future research should explore the relationship between formal child support remittances to custodial parents and work in the underground economy.

In short, we find that fathers with a criminal record are more likely to work in the underground economy. Discrimination in the formal labor market, in both employment opportunities and wage mobility (Pager 2007; Western 2006), may help to explain this finding. Future research should delve deeper into the structure and contours of the underground economy for formerly incarcerated men, for the consequences of such employment may yield important sociological knowledge regarding the occupational and earnings trajectories disadvantaged fathers.

REFERENCES

- Alexander, Michelle. 2010. *The New Jim Crow: Mass Incarceration in the Age of Colorblindness*. NY: The New Press.
- Bales, Kevin. 1984. "The Dual Labor Market of the Criminal Economy." *Sociological Theory* 2: 140-164
- Beckett, Katherine and Bruce Western. 2001. "Governing Social Marginality: Welfare, Incarceration, and the Transformation of State Policy." *Punishment and Society* 3(1): 43-59.
- Bendheim-Thoman Center for Research in Child Wellbeing. (2013). *Fragile Families and Child Wellbeing Study: Local Area Unemployment Statistics (LAUS) Data Appendage, Version 1.3*. Retrieved from http://lotka.princeton.edu/archive/ff/datausers/year9/2012Files/bls_laus_documentation_082013.pdf
- Binswanger, Ingrid, Marc Stern, Richard Deyo, Patrick Heagerty, Allen Cheadle, Joann Elmore, and Thomas Koepsell. 2007. "Release from Prison -- A High Risk of Death for Former Inmates." *New England Journal of Medicine* 356: 157-165.
- Bitler, Marianne, Hilary Hoynes, and Elira Kuka. 2017. "Child Poverty, the Great Recession, and the Social Safety Net in the United States." *Journal of Policy Analysis and Management* 36(2): 358-398.
- Brayne, Sarah. 2014. "Surveillance and System Avoidance: Criminal Justice Contact and Institutional Attachment." *American Sociological Review* 79 (3): 367-91.
- Bushway, Shawn, Shauna Briggs, Faye Taxman, Meredith Thanner, and Mischelle Van Brakle. 2007. "Private providers of criminal history records: Do you get what you pay for?" In *Barriers to reentry? The labor market for released prisoners in post-industrial America*, eds. Shawn Bushway, Michael A. Stoll, and David F. Weiman, 174–200. New York, NY: Russell Sage Foundation
- Castells, Manuel and Alejandro Portes. 1989. "World Underneath: The Origins, Dynamics, and Effects of Informal Economy." Pp 11-37 in *The Informal Economy: Studies in Advanced and Less Developed Countries*, ed. Alejandro Portes, Manuel Castells, and Lauren Benton. Baltimore, MD: John Hopkins University Press.
- Castellini, Jerome. 1980. "The Determinants of Income for Primary and Secondary Laborers." *The American Economist* 24 (1): 37-41.
- Colvin, Mark. 1990. "Labor Markets, Industrial Monopolization, Welfare, and Imprisonment: Evidence from a Cross-Section of U.S. Counties." *Sociological Quarterly* 31 (3): 441-57.
- Cloward, Richard and Lloyd Ohlin. 1960. *Delinquency and opportunity: A theory of delinquent gangs*. New York: Free Press.

- Comfort, Megan. 2008. *Doing Time Together: Love and Family in Shadow of the Prison*. Chicago: University of Chicago Press.
- Doeringer, Peter. 1967. "Determinants of the Structure of Industrial Type Internal Labor Markets." *Industrial and Labor Relations Review* 20: 206-20.
- Doeringer, Peter and Michael Piore. 1971. *Internal Labor Markets and Manpower Analysis*. Lexington: D.C. Heath and Company.
- Edin, Katheryn and Maria Kefelas. 2005. *Promises I Can Keep: Why Poor Women Put Motherhood Before Marriage*. Berkeley, CA: The University of California Press.
- Edin, Katheryn and Laura Lein. 1997a. *Making Ends Meet: How Single Mothers Survive Welfare and Low-Wage Work*. New York: Russell Sage Foundation.
- , 1997b. "Work, Welfare, and Single Mothers' Economic Survival Strategies." *American Sociological Review* 62(2): 253-266.
- Feige, Edgar. 1990. "Defining and Estimating Underground and Informal Economies: The New Institutional Economics Approach." *World Development* 18: 989-1002.
- Fryer, Roland, Devah Pager, and Jorg Spenkuch. 2013. "Racial Disparities in Job Finding and Offered Wages." *Journal of Law and Economics* 56: 633-689.
- Garland, David. 2001. *The Culture of Control: Crime and Social Order in Contemporary Society*. Chicago: University of Chicago Press.
- Geller, Amanda, and Marah Curtis 2011. "A Sort of Homecoming: Incarceration and the Housing Security of Urban Men." *Social Science Research* 40 (4): 1196-1213.
- Geller, Amanda., Carey Cooper, C. E., Irwin Garfinkel, Ofira Schwartz-Soicher, and Ron B. Mincy. 2012. "Beyond Absenteeism: Father Incarceration and Child Development." *Demography*, 49(1), 49-76.
- Geller, Amanda, Irwin Garfinkel, Carey Cooper, and Ron Mincy. 2009. "Parental Incarceration and Child Wellbeing: Implications for Urban Families." *Social Science Quarterly* 90(5): 1186-1202.
- Geller, Amanda, Irwin Garfinkel, and Bruce Western. 2011. "Paternal Incarceration and Support for Children in Fragile Families." *Demography* 48(1): 25-47.
- Geller, Amanda, Kate Jaeger, and Garrett Pace. 2016. "Surveys, Records, and the Study of Incarceration in Families." *Annals of the American Academy of Political and Social Science* 665: 22-43.
- Geller, Amanda, Kate Jaeger., and Garret Pace. Forthcoming. "Using the Fragile Families and Child Wellbeing Study in Life Course Health Development Research." In N. Halfon, C. Forrest, R. Lerner, & E. M. Faustman (Eds.), *Handbook of Life Course Health Development Science*. New York, NY: Springer.

- Glaze, Lauren, Danielle Kaeble, Todd Minton, and Anastasios Tsoutis. 2015. *Correctional Populations in the United States, 2014*. Washington, DC: Bureau of Justice Statistics.
- Graham, Julie and Don Shakow. 1990. "Labor Market Segmentation and Job-Related Risk: Differences in Risk and Compensation between Primary and Secondary Labor Markets." *The American Journal of Economics and Sociology* 49 (3): 307-23.
- Goffman, Alice. 2015. *On The Run: Fugitive Life in an American City*. NY: Picador.
- Gunter, Samara. 2017. "Dynamics of Urban Informal Labor Supply in the United States." *Social Science Quarterly* 98 (1): 16-36.
- Gustafson, Kaaryn. 2011. *Cheating Welfare: Public Assistance and the Criminalization of Poverty*. New York: NYU Press.
- Harding, David, Jeffrey Morenoff, and Claire Herbert. 2013. "Home is Hard to Find: Neighborhoods, Institutions, and the Residential Trajectories of Returning Prisoners." *The Annals of the American Academy of Political and Social Science* 647(1):214-236.
- Harris, Alexes. 2016. *A Pound of Flesh: Monetary Sanctions as Punishment for the Poor*. New York: Russell Sage Foundation.
- Harris, Alexes, Heather Evans, and Katherine Beckett. 2010. "Drawing Blood from Stones: Legal Debt and Social Inequality in the Contemporary United States." *American Journal of Sociology* 115:1753-1799.
- Herbert, Claire, David Harding, and Jeffrey Morenoff. 2015. "Homelessness and Housing Insecurity Among Former Prisoners." *RSF: The Russell Sage Foundation Journal of the Social Sciences*, 1 (2): 44-79.
- Levitt, Steven and Sudhir Venkatesh. 2000. "An Economic Analysis of a Drug-Selling Gang's Finances." *The Quarterly Journal of Economics* 115 (3): 755-789.
- Lopoo, Leonard and Bruce Western. 2005. "Incarceration and the Formation and Stability of Marital Unions." *Journal of Marriage and the Family* 67:721-734.
- Lum, Kristian, Samarth Swarup, Stephen Eubank and James Hawdon. 2014. "The Contagious Nature of Imprisonment: An Agent-Based Model to Explain Racial Disparities in Incarceration Rates." *Journal of the Royal Society Interface* doi: 10.1098/rsif.2014.0409
- MacCoun, Robert and Peter Reuter. 1992. "Are the wages of sin \$30 an hour? Economic aspects of street-level drug dealing." *Crime and Delinquency*, 38, 477-491.
- Maroto, Michelle Lee. 2015. "The Absorbing Status of Incarceration and its Relationship with Wealth Accumulation." *Journal of Quantitative Criminology* 31: 207-236.

Maroto, Michelle L. and Bryan L. Sykes. 2017. "The Varying Effects of Incarceration, Conviction, and Arrest on Wealth Outcomes Among Young Adults." Paper presented at the 2017 Annual Meeting of the American Sociological Association.

Massoglia, Michael. 2008. "Incarceration as Exposure: The Prison, Infectious Disease, and Other Stress-Related Illnesses." *Journal of Health and Social Behavior* 49(1): 56-71.

Massoglia Michael, Brianna Remster, and Ryan King. 2011. "Stigma or separation? Understanding the incarceration-divorce relationship." *Social Forces* 90(1):133–55

Merton, Robert. 1938. "Social Structure and Anomie." *American Sociological Review* 3: 672–82.

National Research Council. 2014. *The Growth of Incarceration in the United States: Exploring Causes and Consequences*. Committee on Causes and Consequences of High Rates of Incarceration, J. Travis, B. Western, and S. Redburn, Editors. Committee on Law and Justice, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

Pager, Devah. 2007. *Marked: Race, Crime, and Finding Work in an Era of Mass Incarceration*. Chicago: University of Chicago Press.

Pager, Devah and Lincoln Quillian. 2005. "Walking the Talk: What Employers Do Versus What They Say." *American Sociological Review* 70:355-380.

Pager, Devah, Bruce Western, and Bart Bonikowski. 2009a. "Discrimination in a Low-Wage Labor Market: A Field Experiment." *American Sociological Review* 74: 777-99.

Pager, Devah, Bruce Western, and Naomi Sugie. 2009b. "Sequencing Disadvantage: Barriers to Employment facing Young Black and White Men with Criminal Records." *Annals of the American Academy of Social and Political Science* 623:195–213.

Pager, Devah and Diana Karafin. 2009. "Bayesian Bigot? Statistical Discrimination, Stereotypes, and Employer Decision-Making." *The Annals of the American Academy of Political and Social Sciences* 621: 70-93

Patterson, Evelyn J. 2013. "The Dose-Response of Time Served in Prison on Mortality: New York State, 1989-2003." *American Journal of Public Health* 103(3): 523-528.

-----, 2010. "Incarcerating Death: Mortality in U.S. State Correctional Facilities, 1985-1998." *Demography* 47(3): 587-607.

Pettit, Becky. 2012. *Invisible men: Mass incarceration and the myth of black progress*. New York, NY: Russell Sage Foundation

Pettit, Becky and Bruce Western. 2004. "Mass Imprisonment and the Life Course: Race and Class Inequality in U.S. Incarceration." *American Sociological Review* 69:151-169.

Pettit, Becky, Bryan Sykes, and Bruce Western. 2009. *Technical Report on Revised Population Estimates and NLSY 79 Analysis Tables for the Pew Public Safety and Mobility Project*. Cambridge, MA: Harvard University.

Pettit, Becky and Bryan Sykes. 2015. "Civil Rights Legislation and Legalized Exclusion: Mass Incarceration and the Masking of Inequality." *Sociological Forum*, 30 (S1): 589-611.

Piore, Michael. 1972. "Notes for a Theory of Labor Market Stratification." *Working Paper No. 95, Department of Economics, MIT*.

Pridemore, William. 2014. "The Mortality Penalty of Incarceration: Evidence from a Population-based Case-control Study of Working-age Males." *Journal of Health and Social Behavior* 55: 215-33.

The Pew Charitable Trusts. 2010. *Collateral Costs: Incarceration's Effect on Economic Mobility*. Retrieved from Washington, DC:
[http://www.pewstates.org/uploadedFiles/PCS_Assets/2010/Collateral_Costs\(1\).pdf](http://www.pewstates.org/uploadedFiles/PCS_Assets/2010/Collateral_Costs(1).pdf)

Portes, Alejandro and William Haller. 2010. "The Informal Economy." Pp. 403-425. In *The Handbook of Economic Sociology*, edited by Neil Smelser and Richard Swedberg. Princeton, NJ: Princeton University Press.

Reichman, Nancy, Julien Teitler, Irwin Garfinkel, & Sara McLanahan. 2001. "Fragile Families: Sample and Design." *Children and Youth Services Review*, 23(4/5), 303-326.

Reid, Lesley Williams. 2003. "Integrating Economic Dualism and Labor Market Segmentation: The Effects of Race, Gender, and Structural Location on Earnings, 1974-2000." *Sociological Quarterly* 44(3) 405-32.

Reich, Michael, David Gordon, and Richard Edwards. 1973. "A Theory of Labor Market Segmentation." *The American Economic Review* 63 (2): 359-65.

Rich, Lauren, Irwin Garfinkel, and Qin Gao. 2007. "Child Support Enforcement Policy and Unmarried Fathers' Employment in the Underground and Regular Economies." *Journal of Policy Analysis and Management* 26 (4): 791-810.

Sampson, Robert J. 1987. "Urban Black Violence: The Effect of Male Joblessness and Family Disruption." *American Journal of Sociology* 93(2): 348-382.

Sampson, Robert and John Laub. 1993. *Crime in the Making: Pathways and Turning Points Through Life*. Cambridge: Harvard University Press.

Sampson, Robert, John Laub, and Christopher Wimer. 2006. "Does Marriage Reduce Crime? A Counterfactual Approach to Within-Individual Causal Effects." *Criminology* 44(3): 465-508.

Saner, Hilary, Robert MacCoun, and Peter Reuter. 1995. "On the Ubiquity of Drug Selling Among Youthful Offenders in Washington, D.C., 1985-1991: Age, Period, or Cohort Effect?" *Journal of Quantitative Criminology*, 11, 337-362.

- Schneider, Daniel and Kristin Turney. 2015. "Incarceration and Black-White Inequality in Homeownership: A State-level Analysis." *Social Science Research* 53: 403-414.
- Schwartz-Soicher Ofira, Amanda Geller, and Irwin Garfinkel. 2011. "The Effect of Paternal Incarceration on Material Hardship." *Social Service Review* 85(3): 447-73.
- Sugie, Naomi. 2012. "Punishment and Welfare: Paternal Incarceration and Families' Receipt of Public Assistance." *Social Forces* 90(4): 1403-1427.
- Sugie, Naomi and Michael Lens. 2017. "Daytime Locations in Spatial Mismatch: Job Accessibility and Employment at Reentry from Prison." *Demography* 54: 775-800.
- Sullivan, Mercer. 1989. *Getting Paid: Youth Crime and Work in the Inner City*. Ithaca, NY: Cornell University Press.
- Sykes, Bryan L., and Michelle Maroto. 2016. "A Wealth of Inequalities: Mass Incarceration, Employment, and Racial Disparities in Household Wealth, U.S. 1996-2011." *Russell Sage Foundation Journal of the Social Sciences* 2(6): 129-152.
- Sykes, Bryan and Alex Piquero. 2009. "Structuring and Recreating Inequality: Health Testing Policies, Race, and the Criminal Justice System." *The Annals of the American Academy of Political and Social Science* 623: 214-227.
- Sykes, Bryan and Becky Pettit. 2015. "Severe Deprivation and System Inclusion among Children of Incarcerated Parents in the United States after the Great Recession." *RSF: The Russell Sage Foundation Journal of the Social Sciences*, 1 (2): 108-132.
- , 2014. "Mass Incarceration, Family Complexity, and the Reproduction of Childhood Disadvantage." *The Annals of the American Academy of Political and Social Science* 654: 127-49.
- Turney, Kristin and Daniel Schneider. 2016. "Incarceration and Household Asset Ownership." *Demography* 53 (6), 2075-2103.
- Turney, Kristin, Christopher Wildeman, and Jason Schnittker. 2012. "As Fathers and Felons: Explaining the Effects of Current and Recent Incarceration on Major Depression." *Journal of Health and Social Behavior* 53 (4): 465-81.
- Uggen, Christopher. 2000. "Work as a Turning Point in the Life Course of Criminals: A Duration Model of Age, Employment, and Recidivism." *American Sociological Review* 65:529-46.
- Uggen, Christopher and Jeff Manza. 2002. "Democratic Contraction? Political Consequences of Felon Disenfranchisement in the United States." *American Sociological Review* 67:777-803.
- Valenzuela Jr., Abel. 2003. "Day Labor Work." *Annual Review of Sociology* 29:307-33.

- Venkatesh, Sudhir. 2006. *Off the Books: The Underground Economy of the Urban Poor*. Cambridge, MA: Harvard University Press.
- Wakefield, Sara, and Christopher Wildeman. 2011. "Mass Imprisonment and Racial Disparities in Childhood Behavioral Problems." *Criminology and Public Policy* 10:791-817.
- , 2013. *Children of the Prison Boom: Mass Incarceration and the Future of American Inequality*. New York, NY: Oxford University Press.
- Wacquant, Loic. 2000. "The New 'Peculiar Institution': On the Prison as Surrogate Ghetto." *Theoretical Criminology* 4(3):377-389.
- , 2001. "Deadly Symbiosis: When Ghetto and Prison Meet and Mesh." *Punishment & Society* 3(1): 95-134.
- , 2010. "Crafting the Neoliberal State: Workfare, Prisonfare, and Social Insecurity." *Sociological Forum* 25(2): 197-220.
- Weiss, Harald and Lesley Williams Reid. 2005. "Low-Quality Employment Concentrations and Crime: An Examination of Metropolitan Labor Markets." *Sociological Perspectives* 48 (2): 213-32.
- Western, Bruce. 2006. *Punishment and Inequality in America*. NY: The Russell Sage Foundation.
- , 2002. "The Impact of Incarceration on Wage Mobility and Inequality." *American Sociological Review* 67:477-98.
- Western, Bruce, and Becky Pettit. 2005. "Black-White Wage Inequality, Employment Rates, and Incarceration." *American Journal of Sociology*, 111:553-578.
- , 2000. "Incarceration and Racial Inequality in Men's Employment." *Industrial and Labor Relations Review* 54(1):3-16.
- Western, Bruce and Katherine Beckett. 1999. "How Unregulated is the U.S. Labor Market? The Penal System as a Labor Market Institution." *American Journal of Sociology* 104: 1030-1060.
- Western, Bruce, Deirdre Bloome, Benjamin Sosnaud, and Laura Tach. 2012. "Economic Insecurity and Social Stratification." *Annual Review of Sociology* 38: 341-59.
- , 2016. "Trends in Income Insecurity among U.S. Children, 1984-2010." *Demography* 53: 419-447.
- Wildeman, Christopher. 2012. "Imprisonment and Infant Mortality." *Social Problems* 59: 228-57.

-----, 2014. "Parental Incarceration, Child Homelessness, and the Invisible Consequences of Mass Imprisonment." *The Annals of the American Academy of Political and Social Science*, 651: 74-96.

Wildeman, Christopher, and Christopher Muller. 2012. "Mass imprisonment and inequality in health and family life." *Annual Review of Law and Social Science* 8:11–30.

Wildeman Christopher, Signe Andersen, Hedwig Lee, and Kristian Karlson. 2014. "Parental Incarceration and Child Mortality in Denmark." *American Journal of Public Health* 104(3): 428-433.

Wilson, William Julius. 1987. *The Truly Disadvantaged: The Inner City, Social Class, and Public Policy*. Chicago: University of Chicago Press.

-----, 1996. *When Work Disappears: The World of the New Urban Poor*. New York: Knopf.

Zaw, Khaing, Darrick Hamilton, and William Darity Jr. 2016. "Race, Wealth and Incarceration: Results from the National Longitudinal Survey of Youth." *Race and Social Problems* 8(1): 103-115.

Table 1: Fragile Families Interview Timing by Calendar Year

Year	N Interviews	Interviews by Wave
1998	427	All Baseline
1999	1393	1030 Baseline, 363 Y1
2000	1922	1640 Baseline, 282 Y1
2001	2371	2058 Y1, 313 Y3
2002	927	10 Y1, 917 Y3
2003	1583	1323 Y3, 260 Y5
2004	868	All Y5
2005	1245	All Y5
2006	33	All Y5
2007	156	All Y9
2008	693	All Y9
2009	1336	All Y9
2010	111	All Y9

Note: 5 fathers were interviewed twice in 2002, once for their Y1 follow-up, and once for their Y3 follow-up. We use their Y3 responses as observations for 2002; their Y1 responses are therefore not counted as interviews.

Table 2: Sample Description (N=3254)

Sample Characteristic	% or Mean [SD]		
	Full Sample	Never Incarcerated	Incarceration History
Worked, Formal Market***	92.52%	96.28%	88.44%
Worked Underground***	28.86%	22.97%	35.26%
Doubled Up***	26.31%	22.04%	30.93%
Father Race			
White***	20.25%	28.47%	12.70%
Black***	49.80%	39.99%	58.83%
Hispanic	25.95%	26.93%	25.04%
Other or Unknown ⁺	4.00%	4.63%	3.43%
Father born outside US***	14.68%	21.27%	8.62%
Age at Baseline***	27.75 [7.34]	29.49 [7.46]	26.15 [6.85]
Relationship at Baseline			
Married***	25.67%	42.99%	9.75%
Cohabiting***	41.52%	35.15%	47.37%
Nonresident***	32.81%	21.85%	42.88%
Educational Attainment at Baseline			
Less than HS***	32.66%	21.79%	42.65%
HS or GED***	35.95%	31.43%	40.11%
Some College***	21.02%	26.61%	15.89%
College Degree***	10.37%	20.18%	1.36%
Baseline Poverty Rate			
Deep Poverty (<50% PL)***	13.20%	8.23%	17.78%
Poverty (50-99% PL)***	14.28%	10.48%	17.78%
Near Poverty (100-199% PL)***	23.27%	19.02%	27.17%
No Poverty (200%+ PL)***	49.25%	62.28%	37.27%
Incarceration History (Any by Y9)	52.11%	0%	100%
N	3,249	1,556	1,693

Note: ⁺P<.10 *P<.05, **P<.01, ***P<.001, suggesting differences between fathers with and without incarceration histories. Statistics for formal and underground work and doubling up based on all 13,065 observations of the analysis sample, rather than a single observation per father.

Table 3: Odds Ratios from Logistic Regression Models Predicting Formal Employment with Incarceration and Macroeconomic Conditions

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6
worked	Binary (Incarc)		Incarc + Covariates		Employment Rate		Unemployment Rate		Employment + Interaction		Unemployment + Interaction
	b/se		b/se		b/se		b/se		b/se		b/se
Incarceration	0.296 *** [0.032]		0.516 *** [0.060]						0.83 [1.097]		0.401 *** [0.101]
Employment Rate					1.029 *** [0.007]				1.055 *** [0.016]		
Unemployment Rate							0.906 *** [0.016]				0.84 *** [0.028]
Employment x Inc									0.993 [0.018]		
Unemployment x Inc											1.04 [0.042]
Black			0.459 *** [0.078]						0.463 *** [0.079]		0.446 *** [0.076]
Hispanic			1.153 [0.257]						1.267 [0.281]		1.226 [0.273]
Other/Unknown Race			0.352 *** [0.101]						0.361 *** [0.103]		0.353 *** [0.100]
Foreign Born			1.449 + [0.290]						1.396 + [0.274]		1.427 + [0.283]
Cohabiting			0.843 [0.135]						0.836 [0.135]		0.838 [0.134]
Nonresident			0.566 *** [0.091]						0.562 *** [0.091]		0.567 *** [0.091]
Age			0.962 *** [0.007]						0.962 *** [0.007]		0.961 *** [0.007]
< HS			0.598 *** [0.063]						0.594 *** [0.063]		0.593 *** [0.063]
Some college			1.506 ** [0.224]						1.516 ** [0.227]		1.521 ** [0.229]
College Grad			2.436 * [0.872]						2.344 * [0.838]		2.353 * [0.844]
<50% PL			0.378 *** [0.051]						0.371 *** [0.050]		0.378 *** [0.051]
50-99% PL			0.533 *** [0.080]						0.523 *** [0.079]		0.521 *** [0.079]
100-199% PL			0.877 [0.111]						0.869 [0.111]		0.868 [0.110]
Constant	25.877 ***		170.996 ***		1.534		20.356 ***		3.321		443.901 ***

	[2.464]	[49.909]	[0.811]	[2.119]	[3.807]	[155.278]
N	13065	13065	13065	13065	13065	13065

Table 4: Odds Ratios from Logistic Regression Models Predicting Informal Employment with Incarceration and Macroeconomic Conditions

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
offbooks	Binary (Incarc)	Incarc + Covariates	Employment Rate	Unemployment Rate	Employment + Interaction	Unemployment + Interaction
	b/se	b/se	b/se	b/se	b/se	b/se
Incarceration	1.811 *** [0.092]	1.631 *** [0.093]			1.604 [1.187]	1.403 * [0.190]
Employment Rate			1.017 *** [0.005]		1.012 [0.008]	
Unemployment Rate				0.93 *** [0.012]		0.928 *** [0.018]
Employment x Inc					1.000 [0.010]	
Unemployment x Inc						1.028 [0.026]
Black		0.904 [0.068]			0.91 [0.069]	0.902 [0.068]
Hispanic		0.827 * [0.071]			0.848 + [0.073]	0.853 + [0.074]
Other/Unknown Race		1.013 [0.143]			1.025 [0.145]	1.027 [0.145]
Foreign Born		0.539 *** [0.050]			0.534 *** [0.050]	0.533 *** [0.050]
Cohabiting		0.984 [0.074]			0.982 [0.074]	0.982 [0.074]
Nonresident		0.94 [0.077]			0.938 [0.077]	0.939 [0.077]
Age		0.991 * [0.004]			0.991 * [0.004]	0.991 * [0.004]
< HS		1.147 * [0.071]			1.144 * [0.071]	1.144 * [0.072]
Some college		1.081 [0.076]			1.08 [0.076]	1.083 [0.077]
College Grad		0.913 [0.104]			0.903 [0.103]	0.899 [0.102]
<50% PL		1.067 [0.087]			1.064 [0.086]	1.069 [0.087]
50-99% PL		1.019 [0.081]			1.016 [0.081]	1.017 [0.081]
100-199% PL		1.007 [0.068]			1.007 [0.068]	1.007 [0.068]
Worked Formal Mkt	0.898	0.934	0.756 ***	0.746 ***	0.923	0.911

Constant	[0.070] 0.331 *** [0.028]	[0.075] 0.491 *** [0.083]	[0.059] 0.146 *** [0.054]	[0.059] 0.757 ** [0.075]	[0.074] 0.206 ** [0.123]	[0.074] 0.727 [0.143]
N	13065	13065	13065	13065	13065	13065

Figure 1: Unemployment Trends by FFCWS Sample City
 (Source: Pilkauskas, Currie & Garfinkel (2012)
 Selected Interview Years, 1998-2010

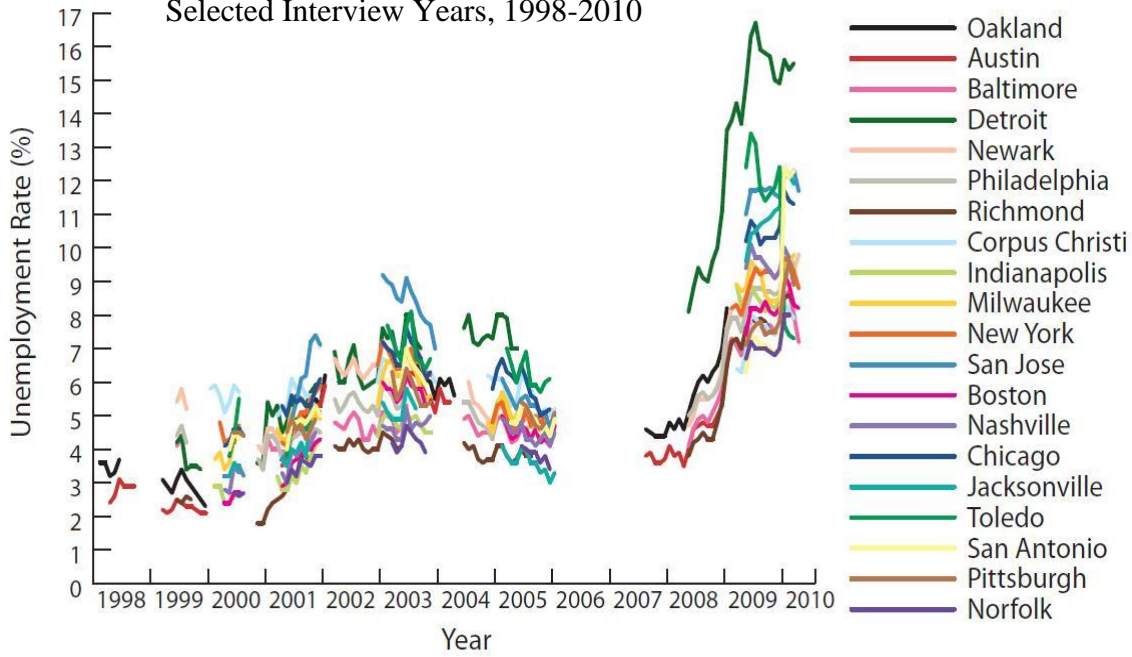


Figure 2: Percent working on/off-books, doubled up

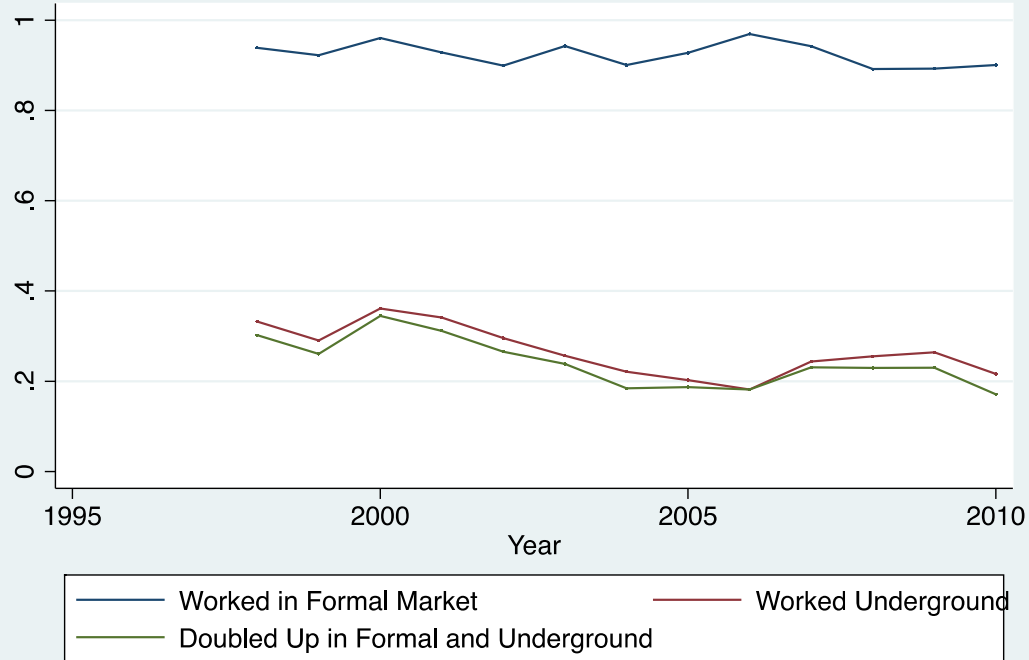


Figure 3: Formal and Underground Employment
By Incarceration History

