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# The Economic Costs of Pretrial Detention

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# The Economic Costs of Pretrial Detention\*

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#### **Abstract**

We measure the economic costs of the U.S. pretrial system using several complementary approaches and datasets. The pretrial system operates as one of the earliest points in the criminal justice system and typically represents an individual's first opportunity to be incarcerated. We find that individuals lose almost \$30,000 in present value terms when detained in jail while awaiting the resolution of their criminal cases. These adverse consequences are also present in aggregate data, with a 10 percentage point increase in county pretrial detention rates leading to an 1.05–1.41 percentage point increase in county poverty rates and a 1.15–2.06 percentage point decrease in county employment rates. Counties with high levels of pretrial detention also exhibit significantly lower levels of intergenerational mobility in later years, consistent with pretrial detention adversely impacting young children.

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The U.S. criminal justice system has experienced a more than three-fold expansion in the past several decades, with the number of inmates in local jails, state prisons, federal prisons, and privately operated facilities rising from 220 per 100,000 U.S. residents in 1980 to 756 per 100,000 U.S. residents in 2008. The high and growing incarceration rate in the United States has also disproportionately impacted economically disadvantaged and minority communities, with significantly higher arrest, conviction, and incarceration probabilities for Black and Hispanic individuals compared to observably similar white individuals (e.g., Abrams, Bertrand, and Mullainathan 2012; Anwar, Bayer, and Hjalmarson 2012; Rehavi and Starr 2014; McConnell and Rasul 2018; Raphael and Rozo 2019).

The economic consequences of mass incarceration may be substantial, particularly in these economically disadvantaged and minority communities. The rise in incarceration over time has been mirrored by an ever-growing share of U.S. adults who have a criminal conviction. By some estimates, more than 8 percent of the adult population in the United States had a prior felony conviction in 2010, compared with just 3 percent in 1980 (Shannon and others, 2017). Among the Black adult male population, an estimated 15 percent have ever been to prison and 33 percent have a felony conviction (Shannon and others, 2017). These criminal records can result in substantial barriers to employment (Pager 2003; Holzer, Raphael, and Stoll 2006, 2007; Agan and Starr 2018), in particular for minority individuals. Consistent with this idea, unemployment rates are generally substantially higher for Black and Hispanic individuals compared to non-Hispanic whites in the United States, with some of these gaps increasing in the wake of economic recessions and the recent COVID-19 pandemic. Recent work has shown that the increase in non-work among U.S. men (Moffitt 2012), in particular the large reductions for Black individuals, is partially attributed to rising incarceration (Western 2002; Neal and Rick 2014; Bayer and Charles 2018).

In this paper, we measure some of the economic costs of the U.S. pretrial system – an important but often neglected feature of the U.S. criminal justice system that affects over 10 million individuals each year who are arrested for an offense in the United States. This *annual* number is larger than the total number of jobs lost during the Great Recession (approximately 8.1 million) between December 2007 and November 2009. The pretrial system operates as one of the earliest points in the criminal justice system and typically represents an individual's first opportunity to be incarcerated. In theory, the pretrial system is meant to ensure the equitable release of most individuals before trial while minimizing the risk of flight or danger to the public. Despite this, defendants detained before trial represent over 75 percent of all jail inmates in some parts of the country, with significantly higher rates of pretrial detention among Black and Hispanic individuals. The pretrial system has also faced increased public scrutiny in recent years due to the all-too-common

<sup>&</sup>lt;sup>1</sup>See https://www.epi.org/publication/at\_10-2\_octobers\_unemployment\_is\_a\_wake-up\_call/.

stories of arrested individuals who, despite being first-time offenders accused of low-level crimes, spent months in pretrial detention and faced subsequent long-term damage in the form of family separation, work interruption, loss of housing, or even death. Pretrial detention can also generate substantial spillover effects, as the costs of paying money bail and other related court fees and fines often falls on other family and community members of detained individuals. Many of these harms can result even when the period of incarceration is brief and even if individuals are not ultimately convicted of any crime.

We measure the economic costs of the U.S. pretrial system using several complementary approaches and data sources. We begin by describing causal evidence on the partial equilibrium effects of pretrial detention on individual economic outcomes such as formal labor market attachment, receipt of social benefits such as Unemployment Insurance (UI) and the Earned Income Tax Credit (EITC), drawing on estimates from Dobbie, Goldin, and Yang (2018). Using quasi-experimental estimates based on the random assignment of cases to bail judges, these causal estimates capture the partial equilibrium effects of detention on "marginal" defendants, or those for whom judges disagree on the appropriateness of pretrial detention. This evidence suggests that marginal defendants are nearly 10 percentage points more likely to be employed in the formal labor market if released before trial. These effects imply that in present value terms, individuals lose an average of \$29,000 over the course of the working-age life cycle when detained in jail for just three days while awaiting the resolution of their criminal cases. These partial equilibrium estimates suggest that reforms such as the elimination of money bail could potentially increase aggregate earnings by as much as \$80.91 billion per year.

Our second contribution is to show that the adverse consequences of pretrial detention are also present in aggregate measures of economic well-being. One potential limitation of the quasi-experimental estimates from Dobbie, Goldin, and Yang (2018) is that they estimate partial equilibrium effects on marginally detained defendants, whether through a short-run incapacitation or long-run job destabilizing effect. But pretrial detention is likely to generate spillover effects in both the short- and long-run given its likely impact on families and communities. These spillover effects are all the more likely given that more than half of individuals detained pretrial are parents of children under the age of 18.<sup>2</sup> In the absence of convincing quasi-experimental variation in aggregate pretrial detention rates, we estimate the effects of pretrial detention inclusive of these spillover effects by comparing changes in county-level poverty and employment-to-population rates to changes in county-level pretrial detention rates. We find that a 10 percentage point increase in county pretrial detention rates between 2000 and 2009 is associated with a 1.41 percentage point increase in county poverty rates and a 2.06 percentage point decrease in county employment rates

 $<sup>^2</sup>$ Based on data from the Survey of Inmates in Local Jails, https://www.prisonpolicy.org/blog/2018/08/15/pretrial/

between 2000 and 2010. The relationship between changes in pretrial detention rates and poverty and employment rates is generally unchanged when we add additional controls, and is typically stronger for economic outcomes of demographic groups most likely to be affected by pretrial detention, such as working-age Black individuals. These county-level estimates confirm that bail reforms such as the elimination of money bail would likely result in economically meaningful improvements in well-being as measured by poverty and employment rates and would likely reduce racial gaps in economic well-being.

The final contribution of our paper is to more tentatively explore the long-run and intergenerational spillover effects of pretrial detention on young children through cross-sectional correlations. We find that counties with high levels of pretrial detention when children are young (aged 7-12) also exhibit significantly lower levels of intergenerational mobility for children when they are in adulthood, with a 10 percentage point higher pretrial detention rate in 1990 predicting a 0.66 lower predicted income percentile for children born to parents at the 25th percentile income percentile over 20 year later. Our estimates are qualitatively unchanged with or without baseline controls but there is no systematic pattern by race. Taken together, these findings are consistent with pretrial detention adversely impacting young children who may be the dependents of detained individuals, although we caution that we are unable to control for many potential differences between low- and high-detention areas.

The remainder of the paper proceeds as follows. In Section I, we provide a brief background of the pretrial system, who if affects, and why it may impact both individual and aggregate economic outcomes. Section II provides some descriptive statistics on pretrial detention and economic outcomes. Section III describes our complementary data sources and approaches, including quasi-experimental evidence on the causal effects of pretrial detention on detained individuals, and correlations between local pretrial detention and aggregate economic outcomes. Section IV concludes.

# I. A Brief Overview of the Pretrial System

## I.A The Purpose of the Pretrial System

The pretrial system serves as one of the first points of entry into the criminal justice system. Figure 1 below presents a simplified diagram of the various key interactions that can occur within the system. In most jurisdictions, individuals appear for their first court appearance approximately 24-48 hours after arrest and booking by law enforcement. At this first appearance or preliminary hearing, a judge is often tasked with determining a defendant's release or detention pending adjudication – a decision that should, in theory, meet the objectives of an effective and fair pretrial system. Figure 1 highlights that individuals can be detained in the pretrial system without eventually being either

convicted of a crime or incarcerated post-conviction. Indeed, in Philadelphia and Miami, over 40 percent of detained individuals are eventually not convicted of a crime and nearly 70 percent of detained individuals serve no additional incarceration (Dobbie, Goldin, and Yang 2018).

In the United States, the pretrial system is meant to allow all but the most dangerous criminal suspects to be released from custody while they await trial. Under the Eighth Amendment of the U.S. Constitution, "[e]xcessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted." Applied to the pretrial system, the importance of release is grounded in the presumption of innocence, an "axiomatic and elementary" right designed to protect defendants before any finding of guilt. The pretrial system reflects the notion that pretrial detention should be used only in limited circumstances and is not deemed appropriate simply because a defendant may be guilty of the alleged crime.

The main objective of the U.S. pretrial system is to guarantee appearance at court. In addition to promoting appearance at court, in the past several decades the pretrial system has adopted the explicit aim of protecting the community from harm. Starting in the 1970s, jurisdictions began to authorize the detention of criminal defendants without bail if they were assessed to be dangerous to society – known as preventive detention – in response to growing concerns about crime and public safety. The federal judicial system, along with at least 36 states, considers public and community safety explicitly as part of the release or detention decision. Today, these competing objectives are embodied in the standards of the American Bar Association, which states that the judicial decision of whether to release or detain a defendant requires judges to "strike an appropriate balance" between the competing societal interests of individual liberty, court appearance, and public safety.

In most jurisdictions, a bail judge or magistrate is tasked with making decisions about pretrial release. In making assessments of flight risk and danger to the public, bail judges are granted substantial discretion. In many jurisdictions, these bail judges may consider factors such as the nature of the alleged offense, the weight of the evidence against the defendant, any record of prior flight or bail violations, and the financial ability of the defendant to pay bail. Today, with the rise in pretrial risk assessment instruments like the Arnold Ventures PSA, judges may also rely on a pretrial recommendation based on a risk score.

After assessing an individual's flight and/or public safety risk, bail judges typically have several options in setting conditions for pretrial release. For defendants who pose a minimal risk of flight or danger, the judge may simply release the defendant without any conditions of release – known as release on recognizance (ROR) or personal recognizance (PR) – in which the defendant promises to return for all court proceedings and abide by all other release conditions. Defendants may also be released subject to some form of non-monetary conditions, sometimes known as conditional release, when a judge determines that certain conditions are necessary to prevent flight or harm to the public. These conditions can include regular reporting to a pretrial services officer, drug

treatment or testing, no victim-contact orders, and even more-intensive measures such as electronic monitoring or home confinement.

A judge may also impose monetary bail (cash bail or bond), which generally requires defendants to post either the full bail amount or some fraction of the bail amount to secure release. Since the 20th century, the primary means of ensuring pretrial compliance in the United States has been the use of monetary bail. In many jurisdictions, those who do not have the required deposit in cash can borrow this amount from commercial bail bondsmen or sureties. These agents will often accept cars, houses, jewelry, or other forms of collateral, and generally charge a nonrefundable fee of 10 to 20 percent of the bail amount for their services. Another common type of monetary bail is an unsecured bond, which requires the defendant to promise to pay a certain amount of money if they do not return to court but does not require an upfront payment to secure release. If the defendant fails to appear or commits a new crime (broadly known as pretrial misconduct), either the defendant or the bail bondsman is theoretically liable for the full value of the bail amount and forfeits any amount already paid. The amount of monetary bail may be unilaterally determined by the judge or pre-specified in a "bail schedule," which determines bail amounts for each type of offense or grade of offense. For example, a bail schedule might specify that a Level 1 felony is associated with a \$50,000 bail amount. These bail schedules are regularly used in parts of the country like California and Texas, although a judge often has the discretion to reduce the amount.

Finally, for the most serious crimes, the bail judge may require that the defendant be detained pending trial by denying bail altogether. In many jurisdictions, denial of bail is often mandatory in first- or second-degree murder cases. However, it can also be imposed for other crimes, such as domestic violence, when the bail judge finds that no set of conditions for release will guarantee appearance or protect the community from the threat of harm posed by the defendant.

In many parts of the country, determinations of bail and conditions of release are decided in short hearings that last anywhere from ten seconds to a few minutes. Defendants are often video-conferenced in from the jail and a judge reviews the case and criminal history of the defendant, sometimes asking the defendant a few questions, before imposing conditions for pretrial release. If present, a prosecutor or defense attorney may also present their recommendations for bail.

### I.B Who is Affected by Pretrial Detention

Decisions made at the pretrial stage affect over 10 million individuals each year who are arrested for an offense in the United States. In some parts of the country, defendants detained before trial represent over 75 percent of all jail inmates.<sup>3</sup> A large contributor to the high rate of pretrial detention in the United States is the increasing use of monetary (or cash) bail, and the corresponding

<sup>&</sup>lt;sup>3</sup>Pretrial detainees are housed in local jails. Other jail inmates include individuals serving relatively short post-conviction sentences. Prison inmates are individuals serving longer post-conviction sentences.

decreasing use of ROR over the past several decades. For example, between 1990 and 2009, in 75 of the most populous U.S. counties, the share of defendants assigned monetary bail exceeded 40 percent in 2009, an 11 percentage point increase from 1990 (Reaves, 2013). Over this same time period and sample, the fraction of defendants released on their own recognizance decreased by about 13 percentage points, with only 14 percent of defendants being released on their own recognizance in 2009 (Reaves, 2013).

Today, the widespread use of monetary bail in many jurisdictions has resulted in high pretrial detention rates. In 2009, among felony defendants assigned monetary bail in the 75 largest counties, 46.9 percent were detained for the entirety of their case. Detention rates are high even when defendants are assigned relatively small monetary bail amounts. In New York City, for example, an estimated 46 percent of all misdemeanor defendants and 30 percent of all felony defendants were detained before trial in 2013 because they were unable or unwilling to post bail set at \$500 or less (New York City Criminal Justice Agency, 2014). Most available evidence suggests that defendants often have low earnings and rates of employment, suggesting that detention for even relatively small amounts may be due to inability to pay bail, either directly or through a bail bondsman. For example, among individuals detained in Philadelphia and Miami, only 32.0 percent are employed in the year prior to arrest, only 77.2 percent have any income, and the average annual income is \$4,524 (Dobbie, Goldin, and Yang 2018).

The high rate of pretrial detention and its disparate prevalence across demographic groups has contributed to concerns regarding the effectiveness of the current bail system. Critics of the current system argue that pretrial detention generates substantial costs to detainees that far outweigh the benefits to society. Critics argue, for example, that pretrial detention increases the risk of wrongful conviction by pressuring defendants to accept plea bargains to get out of jail. Pretrial detention and excessive bail conditions may also generate collateral consequences outside of the criminal justice system by disrupting defendants' lives, putting jobs, housing, and child custody at risk. These critics also argue that many jurisdictions set bail without adequate consideration for the defendant's ability to pay. As a result, they argue that pretrial detention is determined by a defendant's wealth, not their risk to the community, which reduces the current system's effectiveness and simultaneously exacerbates socioeconomic disparities. These concerns led the Department of Justice to recently conclude that the pretrial systems in many jurisdictions "are not only unconstitutional, but...also constitute bad public policy" (Department of Justice, 2016).

A second concern of the current system deals with the presence of large and persistent disparities in the treatment of seemingly similar defendants, in particular by race and ethnicity. There are significant disparities in bail conditions and pretrial detention among defendants who are similar across legally-relevant dimensions in most large U.S. counties, contributing to the over-representation of certain demographic groups in the pretrial system. Controlling for observable

and legally-relevant charge and defendant characteristics, nationally representative data on felony defendants in state courts show that on average, Black and Hispanic defendants are substantially more likely to be detained before trial compared to observably similar white defendants (Demuth 2003; McIntyre and Baradaran 2013). Disparate rates of pretrial detention are likely due to the fact that Black and Hispanic defendants are generally more likely to be assigned monetary bail and higher monetary bail amounts, compared to observably similar white defendants (Demuth, 2003; Demuth and Steffensmeier, 2004; Schlesinger, 2005; Arnold, Dobbie, and Yang, 2018). There is also substantial heterogeneity in the size of the racial gap in detention rates even after accounting for the relevant case and defendant characteristics. Harris County in Texas, for example, is 34 percent more likely to detain Black defendants compared to white defendants with the same observable characteristics, while Baltimore County in Maryland is one percent less likely to detain Black defendants compared to white defendants (Dobbie and Yang, 2019). In recent quasiexperimental work that exploits the release tendencies of quasi-randomly assigned bail judges, researchers have found that these racial disparities can be attributed to substantial statistical discrimination and forms of racial bias (Arnold, Dobbie, and Yang 2018; Arnold, Dobbie, and Hull 2020).

But not all commentators believe that the current system is problematic. Proponents of the current pretrial system argue that it is operating as designed, and that releasing more defendants would increase pretrial flight and endanger public safety. For example, advocates of the current system, such as former U.S. Solicitor General Paul Clement, have argued that the money bail system "allows individuals of all financial means to leverage their social networks and community ties to obtain pretrial release." Others argue that racial differences in pretrial detention rates are not due to unfair treatment but rather the differential risk posed by defendants, despite the evidence documented in recent work.

Based in part on the above concerns, the pretrial systems in many jurisdictions are in flux as there is significant public support for reforming the pretrial system in the United States. In recent years, cities across the country have implemented widely supported changes to their pretrial systems. Sometimes these changes are due to lawsuits challenging the constitutionality of money bail and bail schedules. For example, in April 2017, a federal judge in Houston issued a preliminary injunction on the current misdemeanor bail system in Harris County, Texas. Similar lawsuits are underway in many other large cities across the country. Several jurisdictions have voluntarily explored alternatives to pretrial detention, such as electronic or in-person monitoring for low-risk defendants. New York, for example, has earmarked substantial funds to supervise low-risk defendants instead of requiring them to post bail or face pretrial detention. Risk assessment instruments, such as the Arnold Ventures Public Safety Assessment, have been adopted by over 39 jurisdictions across the country, based on the promise of being able to more accurately predict offender risk of

danger or flight. Other jurisdictions, like New Mexico and New Jersey, have enacted large-scale reforms to their systems, effectively eliminating cash bail. In addition, a wave of community-based efforts to change the current pretrial system has also swept the country to counteract the effects of cash bail, with charitable bail organizations like The Bail Project Fund posting bail on behalf of eligible individuals.

## I.C Why the Pretrial System May Affect Economic Outcomes

We now briefly describe two main channels through which the pretrial system can affect economic outcomes. These channels are not meant to be exhaustive but represent what we believe to be most likely mechanisms linking pretrial detention and economic well-being.

The first way that pretrial detention can impact economic outcomes is through the direct effect of pretrial detention on the individuals who are actually detained. Even a short period of pretrial detention can be destabilizing for detained individuals, resulting in immediate job loss and affecting the extensive margin of employment, which can subsequently affect take-up of government benefits tied to formal sector employment (e.g., Dobbie, Goldin, and Yang 2018). Pretrial detention can also have a longer-run destabilizing effect on detained individuals even after the period of incapacitation ends through, for example, the stigma of a criminal conviction and lower future employment prospects (e.g., Pager 2003, Agan and Starr 2018). We think of these direct effects as the partial equilibrium effect of pretrial detention on an individual's own outcomes.

The second way that pretrial detention can impact economic outcomes is through the spillover effects of pretrial detention on other individuals in the household or community at large. Anecdotal evidence suggests that the burden of additional caretaking responsibilities, as well as financial responsibilities that accompany money bail, often falls on the family members and friends of detained individuals. The spillover effects of pretrial detention may also extend across generations, as the majority of detained individuals are parents to children under the age of 18, some of whom may be placed into child custody as a result of pretrial detention. Estimates of just the partial equilibrium effect of pretrial detention on detained defendants may therefore understate the general equilibrium effect of pretrial detention policies more generally.

# II. National Trends in Pretrial Detention and Economic Outcomes in the United States

We begin by documenting the characteristics and trends of felony defendants entering the U.S. pretrial system from the time period 1990 to 2009, in the 75 largest U.S. counties. Our primary source of data is the Bureau of Justice Statistics' State Court Processing Statistics (SCPS). The SCPS are designed as a nationally representative sample of 75 large urban counties and include

information on over 140,000 individuals arrested for felony offenses. These 75 counties account for more than a third of the United States population and approximately half of all reported crimes. This collection presents data on felony cases in approximately 40 of the nation's 75 most populous counties in even numbered years from 1990-2006 and 2009. The data track what happens to each defendant from the time of arrest to case disposition, providing detailed information on the arrest offense, defendant demographics and criminal history, and importantly for our analysis, whether or not the individual was released or detained pretrial.

Appendix Table A1 presents descriptive statistics on these felony defendants in the 75 most populous counties. Panel A reveals that among all felony defendants in the SCPS data (column 1), 23.0 percent are Non-Hispanic white, 8.1 percent are Hispanic white, and 46.9 percent are Black. Most felony defendants are also relatively young, with 35.5 percent aged 24 and under and over 89.0 percent aged 44 and under. 83.2 percent of all arrested felony defendants are male. Panel B shows that the most serious arrest charge offenses are drug offenses (34.9 percent), followed by property offenses (30.8 percent), violent offenses (24.8 percent), and public-order offenses (9.4 percent). In terms of criminal history, Panel C indicates that among these felony defendants, there is an average of 4.6 prior arrests of which 2.9 are prior felony arrests, and 2.6 prior convictions of which 1.2 are prior felony convictions. In addition, there is an average of 0.3 past failures to appear for court appearances.

Columns (2) and (3) of Appendix Table A1 present corresponding descriptive statistics for felony defendants that are released and those that are detained, respectively. In the SCPS, a defendant is defined as detained if they remained in jail for the entirety of the time from arrest until case disposition. As can be seen, release and detention decisions are not random. Non-Hispanic white defendants comprise a larger share of released defendants (25.2 percent) compared to their share among detained defendants (19.6 percent). In contrast, Black defendants comprise a *lower* share of released defendants (46.4 percent) compared to among detained defendants (47.5 percent). On average, detained defendants are more likely to be 25 to 44 years old, and less likely to be 24 and under or 65 and over. Detained defendants are also more likely to be male. Another noticeable difference between released and detained defendants is that defendants with more substantial prior criminal histories (either in terms of arrests, convictions, or past failures to appear) are more likely to be detained pretrial. For example, released defendants have 3.8 prior arrests on average while detained defendants have 5.9 prior arrests on average. The vast majority of the differences between detained and released defendants are statistically significant, including the difference in the share of Black defendants.

Panel A of Figure 2 presents trends in the detention rate from 1990 to 2009 among the 75 most populous counties, where detention rates are defined as the share of arrested felony defendants who are detained for the entire time while awaiting the disposition of their case. These individuals

can be detained either because of denial of any bail (as can be the case for capital offenses or domestic violence) or because of inability to pay the assigned monetary (or cash) bail. Figure 2 reveals that among all felony defendants, the detention rate has generally increased over the time period, peaking in 2006. The average detention rate among all felony defendants was 35.6 percent in 1990, 42.1 percent in 2006, and 38.2 percent in 2009. As described in past work, this general increase in detention rates is due in part to the increasing use of monetary bail, and corresponding decreasing use of release on recognizance during the time period (Reaves, 2013). Panel A also reveals that throughout this time period, racial gaps are substantial. The detention rate for Black defendants was higher than the detention rate for Non-Hispanic white defendants for the entire sample period. In 1990, 37.2 percent of Black defendants were detained compared to 25.6 percent of Non-Hispanic white defendants. In 2009, 39.2 percent of Black defendants were detained compared to 31.2 percent of Non-Hispanic white defendants.

Panel B of Figure 2 presents trends in the employment-to-population ratio for individuals by race/ethnicity during the same time period of 1990 to 2009. These monthly data on employment rates are obtained from the Bureau of Labor Statistics. We view the employment-population ratio as the best comprehensive measure of labor market prospects, particularly for Black individuals given the rise in non-work (Bayer and Charles, 2018; Rodgers, 2019).<sup>4</sup> As can be seen in Panel B of Figure 2, employment-to-population ratios increased from the mid-1990s to 2000 but have been generally declining since then. In the aggregate, the average employment-to-population was 62.8 percent in 1990, rising to 64.4 percent in 2000, and declining to 59.3 percent in 2009 during the Great Recession. Notably, there is a substantial racial gap in the employment-to-population ratio throughout the entire sample period, with lower rates among Black individuals compared to both whites and Hispanics. For example, in 1990, the average employment-to-population ratio was 56.7 percent for Black individuals compared to 63.7 percent for white individuals. In 2009, the average employment-to-population ratio was 53.2 percent for Black individuals compared to 60.2 percent for white individuals. It is well-documented that racial gaps are present among other metrics of employment as well, such as the labor force participation rate and unemployment rate (e.g., Neal and Rick, 2014; Bayer and Charles, 2018).

Panel C of Figure 2 similarly presents trends in poverty rates for individuals by race/ethnicity during the same time period. These data are obtained from the Census Bureau's Current Population Survey, Annual Social and Economic Supplement. Panel C shows that aggregate poverty rates

<sup>&</sup>lt;sup>4</sup>The employment-to-population ratio is calculated as the number of employed people divided by the civilian non-institutionalized population. The civilian non-institutionalized population does not include people confined to prisons or jails, and as such does not include those who are in pretrial detention in jails at the time of the survey. However, given the relatively short-term nature of pretrial detention for most defendants, we would expect many individuals who have experienced pretrial detention to be counted in the numerator and denominator of the employment-to-population ratio.

remained relatively consistent over the two decades, decreasing slightly from the mid-1990s to 2000, and increasing slightly thereafter. However, this aggregate trend masks substantial variation by race/ethnicity. Poverty rates for Black and Hispanic individuals declined sharply from 1990 to 2000. For example, the average poverty rate for Black individuals was 31.9 percent in 1990 and 25.8 percent in 2009. After 2000, the poverty rates for these two groups increased slightly, matching the aggregate trend. There is a clear racial gap throughout the entire period, with white poverty rates at least 12.5 percent lower than Black and Hispanic poverty rates at every point in time.

Overall, Figure 2 reveals substantial racial gaps in pretrial detention and economic well-being as measured by employment-to-population ratios and poverty rates. Moreover, if we focus on the period of 2000 to 2006 (before the onset of the Great Recession), pretrial detention rates rose sharply while employment-to-population ratios declined and poverty rates increased. Similarly, Black-white gaps in pretrial detention increased between 2000 and 2006 while Black-white gaps in employment-to-population ratios and poverty rates also widened. This possible association in levels and racial gaps between the various time-series raises the question of whether there is a causal relationship between pretrial detention and economic outcomes. Of course, an obvious concern is that there could be other unmeasured, national-level shocks that account for the trends in employment and poverty. To investigate these concerns, we next turn to a variety of complementary data sources and approaches.

# **III. The Economic Consequences of Pretrial Detention**

In this section, we measure the economic costs of the U.S. pretrial system using several complementary approaches and data sources. We begin by describing causal evidence on the partial equilibrium effects of pretrial detention on individual economic outcomes from recent work. We then show that the adverse consequences of pretrial detention are also present in aggregate data that include potential spillover effects on other individuals in the household or community at large. Finally, we more tentatively explore the long-run and intergenerational spillover effects of pretrial detention on young children through cross-sectional correlations. Taken together, these three approaches show that there are real and substantial economic costs to pretrial detention, both in partial and general equilibrium.

# III.A Causal Evidence on the Partial Equilibrium Labor Market Impacts of Pretrial Detention

Evidence on Partial Equilibrium Effects: Much of the causal evidence on the partial equilibrium labor market impacts comes from Dobbie, Goldin, and Yang (2018), who leverage large-scale ad-

ministrative data on criminal defendants to estimate the impact of pretrial detention on a range of important outcomes that capture many important costs and benefits of pretrial detention. The authors exploit plausibly exogenous variation in pretrial decisions from the quasi-random assignment of cases to bail judges who vary in their detention or release propensities. The so-called "judge-IV" empirical design utilized in this recovers the causal effect of pretrial detention for individuals at the margin of detention, meaning cases in which bail judges disagree on the appropriate bail conditions.<sup>5</sup>

To measure economic outcomes, Dobbie, Goldin, and Yang (2018) link the data on criminal defendants to administrative tax records from the IRS to examine the effects of pretrial detention on post-trial economic outcomes such as formal-sector employment, individual and household income, and the take-up of government benefits. The IRS data include every individual who has ever acquired a social security number (SSN), including those who are institutionalized. Information on formal sector earnings and employment comes either from annual W-2s issued by employers and/or from tax returns filed by individual taxpayers. Individuals with no W-2s or self-reported income in any particular year are assumed to have had no earnings in that year. The IRS data also include information on UI from information returns filed with the IRS by state UI agencies, and information on the EITC claimed by the taxpayer on his or her return. For additional details on the IRS data and how the authors measure formal sector employment, individual earnings and total household earnings, see Dobbie, Goldin, and Yang (2018). The authors are able to link over 300,000 criminal defendants (both misdemeanor and felony) arrested in Miami and Philadelphia from 2007 to 2014 linked administrative IRS data.

On the basis of these linked data, the authors find that baseline earnings and formal labor market attachment are very low among arrested individuals in Miami and Philadelphia. Among defendants who are detained for at last 3 days pretrial, only 32.0 percent are employed in the year prior to arrest, 77.2 percent have any income, and the average annual income is \$4,524. Among defendants released within three days, 42.3 percent are employed in the year prior to arrest, 81.4 percent have any income, and the average annual income is \$7,223. These descriptive statistics indicate that arrested individuals are likely to be different from the general working-age population.<sup>6</sup>

Moving to two-stage least square estimates, Dobbie, Goldin, and Yang (2018) find that pre-

<sup>&</sup>lt;sup>5</sup>The judge-IV design require an assumption of first-stage monotonicity (Imbens and Angrist 1994; Heckman and Vytlacil 2005), which imposes a strong restriction on how judges choose which defendants to release before trial. This first-stage monotonicity assumption has received recent scrutiny both in general (Mogstad, Torgovitsky and Walters 2019) and in the specific context of judge IV designs (Mueller-Smith 2015; Frandsen, Lefgren and Leslie 2019; Norris 2019; Arnold, Dobbie, and Hull 2020). Recent work argues that the monotonicity assumption is unlikely to hold exactly in judge-IV designs, but that these IV estimates can still identify a convex combination of treatment effects under a weaker assumption of average monotonicity (Frandsen, Lefgren and Leslie 2019).

<sup>&</sup>lt;sup>6</sup>Grogger (1995) finds similar patterns of substantial joblessness in a sample of adult individuals in California arrested between 1973 and early 1987 match to UI records.

trial detention causally decreases both attachment to the formal labor market and the receipt of employment- and tax-related government benefits in their sample of Miami and Philadelphia cases. Table 1 summarizes the key two-stage least squares results on economic outcomes from Dobbie, Goldin, and Yang (2018). As reported in Panel A of Table 1, pretrial detention decreases the probability of employment in the formal labor market three to four years after the bail hearing by 9.4 percentage points in this sample, a 24.9 percent decrease from the mean. The authors find evidence that pretrial detention primarily affects earnings at the extreme low-end of the income distribution, with little discernible effects at other points of the distribution. In terms of UI receipt and EITC receipt – measures of formal sector engagement that are particularly welfare-relevant in our low-income population – pretrial detention also decreases the probability that the defendant takes up any UI benefits within 3 to 4 years after case disposition by 1.3 percentage points, a 20.3 percent decrease, and decreases the take-up of EITC benefits by 10.5 percentage points over the same time period, a 45.1 percent decrease.

Panel B of Table 1 presents results on outcomes in dollars. Pretrial detention reduces formal sector earnings by \$948 per year over the same time period, a 16.1 percent decrease from the mean, In terms of UI receipt and EITC receipt, the authors find that three to four years after arrest, pretrial detention decreases UI benefits by \$293 and EITC benefits by \$209 per year, 119.6 and 58.5 percent increases from the mean, respectively. All of the estimated effects are larger among individuals with no prior offenses in the past year, with the employment results being driven by a decrease in the joint probability of not having a criminal conviction and being employed in the formal labor market. The authors interpret these results as the stigma of a criminal conviction lowering defendants' prospects in the formal labor market (e.g., Pager, 2003; Agan and Starr, 2018), which in turn limits defendants' eligibility for employment-related benefits like UI and EITC.

The findings from the recent quasi-experimental empirical literature thus suggest that pretrial detention imposes substantial economic costs to individual defendants at the margin, reducing formal sector employment at the extensive margin. These partial equilibrium effects are due to a combination of short-run incapacitation effects but also longer-run effects that persist even after the period of incarceration ends, consistent with lower labor market demand for individuals with criminal records. Applying the two-stage least squares estimates from Dobbie, Goldin, and Yang (2018), we can use back-of-the-envelope calculations to explore the amount that each marginally detained defendant loses in income over the course of the working lifecycle (see Panel C of Table 1. Recall that the marginal detained defendant earns roughly \$948 less per year and has \$293 less in UI income and \$209 less in EITC income, for a total average annual income loss of \$1,450, 10.1 percent of mean earnings in the sample. Following Chetty, Friedman, and Rockoff (2014), we assume that the percentage loss in earnings remains constant over the working lifecycle and

discount annual earnings at a 3 percent discount rate back to age 34, the mean age in the sample. Under these assumptions, the marginal detained defendant loses \$29,000 in income over a lifetime relative to the marginal released defendant, with over \$18,000 of the lost income due to reduced formal sector earnings – confirming the substantial economic costs to detained defendants at the margin suggested in the recent literature.

Policy Implications: We now evaluate two types of policy reforms using the partial equilibrium estimates described above. First, we evaluate the impact on individuals of a change in detention rates shifting the rates in high-detention counties to match those in low-detention counties. For example, among all SCPS counties in 2009, Harris, Texas was the leader, with a detention rate of 65.0 percent, while Broward County, Florida had only a 22.2 percent detention rate. Thus, we evaluate what would happen to employment and earnings of directly affected individuals in Harris County if Harris reduced its detention rate to match that of Broward. Second, we evaluate a commonly discussed reform – the elimination of cash bail – which would likely substantially reduce the rate of pretrial detention. The available evidence suggests that the elimination of cash bail would likely lower pretrial detention rates to anywhere from 3 to 10 percent. Following the eradication of money bail in New Jersey, for example, pretrial detention rates were as low as 6 percent.<sup>7</sup> We also observe detention rates as low as 10 percent in parts of country that have traditionally not relied on money bail such as the District of Columbia, and the outright detention of only 3.8 percent of individuals arrested for felony offenses in the 2009 SCPS.

In 2009, based on data from the FBI's Uniform Crime Reporting Program, there were 346,140 offenses recorded in cities in Harris County. We can use this as an upper bound on the number of arrests in the county. If Harris reduced their 2009 detention rate from 65.0 percent to 22.2 percent to match that of Broward County, that implies that up to 148,147 people would not have been detained in 2009. If we apply the two stage-least squares estimates from Dobbie, Goldin, and Yang (2018), the probability of employment in the formal sector for each newly released individual would increase by 9.4 percentage points each year. We can also obtain an estimate of the impact of moving Harris to Broward on aggregate income loss. Applying Dobbie, Goldin, and Yang's (2018) finding that the marginal detained defendant loses \$29,000 in income over a lifetime relative to the marginal released defendant, these predictions would mean that moving Harris to Broward's detention rate could have increased aggregate income in the county by approximately \$4.30 billion over the lifetime of those released defendants.

The quasi-experimental estimates from Dobbie, Goldin, and Yang (2018) also suggest that

<sup>&</sup>lt;sup>7</sup>See https://university.pretrial.org/blogs/wendy-shang/2019/04/23/what-the-new-jersey-report-shows-us.

<sup>&</sup>lt;sup>8</sup>The 2009 data from the FBI's Uniform Crime Reporting Program were released as part of the *Crime in the United States*, 2009 report. These data were accessed on March 9, 2021 and are available here: https://www2.fbi.gov/ucr/cius2009/documents/index.html

large-scale policy reforms, such as the elimination of money bail, would substantially increase rates of formal sector employment among detained individuals in partial equilibrium. In 2019, there were over 10.08 million arrests for all offenses in the United States. Suppose that as compared to a current pretrial felony detention rate of 37.71 percent (SCPS, 2009), eradicating money bail reduced the pretrial detention rate to 10 percent. Applied to the entire population of arrested individuals, this reduction in the pretrial detention rate implies that up to 2.79 million people would no longer be detained if money bail was eliminated. If we apply the two stage-least squares estimates from Dobbie, Goldin, and Yang (2018), the probability of employment in the formal sector for each newly released individual would increase by 9.4 percentage points each year. Again, applying the finding that the marginal detained defendant loses \$29,000 in income over a lifetime relative to the marginal released defendant, these predictions would mean that eliminating money bail in the United States could increase aggregate income by up to \$80.91 billion *per year*, assuming the same number of people are no longer detained each year.

One important caveat is that all of the estimates from Dobbie, Goldin, and Yang (2018) are based on defendants at the margin of release, not the average defendant who might be released. Dobbie, Goldin, and Yang (2018) show that only about 13 percent of individuals in their sample are at the margin of release, for example, with these individuals being much more likely to be charged with misdemeanors and non-violent offenses. The estimates based on these marginal defendants are therefore potentially not applicable to the average or inframarginal defendants, who would likely be affected by large-scale policy reforms. In addition, a limitation of the quasi-experimental evidence is that it is unable to capture spillover (or general equilibrium) effects of pretrial detention on other individuals. To explore these spillover effects, we next turn to exploring whether pretrial detention has effects on aggregate economic measures.

### III.B Changes in County-Level Economic Outcomes and Detention Rates

Evidence on General Equilibrium Effects: In the absence of convincing quasi-experimental variation in aggregate pretrial detention rates, we estimate the effects of pretrial detention inclusive of spillover effects by comparing changes in county-level poverty and employment-to-population rates to changes in county-level pretrial detention rates. We take this approach because there is substantial heterogeneity across counties in their change in pretrial detention rates from 2000 to 2009, the latest year of available data in the SCPS data. For example, between 2000 and 2009, counties like Wayne, Michigan, and Franklin, Ohio experienced over 15 percentage point increases in detention rates compared to counties like Broward, Florida and Miami-Dade, Florida which experienced over 10 percentage point decreases in detention rates.

<sup>&</sup>lt;sup>9</sup>We note that the number of people no longer detained would likely be lower than 2.79 million given that the total number of arrests per year includes arrests for repeat offenders.

Exploiting this time-series variation, we present scatterplots and regression estimates of the following county-level specification:

$$\Delta Y_{c,2000-2010} = \alpha + \beta_1 * \Delta Detention_{c,2000-2009} + \beta_2 * \mathbf{X}_{\mathbf{c},2000} + \epsilon_{\mathbf{c}}$$

$$\tag{1}$$

where  $\Delta Y_{c,2000-2010}$  represents the 2000 to 2010 change in economic outcomes in county c,  $\Delta Detention_{c,2000-2009}$  represents the 2000 to 2009 change in detention rates in county c, and  $X_{c,2000}$  represents baseline county-level covariates. All results are weighted by the county-level race/age-specific population. We note, of course, that there may be other county-level changes correlated with changes in pretrial detention rates, such that one should be cautious in interpreting  $\beta_1$  as a causal effect. Nevertheless, we feel that these estimates provide a useful guidance to policymakers on the presence and potential scope of spillover effects.

(1) Changes in Detention Rates and Poverty Rates: We begin by examining the relationship between changes in detention rates and poverty rates. In Figure 3, we present correlations between the 2000 to 2009 change in pretrial detention rates ( $\Delta$  Detention) and the 2000 to 2010 change in county-level poverty rates rates ( $\Delta$  Poverty), defined as the share of the population below the poverty line. County-level poverty rates are measured using the 2000 Decennial Census and the 2006-2010 American Community Survey 5-year estimates. These results show whether counties that experienced greater increases in their pretrial detention rates exhibited different changes in their poverty rates. In all results below, we present correlations and regression estimates of  $\Delta$ Poverty and  $\Delta$  Detention for prime working-age individuals between the ages of 25 to 44, Black individuals 25 to 44, Hispanic individuals 25 to 44, and Non-Hispanic white individuals 25 to 44. We focus on these demographic groups given that the pretrial system is overrepresented by Black defendants and defendants under the age of 45. The size of the circles represents the age- and race-specific county population in 2000. We explore these relationships among 24 counties in the SCPS for whom we can observe detention rates in both 2000 and 2009. Panels A and B of Appendix Table A2 presents summary statistics for these changes, both unweighted and weighted by the race/age-specific county population.

Figure 3 reveals that among individuals aged 25 to 44, the correlation between  $\Delta$  Poverty and  $\Delta$  Detention is 0.39, suggesting that counties with larger increases in pretrial detention rates also experienced larger increases in poverty rates. For example, two counties with the largest increases in pretrial detention rates over the 2000 to 2009 time period, Wayne, Michigan and Franklin, Ohio experienced a growth in the poverty rate from 2000 to 2010 for individuals aged 25 to 44 of 10.61 percentage points and 7.24 percentage points, respectively. In contrast, counties with large decreases in pretrial detention rates over the time period, such as Broward, Florida and Miami-Dade, Florida, experienced a growth in the poverty rate from 2000 to 2010 for individuals aged 25

to 44 of only 1.56 percentage points and 0.96 percentage points, respectively.

Consistent with these correlation estimates, a linear regression of  $\Delta$  Poverty and  $\Delta$  Detention with no baseline controls yields a regression coefficient of 0.14, implying that a 10 percentage point increase in the detention rate between 2000 and 2009 is associated with a 1.41 percentage point increase in the poverty rate of prime-working age individuals between 2000 and 2010. This regression coefficient similarly implies that a one standard deviation increase in the detention rate between 2000 and 2009 (9.36 percentage points) is associated with a 1.32 percentage point increase in the poverty rate over a similar time period. Among Black individuals aged 25 to 44, the correlation coefficient between  $\Delta$  Poverty and  $\Delta$  Detention is 0.56 with a linear regression coefficient of 0.24, implying that a one standard deviation increase in the detention rate between 2000 and 2009 is associated with a 2.21 percentage point increase in the poverty rate of Black individuals aged 25 to 44 between 2000 and 2010. Among Hispanic individuals aged 25 to 44, the correlation coefficient is 0.33 with a linear regression coefficient of 0.13, implying that a one standard deviation increase in the detention rate between 2000 and 2009 is associated with a 1.17 percentage point increase in the employment rate of Hispanic individuals aged 25 to 44 over the time period. Finally, for Non-Hispanic white individuals, the correlation coefficient between  $\Delta$  Poverty and  $\Delta$ Detention is 0.45 with a linear regression coefficient of 0.15, implying that a one standard deviation increase in the detention rate between 2000 and 2009 is associated with a 1.36 percentage point increase in the poverty rate of Non-Hispanic white individuals aged 25 to 44 over the time period. In general, these results reveal a substantial positive relationship between detention rate changes and poverty rate changes, with the largest correlations among Black prime-working aged individuals.

While these county-level relationships are vulnerable to concerns about omitted variables bias, we find that that these patterns continue to hold even controlling for county-level baseline covariates. In Panel A of Table 2, we present estimates from a regression of  $\Delta$  Poverty on  $\Delta$  Detention with and without baseline controls in levels. Baseline controls include the mean household income in 2000, share female in 2000, share of single parents in 2000, share foreign born in 2000, the unemployment rate in 2000, EITC exposure in 2000, violent crime rates in 2000, and total crime rates in 2000. We also include share of population with a college degree or more in 2000, the share of women in the labor force in 2000, and the log population in 2000, following Charles, Hurst, and Notowidigdo (2016). Estimates are weighted by the county-level race/age-specific population. Even after accounting for these baseline controls, we continue to find that a one standard deviation increase in the detention rate between 2000 and 2009 is associated with a 0.98 percentage point increase in the poverty rate of Black individuals aged 25 to 44, a 1.17 percentage point increase in the poverty rate of Hispanic individuals aged 25 to 44, and a 0.54 percentage point increase in the poverty

rate of Non-Hispanic white individuals aged 25 to 44 between 2000 and 2010. These regression estimates with controls are again consistent with a robust positive relationship between detention rate changes and poverty rate changes, with the largest relationship for Black individuals aged 25 to 44.

(2) Changes in Detention Rates and Employment-to-Population Ratios: We now turn to the employment-to-population ratio, or employment rate. In Figure 4, we present correlations between the 2000 to 2009 change in pretrial detention rates ( $\Delta$  Detention) and the 2000 to 2010 change in county-level civilian employment rates ( $\Delta$  Employment), defined as the employment-to-population ratio among the civilian population. County-level employment rates are measured using the 2000 Decennial Census and the 2006-2010 American Community Survey 5-year estimates. We present correlations and regression estimates of  $\Delta$  Employment and  $\Delta$  Detention for prime working-age individuals between the ages of 25 to 44, and all Black individuals 16-64, Hispanic individuals 16-64, and Non-Hispanic white individuals 16-64. Due to data restrictions in the availability of public data at the county-level, we are unable to further disaggregate employment rates for demographic groups by narrower age ranges (e.g., Black individuals between the ages of 25 to 44). The size of the circles again represents the age- and race-specific county population in 2000. Again, we explore these relationships among 24 counties in the SCPS for whom we can observe detention rates in both 2000 and 2009. Summary statistics on these changes are presented in Panels A and C of Appendix Table A2.

Figure 4 reveals that among individuals aged 25 to 44, the correlation between  $\Delta$  Employment and  $\Delta$  Detention is -0.42. Counties with large increases in pretrial detention rates, such as Wayne, Michigan and Franklin, Ohio, experienced employment rates decreases for individuals aged 25 to 44 of 3.69 percentage points and 2.49 percentage points, respectively. In contrast, counties with large decreases in pretrial detention rates over the time period, such as Broward, Florida, and Miami-Dade, Florida, experienced employment rates *increases* for individuals aged 25 to 44 of 1.67 percentage points and 8.59 percentage points, respectively. A linear regression of  $\Delta$  Employment and  $\Delta$  Detention with no baseline controls yields a regression coefficient of -0.21, implying that a 10 percentage point increase in the detention rate between 2000 and 2009 is associated with a 2.06 percentage point decrease in the employment rate of prime-working age individuals between 2000 and 2010. This regression coefficient similarly implies that a one standard deviation increase in the detention rate between 2000 and 2009 is associated with a 1.93 percentage point decrease in the employment rate over a similar time period.

Among Black individuals aged 16 to 64, the correlation coefficient between  $\Delta$  Employment and  $\Delta$  Detention is -0.48 with a linear regression coefficient of -0.21. This regression coefficient implies that a one standard deviation increase in the detention rate between 2000 and 2009 is associated with a 1.95 percentage point decrease in the employment rate of Black individuals

aged 16 to 64 between 2000 and 2010. Among Hispanic individuals aged 16 to 64, the correlation coefficient between  $\Delta$  Employment and  $\Delta$  Detention is -0.20 with a linear regression coefficient of -0.07, implying that a one standard deviation increase in the detention rate between 2000 and 2009 is associated with a 0.67 percentage point decrease in the employment rate of Hispanic individuals aged 16 to 64. Finally, for Non-Hispanic white individuals aged 16 to 64, the correlation coefficient between  $\Delta$  Employment and  $\Delta$  Detention is -0.40 with a linear regression coefficient of -0.14, implying that a one standard deviation increase in the detention rate between 2000 and 2009 is associated with a 1.35 percentage point decrease in the employment rate of Non-Hispanic white individuals aged 16 to 64. Thus, there is a substantial negative association between detention rate changes and employment rate changes, particularly among Black working-age individuals.

In Panel B of Table 2, we present estimates from a regression of  $\Delta$  Employment on  $\Delta$  Detention with and without baseline controls in levels. We use the same set of baseline controls as described above in our regressions with changes in poverty rates. We weight these regressions with the relevant county-level population for each racial/age group. With baseline controls, we find that a one standard deviation increase in the detention rate between 2000 and 2009 is associated with a 1.08 percentage point decrease in the employment rate of individuals aged 25 to 44, a 3.82 percentage point decrease in the employment rate of Black individuals aged 16 to 64, a 0.52 percentage point decrease in the employment rate of Hispanic individuals aged 16 to 64, and a 1.17 percentage point decrease in the employment rate of Non-Hispanic white individuals aged 16 to 64. As with our above results on poverty rates, these regression results suggest that local changes in detention rates are associated with aggregate economic well-being as measured by employment rates, particularly for Black individuals.

Policy Implications: We now turn to back-of-the-envelope calculations exploring how changes in the pretrial system could affect these aggregate measures of economic well-being – poverty rates and employment rates. As before, we now evaluate two types of policy reforms using these general equilibrium estimates. We first evaluate the impact on individuals of a change in detention rates shifting high  $\Delta$  Detention counties to match low  $\Delta$  Detention counties. We then assess what would happen if all counties reduced detention rates to only 10 percent, as would be plausible if cash bail were eliminated.

First, recall the outlier county of Franklin, Ohio, which had the highest growth in pretrial detention for felony defendants between 2000 and 2009 among all reporting counties in the SCPS data (25.0 percentage points). In contrast, Broward, Florida had a 17.7 percentage point *decrease* in pretrial detention. If Franklin, Ohio had reduced its  $\Delta$  Detention rate to match that of Broward, Florida over the same period, our regression estimates imply that there would have been a 4.48 (with controls) to 6.02 (without controls) percentage point decrease in Franklin's  $\Delta$  Poverty rate for individuals aged 25 to 44 between 2000 and 2010. Given that the actual poverty rate in Franklin

increased by 7.24 percentage points over this time period, Franklin's counterfactual poverty rate would have increased by only 1.22 to 2.77 percentage points. The effects of this simulation are even larger among minority individuals. Among Black individuals aged 25 to 44, if Franklin, Ohio reduced its  $\Delta$  Detention rate to match that of Broward, Florida's, our regression estimates would imply a 10.09 to 14.15 percentage point decrease in Franklin's  $\Delta$  Poverty rate for Black individuals aged 25 to 44 between 2000 and 2010. Since Franklin's actual poverty rate increased by 8.68 percentage points for this demographic group during this time period, their counterfactual poverty rate for Black prime working-age individuals would have *decreased* by 1.41 to 5.47 percentage points.

We can do the same simulation for employment rates. If Franklin, Ohio reduced its  $\Delta$  Detention rate to match that of Broward, Florida, our regression estimates would imply a 4.92 to 8.80 percentage point increase in the  $\Delta$  Employment rate for individuals aged 25 to 44 between 2000 and 2010 compared to what actually occurred. Given that the actual employment rate in Franklin decreased by 2.49 percentage points over this time period, their counterfactual employment rate would have *increased* by 2.42 to 6.31 percentage points. Among working-age Black individuals, if Franklin, Ohio reduced its  $\Delta$  Detention rate to match Broward, Florida's change, our regression estimates would imply a 8.88 to 17.44 percentage point increase in the  $\Delta$  Employment rate between 2000 and 2010 compared to what actually occurred. As compared to Franklin, Ohio's actual decrease of 4.16 percentage points in its employment rate for Black working aged individuals during the time period, the counterfactual employment rate change for this demographic group would have been an *increase* of 4.72 to 13.27 percentage points.

We next consider what might happen if all counties eliminated money bail. Based on prior estimates, we anticipate that the elimination of money bail would reduce pretrial detention rates to approximately 10 percent. If all counties had reduced their 2009 detention rates to 10 percent, this change would have represented a 31.33 percentage point decrease from the mean population weighted county detention rate in 2000 as measured in the SCPS data. As a result of this change, our estimates in Figure 3 imply that, on average, poverty rates for individuals aged 25 to 44 in all counties would have decreased by 3.28 to 4.42 percentage points more than they actually changed. Between 2000 and 2010, the weighted average poverty rate across all counties in the SCPS increased by 2.83 percentage points. If counties had eliminated money bail, then our estimates suggest that poverty rates over this same period would have instead *decreased* by 0.45 to 1.58 percentage points. For Black individuals aged 25 to 44, our estimates imply that the average poverty rate in these counties would have decreased by an additional 7.40 to 10.39 percentage points compared to the actual change. Between 2000 and 2010, the actual weighted average poverty rate for this demographic group across counties in the SCPS increased by 0.73 percentage points. Based on our estimates, if counties had eliminated money bail, the counterfactual poverty rates would

have instead decreased by 6.67 to 9.66 percentage points.

In addition, these changes would yield economically significant decreases in *racial gaps* in poverty rates given that reductions in detention have a greater differential impact on Black versus white prime working-aged individuals. For example, in 2010, the population-weighted average poverty rate was 19.3 percent for Black individuals and 6.9 percent for white individuals. Therefore, the Black—white racial gap was 12.43 percentage points in 2010. If counties had eliminated money bail, our estimates predict that there would have been a counterfactual change in the  $\Delta$  Poverty rates of -4.56 to -5.39 percentage points for white individuals and -7.40 to -10.39 percentage points for Black individuals. Using the lower end of these estimates for both groups, the counterfactual 2010 white poverty rate would have been 2.3 percent and the counterfactual 2010 Black poverty rate would have been 11.9 percent. Thus, if counties eliminated money bail, the counterfactual racial gap in 2010 would have only been 9.59 percentage points, which is 23.0 percent smaller than the actual racial gap.

Turning to employment rates, the actual weighted average change in employment rates across all counties in the SCPS between 2000 and 2010 was a 3.94 percentage point increase for all individuals aged 25 to 44 and a 1.00 percentage point increase for Black individuals aged 16 to 64. If these counties had reduced their 2009 detention rates to 10 percent, the counterfactual employment rate change across all counties would have been a 7.55 to 10.40 percentage point increase for all individuals aged 25 to 44 and a 7.52 to 13.80 percentage point increase for Black individuals aged 16 to 64. If the identified relationships continue to hold in the current time period, these simulations suggest that reducing detention rates to 10 percent would greatly decrease poverty rates and increase employment rates, particularly among working-age Black individuals.

Eliminating money bail would also yield economically significant decreases in *racial gaps* in employment rates. For example, in 2010, the employment-to-population ratio was 61.0 percent for Black individuals and 72.9 percent for white individuals. Thus, the white–Black gap in employment rates was 11.8 percentage points in 2010. If counties had reduced detention rates to 10 percent via elimination of money bail, our estimates suggest that the  $\Delta$  Employment rate would have increased by 3.91 to 4.52 percentage points for white defendants and 6.52 to 12.80 percentage points for Black defendants. As a result, using the lower end of these estimates for both groups, the counterfactual employment-to-population ratio would have been 76.8 percent for white individuals and 67.6 percent for Black individuals in 2010, implying a counterfactual racial gap in 2010 of 9.22 percentages points, 22.0 percent smaller than the actual 2010 racial gap.

Comparing Partial and General Equilibrium Estimates: A natural question may be whether the aggregate general equilibrium effects we find in this section can be explained by the partial equilibrium estimates described above. Here, we do a rough comparison of these estimates, noting that this exercise is highly speculative given the non-comparability of the estimates. For one, the

partial equilibrium estimates represent only local average treatment effects for defendants at the margin of release and may be inapplicable to inframarginal defendants affected by policy reforms. Second, the partial equilibrium estimates calculate *annual* labor market changes, while the general equilibrium estimates capture cumulative changes over the course of a decade. Third, the general equilibrium estimates relying on county-level changes are non-causal in nature and have large standard errors. Nevertheless, a rough calibration leads us to tentatively conclude that spillover effects may be large and are an area worthy of further exploration.

Recall that for each person no longer detained, Dobbie, Goldin, and Yang (2018) estimate that the probability of employment in the formal sector increases by 9.4 percentage points each year. Mapping this individual-level probability to an aggregate measure, such as the employment-to-population ratio, depends on what share of the relevant working-age population is "at-risk" of pretrial detention. Based on McCauley (2017), estimates from the NLSY 1997 suggest that the cumulative arrest probability by age 28 for all respondents is 32 percent, which we use as a benchmark for the size of the at-risk population. If we assumed that a 100 percentage point reduction in the detention rate for this at-risk population (effectively going from complete to no detention), the estimates from Dobbie, Goldin, and Yang (2018) would imply that the aggregate employment rate would correspondingly rise by 3.01 percentage points (9.4pp\*0.32) through direct partial equilibrium effects. However, our estimates of the association between changes in detention rates and changes in employment rates with baseline controls imply that a 100 percentage point reduction in the detention rate would increase the prime working-age employment rate by 11.5 percentage points (see Panel B of Table 2). While we caution that our simulations are only rough benchmarks, these results indicate that spillover effects may be substantial.

Among Black respondents, the cumulative probability of arrest by age 28 is 40 percent (Mc-Cauley 2017), which we take as a crude benchmark for the size of the Black at-risk population. If we assumed that a 100 percentage point reduction in the detention rate for this at-risk population, the estimates from Dobbie, Goldin, and Yang (2018) would imply that the aggregate employment rate for Black individuals would correspondingly rise by 3.76 percentage points (9.4pp\*.40) through direct partial equilibrium effects. However, our estimates of the association between changes in detention rates and changes in employment rates for Black individuals (with baseline controls) imply that a 100 percentage point reduction in the detention rate would increase the Black working-age employment rate by 40.8 percentage points (see Panel B of Table 2). Again, this back-of-the-envelope calculation suggests large spillover effects.

### **III.C** Detention Rates and Intergenerational Mobility

Evidence on Intergenerational Spillovers: In this subsection, we consider a form of intergenerational spillover effects. In the absence of convincing quasi-experimental variation in aggregate

pretrial detention rates, we estimate the intergenerational effects of pretrial detention by comparing county-level 1990 pretrial detention rate levels and measures of intergenerational mobility obtained from Opportunity Insights, as used by Chetty and others (2018). Based on SCPS data, in 1990, counties like Fulton, Georgia, and Orange, California have the highest rates of pretrial detention with rates around 70 percent or higher, while counties like Suffolk, Massachusetts and Essex, New Jersey have the lowest rates of detention, with detention rates generally below 10 percent. We explore these relationships among 39 counties in the SCPS for whom we can observe detention rates in 1990. Summary statistics on 1990 detention rates and measures of intergenerational mobility are presented in Panels A and D–E of Appendix Table A2.

Exploiting this variation, we present scatterplots and regression estimates of the following county-level specification:

$$IM_{c,2014} = \alpha + \beta_1 * Detention_{c,1990} + \beta_2 * \mathbf{X_{c,2000}} + \epsilon_{\mathbf{c}}$$

$$\tag{2}$$

where  $IM_{c,2014}$  represents the predicted mean percentile rank of income for children born between 1978 to 1983 to parents at the 25th percentile in the national household income distribution when they are aged 31 to 37 (as measured in 2014 to 2015) in county c.  $Detention_{c,1990}$  represents the 1990 detention rate in county c, and  $X_{c,2000}$  represents baseline county-level covariates. We specifically choose to correlate mobility with the 1990 county pretrial detention rate as this captures the exposure that a child would experience when they are aged 7 to 12. Any relationship between this pretrial detention rate and mobility likely reflects an intergenerational spillover effective given that these children are too young to be detained in adult pretrial systems. We caution again that  $\beta_1$  should generally not be interpreted as a causal estimate given that we are unable to control for all potential differences between low- and high-detention counties.

Figure 5 presents these findings. Figure 5 reveals a positive correlation of 0.13 between a county's 1990 rate of pretrial detention and intergenerational mobility for all children born to parents at the 25th income percentile and a linear regression coefficient of 0.02. However, this correlation becomes *negative* once one focuses in on Black children born to parents at the 25th income percentile. Among Black children, the correlation is -0.21 and the linear regression coefficient is -0.03. Counties with very high levels of pretrial detention rates in 1990, such as Fulton, GA, have a predicted mean percentile rank for Black children of 38.39. In contrast, counties with low levels of pretrial detention in 1990, such as Suffolk, MA, have a predicted mean percentile rank for Black children of 45.36. These regression estimates imply that for Black children, a one standard deviation increase in the 1990 detention rate (16.90 percentage points) is associated with a decrease in the predicted mean percentile rank of 0.54. For Hispanic children, a one standard deviation increase in the 1990 detention rate is associated with an increase in the predicted mean

percentile rank of 0.10 and for Non-Hispanic white children, a one standard deviation increase in the 1990 detention rate is associated with a decrease in the predicted mean percentile rank of 0.35. These results imply that a characteristic of a "high-mobility" county may be its rate of pretrial detention.

In Panel C of Table 2, we present estimates from a regression of mobility on 1990 detention rates with and without baseline controls. Baseline controls include the Gini coefficient for the bottom 99 percent, high school dropout rate, share black, share single mothers, social capital index, and violent and total crime rates, following Chetty and others (2014). We weight these regressions with the relevant county-level population for each racial/age group. After accounting for these baseline controls, we find that a one standard deviation increase in the 1990 detention rate is associated with a decrease in the predicted mean percentile rank of 1.12 for all children, a decrease in the predicted mean percentile rank of 0.68 for Hispanic children, and a decrease in the predicted mean percentile rank of 1.89 for Non-Hispanic children. In Figure 6 and Panel D of Table 2, we present analogous results measuring mobility for children born to parents at 75th income percentile, where we continue to find a general negative association between a county's 1990 pretrial detention level and mobility of children of all races.

*Policy Implications*: We can again use this type of cross-sectional evidence to simulate the two types of policy counterfactuals utilized previously. We first evaluate the impact on individuals of a change in detention rates, shifting rates in high-detention counties to match those in low-detention counties, before assessing what would happen if all counties reduced detention rates to only 10 percent.

For example, if Fulton, Georgia reduced its detention rate to match Suffolk, Massachusetts' detention rate in 1990, there could be up to a 1.24 percentile decrease or a 3.84 percentile increase in the mean predicted percentile rank for all children born to parents at the 25th income percentile. Compared to Fulton, Georgia's actual mean percentile rank of 39.35, Fulton's counterfactual percentile rank for all children would be 38.10 to 43.19. For Black children born to parents at the 25th income percentile, there would be an associated 1.84 to 3.20 percentile increase in the mean predicted percentile rank. Compared to Fulton, Georgia's actual mean percentile rank of 38.39 for this demographic group, Fulton's counterfactual percentile rank for Black children would be 40.24 to 41.59.

Increases in intergenerational mobility would also occur if detention levels for all counties were reduced to 10 percent, as could be achieved by eliminating money bail. For intergenerational mobility, the mean predicted percentile rank of children across all counties in the SCPS is 44.82 for all children and 40.89 for Black children born to parents at the 25th income percentile. Applying our cross-sectional estimates, if these counties had reduced their 1990 detention rates to 10 percent,

the counterfactual mean predicted percentile rank across all counties would have been 44.18 to 46.81 for all children and 41.84 to 42.54 for all Black children.

In addition, these simulations suggest that reforms like the elimination of money bail may also yield improvements in *racial gaps* in intergenerational mobility. For example, the mean predicted percentile rank is 47.43 for white children and 40.89 for Black children born to parents at the 25th percentile. Thus, the white–Black racial gap in mobility is 6.53 percentile ranks. As mentioned above, if counties eliminated money bail, our estimates suggest that the mean predicted percentile rank for these same groups could instead be 41.84 to 42.54 for Black children and 48.05 to 50.81 for white children. Using the lower end of these counterfactual estimates, this policy reform, while clearly benefiting both racial groups, could also potentially reduce racial gaps in intergenerational mobility to 6.21 percentile ranks.

# **Conclusions and Areas for Future Work**

The U.S. pretrial system has dramatically expanded over the past several decades and now affects more than 10 million arrested individuals each year. The increasingly high rate of monetary bail coupled with the low financial resources of many arrested individuals has resulted in high rates of pretrial detention among these individuals, particularly for low-income minority populations. Much work remains to be done to understand the economic consequences of this pretrial system. While some recent research has started to measure the partial equilibrium effects on individuals detained at the margin, rigorous work studying the potential spillover effects on families and community members is much needed.

This paper describes several pieces of evidence that can provide helpful guidance for policy-makers. First, we document the significant partial equilibrium consequences of pretrial detention on individual economic outcomes such as formal labor market attachment and the receipt of social benefits such as UI and the EITC. These findings alone suggest that reforms to reduce the scale of the pretrial system, such as through the elimination of money bail, would generate large increases in employment and income for directly-affected individuals. Second, we provide more speculative evidence of the impact of pretrial detention on aggregate economic outcomes that incorporate both partial and general equilibrium effects. Exploiting county-level changes, we show that counties with higher detention rates also experience, on average, higher poverty rates and lower employment rates, particularly for minority individuals. Finally, we provide again more tentative evidence that pretrial detention may reduce the economic mobility in the next generation of children. Put together, these three pieces of evidence indicate that reducing the scope of the pretrial system is likely to generate significant economic returns and yield both efficiency and fairness gains.

### References

- Abrams, David S., Marianne Bertrand, and Sendhil Mullainathan. 2012. "Do Judges Vary in Their Treatment of Race?" *Journal of Legal Studies*, 41(2): 347-383.
- Agan, Amanda Y., and Sonja B. Starr. 2018. "Ban the Box, Criminal Records, and Statistical Discrimination: A Field Experiment." *Quarterly Journal of Economics*, 133(1): 191-235.
- Anwar, Shamena, Patrick Bayer, and Randi Hjalmarsson. 2012. "The Impact of Jury Race in Criminal Trials." *Quarterly Journal of Economics*, 127(2): 1017-1055.
- Arnold, David, Will Dobbie, and Crystal S. Yang. 2018. "Racial Bias in Bail Decisions." *Quarterly Journal of Economics*, 133(4): 1885-1932.
- Arnold, David, Will Dobbie, and Peter Hull. 2020. "Measuring Racial Discrimination in Bail Decisions." NBER Working Paper 26999, National Bureau of Economic Research, Cambridge, MA.
- Bayer, Patrick, and Kerwin Kofi Charles. 2018. "Divergent Paths: A New Perspective on Earnings Differences Between Black and White Men Since 1940." *Quarterly Journal of Economics*, 133(3): 1459-1501.
- Charles, Kerwin Kofi, Erik Hurst, and Matthew J. Notowidigdo. 2014. "The Masking of the Decline in Manufacturing Employment by the Housing Bubble" *Journal of Economic Perspectives*, 30(2): 179-200.
- Chetty, Raj, John N. Friedman, and Jonah E. Rockoff. 2014. "Measuring the Impacts of Teachers II: Teacher Value-Added and Student Outcomes in Adulthood." *American Economic Review*, 104(9): 2633-2679.
- Chetty, Raj, Nathaniel Hendren, Patrick Kline, Emmanuel Saez, Nicholas Turner. 2014. "Is the United States Still a Land of Opportunity? Recent Trends in Intergenerational Mobility." NBER Working Paper 19844, National Bureau of Economic Research, Cambridge, MA.
- Chetty, Raj, John N. Friedman, Nathaniel Hendren, Maggie R. Jones, and Sonya R. Porter. 2018. "The Opportunity Atlas: Mapping the Childhood Roots of Social Mobility." Unpublished Working Paper.
- Demuth, Stephen. 2003. "Racial and Ethnic Differences in Pretrial Release Decisions and Outcomes: A Comparison of Hispanic, Black, and White Felony Arrests." *Criminology*, 41(3): 873-908.

- Demuth, Stephen, and Darrell Steffensmeier. 2004. "The Impact of Gender and Race-Ethnicity in the Pretrial Release Process." *Social Problems*, 51(2): 222-242.
- Department of Justice. 2016. Brief for the United States as Amicus Curiae in Maurice Walker v. City of Calhoun, Georgia.
- Dobbie, Will, Jacob Goldin, and Crystal S. Yang. 2018. "The Effects of Pretrial Detention on Conviction, Future Crime, and Employment: Evidence from Randomly Assigned Judges." *American Economic Review*, 108(2): 201-240.
- Dobbie, Will, and Crystal S. Yang. 2019. "Proposals for Improving the U.S. Pretrial System." The Hamilton Project, Brookings Institution, Washington, DC.
- Frandsen, Brigham, Lars Lefgren, and Emily Leslie. 2019. "Judging Judge Fixed Effects." NBER Working Paper 25528, National Bureau of Economic Research, Cambridge, MA.
- Fryer Jr, Roland G. 2016. "An Empirical Analysis of Racial Differences in Police Use of Force." *Journal of Political Economy*, 127(3).
- Grogger, Jeffrey. 1995. "The Effect of Arrests on the Employment and Earnings of Young Men." *Quarterly Journal of Economics*, 110(1): 51-71.
- Heckman, James J. and Edward Vytlacil. 1994. "Structural Equations, Treatment Effects, and Econometric Policy Evaluation." *Econometrica*, 73(3): 669-738.
- Holzer, Harry, Steven Raphael, and Michael Stoll. 2006. "Perceived Criminality, Criminal Background Checks, and the Racial Hiring Practices of Employers." *Journal of Law and Economics*, 49(2): 451-480.
- Holzer, Harry, Steven Raphael, and Michael Stoll. 2007. "The Effect of an Applicant's Criminal History on Employer Hiring Decisions and Screening Practices: Evidence from Los Angeles." Unpublished Working Paper.
- Imbens, Guido and Joshua Angrist. 1994. "Identification and Estimation of Local Average Treatment Effects." *Econometrica*, 62(2): 467-475.
- McCauley, Erin. J. 2017. "The Cumulative Probability of Arrest by Age 28 Years in the United States by Disability Status, Race/Ethnicity, and Gender." *American Journal of Public Health*, 107: 1977-1981.
- McConnell, Brendon, and Imran Rasul. 2018. "Racial and Ethnic Sentencing Differentials in the Federal Criminal Justice System." *AEA Papers and Proceedings*, 108: 241-245.

- McIntyre, Frank, and Shima Baradaran. 2013. "Race, Prediction, and Pretrial Detention." *Journal of Empirical Legal Studies*, 10(4): 741-770.
- Moffitt, Robert A. 2019. "The U.S. Employment-Population Reversal in the 2000s: Facts and Explanations." NBER Working Paper 18520, National Bureau of Economic Research, Cambridge, MA.
- Mogstad, Magne, Alexander Torgovitsky, and Christopher Walters. 2019. "Identification of Causal Effects with Multiple Instruments: Problems and Some Solutions." NBER Working Paper 25691, National Bureau of Economic Research, Cambridge, MA.
- Mueller-Smith, Michael. 2015. "The Criminal and Labor Market Impacts of Incarceration." Unpublished Working Paper.
- Neal, Derek, and Armin Rick. 2014. "The Prison Boom and Lack of Black Progress After Smith and Welch." Unpublished Working Paper.
- New York City Criminal Justice Agency, Inc. 2014. "Annual Report 2013." New York Criminal Justice Agency, Inc., New York, NY.
- Norris, Sam. 2019. "Examiner Inconsistency: Evidence from Refugee Appeals." Unpublished Working Paper.
- Pager, Devah. 2003. "The Mark of a Criminal Record." *American Journal of Sociology*, 108: 937-975.
- Raphael, Steven, and Sandra V. Rozo. 2019. "Racial Disparities in the Acquisition of Juvenile Arrest Records." *Journal of Labor Economics*, 37(S1): S125-S159.
- Reaves, Brian A. 2013. "Felony Defendants in Large Urban Counties, 2009 Statistical Tables." Washington, DC: U.S. Department of Justice.
- Rehavi, M. Marit, and Sonja B. Starr. 2014. "Racial Disparity in Federal Criminal Sentences." *Journal of Political Economy*, 122(6): 1320-1354.
- Rodgers III, William M. 2019. "Race in the Labor Market: The Role of Equal Employment Opportunity and Other Policies." *The Russell Sage Foundation Journal of the Social Sciences*, 5(5): 198-220.
- Schlesinger, Traci. 2005. "Racial and Ethnic Disparity in Pretrial Criminal Processing." *Justice Quarterly*, 22(2): 170-192.

Shannon, Sarah K. S., Christoper Uggen, Jason Schnittker, Melissa Thompson, Sara Wakefield, and Michael Massoglia. 2017. "The Growth, Scope, and Spatial Distribution of People With Felony Records in the United States, 1948–2010." *Demography*, 54(5):1795-1818.

Western, Bruce. 2002. "The Impact of Incarceration on Wage Mobility and Inequality." *American Sociological Review*, 67(4): 526-546.

Figure 1: Stylized Criminal Justice Process from Arrest to Sentencing

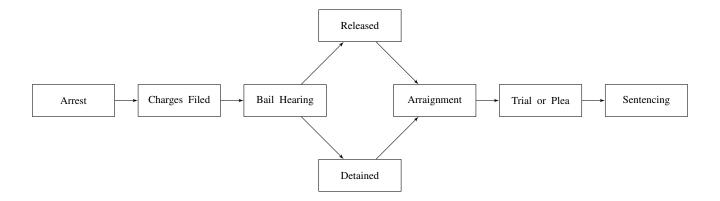
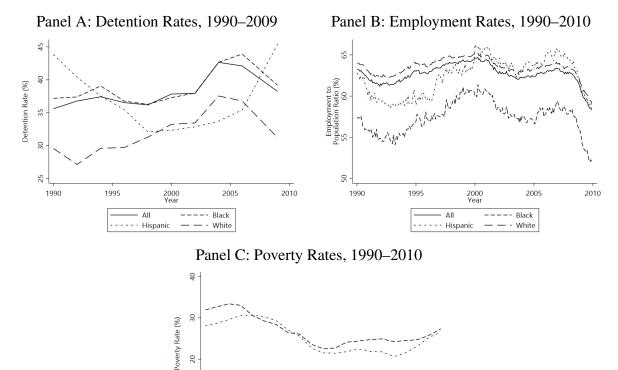


Figure 2: Trends in Detention and Employment Rates, 1990–2009/10



20

10

1990

1995

Note: This figure plots detention, employment, and poverty rates from 1990-2009/10 using data from the State Court Processing Statistics (SCPS), the Bureau of Labor Statistics, and the Census Bureau. Panel A uses county-year level SCPS weights to report the share of arrested felony defendants detained pretrial in a representative sample of the nation's 75 most populous counties from 1990-2009, using data from the SCPS. The SCPS data defines white as Non-Hispanic white and Hispanic as Hispanic white. Panel B reports the employment-to-population ratio from 1990-2010 for the entire country, using data from the Bureau of Labor Statistics' Current Population Survey (Household Survey). The Bureau of Labor Statistics data defines white as all individuals identifying as white and Hispanic as all individuals identifying as Hispanic. Panel C reports the poverty rate from 1990-2010 for the entire country, using data from the Census Bureau's Current Population Survey (Annual Social and Economic Supplement). The Census Bureau data defines white as Non-Hispanic white and Hispanic as all individuals identifying as Hispanic.

2000 Year

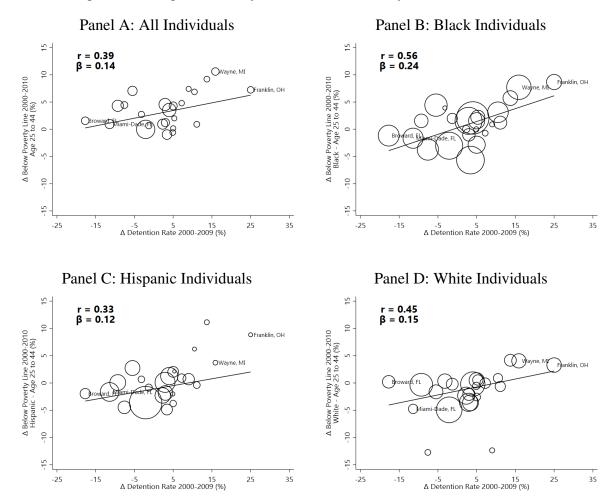
ΑII

2005

Black

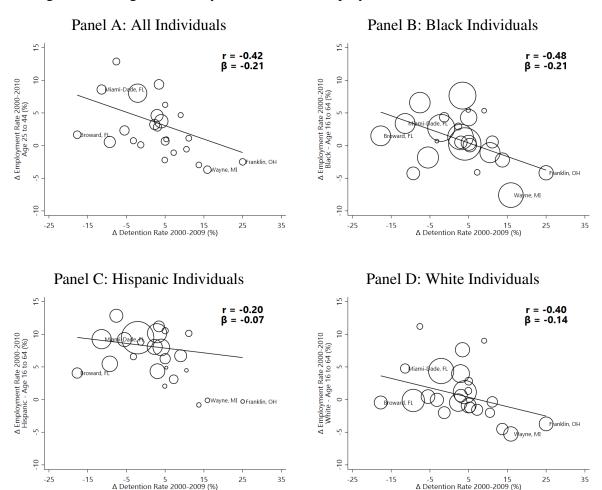
2010

Figure 3: Changes in County Detention and Poverty Rates, 2000–2009/10



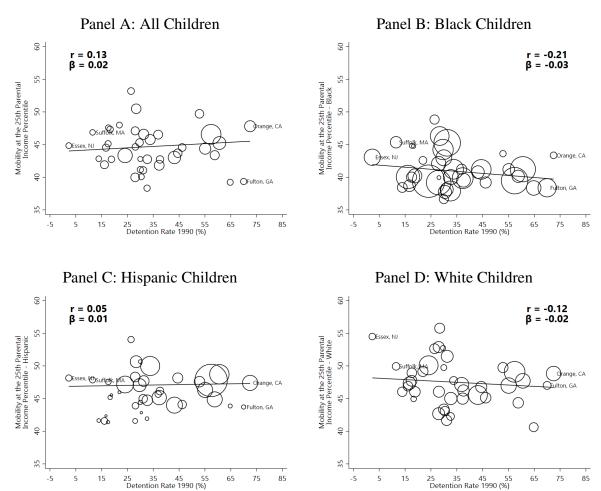
Note: This figure plots changes in county detention and poverty rates from 2000–2009/10 using data from the State Court Processing Statistics, the 2000 Decennial Census, and the American Community Survey. The change in county detention rates from 2000-2009 is measured using the change in the share of arrested felony defendants detained pretrial in the State Court Processing Statistics in the 24 counties with data in both 2000 and 2009. The change in county poverty rates from 2000-2010 is measured using the change in the poverty rate between the 2000 Decennial Census and the American Community Survey 5-year estimates 2006-2010 for individuals age 25-44 in the same 24 counties. Correlations and best-fit regression lines are weighted using the applicable race/age-specific county population total in 2000 as reported in the 2000 Decennial Census. The size of the circles represents the age- and race-specific county population in 2000. See Table 2 for additional regression estimates and standard errors.

Figure 4: Changes in County Detention and Employment Rates from 2000–2009/10



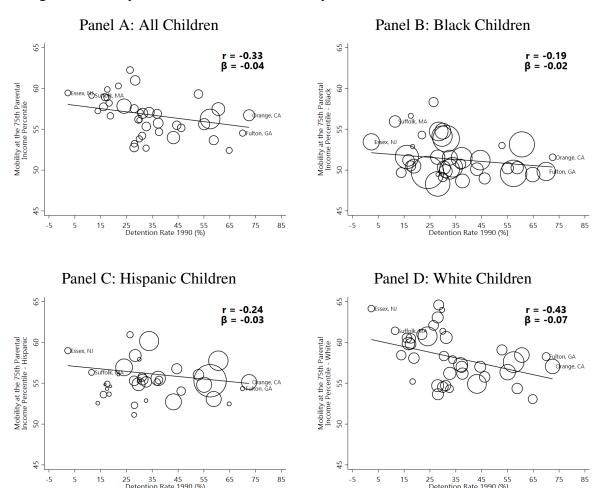
Note: This figure plots changes in county detention and employment-to-population rates from 2000–2009/10 using data from the State Court Processing Statistics, the 2000 Decennial Census, and the American Community Survey. The change in county detention rates from 2000-2009 is measured using the change in the share of arrested felony defendants detained pretrial in the State Court Processing Statistics in the 24 counties with data in both 2000 and 2009. The overall change in county employment-to-population rates from 2000-2010 is measured using the change in the employment-to-population rate between the 2000 Decennial Census and the American Community Survey 5-year estimates 2006-2010 for individuals age 25-44 in the same 24 counties. The race-specific changes in county employment-to-population rates are measured using individuals age 16-64. Correlations and best-fit regression lines are weighted using the applicable race/age-specific county population total in 2000 as reported in the 2000 Decennial Census. The size of the circles represents the age- and race-specific county population in 2000. See Table 2 for additional regression estimates and standard errors.

Figure 5: County Detention Rates and Mobility at the 25th Parental Income Percentile



Note: This figure plots county detention rates and income percentiles of children with parents at the 25th income percentile using data from the State Court Processing Statistics and Opportunity Insights. The county detention rate is measured using the share of arrested felony defendants detained pretrial in 1990 in the State Court Processing Statistics for 39 of the nation's 75 most populous counties. The income percentiles for children born 1978-1983 with parents at the 25th income percentile is measured using the predicted mean percentile rank for children in the individual distribution of household income in 2014-2015 born to parents at the 25th percentile in the national household income distribution in each corresponding county. Correlations and best-fit regression lines are weighted using the applicable race-specific county population total in 2000 as reported in the 2000 Decennial Census. The size of the circles represents the race-specific county population in 2000. See Table 2 for additional regression estimates and standard errors.

Figure 6: County Detention Rates and Mobility at the 75th Parental Income Percentile



Note: This figure plots county detention rates and income percentiles of children with parents at the 75th income percentile using data from the State Court Processing Statistics and Opportunity Insights. The county detention rate is measured using the share of arrested felony defendants detained pretrial in 1990 in the State Court Processing Statistics for 39 of the nation's 75 most populous counties. The income percentiles for children born 1978–1983 with parents at the 75th income percentile is measured using the predicted mean percentile rank for children in the individual distribution of household income in 2014–2015 born to parents at the 75th percentile in the national household income distribution in each corresponding county. Correlations and best-fit regression lines are weighted using the applicable race-specific county population total in 2000 as reported in the 2000 Decennial Census. The size of the circles represents the race-specific county population in 2000. See Table 2 for additional regression estimates and standard errors.

Table 1: Pretrial Detention and Individual Outcomes from Dobbie, Goldin, and Yang (2018)

	Detained	2SLS	NPV
	Mean	Estimates	Estimates
Panel A: Binary Outcomes	(1)	(2)	(3)
Any Formal Sector Earnings	0.378	-0.094	_
	(0.485)	(0.057)	
Any Unemployment Insurance	0.064	-0.013	_
	(0.246)	(0.033)	
Any Earned Income Tax Credit	0.233	-0.105	_
	(0.423)	(0.049)	
Panel B: Outcomes in Dollars			
Formal Sector Earnings	5,887	-948	-18,961
C	(15,897)	(1,128)	•
Unemployment Insurance	245	-293	-5,860
1 7	(1,335)	(193)	
Earned Income Tax Credit	357	-209	-4,180
	(998)	(127)	,
Observations	144,290	334,943	_

Note: This table reports two-stage least squares estimates of the impact of pretrial detention on individual economic outcomes from Dobbie, Goldin, and Yang (2018). Column 1 reports the mean outcome for detained defendants in the sample as described in Dobbie, Goldin, and Yang (2018). Column 2 reports two-stage least squares estimates that instrument for pretrial detention using a judge leniency measure that is estimated using data from other cases assigned to a bail judge in the same year, controlling for court-by-time fixed effects and baseline controls. Column 3 reports the net present value of each change at a 3 percent discount rate, under the assumption that the percentage point gain for each outcome remains constant over the working lifecycle. The standard deviations of each outcome for detained defendants are reported in parentheses in Column 1 and robust standard errors two-way clustered at the individual and judge level are reported in parentheses in Column 2. All outcomes are measured 3-4 years after an individual's arrest using administrative tax data.

Table 2: County Detention Rates and Economic Outcomes

	All Indi	All Individuals	Black In	Black Individuals	Hispanic	Hispanic Individuals	White In	White Individuals
Panel A: $\triangle$ Poverty Rate 2000-2009	(1)	(2)	(3)	(4)	(5)	(9)	()	(8)
$\Delta$ Detention Rate 2000-2009	0.141	0.105	0.236	0.331	0.125	0.125	0.146	0.058
	(0.072)	(0.106)	(0.077)	(0.149)	(0.064)	(0.074)	(0.070)	(0.078)
	24	24	24	24	24	24	24	24
Panel B: $\triangle$ Employment Rate 2000-20	600							
△ Detention Rate 2000-2009	-0.206	-0.115	-0.208	-0.408	-0.072	-0.056	-0.144	-0.125
	(0.109)	(0.072)	(0.103)	(0.121)	(0.088)	(0.048)	(0.075)	(0.047)
	24	24	24	24	24	24	24	24
Panel C: Mobility at the 25th Parenta	d Income	Percentile						
Detention Rate in 1990	0.021	-0.066	-0.032	-0.055	0.006	-0.040	-0.021	-0.112
	(0.026)	(0.027)	(0.019)	(0.023)	(0.022)	(0.019)	(0.027)	(0.036)
	39	39	39	39	39	39	39	39
Panel D: Mobility at the 75th Parenta	ıl Income	Income Percentile						
Detention Rate in 1990	-0.040	-0.070	-0.025	-0.019	-0.031	-0.045	-0.069	-0.093
	(0.017)	(0.028)	(0.023)	(0.027)	(0.024)	(0.020)	(0.021)	(0.036)
	39	39	39	39	39	39	39	39
Baseline Controls	No	Yes	No	Yes	No	Yes	No	Yes

Note: This table reports OLS estimates of the regression of county economic outcomes on county detention rates using data from the State Court Processing Statistics, the 2000 Decennial Census, the American Community Survey, and Opportunity Insights. Panel A reports estimates of regressions of the change 2000-2009 in the 24 counties with detention data in both 2000 and 2009. Panel C reports estimates of regressions of the income percentiles of children born to parents at the 25th income percentile on the felony detention rate in 1990 in the 39 counties with detention data. Panel D reports estimates of regressions of the income percentiles of children born to parents at the 75th income percentile on the felony detention rate in 1990 in the 39 counties the unemployment rate, EITC exposure, and violent and total crime rates. Baseline controls also include the share of population with a college degree or more, the share of women in the labor force, and log population, following Charles, Hurst, and Notowidigdo (2016). All baseline controls in Panels A-B drop out rate, the share of Black individuals, the share of single mothers, a social capital index, the violent crime rate, and the total crime rate, broadly following Chetty and others (2014). All specifications use the 2000 Census group-specific population in each county as weights, report robust standard errors in parentheses, and report the number of observations below each estimate. See Figures 3-6 for additional details on the coding of each outcome in poverty rates from 2000-2010 on the change in felony detention rates from 2000-2009 in the 24 counties with detention data in both 2000 and 2009. Panel B reports estimates of regressions of the change in employment-to-population rates from 2000-2010 on the change in felony detention rates from with detention data. In Panels A-B, the baseline controls include the mean household income, share female, share of single parents, share foreign born, are measured in 2000. In Panels C-D, the baseline controls included in the even columns are the Gini coefficient for the bottom 99 percent, high school measure.

Appendix Table A1: Descriptive Statistics for Individuals Entering the Pretrial System

	All Defendants	Released Defendants	Detained Defendants
Panel A. Defendant Characteristics	(1)	(2)	(3)
Male	0.832	0.800	0.885
Non-Hispanic White	0.230	0.252	0.196
Hispanic White	0.081	0.082	0.083
Black	0.469	0.464	0.475
Other	0.019	0.020	0.017
24 and Under	0.355	0.376	0.326
25 to 44	0.535	0.514	0.569
45 to 64	0.096	0.097	0.096
65 and Over	0.014	0.014	0.009
Panel B. Most Serious Arrest Charge			
Violent Arrest Charge	0.248	0.223	0.290
Property Arrest Charge	0.308	0.310	0.301
Drug Arrest Charge	0.349	0.367	0.325
Public-Order Arrest Charge	0.094	0.100	0.083
Panel C. Criminal History			
Total Prior Arrests	4.591	3.768	5.929
Total Prior Felony Arrests	2.934	2.253	4.035
Total Prior Convictions	2.597	1.903	3.741
Total Prior Felony Convictions	1.183	0.816	1.790
Total Prior Failures to Appear	0.306	0.249	0.407
Observations	145,751	90,402	55,349

Note: This table reports descriptive statistics for individuals entering the pretrial system using data from the State Court Processing Statistics. The sample includes felony defendants arrested in approximately 40 of the nation's most populous 75 counties from 1990-2009. All of the differences between the means in Columns 2 and 3 are statistically significant at the 99% level except for the difference between the share of Hispanic white individuals who are detained and released and the share of individuals aged 45-64 who are detained and released.

Appendix Table A2: Descriptive Statistics for County-Level Outcomes

		Unweighted	hted		Weighted	ted
•	Obs.	Mean	Std. Dev.	Obs.	Mean	Std. Dev.
Panel A. County Detention Rates	(I)	(2)	(3)	(4)	(5)	(9)
1990 Detention Rate	39	34.28	16.90	39	40.18	16.84
$\Delta$ Detention Rate 2000-2009	24	2.92	9.36	24	0.71	8.18
Panel B. County Poverty Rates						
$\Delta$ Poverty Rate 2000-2010, All Ind. 25-44	24	3.50	3.24	24	2.83	2.95
$\Delta$ Poverty Rate 2000-2010, Black Ind. 25-44	24	1.12	3.45	24	0.73	3.95
$\triangle$ Poverty Rate 2000-2010, Hispanic Ind. 25-44	24	0.54	3.94	24	-1.26	2.55
$\Delta$ Poverty Rate 2000-2010, White Ind. 25-44	24	-1.60	4.12	24	-1.20	2.86
Panel C. County Employment Rates						
$\Delta$ Employment Rate 2000-2010, All Ind. 25-44	24	2.47	4.20	24	3.94	3.98
$\Delta$ Employment Rate 2000-2010, Black Ind. 16-64	24	0.95	3.77	24	1.00	4.04
$\Delta$ Employment Rate 2000-2010, Hispanic Ind. 16-64	24	6.44	3.80	24	8.34	2.47
$\Delta$ Employment Rate 2000-2010, White Ind. 16-64	24	1.03	4.09	24	0.84	3.23
Panel D. County Mobility at the 25th Parental Income Percentile	rcentil	٥				
Tree D. Denney in A 4-14 4 A 11 (1-14		, , ,	,,	C	0 7 7	0
Income Percentile in Adulthood, All Children	96	74.47	5.25	99	44.83	7.82
Income Percentile in Adulthood, Black Children	39	41.17	2.73	39	40.89	2.45
Income Percentile in Adulthood, Hispanic Children	39	45.91	2.87	39	47.14	2.04
Income Percentile in Adulthood, White Children	39	47.41	3.50	39	47.43	3.01
Panel E. County Mobility at the 75th Parental Income Percentile	rcentile	0)				
Income Percentile in Adulthood, All Children	39	56.63	2.40	39	56.53	2.04
Income Percentile in Adulthood, Black Children	39	51.57	2.36	39	51.30	2.07
Income Percentile in Adulthood, Hispanic Children	39	55.29	2.11	39	55.82	2.00
Income Percentile in Adulthood, White Children	39	58.26	3.09	39	57.89	2.70
	39	55.29 58.26	2.11	39	55.82 57.89	

Felony detention rates are measured using the State Court Processing Statistics. Poverty and employment-to-population rates Note: This table reports descriptive statistics for the detention and economic outcomes included in our analysis using data from are measured using the 2000 Decennial Census and the American Community Survey. Income percentiles for children born 1978-1983 are measured using the predicted mean percentile rank for children in the individual distribution of household income in 2014-2015 born to parents at the 25th and 75th household income percentile. Columns 4-6 in Panel A are weighted by the county population total in 2000 as reported in the 2000 Decennial Census. Columns 4-6 in Panels B-E are weighted by the State Court Processing Statistics, the 2000 Decennial Census, the American Community Survey, and Opportunity Insights. the applicable race/age-specific county population total in 2000 as reported in the 2000 Decennial Census.