Prison Work-Release Programs and Incarcerated Women’s Labor Market Outcomes

Haeil Jung¹ and Robert J. LaLonde²

Abstract
This article examines whether the work-release program in Illinois prisons increases women’s earnings and employment. Using a large matched administrative database, we find that a longer time served in an Adult Transition Center (ATC) increases total earnings and the probability of being employed during the time in an ATC, for both ATC parolees and dropouts. Furthermore, ATC parolees and dropouts with a longer stay in an ATC had sizable increases in their earnings and employment rates after incarceration. However, the incompletion of the ATC terms by ATC dropouts seemed to carry stigma that reduces their post-incarceration earnings or employment rates.

Keywords
work-release program, incarcerated women, adult transition center, earnings, employment

Introduction
Prison work-release programs have a long history in the United States. These programs, based on the Huber Act enacted by the Wisconsin legislature in 1913, are designed to help selected prisoners who are nearing the end of their

¹Korea University, Seoul, South Korea
²The University of Chicago, IL, USA

Corresponding Author:
Haeil Jung, Department of Public Administration, Korea University, 145 Anam-Ro, Seongbuk-Gu, Seoul 02841, South Korea.
Email: hijk@korea.ac.kr
terms to transition to regular jobs in their communities (Cole & Smith, 2001). Through such programs, inmates are prepared to return to the community in a relatively controlled environment. While they learn how to find and keep a job, they are required to return to prison facilities or community residential facilities during non-working hours (Turner & Petersilia, 1996).

This study examines the labor market effects of the work-release program called Adult Transition Centers (ATCs) in Illinois for eligible female inmates. We focus on women in this study for three reasons. First, over the last 30 years, female incarceration rates increased rapidly, although they have slowed somewhat recently (Belknap, Lynch, & DeHart, 2016). Between 1978 and 2008, U.S. female incarceration rates increased by nearly sevenfold from 10 to 69 per 10,000 people. Second, different from male incarceration, female incarceration is more directly related to children’s well-being because the vast majority of incarcerated women are the mothers and main caregivers of children (Belknap et al., 2016; Glaze & Maruschak, 2010; Jiang & Winfree, 2006; Mumola, 2000). Thus, successful reentry is not only crucial to their own well-being, but also for their children and families (LaLonde & Cho, 2008). And, finally, many studies of employment and training programs targeted toward the economically disadvantaged consistently find larger and more lasting effects for women than for their male counterparts (Friedlander, Greenberg, & Robins, 1997; Heckman, LaLonde, & Smith, 1999; LaLonde, 1995; and LaLonde, 2003). So, it does not seem reasonable to assume that what has been learned about the effects of these work-experience programs for men would carry over to women.

Indeed, there have been several studies on the effectiveness of work-release programs on the employability of former male inmates. These studies have found that work-release programs have had modest positive impacts on subsequent earnings and employment (Berk, 2007; Witte, 1977). But, to our best knowledge, there have been few empirical studies that directly focused on incarcerated women in work-release programs. To learn more about women in such programs, this study uses a large longitudinal administrative data set to examine whether the work-release program in Illinois has been effective in raising women’s earnings and employment rates. Although we do not have data from a social experiment, we exploit the longitudinal structure of our data to arrive at plausible estimates of the impact of the state’s prison work-release program on women’s labor market outcomes.

We find that regardless of whether women complete their term in an ATC or not, the length of time serving in an ATC is related to higher earnings and a higher probability of being employed after incarceration as well as during the time in an ATC. We interpret this finding as being consistent with the human capital theory of skill formation and job experience. Time in an ATC
is valuable both to incarcerated women and to society because of the work-related skills that they acquire. We also find that completing their term in an ATC does not lead to earnings and employment gains after incarceration; dropping out of the program is associated with considerable reduction in post-incarceration earnings and employment. As a result, women who drop out from the ATCs and have to return to prison prior to their paroles see no improvement in their post-incarceration earnings and employment. Different from dropouts in a typical training program who decided not to attend the program because they have a better alternative or plan, dropouts from an ATC program are removed from the program because they violated a rule at the ATC and are forced to return to prison from where they are paroled. Although we know of no evidence that employers are aware of these failures, their post-prison labor market earnings and employment rates are depressed relative to ATC parolees as well as other parolees from minimum-security facilities, and, in the long run, even relative to their pre-prison employment rates.

The remainder of this study proceeds as follows. This next section describes work-release programs in Illinois. The third section reviews the data and presents descriptive statistics. The fourth section offers the statistical models, and the fifth section explains empirical results. The concluding section discusses the results and their implications.

**ATCs in Illinois**

ATCs in Illinois are designed to help both male and female prisoners preparing for release on parole. The Illinois Department of Corrections (IDOC) selects candidates from a pool of eligible applicants for transfer to the ATCs after examining their criminal records and the number of beds available at these facilities. Compared with other prison facilities, ATC facilities are usually located in residential areas. Therefore, the most important criteria that IDOC officials take into account when selecting candidates for the program are safety and security.

Women who are transferred to ATCs are still Illinois prisoners. All ATC residents must take part in outside activities such as employment, education, life skills training, or community service. In addition, they also complete daily in-house assignments. It costs US$24,331 in fiscal year 2016 to house a prisoner in the ATC, which was less than the yearly cost per prisoner in other state prison facilities.

The requirements and privileges of ATC residents are governed by IDOC Rules. After women are transferred to ATCs, they are assigned to orientation status for the first 7 days. When they complete this first orientation phase without violating major rules, they move on to Level 1 where women’s
individual program contracts are written to include relevant programs, taking into account their skills and background. In Level 1, they should participate in a minimum of 35 hr per week of primary programming that contains employment, education, public service, or vocational education. Women who complete 23 days without violating major rules, have finished a minimum of 35 hr of primary programming per week, and engage in counseling move on to Level 2. Similarly, promotions to Levels 3 and 4 require level-specific standard durations and goals.

Women have more privileges as they move to upper levels; for example, day leaves to visit family and friends. Not all women who were assigned to ATCs finished the program successfully. When women violate major ATC rules (e.g., failing to return to the center at the scheduled time), they are sent back to prison facilities. This study designates such women as ATC dropouts.6

Usually, at least 30 days of residency are required for newly assigned women to be permitted to obtain outside employment. Employers associated with the center may provide a job to some women in ATCs while other women find a job using public ads or through personal connections. When they work, they should only commute from the center to their work place and return to the center at a scheduled time. Following IDOC policy, women’s earnings are directly deposited to their bank accounts, and they can use the money only after the center approves women’s request. About 20% of the women’s labor earnings after tax are withheld by the state government but they are not included in the ATC’s budget.

Description of the Linked Administrative Data

The sample used in our analysis consists of 3,837 women who served in ATCs, or ATC-eligible women who served in minimum-security prisons, in Illinois. They were released between the first quarter of 1995 and the second quarter of 2003. In our analysis, women who served in ATCs are set to be the treatment group, while the minimum-security parolees are the comparison group. Specifically, to be eligible for the comparison group, women had to have been given a minimum-security designation or were paroled from the state’s minimum-security facility, and were not designated as Class X felons.7

This study uses inmates’ social security numbers and other identifying information to match the prison records from the IDOC with earnings records from the Illinois Department of Employment Security (IDES).8 Prison admission and exit dates, demographic information such as a prisoner’s race/ethnicity, birth date, years of schooling, marital status, number of children, offense
categories, and “holding crime classes” (seriousness of crime defined by the IDOC) are included in state prison records in the IDOC. The IDES’s quarterly earnings histories in Unemployment Insurance-covered (UI) jobs reflect ex-prisoners’ labor market outcomes in the formal sector of the labor market. Real quarterly earnings are adjusted to 2003 dollars.

To include sufficient earnings and employment histories prior to imprisonment, this study excludes those who spent 4 or more years in prison. We also exclude women who served less than 83 days at the minimum-security prison because the shortest time served among ATC parolees is 83 days, counting time in all prison facilities.

The length of time served in county jail prior to prison and information about participation in other drug-treatment or training programs during imprisonment are not available. In addition, nearly all incarcerated women (more than 99%) were paroled. The IDOC data do not include specific information on parole supervision, but it is known that ATC releases are subject to relatively lower levels of parole supervision than other minimum-security prison parolees. In our data, employment, earnings, age, and timing of prison spells are time-variant, whereas other baseline demographic or incarceration-related variables are time-invariant.

Our sample is unbalanced panel data because women are observed in a different number of quarters before and after incarceration. In our sample, 2,640 women were assigned to an ATC, and 1,093 of these women (or 41.4% of 2,640) successfully paroled from the ATC. ATC-eligible women with minimum-security designations (1,197 or 31% of our sample) either did not apply for the program or were not assigned even though they applied. It is possible that some eligible women may not apply for ATC programs as they either serve a relatively short time in prison or do not want to serve at a new prison facility near the end of their term (Turner & Petersilia, 1996). In this study, we use the pre-and post-incarceration earnings and employment rates of women who were paroled from the state’s minimum-security prison as a reference for women’s labor market outcomes in the absence of ATC programs. This follows a standard quasi-experimental research design in evaluating job training programs (Ashenfelter, 2014).

Descriptive Statistics of the Sample

In Table 1, we present the characteristics of women released from different institutions after their first incarceration. We find that women in our analysis sample served about 1 year in prison and are, on average, about 32 years old when they were released. ATC parolees and dropouts served about 7 and 5 months (0.56 and 0.41 year) in ATCs during a total imprisonment of 14 and
### Table 1. Baseline Characteristics of the Sample of Incarcerated Women.

<table>
<thead>
<tr>
<th></th>
<th>All releases</th>
<th>Paroled from minimum-security prisons</th>
<th>ATC assignees</th>
<th>Difference between ATC parolees and dropouts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of released prisoners</td>
<td>3,837</td>
<td>1,197</td>
<td>1,093</td>
<td>1,547</td>
</tr>
<tr>
<td>Total incarceration length in years(^a)</td>
<td>1.04</td>
<td>0.66</td>
<td>1.18</td>
<td>1.24</td>
</tr>
<tr>
<td>(0.66)</td>
<td>(0.48)</td>
<td>(0.59)</td>
<td>(0.70)</td>
<td></td>
</tr>
<tr>
<td>Years in ATCs</td>
<td>NA</td>
<td>NA</td>
<td>0.56</td>
<td>0.41</td>
</tr>
<tr>
<td>(NA)</td>
<td>(NA)</td>
<td>(0.36)</td>
<td>(0.36)</td>
<td></td>
</tr>
<tr>
<td>Number of years in school</td>
<td>11.17</td>
<td>11.22</td>
<td>11.20</td>
<td>11.11</td>
</tr>
<tr>
<td>(1.72)</td>
<td>(1.69)</td>
<td>(1.76)</td>
<td>(1.72)</td>
<td></td>
</tr>
<tr>
<td>Age at release</td>
<td>32.18</td>
<td>29.91</td>
<td>33.59</td>
<td>32.94</td>
</tr>
<tr>
<td>(32.18)</td>
<td>(8.06)</td>
<td>(7.94)</td>
<td>(7.54)</td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>65%</td>
<td>58%</td>
<td>69%</td>
<td>69%</td>
</tr>
<tr>
<td>White</td>
<td>29%</td>
<td>34%</td>
<td>25%</td>
<td>27%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>5%</td>
<td>7%</td>
<td>5%</td>
<td>3%</td>
</tr>
<tr>
<td>Other race</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Currently married</td>
<td>13%</td>
<td>10%</td>
<td>15%</td>
<td>13%</td>
</tr>
<tr>
<td>Currently mother</td>
<td>81%</td>
<td>71%</td>
<td>84%</td>
<td>86%</td>
</tr>
<tr>
<td>Number of children</td>
<td>2.34</td>
<td>2.02</td>
<td>2.50</td>
<td>2.46</td>
</tr>
<tr>
<td>(1.91)</td>
<td>(1.93)</td>
<td>(1.91)</td>
<td>(1.86)</td>
<td></td>
</tr>
<tr>
<td>Convicted in cook county</td>
<td>57%</td>
<td>52%</td>
<td>61%</td>
<td>58%</td>
</tr>
<tr>
<td>Person-related crime</td>
<td>11%</td>
<td>23%</td>
<td>6%</td>
<td>5%</td>
</tr>
<tr>
<td>Property-related crime</td>
<td>35%</td>
<td>30%</td>
<td>34%</td>
<td>39%</td>
</tr>
<tr>
<td>Drug-related crime</td>
<td>55%</td>
<td>47%</td>
<td>60%</td>
<td>56%</td>
</tr>
<tr>
<td>Holding Crime Class 1(^b)</td>
<td>31%</td>
<td>34%</td>
<td>40%</td>
<td>23%</td>
</tr>
<tr>
<td>Holding Crime Class 2</td>
<td>33%</td>
<td>25%</td>
<td>30%</td>
<td>41%</td>
</tr>
<tr>
<td>Holding Crime Class 3</td>
<td>21%</td>
<td>25%</td>
<td>17%</td>
<td>22%</td>
</tr>
<tr>
<td>Holding Crime Class 4</td>
<td>14%</td>
<td>16%</td>
<td>13%</td>
<td>14%</td>
</tr>
<tr>
<td>Self-reported drug addiction at admission(^c)</td>
<td>62%</td>
<td>56%</td>
<td>62%</td>
<td>66%</td>
</tr>
</tbody>
</table>

Note. Mean and standard deviation in parentheses for continuous variables. ATC = Adult Transition Center.

\(^a\)The total incarceration length of minimum-security releases is restricted to at least 83 days to less than 4 years because the minimum incarceration length of ATC assignees is 83 days.

\(^b\)Holding crime class indicates the relative seriousness of the crimes. Holding crime classes range from 1 to 4. Class 1 stands for most violent offenses and Class 4 for least violent offenses.

\(^c\)Women self-reported a substance abuse problem (e.g., cocaine, marijuana, and heroin addiction) at the time of her admission to prison.

* \(p < .1\). ** \(p < .05\). *** \(p < .01\).
15 months (1.18 and 1.24 year), respectively.\textsuperscript{16} Those released from minimum-security prisons and who never spent time in an ATC served less time (about eight months or 0.66 of a year) in prison than women who served in ATCs. It is possible that they did not serve in ATCs due to their short imprisonment length.

ATC parolees and dropouts are analogous in terms of their individual characteristics, but they differ from women who were released from minimum-security prisons without having served in an ATC. ATC-assigned women are more likely to have a child, be less educated, married, and older than minimum-security counterparts. Consistent with their having served less time in prison, minimum-security parolees committed less serious crimes than ATC parolees and dropouts. About 50\% of the former belong to holding offense of Classes 3 or 4 (categories for less serious crimes) compared with 30\% to 36\% of the ATC parolees and dropouts. Regarding types of crime that these women committed, ATC parolees and dropouts are much less likely to have committed person-related crimes but more likely to have committed property-related and drug-related crimes than minimum-security parolees.

The last column of Table 1 shows that demographic characteristics including education, race, marital status, having children, and age between ATC releases and dropouts are not statistically different. On the contrary, in offense-related characteristics, ATC parolees served about 1 month (0.07 year) less time than ATC dropouts. Also, ATC parolees were less likely to have committed property-related crimes and more likely to have committed drug-related crimes than ATC dropouts (both of these differences are statistically significant at least at $p < .05$). Contrary to general perception, the distribution of holding crime classes clearly shows that ATC parolees committed more serious crime for their first incarceration than ATC dropouts. ATC parolees were more concentrated in holding crime Class 1 (most serious felonies) by 17.4 percentage points (statistically significant at $p < .01$) than ATC dropouts.

**Longitudinal Patterns of Earnings and Employment Rates**

Figure 1 presents the earnings and employment of ATC parolees and dropouts, with women who were paroled from a minimum-security prison as a reference. Real quarterly earnings include positive and zero earnings. On the horizontal axis, the period of imprisonment, including the entry and exit quarters, is indicated by Quarter “0.” Thus, Quarter 0 may include multiple quarters for some prisoners who served the longer terms. Then, Quarter $-1$ indicates the last full quarter prior to imprisonment, Quarter 1 represents the
first full quarter after imprisonment exit, and so on. From Figure 1a and 1b, we find that ATC parolees’ earnings and employment rates sharply jumped after incarceration, compared with those women who were released from minimum-security prisons without having ever served in an ATC. By contrast, the earnings and employment rates of ATC dropouts made no progress or regressed compared with their levels prior to their incarcerations.

Particularly in Figure 1a, pre-prison earnings decrease for roughly the last 2 years before imprisonment and rebound immediately after imprisonment. This is known as Ashenfelter’s dip in the job training literature. It is notable that the pre-incarceration earnings of ATC parolees are lower than those of ATC dropouts and minimum-security prison releases (Ashenfelter, 1978; Heckman et al., 1999). This means that the sharp rise in the post-incarceration earnings and employment rates of ATC parolees is unexpected based on their earnings histories during the 4 years prior to their first prison incarceration.

After imprisonment, ATC parolees have quarterly earnings profiles substantially higher by about US$200 to US$300 than those of ATC dropouts, and even their earnings exceed those released from minimum-security prisons by about US$200 per quarter. Thus, Figure 1a implies that ATC parolees made more than US$300 in quarterly earnings after incarceration compared with parolees from minimum-security prisons, because their earnings were about US$100 lower before incarceration but more than US$200 higher after incarceration than parolees from minimum-security prison. In contrast, the earnings of ATC dropouts made limited progress. Figure 1b shows the pre- and post-incarceration employment rates of those three groups, which tells a similar story found in Figure 1a.

**Cumulated Earnings and Employment Rates While Serving in an ATC**

Our study finds that ATC parolees show a strong and steady increase in cumulated earnings and employment as their time served in an ATC increased, while ATC dropouts present some encouraging but limited progress in cumulated earnings and employment while serving in an ATC. Cumulated earnings are created by adding quarterly earnings over the duration in an ATC where the employment is coded 1 at each quarter if women were employed at least one time up to each quarter in an ATC and 0 otherwise. ATC dropouts’ cumulated earnings and employment rates were as strong as ATC parolees’ during the early months in the ATC but dwindled as they spent more time there. As shown in Figure 2a, both ATC parolees’ and dropouts’ earnings accumulated as they spent more time at the ATC, through the first year at the ATC. After this point,
Figure 1. Earnings and employment before and after incarceration.
Note. (a) Quarterly earnings of incarcerated women; (b) quarterly employment rates of incarcerated women. On the horizontal axis, the period of imprisonment, including the entry and exit quarters, is indicated by Quarter “0,” which may include multiple quarters for some prisoners who served the longer terms. Then, Quarter −1 indicates the last full quarter prior to imprisonment, Quarter 1 represents the first full quarter after imprisonment exit, and so on. ATC = Adult Transition Center.
this relationship continues to hold for ATC parolees, but not for the dropouts. Despite these different paths of cumulative earnings growth, earnings of ATC parolees and dropouts were similar up to 7 to 9 months. Considering the average time served by ATC parolees and dropouts is about 7 months and 5 months, respectively, it seems that ATC dropouts did well during the time that they spent at an ATC. It appears that for the typical dropout, aside from the implication of the rule infraction that they committed to get them sent back to prison, they simply did not spend enough time at the ATC.

As shown in Figure 2b, there is at least another layer to the story of the differences between the ATC parolees and dropouts. During their 6 months at the ATC, the employment rates of the dropouts reached about 50%, but their probability of being employed fluctuated markedly after that point. Considering the average duration in an ATC among ATC dropouts (0.41 year = about 5 months), it seems that average ATC dropouts’ employment level was stable while serving in an ATC. By contrast, ATC parolees started with lower employment rates than the dropouts, but their probability of being employed steadily rose with time spent at the ATC. It is possible the parolees took advantage of training programs during the first couple months in the program before becoming employed which would improve their chances at remaining employed long term. Women who spent 13 to 15 months in an ATC reached employment rates around 90%. In summary, earnings and higher employment rates while in an ATC imply that these women acquired more labor market experience as they served longer while still incarcerated.

**Empirical Strategy**

**Post-Incarceration Earnings and Employment Rates**

We rely on fixed effects (FE) models to estimate the impact of serving in an ATC on post-incarceration earnings and employment.\(^{18}\) FE models control for time-invariant unobserved characteristics that are correlated with the selection processes into and out of ATCs. We investigate the differing impacts of the ATC experience on ATC parolees and dropouts.

To investigate whether our positive impacts among ATC parolees are explained by increased human capital or signaling of skilled workers, we conduct a FE analysis that includes separate variables indicating the ATC duration (in months) as well as completion (=1) and dropout indicators (=1) for ATC parolees and dropouts, respectively, as follows:

\[
y_{it} = \alpha_i + \gamma_t + \lambda_k + X_{it} \beta + \sum_{\tau} R_{it} D_{it} \phi_{\tau} + \sum_{\tau} F_{it} D_{it} \pi_{\tau} \\
+ \sum_{\tau} B_{it} D_{it} \omega_{\tau} + \sum_{\tau} B_{it} F_{it} D_{it} \rho_{\tau} + \sum_{\tau} P_{it} D_{it} \delta_{\tau} + \varepsilon_{it}. \tag{1}
\]
Figure 2. Earnings and employment in an ATC.
Note. (a) Cumulative earnings by the duration in an ATC; (b) probability of being employed at least one time by the duration in an ATC. Women who entered the ATC before 1995 are not included because the data do not have earnings before 1995 and these women’s cumulated earnings cannot be calculated. Also, the length of participation is only available for 52% (809 women) of ATC dropouts (1,547 women). ATC = Adult Transition Center.
The term $y_{it}$ is either real quarterly earnings or quarterly employment status for person $i$ in calendar quarter $t$. Real quarterly earnings include positive and 0 earnings. Quarterly employment equals one for positive quarterly earnings and zero for no earnings during the quarter. The term $\alpha_i$ is an individual fixed effect, $\gamma_t$ is an indicator variable for calendar quarter $t$ with the first quarter of 1995 as the reference period, and $\lambda_k$ is an indicator variable for the $k$th quarter relative to prison entry and exit with the reference period being the 9th quarter or earlier before the women entered state prison. $X_{it}$ includes age and age squared as well as a set of dummy variables of demographic/criminal characteristics. The relative period $\tau$ is defined as follows; $\tau = -2$ indicates more than 2 years prior to entering state prisons or before, $\tau = -1$ indicates 2 years immediately prior to entering state prisons, $\tau = 1$ indicates 2 years immediately after release from state prisons, and $\tau = 2$ indicates the third year and beyond after release from state prisons. $\tau = -2$ is a reference period. $D_{i\tau}$ is an indicator variable for relative period $\tau \in \{-1, 1, 2\}$, where $\tau = -2$ is the reference period. Women released from minimum-security prisons constitute the comparison group. The terms $R_i$ and $F_i$ indicate ATC parolees and ATC dropouts, respectively.

In addition, $B_i$ indicates how many months women served in an ATC. We also include the interaction terms between the ATC duration (in months), $B_i$, and ATC dropout status, $F_i$, to examine whether the impact of the duration in an ATC differs by ATC parolee/dropout status. These additional variables also are interacted with relative time periods, $D_{i\tau}$. For this analysis, the reference group consists of minimum-security parolees and their duration in an ATC is set to 0.

The significant and large estimates of $\phi_\tau$ for $\tau = 1$ or 2 may suggest the signaling of successfully completing ATC terms because $R_i$ isolates the fact of completing the ATC term controlling for time in an ATC. Thus, $\phi_{-1}$ captures the potential correlation between ATC completion and labor market outcomes before imprisonment. If this estimate is relatively large and statistically significant, there are likely time-varying unobserved characteristics correlated with completing ATC terms that are also correlated with these women’s labor market outcomes. The interpretation of the coefficient is similar to the pre-program selection test suggested by Heckman and Hotz (1989).

Alternatively, significant and positive estimates of $\omega_\tau$ for $\tau = 1$ or 2 may indicate that time in an ATC leads to human capital formation. Because we control for an ATC parolee effect in our analysis, these impacts are measured by comparing ATC parolees who spent more time in an ATC relative to observationally similar ATC parolees who acquired less time in the ATC. Put another way, these effects are identified by using the ATC parolees as their
own comparison group. $\omega_{-1}$ captures the potential correlation between ATC duration and labor market outcomes before incarceration. Estimates of $\pi_{\tau}$ and $\rho_{\tau}$ also can be interpreted similarly for ATC dropouts.

$P_i$ is the length of first imprisonment and $D_{\tau}$ is an indicator variable for period $\tau \in \{-1, 1, 2\}$. Thus, the term $\delta_{\tau}$ summarizes the effect of imprisonment length for period, $\tau$. Huber-White robust standard errors clustered at the individual level are estimated.

### Cumulated Earnings and Employment Rates while Serving in an ATC

Following up our findings of Figure 2, we investigate whether time in an ATC is associated with higher accumulated earnings and employment rates while these women were at the ATC, even after controlling for the demographic and crime statistics in Table 1. The idea is that more earnings and higher employment rates while in an ATC indicate that these women acquired more labor market experience while still incarcerated. So, when we find that there is a relationship between the duration of a women’s stay in an ATC and her labor market outcomes, we have evidence that these impacts are tied to the job experience and skills acquired at the ATC.

To examine whether ATC earnings and employment rates are higher among those who spent more time at the ATC, we estimate the following cross-section regression:

$$y_i = \alpha + \gamma_i + X_{it}\beta + F_i\pi + \sum_c A^c_i \omega_c + \sum_c A^c_i F_i c + P_i \delta + \epsilon_{it}. \tag{2}$$

The term $y_i$ is either cumulated earnings or whether women were employed at least one time during the time in an ATC for person $i$, right before the release quarter. $F_i$ is an indicator variable for ATC dropouts with ATC parolees as a reference group. $A^c_i$ is an indicator variable for different durations in an ATC, such as 3 to 6 months ($A^2_i = 1$), 7 to 9 months ($A^3_i = 1$), 10 to 12 months ($A^4_i = 1$), 13 to 15 months ($A^5_i = 1$), 16 to 18 months ($A^6_i = 1$), and 19 or more months ($A^7_i = 1$) in an ATC. Women who served 1 to 3 months ($A^1_i = 1$) are the reference group. We also include their interaction terms with the ATC dropout indicator, $F_i$, to examine the impact of time spent in an ATC on ATC dropouts. $P_i$ and $X_{it}$ are the total incarceration length in years and individual demographic characteristics as shown in Table 1. Thus, for example, $\omega_2$ captures whether serving 3 to 6 months in an ATC leads to higher cumulative earnings and employment rates while at an ATC, compared with serving 1 to 3 months. Huber-White robust standard errors are estimated.
Empirical Results

Post-Incarceration Earnings and Employment Rates

Our FE estimates in Table 2 demonstrate that the estimated impacts are linked to the length of a workers’ stay at the ACT. The estimates for the ATC parolees during the short term (within 2 years after incarceration) and long term (the third year and beyond after incarceration) are negative but small. Thus, it seems that compared with minimum-security parolees, being released from an ATC per se does not give any meaningful signal in the labor market. On the contrary, the negative and statistically significant estimates of ATC dropouts during the short term and long term suggest that ATC dropouts have acquired a stigma related to the incompletion of their ATC terms.

Turning to the relationship between the length of time spent at an ATC and labor market outcomes, we find that among ATC parolees, an additional month in an ATC increases quarterly earnings by US$85 in the short term and US$53 in the long term; both of these impacts are statistically significant at \( p < .01 \) and \( p < .05 \), respectively. This positive significant impact of an additional month in an ATC among ATC parolees is shown in employment rates too, 2 and 1.3 percentage points increase in the short term and long term, respectively. These estimated effects are considerable because ATC parolees served on average about around 7 months (0.56 year) in ATCs. Although the statistically significant estimates of the duration at an ATC before incarceration may alarm the possible selection of ATC parolees, their magnitudes are quite small, US$27 and 0.7 percentage point increases per month in an ATC.

We also observe positive impacts of months in an ATC on earnings and employment rates among the ATC dropouts. The small and insignificant estimates of the interaction terms between the ATC duration in months, short- or long-term “dummies,” and ATC dropout indicator suggest that the strong positive impact of additional months in an ATC among ATC parolees is not smaller among ATC dropouts. Thus, it seems that the negative progress in earnings and employment of ATC dropouts after incarceration shown in Figure 1 is mainly driven by a stigma related to the incompletion of their ATC terms.

Cumulated Earnings and Employment Rates While Serving in an ATC

We begin by reporting whether spending more time in an ATC leads to higher cumulative earnings and an increased probability of employment while women served in an ATC. As shown by Table 3, we find that as women served
### Table 2. The Effect of ATC terms on Quarterly Earnings and Employment Rates of Incarcerated Women.

<table>
<thead>
<tr>
<th>FE</th>
<th>Earnings</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATC Parolees (=1) × Within 2 Years Before Incarceration (=1)</td>
<td>−66</td>
<td>−0.030</td>
</tr>
<tr>
<td>ATC Parolees (=1) × Within 2 Years After Incarceration (=1)</td>
<td>−185</td>
<td>−0.059</td>
</tr>
<tr>
<td>ATC Parolees (=1) × Beyond 2 Years After Incarceration (=1)</td>
<td>−149</td>
<td>−0.051</td>
</tr>
<tr>
<td>ATC Dropouts (=1) × Within 2 Years Before Incarceration (=1)</td>
<td>32</td>
<td>0.007</td>
</tr>
<tr>
<td>ATC Dropouts (=1) × Within 2 Years After Incarceration (=1)</td>
<td>−406***</td>
<td>−0.106***</td>
</tr>
<tr>
<td>ATC Dropouts (=1) × Beyond 2 Years After Incarceration (=1)</td>
<td>−534***</td>
<td>−0.117***</td>
</tr>
<tr>
<td>Duration of an ATC Term in Months (30 days) × Within 2 Years Before Incarceration (=1)</td>
<td>27**</td>
<td>0.007**</td>
</tr>
<tr>
<td>Duration of an ATC Term in Months (30 days) × Within 2 Years After Incarceration (=1)</td>
<td>85***</td>
<td>0.020***</td>
</tr>
<tr>
<td>Duration of an ATC Term in Months (30 days) × Beyond 2 Years After Incarceration (=1)</td>
<td>53**</td>
<td>0.013**</td>
</tr>
<tr>
<td>Duration of an ATC Term in Months (30 days) × Within 2 Years Before Incarceration (=1) × ATC Dropouts (=1)</td>
<td>−12</td>
<td>−0.010</td>
</tr>
<tr>
<td>Duration of an ATC Term in Months (30 days) × Within 2 Years After Incarceration (=1) × ATC Dropouts (=1)</td>
<td>17</td>
<td>−0.001</td>
</tr>
<tr>
<td>Duration of an ATC Term in Months (30 days) × Beyond 2 Years After Incarceration (=1) × ATC Dropouts (=1)</td>
<td>(29)</td>
<td>(0.007)</td>
</tr>
<tr>
<td>Control variables</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.024</td>
<td>.024</td>
</tr>
<tr>
<td>Number of observations</td>
<td>74,716</td>
<td>74,716</td>
</tr>
<tr>
<td>Number of women</td>
<td>3,099</td>
<td>3,099</td>
</tr>
</tbody>
</table>

Note. Real quarterly earnings include positive and zero earnings; Quarterly employment is 1 for positive quarterly earnings and 0 for no earnings; robust standard errors clustered at the individual level are estimated; duration of an ATC term is recorded to be 0 for minimum-security parolees. FE = fixed effects; ATC = Adult Transition Center.

*a* The pre-prison selection test for 2 years immediately prior to entering state prisons.

*b* The effect for 2 years immediately after release from state prisons.

*c* The effect for the third year and beyond after release from state prisons.

*d* All demographic and offense-related characteristics mentioned in the statistical model section are controlled.

$p < .1$. **$p < .05$. ***$p < .01$. 


Table 3. The Effect of ATC on Accumulated Real Quarterly Earnings and Employment Rates of Incarcerated Women While in an ATC.

<table>
<thead>
<tr>
<th></th>
<th>Earnings (1)</th>
<th>Earnings (2)</th>
<th>Employment (3)</th>
<th>Employment (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATC dropouts (=1)</td>
<td>-35</td>
<td>-245</td>
<td>0.153***</td>
<td>0.122**</td>
</tr>
<tr>
<td></td>
<td>(148)</td>
<td>(412)</td>
<td>(0.056)</td>
<td>(0.060)</td>
</tr>
<tr>
<td>3-6 months in an ATC (=1)</td>
<td>535***</td>
<td>570</td>
<td>0.333***</td>
<td>0.301***</td>
</tr>
<tr>
<td></td>
<td>(172)</td>
<td>(398)</td>
<td>(0.061)</td>
<td>(0.064)</td>
</tr>
<tr>
<td>7-9 months in an ATC (=1)</td>
<td>2,925***</td>
<td>2,513***</td>
<td>0.653***</td>
<td>0.579***</td>
</tr>
<tr>
<td></td>
<td>(360)</td>
<td>(542)</td>
<td>(0.058)</td>
<td>(0.063)</td>
</tr>
<tr>
<td>10-12 months in an ATC (=1)</td>
<td>6,053***</td>
<td>5,156***</td>
<td>0.698***</td>
<td>0.575***</td>
</tr>
<tr>
<td></td>
<td>(645)</td>
<td>(759)</td>
<td>(0.060)</td>
<td>(0.070)</td>
</tr>
<tr>
<td>13-15 months in an ATC (=1)</td>
<td>9,263***</td>
<td>9,470***</td>
<td>0.724***</td>
<td>0.576***</td>
</tr>
<tr>
<td></td>
<td>(1,350)</td>
<td>(1,633)</td>
<td>(0.072)</td>
<td>(0.084)</td>
</tr>
<tr>
<td>16-18 months in an ATC (=1)</td>
<td>13,028***</td>
<td>12,134***</td>
<td>0.723***</td>
<td>0.576***</td>
</tr>
<tr>
<td></td>
<td>(1,510)</td>
<td>(1,612)</td>
<td>(0.077)</td>
<td>(0.097)</td>
</tr>
<tr>
<td>19 or more months in an ATC (=1)</td>
<td>13,580***</td>
<td>13,243***</td>
<td>0.735***</td>
<td>0.481***</td>
</tr>
<tr>
<td></td>
<td>(3,137)</td>
<td>(3,244)</td>
<td>(0.101)</td>
<td>(0.105)</td>
</tr>
<tr>
<td>3-6 Months in an ATC (=1) × ATC Dropouts (=1)</td>
<td>209</td>
<td>155</td>
<td>-0.155***</td>
<td>-0.137*</td>
</tr>
<tr>
<td></td>
<td>(224)</td>
<td>(459)</td>
<td>(0.078)</td>
<td>(0.079)</td>
</tr>
<tr>
<td>7-9 Months in an ATC (=1) × ATC Dropouts (=1)</td>
<td>-385</td>
<td>374</td>
<td>-0.224***</td>
<td>-0.208**</td>
</tr>
<tr>
<td></td>
<td>(591)</td>
<td>(736)</td>
<td>(0.082)</td>
<td>(0.082)</td>
</tr>
<tr>
<td>10-12 Months in an ATC (=1) × ATC Dropouts (=1)</td>
<td>-4,029***</td>
<td>-2,589***</td>
<td>-0.496***</td>
<td>-0.468***</td>
</tr>
<tr>
<td></td>
<td>(828)</td>
<td>(946)</td>
<td>(0.110)</td>
<td>(0.108)</td>
</tr>
<tr>
<td>13-15 Months in an ATC (=1) × ATC Dropouts (=1)</td>
<td>-1,116</td>
<td>-305</td>
<td>-0.311***</td>
<td>-0.275*</td>
</tr>
<tr>
<td></td>
<td>(2,771)</td>
<td>(3,347)</td>
<td>(0.145)</td>
<td>(0.141)</td>
</tr>
<tr>
<td>16-18 Months in an ATC (=1) × ATC Dropouts (=1)</td>
<td>-7,266***</td>
<td>-6,408**</td>
<td>-0.114</td>
<td>-0.118</td>
</tr>
<tr>
<td></td>
<td>(2,633)</td>
<td>(2,656)</td>
<td>(0.133)</td>
<td>(0.130)</td>
</tr>
<tr>
<td>19 or More Months in an ATC (=1) × ATC Dropouts (=1)</td>
<td>-10,935***</td>
<td>-11,331***</td>
<td>-0.573***</td>
<td>-0.440***</td>
</tr>
<tr>
<td></td>
<td>(3,366)</td>
<td>(3,562)</td>
<td>(0.177)</td>
<td>(0.161)</td>
</tr>
<tr>
<td>Average pre-incarceration earnings or employment rates during ~8 to ~5 quarters</td>
<td>1.167***</td>
<td>1.081***</td>
<td>0.307***</td>
<td>0.210***</td>
</tr>
<tr>
<td></td>
<td>(0.362)</td>
<td>(0.371)</td>
<td>(0.037)</td>
<td>(0.040)</td>
</tr>
<tr>
<td>Control variables</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>R²</td>
<td>.443</td>
<td>.475</td>
<td>.248</td>
<td>.316</td>
</tr>
<tr>
<td>Number of women</td>
<td>992</td>
<td>992</td>
<td>992</td>
<td>992</td>
</tr>
</tbody>
</table>

Note. Real quarterly earnings include positive and zero earnings; Quarterly employment is 1 for positive quarterly earnings and 0 for no earnings; all demographic and offense-related characteristics mentioned in the statistical model section are controlled. Age in the control variables is women’s age when women started their term in an ATC. Robust standard errors are estimated. ATC = Adult Transition Center. *p < .1. **p < .05. ***p < .01.
longer in an ATC, they had higher earnings and employment rates. This outcome is clear and considerable for ATC parolees while it is relatively small for ATC dropouts. In Table 3, we present these estimates with and without controls for demographic characteristics. Columns (1) and (3) provide estimates without demographic characteristics to show that the estimates are compatible with trends observed in Figure 1.

After including demographic characteristics in the model, there are some changes in the estimates as shown in Columns (2) and (4), but they are mostly consistent with our findings in Figure 2. Specifically, we find that ATC dropouts earned less by US$245 (statistically insignificant) and were more likely employed by 12.2 percentage points (statistically significant at $p < .05$) during 1 to 3 months in an ATC, compared with ATC parolees.

The estimates in Columns (2) and (4) also indicate that for ATC parolees, serving more months generated higher cumulated earnings. For example, 7 to 9 months and 10 to 12 months in an ATC generated US$2,513 to US$5,156 additional earnings (statistically significant at $p < .01$) and about 57 percentage points higher employment rates (statistically significant at $p < .01$) compared with their counterparts who spent only 1 to 3 months at the ATC. Thus, an additional 3 months generate about US$3,000 more cumulative earnings for ATC parolees who served 7 months to 18 months. The employment rates for ATC parolees are about the same among those women who spent at least 7 months at an ATC.

For ATC dropouts, estimates are positive, but lower than for ATC parolees. They indicate that longer time in an ATC does not always increase cumulative earnings and employment rates. Serving 10 to 12 months led to US$2,567 (= 5,156-2,589) more cumulated earnings and 10.7 (= 57.5-46.8) percentage points higher employment rates, compared with serving 1 to 3 months in an ATC. Serving 13 to 15 months led to the highest earnings, US$9,173 (= 9,478-305) more cumulated earnings, but serving more than 15 months reduced cumulated earnings. Regarding employment, serving 16 to 18 months led to the highest employment rate, 45.8 percentage points (= 57.6-11.8) higher than serving one to three months. Again, additional time served after 18 months did not raise the probability of being employed.

Thus, serving a longer time in an ATC does lead to higher earnings and employment for ATC dropouts during the time served in an ATC, but the magnitudes are not as strong as for ATC parolees. Taken together, these findings indicate that time in an ATC is associated with increased job experience and skill formation.

**Discussion and Conclusion**

Community-based work-release programs have been considered an important tool for corrections officials to use to prepare inmates, including women,
for successful reentry. For women offenders, such programs are commonly
designed to their social ties and real-life job experience before their release.
This article investigates whether the work-release program in Illinois
increases the earnings and employment of incarcerated women. As far as we
know, this study is the first one that uses a large administrative data set to
examine the impact of such programs on incarcerated women’s labor market
outcomes. Thus, our findings provide the literature with new knowledge of
incarcerated women in work-release programs, as well as meaningful impli-
cations to the penal system for women.

We find that as women served longer in an ATC, they had higher earnings
and employment rates after their terms in an ATC, particularly during the 2
years after incarceration. This estimated impact is clear and considerable not
only for ATC parolees but also for ATC dropouts. It is also tied to another
finding that female inmates with longer time served in an ATC accumulated
higher earnings and employment experience while they served in ATCs
(although the magnitudes are stronger for ATC parolees than ATC dropouts).
Taken together, these findings indicate that time in an ATC is at least associ-
ated with increased job experience and skill formation. This result is evidence
for human capital theory, implying that women acquire valuable job experi-
ence and new skills during the time that they spent in an ATC. We also find
that the successful completion of ATC terms itself, controlling for the dura-
tion in ATCs, does not offer any premium or significant benefit in the labor
market. However, dropping out of the ATC program points to significantly
lower earnings and employment during the short term and long term after
incarceration. This implies that ATC dropouts might have acquired a stigma
related to the incompletion of their ATC terms.

Our findings for ATC parolees are complementary to what Berk (2007)
and Duwe (2015) found studying primarily male inmates. As the methods
and the data sets are different, it is not easy to directly compare their findings
on male prisoners with ours on female prisoners. Studying male prisoners
who entered prison after 1993 and were released by 1999 in Florida, Berk
(2007) showed that the earnings and employment of program participants
were US$200 to US$300 and 5 to 10 percentage points higher per quarter,
respectively, than nonparticipants during the first to third year after being
released. Also, studying male and female releasees in the work-release pro-
gram in Minnesota from 2007 to 2010, Duwe (2015) found that program
participants earned US$4,869 more in quarterly earnings during the follow-
up period whose length was not clear in the study. Duwe (2015) did not study
male and female releases separately.

Considering the estimated impact of the program on earnings and employ-
ment in Berk (2007) and Duwe (2015), the estimated impact of the Illinois
ATCs on earnings and employment of women is quite sizable. Particularly, considering the average duration of ATC parolees, 6.72 months, the estimated increase in quarterly earnings and employment rates among ATC parolees is about US$571 and 13.4 percentage points during the first 2 years after incarceration. This is larger than the estimates for male parolees in Berk (2007). This is consistent with previous studies of job training programs targeted on the economically disadvantaged individuals that showed larger program effects for women than for their male counterparts (Friedlander et al., 1997; Heckman et al., 1999; LaLonde, 1995, 2003).

According to Berk (2007) and Duwe (2015), the structures and operations of work-release programs in Florida and Minnesota were similar in terms of selecting participants and what specific programs, including job placements, were running. Unfortunately, however, those previous studies did not explain the detailed characteristics of how the program was delivered and implemented or with what level of expertise. Since it is plausible that the contextual characteristics related to programs in Florida and Minnesota were different due to the social, economic, and political circumstances of each state, readers should be careful in generalizing the findings of this study to similar programs in other states.

We are aware of several other concerns about our study. First, because our analysis sample consists of women that completed their first imprisonment and served less than 4 years, the generalization of our findings may be limited. However, it is uncommon to see female parolees who served a long time; in our data, less than 2% of female parolees served 4 years or more. Second, our study uses earnings and employment from Unemployment Insurance (UI)-covered jobs. Although we have no way of knowing whether this is a problem for our study, the positive impact of time in an ATC may be overestimated if those with a longer time served in an ATC are more likely to be employed in UI-covered jobs. Nonetheless, we believe that impact in regular jobs in the formal sector is an outcome of interest to policymakers. Third, our data do not have the inmates’ full pre-imprisonment criminal histories, such as the number of times they were arrested or convicted. In this study, these are time-constant characteristics that are controlled in our FE models.

We are cautious about our findings, because of the possibility of selection bias into the program and into ATC parole status which makes it hard to fully ascribe positive estimates to time in the ATC. However, our analysis on the impact of the ATC duration on earnings and employment indicates that cumulative human capital gained while serving in an ATC can explain the positive progress of ATC parolees. Thus, training and job experience in an ATC appear to have considerable roles in explaining the subsequent labor market outcomes of ATC parolees. Also, our findings of dropouts imply that personal
trauma or stigma related to the failure in the program may be negatively associated with the post-prison labor market outcomes. Therefore, it is important that corrections officials learn to identify those women likely to benefit from ATC assignments or to put in place programs and policies that reduce the dropout rate among the ATC population.

Declaration of Conflicting Interests
The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding
The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research had been supported by the Chicago Community Trust, the National Institute of Justice, the Russell Sage Foundation, the Open Society Foundation, and by Grant 02-DB-BX-0017, awarded to the Illinois Criminal Justice Information Authority by the Bureau of Justice Assistance, Office of Justice Programs, U.S. Department of Justice. The views expressed in this article are those of the authors and do not reflect the views of the National Institute of Justice or any agency of the state of Illinois. The authors are responsible for all errors.

Notes
1. U.S. Department of Justice, Bureau of Justice Statistics (n.d.).
2. Fine (1978) investigates how work-release programs affect the social networks and employment outcomes of female work-release participants, with a small sample of 32 women parolees who participated in work-release programs between 1973 and 1974. His analysis is descriptive and has no further analysis. More recently, Duwe (2015) rigorously examines the impact of Minnesota’s prison work-release program on post-release labor market outcomes of male and female inmates, using the matched administrative data in Minnesota. His study controls for gender but does not separately examine incarcerated women. He finds that work-release significantly increased the employability, total hours worked, and total wage. As the vast majority of former inmates are men, this effect is likely to be driven by the effects of work-release programs on males.
3. Refer to Illinois Department of Corrections Rules, Title 20, Chapter 1, Subchapter d, Part 455: Work Release Programs. Eligibility criteria related to criminal records are as follows. To be considered for placement into ATCs, prisoners must not be serving a sentence for murder, any Class X felony, attempted murder, voluntary manslaughter, aggravated kidnapping, kidnapping, indecent liberties with a child, or arson. They should not have any documented involvement in organized crime activities or in large-scale narcotics trafficking. Also, they should be placed in minimum-security prisons and need to have no less than 2 months remaining in their prison term prior to their release date when they apply.
4. In 2017, the IDOC reported that the cost to house prisoners in 2016 was US$24,331 for its only female ATC located in Aurora, Illinois. https://www.illinois.gov/idoc/facilities/Pages/FoxValleyAdultTransitionCenter.aspx.

5. Refer to Illinois Department of Corrections Rules, Title 20, Chapter 1, Subchapter d, Part 455, Section 455.60—Level System in Work Release Programs.

6. As mentioned in Turner and Petersilia (1996), ATC dropouts are mostly rule violators. It is rare to see inmates who committed new crimes when they were in ATCs.

7. Holding crime class defined by the IDOC indicates the relative seriousness of a crime. Holding crime classes range from 1 to 4: Class 1 stands for the most violent offenses and Class 4 for the least violent offenses. State defendants are sentenced as a Class X offender if they are convicted of multiple Class 1 or Class 2 felonies.

8. The Chapin Hall Center for Children, IDOC, and IDES worked together to match prisoners in the sample.

9. UI data may not reflect the whole picture of ex-prisoners’ labor market activities because many young and low-skilled workers work in informal sectors and earnings records from the IDES do not account for those earnings histories. However, according to Kornfeld and Bloom (1999), impact estimates based on UI data and survey data were usually comparable although average survey-reported earnings were higher than average UI-reported earnings.

10. Individuals who have real quarterly earnings that at any point equal or exceed US$20,000 are eliminated from the sample. Social security numbers with more than US$20,000 per quarter may be related to multiple uses of an illegal social security number or reporting error. Such observations represent less than 1% of the data, and this deletion does not affect regression results.

11. Less than 10% of ex-prisoners are eliminated from the sample.

12. To transfer to ATCs, prisoners need to have at least 2 months of remaining time in prison when they apply.

13. Usually, offenders do not serve their full sentence. According to statutory “good time” referring to the percentage of time of their sentences prisoners must spend incarcerated, some prisoners convicted of non-violent crimes must spend 50% of their sentences incarcerated. Others who are convicted of violent crimes must spend 85% of their sentences incarcerated under “truth in sentencing” laws, or 100% if convicted of murder. After release from imprisonment, they are supervised by parole officers during their remaining term. Illinois Department of Corrections (n.d.-c), Frequently Asked Questions at http://www2.illinois.gov/idoc/aboutus/Pages/faq.aspx

14. This information was obtained from the IDOC via an email inquiry. Intensive parole supervision may encourage parolees to participate in the labor market, but intensive parole supervision may also decrease labor market outcomes if rule violators are caught more often and sent to jail or prison.

15. This does not mean that they spent their entire term in one type of institution. It is possible that prisoners were assigned to maximum-security prisons, moved to lower-security prisons such as minimum-security prisons later, and were released from there. Unfortunately, IDOC data sets do not provide records of
prisoner transfers between different security prisons, nor does it include specific information regarding why some inmates were sent back to prison. The ATC program completion rate is low, but according to ATC staff, it has improved in recent years.

16. The minimum and maximum length of years in ATCs among ATC releases are 0.14 and 1.96 years (5 and 715 days), respectively. The length of participation is only available for 52% (809) of ATC dropouts (1547). The minimum and maximum of time spent in ATCs among ATC dropouts are 0.005 and 2.73 years (2 and 995 days), respectively. According to an ATC administrator, these short-term cases (2 or 5 days) might have been possible back then because ATCs were used as a temporary stay before release without any training.

17. A full-time job at minimum wage pays US$2,685 per quarter.

18. This model is an extension of simple difference-in-difference estimators. See similar regression models in Jacobson, LaLonde, and Sullivan (1993) and Grogger and Michalopoulos (2003).

19. Race is defined as two groups, African American and other races, with African American as a reference group; education is defined as four groups: less than high school, high school, more than high school, and education missing, with less than high school as a reference group; marriage is defined as four groups: single, married, divorced, separated or widowed, and marriage missing, with single as a reference group; having children is defined as two groups, no children and having children, with no children as a reference group; offense categories are defined as four groups: drug, person, property, and others, with drug as a reference group; holding crime classes (seriousness of crime) are defined as four groups: Class 1, Class 2, Class 3, and Class 4, with Class 4 as a reference group. Class 1 is more serious than Class 2, and so on.

20. Note that this parameter is identified because our analysis is not a simple pre–post analysis but we have “differenced around” a large portion of the dip, especially as shown in Figure 2, for women designated at minimum-security prisoners and ATC dropouts.

21. The earnings and employment status at the release quarter were not included to calculate the cumulative earnings and whether women were employed at least one time because the labor market outcomes at the release quarter are confounded with women’s post-incarceration market activity.

22. This is based on our estimates in Tables 1 and 2.

References


Illinois Department of Correction Rules, Title 20, Chapter 1, Subchapter d, Part 455: Work Release Programs.


**Author Biographies**

**Haeil Jung**, PhD, is an associate professor in the Korea University Department of Public Administration. His research focuses on disadvantaged populations and related public policy interventions. Among social policy issues, he has studied male and female incarceration, obesity, early childhood education, higher education, and public pension.

**Robert J. LaLonde**, PhD, (1958-2018) who died on January 17, 2018, following a long illness, was a leading scholar in the fields of labor economics, econometrics, and program evaluation. He made important contributions to research on job training, immigration, costs of work displacement, the impact of U.S. labor unions and collective bargaining, and the economic and social consequences of incarceration.