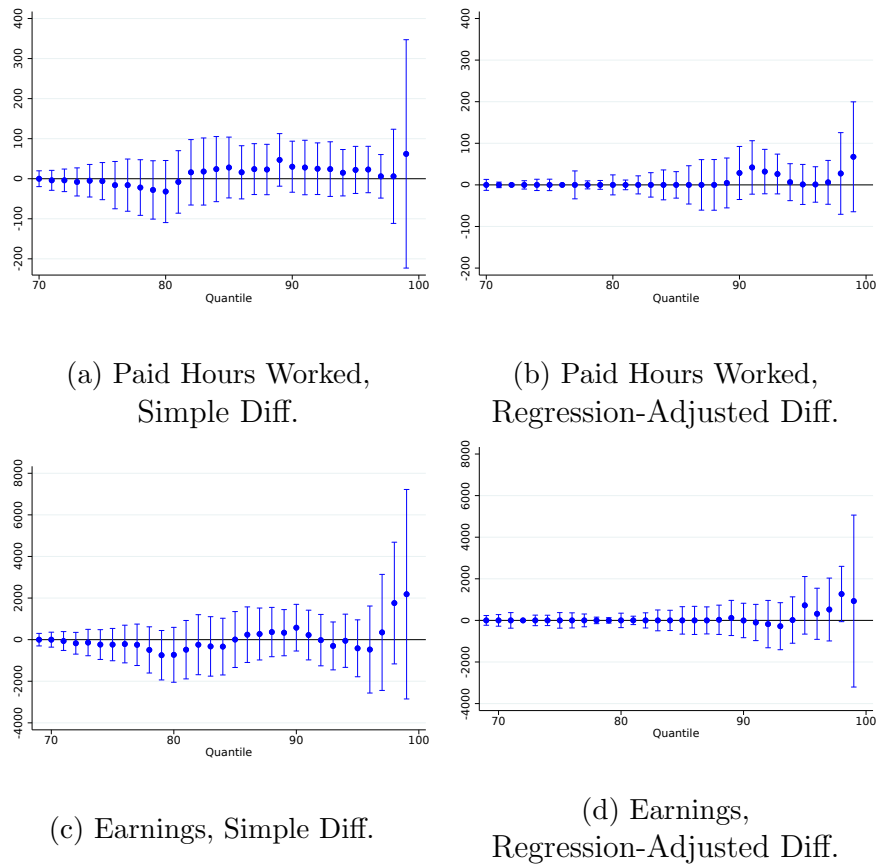


# Eliminating Fares to Expand Opportunities: Experimental Evidence on the Impacts of Free Public Transportation on Economic and Social Disparities

## Online Appendix

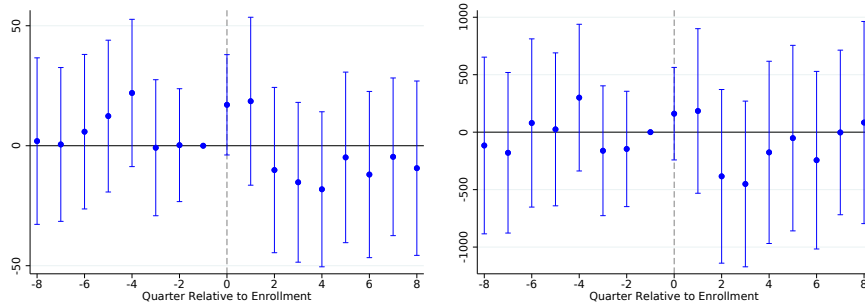
Rebecca Brough, Matthew Freedman, and David C. Phillips

Figure A.1. Conditional Quantile Treatment Effects on Paid Hours and Earnings, One Quarter After Enrollment



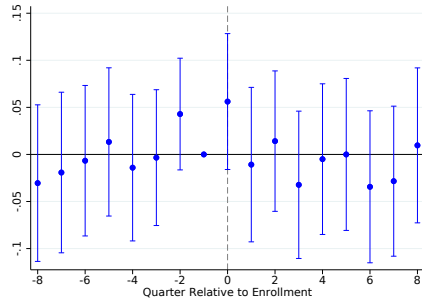
*Notes:* This figure depicts conditional quantile treatment effects and 95% confidence intervals on paid hours worked and earnings. Panels (a)-(d) estimate conditional quantile treatment effects on hours worked (panels (a) and (b)) and earnings (panels (c) and (d)) in the first quarter after enrollment. Panels (a) and (c) are conditional on randomization regime alone; panels (b) and (d) are conditional on the outcome in the period prior to random assignment as well as indicators for randomization regime, female, Black, Hispanic, other race (excluding White), and the month of study enrollment. The horizontal axis represents the quantile being estimated. Estimates are not generated for quantiles less than 70 (69) for hours (earnings) since these estimates are identically zero. Standard errors are robust. The vertical lines represent 95% confidence intervals.

Figure A.2. Treatment Effects on Employment Outcomes, by Relative Time – Cohort 1



(a) Quarterly Paid Hours Worked

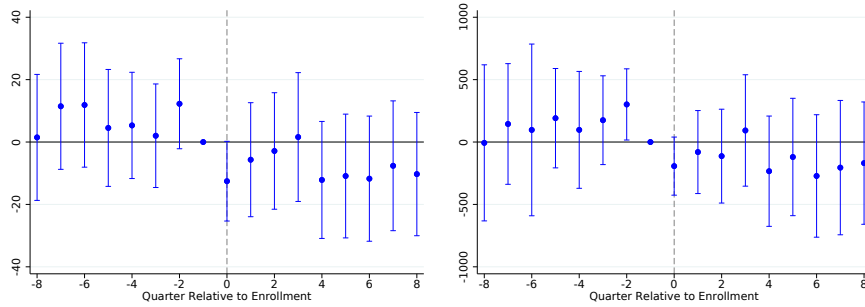
(b) Quarterly Earnings



(c) Any Paid Employment

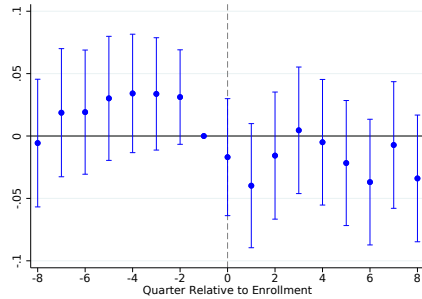
*Notes:* This figure depicts treatment effects on (a) paid hours worked, (b) earnings, and (c) any paid employment over time for Cohort 1 participants. Each dot measures the treatment effect of receiving free public transit at the relative quarter indicated on the horizontal axis. Each treatment effect is measured as a regression-adjusted difference in means from a separate regression, as specified in equation (1). Outcomes are measured using Washington State UI records. Control variables are the outcome in the period prior to random assignment as well as indicators for randomization regime, female, Black, Hispanic, other race (excluding White), and the month of study enrollment; participant age is not available in the state administrative records. The vertical lines represent 95% confidence intervals, computed using heteroskedasticity-robust standard errors.

Figure A.3. Treatment Effects on Employment Outcomes, by Relative Time – Cohort 2



(a) Quarterly Paid Hours Worked

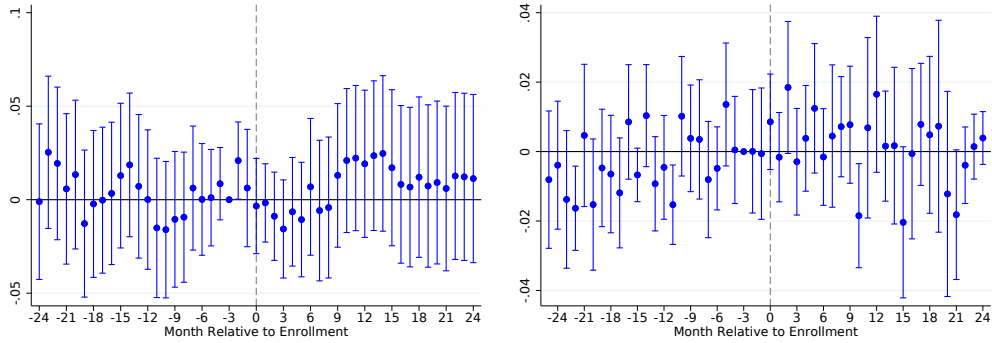
(b) Quarterly Earnings



(c) Any Paid Employment

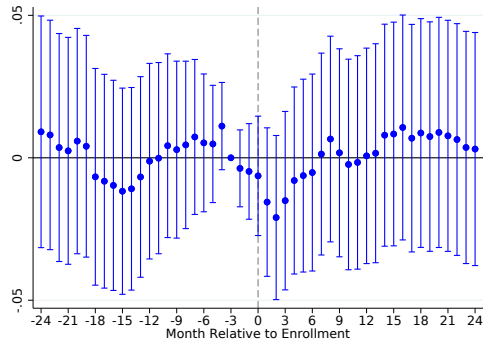
*Notes:* This figure depicts treatment effects on (a) paid hours worked, (b) earnings, and (c) any paid employment over time for cohort 2 participants. Each dot measures the treatment effect of receiving free public transit at the relative quarter indicated on the horizontal axis. Each treatment effect is measured as a regression-adjusted difference in means from a separate regression, as specified in equation (1). Outcomes are measured using Washington State UI records. Control variables are the outcome in the period prior to random assignment as well as indicators for randomization regime, female, Black, Hispanic, other race (excluding White), and the month of study enrollment; participant age is not available in the state administrative records. The vertical lines represent 95% confidence intervals, computed using heteroskedasticity-robust standard errors.

Figure A.4. Treatment Effects on Secondary Outcomes, by Relative Time



(a) Any public benefits

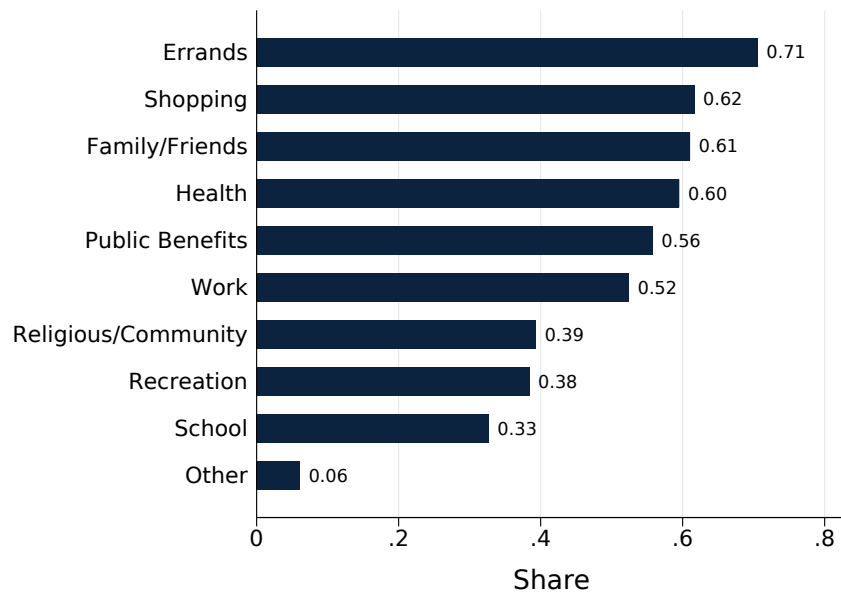
(b) Any move



(c) Any arrest, cumulative

*Notes:* This figure depicts treatment effects on (a) food or cash benefit receipt, (b) residential moves, and (c) an indicator for any arrests measured cumulatively over time. Each dot measures the treatment effect of receiving free public transit at the relative month indicated on the horizontal axis. Each treatment effect is measured as a regression-adjusted difference in means from a separate regression, as specified in equation (1). The outcomes in each figure come from monthly data provided by RDA, except for (b) which originates from Infutor. Control variables are the outcome 3 months prior to random assignment and indicators for randomization regime, female, Black, Hispanic, other race (excluding White), and the month of study enrollment. The vertical lines represent 95% confidence intervals, computed using heteroskedasticity-robust standard errors.

Figure A.5. Anticipated Uses of Public Transit Services if Free, Measured at Baseline



*Notes:* This figure shows the fraction of cohort 2 study participants indicating in the baseline survey that they would use transit more for each option, conditional on reporting that they would use transit more if it were free. Of the 1,312 people in cohort 2 responding to the baseline survey, 1,298 (99%) indicated they would use transit more if it were free. The figure shows responses to a follow-up question for those 1,298 individuals that asked, “If you used public transit more, where would you go?” Fractions add up to more than one because respondents could respond in the positive to all options that apply.

Table A.1. Description of Outcome Variables

|                                   | Source    | Frequency  | Description  |
|-----------------------------------|-----------|------------|--|
| <b>Primary Outcomes</b>           |           |            |  |
| Paid hours worked                 | RDA, ESD  | Quarterly  | Sum of hours across all UI-covered jobs in WA  |
| Earnings                          | RDA, ESD  | Quarterly  | Sum of earnings across all UI-covered jobs in WA   |
| Any earnings                      | RDA, ESD  | Quarterly  | Indicator for any positive earnings  |
| Job gain                          | RDA, ESD  | Quarterly  | Indicator for switching from zero earnings to positive earnings between two periods  |
| Job loss                          | RDA, ESD  | Quarterly  | Indicator for switching from positive earnings to zero earnings between two periods  |
| Continuous employment             | RDA, ESD  | Quarterly  | Indicator for continuous positive earnings between two periods   |
| Continuous sector employment      | RDA, ESD  | Quarterly  | Indicator for continuous employment within a 2-digit NAICS code sector between two periods   |
| Continuous industry employment    | RDA, ESD  | Quarterly  | Indicator for continuous employment within a 6-digit NAICS code industry between two periods   |
| Continuous unemployment           | RDA, ESD  | Quarterly  | Indicator for continuous zero earnings between two periods   |
| <b>Secondary Outcomes</b>         |           |            |  |
| Any food or cash benefits         | RDA, DSHS | Monthly    | Indicator for individual receiving DSHS services   |
| SNAP <sup>†</sup>                 | RDA, DSHS | Monthly    | Indicator for individual receiving SNAP benefits   |
| TANF <sup>‡</sup>                 | RDA, DSHS | Monthly    | Indicator for individual receiving TANF benefits   |
| Other benefits <sup>§</sup>       | RDA, DSHS | Monthly    | Indicator for individual receiving Aged, Blind, Disabled (ABD) benefits or being eligible for Housing and Essential Needs (HEN)  |
| Balance in collections            | Experian  | Quarterly* | Total current balance in debt collections  |
| Credit Score                      | Experian  | Quarterly* | VantageScore 4.0 credit score  |
| Total inquiries in last 3 months  | Experian  | Quarterly* | Count of credit inquiries made in past 3 months  |
| Any arrest, cumulative            | RDA, WSP  | Monthly    | Indicator for any arrest made in WA measured cumulatively since study enrollment month in post period measured retrospectively from study enrollment month in pre period   |
| Any misdemeanor, cumulative       | RDA, WSP  | Monthly    | Indicator for any misdemeanor charge in WA measured cumulatively since study enrollment month in post period measured retrospectively from study enrollment month in pre period  |
| Any gross misdemeanor, cumulative | RDA, WSP  | Monthly    | Indicator for any gross misdemeanor charge in WA measured cumulatively since study enrollment month in post period measured retrospectively from study enrollment month in pre period  |
| Any felony, cumulative            | RDA, WSP  | Monthly    | Indicator for any felony charge in WA measured cumulatively since study enrollment month in post period measured retrospectively from study enrollment month in pre period   |
| Cost to Medicaid, cumulative      | RDA, HCA  | Monthly    | Estimate of cost to Medicaid, based on cumulative Medicaid health visits<br>Costs are based on <a href="#">Finkelstein et al. (2012)</a><br>Each Non-ER Inpatient visit costs \$7523<br>Each ER Inpatient visit costs \$7688<br>Each ER Outpatient visit costs \$435<br>Each Non-ER Outpatient visit costs \$150 |
| Any Medicaid visit, cumulative    | RDA, HCA  | Monthly    | indicator for any Medicaid health visit measured cumulatively since study enrollment month in post period measures retrospectively from study enrollment month in pre period   |
| – Emergency outpatient            | RDA, HCA  | Monthly    | Indicator for any emergency outpatient Medicaid health visit   |
| – Emergency inpatient             | RDA, HCA  | Monthly    | Indicator for any emergency inpatient Medicaid health visit  |
| – Nonemergency outpatient         | RDA, HCA  | Monthly    | Indicator for any nonemergency outpatient Medicaid health visit  |
| – Nonemergency inpatient          | RDA, HCA  | Monthly    | Indicator for any nonemergency inpatient Medicaid health visit   |
| Any move                          | Infutor   | Monthly    | Indicator for any address change between two months  |
| Any move in state                 | Infutor   | Monthly    | Indicator for address state change between two months  |
| Any move out of state             | Infutor   | Monthly    | Indicator for an address change out of state between two months  |
| Any move in county                | Infutor   | Monthly    | Indicator for an address within county between two months  |
| Any move out of county            | Infutor   | Monthly    | Indicator for an address change out of county between two months   |

*Notes:* RDA denotes Research and Data Analysis Department at the Washington Department of Social and Health Services. ESD denotes Washington State Employment Security Department. DSHS denotes Washington Department of Social and Health Services. WSP denotes Washington State Patrol. HCA denotes Washington Health Care Authority.

<sup>†</sup>The Supplemental Nutrition Assistance Program (SNAP) provides individuals and families with low incomes monthly benefits that can be used to buy food.

<sup>‡</sup>Temporary Assistance for Needy Families (TANF) offers temporary cash assistance to children and families in need.

<sup>§</sup>Other benefits include Washington’s Aged, Blind or Disabled Cash Assistance Program (which provides cash assistance to those aged 65 and over, who are blind, or who have a long-term disability and who meet certain income and resource requirements) and Washington’s Housing and Essential Needs Program (which provides access to essential needs items and rental assistance to individuals with low income and who are at least temporarily unable to work due to a physical or mental incapacity).

\*Experian records are monthly snapshots taken in March, June, September, and December.

Table A.2. Mean Baseline Characteristics by Treatment Assignment

|  | (1)     | (2)       | (3)     | (4)       | (5)                    |
|--|---------|-----------|---------|-----------|------------------------|
|  | Control | Treatment | Control | Treatment | Simple Reg. Adj. Diff. |
|  | Mean    | N         | Mean    | N         | Coef. Est. (SE)        |
| <i>Demographics at Baseline</i>                      |         |           |         |           |                        |
| Age at enrollment                                    | 39.66   | 1105      | 40.88   | 692       | 1.05 (0.63)            |
| White  | 0.41    | 1105      | 0.39    | 692       | -0.03 (0.02)           |
| Black  | 0.29    | 1105      | 0.29    | 692       | 0.00 (0.02)            |
| Hispanic   | 0.09    | 1105      | 0.08    | 692       | -0.01 (0.01)           |
| Asian  | 0.03    | 1105      | 0.05    | 692       | 0.02 (0.01)            |
| American Indian                                      | 0.01    | 1105      | 0.01    | 692       | 0.00 (0.01)            |
| Pacific Islander                                     | 0.02    | 1105      | 0.03    | 692       | 0.01 (0.01)            |
| Multi-racial   | 0.05    | 1105      | 0.05    | 692       | 0.01 (0.01)            |
| Missing race   | 0.04    | 1105      | 0.03    | 692       | -0.01 (0.01)           |
| <i>Transit Use at Baseline</i>                       |         |           |         |           |                        |
| Used transit at all in past 30 days                  | 0.88    | 1105      | 0.88    | 692       | 0.01 (0.02)            |
| No. days used transit in 30 days prior to enrollment | 15.10   | 1105      | 15.94   | 692       | 1.00 (0.53)            |
| <i>Enrollment Location</i>                           |         |           |         |           |                        |
| Auburn CSO   | 0.11    | 1105      | 0.08    | 692       | -0.02 (0.01)           |
| Belltown CSO   | 0.08    | 1105      | 0.11    | 692       | 0.02 (0.01)            |
| Capitol Hill CSO                                     | 0.14    | 1105      | 0.12    | 692       | -0.02 (0.02)           |
| Federal Way CSO                                      | 0.01    | 1105      | 0.02    | 692       | 0.01 (0.01)            |
| King East CSO  | 0.04    | 1105      | 0.04    | 692       | -0.01 (0.01)           |
| King South CSO                                       | 0.01    | 1105      | 0.01    | 692       | -0.002 (0.005)         |
| North Seattle CSO                                    | 0.04    | 1105      | 0.03    | 692       | -0.01 (0.01)           |
| Rainier CSO  | 0.02    | 1105      | 0.01    | 692       | -0.01 (0.01)           |
| Renton CSO   | 0.08    | 1105      | 0.09    | 692       | 0.01 (0.01)            |
| White Center CSO                                     | 0.47    | 1105      | 0.50    | 692       | 0.03 (0.02)            |

*Notes:* This table presents means and regression-adjusted differences in means for baseline characteristics for all study participants, including the 1598 participants ultimately matched to administrative records. The demographic characteristics shown in the top panel are derived from the study’s intake survey and Metro’s ORCA LIFT registry. The second panel corresponds to the location where the participant enrolled in the study. All 10 Community Service Offices (CSO) in King County were enrollment sites, however only Auburn, Capitol Hill, and White Center were enrollment sites prior to December 2019. Office of enrollment is missing for 2 study participants. Column (5) presents the regression-adjusted difference in means between treatment and control groups, adjusting for the randomization regime used upon study enrollment. Heteroskedasticity-robust standard errors are reported in parentheses.

Table A.3. Employment Outcomes, One Quarter After Study Enrollment – Cohort 1

|                            | (1)     | (2)       | (3)                       | (4)              |
|----------------------------|---------|-----------|---------------------------|------------------|
|                            | Control | Treatment | Simple<br>Reg. Adj. Diff. | Reg. Adj. Diff.  |
|                            | Mean    |           | Coef. Est.<br>(SE)        |                  |
| Paid hours worked          | 89      | 118       | 29.0<br>(20.1)            | 18.6<br>(17.9)   |
| Earnings (\$)              | 1773    | 2119      | 346<br>(409)              | 184.46<br>(365)  |
| Any paid employment        | 0.35    | 0.36      | .0067<br>(0.047)          | -0.01<br>(0.042) |
| Job gain                   | .14     | 0.12      | -0.022<br>(0.033)         | -0.02<br>(0.034) |
| Job loss                   | .11     | 0.1       | -0.011<br>(0.03)          | -0.01<br>(0.031) |
| Continuous employment      | 0.21    | 0.24      | 0.029<br>(0.04)           | 0.02<br>(0.04)   |
| -Cont. sector employment   | 0.13    | 0.16      | 0.033<br>(0.035)          | 0.03<br>(0.035)  |
| -Cont. industry employment | 0.11    | 0.13      | 0.017<br>(0.032)          | 0.01<br>(0.032)  |
| Continuous unemployment    | 0.54    | 0.54      | 0.0047<br>(0.049)         | 0.02<br>(0.049)  |
| N                          | 300     | 157       |                           |                  |

*Notes:* This table presents means and regression-adjusted differences in means for employment outcomes measured in the quarter after enrollment ( $\tau = +1$ ) using Washington State UI records. Continuous employment, job gains, and job losses are measured comparing the quarter before and the quarter after enrollment. Sectors and industries are defined by 2-digit and 6-digit NAICS codes, respectively. Column (3) presents the regression-adjusted difference in means between treatment and control groups, adjusting for the randomization regime used upon study enrollment. Column (4) additionally adjusts for race, gender, month of study enrollment, and the relevant outcome one quarter prior to study enrollment (for paid hours worked, earnings, and any paid employment outcomes only). The sample is limited to individuals who go through random assignment and match to any Washington State administrative record prior to study enrollment. Heteroskedasticity-robust standard errors are reported in parentheses.



Table A.4. Employment Outcomes, One Quarter After Study Enrollment – Cohort 2

|                            | (1)     | (2)       | (3)                       | (4)               |
|----------------------------|---------|-----------|---------------------------|-------------------|
|                            | Control | Treatment | Simple<br>Reg. Adj. Diff. | Reg. Adj. Diff.   |
|                            | Mean    |           | Coef. Est.<br>(SE)        |                   |
| Paid hours worked          | 71      | 69        | -3.0<br>(9.6)             | -5.7<br>(9.3)     |
| Earnings (\$)              | 1321    | 1260      | -62<br>(175)              | -80<br>(170)      |
| Any paid employment        | 0.31    | 0.27      | -0.03<br>(0.028)          | -0.04<br>(0.025)  |
| Job gain                   | 0.13    | 0.1       | -0.029<br>(0.019)         | -0.03<br>(0.019)  |
| Job loss                   | 0.15    | 0.17      | .018<br>(0.022)           | 0.02<br>(0.022)   |
| Continuous employment      | 0.18    | 0.17      | -0.005<br>(0.023)         | -0.005<br>(0.023) |
| -Cont. sector employment   | 0.14    | 0.13      | -0.008<br>(0.02)          | -0.01<br>(0.02)   |
| -Cont. industry employment | 0.11    | 0.1       | -0.001<br>(0.018)         | 0.004<br>(0.018)  |
| Continuous unemployment    | 0.54    | 0.56      | 0.016<br>(0.03)           | 0.02<br>(0.03)    |
| N                          | 677     | 464       |                           |                   |

*Notes:* This table presents means and regression-adjusted differences in means for employment outcomes measured in the quarter after enrollment ( $\tau = +1$ ) using Washington State UI records. Continuous employment, job gains, and job losses are measured comparing the quarter before and the quarter after enrollment. Sectors and industries are defined by 2-digit and 6-digit NAICS codes, respectively. Column (3) presents the regression-adjusted difference in means between treatment and control groups, adjusting for the randomization regime used upon study enrollment. Column (4) additionally adjusts for race, gender, month of study enrollment, and the relevant outcome one quarter prior to study enrollment (for paid hours worked, earnings, and any paid employment outcomes only). The sample is limited to individuals who go through random assignment and match to any Washington State administrative record prior to study enrollment. Heteroskedasticity-robust standard errors are reported in parentheses.

Table A.5. Secondary Outcomes, One Quarter After Enrollment - Cohort 1

|  | (1)      | (2) | (3)       | (4) | (5)                 | (6)                 |
|--|----------|-----|-----------|-----|---------------------|---------------------|
|  | Control  |     | Treatment |     | Simple              | Reg.                |
|  | Mean     | N   | Mean      | N   | Reg. Adj. Diff.     | Adj. Diff.          |
|  |          |     |           |     | Coef. Est.          | Coef. Est.          |
|  |          |     |           |     | (SE)                | (SE)                |
| <i>A. Public Assistance Receipt, measured three months post enrollment</i>             |          |     |           |     |                     |                     |
| Any food or cash benefits  | 0.92     | 300 | 0.92      | 157 | -0.01<br>(0.03)     | -0.0002<br>(0.03)   |
| -SNAP  | 0.89     | 300 | 0.90      | 157 | 0.01<br>(0.03)      | 0.02<br>(0.03)      |
| -TANF  | 0.02     | 300 | 0.02      | 157 | 0.002<br>(0.01)     | 0.001<br>(0.01)     |
| -Other   | 0.10     | 300 | 0.09      | 157 | -0.01<br>(0.03)     | -0.02<br>(0.02)     |
| <i>B. Financial Health, measured in the third month of the quarter post enrollment</i> |          |     |           |     |                     |                     |
| Balance in collection  | 2,148.84 | 125 | 1,935.40  | 73  | -213.44<br>(585.51) | -227.61<br>(598.05) |
| Credit score   | 513.44   | 125 | 479.26    | 73  | -34.18<br>( 27.25)  | -10.56<br>( 17.87)  |
| Total inquiries in past 3 months   | 0.39     | 125 | 0.22      | 73  | -0.17<br>(0.08)     | -0.13<br>(0.08)     |
| <i>C. Criminal Justice, measured three months post enrollment</i>                      |          |     |           |     |                     |                     |
| Any arrest, cumulative   | 0.19     | 300 | 0.14      | 157 | -0.05<br>(0.04)     | -0.003<br>(0.03)    |
| -Any misdemeanor, cumulative   | 0.02     | 300 | 0.02      | 157 | -0.004<br>(0.01)    | -0.001<br>(0.01)    |
| -Any gross misdemeanor, cumulative   | 0.05     | 300 | 0.06      | 157 | 0.01<br>(0.02)      | 0.02<br>(0.02)      |
| -Any felony, cumulative  | 0.09     | 300 | 0.08      | 157 | -0.01<br>(0.03)     | -0.0003<br>(0.03)   |
| <i>D. Healthcare, measured three months post enrollment</i>                            |          |     |           |     |                     |                     |
| Cost to Medicaid, cumulative   | 1,256.71 | 300 | 684.29    | 157 | -572.41<br>(269.54) | -655.95<br>(268.76) |
| Any Medicaid Visit, cumulative   | 0.40     | 300 | 0.26      | 157 | -0.14<br>(0.05)     | -0.13<br>(0.04)     |
| -Emergency outpatient  | 0.30     | 300 | 0.22      | 157 | -0.08<br>(0.04)     | -0.08<br>(0.04)     |
| -Emergency inpatient   | 0.05     | 300 | 0.04      | 157 | -0.01<br>(0.02)     | -0.02<br>( 0.02)    |
| -Non-emergency outpatient  | 0.34     | 300 | 0.24      | 157 | -0.10<br>(0.04)     | -0.09<br>( 0.04)    |
| -Non-emergency inpatient   | 0.04     | 300 | 0.01      | 157 | -0.03<br>(0.01)     | -0.03<br>(0.01)     |
| <i>E. Residential Mobility, measured three months post enrollment</i>                  |          |     |           |     |                     |                     |
| Any move   | 0.014    | 140 | 0.000     | 76  | -0.014<br>(0.010)   | -0.017<br>(0.012)   |
| -Any move in state   | 0.007    | 140 | 0.000     | 76  | -0.007<br>(0.007)   | -0.009<br>(0.009)   |
| -Any move out of state   | 0.007    | 140 | 0.000     | 76  | -0.007<br>(0.007)   | -0.008<br>(0.008)   |
| -Any move in county  | 0.007    | 140 | 0.000     | 76  | -0.007<br>(0.007)   | -0.009<br>(0.009)   |
| -Any move out of county  | 0.007    | 140 | 0.000     | 76  | -0.007<br>(0.007)   | -0.008<br>(0.008)   |

*Notes:* This table presents means and regression-adjusted differences in means for outcomes measured in the quarter after enrollment for cohort 1. Public assistance receipt comes from Washington State Economic Services Administration records and is measured 3 months after random assignment. Financial measures cover the sample that matches to a repeated cross-section of quarterly Experian credit reports and reflect outcomes measured 1 quarter after random assignment. Criminal justice contact measures come from Washington State Patrol records and are measured cumulatively between random assignment and three months later. Healthcare information come from Washington State administrative records on Medicaid claims and is also measured cumulatively between random assignment and 3 months later; cost to Medicaid reflects expected costs based on visit type, as in [Finkelstein et al. \(2012\)](#). Residential moves cover a sample that matches to any address from Infutor consumer reference data prior to random assignment; moves are measured cumulatively between random assignment and 3 months later. Column (5) presents the regression-adjusted difference in means between treatment and control groups, adjusting for the randomization regime used upon study enrollment. Column (6) additionally adjusts for indicators for race, month of study enrollment, and the relevant outcome 1 quarter prior to study enrollment; results in Panels A, C, and D also include controls for gender; results in Panels B and E control for age and age squared. Heteroskedasticity-robust standard errors are reported in parentheses.

Table A.6. Secondary Outcomes, One Quarter After Enrollment - Cohort 2

|  | (1)      | (2) | (3)       | (4) | (5)                 | (6)                |
|--|----------|-----|-----------|-----|---------------------|--------------------|
|  | Control  |     | Treatment |     | Simple              | Reg.               |
|  | Mean     | N   | Mean      | N   | Reg. Adj. Diff.     | Adj. Diff.         |
|  |          |     |           |     | Coef. Est.          | Coef. Est.         |
|  |          |     |           |     | (SE)                | (SE)               |
| <i>A. Public Assistance Receipt, measured three months post enrollment</i>             |          |     |           |     |                     |                    |
| Any food or cash benefits  | 0.94     | 677 | 0.91      | 464 | -0.02<br>(0.02)     | -0.02<br>(0.02)    |
| -SNAP  | 0.92     | 677 | 0.89      | 464 | -0.04<br>(0.02)     | -0.03<br>(0.02)    |
| -TANF  | 0.03     | 677 | 0.04      | 464 | 0.01<br>(0.01)      | 0.002<br>(0.01)    |
| -Other   | 0.15     | 677 | 0.12      | 464 | -0.02<br>(0.02)     | -0.01<br>(0.02)    |
| <i>B. Financial Health, measured in the third month of the quarter post enrollment</i> |          |     |           |     |                     |                    |
| Balance in collection  | 1,442.22 | 367 | 1,203.80  | 261 | -228.91<br>(222.19) | 20.68<br>(122.94)  |
| Credit score   | 496.51   | 367 | 523.70    | 261 | 22.69<br>(15.73)    | 21.20<br>(11.15)   |
| Total inquiries in past 3 months   | 0.33     | 367 | 0.27      | 261 | -0.07<br>(0.04)     | -0.06<br>(0.05)    |
| <i>C. Criminal Justice, measured three months post enrollment</i>                      |          |     |           |     |                     |                    |
| Any arrest, cumulative   | 0.11     | 677 | 0.10      | 464 | -0.01<br>(0.02)     | -0.01<br>(0.02)    |
| -Any misdemeanor, cumulative   | 0.01     | 677 | 0.01      | 464 | -0.001<br>(0.01)    | -0.0003<br>(0.01)  |
| -Any gross misdemeanor, cumulative   | 0.05     | 677 | 0.04      | 464 | -0.01<br>(0.01)     | -0.01<br>(0.01)    |
| -Any felony, cumulative  | 0.04     | 677 | 0.04      | 464 | 0.001<br>(0.01)     | -0.0004<br>(0.01)  |
| <i>D. Healthcare, measured three months post enrollment</i>                            |          |     |           |     |                     |                    |
| Cost to Medicaid, cumulative   | 850.47   | 677 | 989.93    | 464 | 157.79<br>(220.18)  | 134.95<br>(204.75) |
| Any Medicaid Visit, cumulative   | 0.32     | 677 | 0.29      | 464 | -0.03<br>(0.03)     | -0.03<br>(0.03)    |
| -Emergency outpatient  | 0.22     | 677 | 0.20      | 464 | -0.02<br>(0.02)     | -0.01<br>(0.02)    |
| -Emergency inpatient   | 0.04     | 677 | 0.03      | 464 | -0.01<br>(0.01)     | -0.01<br>(0.01)    |
| -Non-emergency outpatient  | 0.28     | 677 | 0.24      | 464 | -0.04<br>(0.03)     | -0.04<br>(0.03)    |
| -Non-emergency inpatient   | 0.02     | 677 | 0.02      | 464 | 0.01<br>(0.01)      | 0.01<br>(0.01)     |
| <i>E. Residential Mobility, measured three months post enrollment</i>                  |          |     |           |     |                     |                    |
| Any move   | 0.010    | 292 | 0.014     | 214 | 0.002<br>(0.010)    | 0.001<br>(0.010)   |
| -Any move in state   | 0.007    | 292 | 0.014     | 214 | 0.007<br>(0.009)    | 0.006<br>(0.009)   |
| -Any move out of state   | 0.003    | 292 | 0.005     | 214 | -0.001<br>(0.006)   | -0.001<br>(0.006)  |
| -Any move in county  | 0.003    | 292 | 0.014     | 214 | 0.010<br>(0.008)    | 0.009<br>(0.008)   |
| -Any move out of county  | 0.007    | 292 | 0.005     | 214 | -0.004<br>(0.007)   | -0.004<br>(0.007)  |

*Notes:* This table presents means and regression-adjusted differences in means for outcomes measured in the quarter after enrollment for cohort 2. Public assistance receipt comes from Washington State Economic Services Administration records and is measured 3 months after random assignment. Financial measures cover the sample that matches to a repeated cross-section of quarterly Experian credit reports and reflect outcomes measured 1 quarter after random assignment. Criminal justice contact measures come from Washington State Patrol records and are measured cumulatively between random assignment and three months later. Healthcare information come from Washington State administrative records on Medicaid claims and is also measured cumulatively between random assignment and 3 months later; cost to Medicaid reflects expected costs based on visit type, as in [Finkelstein et al. \(2012\)](#). Residential moves cover a sample that matches to any address from Infutor consumer reference data prior to random assignment; moves are measured cumulatively between random assignment and 3 months later. Column (5) presents the regression-adjusted difference in means between treatment and control groups, adjusting for the randomization regime used upon study enrollment. Column (6) additionally adjusts for indicators for race, month of study enrollment, and the relevant outcome 1 quarter prior to study enrollment; results in Panels A, C, and D also include controls for gender; results in Panels B and E control for age and age squared. Heteroskedasticity-robust standard errors are reported in parentheses.

Table A.7. State Administrative Outcomes, Panel Regressions

|                              | (1)                      | (2)                        | (3)                  | (4)                 | (5)                     | (6)                      | (7)                       | (8)              | (9)               | (10)              | (11)              |
|------------------------------|--------------------------|----------------------------|----------------------|---------------------|-------------------------|--------------------------|---------------------------|------------------|-------------------|-------------------|-------------------|
|                              |                          |                            | Medical              |                     |                         |                          |                           | Benefits         |                   |                   | Criminal Justice  |
|                              | Cost to Medicaid Monthly | Any Medicaid visit Monthly | Emergency outpatient | Emergency inpatient | Non-emergency inpatient | Non-emergency outpatient | Any food or cash benefits | SNAP             | TANF              | Other             | Any Arrest        |
| Treated                      | -18<br>(41)              | -0.014<br>(0.010)          | -0.003<br>(0.008)    | -0.001<br>(0.003)   | -0.0003<br>(0.002)      | -0.012<br>(0.010)        | -0.006<br>(0.018)         | 0.001<br>(0.018) | -0.001<br>(0.006) | -0.004<br>(0.011) | -0.014<br>(0.006) |
| Person Fixed Effects         | ✓                        | ✓                          | ✓                    | ✓                   | ✓                       | ✓                        | ✓                         | ✓                | ✓                 | ✓                 | ✓                 |
| Calendar Month Fixed Effects | ✓                        | ✓                          | ✓                    | ✓                   | ✓                       | ✓                        | ✓                         | ✓                | ✓                 | ✓                 | ✓                 |
| Relative Month Fixed Effects | ✓                        | ✓                          | ✓                    | ✓                   | ✓                       | ✓                        | ✓                         | ✓                | ✓                 | ✓                 | ✓                 |
| Control Mean                 | 142                      | 0.089                      | 0.052                | 0.008               | 0.003                   | 0.072                    | 0.620                     | 0.506            | 0.025             | 0.055             | 0.030             |
| Observations                 | 78302                    | 78302                      | 78302                | 78302               | 78302                   | 78302                    | 78302                     | 78302            | 78302             | 78302             | 78302             |
| Individuals                  | 1598                     | 1598                       | 1598                 | 1598                | 1598                    | 1598                     | 1598                      | 1598             | 1598              | 1598              | 1598              |

*Notes:* Each column of this table presents the estimate of the coefficient on treatment in a separate panel data regression of the listed outcome on an active treatment variable and calendar month, relative month, and individual fixed effects. The active treatment variable equals zero for individuals in the control group and equals the fraction of a quarter in which the treatment is active for those in the treatment group. The panel consists of 24 months prior to study enrollment and 24 months following study enrollment for all sample individuals. The sample is limited to individuals matching to any Washington State administrative record prior to study enrollment. Standard errors clustered by individual are reported in parentheses.

Table A.8. Financial Health Outcomes, Panel Regressions

|                                | (1)                    | (2)          | (3)                               |
|--------------------------------|------------------------|--------------|-----------------------------------|
|                                | Balance in Collections | Credit Score | Credit Inquiries in Past 3 Months |
| Treated                        | 166<br>(187)           | -1<br>(6)    | -0.02<br>(0.03)                   |
| Person Fixed Effects           | ✓                      | ✓            | ✓                                 |
| Calendar Quarter Fixed Effects | ✓                      | ✓            | ✓                                 |
| Relative Quarter Fixed Effects | ✓                      | ✓            | ✓                                 |
| Control Mean                   | 1,839                  | 516          | 0.33                              |
| Observations                   | 11,061                 | 11,061       | 11,061                            |
| Individuals                    | 872                    | 872          | 872                               |

*Notes:* Each column of this table presents the estimate of the coefficient on treatment in a separate panel data regression of the listed outcome on an active treatment variable and calendar quarter, relative quarter, and individual fixed effects. The active treatment variable equals zero for individuals in the control group and equals the fraction of a quarter in which the treatment is active for those in the treatment group. The panel consists of 8 quarters prior to study enrollment and 5 quarters following study enrollment for all sample individuals. The sample is limited to individuals matching to any credit report prior to study enrollment. Standard errors clustered by individual are reported in parentheses.

Table A.9. Criminal Justice Outcomes, One Quarter After Enrollment

|                       | (1)     | (2) | (3)       | (4) | (5)            | (6)            |
|-----------------------|---------|-----|-----------|-----|----------------|----------------|
|                       | Control |     | Treatment |     | Simple Reg.    | Reg.           |
|                       | Mean    | N   | Mean      | N   | Adj. Diff.     | Adj. Diff.     |
|                       |         |     |           |     | Coef. Est.     | (SE)           |
| Any arrest            | 0.136   | 977 | 0.111     | 621 | -0.022 (0.017) | -0.015 (0.016) |
| <i>Crime Category</i> |         |     |           |     |                |                |
| -Felony               | 0.056   | 977 | 0.050     | 621 | -0.003 (0.011) | -0.002 (0.011) |
| -Misdemeanor          | 0.015   | 977 | 0.013     | 621 | -0.002 (0.006) | -0.001 (0.006) |
| -Gross misdemeanor    | 0.050   | 977 | 0.043     | 621 | -0.007 (0.011) | -0.006 (0.011) |
| -Unknown              | 0.078   | 977 | 0.066     | 621 | -0.010 (0.013) | -0.004 (0.013) |
| <i>Crime Type</i>     |         |     |           |     |                |                |
| -Assault              | 0.024   | 977 | 0.027     | 621 | 0.002 (0.008)  | 0.003 (0.008)  |
| -Theft                | 0.049   | 977 | 0.043     | 621 | -0.005 (0.011) | -0.004 (0.011) |
| -Sex                  | 0.002   | 977 | 0.005     | 621 | 0.003 (0.003)  | 0.003 (0.003)  |
| -Domestic violence    | 0.011   | 977 | 0.011     | 621 | -0.000 (0.006) | 0.001 (0.005)  |
| -Custody              | 0.025   | 977 | 0.021     | 621 | -0.001 (0.007) | 0.001 (0.007)  |
| -Alcohol/drug         | 0.018   | 977 | 0.021     | 621 | 0.003 (0.007)  | 0.006 (0.007)  |
| -Trespass             | 0.024   | 977 | 0.011     | 621 | -0.011 (0.006) | -0.009 (0.006) |
| -Reckless driving     | 0.001   | 977 | 0.000     | 621 | -0.001 (0.001) | -0.001 (0.001) |
| -Vehicle license      | 0.004   | 977 | 0.003     | 621 | -0.000 (0.003) | -0.000 (0.003) |
| -Weapons              | 0.004   | 977 | 0.005     | 621 | 0.001 (0.004)  | -0.001 (0.003) |
| -Probation            | 0.017   | 977 | 0.010     | 621 | -0.008 (0.006) | -0.007 (0.006) |
| -Murder               | 0.000   | 977 | 0.000     | 621 | *              | *              |
| -Fail to comply       | 0.046   | 977 | 0.035     | 621 | -0.009 (0.010) | -0.007 (0.010) |
| -Other                | 0.001   | 977 | 0.000     | 621 | -0.001 (0.001) | -0.001 (0.001) |

*Notes:* This table presents means and regression-adjusted differences in means for criminal outcomes measured in the three months after study enrollment. Arrests are measured cumulatively between random assignment and three months later. Column (5) presents the regression-adjusted difference in mean between treatment and control groups, adjusting for the randomization regime used upon study enrollment. Column (6) additionally adjusts for race, gender, month of study enrollment, and the relevant outcome one quarter prior to study enrollment. Heteroskedasticity-robust standard errors are reported in parentheses. Identically zero estimates are denoted by “\*”.

Table A.10. Residential Mobility Outcomes, Panel Regressions

|                              | (1)              | (2)               | (3)                    | (4)                           | (5)                                |
|------------------------------|------------------|-------------------|------------------------|-------------------------------|------------------------------------|
|                              | Any Move         | Any Move<br>In WA | Any Move<br>Outside WA | Any Move<br>In King<br>County | Any Move<br>Outside King<br>County |
| Treated                      | 0.006<br>(0.005) | 0.0003<br>(0.004) | 0.006<br>(0.004)       | 0.001<br>(0.003)              | 0.006<br>(0.004)                   |
| Person Fixed Effects         | ✓                | ✓                 | ✓                      | ✓                             | ✓                                  |
| Calendar Month Fixed Effects | ✓                | ✓                 | ✓                      | ✓                             | ✓                                  |
| Relative Month Fixed Effects | ✓                | ✓                 | ✓                      | ✓                             | ✓                                  |
| Control Mean                 | 0.014            | 0.011             | 0.003                  | 0.009                         | 0.006                              |
| Observations                 | 34,790           | 34,790            | 34,790                 | 34,790                        | 34,790                             |
| Individuals                  | 710              | 710               | 710                    | 710                           | 710                                |

*Notes:* Each column of this table presents the estimate of the coefficient on treatment in a separate panel data regression of the listed outcome on an active treatment variable and calendar month, relative month, and individual fixed effects. The active treatment variable equals zero for individuals in the control group and equals the fraction of a quarter in which the treatment is active for those in the treatment group. The panel consists of 24 months prior to study enrollment and 24 months following study enrollment for all sample individuals. The sample is limited to individuals matching to Infutor consumer reference data prior to random assignment. Standard errors clustered by individual are in parentheses.

Table A.11. Heterogeneity Tests for Selected Outcomes, One Quarter After Enrollment, No Controls

|                                       | Employed at Baseline |            | Subsidy Duration above Median |            | Race         |                  | Gender      |               |
|---------------------------------------|----------------------|------------|-------------------------------|------------|--------------|------------------|-------------|---------------|
|                                       | No<br>(1)            | Yes<br>(2) | No<br>(3)                     | Yes<br>(4) | White<br>(5) | Non-white<br>(6) | Male<br>(7) | Female<br>(8) |
| <i>Hours worked</i>                   |                      |            |                               |            |              |                  |             |               |
| Control Mean                          | 42.51                | 118.19     | 82.71                         | 68.41      | 51.18        | 95.61            | 80.94       | 70.85         |
| Reg Adj. Diff.                        | -4.47                | 11.67      | 7.96                          | 2.89       | 2.70         | 6.58             | -2.86       | 18.02         |
| SE                                    | (9.08)               | (15.29)    | (12.39)                       | (11.99)    | (9.85)       | (13.38)          | (11.25)     | (13.42)       |
| P-Value of Diff.                      | [0.36]               |            | [0.77]                        |            | [0.82]       |                  | [0.26]      |               |
| <i>Employed</i>                       |                      |            |                               |            |              |                  |             |               |
| Control Mean                          | 0.17                 | 0.51       | 0.32                          | 0.33       | 0.24         | 0.38             | 0.32        | 0.32          |
| Reg Adj. Diff.                        | -0.04                | -0.03      | -0.03                         | -0.01      | -0.01        | -0.04            | -0.04       | -0.002        |
| SE                                    | (0.03)               | (0.04)     | (0.03)                        | (0.04)     | (0.03)       | (0.03)           | (0.03)      | (0.03)        |
| P-Value of Diff.                      | [0.83]               |            | [0.75]                        |            | [0.48]       |                  | [0.47]      |               |
| <i>Any public benefits</i>            |                      |            |                               |            |              |                  |             |               |
| Control Mean                          | 0.94                 | 0.92       | 0.93                          | 0.94       | 0.96         | 0.91             | 0.93        | 0.93          |
| Reg Adj. Diff.                        | -0.01                | 0.01       | -0.01                         | 0.01       | -0.01        | 0.001            | -0.01       | 0.003         |
| SE                                    | (0.01)               | (0.02)     | (0.01)                        | (0.02)     | (0.01)       | (0.02)           | (0.01)      | (0.02)        |
| P-Value of Diff.                      | [0.49]               |            | [0.55]                        |            | [0.71]       |                  | [0.67]      |               |
| <i>Any arrest, cumulative</i>         |                      |            |                               |            |              |                  |             |               |
| Control Mean                          | 0.17                 | 0.09       | 0.15                          | 0.12       | 0.14         | 0.13             | 0.18        | 0.07          |
| Reg Adj. Diff.                        | -0.02                | -0.01      | -0.03                         | -0.01      | -0.02        | -0.02            | -0.01       | -0.03         |
| SE                                    | (0.02)               | (0.02)     | (0.02)                        | (0.02)     | (0.02)       | (0.02)           | (0.02)      | (0.01)        |
| P-Value of Diff.                      | [0.72]               |            | [0.46]                        |            | [0.78]       |                  | [0.37]      |               |
| <i>Any Medicaid visit, cumulative</i> |                      |            |                               |            |              |                  |             |               |
| Control Mean                          | 0.37                 | 0.32       | 0.34                          | 0.35       | 0.43         | 0.29             | 0.33        | 0.37          |
| Reg Adj. Diff.                        | -0.02                | -0.03      | -0.02                         | -0.03      | -0.09        | 0.03             | -0.02       | -0.03         |
| SE                                    | (0.03)               | (0.03)     | (0.03)                        | (0.03)     | (0.03)       | (0.03)           | (0.03)      | (0.03)        |
| P-Value of Diff.                      | [0.78]               |            | [0.92]                        |            | [0.01]       |                  | [0.79]      |               |
| N - Control Mean                      | 534                  | 443        | 575                           | 402        | 413          | 564              | 579         | 398           |
| N - Treatment                         | 322                  | 299        | 402                           | 219        | 253          | 368              | 378         | 243           |

*Notes:* This table reports tests for heterogeneous treatment effects. Each outcome is measured one quarter after enrollment. Employed at baseline is defined as ever having positive UI-covered earnings in the 4 quarters pre-enrollment. Subsidy duration is based on the length of anticipated time between card receipt and subsidy expiration. All other variables are defined as before. The coefficient reported in row “Reg. Adj. Diff.” is based on a regression of the outcome of interest on a treatment indicator and randomization regime for the listed sub-group. Heteroskedasticity-robust standard errors are reported in parentheses. The difference in treatment effects between pairs of columns is calculated by regressing the outcome variable on the randomization regime, a treatment variable, an indicator for being in the even numbered column, and the interaction of these last two variables. The *p*-value of the interaction term is reported in row “P-Value of Diff.”.

Table A.12. Employment Outcomes, Heterogeneity, With Controls

|   | Employed at Baseline |            | Subsidy Duration above Median |            | Race         |                  | Gender      |               |
|---|----------------------|------------|-------------------------------|------------|--------------|------------------|-------------|---------------|
|   | No<br>(1)            | Yes<br>(2) | No<br>(3)                     | Yes<br>(4) | White<br>(5) | Non-white<br>(6) | Male<br>(7) | Female<br>(8) |
| <i>Hours worked in relative quarter 1</i>                           |                      |            |                               |            |              |                  |             |               |
| Control Mean  | 42.51                | 118.19     | 82.71                         | 68.41      | 51.18        | 95.61            | 80.94       | 70.85         |
| Reg Adj. Diff.  | -4.53                | 8.00       | 5.26                          | -1.78      | 3.74         | 1.54             | -5.35       | 9.49          |
| SE  | (9.08)               | (14.86)    | (11.77)                       | (11.49)    | (9.31)       | (12.68)          | (10.93)     | (13.42)       |
| P-Value of Diff.  | [0.47]               |            | [0.67]                        |            | [0.75]       |                  | [0.39]      |               |
| <i>Earnings in relative quarter 1</i>                               |                      |            |                               |            |              |                  |             |               |
| Control Mean  | 765.22               | 2296.13    | 1534.72                       | 1351.62    | 971.76       | 1816.45          | 1564.68     | 1306.19       |
| Reg Adj. Diff.  | -96.54               | 31.35      | 129.28                        | -119.38    | -34.02       | 2.44             | -211.09     | 281.61        |
| SE  | (156.47)             | (291.64)   | (226.38)                      | (224.57)   | (169.18)     | (235.08)         | (196.05)    | (279.70)      |
| P-Value of Diff.  | [0.70]               |            | [0.44]                        |            | [0.94]       |                  | [0.15]      |               |
| <i>Employed in relative quarter 1</i>                               |                      |            |                               |            |              |                  |             |               |
| Control Mean  | 0.17                 | 0.51       | 0.32                          | 0.33       | 0.24         | 0.38             | 0.32        | 0.32          |
| Reg Adj. Diff.  | -0.04                | -0.04      | -0.03                         | -0.04      | -0.004       | -0.05            | -0.04       | -0.02         |
| SE  | (0.03)               | (0.04)     | (0.03)                        | (0.04)     | (0.03)       | (0.03)           | (0.03)      | (0.03)        |
| P-Value of Diff.  | [1.00]               |            | [0.85]                        |            | [0.20]       |                  | [0.65]      |               |
| <i>Cont. employment between relative quarter -1 and 1</i>           |                      |            |                               |            |              |                  |             |               |
| Control Mean  | 0.00                 | 0.42       | 0.18                          | 0.21       | 0.15         | 0.22             | 0.17        | 0.21          |
| Reg Adj. Diff.  | *                    | -0.03      | 0.001                         | 0.001      | -0.02        | 0.02             | -0.03       | 0.04          |
| SE  | *                    | (0.04)     | (0.02)                        | (0.03)     | (0.03)       | (0.03)           | (0.02)      | (0.03)        |
| P-Value of Diff.  | [0.47]               |            | [1.00]                        |            | [0.37]       |                  | [0.11]      |               |
| <i>-Cont. sector employment between relative quarter -1 and 1</i>   |                      |            |                               |            |              |                  |             |               |
| Control Mean  | 0.01                 | 0.29       | 0.12                          | 0.15       | 0.10         | 0.16             | 0.12        | 0.16          |
| Reg Adj. Diff.  | 0.005                | -0.01      | -0.01                         | 0.02       | 0.02         | -0.003           | -0.02       | 0.04          |
| SE  | (0.01)               | (0.03)     | (0.02)                        | (0.03)     | (0.02)       | (0.02)           | (0.02)      | (0.03)        |
| P-Value of Diff.  | [0.58]               |            | [0.58]                        |            | [0.44]       |                  | [0.11]      |               |
| <i>-Cont. Industry Employment between relative quarter -1 and 1</i> |                      |            |                               |            |              |                  |             |               |
| Control Mean  | 0.00                 | 0.24       | 0.09                          | 0.13       | 0.08         | 0.12             | 0.09        | 0.13          |
| Reg Adj. Diff.  | *                    | -0.002     | 0.004                         | 0.002      | 0.003        | 0.01             | -0.01       | 0.03          |
| SE  | *                    | (0.03)     | (0.02)                        | (0.03)     | (0.02)       | (0.02)           | (0.02)      | (0.03)        |
| P-Value of Diff.  | [0.96]               |            | [0.95]                        |            | [1.00]       |                  | [0.25]      |               |
| <i>Job gain between relative quarter -1 and 1</i>                   |                      |            |                               |            |              |                  |             |               |
| Control Mean  | 0.17                 | 0.09       | 0.14                          | 0.12       | 0.09         | 0.16             | 0.15        | 0.11          |
| Reg Adj. Diff.  | -0.04                | -0.01      | -0.03                         | -0.02      | 0.01         | -0.06            | -0.02       | -0.04         |
| SE  | (0.03)               | (0.02)     | (0.02)                        | (0.03)     | (0.02)       | (0.02)           | (0.02)      | (0.02)        |
| P-Value of Diff.  | [0.42]               |            | [0.79]                        |            | [0.04]       |                  | [0.51]      |               |
| <i>Job loss between relative quarter -1 and 1</i>                   |                      |            |                               |            |              |                  |             |               |
| Control Mean  | 0.00                 | 0.30       | 0.14                          | 0.13       | 0.15         | 0.13             | 0.14        | 0.14          |
| Reg Adj. Diff.  | *                    | 0.01       | -0.01                         | 0.04       | -0.001       | 0.02             | 0.01        | 0.004         |
| SE  | *                    | (0.03)     | (0.02)                        | (0.03)     | (0.03)       | (0.02)           | (0.02)      | (0.03)        |
| P-Value of Diff.  | [0.82]               |            | [0.26]                        |            | [0.55]       |                  | [0.83]      |               |
| <i>Cont. unemployment between relative quarter -1 and 1</i>         |                      |            |                               |            |              |                  |             |               |
| Control Mean  | 0.83                 | 0.19       | 0.54                          | 0.54       | 0.60         | 0.49             | 0.54        | 0.54          |
| Reg Adj. Diff.  | 0.04                 | 0.03       | 0.04                          | -0.02      | 0.01         | 0.02             | 0.04        | -0.001        |
| SE  | (0.03)               | (0.03)     | (0.03)                        | (0.04)     | (0.04)       | (0.03)           | (0.03)      | (0.04)        |
| P-Value of Diff.  | [0.84]               |            | [0.33]                        |            | [0.82]       |                  | [0.48]      |               |
| N - Control Mean  | 534                  | 443        | 575                           | 402        | 413          | 564              | 579         | 398           |
| N - Treatment   | 322                  | 299        | 402                           | 219        | 253          | 368              | 378         | 243           |

*Notes:* This table reports tests for heterogeneous treatment effects on various employment measures from Washington State UI records. Employed at baseline is defined as ever having positive UI-covered earnings in the 4 quarters pre-enrollment. Subsidy duration is based on the length of anticipated time between card receipt and subsidy expiration. All other variables are defined as before. The coefficient reported in the row “Reg. Adj. Diff” is the estimated treatment effect from equation (1), controlling for randomization regime, race, gender, month of enrollment, and the outcome variable in the quarter (3 months) prior to enrollment for the listed sub-group. Gender and race controls are omitted when we test for heterogeneity by race and gender, respectively. Similarly, we do not control for employment outcomes in the quarter prior to enrollment in columns 1-4. Heteroskedasticity-robust standard errors are reported in parentheses. The difference in treatment effects between pairs of columns is calculated by regressing the outcome variable on the aforementioned controls (a), a treatment variable (b), an indicator for being in the even-numbered column (c), and the interaction of c with b and c with a. The *p*-value of the interaction of the treatment variable with the sub-group of interest is reported in row “P-Value of Diff.”. Identically zero estimates are denoted by “\*”.

Table A.13. Employment Outcomes, Heterogeneity, No Controls

|   | Employed<br>at Baseline |            | Subsidy Duration<br>above Median |            | Race         |                  | Gender      |               |
|---|-------------------------|------------|----------------------------------|------------|--------------|------------------|-------------|---------------|
|   | No<br>(1)               | Yes<br>(2) | No<br>(3)                        | Yes<br>(4) | White<br>(5) | Non-white<br>(6) | Male<br>(7) | Female<br>(8) |
| <i>Hours worked in relative qtr 1</i>                               |                         |            |                                  |            |              |                  |             |               |
| Control Mean  | 42.51                   | 118.19     | 82.71                            | 68.41      | 51.18        | 95.61            | 80.94       | 70.85         |
| Reg Adj. Diff.  | -4.47                   | 11.67      | 7.96                             | 2.89       | 2.70         | 6.58             | -2.86       | 18.02         |
| SE  | (9.08)                  | (15.29)    | (12.39)                          | (11.99)    | (9.85)       | (13.38)          | (11.25)     | (14.68)       |
| P-Value of Diff.  | [0.36]                  |            | [0.77]                           |            | [0.82]       |                  | [0.26]      |               |
| <i>Earnings in relative qtr 1</i>                                   |                         |            |                                  |            |              |                  |             |               |
| Control Mean  | 765.22                  | 2296.13    | 1534.72                          | 1351.62    | 971.76       | 1816.45          | 1564.68     | 1306.19       |
| Reg Adj. Diff.  | -101.48                 | 112.45     | 134.52                           | -72.36     | -54.17       | 96.94            | -159.56     | 353.21        |
| SE  | (160.25)                | (298.96)   | (233.02)                         | (235.02)   | (180.27)     | (256.77)         | (204.65)    | (294.99)      |
| P-Value of Diff.  | [0.53]                  |            | [0.53]                           |            | [0.63]       |                  | [0.15]      |               |
| <i>Employed in relative qtr 1</i>                                   |                         |            |                                  |            |              |                  |             |               |
| Control Mean  | 0.17                    | 0.51       | 0.32                             | 0.33       | 0.24         | 0.38             | 0.32        | 0.32          |
| Reg Adj. Diff.  | -0.04                   | -0.03      | -0.03                            | -0.01      | -0.01        | -0.04            | -0.04       | -0.002        |
| SE  | (0.03)                  | (0.04)     | (0.03)                           | (0.04)     | (0.03)       | (0.03)           | (0.03)      | (0.04)        |
| P-Value of Diff.  | [0.83]                  |            | [0.75]                           |            | [0.48]       |                  | [0.47]      |               |
| <i>Cont. employment between relative quarter -1 and 1</i>           |                         |            |                                  |            |              |                  |             |               |
| Control Mean  | 0.00                    | 0.42       | 0.18                             | 0.21       | 0.15         | 0.22             | 0.17        | 0.21          |
| Reg Adj. Diff.  | *                       | -0.02      | 0.005                            | 0.003      | -0.02        | 0.02             | -0.02       | 0.04          |
| SE  | *                       | (0.04)     | (0.02)                           | (0.03)     | (0.03)       | (0.03)           | (0.02)      | (0.03)        |
| P-Value of Diff.  | [0.61]                  |            | [0.98]                           |            | [0.35]       |                  | [0.18]      |               |
| <i>-Cont. sector employment between relative quarter -1 and 1</i>   |                         |            |                                  |            |              |                  |             |               |
| Control Mean  | 0.01                    | 0.29       | 0.12                             | 0.15       | 0.10         | 0.16             | 0.12        | 0.16          |
| Reg Adj. Diff.  | 0.003                   | -0.02      | -0.00                            | 0.01       | 0.02         | -0.01            | -0.02       | 0.04          |
| SE  | (0.01)                  | (0.03)     | (0.02)                           | (0.03)     | (0.02)       | (0.02)           | (0.02)      | (0.03)        |
| P-Value of Diff.  | [0.59]                  |            | [0.67]                           |            | [0.44]       |                  | [0.12]      |               |
| <i>-Cont. industry employment between relative quarter -1 and 1</i> |                         |            |                                  |            |              |                  |             |               |
| Control Mean  | 0.00                    | 0.24       | 0.09                             | 0.13       | 0.08         | 0.12             | 0.09        | 0.13          |
| Reg Adj. Diff.  | *                       | -0.01      | 0.01                             | 0.001      | 0.003        | 0.003            | -0.01       | 0.03          |
| SE  | *                       | (0.03)     | (0.02)                           | (0.03)     | (0.02)       | (0.02)           | (0.02)      | (0.03)        |
| P-Value of Diff.  | [0.83]                  |            | [0.89]                           |            | [1.00]       |                  | [0.29]      |               |
| <i>Job gain between relative quarter -1 and 1</i>                   |                         |            |                                  |            |              |                  |             |               |
| Control Mean  | 0.17                    | 0.09       | 0.14                             | 0.12       | 0.09         | 0.16             | 0.15        | 0.11          |
| Reg Adj. Diff.  | -0.04                   | -0.01      | -0.03                            | -0.02      | 0.01         | -0.06            | -0.02       | -0.04         |
| SE  | (0.03)                  | (0.02)     | (0.02)                           | (0.03)     | (0.02)       | (0.02)           | (0.02)      | (0.02)        |
| P-Value of Diff.  | [0.38]                  |            | [0.62]                           |            | [0.04]       |                  | [0.52]      |               |
| <i>Job loss between relative quarter -1 and 1</i>                   |                         |            |                                  |            |              |                  |             |               |
| Control Mean  | 0.00                    | 0.30       | 0.14                             | 0.13       | 0.15         | 0.13             | 0.14        | 0.14          |
| Reg Adj. Diff.  | *                       | 0.002      | -0.01                            | 0.04       | -0.002       | 0.02             | 0.01        | 0.01          |
| SE  | *                       | (0.03)     | (0.02)                           | (0.03)     | (0.03)       | (0.02)           | (0.02)      | (0.03)        |
| P-Value of Diff.  | [0.99]                  |            | [0.28]                           |            | [0.57]       |                  | [0.98]      |               |
| <i>Cont. unemployment between relative quarter -1 and 1</i>         |                         |            |                                  |            |              |                  |             |               |
| Control Mean  | 0.83                    | 0.19       | 0.54                             | 0.54       | 0.60         | 0.49             | 0.54        | 0.54          |
| Reg Adj. Diff.  | 0.04                    | 0.03       | 0.03                             | -0.02      | 0.01         | 0.02             | 0.03        | -0.01         |
| SE  | (0.03)                  | (0.03)     | (0.03)                           | (0.04)     | (0.04)       | (0.03)           | (0.03)      | (0.04)        |
| P-Value of Diff.  | [0.80]                  |            | [0.29]                           |            | [0.83]       |                  | [0.49]      |               |
| N - Control Mean  | 534                     | 443        | 575                              | 402        | 413          | 564              | 579         | 398           |
| N - Treatment   | 322                     | 299        | 402                              | 219        | 253          | 368              | 378         | 243           |

*Notes:* This table reports tests for heterogeneous treatment effects on various employment measures from Washington State UI records. Employed at baseline is defined as ever having positive UI-covered earnings in the 4 quarters pre-enrollment. Subsidy duration is based on the length of anticipated time between card receipt and subsidy expiration. All other variables are defined as before. The coefficient reported in the row “Reg. Adj. Diff.” is the estimated treatment effect from equation (1), controlling only for randomization regime. Heteroskedasticity-robust standard errors are reported in parentheses. The difference in treatment effects between pairs of columns are calculated by regressing the outcome variable on the randomization regime, a treatment variable, an indicator for being in the even numbered column, and the interaction of these last two variables. The  $p$ -value of the interaction term is reported in the row “P-Value of Diff.”. Identically zero estimates are denoted by “\*”.



Table A.14. Public Benefits, Health, and Criminal Justice Outcomes, Heterogeneity, With Controls

|                                       | Employed<br>at Baseline |            | Subsidy Duration<br>above Median |            | Race         |                  | Gender      |               |
|---------------------------------------|-------------------------|------------|----------------------------------|------------|--------------|------------------|-------------|---------------|
|                                       | No<br>(1)               | Yes<br>(2) | No<br>(3)                        | Yes<br>(4) | White<br>(5) | Non-white<br>(6) | Male<br>(7) | Female<br>(8) |
| <i>Any food or cash benefits</i>      |                         |            |                                  |            |              |                  |             |               |
| Control Mean                          | 0.94                    | 0.92       | 0.93                             | 0.94       | 0.96         | 0.91             | 0.93        | 0.93          |
| Reg Adj. Diff                         | -0.01                   | 0.01       | -0.01                            | 0.01       | 0.0001       | -0.004           | -0.003      | 0.01          |
| SE                                    | (0.01)                  | (0.02)     | (0.01)                           | (0.02)     | (0.01)       | (0.02)           | (0.01)      | (0.02)        |
| P-Value of Diff.                      | [0.28]                  |            | [0.45]                           |            | [0.91]       |                  | [0.61]      |               |
| <i>SNAP</i>                           |                         |            |                                  |            |              |                  |             |               |
| Control Mean                          | 0.92                    | 0.90       | 0.90                             | 0.92       | 0.94         | 0.89             | 0.92        | 0.90          |
| Reg Adj. Diff                         | -0.01                   | 0.01       | -0.01                            | 0.01       | 0.01         | -0.01            | 0.001       | 0.002         |
| SE                                    | (0.02)                  | (0.02)     | (0.02)                           | (0.02)     | (0.02)       | (0.02)           | (0.01)      | (0.02)        |
| P-Value of Diff.                      | [0.42]                  |            | [0.45]                           |            | [0.73]       |                  | [0.96]      |               |
| <i>TANF</i>                           |                         |            |                                  |            |              |                  |             |               |
| Control Mean                          | 0.01                    | 0.03       | 0.02                             | 0.02       | 0.01         | 0.03             | 0.01        | 0.05          |
| Reg Adj. Diff                         | 0.003                   | -0.01      | 0.01                             | -0.01      | -0.01        | 0.003            | -0.01       | 0.01          |
| SE                                    | (0.01)                  | (0.01)     | (0.01)                           | (0.01)     | (0.01)       | (0.01)           | (0.005)     | (0.02)        |
| P-Value of Diff.                      | [0.49]                  |            | [0.25]                           |            | [0.46]       |                  | [0.44]      |               |
| <i>Other benefits</i>                 |                         |            |                                  |            |              |                  |             |               |
| Control Mean                          | 0.16                    | 0.09       | 0.12                             | 0.15       | 0.16         | 0.11             | 0.15        | 0.11          |
| Reg Adj. Diff                         | -0.00                   | -0.03      | -0.01                            | -0.02      | -0.04        | -0.004           | -0.02       | 0.003         |
| SE                                    | (0.02)                  | (0.02)     | (0.02)                           | (0.02)     | (0.02)       | (0.02)           | (0.02)      | (0.02)        |
| P-Value of Diff.                      | [0.37]                  |            | [0.73]                           |            | [0.33]       |                  | [0.33]      |               |
| <i>Cost to Medicaid, cumulative</i>   |                         |            |                                  |            |              |                  |             |               |
| Control Mean                          | 982.32                  | 966.65     | 1003.86                          | 934.24     | 1216.11      | 798.81           | 916.96      | 1059.96       |
| Reg Adj. Diff                         | 293.19                  | -324.91    | -103.55                          | 141.92     | 27.82        | -13.35           | 68.19       | -112.47       |
| SE                                    | (173.41)                | (135.83)   | (126.22)                         | (208.01)   | (204.22)     | (123.35)         | (153.22)    | (146.12)      |
| P-Value of Diff.                      | [0.01]                  |            | [0.31]                           |            | [1.00]       |                  | [0.39]      |               |
| <i>Any Medicaid visit, cumulative</i> |                         |            |                                  |            |              |                  |             |               |
| Control Mean                          | 0.37                    | 0.32       | 0.34                             | 0.35       | 0.43         | 0.29             | 0.33        | 0.37          |
| Reg Adj. Diff                         | -0.01                   | -0.02      | -0.01                            | -0.04      | -0.08        | 0.03             | -0.02       | -0.02         |
| SE                                    | (0.03)                  | (0.03)     | (0.03)                           | (0.03)     | (0.03)       | (0.03)           | (0.03)      | (0.03)        |
| P-Value of Diff.                      | [0.70]                  |            | [0.49]                           |            | [0.01]       |                  | [0.82]      |               |
| <i>-Emergency outpatient</i>          |                         |            |                                  |            |              |                  |             |               |
| Control Mean                          | 0.26                    | 0.23       | 0.25                             | 0.25       | 0.29         | 0.21             | 0.25        | 0.24          |
| Reg Adj. Diff                         | 0.01                    | -0.01      | 0.0001                           | -0.01      | -0.05        | 0.03             | 0.01        | -0.02         |
| SE                                    | (0.02)                  | (0.03)     | (0.02)                           | (0.03)     | (0.03)       | (0.02)           | (0.02)      | (0.03)        |
| P-Value of Diff.                      | [0.55]                  |            | [0.73]                           |            | [0.03]       |                  | [0.35]      |               |
| <i>-Emergency inpatient</i>           |                         |            |                                  |            |              |                  |             |               |
| Control Mean                          | 0.04                    | 0.05       | 0.04                             | 0.05       | 0.06         | 0.03             | 0.05        | 0.04          |
| Reg Adj. Diff                         | 0.02                    | -0.02      | -0.005                           | -0.002     | -0.01        | 0.004            | -0.004      | -0.0005       |
| SE                                    | (0.01)                  | (0.01)     | (0.01)                           | (0.01)     | (0.01)       | (0.01)           | (0.01)      | (0.01)        |
| P-Value of Diff.                      | [0.02]                  |            | [0.87]                           |            | [0.23]       |                  | [0.81]      |               |
| <i>-Non-emergency inpatient</i>       |                         |            |                                  |            |              |                  |             |               |
| Control Mean                          | 0.02                    | 0.02       | 0.02                             | 0.03       | 0.03         | 0.02             | 0.01        | 0.04          |
| Reg Adj. Diff                         | 0.01                    | -0.01      | 0.003                            | 0.01       | 0.01         | -0.002           | 0.01        | 0.003         |
| SE                                    | (0.01)                  | (0.01)     | (0.01)                           | (0.01)     | (0.01)       | (0.01)           | (0.01)      | (0.01)        |
| P-Value of Diff.                      | [0.04]                  |            | [0.59]                           |            | [0.22]       |                  | [0.81]      |               |
| <i>-Non-emergency outpatient</i>      |                         |            |                                  |            |              |                  |             |               |
| Control Mean                          | 0.31                    | 0.29       | 0.30                             | 0.29       | 0.37         | 0.24             | 0.28        | 0.33          |
| Reg Adj. Diff                         | -0.02                   | -0.02      | -0.01                            | -0.04      | -0.07        | 0.02             | -0.004      | -0.05         |
| SE                                    | (0.03)                  | (0.03)     | (0.02)                           | (0.03)     | (0.03)       | (0.02)           | (0.02)      | (0.03)        |
| P-Value of Diff.                      | [0.94]                  |            | [0.42]                           |            | [0.05]       |                  | [0.27]      |               |
| <i>Any arrest, cumulative</i>         |                         |            |                                  |            |              |                  |             |               |
| Control Mean                          | 0.17                    | 0.09       | 0.15                             | 0.12       | 0.14         | 0.13             | 0.18        | 0.07          |
| Reg Adj. Diff                         | -0.02                   | -0.01      | -0.02                            | -0.01      | -0.02        | -0.01            | -0.003      | -0.03         |
| SE                                    | (0.02)                  | (0.02)     | (0.02)                           | (0.02)     | (0.02)       | (0.02)           | (0.02)      | (0.01)        |
| P-Value of Diff.                      | [0.47]                  |            | [0.81]                           |            | [0.78]       |                  | [0.30]      |               |
| N - Control Mean                      | 534                     | 443        | 575                              | 402        | 413          | 564              | 579         | 398           |
| N - Treatment                         | 322                     | 299        | 402                              | 219        | 253          | 368              | 378         | 243           |

*Notes:* This table reports tests for heterogeneous treatment effects on benefits use, health, and criminal justice outcomes. Each outcome is measured 3 months post enrollment. Employed at baseline is defined as ever having positive UI-covered earnings in the 4 quarters pre-enrollment. Subsidy duration is based on the length of anticipated time between card receipt and subsidy expiration. All other variables are defined as before. The coefficient reported in the row “Reg. Adj. Diff” is the estimated treatment effect from equation (1), controlling for randomization regime, race, gender, month of enrollment, and the outcome variable in the quarter (3 months) prior to enrollment for the listed sub-group. Gender and race controls are omitted when we test for heterogeneity by race and gender, respectively. Heteroskedasticity-robust standard errors are reported in parentheses. The difference in treatment effects between pairs of columns is calculated by regressing the outcome variable on the aforementioned controls (a), a treatment variable (b), an indicator for being in the even-numbered column (c), and the interaction of c with b and c with a. The *p*-value of the interaction of the treatment variable with the sub-group of interest is reported in row “P-Value of Diff.”.

Table A.15. Public Benefits, Health, and Criminal Justice Outcomes, Heterogeneity, No Controls

|                                       | Employed at Baseline |            | Subsidy Duration above Median |            | Race         |                  | Gender      |               |
|---------------------------------------|----------------------|------------|-------------------------------|------------|--------------|------------------|-------------|---------------|
|                                       | No<br>(1)            | Yes<br>(2) | No<br>(3)                     | Yes<br>(4) | White<br>(5) | Non-white<br>(6) | Male<br>(7) | Female<br>(8) |
| <i>Any food or cash benefits</i>      |                      |            |                               |            |              |                  |             |               |
| Control Mean                          | 0.94                 | 0.92       | 0.93                          | 0.94       | 0.96         | 0.91             | 0.93        | 0.93          |
| Reg Adj. Diff.                        | -0.01                | 0.01       | -0.01                         | 0.01       | -0.01        | 0.001            | -0.01       | 0.003         |
| SE                                    | (0.01)               | (0.02)     | (0.01)                        | (0.02)     | (0.01)       | (0.02)           | (0.01)      | (0.02)        |
| P-Value of Diff.                      | [0.49]               |            | [0.55]                        |            | [0.71]       |                  | [0.67]      |               |
| <i>SNAP</i>                           |                      |            |                               |            |              |                  |             |               |
| Control Mean                          | 0.92                 | 0.90       | 0.90                          | 0.92       | 0.94         | 0.89             | 0.92        | 0.90          |
| Reg Adj. Diff.                        | -0.01                | 0.01       | -0.01                         | 0.01       | 0.001        | -0.001           | -0.004      | 0.002         |
| SE                                    | (0.02)               | (0.02)     | (0.02)                        | (0.02)     | (0.02)       | (0.02)           | (0.01)      | (0.02)        |
| P-Value of Diff.                      | [0.53]               |            | [0.58]                        |            | [0.94]       |                  | [0.84]      |               |
| <i>TANF</i>                           |                      |            |                               |            |              |                  |             |               |
| Control Mean                          | 0.01                 | 0.03       | 0.02                          | 0.02       | 0.01         | 0.03             | 0.01        | 0.05          |
| Reg Adj. Diff.                        | 0.01                 | -0.01      | 0.02                          | -0.01      | -0.01        | 0.01             | -0.002      | 0.02          |
| SE                                    | (0.01)               | (0.01)     | (0.01)                        | (0.01)     | (0.01)       | (0.01)           | (0.01)      | (0.02)        |
| P-Value of Diff.                      | [0.20]               |            | [0.10]                        |            | [0.23]       |                  | [0.36]      |               |
| <i>Other benefits</i>                 |                      |            |                               |            |              |                  |             |               |
| Control Mean                          | 0.16                 | 0.09       | 0.12                          | 0.15       | 0.16         | 0.11             | 0.15        | 0.11          |
| Reg Adj. Diff.                        | -0.02                | -0.02      | -0.01                         | -0.03      | -0.05        | -0.001           | -0.03       | -0.01         |
| SE                                    | (0.03)               | (0.02)     | (0.02)                        | (0.03)     | (0.03)       | (0.02)           | (0.02)      | (0.02)        |
| P-Value of Diff.                      | [0.91]               |            | [0.65]                        |            | [0.17]       |                  | [0.63]      |               |
| <i>Cost to Medicaid, cumulative</i>   |                      |            |                               |            |              |                  |             |               |
| Control Mean                          | 982.32               | 966.65     | 1003.86                       | 934.24     | 1216.11      | 798.81           | 916.96      | 1059.96       |
| Reg Adj. Diff.                        | 291.56               | -289.33    | -97.06                        | 192.97     | 30.68        | 11.68            | 97.62       | -112.21       |
| SE                                    | (179.57)             | (135.44)   | (127.97)                      | (211.28)   | (214.01)     | (122.09)         | (160.53)    | (147.23)      |
| P-Value of Diff.                      | [0.01]               |            | [0.24]                        |            | [0.94]       |                  | [0.34]      |               |
| <i>Any Medicaid visit, cumulative</i> |                      |            |                               |            |              |                  |             |               |
| Control Mean                          | 0.37                 | 0.32       | 0.34                          | 0.35       | 0.43         | 0.29             | 0.33        | 0.37          |
| Reg Adj. Diff.                        | -0.02                | -0.03      | -0.02                         | -0.03      | -0.09        | 0.03             | -0.02       | -0.03         |
| SE                                    | (0.03)               | (0.03)     | (0.03)                        | (0.03)     | (0.03)       | (0.03)           | (0.03)      | (0.03)        |
| P-Value of Diff.                      | [0.78]               |            | [0.92]                        |            | [0.01]       |                  | [0.79]      |               |
| <i>-Emergency outpatient</i>          |                      |            |                               |            |              |                  |             |               |
| Control Mean                          | 0.26                 | 0.23       | 0.25                          | 0.25       | 0.29         | 0.21             | 0.25        | 0.24          |
| Reg Adj. Diff.                        | 0.01                 | -0.02      | 0.0001                        | -0.01      | -0.05        | 0.03             | 0.01        | -0.02         |
| SE                                    | (0.03)               | (0.03)     | (0.02)                        | (0.03)     | (0.03)       | (0.02)           | (0.02)      | (0.03)        |
| P-Value of Diff.                      | [0.45]               |            | [0.89]                        |            | [0.04]       |                  | [0.50]      |               |
| <i>-Emergency inpatient</i>           |                      |            |                               |            |              |                  |             |               |
| Control Mean                          | 0.04                 | 0.05       | 0.04                          | 0.05       | 0.06         | 0.03             | 0.05        | 0.04          |
| Reg Adj. Diff.                        | 0.01                 | -0.02      | -0.004                        | -0.0003    | -0.01        | 0.01             | -0.003      | -0.001        |
| SE                                    | (0.01)               | (0.01)     | (0.01)                        | (0.01)     | (0.01)       | (0.01)           | (0.01)      | (0.01)        |
| P-Value of Diff.                      | [0.03]               |            | [0.85]                        |            | [0.26]       |                  | [0.86]      |               |
| <i>-Non-emergency inpatient</i>       |                      |            |                               |            |              |                  |             |               |
| Control Mean                          | 0.02                 | 0.02       | 0.02                          | 0.03       | 0.03         | 0.02             | 0.01        | 0.04          |
| Reg Adj. Diff.                        | 0.01                 | -0.01      | 0.002                         | 0.01       | 0.01         | -0.001           | 0.01        | 0.002         |
| SE                                    | (0.01)               | (0.01)     | (0.01)                        | (0.01)     | (0.01)       | (0.01)           | (0.01)      | (0.01)        |
| P-Value of Diff.                      | [0.05]               |            | [0.60]                        |            | [0.20]       |                  | [0.70]      |               |
| <i>-Non-emergency outpatient</i>      |                      |            |                               |            |              |                  |             |               |
| Control Mean                          | 0.31                 | 0.29       | 0.30                          | 0.29       | 0.37         | 0.24             | 0.28        | 0.33          |
| Reg Adj. Diff.                        | -0.03                | -0.03      | -0.02                         | -0.03      | -0.08        | 0.01             | -0.01       | -0.05         |
| SE                                    | (0.03)               | (0.03)     | (0.03)                        | (0.03)     | (0.03)       | (0.03)           | (0.02)      | (0.03)        |
| P-Value of Diff.                      | [0.99]               |            | [0.80]                        |            | [0.02]       |                  | [0.39]      |               |
| <i>Any arrest, cumulative</i>         |                      |            |                               |            |              |                  |             |               |
| Control Mean                          | 0.17                 | 0.09       | 0.15                          | 0.12       | 0.14         | 0.13             | 0.18        | 0.07          |
| Reg Adj. Diff.                        | -0.02                | -0.01      | -0.03                         | -0.01      | -0.02        | -0.02            | -0.01       | -0.03         |
| SE                                    | (0.02)               | (0.02)     | (0.02)                        | (0.02)     | (0.02)       | (0.02)           | (0.02)      | (0.02)        |
| P-Value of Diff.                      | [0.72]               |            | [0.46]                        |            | [0.78]       |                  | [0.37]      |               |
| N - Control Mean                      | 534                  | 443        | 575                           | 402        | 413          | 564              | 579         | 398           |
| N - Treatment                         | 322                  | 299        | 402                           | 219        | 253          | 368              | 378         | 243           |

Notes: This table reports tests for heterogeneous treatment effects on benefits use, health, and criminal justice outcomes. Each outcome is measured 3 months post enrollment. Employed at baseline is defined as ever having positive UI-covered earnings in the 4 quarters pre-enrollment. Subsidy duration is based on the length of anticipated time between card receipt and subsidy expiration. All other variables are defined as before. The coefficient reported in the row “Reg. Adj. Diff” is the estimated treatment effect from equation (1), controlling only for randomization regime. Heteroskedasticity-robust standard errors are reported in parentheses. The difference in treatment effects between pairs of columns are calculated by regressing the outcome variable on the randomization regime, a treatment variable, an indicator for being in the even numbered column, and the interaction of these last two variables. The  $p$ -value of the interaction term is reported in the row “P-Value of Diff.”.

Table A.16. Financial Health, Heterogeneity, With Controls

|   | Credit Score |        | Debt         |        | Inquiries    |        |
|---|--------------|--------|--------------|--------|--------------|--------|
|   | above Median |        | below Median |        | below Median |        |
|   | No           | Yes    | No           | Yes    | No           | Yes    |
|   | (1)          | (2)    | (3)          | (4)    | (5)          | (6)    |
| <i>Balance in collection</i>            |              |        |              |        |              |        |
| Control Mean                            | 2068         | 1275   | 2687         | 261    | 1801         | 1494   |
| Reg. Adj. Diff.                         | -289         | -239   | -326         | 70     | -606         | -84    |
| SE                                      | (399)        | (230)  | (382)        | (79)   | (332)        | (297)  |
| P-Value of Diff.                        | [0.88]       |        | [0.30]       |        | [0.24]       |        |
| <i>Credit score</i>                     |              |        |              |        |              |        |
| Control Mean                            | 434          | 553    | 492          | 512    | 486          | 511    |
| Reg. Adj. Diff.                         | 11           | 14     | 15           | -9     | 12           | 6      |
| SE                                      | (23)         | (16)   | (17)         | (24)   | (21)         | (19)   |
| P-Value of Diff.                        | [0.95]       |        | [0.47]       |        | [0.77]       |        |
| <i>Total inquiries in past 3 months</i> |              |        |              |        |              |        |
| Control Mean                            | 0.37         | 0.32   | 0.38         | 0.29   | 0.45         | 0.26   |
| Reg. Adj. Diff.                         | -0.06        | -0.10  | -0.12        | -0.06  | -0.15        | -0.05  |
| SE                                      | (0.06)       | (0.05) | (0.06)       | (0.05) | (0.07)       | (0.05) |
| P-Value of Diff.                        | [0.68]       |        | [0.35]       |        | [0.21]       |        |
| N - Control Mean                        | 215          | 277    | 276          | 216    | 205          | 287    |
| N - Treatment                           | 159          | 175    | 176          | 158    | 126          | 208    |

*Notes:* This table reports tests for heterogeneous treatment effects on financial health. Each financial health outcome is measured 1 quarter (approximately 3 months) post enrollment. Above median credit score, below median debt balance, and below median inquiries measures are calculated among the 4 quarters prior to enrollment. The coefficient reported in the row “Reg. Adj. Diff.” is the estimated treatment effect from equation (1), controlling for randomization regime, age, age squared, enrollment month, and office of enrollment. Heteroskedasticity-robust standard errors are reported in parentheses. The difference in treatment effects between pairs of columns is calculated by regressing the outcome variable on the aforementioned controls (a), a treatment variable (b), an indicator for being in the even-numbered column (c), and the interaction of c with b and c with a. The *p*-value of the interaction of the treatment variable with the sub-group of interest is reported in row “P-Value of Diff.”.

Table A.17. Financial Health, Heterogeneity, No Controls

|   | Credit Score<br>above Median |            | Debt<br>below Median |            | Inquiries<br>below Median |            |
|---|------------------------------|------------|----------------------|------------|---------------------------|------------|
|   | No<br>(1)                    | Yes<br>(2) | No<br>(3)            | Yes<br>(4) | No<br>(5)                 | Yes<br>(6) |
| <i>Balance in collection</i>            |                              |            |                      |            |                           |            |
| Control Mean                            | 2068                         | 1275       | 2687                 | 261        | 1801                      | 1494       |
| Reg. Adj. Diff.                         | -139                         | -344       | -288                 | 23         | -567                      | 6          |
| SE                                      | (382)                        | (239)      | (364)                | (87)       | (328)                     | (295)      |
| P-Value of Diff.                        | [0.65]                       |            | [0.41]               |            | [0.19]                    |            |
| <i>Credit score</i>                     |                              |            |                      |            |                           |            |
| Control Mean                            | 434                          | 553        | 492                  | 512        | 486                       | 511        |
| Reg. Adj. Diff.                         | 12                           | 16         | 16                   | -2         | 12                        | 5          |
| SE                                      | (21)                         | (16)       | (15)                 | (24)       | (21)                      | (18)       |
| P-Value of Diff.                        | [0.86]                       |            | [0.52]               |            | [0.80]                    |            |
| <i>Total inquiries in past 3 months</i> |                              |            |                      |            |                           |            |
| Control Mean                            | 0.37                         | 0.32       | 0.38                 | 0.29       | 0.45                      | 0.26       |
| Reg. Adj. Diff.                         | -0.09                        | -0.11      | -0.12                | -0.06      | -0.16                     | -0.05      |
| SE                                      | (0.06)                       | (0.05)     | (0.05)               | (0.05)     | (0.07)                    | (0.04)     |
| P-Value of Diff.                        | [0.75]                       |            | [0.49]               |            | [0.19]                    |            |
| N - Control                             | 215                          | 277        | 276                  | 216        | 205                       | 287        |
| N - Treatment                           | 159                          | 175        | 176                  | 158        | 126                       | 208        |

*Notes:* This table reports tests for heterogeneous treatment effects on financial health. Each financial health outcome is measured 1 quarter (approximately 3 months) post enrollment. Above median credit score, below median debt balance, and below median inquiries measures are calculated among the 4 quarters prior to enrollment. The coefficient reported in the row “Reg. Adj. Diff.” is the estimated treatment effect from equation (1), controlling only for randomization regime. Heteroskedasticity-robust standard errors are reported in parentheses. The difference in treatment effects between pairs of columns are calculated by regressing the outcome variable on the randomization regime, a treatment variable, an indicator for being in the even numbered column, and the interaction of these last two variables. The  $p$ -value of the interaction term is reported in the row “P-Value of Diff.”.

Table A.18. *Athey and Imbens (2016)* Heterogeneity Tests

| Outcome                  | Num. of Leaves | Leaf Categories (Y/N)   | F-Stat | P-Value |
|--------------------------|----------------|---|--------|---------|
| Paid hours worked        |                |   |        |         |
| – 1 Qtr Post Enrollment  | 1              | NA  | NA     | NA      |
| – 2 Qtr Post Enrollment  | 1              | NA  | NA     | NA      |
| – 3 Qtrs Post Enrollment | 1              | NA  | NA     | NA      |
| Earnings                 |                |   |        |         |
| – 1 Qtr Post Enrollment  | 1              | NA  | NA     | NA      |
| – 2 Qtr Post Enrollment  | 1              | NA  | NA     | NA      |
| – 3 Qtrs Post Enrollment | 1              | NA  | NA     | NA      |
| Employed for pay         |                |   |        |         |
| – 1 Qtr Post Enrollment  | 2              | Ever eligible for Medicaid  | 0.1822 | 0.6696  |
| – 2 Qtr Post Enrollment  | 1              | NA  | NA     | NA      |
| – 3 Qtrs Post Enrollment | 6              | Earnings prior to enrollment (x2)<br>received benefits prior to enrollment (x2)<br>hours worked prior to enrollment   | 1.02   | 0.404   |
| Any arrest               |                |   |        |         |
| – 1 Qtr Post Enrollment  | 6              | HS diploma; sex;<br>received benefits prior to enrollment (x2);<br>eligible for Medicaid prior to enrollment  | 1.5485 | 0.1727  |
| – 2 Qtr Post Enrollment  | 7              | Earnings prior to enrollment<br>received benefits prior to enrollment (x3)<br>any employment prior to enrollment<br>eligible for medicaid prior to enrollment | 0.36   | 0.90    |
| – 3 Qtrs Post Enrollment | 1              | NA  | NA     | NA      |
| Any Medicaid visit       |                |   |        |         |
| – 1 Qtr Post Enrollment  | 1              | NA  | NA     | NA      |
| – 2 Qtr Post Enrollment  | 2              | Any outpatient visit prior to enrollment  | 0.0211 | 0.8846  |
| – 3 Qtrs Post Enrollment | 2              | Any outpatient visit prior to enrollment  | 0.0313 | 0.8596  |
| Credit score             |                |   |        |         |
| – 1 Qtr Post Enrollment  | 1              | NA  | NA     | NA      |
| – 2 Qtr Post Enrollment  | 1              | NA  | NA     | NA      |
| – 3 Qtrs Post Enrollment | 1              | NA  | NA     | NA      |
| Balance in collections   |                |   |        |         |
| – 1 Qtr Post Enrollment  | 1              | NA  | NA     | NA      |
| – 2 Qtr Post Enrollment  | 1              | NA  | NA     | NA      |
| – 3 Qtrs Post Enrollment | 1              | NA  | NA     | NA      |
| Credit inquiries         |                |   |        |         |
| – 1 Qtr Post Enrollment  | 1              | NA  | NA     | NA      |
| – 2 Qtr Post Enrollment  | 1              | NA  | NA     | NA      |
| – 3 Qtrs Post Enrollment | 1              | NA  | NA     | NA      |

*Notes:* This table reports heterogeneity test results obtained by implementing *Athey and Imbens’ (2016)* causal tree package. This package uses a data-driven approach to identify subgroups with shared covariates that have different-sized treatment effects. Subgroups are identified by subsetting the study sample into training and estimation subgroups. All covariates available prior to study enrollment were used as potential covariates for this subsetting. For employment and health outcomes, the set of covariates included race, sex, vehicle ownership, month of enrollment, all outcomes in the 10 quarters before enrollment, and measures of employment “shocks” observed in the year before enrollment, including job gain and job loss. For financial health outcomes, the set of covariates included month of enrollment and all outcomes in the 8 quarters before enrollment. When a meaningful subgroup is identified, it is represented as a different “leaf.” If there is no meaningful heterogeneity found, then there exists only 1 leaf (the full sample). When there is more than one leaf, the third column reports the variable that was identified as having different treatment effects. The fourth and fifth columns report the F-statistic and *p*-value associated with the tests of whether the leaves are statistically different from each other.

Table A.19. Most Common 4-Digit Industry Groups Before Enrollment, Treatment and Control Groups

| Rank | Occupation                          | Share |
|------|-------------------------------------|-------|
| 1    | Unemployed                          | 0.66  |
| 2    | Restaurants and Other Eating Places | 0.065 |
| 3    | Employment Services                 | 0.059 |
| 4    | Individual and Family Services      | 0.016 |
| 5    | Traveler Accommodation              | 0.015 |
| 6    | Grocery Stores                      | 0.012 |
| 7    | Services to Buildings and Dwellings | 0.012 |
| 8    | General Merchandise Stores          | 0.010 |
| 9    | Special Food Services               | 0.010 |
| 10   | Investigation and Security Services | 0.006 |
| 11   | Building Finishing Contractors      | 0.006 |

*Notes:* This table depicts the share of study participants engaged in work in each of the 10 most common 4-digit NAICS industry groups, as well as unemployment, in the 12 quarter prior to study enrollment. The sample is limited to individuals who go through random assignment and match to any Washington State administrative record prior to study enrollment.

Table A.20. Follow-Up Survey Results

|  | (1)     | (2) | (3)       | (4) | (5)           | (6)           |
|--|---------|-----|-----------|-----|---------------|---------------|
|  | Control |     | Treatment |     | Simple Reg.   | Reg.          |
|  | Mean    | N   | Mean      | N   | Adj. Diff.    | Adj. Diff.    |
|  |         |     |           |     | Coef. Est.    | Coef. Est.    |
|  |         |     |           |     | [P-Value]     | {Q-Value}     |
| <i>Well-Being Measures</i>                       |         |     |           |     |               |               |
| Transportation well-being                        | 3.02    | 125 | 3.21      | 124 | 0.21 (0.14)   | 0.25 (0.14)   |
|  |         |     |           |     | [0.13] {1.00} | [0.07] {0.66} |
| Employment well-being                            | 2.52    | 126 | 2.71      | 124 | 0.20 (0.16)   | 0.24 (0.16)   |
|  |         |     |           |     | [0.20] {1.00} | [0.14] {0.66} |
| Financial well-being                             | 2.44    | 126 | 2.68      | 124 | 0.25 (0.16)   | 0.26 (0.17)   |
|  |         |     |           |     | [0.13] {1.00} | [0.13] {0.66} |
| Health well-being                                | 2.98    | 125 | 3.05      | 123 | 0.07 (0.13)   | 0.13 (0.12)   |
|  |         |     |           |     | [0.59] {1.00} | [0.31] {0.78} |
| Housing well-being                               | 2.97    | 125 | 2.99      | 125 | 0.02 (0.14)   | -0.01 (0.14)  |
|  |         |     |           |     | [0.89] {1.00} | [0.97] {1.00} |
| Education well-being                             | 3.36    | 122 | 3.32      | 124 | -0.03 (0.12)  | -0.04 (0.12)  |
|  |         |     |           |     | [0.78] {1.00} | [0.73] {1.00} |
| <i>Share of Public transit trips, by Purpose</i> |         |     |           |     |               |               |
| Share of transit trips for work                  | 0.23    | 44  | 0.42      | 53  | 0.20 (0.11)   | 0.21 (0.11)   |
|  |         |     |           |     | [0.07] {1.00} | [0.05] {0.66} |
| Share of transit trips for health                | 0.08    | 44  | 0.10      | 53  | 0.02 (0.06)   | 0.02 (0.07)   |
|  |         |     |           |     | [0.77] {1.00} | [0.76] {1.00} |
| Share of transit trips for public benefits       | 0.08    | 44  | 0.05      | 53  | -0.03 (0.06)  | -0.04 (0.07)  |
|  |         |     |           |     | [0.65] {1.00} | [0.52] {0.92} |
| Share of transit trips for shopping              | 0.31    | 44  | 0.46      | 53  | 0.15 (0.13)   | 0.16 (0.13)   |
|  |         |     |           |     | [0.26] {1.00} | [0.20] {0.74} |
| Share of transit trips for errands               | 0.36    | 44  | 0.15      | 53  | -0.21 (0.12)  | -0.26 (0.13)  |
|  |         |     |           |     | [0.08] {1.00} | [0.04] {0.66} |
| Share of transit trips for family/friends        | 0.21    | 44  | 0.12      | 53  | -0.09 (0.09)  | -0.07 (0.11)  |
|  |         |     |           |     | [0.33] {1.00} | [0.52] {0.92} |
| Share of transit trips for recreation            | 0.17    | 44  | 0.15      | 53  | -0.01 (0.09)  | 0.01 (0.08)   |
|  |         |     |           |     | [0.93] {1.00} | [0.87] {1.00} |
| Share of transit trips for religious/community   | 0.00    | 44  | 0.02      | 53  | 0.02 (0.02)   | 0.02 (0.02)   |
|  |         |     |           |     | [0.32] {1.00} | [0.34] {0.78} |
| Share of transit trips for school                | 0.05    | 44  | 0.01      | 53  | -0.03 (0.04)  | -0.05 (0.06)  |
|  |         |     |           |     | [0.45] {1.00} | [0.38] {0.78} |
| Share of transit trips for other purpose         | 0.08    | 44  | 0.03      | 53  | -0.05 (0.04)  | -0.04 (0.04)  |
|  |         |     |           |     | [0.21] {1.00} | [0.32] {0.78} |

*Notes:* This table shows outcomes from self-reported surveys conducted by phone and by web in the year following study enrollment for cohort 2. The survey began in March 2020 and continued through December 2020; however, this table only reports results from surveys during which the treatment is effective (prior to March 18, 2020 and after October 1, 2020). The upper panel reports well-being measures where participants are asked to describe how their well-being in certain areas has changed in the past 2 months, with responses placed on a 1-5 Likert scale (1 being “much worse” and 5 being “much better”). The upper panel reports responses from 250 respondents. The sample size for some fields is smaller (e.g. 246 respondents for education) due to individuals responding that they do not know or that the field is not applicable. The lower panel shows the share of public transit trips for each trip purpose conditional on taking any public transit trip; of the 250 respondents, 97 report taking at least one public transit trip. Column (5) reports the regression-adjusted difference in means between columns (1) and (3), controlling for the randomization regime. Column (6) additionally controls for month of enrollment and location of study enrollment. Heteroskedasticity-robust standard errors are reported in parentheses and the associated  $p$ -values are reported in brackets. Sharpened FDR  $q$ -values that adjust for multiple hypothesis testing are reported in braces.