Fighting Crime in the Cradle: The Effects of Early Childhood Access to Nutritional Assistance

Andrew Barr and Alexander A. Smith

Online Appendix
Online Appendix A: Supplementary Figures and Tables

Figure A1: North Carolina County Food Stamp Availability by Year

Note: Dark grey counties are those with a FSP in the given year according to FSP administrative data obtained from Hoynes and Schanzenbach (2009).
Figure A2: Event Study for Violent Crimes from UCR

![Graph Image]

Note: Circles indicate coefficients on indicator variables for a cohort’s implied age at FSP introduction in a county. Observations are at the county by birth cohort by age level. The dependent variable is the number of arrests per 100 individuals in a county cohort who are arrested at a particular age. All specifications include birth year, age, and county fixed effects as well as baseline county characteristics (1960) interacted with a trend in birth year. Baseline county characteristics include: percent of land in farming, percent of people living in families with less than $3,000, percent of population in urban area, percent black, percent less than age 5, percent greater than age 65, and percent employment in agriculture. Standard errors are clustered at the county level. The sample is restricted to individuals age 18-24. Sample restricted to agencies accounting for at least 20% of a county’s population.
Figure A3: All Crimes: Randomization Inference (NC Data)

Note: The figure plots the smoothed distribution of coefficient estimates of 0-5 FS Exposure for 1000 random assignments of the timing (start month and year) of the introduction of Food Stamps in each county. The vertical line indicates the coefficient estimate using the actual timing of Food Stamp introduction in each county. P-value presented is the two-tailed statistic calculated as the share of coefficient estimates obtained under random assignment of Food Stamp introduction timing that are larger in absolute magnitude than the estimate using the actual timing of introduction.

Figure A4: Violent Crimes: Randomization Inference (NC Data)

Note: The figure plots the smoothed distribution of coefficient estimates of 0-5 FS Exposure for 1000 random assignments of the timing (start month and year) of the introduction of Food Stamps in each county. The vertical line indicates the coefficient estimate using the actual timing of Food Stamp introduction in each county. P-value presented is the two-tailed statistic calculated as the share of coefficient estimates obtained under random assignment of Food Stamp introduction timing that are larger in absolute magnitude than the estimate using the actual timing of introduction.
**Figure A5: Violent Crimes: Randomization Inference (UCR Data)**

![Violent Crime Distribution](image)

**Note:** The figure plots the smoothed distribution of coefficient estimates of 0-5 FS Exposure for 1000 random assignments of the timing (start year) of the introduction of Food Stamps in each county. The vertical line indicates the coefficient estimate using the actual timing of Food Stamp introduction in each county. P-value presented is the two-tailed statistic calculated as the share of coefficient estimates obtained under random assignment of Food Stamp introduction timing that are larger in absolute magnitude than the estimate using the actual timing of introduction.
Figure A6: Exploring Endogeneity of Month of Food Stamp Adoption

Note: Each scatter plot shows the relationship between baseline (1960) county characteristics and the month of FSP introduction in that county. The data are at the county-level and contain 99 (out of 100) counties in North Carolina for which the relevant information was available. Bubble size and fitted line are weighted by number of births in each county in 1960.
Figure A7: Exploring Endogeneity of Month of Food Stamp Adoption

Note: Each scatter plot shows the relationship between baseline (1960) county characteristics and the month of FSP introduction in that county. The data are at the county-level and contain 99 (out of 100) counties in North Carolina for which the relevant information was available. The conviction rate (or change in conviction rate) variables are indexes predicted by baseline county characteristics. Bubble size and fitted line are weighted by number of births in each county in 1960.
Figure A8: Exploring Endogeneity of Order of Food Stamp Adoption

Note: Each scatter plot shows the relationship between baseline (1960) county characteristics and the order of FSP introduction in that county. The data are at the county-level and contain 99 (out of 100) counties in North Carolina for which the relevant information was available. Bubble size and fitted line are weighted by number of births in each county in 1960.
Figure A9: Exploring Endogeneity of Order of Food Stamp Adoption

![Scatter plots showing relationships between various indicators and order of FSP introduction.]

Note: Each scatter plot shows the relationship between baseline (1960) county characteristics and the order of FSP introduction in that county. The data are at the county-level and contain 99 (out of 100) counties in North Carolina for which the relevant information was available. The conviction rate (or change in conviction rate) variables are indexes predicted by baseline county characteristics. Bubble size and fitted line are weighted by number of births in each county in 1960.
Figure A10: Extended Event Study for Any Conviction by Age 24 (NC Data)

Note: Circles indicate coefficients on indicator variables for a cohort’s implied age at FSP introduction in a county (negative ages reflect cohorts that were born after FSP introduction). Observations are at the birth county by birth month level. The dependent variable is the fraction of individuals born in a particular county and birth cohort who were convicted of a crime by age 24. Regressions include birth month cohort and county fixed effects. Standard errors are clustered at the birth county level. Confidence intervals are excluded as all coefficient estimates are imprecisely estimated.
Table A1: Impacts of FSP Introduction on Infant Low Birth Weight in NC

<table>
<thead>
<tr>
<th></th>
<th>All (1)</th>
<th>White (2)</th>
<th>Non-White (3)</th>
<th>HS Dropout (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSP Access</td>
<td>-0.0019</td>
<td>-0.0005</td>
<td>-0.0050</td>
<td>-0.0039</td>
</tr>
<tr>
<td>(0.0019)</td>
<td>(0.0024)</td>
<td>(0.0041)</td>
<td>(0.0031)</td>
<td></td>
</tr>
<tr>
<td>Percent of Mean</td>
<td>-2.1%</td>
<td>-0.7%</td>
<td>-3.7%</td>
<td>-3.5%</td>
</tr>
<tr>
<td>Mean</td>
<td>0.09</td>
<td>0.07</td>
<td>0.14</td>
<td>0.11</td>
</tr>
<tr>
<td>Obs</td>
<td>636,817</td>
<td>446,661</td>
<td>190,073</td>
<td>216,556</td>
</tr>
</tbody>
</table>

Note: Each column represents a separate OLS regression. The estimation sample includes observations at the individual level for 1968-1974 (years when detailed birth information is available) for births in North Carolina. FSP Access reflects whether FSP is available at birth for a given county-month cohort. The dependent variable is an indicator for low birth weight. All specifications include birth county and birth month fixed effects as well as baseline county characteristics (1960) interacted with a trend in birth month. Baseline (1960) birth county characteristics include: percent of land in farming, percent of people living in families with less than $3,000, percent of population in urban area, percent black, percent less than age 5, percent greater than age 65, and percent of employment in agriculture. Standard errors clustered at the birth county-level are in parentheses. Significance levels indicated by: * (p < 0.10) **(p < 0.05), *** (p < 0.01).
Table A2: Foodstamps in Early Childhood and Rate of Crime Conviction in NC by Age 35

<table>
<thead>
<tr>
<th></th>
<th>Any Crime</th>
<th>Violent Crime</th>
<th>Property Crime</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>Any Conviction</td>
<td>-0.015*</td>
<td>-0.013*</td>
<td>-0.008**</td>
</tr>
<tr>
<td></td>
<td>(0.009)</td>
<td>(0.008)</td>
<td>(0.003)</td>
</tr>
<tr>
<td>Mean</td>
<td>0.144</td>
<td>0.144</td>
<td>0.032</td>
</tr>
<tr>
<td>Felony Conviction</td>
<td>-0.011**</td>
<td>-0.010**</td>
<td>-0.003**</td>
</tr>
<tr>
<td></td>
<td>(0.005)</td>
<td>(0.005)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>Mean</td>
<td>0.068</td>
<td>0.068</td>
<td>0.010</td>
</tr>
<tr>
<td>Obs</td>
<td>13,173</td>
<td>13,173</td>
<td>13,173</td>
</tr>
</tbody>
</table>

Birth County Chars. (1960) x Trend | N | Y | N | Y | N | Y

Note: Each cell represents a separate OLS regression with standard errors clustered at the birth county-level in parentheses. Observations are at the birth county by birth month level and are weighted by the number of births in each county in 1964. The dependent variable is the fraction of individuals in a given birth county-birth month cohort that are later convicted of a crime or particular crime type in NC by age 35. Columns indicate crime types (any, violent, property) and rows indicate severity (any conviction or felony). Mirroring FBI Part I definitions, violent crimes are defined only as offenses containing the words “murder”, “assault”, or “robbery” (rape is not included). Property crimes are defined only as offenses containing the words “burglary” or “larceny”. All specifications include birth county and birth month fixed effects as well as baseline county characteristics interacted with the time trend in birth cohort. Baseline (1960) county characteristics include: percent of land in farming, percent of people living in families with less than $3,000, percent of population in urban area, percent black, percent less than age 5, percent greater than age 65, and percent of employment in agriculture. The sample is restricted to cohorts who were born between 1964 and 1974. Significance levels indicated by: * (p<0.10), **(p<0.05), ***(p<0.01).
Table A3: Impacts of FSP Introduction: Alternative Specification of Treatment

<table>
<thead>
<tr>
<th></th>
<th>Any Crime</th>
<th></th>
<th>Violent Crime</th>
<th></th>
<th>Property Crime</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td>(6)</td>
</tr>
<tr>
<td>FSP Access IU-Birth</td>
<td>-0.018**</td>
<td>-0.014**</td>
<td>-0.007***</td>
<td>-0.005***</td>
<td>-0.004*</td>
<td>-0.004</td>
</tr>
<tr>
<td></td>
<td>(0.007)</td>
<td>(0.007)</td>
<td>(0.003)</td>
<td>(0.002)</td>
<td>(0.002)</td>
<td>(0.003)</td>
</tr>
<tr>
<td>FSP Access Age 0-2</td>
<td>-0.014**</td>
<td>-0.012**</td>
<td>-0.005**</td>
<td>-0.004***</td>
<td>-0.003*</td>
<td>-0.003*</td>
</tr>
<tr>
<td></td>
<td>(0.006)</td>
<td>(0.005)</td>
<td>(0.002)</td>
<td>(0.001)</td>
<td>(0.002)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>FSP Access Age 3-5</td>
<td>-0.007***</td>
<td>-0.008***</td>
<td>-0.003***</td>
<td>-0.003***</td>
<td>-0.002**</td>
<td>-0.003**</td>
</tr>
<tr>
<td></td>
<td>(0.004)</td>
<td>(0.003)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>Mean</td>
<td>0.091</td>
<td>0.091</td>
<td>0.016</td>
<td>0.016</td>
<td>0.023</td>
<td>0.023</td>
</tr>
<tr>
<td>Obs</td>
<td>13,173</td>
<td>13,173</td>
<td>13,173</td>
<td>13,173</td>
<td>13,173</td>
<td>13,173</td>
</tr>
</tbody>
</table>

Birth County Chars. (1960) x Trend N Y N Y N Y

Note: Each column represents a separate OLS regression with standard errors clustered at the birth county-level in parentheses. Observations are at the birth county by birth month level and are weighted by the number of births in each county in 1964. Each row represents a mutually exclusive indicator variable for the timing of first exposure to FSP access: In-utero to birth, birth to age 2, or age 3 to 5. The dependent variable is the fraction of individuals in a given birth county-birth month cohort that are later convicted of a crime or particular crime type in NC by age 24. All specifications include birth county and birth month fixed effects. Baseline (1960) county characteristics include: percent of land in farming, percent of people living in families with less than $3,000, percent of population in urban area, percent black, percent less than age 5, percent greater than age 65, and percent of employment in agriculture. The sample is restricted to individuals born between 1964 and 1974. Significance levels indicated by: * (p<0.10), **(p<0.05), *** (p<0.01).
Table A4: Exploring Endogeneity of Month of Food Stamp Adoption

<table>
<thead>
<tr>
<th></th>
<th>Dependent Variable</th>
<th>FSP Month</th>
<th>% of Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>Mean (2)</td>
<td>Coef (3)</td>
</tr>
<tr>
<td>County Characteristics (1960)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Family Income &lt;3K</td>
<td>37.4</td>
<td>-0.075</td>
<td>-0.2%</td>
</tr>
<tr>
<td></td>
<td>(0.057)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Black</td>
<td>24.6</td>
<td>-0.141**</td>
<td>-0.6%</td>
</tr>
<tr>
<td></td>
<td>(0.034)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Less than Age 5</td>
<td>11.7</td>
<td>-0.002</td>
<td>-0.0%</td>
</tr>
<tr>
<td></td>
<td>(0.003)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Greater than Age 65</td>
<td>6.6</td>
<td>-0.000</td>
<td>-0.0%</td>
</tr>
<tr>
<td></td>
<td>(0.004)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Agricultural Employment</td>
<td>4.3</td>
<td>-0.025*</td>
<td>-0.6%</td>
</tr>
<tr>
<td></td>
<td>(0.014)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Log Population</td>
<td>11.2</td>
<td>0.004</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>(0.004)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Farm Land</td>
<td>52.5</td>
<td>-0.103**</td>
<td>-0.2%</td>
</tr>
<tr>
<td></td>
<td>(0.047)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Urban</td>
<td>40.3</td>
<td>0.076</td>
<td>0.2%</td>
</tr>
<tr>
<td></td>
<td>(0.109)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indexes Constructed from County Characteristics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age 24 Conviction Rate (Born 1974)</td>
<td>11.5</td>
<td>-0.007</td>
<td>-0.1%</td>
</tr>
<tr>
<td></td>
<td>(0.011)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Δ Conviction Rate (1964-1974)</td>
<td>5.1</td>
<td>-0.004</td>
<td>-0.1%</td>
</tr>
<tr>
<td></td>
<td>(0.008)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age 24 Violent Conviction Rate (Born 1974)</td>
<td>2.4</td>
<td>-0.003</td>
<td>-0.1%</td>
</tr>
<tr>
<td></td>
<td>(0.004)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Δ Violent Conviction Rate (1964-1974)</td>
<td>1.4</td>
<td>-0.002</td>
<td>-0.1%</td>
</tr>
<tr>
<td></td>
<td>(0.003)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Estimates show the relationship between baseline (1960) county characteristics and the month of FSP introduction in that county. Each cell represents a separate regression, weighted by number of births in 1964, where the variable in column 1 is the dependent variable and the calendar month (normed to zero in January 1960) of FSP introduction is the sole independent variable. The data are at the county-level and contain 99 (of 100) counties in North Carolina for which the relevant information was available. The indexes are constructed by regressing the crime measure on county characteristics and using those coefficient estimates to predict the crime measure for each county. Robust standard errors are in parentheses.
Table A5: Exploring Endogeneity of Order of Food Stamp Adoption

<table>
<thead>
<tr>
<th></th>
<th>Dependent Variable</th>
<th>FSP Order Coeff</th>
<th>% of Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td><strong>County Characteristics (1960)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Family Income &lt;3K</td>
<td>37.4</td>
<td>-0.111</td>
<td>-0.3%</td>
</tr>
<tr>
<td></td>
<td>(0.074)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Black</td>
<td>24.6</td>
<td>-0.187***</td>
<td>-0.8%</td>
</tr>
<tr>
<td></td>
<td>(0.047)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Less than Age 5</td>
<td>11.7</td>
<td>-0.007*</td>
<td>-0.1%</td>
</tr>
<tr>
<td></td>
<td>(0.004)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Greater than Age 65</td>
<td>6.6</td>
<td>0.003</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>(0.004)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Agricultural Employment</td>
<td>4.3</td>
<td>-0.033*</td>
<td>-0.8%</td>
</tr>
<tr>
<td></td>
<td>(0.017)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Log Population</td>
<td>11.2</td>
<td>0.006</td>
<td>0.1%</td>
</tr>
<tr>
<td></td>
<td>(0.005)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Farm Land</td>
<td>52.5</td>
<td>-0.104*</td>
<td>-0.2%</td>
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<tr>
<td></td>
<td>(0.062)</td>
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<tr>
<td>% Urban</td>
<td>40.3</td>
<td>0.134</td>
<td>0.3%</td>
</tr>
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<td></td>
<td>(0.145)</td>
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<tr>
<td><strong>Indexes Constructed from County Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age 24 Conviction Rate (Born 1974)</td>
<td>11.5</td>
<td>-0.002</td>
<td>-0.0%</td>
</tr>
<tr>
<td></td>
<td>(0.015)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Δ Conviction Rate (1964-1974)</td>
<td>5.1</td>
<td>-0.002</td>
<td>-0.0%</td>
</tr>
<tr>
<td></td>
<td>(0.012)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age 24 Violent Conviction Rate (Born 1974)</td>
<td>2.4</td>
<td>-0.002</td>
<td>-0.1%</td>
</tr>
<tr>
<td></td>
<td>(0.005)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Δ Violent Conviction Rate (1964-1974)</td>
<td>1.4</td>
<td>-0.001</td>
<td>-0.1%</td>
</tr>
<tr>
<td></td>
<td>(0.004)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Estimates show the relationship between baseline (1960) county characteristics and order of FSP introduction in that county. Each cell represents a separate regression, weighted by number of births in 1964, where the variable in column 1 is the dependent variable and the calendar month (normed to zero in January 1960) of FSP introduction is the sole independent variable. The data are at the county-level and contain 98 (of 100) counties in North Carolina for which the relevant information was available. The indexes are constructed by regressing the crime measure on county characteristics and using those coefficient estimates to predict the crime measure for each county. Robust standard errors are in parentheses.
Table A6: Food Stamps in Early Childhood and Rate of Crime Conviction in NC: Additional Robustness

<table>
<thead>
<tr>
<th></th>
<th>Any Crime (1)</th>
<th>Violent Crime (2)</th>
<th>Property Crime (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.091(0.008)</td>
<td>0.016(0.002)</td>
<td>0.004(0.003)</td>
</tr>
<tr>
<td>Obs</td>
<td>13,173</td>
<td>13,173</td>
<td>13,173</td>
</tr>
<tr>
<td>FSP IU-5 Exposure</td>
<td>-0.015***</td>
<td>-0.006***</td>
<td>-0.004</td>
</tr>
<tr>
<td></td>
<td>(0.009)</td>
<td>(0.003)</td>
<td>(0.003)</td>
</tr>
<tr>
<td>Birth County Chars. (1960) x Month-Year FE</td>
<td>Y N</td>
<td>Y N</td>
<td>Y N</td>
</tr>
<tr>
<td>Consol. Statistical Area x Month-Year FE</td>
<td>N Y</td>
<td>N Y</td>
<td>N Y</td>
</tr>
</tbody>
</table>

Note: Each column represents a separate OLS regression with standard errors clustered at the birth county-level in parentheses. Observations are at the birth county by birth month level and are weighted by the number of births in each county in 1964. The dependent variable is the fraction of individuals in a given birth county-birth month cohort that are later convicted of a crime or particular crime type in NC by age 24. All specifications include birth county and birth month fixed effects. Baseline (1960) county characteristics include: percent of land in farming, percent of people living in families with less than $3,000, percent of population in urban area, percent black, percent less than age 5, percent greater than age 65, and percent of employment in agriculture. Consolidated Statistical Areas (CSA) are defined by the U.S. Census Bureau and consist of two or more adjacent metropolitan and micropolitan statistical areas that have substantial employment interchange. Sample size changes result from some counties in North Carolina not being included in a CSA. Results are robust to combining these counties into an additional CSA. The sample is restricted to birth cohorts between 1964 and 1974. Significance levels indicated by: * (p<0.10), **(p<0.05), *** (p<0.01).
Table A7: Impacts of FSP Introduction: Counties with Pre-existing CDP Program

<table>
<thead>
<tr>
<th></th>
<th>Any Crime</th>
<th>Violent Crime</th>
<th>Property Crime</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>FSP IU-5 Exposure</td>
<td>-0.018**</td>
<td>-0.010</td>
<td>-0.006**</td>
</tr>
<tr>
<td></td>
<td>(0.008)</td>
<td>(0.006)</td>
<td>(0.003)</td>
</tr>
<tr>
<td>Mean</td>
<td>0.090</td>
<td>0.090</td>
<td>0.015</td>
</tr>
<tr>
<td>Obs</td>
<td>11,985</td>
<td>11,985</td>
<td>11,985</td>
</tr>
<tr>
<td>Birth County Chars. (1960) x Trend</td>
<td>N</td>
<td>Y</td>
<td>N</td>
</tr>
</tbody>
</table>

Note: Each column represents a separate OLS regression with standard errors clustered at the birth county-level in parentheses. Observations are at the birth county by birth month level and are weighted by the number of births in each county in 1964. The sample is restricted to birth cohorts between 1964 and 1974 in the 91 counties with a pre-existing commodity distribution program (CDP). A county is determined to have had a CDP if it is mentioned in Federal Outlay Files, Aid to Families with Dependent Children surveys of caseworkers, or other documents from the National Archives and Records Administration (this information was obtained from Marianne Bitler). The dependent variable is the fraction of individuals in a given birth county-birth month cohort that are later convicted of a crime or particular crime type in NC by age 24. All specifications include birth county and birth month fixed effects. Baseline (1960) county characteristics include: percent of land in farming, percent of people living in families with less than $3,000, percent of population in urban area, percent black, percent less than age 5, percent greater than age 65, and percent of employment in agriculture. Significance levels indicated by: * (p<0.10), **(p<0.05), ***(p<0.01).
Table A8: Foodstamps in Early Childhood and Rate of Crime Conviction in NC by Age 24 (Un-weighted)

<table>
<thead>
<tr>
<th></th>
<th>Any Crime</th>
<th>Violent Crime</th>
<th>Property Crime</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>Any Conviction</td>
<td>-0.019***</td>
<td>-0.008***</td>
<td>-0.003**</td>
</tr>
<tr>
<td></td>
<td>(0.010)</td>
<td>(0.010)</td>
<td>(0.003)</td>
</tr>
<tr>
<td>Mean</td>
<td>0.080</td>
<td>0.080</td>
<td>0.013</td>
</tr>
<tr>
<td>Felony Conviction</td>
<td>-0.012**</td>
<td>-0.005</td>
<td>-0.003***</td>
</tr>
<tr>
<td></td>
<td>(0.005)</td>
<td>(0.005)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>Mean</td>
<td>0.033</td>
<td>0.033</td>
<td>0.004</td>
</tr>
<tr>
<td>Obs</td>
<td>13,173</td>
<td>13,173</td>
<td>13,173</td>
</tr>
</tbody>
</table>

Birth County Chars. (1960) x Trend N Y N Y N Y

Note: Each cell represents a separate OLS regression with standard errors clustered at the birth county-level in parentheses. Observations are at the birth county by birth month level and are not weighted. The dependent variable is the fraction of individuals in a given birth county-birth month cohort that are later convicted of a crime or particular crime type in NC by age 24. Columns indicate crime types (any, violent, property) and rows indicate severity (any conviction or felony). Mirroring FBI Part I definitions, violent crimes are defined only as offenses containing the words “murder”, “assault”, or “robbery” (rape is not included). Property crimes are defined only as offenses containing the words “burglary” or “larceny”. All specifications include birth county and birth month fixed effects as well as baseline county characteristics interacted with a time trend in birth cohort. Baseline (1960) county characteristics include: percent of land in farming, percent of people living in families with less than $3,000, percent of population in urban area, percent black, percent less than age 5, percent greater than age 65, and percent of employment in agriculture. The sample is restricted to cohorts who were born between 1964 and 1974. Significance levels indicated by: * (p<0.10), **(p<0.05), ***(p<0.01).
<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
<th>(8)</th>
<th>(9)</th>
<th>(10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Conviction</td>
<td>-0.031*</td>
<td>-0.023</td>
<td>-0.020</td>
<td>-0.030</td>
<td>-0.038**</td>
<td>-0.034*</td>
<td>-0.030</td>
<td>-0.038</td>
<td>-0.039</td>
<td>-0.051*</td>
</tr>
<tr>
<td></td>
<td>(0.018)</td>
<td>(0.020)</td>
<td>(0.020)</td>
<td>(0.024)</td>
<td>(0.017)</td>
<td>(0.019)</td>
<td>(0.022)</td>
<td>(0.026)</td>
<td>(0.026)</td>
<td>(0.030)</td>
</tr>
<tr>
<td>Violent Conviction</td>
<td>-0.008</td>
<td>-0.004</td>
<td>-0.003</td>
<td>-0.005</td>
<td>-0.009*</td>
<td>-0.009</td>
<td>-0.009</td>
<td>-0.014</td>
<td>-0.014</td>
<td>-0.020*</td>
</tr>
<tr>
<td></td>
<td>(0.006)</td>
<td>(0.007)</td>
<td>(0.008)</td>
<td>(0.009)</td>
<td>(0.005)</td>
<td>(0.006)</td>
<td>(0.007)</td>
<td>(0.009)</td>
<td>(0.009)</td>
<td>(0.011)</td>
</tr>
<tr>
<td>Property Conviction</td>
<td>-0.009*</td>
<td>-0.007</td>
<td>-0.006</td>
<td>-0.005</td>
<td>-0.011**</td>
<td>-0.008</td>
<td>-0.003</td>
<td>-0.005</td>
<td>-0.005</td>
<td>-0.012</td>
</tr>
<tr>
<td></td>
<td>(0.005)</td>
<td>(0.006)</td>
<td>(0.006)</td>
<td>(0.006)</td>
<td>(0.005)</td>
<td>(0.006)</td>
<td>(0.007)</td>
<td>(0.007)</td>
<td>(0.007)</td>
<td>(0.008)</td>
</tr>
<tr>
<td>Obs</td>
<td>9,737</td>
<td>7,221</td>
<td>7,221</td>
<td>6,108</td>
<td>9,737</td>
<td>9,737</td>
<td>7,221</td>
<td>7,221</td>
<td>7,221</td>
<td>6,108</td>
</tr>
</tbody>
</table>

Note: Each cell represents a separate OLS regression with each row denoting a different dependent variable and each column denoting a different specification. The dependent variable is the fraction of individuals in a given birth county-birth month cohort that are later convicted of a crime or particular crime type in NC by age 24. All specifications include birth county and birth month fixed effects. Baseline (1960) birth county characteristics include: percent of land in farming, percent of people living in families with less than $3,000, percent of population in urban area, percent black, percent less than age 5, percent greater than age 65, and percent of employment in agriculture. “Additional Birth County Chars.” (also interacted with a trend in birth cohort) include population density, median income, median education, percent of adults with less than 5 years education, unemployment rate, per capita government expenditure, and democratic vote margin in 1960 presidential campaign. Observations are at the birth county by birth month level and are weighted by the number of births in each county in the initial year of the sample period. The sample is restricted to cohorts who were born 1964-1974 or 1968-1974 as noted. The latter sample enables the inclusion of time-varying county characteristic controls (birth county by birth month level) constructed from natality files. These “County Natality Chars.” include mean mother’s age, fraction of births to married parents, fraction white births, and fraction of births with an attending physician in a hospital. War on Poverty controls include access to WIC (at birth) and Head Start (at age 4), as well as per capita expenditures on Public Assistance Transfers, Medicaid, Community Health Centers, and Community Action Agencies. Standard errors clustered at the birth county-level are in parentheses. Significance levels indicated by: * (p<0.10), **(p<0.05), ***(p<0.01).
| Any Conviction | -0.006 (0.006) | -0.006 (0.006) | -0.004 (0.006) | -0.004 (0.004) | -0.004 (0.003) | 9,705 | 8,249 | 8,249 | 7.583 | 8,249 | 8,249 | 8,249 | 8,249 | 8,249 |
| Violent Conviction | -0.002 (0.002) | -0.002 (0.002) | -0.002 (0.002) | -0.002 (0.002) | -0.002 (0.002) | 9,705 | 8,249 | 8,249 | 7.583 | 8,249 | 8,249 | 8,249 | 8,249 | 8,249 |
| Property Conviction | -0.001 (0.002) | -0.001 (0.002) | -0.001 (0.002) | -0.001 (0.002) | -0.001 (0.002) | 9,705 | 8,249 | 8,249 | 7.583 | 8,249 | 8,249 | 8,249 | 8,249 | 8,249 |

Note: Each cell represents a separate OLS regression with each row denoting a different dependent variable and each column denoting a different specification. The dependent variable is the fraction of individuals in a given birth county-birth month cohort that are later convicted of a crime or particular crime type in NC. The fraction of individuals in the sample period who were convicted are shown in parentheses. Standard errors clustered at the birth county level are in parentheses. Significance levels indicated by * (p < 0.10), ** (p < 0.05), *** (p < 0.01).
Table A11: FSP Exposure Predicting Other War on Poverty Program Exposure

<table>
<thead>
<tr>
<th>FSP IU-5 Exposure</th>
<th>Head Start (1)</th>
<th>WIC (2)</th>
<th>PAT (3)</th>
<th>Medicaid (4)</th>
<th>CHC (5)</th>
<th>CAP (6)</th>
<th>Health (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-0.121*</td>
<td>-0.050</td>
<td>-7.740</td>
<td>-21.309*</td>
<td>-403.220</td>
<td>-1846.232</td>
<td>-169.455</td>
<td></td>
</tr>
<tr>
<td>(0.067)</td>
<td>(0.084)</td>
<td>(8.225)</td>
<td>(11.959)</td>
<td>(2191.346)</td>
<td>(4188.040)</td>
<td>(1328.511)</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>0.493</td>
<td>0.007</td>
<td>129.136</td>
<td>53.123</td>
<td>986.461</td>
<td>13776.947</td>
<td>1450.037</td>
</tr>
<tr>
<td>Obs</td>
<td>13,173</td>
<td>11,329</td>
<td>13,173</td>
<td>13,173</td>
<td>13,173</td>
<td>13,173</td>
<td>13,173</td>
</tr>
</tbody>
</table>

Note: Each column represents an OLS regression on a different dependent variable denoting exposure to another War on Poverty program. These outcomes include indicators of access to WIC (at birth) and Head Start (at age 4), as well as per capita expenditures on Public Assistance Transfers (PAT), Medicaid, Community Health Centers (CHC), and Community Action Program administration (CAP) and health (Health). All specifications include birth county, birth month fixed effects, and baseline (1960) birth county characteristics. Significance levels indicated by: * (p<0.10), **(p<0.05), ***(p<0.01).

Table A12: FSP Exposure Predicting Mother/Birth Characteristics

<table>
<thead>
<tr>
<th>FSP IU-5 Exposure</th>
<th>Age (1)</th>
<th>White (2)</th>
<th>Educ (3)</th>
<th>Married (4)</th>
<th>In Hospital (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.091</td>
<td>-0.001</td>
<td>0.004</td>
<td>0.006</td>
<td>0.015**</td>
<td></td>
</tr>
<tr>
<td>(0.106)</td>
<td>(0.010)</td>
<td>(0.066)</td>
<td>(0.009)</td>
<td>(0.007)</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>23.699</td>
<td>0.689</td>
<td>11.271</td>
<td>0.860</td>
<td>0.981</td>
</tr>
<tr>
<td>Obs</td>
<td>8,373</td>
<td>8,373</td>
<td>7,153</td>
<td>8,332</td>
<td>8,373</td>
</tr>
</tbody>
</table>

Note: Each column represents an OLS regression on a different dependent variable denoting exposure to another War on Poverty program. Outcome variables are birth cohort by county means of continuous (Age and years of education) or indicator (married, in-hospital birth, and white) variables. These outcomes are not observed prior to 1968. All specifications include birth county, birth month fixed effects, and baseline (1960) birth county characteristics. Significance levels indicated by: * (p<0.10), **(p<0.05), ***(p<0.01).
Table A13: Summary Statistics of Conviction Rates in NC, by Crime

<table>
<thead>
<tr>
<th></th>
<th>Rate (1)</th>
<th>Frac. of Total (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>A) Primary Classification</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROPERTY CRIME</td>
<td>0.023</td>
<td>0.255</td>
</tr>
<tr>
<td>Larceny</td>
<td>0.022</td>
<td>0.250</td>
</tr>
<tr>
<td>Burglary</td>
<td>0.001</td>
<td>0.008</td>
</tr>
<tr>
<td>VIOLENT CRIME</td>
<td>0.015</td>
<td>0.171</td>
</tr>
<tr>
<td>Assault</td>
<td>0.011</td>
<td>0.118</td>
</tr>
<tr>
<td>Robbery</td>
<td>0.004</td>
<td>0.047</td>
</tr>
<tr>
<td>Murder &amp; Manslaughter</td>
<td>0.002</td>
<td>0.017</td>
</tr>
</tbody>
</table>

| **B) Alternate Classification** |          |                    |
| ACQUISITIVE CRIME              | 0.053    | 0.585              |
| Larceny                        | 0.022    | 0.250              |
| Burglary                       | 0.001    | 0.008              |
| Robbery                        | 0.004    | 0.047              |
| B & E                          | 0.020    | 0.220              |
| Shoplift                       | 0.003    | 0.031              |
| Stolen Goods                   | 0.006    | 0.068              |
| Fraud                          | 0.007    | 0.080              |
| Drug Sale                      | 0.010    | 0.110              |

| NON-ACQUISITIVE CRIME          | 0.041    | 0.458              |
| Assault                        | 0.011    | 0.118              |
| Murder & Manslaughter          | 0.002    | 0.017              |
| Rape                           | 0.001    | 0.010              |
| Drug Possession                | 0.011    | 0.118              |
| DWI                            | 0.015    | 0.171              |
| Speeding/Reckless Driving      | 0.002    | 0.019              |
| Other Driving Violation        | 0.010    | 0.110              |

**Note:** Column 1 shows the fraction of individuals in a given birth county-birth month cohort that are later convicted of a given crime type in NC by age 24. Column 2 shows the rate as a fraction of the rate of any crime conviction ion NC by age 24. Panel A shows our primary classification of crimes between property and violent crimes (mirroring FBI Part I definitions, but excluding rape). Panel B shows an alternative, and more expansive, classification between Acquisitive and Non-Acquisitive crime. The sample is restricted to cohorts who were born between 1964 and 1974.
Table A14: FSP in Early Childhood and Rate of Non-Acquisitive Conviction in NC by Age 24

<table>
<thead>
<tr>
<th></th>
<th>Non-Acq Any (1)</th>
<th>Murder (2)</th>
<th>Assault (3)</th>
<th>Rape (4)</th>
<th>Drug Possess (5)</th>
<th>DWI (6)</th>
<th>Speeding (7)</th>
<th>Other Driv. (8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSP IU-5 Exposure</td>
<td>-0.009**</td>
<td>0.000</td>
<td>-0.003*</td>
<td>0.000</td>
<td>-0.005***</td>
<td>-0.001</td>
<td>0.000</td>
<td>-0.002</td>
</tr>
<tr>
<td></td>
<td>(0.004)</td>
<td>(0.000)</td>
<td>(0.002)</td>
<td>(0.000)</td>
<td>(0.002)</td>
<td>(0.001)</td>
<td>(0.000)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>Frac. of Mean</td>
<td>-0.22</td>
<td>0.09</td>
<td>-0.29</td>
<td>0.20</td>
<td>-0.47</td>
<td>-0.05</td>
<td>0.08</td>
<td>-0.25</td>
</tr>
<tr>
<td>Mean</td>
<td>0.042</td>
<td>0.002</td>
<td>0.011</td>
<td>0.001</td>
<td>0.011</td>
<td>0.015</td>
<td>0.002</td>
<td>0.010</td>
</tr>
</tbody>
</table>

Note: Each cell represents a separate OLS regression with standard errors clustered at the birth county-level in parentheses. Observations are at the birth county by birth month level and are weighted by the number of births in each county in 1964. The dependent variable is the fraction of individuals in a given birth county-birth month cohort that are later convicted of a particular crime type in NC by age 24. “Non-Acq Any” is a category defined as any of the individual crimes listed in the other columns of the table. All specifications include birth county and birth month fixed effects as well as baseline county characteristics interacted with a time trend in birth cohort, and baseline (1960) county characteristics. The sample is restricted to cohorts who were born between 1964 and 1974. Significance levels indicated by: * (p<0.10), **(p<0.05), *** (p<0.01).
Table A15: FSP in Early Childhood and Rate of Acquisitive Conviction in NC by Age 24

<table>
<thead>
<tr>
<th></th>
<th>Any Acquisitive (1)</th>
<th>Robbery (2)</th>
<th>Burglary (3)</th>
<th>Larceny (4)</th>
<th>B &amp; E (5)</th>
<th>Shoplift (6)</th>
<th>Stolen Goods (7)</th>
<th>Drug Sale (8)</th>
<th>Fraud (9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSP IU-5 Exposure</td>
<td>-0.006 (0.004)</td>
<td>-0.002* (0.001)</td>
<td>0.000 (0.000)</td>
<td>-0.003 (0.003)</td>
<td>-0.004** (0.002)</td>
<td>0.001 (0.000)</td>
<td>-0.002 (0.001)</td>
<td>-0.003 (0.002)</td>
<td>-0.001 (0.001)</td>
</tr>
<tr>
<td>Frac. of Mean</td>
<td>-0.12</td>
<td>-0.45</td>
<td>0.12</td>
<td>-0.14</td>
<td>-0.18</td>
<td>0.26</td>
<td>-0.24</td>
<td>-0.26</td>
<td>-0.19</td>
</tr>
<tr>
<td>Mean</td>
<td>0.053</td>
<td>0.004</td>
<td>0.001</td>
<td>0.023</td>
<td>0.020</td>
<td>0.003</td>
<td>0.006</td>
<td>0.010</td>
<td>0.007</td>
</tr>
</tbody>
</table>

Note: Each cell represents a separate OLS regression with standard errors clustered at the birth county-level in parentheses. Observations are at the birth county by birth month level and are weighted by the number of births in each county in 1964. The dependent variable is the fraction of individuals in a given birth county-birth month cohort that are later convicted of a particular crime type in NC by age 24. “Non-Acq Any” is a category defined as any of the individual crimes listed in the other columns of the table. All specifications include birth county and birth month fixed effects as well as baseline county characteristics interacted with a time trend in birth cohort, and baseline (1960) county characteristics. The sample is restricted to cohorts who were born between 1964 and 1974. Significance levels indicated by: * (p<0.10), **(p<0.05), ***(p<0.01).
Table A16: FSP and Fertility

<table>
<thead>
<tr>
<th></th>
<th>Log(Births)</th>
<th>Births</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>FSP Access</td>
<td>0.013</td>
<td>0.010</td>
</tr>
<tr>
<td></td>
<td>(0.015)</td>
<td>(0.013)</td>
</tr>
<tr>
<td>Mean</td>
<td>3.8</td>
<td>3.8</td>
</tr>
<tr>
<td>Obs</td>
<td>13,173</td>
<td>13,173</td>
</tr>
<tr>
<td>Birth County Char. (1960) x Trend</td>
<td>N</td>
<td>Y</td>
</tr>
</tbody>
</table>

Note: Each column represents a separate OLS regression with standard errors clustered at the birth county-level in parentheses. Observations are at the birth county by birth month level. The dependent variable is the number of births or log of the number of births. FSP Access reflects whether FSP is available in a given county-month. All specifications include birth county and birth month fixed effects. Baseline (1960) county characteristics include: percent of land in farming, percent of people living in families with less than $3,000, percent of population in urban area, percent black, percent less than age 5, percent greater than age 65, and percent of employment in agriculture.
Table A17: Foodstamps and Rate of Crime Conviction of Non-Native NC Residents

<table>
<thead>
<tr>
<th></th>
<th>(1) Any</th>
<th>(2) Violent</th>
<th>(3) Property</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conviction by Age 24</td>
<td>0.010</td>
<td>0.002</td>
<td>0.005**</td>
</tr>
<tr>
<td></td>
<td>(0.008)</td>
<td>(0.002)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>Mean</td>
<td>0.124</td>
<td>0.015</td>
<td>0.026</td>
</tr>
<tr>
<td>Conviction by Age 30</td>
<td>-0.002</td>
<td>-0.000</td>
<td>0.004</td>
</tr>
<tr>
<td></td>
<td>(0.011)</td>
<td>(0.002)</td>
<td>(0.003)</td>
</tr>
<tr>
<td>Mean</td>
<td>0.201</td>
<td>0.027</td>
<td>0.037</td>
</tr>
</tbody>
</table>

Observations 1,100 1,100 1,100

Note: Each cell represents a separate OLS regression with standard errors clustered at the county level in parentheses. Observations are at the county by birth year level. The dependent variable for county $c$ and birth cohort $t$ is the number of individuals born outside of NC in year $t$ who are convicted of a particular type of crime in county $c$ (by age $a$) divided by the total number of individuals born outside of NC in year $t$ that reside in county $c$ at age $a$. It is constructed using population counts by age, county, and year from SEER, along with the fraction of county residents born out-of-state from the 1990 census. All specifications include county and birth year fixed effects as well as baseline (1960) county characteristics interacted with a trend in birth year. Baseline (1960) county characteristics include: percent of land in farming, percent of people living in families with less than $3,000, percent of population in urban area, percent black, percent less than age 5, percent greater than age 65, percent of employment in agriculture. The sample is restricted to individuals born between 1964 and 1974. Significance levels indicated by: $^*$ (p<0.10) $^{**}$ (p<0.05), $^{***}$ (p<0.01).
Table A18: Food Stamps in Early Childhood and Likelihood of Living in State of Birth (Census)

<table>
<thead>
<tr>
<th></th>
<th>(1) Weighted FS Exposure at Birth</th>
<th>(2)</th>
<th>(3) Weighted 0-5 FS Exposure</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>18-24</td>
<td>18-30</td>
<td>18-24</td>
<td>18-30</td>
</tr>
<tr>
<td>All</td>
<td>-0.006</td>
<td>-0.009</td>
<td>-0.025</td>
<td>-0.012</td>
</tr>
<tr>
<td></td>
<td>(0.008)</td>
<td>(0.011)</td>
<td>(0.016)</td>
<td>(0.014)</td>
</tr>
<tr>
<td>White</td>
<td>-0.008</td>
<td>-0.010</td>
<td>-0.028*</td>
<td>-0.014</td>
</tr>
<tr>
<td></td>
<td>(0.009)</td>
<td>(0.010)</td>
<td>(0.017)</td>
<td>(0.013)</td>
</tr>
<tr>
<td>Non-white</td>
<td>0.016</td>
<td>0.004</td>
<td>0.010</td>
<td>0.017</td>
</tr>
<tr>
<td></td>
<td>(0.019)</td>
<td>(0.019)</td>
<td>(0.031)</td>
<td>(0.040)</td>
</tr>
<tr>
<td>Male</td>
<td>-0.007</td>
<td>-0.007</td>
<td>-0.022</td>
<td>-0.008</td>
</tr>
<tr>
<td></td>
<td>(0.008)</td>
<td>(0.011)</td>
<td>(0.015)</td>
<td>(0.014)</td>
</tr>
<tr>
<td>White</td>
<td>-0.008</td>
<td>-0.007</td>
<td>-0.025</td>
<td>-0.009</td>
</tr>
<tr>
<td></td>
<td>(0.009)</td>
<td>(0.011)</td>
<td>(0.017)</td>
<td>(0.013)</td>
</tr>
<tr>
<td>Non-white</td>
<td>0.009</td>
<td>0.001</td>
<td>0.018</td>
<td>0.019</td>
</tr>
<tr>
<td></td>
<td>(0.015)</td>
<td>(0.020)</td>
<td>(0.027)</td>
<td>(0.039)</td>
</tr>
</tbody>
</table>

**Note**: Each cell represents a separate OLS regression with standard errors clustered at the state of birth level (in parentheses). Observations are at the individual level from the 1990 and 2000 Census. Age restrictions indicated by columns. The dependent variable is whether an individual is currently living in his or her state of birth (nationwide mean is 70 percent versus 78 percent in North Carolina). The key explanatory variables are measures of Food Stamp availability for a birth cohort in a particular state. In columns 1 and 2, this is calculated as the share of a state’s population with Food Stamp availability during an individual’s year of birth. In columns (3) and (4) it is the weighted average of the FS exposure variable across counties in a state, where the weights are the number of births in each county in 1960. All specifications include birth state and birth year fixed effects as well as indicators for race, age, and sex. Significance levels indicated by: * (p < 0.10), **(p < 0.05), *** (p < 0.01).
Table A19: Food Stamps and Likelihood of Residing in One’s County of Birth (NLSY 79)

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1) Moved (79)</th>
<th>(2) Moved (80)</th>
<th>(3) Moved (81)</th>
<th>(4) Moved (82)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5 FS Exposure</td>
<td>-0.030</td>
<td>-0.029</td>
<td>-0.006</td>
<td>0.008</td>
</tr>
<tr>
<td></td>
<td>(0.040)</td>
<td>(0.045)</td>
<td>(0.046)</td>
<td>(0.047)</td>
</tr>
<tr>
<td>Observations</td>
<td>5,420</td>
<td>5,215</td>
<td>5,243</td>
<td>5,219</td>
</tr>
<tr>
<td>Mean</td>
<td>0.444</td>
<td>0.465</td>
<td>0.475</td>
<td>0.490</td>
</tr>
</tbody>
</table>

Note: Each column represents a separate OLS regression with standard errors clustered at the birth county-level in parentheses. Observations are at the individual level. The dependent variable is indicated by the column title. For example, “Moved (79)” indicates an individual living outside of his or her birth county in 1979. Given the birth cohorts included in the NLSY 79 (1957-64), this includes individuals aged 15 to 22. Similarly, “Moved (82)” includes individuals aged 18 to 25. All specifications include birth county and birth year fixed effects; indicators for race, age, and sex; and baseline (1960) county characteristics interacted with a birth year time trend. Baseline (1960) county characteristics include: percent of land in farming, percent of people living in families with less than $3,000, percent of population in urban area, percent black, percent less than age 5, percent greater than age 65, percent of employment in agriculture. Significance levels indicated by: * (p <0.10) **(p <0.05), ***(p <0.01).
Table A20: Food Stamps in Early Childhood and Migration out of State (NLSY 79)

<table>
<thead>
<tr>
<th>Panel A:</th>
<th>(1) Resides Out (79)</th>
<th>(2) Resides Out (80)</th>
<th>(3) Resides Out (81)</th>
<th>(4) Resides Out (82)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5 FS Exposure</td>
<td>-0.018</td>
<td>-0.002</td>
<td>-0.029</td>
<td>-0.049</td>
</tr>
<tr>
<td>Mean</td>
<td>0.236</td>
<td>0.248</td>
<td>0.254</td>
<td>0.271</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel B:</th>
<th>Years Out (18-24)</th>
<th>Years Out (18-29)</th>
<th>Years Out (79-89)</th>
<th>Years Out (79-94)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5 FS Exposure</td>
<td>0.009</td>
<td>-0.038</td>
<td>-0.384</td>
<td>-0.455</td>
</tr>
<tr>
<td>Mean</td>
<td>1.238</td>
<td>2.810</td>
<td>2.777</td>
<td>4.234</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5 FS Exposure</td>
<td>0.015</td>
<td>-0.022</td>
<td>-0.045</td>
<td>-0.032</td>
</tr>
<tr>
<td>Mean</td>
<td>0.362</td>
<td>0.444</td>
<td>0.440</td>
<td>0.477</td>
</tr>
</tbody>
</table>

Note: Each cell represents a separate OLS regression with standard errors clustered at the birth county-level in parentheses. Observations are at the individual level. The dependent variable is indicated by the column title. Panel A includes binary variables that indicate if an individual is observed residing out of his state of birth in a particular year of the NLSY 79. Panel B includes measures of the number of years an individual is observed out of his state of birth (the range of ages and years is indicated in parentheses), and Panel C includes binary variables that indicate if an individual was ever observed residing out of his state of birth (the range of ages and years is indicated in parentheses). For example, “Resides Out (79)” indicates an individual living outside of his or her birth county in 1979. Given the birth cohorts included in the NLSY 79 (1957-64), this includes individuals aged 15 to 22. Similarly, “Resides Out (82)” includes individuals aged 18 to 25. “Years Out (18-24)” indicates the number of years an individual lived outside of his or her birth county between ages 18 and 24. Similarly, “Years Out (79-89)” indicates the number of years an individual lived outside of his or her birth county between 1979 and 1989. All specifications include birth county and birth year fixed effects; indicators for race, age, and sex; and baseline (1960) county characteristics interacted with a birthyear time trend. Baseline (1960) county characteristics include: percent of land in farming, percent of people living in families with less than $3,000, percent of population in urban area, percent black, percent less than age 5, percent greater than age 65, percent of employment in agriculture. Significance levels indicated by: * (p<0.10) **(p<0.05), ***(p<0.01).
Table A21: Foodstamps and Rate of Crime Conviction in Non-Birth County in NC

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Any</td>
<td>Any</td>
<td>Violent</td>
<td>Violent</td>
<td>Felony</td>
<td>Felony</td>
</tr>
<tr>
<td>0-5 FS Exposure</td>
<td>-0.014***</td>
<td>-0.011**</td>
<td>-0.008***</td>
<td>-0.006**</td>
<td>-0.003**</td>
<td>-0.004***</td>
</tr>
<tr>
<td></td>
<td>(0.005)</td>
<td>(0.005)</td>
<td>(0.006)</td>
<td>(0.003)</td>
<td>(0.001)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>Birth County Characteristics (1960) x Time Trend</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Observations</td>
<td>13,173</td>
<td>13,173</td>
<td>13,173</td>
<td>13,173</td>
<td>13,173</td>
<td>13,173</td>
</tr>
<tr>
<td>Outcome Mean (1964 Birth Cohort)</td>
<td>0.039</td>
<td>0.039</td>
<td>0.005</td>
<td>0.005</td>
<td>0.015</td>
<td>0.015</td>
</tr>
</tbody>
</table>

**Note:** Each column represents a separate OLS regression with standard errors clustered at the birth county-level in parentheses. Observations are at the birth county by birth month level. The dependent variable is the fraction of individuals in a given birth cohort that are later convicted of a particular crime type in a NC different than their birth county by age 24. All specifications include birth county and birth month fixed effects. Baseline (1960) county characteristics include: percent of land in farming, percent of people living in families with less than $3,000, percent of population in urban area, percent black, percent less than age 5, percent greater than age 65, percent of employment in agriculture. The sample is restricted to individuals born between 1964 and 1974. Significance levels indicated by: * (p<0.10) **(p<0.05), ***(p<0.01).

<table>
<thead>
<tr>
<th>Year</th>
<th>FSP Cost</th>
<th>Transfer DWL</th>
<th>Work Disincentive DWL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>$MDWLG = 0.17$</td>
<td>$MDWLG = 0.56$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$\epsilon_s = 0.1$</td>
<td>$\epsilon_s = 0.3$</td>
</tr>
<tr>
<td>1964</td>
<td>229</td>
<td>59</td>
<td>148</td>
</tr>
<tr>
<td>1965</td>
<td>256</td>
<td>66</td>
<td>165</td>
</tr>
<tr>
<td>1966</td>
<td>505</td>
<td>130</td>
<td>326</td>
</tr>
<tr>
<td>1967</td>
<td>809</td>
<td>208</td>
<td>523</td>
</tr>
<tr>
<td>1968</td>
<td>1,260</td>
<td>323</td>
<td>815</td>
</tr>
<tr>
<td>1969</td>
<td>1,602</td>
<td>411</td>
<td>1,036</td>
</tr>
<tr>
<td>1970</td>
<td>3,525</td>
<td>905</td>
<td>2,279</td>
</tr>
<tr>
<td>1971</td>
<td>9,176</td>
<td>2,355</td>
<td>5,934</td>
</tr>
<tr>
<td>1972</td>
<td>10,825</td>
<td>2,778</td>
<td>6,999</td>
</tr>
<tr>
<td>1973</td>
<td>11,787</td>
<td>3,025</td>
<td>7,622</td>
</tr>
<tr>
<td>1974</td>
<td>13,678</td>
<td>3,510</td>
<td>8,844</td>
</tr>
<tr>
<td>TOTAL</td>
<td>53,651</td>
<td>13,768</td>
<td>34,692</td>
</tr>
</tbody>
</table>

Min(Transfer DWL + Work Disincentive DWL) = 34,591
Max(Transfer DWL + Work Disincentive DWL) = 114,437

Note: The table shows back-of-the-envelope calculations of the welfare losses from FSP’s contemporary work disincentives, program administrative costs, and distortionary taxes needed to raise government revenue. $FSPCOST_\tau$ is the total program cost in year $\tau$, obtained from the Office of Management and Budget. $MDWLG$ is the marginal deadweight loss from an additional $1 of government revenue. We use the range of $MDWLG$ reported by Ballard, Shoven, and Whalley (1985) of 0.17 – 0.56. $\Delta h$ and $\Delta w$ are the change in average hours worked and the change in average wage for female household heads with children, reported in Table 2 of Hoyes and Schanssenbach (2012). Finally, $\epsilon_s$ is the elasticity of labor supply for single women which ranges between 0.1 and 0.3, following a literature review by the Congressional Budget Office (McClelland and Mok, 2012). See Online Appendix C for details of the calculations and the sources for each parameter.
Table A23: Welfare Change from FSP (1964-1974) in Millions $2015
Transfer & Labor Mkt Losses vs. Crime Reduction Gains (13-40 Year Olds)

<table>
<thead>
<tr>
<th>Social Discount Rate</th>
<th>Welfare Gain (Min)</th>
<th>Welfare Loss (Min)</th>
<th>Δ Welfare (Min)</th>
<th>Gain-Loss Ratio (Min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>1,207,142</td>
<td>34,591</td>
<td>1,172,551</td>
<td>1092,705</td>
</tr>
<tr>
<td>3%</td>
<td>628,090</td>
<td>34,591</td>
<td>593,500</td>
<td>513,653</td>
</tr>
<tr>
<td>5%</td>
<td>419,068</td>
<td>34,591</td>
<td>384,477</td>
<td>304,631</td>
</tr>
<tr>
<td>7%</td>
<td>285,755</td>
<td>34,591</td>
<td>251,165</td>
<td>171,318</td>
</tr>
</tbody>
</table>

Low Crime Cost Estimates:

<table>
<thead>
<tr>
<th>Social Discount Rate</th>
<th>Welfare Gain (Min)</th>
<th>Welfare Loss (Min)</th>
<th>Δ Welfare (Min)</th>
<th>Gain-Loss Ratio (Min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>538,368</td>
<td>34,591</td>
<td>503,778</td>
<td>423,931</td>
</tr>
<tr>
<td>3%</td>
<td>280,305</td>
<td>34,591</td>
<td>245,714</td>
<td>165,868</td>
</tr>
<tr>
<td>5%</td>
<td>187,074</td>
<td>34,591</td>
<td>152,484</td>
<td>72,638</td>
</tr>
<tr>
<td>7%</td>
<td>127,583</td>
<td>34,591</td>
<td>92,993</td>
<td>13,147</td>
</tr>
</tbody>
</table>

Note: The table presents the estimates of welfare gains from crime reduction due to FSP implementation and the range of estimates of the welfare losses due to the program as in Table 7, but assuming proportional effects for individuals aged 13 to 40. "Min" and "Max" column titles correspond to the minimum and maximum estimates of welfare loss. "Min" ("Max") welfare loss uses the low (high) end of the range of marginal deadweight loss from government revenue reported by Ballard, Shoven, and Whalley 1986, the smaller (larger) estimates of hours and wage changes from Hoynes and Schanzenbach (2012), and the low (high) end of the range of elasticity of labor supply estimates reported by McClelland and Mok (2012). See the description of Table 7 in the text and Online Appendix C for details.
Online Appendix B: UCR Data Restrictions and Robustness to Alternative Specifications

Because the UCR records are derived from the self-reported crime statistics of more than 10,000 city, county, and state law enforcement agencies, there are questions about the quality of the data. In addition to underreporting, variation in collection or categorization methods across agencies is a major concern. Despite these issues, prior research suggests that the UCR arrest data can be leveraged to produce unbiased estimates of the effects of policies on crime (e.g., Lochner and Moretti 2004; Gould et al. 2002; Bondurant et al. 2018). For this measurement error to explain our results, it would have to be the case that counties that received a FSP a few years earlier also began underreporting arrests fifteen to twenty years later, when young children who were exposed to the FSP were old enough to commit crimes. For example, a county that got a FSP in 1968 would have to increasingly underreport arrests between 1981 and 1994 (when those who were exposed in early childhood were between 18 and 24). Given that all counties eventually get a FSP, the underreporting (or measurement error) would have to consistently show up fifteen to twenty years after adoption of a FSP to account for our results. There is no reason to believe that the measurement error for certain cohorts of individuals is associated with the presence of Food Stamps in a county fifteen to twenty years prior. Furthermore, our UCR estimation strategy incorporates arrest measures for different birth cohorts in a county in the same year (but at different ages). To explain our results (which show up across ages), the change in reporting would also have to affect reporting of arrests differently across a narrow range of ages in the same year. In summary, it is unlikely that measurement error in the UCR data can account for our results. That said, we prioritize our North Carolina estimates as they do not suffer from the reporting concerns associated with the UCR.

UCR arrest data are compiled from Uniform Crime Reporting Program Data [United States]: Arrests by Age, Sex, and Race, Summarized Yearly, and downloaded from ICPSR. We restrict the data to local police agencies that have at least a 20 percent overlap with the counties in our Food Stamp rollout data. After imposing these restrictions, the data include 2,010 agencies. For each outcome, we restrict the agencies to those that report for at least 6 of the 11 years relevant to the 18 year old birth cohort. This results in 1,704 agencies. We use the county by age arrest counts combined with birth counts from the National Center for Health Statistics to construct arrest counts by age per 100 individuals for birth cohorts of individuals born in each county in the UCR.\textsuperscript{66} Our main estimates rely on these measures based on the reported data with no attempts to correct for outliers or errors. While this has the advantage of relying on actual data and the associated noise, it has the disadvantage of allowing errors to contribute to our identified estimates as well as compositional effects contributing to the identification of year fixed effects.

We have explored the robustness of the results to alternative choices. To identify outliers (and potential errors in the data), we follow a procedure similar to Evans and Owens (2007) and Mello (2019). For each agency and crime rate, we fit the time series using a local linear regression of the two nearest non-missing observations. We then compute the percent error as the difference between the actual and the predicted value divided by the predicted value. We code an observation as an outlier if it (1) falls in the top X% of the percent error distribution and above the agency-specific

\textsuperscript{66}For example, if 50 18 year-old individuals were arrested in county \( c \) in 1980, we would divide 50 by the number of births in county \( c \) in 1963 and multiply by 100 in order to generate an arrest count per 100 individuals for the 1963 birth cohort in county \( c \).
80th percentile of observations, or (2) falls in the bottom X% of the percent error distribution and below the agency-specific 20th percentile of observations.\textsuperscript{67} As we have little intuition for our choice of X, we code outliers as extremely large (top or bottom 1%), very large (top or bottom 5%), or large (top or bottom 10%).

In Online Appendix Tables B1-B5, we present estimates of the effect of FSP availability under various methods of dealing with outliers and missing values. First, we simply drop outliers. Second, we interpolate outliers and missing values. In other words, if a value is missing for 1967 but not 1966 or 1968, the 1967 value is linearly interpolated. We do not extrapolate. Finally, we interpolate outliers and missing values and fill arrest rates forwards and backwards with the first and last observed arrest rate respectively. For example, if a county's first year of reported arrests for a particular crime and age is in 1967, then we set 1964, 1965, and 1966 equal to the arrest rate in 1967. These choices are displayed in the rows of Online Appendix Tables B1-B5 and have little influence on the point estimates.

In the columns of Tables B1-B5, we illustrate the robustness of the results to progressively restrictive choices on the set of agencies included in the analysis. As one moves across the columns we restrict to agencies that report more often.

\textsuperscript{67}The agency-specific conditions primarily correct for situations in which an agency frequently, but not always, reports zero arrests for a particular crime type.
<table>
<thead>
<tr>
<th>Years Agency is in Sample</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Data</td>
<td>-0.156***</td>
<td>-0.145**</td>
<td>-0.138***</td>
<td>-0.171***</td>
<td>-0.203***</td>
<td>-0.199**</td>
</tr>
<tr>
<td></td>
<td>(0.056)</td>
<td>(0.058)</td>
<td>(0.058)</td>
<td>(0.062)</td>
<td>(0.069)</td>
<td>(0.090)</td>
</tr>
<tr>
<td>Observations</td>
<td>30,568</td>
<td>27,729</td>
<td>24,397</td>
<td>20,303</td>
<td>15,343</td>
<td>9,830</td>
</tr>
<tr>
<td>Drop Extreme Errors (1%)</td>
<td>-0.167***</td>
<td>-0.162***</td>
<td>-0.151***</td>
<td>-0.184***</td>
<td>-0.204***</td>
<td>-0.199**</td>
</tr>
<tr>
<td></td>
<td>(0.055)</td>
<td>(0.057)</td>
<td>(0.057)</td>
<td>(0.060)</td>
<td>(0.069)</td>
<td>(0.091)</td>
</tr>
<tr>
<td>Observations</td>
<td>30,156</td>
<td>27,397</td>
<td>24,144</td>
<td>20,135</td>
<td>15,254</td>
<td>9,781</td>
</tr>
<tr>
<td>Interpolate Missing and Extreme Errors (1%)</td>
<td>-0.164***</td>
<td>-0.162***</td>
<td>-0.152***</td>
<td>-0.185***</td>
<td>-0.204***</td>
<td>-0.199**</td>
</tr>
<tr>
<td></td>
<td>(0.054)</td>
<td>(0.056)</td>
<td>(0.056)</td>
<td>(0.060)</td>
<td>(0.069)</td>
<td>(0.090)</td>
</tr>
<tr>
<td>Observations</td>
<td>34,829</td>
<td>30,334</td>
<td>25,894</td>
<td>21,118</td>
<td>15,551</td>
<td>9,881</td>
</tr>
<tr>
<td>Interpolate Missing and Extreme Errors (1%) and Fill</td>
<td>-0.162***</td>
<td>-0.161***</td>
<td>-0.150***</td>
<td>-0.184***</td>
<td>-0.204***</td>
<td>-0.200**</td>
</tr>
<tr>
<td></td>
<td>(0.054)</td>
<td>(0.056)</td>
<td>(0.056)</td>
<td>(0.060)</td>
<td>(0.068)</td>
<td>(0.090)</td>
</tr>
<tr>
<td>Observations</td>
<td>34,997</td>
<td>30,460</td>
<td>25,973</td>
<td>21,159</td>
<td>15,569</td>
<td>9,888</td>
</tr>
<tr>
<td>Drop Very Large Errors (5%)</td>
<td>-0.170***</td>
<td>-0.164***</td>
<td>-0.153***</td>
<td>-0.184***</td>
<td>-0.205***</td>
<td>-0.200**</td>
</tr>
<tr>
<td></td>
<td>(0.055)</td>
<td>(0.057)</td>
<td>(0.057)</td>
<td>(0.060)</td>
<td>(0.069)</td>
<td>(0.091)</td>
</tr>
<tr>
<td>Observations</td>
<td>29,446</td>
<td>26,828</td>
<td>23,687</td>
<td>19,799</td>
<td>15,059</td>
<td>9,688</td>
</tr>
<tr>
<td>Interpolate Missing and Very Large Errors (5%)</td>
<td>-0.166***</td>
<td>-0.164***</td>
<td>-0.154***</td>
<td>-0.185***</td>
<td>-0.205***</td>
<td>-0.200**</td>
</tr>
<tr>
<td></td>
<td>(0.053)</td>
<td>(0.056)</td>
<td>(0.056)</td>
<td>(0.060)</td>
<td>(0.069)</td>
<td>(0.090)</td>
</tr>
<tr>
<td>Observations</td>
<td>34,827</td>
<td>30,332</td>
<td>25,892</td>
<td>21,118</td>
<td>15,551</td>
<td>9,881</td>
</tr>
<tr>
<td>Interpolate Missing and Very Large Errors (5%) and Fill</td>
<td>-0.165***</td>
<td>-0.162***</td>
<td>-0.152***</td>
<td>-0.184***</td>
<td>-0.205***</td>
<td>-0.200**</td>
</tr>
<tr>
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<td>(0.053)</td>
<td>(0.056)</td>
<td>(0.056)</td>
<td>(0.060)</td>
<td>(0.068)</td>
<td>(0.090)</td>
</tr>
<tr>
<td>Observations</td>
<td>34,997</td>
<td>30,460</td>
<td>25,973</td>
<td>21,159</td>
<td>15,569</td>
<td>9,888</td>
</tr>
<tr>
<td>Drop Large Errors (10%)</td>
<td>-0.174***</td>
<td>-0.167***</td>
<td>-0.154***</td>
<td>-0.185***</td>
<td>-0.205***</td>
<td>-0.200**</td>
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<td>Interpolate Missing and Large Errors (10%)</td>
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<tr>
<td>Observations</td>
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<td>30,332</td>
<td>25,892</td>
<td>21,118</td>
<td>15,551</td>
<td>9,881</td>
</tr>
<tr>
<td>Interpolate Missing and Large Errors (10%) and Fill</td>
<td>-0.169***</td>
<td>-0.165***</td>
<td>-0.153***</td>
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<td>-0.205***</td>
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<td>15,569</td>
<td>9,888</td>
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</table>

Note: Each cell presents the coefficient from a separate OLS regression with standard errors clustered at the county-level in parentheses. Rows indicate different procedures for dealing with outliers. Columns indicate different restrictions on the number of years (out of 11) an agency must report to be included in the sample. Observations are at the county by birth cohort by age level and are weighted by the number of births in each county in 1964. The dependent variable is the number of individuals per 100 within a given county cohort who are arrested at a particular age. All specifications include birth year, age, and county fixed effects as well as baseline county characteristics (1960) interacted with a trend in birth year. Baseline county characteristics include: percent of land in farming, percent of people living in families with less than $3,000, percent of population in urban area, percent black, percent less than age 5, percent greater than age 65, and percent of employment in agriculture. The sample is restricted to individuals age 18-24 unless otherwise noted. Sample restricted to agencies accounting for at least 20% of a county's population. Significance levels indicated by: * (p<0.10) **(p<0.05), *** (p<0.01).
<table>
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<tr>
<th>Years Agency is in Sample</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
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<th>(6)</th>
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<tbody>
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<td>-0.013</td>
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<td>-0.051</td>
<td>-0.009</td>
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<td>70,066</td>
<td>60,003</td>
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<tr>
<td>Drop Extreme Errors (1%)</td>
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<td>-0.034</td>
<td>-0.021</td>
<td>-0.039</td>
<td>-0.045</td>
<td>-0.008</td>
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<td>(0.107)</td>
<td>(0.114)</td>
<td>(0.125)</td>
<td>(0.158)</td>
</tr>
<tr>
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<td>66,757</td>
<td>57,207</td>
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<td>28,721</td>
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<td>-0.030</td>
<td>-0.018</td>
<td>-0.036</td>
<td>-0.045</td>
<td>-0.009</td>
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<td>(0.103)</td>
<td>(0.107)</td>
<td>(0.114)</td>
<td>(0.124)</td>
<td>(0.157)</td>
</tr>
<tr>
<td>Observations</td>
<td>88,472</td>
<td>81,616</td>
<td>73,212</td>
<td>61,861</td>
<td>48,520</td>
<td>30,216</td>
</tr>
<tr>
<td>Interpolate Missing and Extreme Errors (1%) and Fill</td>
<td>-0.044</td>
<td>-0.025</td>
<td>-0.015</td>
<td>-0.033</td>
<td>-0.041</td>
<td>-0.007</td>
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<td>(0.113)</td>
<td>(0.124)</td>
<td>(0.156)</td>
</tr>
<tr>
<td>Observations</td>
<td>88,839</td>
<td>81,876</td>
<td>73,398</td>
<td>61,979</td>
<td>48,569</td>
<td>30,241</td>
</tr>
<tr>
<td>Drop Very Large Errors (5%)</td>
<td>-0.054</td>
<td>-0.036</td>
<td>-0.024</td>
<td>-0.043</td>
<td>-0.045</td>
<td>-0.005</td>
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<tr>
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<td>(0.104)</td>
<td>(0.104)</td>
<td>(0.108)</td>
<td>(0.114)</td>
<td>(0.125)</td>
<td>(0.158)</td>
</tr>
<tr>
<td>Observations</td>
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<td>72,137</td>
<td>65,760</td>
<td>56,458</td>
<td>45,099</td>
<td>28,482</td>
</tr>
<tr>
<td>Interpolate Missing and Very Large Errors (5%)</td>
<td>-0.051</td>
<td>-0.031</td>
<td>-0.020</td>
<td>-0.040</td>
<td>-0.046</td>
<td>-0.006</td>
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<td>(0.103)</td>
<td>(0.107)</td>
<td>(0.114)</td>
<td>(0.124)</td>
<td>(0.157)</td>
</tr>
<tr>
<td>Observations</td>
<td>88,469</td>
<td>81,615</td>
<td>73,211</td>
<td>61,861</td>
<td>48,520</td>
<td>30,216</td>
</tr>
<tr>
<td>Interpolate Missing and Very Large Errors (5%) and Fill</td>
<td>-0.046</td>
<td>-0.027</td>
<td>-0.016</td>
<td>-0.037</td>
<td>-0.042</td>
<td>-0.005</td>
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<td>(0.103)</td>
<td>(0.106)</td>
<td>(0.113)</td>
<td>(0.124)</td>
<td>(0.157)</td>
</tr>
<tr>
<td>Observations</td>
<td>88,839</td>
<td>81,876</td>
<td>73,398</td>
<td>61,979</td>
<td>48,569</td>
<td>30,241</td>
</tr>
<tr>
<td>Drop Large Errors (10%)</td>
<td>-0.052</td>
<td>-0.034</td>
<td>-0.023</td>
<td>-0.043</td>
<td>-0.047</td>
<td>-0.000</td>
</tr>
<tr>
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<td>(0.102)</td>
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<td>(0.108)</td>
<td>(0.115)</td>
<td>(0.125)</td>
<td>(0.159)</td>
</tr>
<tr>
<td>Observations</td>
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<td>70,570</td>
<td>64,379</td>
<td>55,316</td>
<td>44,244</td>
<td>28,026</td>
</tr>
<tr>
<td>Interpolate Missing and Large Errors (10%)</td>
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<td>-0.026</td>
<td>-0.015</td>
<td>-0.036</td>
<td>-0.048</td>
<td>-0.002</td>
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<tr>
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<td>(0.104)</td>
<td>(0.108)</td>
<td>(0.115)</td>
<td>(0.124)</td>
<td>(0.157)</td>
</tr>
<tr>
<td>Observations</td>
<td>88,469</td>
<td>81,615</td>
<td>73,211</td>
<td>61,861</td>
<td>48,520</td>
<td>30,216</td>
</tr>
<tr>
<td>Interpolate Missing and Large Errors (10%) and Fill</td>
<td>-0.040</td>
<td>-0.022</td>
<td>-0.011</td>
<td>-0.033</td>
<td>-0.044</td>
<td>-0.000</td>
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<td>(0.104)</td>
<td>(0.107)</td>
<td>(0.114)</td>
<td>(0.124)</td>
<td>(0.156)</td>
</tr>
<tr>
<td>Observations</td>
<td>88,839</td>
<td>81,876</td>
<td>73,398</td>
<td>61,979</td>
<td>48,569</td>
<td>30,241</td>
</tr>
</tbody>
</table>

Note: Each cell presents the coefficient from a separate OLS regression with standard errors clustered at the county-level in parentheses. Rows indicate different procedures for dealing with outliers. Columns indicate different restrictions on the number of years (out of 11) an agency must report to be included in the sample. Observations are at the county by birth cohort by age level and are weighted by the number of births in each county in 1964. The dependent variable is the number of individuals per 100 within a given county cohort who are arrested at a particular age. All specifications include birth year, age, and county fixed effects as well as baseline county characteristics (1960) interacted with a trend in birth year. Baseline county characteristics include: percent of land in farming, percent of people living in families with less than $3,000, percent of population in urban area, percent black, percent less than age 5, percent greater than age 65, and percent of employment in agriculture. The sample is restricted to individuals age 18-24 unless otherwise noted. Sample restricted to agencies accounting for at least 20% of a county's population. Significance levels indicated by: * (p<0.10) **(p<0.05), ***(p<0.01).
Table B3: UCR Results: Robustness to Imputation: Murder

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<th>(5)</th>
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<td>8</td>
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<td>10</td>
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<td>-0.028</td>
<td>-0.034</td>
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<td>(0.017)</td>
<td>(0.019)</td>
<td>(0.021)</td>
<td>(0.029)</td>
</tr>
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<td>32,288</td>
<td>29,331</td>
<td>25,203</td>
<td>20,723</td>
<td>15,613</td>
<td>9,907</td>
</tr>
<tr>
<td>Drop Extreme Errors (1%)</td>
<td>-0.028*</td>
<td>-0.027</td>
<td>-0.026</td>
<td>-0.025</td>
<td>-0.026</td>
<td>-0.034</td>
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<tr>
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<td>(0.017)</td>
<td>(0.017)</td>
<td>(0.018)</td>
<td>(0.021)</td>
<td>(0.028)</td>
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<td>Interpolate Missing and Extreme Errors (1%)</td>
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<td>-0.027*</td>
<td>-0.027</td>
<td>-0.026</td>
<td>-0.027</td>
<td>-0.034</td>
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<tr>
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<td>(0.016)</td>
<td>(0.017)</td>
<td>(0.018)</td>
<td>(0.021)</td>
<td>(0.028)</td>
</tr>
<tr>
<td>Observations</td>
<td>37,426</td>
<td>32,654</td>
<td>27,031</td>
<td>21,648</td>
<td>15,853</td>
<td>9,963</td>
</tr>
<tr>
<td>Interpolate Missing and Extreme Errors (1%) and Fill</td>
<td>-0.027*</td>
<td>-0.027*</td>
<td>-0.027</td>
<td>-0.026</td>
<td>-0.026</td>
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<td>(0.017)</td>
<td>(0.018)</td>
<td>(0.021)</td>
<td>(0.028)</td>
</tr>
<tr>
<td>Observations</td>
<td>37,571</td>
<td>32,785</td>
<td>27,101</td>
<td>21,691</td>
<td>15,871</td>
<td>9,965</td>
</tr>
<tr>
<td>Drop Very Large Errors (5%)</td>
<td>-0.028*</td>
<td>-0.027</td>
<td>-0.027</td>
<td>-0.026</td>
<td>-0.027</td>
<td>-0.033</td>
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<tr>
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<td>(0.016)</td>
<td>(0.017)</td>
<td>(0.017)</td>
<td>(0.019)</td>
<td>(0.021)</td>
<td>(0.029)</td>
</tr>
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<td>23,315</td>
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<td>14,431</td>
<td>9,120</td>
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<tr>
<td>Interpolate Missing and Very Large Errors (5%)</td>
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<td>-0.027*</td>
<td>-0.027</td>
<td>-0.026</td>
<td>-0.027</td>
<td>-0.033</td>
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<td>(0.016)</td>
<td>(0.017)</td>
<td>(0.018)</td>
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<td>(0.028)</td>
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<tr>
<td>Observations</td>
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<td>32,654</td>
<td>27,031</td>
<td>21,648</td>
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<td>9,963</td>
</tr>
<tr>
<td>Interpolate Missing and Very Large Errors (5%) and Fill</td>
<td>-0.027*</td>
<td>-0.027</td>
<td>-0.026</td>
<td>-0.026</td>
<td>-0.026</td>
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<td>(0.017)</td>
<td>(0.018)</td>
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<tr>
<td>Observations</td>
<td>37,571</td>
<td>32,785</td>
<td>27,101</td>
<td>21,691</td>
<td>15,871</td>
<td>9,965</td>
</tr>
<tr>
<td>Drop Large Errors (10%)</td>
<td>-0.029*</td>
<td>-0.028</td>
<td>-0.028</td>
<td>-0.027</td>
<td>-0.029</td>
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<td>13,864</td>
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<tr>
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<td>-0.027*</td>
<td>-0.028*</td>
<td>-0.027</td>
<td>-0.028</td>
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<td>(0.028)</td>
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<tr>
<td>Observations</td>
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<td>32,654</td>
<td>27,031</td>
<td>21,648</td>
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<td>9,963</td>
</tr>
<tr>
<td>Interpolate Missing and Large Errors (10%) and Fill</td>
<td>-0.028*</td>
<td>-0.027*</td>
<td>-0.028*</td>
<td>-0.027</td>
<td>-0.028</td>
<td>-0.035</td>
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<td>(0.017)</td>
<td>(0.018)</td>
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<td>(0.028)</td>
</tr>
<tr>
<td>Observations</td>
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<td>32,785</td>
<td>27,101</td>
<td>21,691</td>
<td>15,871</td>
<td>9,965</td>
</tr>
</tbody>
</table>

Note: Each cell presents the coefficient from a separate OLS regression with standard errors clustered at the county-level in parentheses. Rows indicate different procedures for dealing with outliers. Columns indicate different restrictions on the number of years (out of 11) an agency must report to be included in the sample. Observations are at the county by birth cohort by age level and are weighted by the number of births in each county in 1964. The dependent variable is the number of individuals per 100 within a given county cohort who are arrested at a particular age. All specifications include birth year, age, and county fixed effects as well as baseline county characteristics (1960) interacted with a trend in birth year. Baseline county characteristics include: percent of land in farming, percent of people living in families with less than $3,000, percent of population in urban area, percent black, percent less than age 5, percent greater than age 65, and percent of employment in agriculture. The sample is restricted to individuals age 18-24 unless otherwise noted. Sample restricted to agencies accounting for at least 20% of a county's population. Significance levels indicated by: * (p<0.10) **(p<0.05), ***(p<0.01).
Table B4: UCR Results: Robustness to Imputation: Aggravated Assault

<table>
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<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
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<td>-0.079**</td>
<td>-0.076**</td>
<td>-0.102***</td>
<td>-0.120***</td>
<td>-0.111**</td>
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<tr>
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<td>(0.035)</td>
<td>(0.035)</td>
<td>(0.036)</td>
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<td>(0.049)</td>
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<td>-0.086**</td>
<td>-0.083**</td>
<td>-0.108***</td>
<td>-0.123***</td>
<td>-0.110**</td>
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<td>(0.035)</td>
<td>(0.035)</td>
<td>(0.036)</td>
<td>(0.040)</td>
<td>(0.048)</td>
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<td>-0.084**</td>
<td>-0.081**</td>
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<td>74,695</td>
<td>59,256</td>
<td>36,660</td>
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**Note:** Each cell presents the coefficient from a separate OLS regression with standard errors clustered at the county-level in parentheses. Rows indicate different procedures for dealing with outliers. Columns indicate different restrictions on the number of years (out of 11) an agency must report to be included in the sample. Observations are at the county by birth cohort by age level and are weighted by the number of births in each county in 1964. The dependent variable is the number of individuals per 100 within a given county cohort who are arrested at a particular age. All specifications include birth year, age, and county fixed effects as well as baseline county characteristics (1960) interacted with a trend in birth year. Baseline county characteristics include: percent of land in farming, percent of people living in families with less than $3,000, percent of population in urban area, percent black, percent less than age 5, percent greater than age 65, and percent of employment in agriculture. The sample is restricted to individuals age 18-24 unless otherwise noted. Sample restricted to agencies accounting for at least 20% of a county's population. Significance levels indicated by: * (p<0.10) **(p<0.05), ***(p<0.01).
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<td>-0.024*</td>
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<tr>
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<td>51,600</td>
<td>42,299</td>
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<tr>
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Note: Each cell present the coefficient from a separate OLS regression with standard errors clustered at the county-level in parentheses. Rows indicate different procedures for dealing with outliers. Columns indicate different restrictions on the number of years (out of 11) an agency must report to be included in the sample. Observations are at the county by birth cohort by age level and are weighted by the number of births in each county in 1964. The dependent variable is the number of individuals per 100 within a given county cohort who are arrested at a particular age. All specifications include birth year, age, and county fixed effects as well as baseline county characteristics (1960) interacted with a trend in birth year. Baseline county characteristics include: percent of land in farming, percent of people living in families with less than $3,000, percent of population in urban area, percent black, percent less than age 5, percent greater than age 65, and percent of employment in agriculture. The sample is restricted to individuals age 18-24 unless otherwise noted. Sample restricted to agencies accounting for at least 20% of a county's population. Significance levels indicated by: * (p<0.10) **(p<0.05), ***(p<0.01).
Online Appendix C: Welfare Calculations

In this section we provide the details of the calculations underlying our discussion of the welfare implications of the rollout of the FSP. First, we calculate back-of-the-envelope estimates of the dollar value of increased social welfare implied by our estimates of the reduction in violent crime due to FSP access in early childhood. Second, we compare these future benefits of the program to the potential contemporaneous efficiency costs of the program under various assumptions.

C.1 Quantifying Welfare Gains of FSP Crime Reduction

We convert our estimates of the effect of FSP access on later arrest rates to a dollar value benefit for each year of the FSP rollout from 1964-1974. First, we calculate the changes in the arrest rates, \( \Delta R_{jat\tau} \), of offense \( j \) by age \( a \) individuals in year \( t \) that correspond to a given FSP year \( \tau \). This is given by,

\[
\Delta R_{jat\tau} = \frac{1}{5} \times \eta_a \times \gamma_j \times FS_{at\tau},
\]

where \( \gamma_j \) is the coefficient estimate from Equation 1 for offense \( j \). \( FS_{at\tau} \) is the fraction of the cohort aged \( a \) in year \( t \) that had access to the FSP (and were between age 0 and 5) in year \( \tau \). \( \eta_a \) adjusts for differences in the arrest rate between age \( a \) individuals and the 18-24 year olds used to estimate Equation 1 (for 18-24 year olds \( \eta_a = 1 \)).\(^{68}\) \( \frac{1}{5} \) reflects the fact that \( \gamma_j \) is the coefficient for the fraction of 5 years of early childhood that a cohort had access to the FSP.

Next, we convert the changes in arrest rates by offense-age-year-FSP year, \( \Delta R_{jat\tau} \), to changes in the number of offenses, \( \Delta C_{jat\tau} \), as follows:

\[
\Delta C_{jat\tau} = \frac{\bar{C}_j}{A_j} \times \frac{POP_{at}}{100} \times \Delta R_{jat\tau},
\]

where \( POP_{at} \); the age \( a \) population in year \( t \), divided by 100 is used to convert a change in arrest per 100 people to a change in the number of arrests. \( \frac{\bar{C}_j}{A_j} \), the ratio of offenses to arrests for crime \( j \), converts the change in the number of arrests to the change in the number of crimes.\(^{69}\)

Finally, we apply estimates of the dollar value of each offense's social cost and discount the stream of future cost reductions associated with each FSP year \( \tau \) for the period 1964-1974.

\[
BENEFITS = \sum_{\tau=1964}^{1974} \sum_j \sum_a \sum_t \frac{1}{(1+r)^{t-\tau}} \times COST_j \times \Delta C_{jat\tau}.
\]

Table 6 presents the resulting back-of-the-envelope social welfare calculations for various choices of discount rate, \( r \), and social costs of crime, \( COST_j \), counting only the effects on crimes committed by 18-24 year olds.

\(^{68}\) \( \eta_a \) is operationalized as the ratio of the national average arrest rates for age \( a \) compared to age 18-24 for 1980-2000

\(^{69}\) \( \frac{\bar{C}_j}{A_j} \) is operationalized conservatively as the minimum of the annual ratio of the total national crimes to arrests for offense \( j \) for 1980-2000.
C.2 Quantifying Welfare Losses of the FSP

Economic theory suggests two primary areas where the rollout of the FSP may have had substantial contemporaneous distortionary effects that reduced efficiency. First, while program benefits represent transfers from one group to another that should not themselves reduce social welfare, program administration costs and utilization of government revenue raised from distortionary taxes could lead to efficiency losses from these transfers. Table A22 shows back-of-the-envelope estimates of these welfare losses \(DWL^G\) in year \(\tau\), which total $14-35 billion ($2015) during the rollout period. Welfare losses from FSP transfers are calculated as follows:

\[
DWL^G = MDWL^G \times (1 - P^A) \times FSPCOST_\tau + (1 + MDWL^G) \times P^A \times FSPCOST_\tau. \tag{5}
\]

\(MDWL^G\) is the marginal deadweight loss from an additional $1 of government revenue. We use the range of \(MDWL^G\) reported by Ballard, Shoven, and Whalley (1985) of 0.17 – 0.56. \(P^A\) is the percent of program costs that do not go directly to program benefits for recipients. We use \(P^A = 8.7\%\), the maximum that we observe during the rollout period.\(^{70}\) \(FSPCOST_\tau\) is the total program cost in year \(\tau\), obtained from the Office of Management and Budget.\(^{71}\)

Second, the FSP could reduce efficiency through distortions in the labor market. This would occur if Food Stamp receipt disincentivizes work for recipients. Hoynes and Schanzenbach (2012) investigate precisely this question. They find that FSP access reduces annual work hours, but only for female household heads (with children). Hoynes and Schanzenbach report the effect of FSP access on the earnings of these female household heads, however the loss in efficiency may exceed the earnings loss if labor demand is not perfectly elastic. Table A22 shows back-of-the-envelope estimates of deadweight loss from the contemporaneous labor market distortions of the FSP in year \(\tau\), which total $63-$80 billion ($2015) over the rollout period. We calculate the welfare losses from labor market distortions, using Hoynes and Schanzenbach’s estimates, as follows:

\[
DWL^L = \frac{1}{2} \times \left( \frac{w\Delta h}{h^2} + \Delta w \right) \times \Delta h \times N_\tau. \tag{6}
\]

Where \(h, w, \Delta h, \Delta w\) are the average hours worked, wage, change in average hours worked, and change in average wage for female household heads with children, estimated in Table 2 of Hoynes and Schanzenbach (2012).\(^{72}\) \(N_\tau\) is the number of female household heads with children in counties with the FSP in year \(\tau\).\(^{73}\) \(\epsilon_s\) is the elasticity of labor supply for single women which ranges between 0.1 and 0.3, following a literature review by the Congressional Budget Office (McClelland and Mok, 2012).

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\(^{70}\) We use annual total expenditure data by category (benefits vs other) available for 1969 – 1974 from the USDA to calculate the maximum percent of annual program costs that are not directly transferred to beneficiaries during this period: 9%.

\(^{71}\) Office of Management and Budget (2014). Fiscal Year 2016 Historical Tables. Table 11.3.

\(^{72}\) \(w\) and \(\Delta w\) are constructed from reported hours, earnings, and the change in hours and earnings in Table 2 of Hoynes and Schanzenbach (2012). Our calculation assumes an initially undistorted labor market with simple linear labor supply and demand curves, where the labor supply curve is restricted to non-negative wages.

\(^{73}\) \(N_\tau\) is the number of female headed households in the U.S. with children in year \(\tau\) (obtained from the Current Population Survey), multiplied by the percent of the population with FSP access in year \(\tau\) (calculated by authors using county populations in 1970).
C.3 Marginal Value of Public Funds

An alternative approach to analyzing the welfare impact of a policy, discussed in detail in recent work by Hendren and Sprung-Keyser (2019), is to calculate the Marginal Value of Public Funds (MVPF). This approach divides the willingness to pay for the benefits of a program (WTP) by the net cost of the program to the government. Rather than attempting to measure welfare directly, this approach measures the shadow price to the government of delivering welfare (e.g. a simple non-distortionary transfer would have an MVPF of 1). Hendren and Sprung-Keyser (2019) calculate an MVPF of 1.04 for the impact of the rollout of FSP. 74 Their estimate of the WTP per dollar of government spending ($1.09) incorporates recipients’ willingness to pay for the FSP benefits themselves ($0.62), as well as the impacts of the program on infant mortality, longevity, and later adult earnings gains for children ($0.47). Incorporating our estimates of FSP’s social benefits in the form of reductions in later violent crime (excluding reductions in the government’s criminal justice system expenses) increases WTP to $2.98 to $5.98, (depending on the choice of social crime costs). 75 Hendren and Sprung-Keyser’s estimate of the net cost of FSP per dollar of government spending ($1.05) incorporates the direct cost of program ($1.00), reductions in tax revenue due to contemporaneous behavioral responses to the program ($0.16), and increases in tax revenue due to later adult earnings gains for children ($0.11). Incorporating our estimates of FSP’s reductions in government criminal justice system expenditures reduces the net cost of the program to the government to $0.77. Put together, our estimates of the long-run effects of FSP on violent crime dramatically increase FSP’s MVPF from $1.04 to between $3.86 and $7.74.

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74 Hendren and Sprung-Keyser use FSP effect estimates from Hoyne and Schanzenbach (2012), Almond et al. (2011) and Hoynes et al. (2016) to construct their MVPF estimate.

75 We use our estimates of the crime reduction benefits of the program discussed in Online Appendix C.1, excluding the government’s savings from future criminal justice system cost reductions, and then divide by total cost of the program from 1964-1974. The criminal justice costs per offense are obtained from McCollister, French, and Fang (2010). The total program cost is obtained from the Office of Management and Budget. Following Hendren and Sprung-Keyser, we use a 3 percent discount rate.
Online Appendix D: Analysis of Likely FSP Effects on Food vs. Cash

Figure D1 shows how the FSP would have altered the budget constraint for food \( F \) and other goods \( x \) of a household with income \( m \).\(^76\) Households consuming less than \( \bar{F} \) in food (the amount of food purchasable at the same cost as the coupons, \( \frac{0.5m}{P_f} \)) prior to the FSP rollout would increase food expenditures \( F \), but would not increase other expenditures.\(^77\) In contrast, households consuming more than \( \bar{F} \) in food (the food provided in coupons) prior to the FSP rollout would increase expenditures on food and other goods in the same way as if they had been given a cash transfer (assuming both \( F \) and \( x \) are normal goods); for this group, the food assistance is inframarginal. Households consuming between \( \bar{F} \) and \( \bar{F} \) prior to the FSP rollout would increase food expenditures \( F \) and expenditures on other goods \( x \), but they may be constrained by the food coupons and increase food consumption by more than if they had received an equivalent cash transfer. The proportion of FSP-participating households that fall into these different \textit{a priori} food consumption categories provides one indication as to whether any long-run effects are likely to have arisen from direct nutrition improvements. We obtain rough estimates using the 1960-1961 Consumer Expenditure Survey (CES) which allows us to observe a nationally representative sample of food expenditures among soon-to-be-eligible households, shortly before the FSP rollout.\(^78\) With the purchase requirement of roughly 30% of household net income during this period, we find that between 17 and 41% of households in this sample spent less than the purchase requirement on food \( (F < \bar{F}) \).\(^79,80\) This suggests that a substantial fraction of eligible households would receive purely an increase in food from the program. Similarly, we find that households who would experience the program as a pure cash transfer, estimated as the fraction that spent more on food than the value of the food coupons they would receive under the FSP \( (F > \bar{F}) \), comprise 36 to 45% of FSP-eligible households.\(^81\)

\(^{76}\)We normalize the price of other goods \( x \) to be one and let \( P_f \) represent the relative price of food.
\(^{77}\)In fact, these households will likely reduce their expenditures on other goods \( x \).
\(^{78}\)We define the sample that will be FSP-eligible as those in income bins that fall entirely below the relevant state income threshold. CES only reports income in $500-$1,000 income bins. We use after-tax income as the closest proxy for net income. State FSP income eligibility thresholds as of 1966 were obtained from Clarkson (1975). We use the purchase requirement and benefit parameters of the 1975 program, which provide a conservative estimate of the fraction of households that would experience a pure increase in food consumption.
\(^{79}\)The range reflects the fact that income in the CES is only reported in bins.
\(^{80}\)Mapping food expenditure for household size and $500-$1,000 income bin combinations in the CES onto the national distribution of income from the 1960 census (household size and $100 income bin combinations) suggests that 33% of households spent less than the purchase requirement on food.
\(^{81}\)We use FSP coupon allotment (by household size) in 1975 reported by Clarkson (1975) and deflate it to 1961 dollars.
Figure D1: Budget Constraint for Food Stamps with Purchase Requirement

Note: The blue line represents the budget constraint of a FSP-eligible household with income $m$ that does not participate in the FSP or does not have access to it. The red line represents the budget constraint of an equivalent household that chooses to participate in the FSP. Until the 1970s, FSP participants were required to pay roughly 30% of income $m$ (the “purchase requirement”) to obtain the subsidized food coupons.