Bernardo Arreal Magalhaes

UTEID ba25727

Causal Inference

MA Economics

The University of Texas at Austin

Spring 2020

**Replication - Children and Their Parents' Labor Supply:**

**Evidence from Exogenous Variation in Family Size, by Joshua D. Angrist; William N. Evans**

1. Brief summary

Hansen’s paper addresses a question regarding whether punishments and sanctions are effective in reducing drunk driving. He uses the theoretical result from Becker (1968), that suggests that criminals behave rationally when committing crimes by evaluating expected costs and benefits.The author analyzes administrative records from 1999 to 2007 from the state of Washington, where, during that time period, a blood alcohol content (BAC) above 0.08 was considered driving under the influence (DUI), while a BAC above 0.15 was considered an aggravated DUI. In order to evaluate the causal effect of having the 0.08 and 0.15 tresholds on recidivism, he examines other two mechanisms that, as well as deterrence, arise from theories of criminality and might affect recidivism: incapacitation and rehabilitation.

|  |  |
| --- | --- |
| **TABLE 1-FERTILITY AND LABOR-SUPPLY MEASURES** | |
|  | |
| Sample | 1980  PUMS |
|  | |
| Women aged 21-35 |  |
| Mean children ever born | 2.51 |
| Percent with more than 2 children | 38.06 |
| Percent worked last year | 52.82 |
| Observations | 254,654 |

|  |  |
| --- | --- |
| **TABLE 2-DESCRIPTIVE STATISTICS, WOMEN AGED 21-35**  **WITH 2 OR MORE CHILDREN** | |
|  | |
|  | Means and (standard deviations) |
|  | 1980 PUMS |
|  |  |
| Variable | All women |
|  | |
| Children ever born | 2.508 |
|  | (0.769) |
|  |  |
| More than 2 children (=1 if mother had more than 2 children, =0 otherwise) | 0.381 |
| (0.486) |
|  |  |
| Boy 1st (=1 if first child was a boy) | 0.514 |
|  | (0.500) |
|  |  |
| Boy 2nd (=1 if second child was a boy) | 0.513 |
|  | (0.500) |
|  |  |
| Two boys (=1 if first two children were boys) | 0.266 |
|  | (0.442) |
|  |  |
| Two girls (=1 if first two children were girls) | 0.239 |
|  | (0.427) |
|  |  |
| Same sex (=1 if first two children were the same sex) | 0.506 |
|  | (0.500) |
|  |  |
| Age | 30.393 |
|  | (3.386) |
|  |  |
| Age at first birth (parent's age in years when first child was born) | 20.832 |
| (2.921) |
|  |  |
| Worked for pay (=1 if worked for pay in year prior to census) | 0.528 |
| (0.499) |
|  |  |
| Weeks worked (weeks worked in year prior to census) | 19.018 |
|  | (21.867) |
|  |  |
| Hours/week (average hours worked per week) | 16.699 |
|  | (18.335) |
|  |  |
| Labor income (labor earnings in year prior to census, in 1995 dollars) | 6,250 |
| (10,211) |
|  |  |
|  |  |
|  |  |
|  |  |
|  | |
| Observations | 254,654 |
|  | |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TABLE 3-OLS AND 2SLS ESTIMATES OF LABOR-SUPPLY MODELS** | | | | | | | | | | | |
|  | Worked for pay | | | | |  | | Weeks worked | | | |
|  | OLS | Cov Adjusted | Manual 2SLS | IVReg | |  | | OLS | Cov Adjusted | Manual 2SLS | IVReg |
|  | (1) | (2) | (3) | (4) | |  | | (5) | (6) | (7) | (8) |
|  | | | | |  | | | | | | |
| More than 2 children | -0.167\*\*\* | -0.120 | -0.120\*\*\* | -0.120\*\*\* | |  | | -8.045\*\*\* | -5.401 | -5.401\*\*\* | -5.401\*\*\* |
|  | (0.002) |  | (0.028) | (0.028) | |  | | (0.087) |  | (1.225) | (1.208) |
|  |  |  |  |  | |  | |  |  |  |  |
| Age | 0.023\*\*\* |  | 0.022\*\*\* | 0.022\*\*\* | |  | | 1.334\*\*\* |  | 1.254\*\*\* | 1.254\*\*\* |
|  | (0.0003) |  | (0.001) | (0.001) | |  | | (0.013) |  | (0.040) | (0.039) |
|  |  |  |  |  | |  | |  |  |  |  |
| Age at first birth | -0.029\*\*\* |  | -0.026\*\*\* | -0.026\*\*\* | |  | | -1.357\*\*\* |  | -1.242\*\*\* | -1.242\*\*\* |
|  | (0.0004) |  | (0.001) | (0.001) | |  | | (0.016) |  | (0.056) | (0.055) |
|  |  |  |  |  | |  | |  |  |  |  |
| Black | 0.193\*\*\* |  | 0.190\*\*\* | 0.190\*\*\* | |  | | 10.834\*\*\* |  | 10.655\*\*\* | 10.655\*\*\* |
|  | (0.004) |  | (0.005) | (0.004) | |  | | (0.195) |  | (0.216) | (0.212) |
|  |  |  |  |  | |  | |  |  |  |  |
| Hispanic | -0.008\* |  | -0.014\*\* | -0.014\*\* | |  | | -0.043 |  | -0.377 | -0.377 |
|  | (0.004) |  | (0.005) | (0.005) | |  | | (0.180) |  | (0.239) | (0.236) |
|  |  |  |  |  | |  | |  |  |  |  |
| Other race | 0.047\*\*\* |  | 0.044\*\*\* | 0.044\*\*\* | |  | | 2.827\*\*\* |  | 2.701\*\*\* | 2.701\*\*\* |
|  | (0.005) |  | (0.005) | (0.005) | |  | | (0.208) |  | (0.219) | (0.216) |
|  |  |  |  |  | |  | |  |  |  |  |
| Boy 1st | 0.0005 |  | 0.001 | 0.001 | |  | | -0.048 |  | -0.023 | -0.023 |
|  | (0.002) |  | (0.002) | (0.002) | |  | | (0.084) |  | (0.086) | (0.085) |
|  |  |  |  |  | |  | |  |  |  |  |
| Boy 2nd | -0.005\*\*\* |  | -0.005\*\* | -0.005\*\* | |  | | -0.172\*\* |  | -0.152\* | -0.152\* |
|  | (0.002) |  | (0.002) | (0.002) | |  | | (0.084) |  | (0.085) | (0.084) |
|  |  |  |  |  | |  | |  |  |  |  |
| Same sex |  |  | 0.0693 |  | |  | |  |  | 0.0693 |  |
| (first stage) |  |  | (0.0018) |  | |  | |  |  | (0.0018) |  |
|  |  |  |  |  | |  | |  |  |  |  |
| *N* | 254,654 | 254,654 | 254,654 | 254,654 | |  | | 254,654 | 254,654 | 254,654 | 254,654 |
| R2 | 0.050 |  | 0.026 | 0.048 | |  | | 0.070 |  | 0.040 | 0.066 |
| Adjusted R2 | 0.050 |  | 0.026 | 0.048 | |  | | 0.069 |  | 0.040 | 0.066 |
| F Statistic (df = 8; 254645) | 1,677.505\*\*\* |  | 845.420\*\*\* |  | |  | | 2,378.127\*\*\* |  | 1,330.530\*\*\* |  |
|  | | | | |  | | | | | | |
| *Notes:* |  | | | | | | \*\*\*Significant at the 1 percent level. | | | | |
|  |  | | | | | | \*\*Significant at the 5 percent level. | | | | |
|  |  | | | | | | \*Significant at the 10 percent level. | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TABLE 4-OLS AND 2SLS ESTIMATES OF LABOR-SUPPLY MODELS** | | | | | | | | | | | |
|  | Hours worked per week | | | | |  | | Labor income | | | |
|  | OLS | Cov Adjusted | Manual 2SLS | IVReg | |  | | OLS | Cov Adjusted | Manual 2SLS | IVReg |
|  | (1) | (2) | (3) | (4) | |  | | (5) | (6) | (7) | (8) |
|  | | | | |  | | | | | | |
| More than 2 children | -6.022\*\*\* | -4.830 | -4.830\*\*\* | -4.83\*\*\* | |  | | -3,165.65\*\*\* | -1,344.811 | -1,344.811\*\* | -1,344.811\*\* |
| (0.074) |  | (1.027) | (1.014) | |  | | (40.597) |  | (573.311) | (569.149) |
|  |  |  |  |  | |  | |  |  |  |  |
| Age | 0.819\*\*\* |  | 0.783\*\*\* | 0.783\*\*\* | |  | | 528.221\*\*\* |  | 472.916\*\*\* | 472.916\*\*\* |
|  | (0.012) |  | (0.033) | (0.033) | |  | | (6.177) |  | (18.428) | (18.294) |
|  |  |  |  |  | |  | |  |  |  |  |
| Age at first birth | -1.296\*\*\* |  | -1.245\*\*\* | -1.245\*\*\* | |  | | -334.987\*\*\* |  | -255.741\*\*\* | -255.741\*\*\* |
| (0.013) |  | (0.047) | (0.046) | |  | | (8.198) |  | (26.302) | (26.116) |
|  |  |  |  |  | |  | |  |  |  |  |
| Black | 9.727\*\*\* |  | 9.646\*\*\* | 9.646\*\*\* | |  | | 6,217.592\*\*\* |  | 6,094.567\*\*\* | 6,094.567\*\*\* |
|  | (0.165) |  | (0.181) | (0.178) | |  | | (108.876) |  | (116.576) | (115.615) |
|  |  |  |  |  | |  | |  |  |  |  |
| Hispanic | 1.127\*\*\* |  | 0.977\*\*\* | 0.977\*\*\* | |  | | 112.746 |  | -116.790 | -116.790 |
|  | (0.161) |  | (0.208) | (0.205) | |  | | (87.258) |  | (113.911) | (113.112) |
|  |  |  |  |  | |  | |  |  |  |  |
| Other race | 3.618\*\*\* |  | 3.561\*\*\* | 3.561\*\*\* | |  | | 2,271.332\*\*\* |  | 2,184.531\*\*\* | 2,184.531\*\*\* |
|  | (0.185) |  | (0.193) | (0.191) | |  | | (116.035) |  | (120.550) | (119.887) |
|  |  |  |  |  | |  | |  |  |  |  |
| Boy 1st | 0.044 |  | 0.056 | 0.056 | |  | | 12.121 |  | 29.275 | 29.275 |
|  | (0.070) |  | (0.072) | (0.071) | |  | | (39.351) |  | (40.204) | (39.911) |
|  |  |  |  |  | |  | |  |  |  |  |
| Boy 2nd | -0.148\*\* |  | -0.139\* | -0.139\*\* | |  | | -28.963 |  | -15.141 | -15.141 |
|  | (0.070) |  | (0.072) | (0.071) | |  | | (39.317) |  | (39.947) | (39.658) |
|  |  |  |  |  | |  | |  |  |  |  |
| Same sex |  |  | 0.0693 |  | |  | |  |  | 0.0693 |  |
| (first stage) |  |  | (0.0018) |  | |  | |  |  | (0.0018) |  |
|  |  |  |  |  | |  | |  |  |  |  |
| *N* | 254,654 | 254,654 | 254,654 | 254,654 | |  | | 254,654 | 254,654 | 254,654 | 254,654 |
| R2 | 0.064 |  | 0.041 | 0.063 | |  | | 0.056 |  | 0.035 | 0.049 |
| Adjusted R2 | 0.064 |  | 0.041 | 0.063 | |  | | 0.056 |  | 0.035 | 0.049 |
| F Statistic (df = 8; 254645) | 2,183.674\*\*\* |  | 1,353.731\*\*\* |  | |  | | 1,886.355\*\*\* |  | 1,155.902\*\*\* |  |
|  | | | | |  | | | | | | |
| *Notes:* |  | | | | | | \*\*\*Significant at the 1 percent level. | | | | |
|  |  | | | | | | \*\*Significant at the 5 percent level. | | | | |
|  |  | | | | | | \*Significant at the 10 percent level. | | | | |