Appendix: Supplementary Tables

Examining the Consequences of Poor Neonatal Health on the Family

A1. Impact of poor neonatal health on subsequent child health, OLS results

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Wave** | **Any disability** | | **Type of disability** | | | | | | | | | |
| **Neurodevelopmental** | | **Motor** | | **Sensory** | | **Heart** | | **Speech** | |
| 2 | 0.055\*\*\* | 0.057\*\*\* | 0.003 | 0.001 | 0.009\*\* | 0.008\* | 0.001 | 0.001 | -0.000 | 0.000 | N.A. | N.A. |
|  | (0.017) | (0.020) | (0.002) | (0.001) | (0.004) | (0.005) | (0.001) | (0.002) | (0.002) | (0.002) |
| 3 | 0.038\*\*\* | 0.047\*\* | 0.008\*\*\* | 0.008\*\* | 0.024\* | 0.032 | 0.005 | 0.005 | 0.002 | 0.003 | 0.002 | 0.003 |
|  | (0.012) | (0.020) | (0.002) | (0.003) | (0.012) | (0.020) | (0.003) | (0.004) | (0.002) | (0.003) | -(0.002) | -(0.002) |
| 4 | 0.102 | 0.078 | 0.072\*\*\* | 0.029 | 0.016\* | 0.013\* | 0.004 | 0.004 | 0.012 | 0.024\*\* | 0.068 | 0.058 |
|  | (0.066) | (0.068) | (0.019) | (0.021) | (0.008) | (0.007) | (0.004) | (0.004) | (0.007) | (0.009) | -(0.066) | -(0.054) |
| 5 | 0.038\* | 0.023 | 0.046\*\*\* | 0.046\*\* | 0.009 | 0.009 | 0.001 | 0.006\* | -0.007 | -0.010 | -0.003 | 0.004 |
|  | (0.020) | (0.034) | (0.016) | (0.020) | (0.008) | (0.007) | (0.003) | (0.003) | (0.005) | (0.010) | -(0.029) | -(0.034) |
| 6 | 0.105\*\*\* | 0.038 | 0.116\*\*\* | 0.061\*\*\* | 0.026\*\* | 0.015 | N.A. | N.A. | 0.009 | -0.003 | 0.006 | 0.009\*\* |
|  | (0.030) | (0.032) | (0.037) | (0.022) | (0.011) | (0.014) | (0.011) | (0.015) | -(0.006) | -(0.004) |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Controls | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes |

*Note:* Each cell represents the weighted least squares estimate from a separate regression, using only the city sample weights. Controls include baseline covariates used in the entropy-balancing scheme. Robust standard errors in parentheses are clustered by the national sampling unit. Sensory disorders include blindness and deafness. Motor disorders include problems with limbs and cerebral palsy. Neurodevelopmental disorders include developmental, autism, and attention-deficit/hyperactivity disorders.

\*/\*\*/\*\*\*Statistically significant at the .10/.05/.01 level.

A2. Impact of poor neonatal health on maternal labor market activity, OLS results

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Wave** | **Worked  last week** | | **Hours worked  last week, logged** | | **Earnings last week, logged** | | **Worked  last year** | | **Hours worked  last year, logged** | | **Earnings last year, logged** | |
| 2 | 0.033 | 0.042 | -0.042 | -0.035 | 0.421 | 0.344 | 0.051 | 0.068\* | -0.250\*\*\* | -0.179\* | 0.520 | 0.351 |
|  | (0.071) | (0.026) | (0.028) | (0.027) | (0.354) | (0.212) | (0.063) | (0.035) | (0.085) | (0.090) | (0.596) | (0.323) |
| 3 | -0.108\*\* | -0.097\*\* | -0.022 | -0.029 | -0.413\* | -0.286 | -0.076\*\* | -0.052\*\* | -0.123\* | -0.143\* | -0.749\* | -0.447 |
|  | (0.043) | (0.035) | (0.034) | (0.037) | (0.233) | (0.177) | (0.036) | (0.024) | (0.062) | (0.078) | (0.407) | (0.273) |
| 4 | -0.023 | 0.033 | -0.069\* | -0.100 | 0.055 | 0.041 | -0.016 | 0.004 | 0.012 | -0.008 | 0.188 | 0.244 |
|  | (0.036) | (0.032) | (0.037) | (0.084) | (0.270) | (0.201) | (0.032) | (0.029) | (0.114) | (0.076) | (0.412) | (0.300) |
| 5 | -0.060\*\* | -0.080\*\* | 0.041 | 0.017 | 0.031 | -0.146 | -0.022 | -0.036 | 0.065 | 0.098 | 0.037 | -0.140 |
|  | (0.022) | (0.038) | (0.058) | (0.029) | (0.284) | (0.139) | (0.019) | (0.034) | (0.178) | (0.114) | (0.535) | (0.251) |
| 6 | -0.019 | -0.009 | -0.275\*\* | -0.177\*\* | -0.096 | -0.119 | -0.007 | -0.003 | -0.163\*\* | -0.097 | -0.694\*\* | -0.383\*\* |
|  | (0.030) | (0.025) | (0.125) | (0.068) | (0.358) | (0.132) | (0.036) | (0.031) | (0.061) | (0.057) | (0.322) | (0.178) |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Controls | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes |

*Note:* Each cell represents the weighted least squares estimate from a separate regression, using only the city sample weights. Controls include baseline covariates used in the entropy-balancing scheme. Robust standard errors in parentheses are clustered by the national sampling unit. Hours worked are conditional upon working. Earnings are augmented by 1 before logging and include those with zero earnings.

\*/\*\*/\*\*\*Statistically significant at the .10/.05/.01 level.

A3. Impact of poor neonatal health on benefit receipt, OLS results

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Wave** | **Child  SSI** | | **SNAP** | | **TANF** | | **Other public assistance** | |
| 2 | 0.029\*\*\* | 0.036\*\* | 0.009 | 0.009 | 0.012 | 0.007 | 0.017 | 0.026 |
|  | (0.010) | (0.016) | (0.024) | (0.021) | (0.032) | (0.024) | (0.015) | (0.020) |
| 3 | 0.049\*\*\* | 0.056\*\*\* | 0.069 | 0.087\* | 0.022 | 0.026 | -0.008 | -0.010 |
|  | (0.010) | (0.015) | (0.065) | (0.051) | (0.022) | (0.018) | (0.024) | (0.019) |
| 4 | 0.037\*\*\* | 0.036\*\* | 0.077\*\*\* | 0.066\* | 0.082\*\*\* | 0.070\*\* | 0.003 | -0.001 |
|  | (0.011) | (0.013) | (0.027) | (0.035) | (0.023) | (0.030) | (0.022) | (0.027) |
| 5 | 0.024\*\*\* | 0.028\*\* | 0.070\*\*\* | 0.050\*\* | -0.013 | -0.002 | 0.014 | -0.004 |
|  | (0.009) | (0.013) | (0.017) | (0.023) | (0.050) | (0.025) | (0.011) | (0.010) |
| 6 | N.A. | N.A. | 0.045\* | 0.012 | 0.033\*\* | 0.019 | -0.010 | -0.005 |
|  | (0.026) | (0.021) | (0.016) | (0.028) | (0.011) | (0.011) |
|  |  |  |  |  |  |  |  |  |
| Controls | No | Yes | No | Yes | No | Yes | No | Yes |

*Note:* Each cell represents the weighted least squares estimate from a separate regression, using only the city sample weights. Controls include baseline covariates used in the entropy-balancing scheme. Robust standard errors in parentheses are clustered by the national sampling unit.

\*/\*\*/\*\*\*Statistically significant at the .10/.05/.01 levels.

A4. Impact of poor neonatal health on household well-being, OLS results

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Wave** |  | **Household income, logged** | | **Household  poverty** | | **Mom experienced depression** | | **Parents married or cohabitating** | |
| 2 |  | -0.012 | -0.043 | 0.006 | 0.020 | 0.003 | 0.006 | -0.057\*\*\* | -0.048\*\* |
|  |  | (0.174) | (0.093) | (0.054) | (0.031) | (0.024) | (0.025) | (0.014) | (0.019) |
| 3 |  | -0.043 | -0.062 | 0.048 | 0.052\* | 0.032 | 0.022 | -0.060\*\*\* | -0.038\* |
|  |  | (0.190) | (0.119) | (0.051) | (0.028) | (0.032) | (0.021) | (0.019) | (0.019) |
| 4 |  | 0.022 | 0.047 | -0.047 | -0.039 | 0.031\* | 0.013 | -0.050 | -0.009 |
|  |  | (0.107) | (0.071) | (0.076) | (0.049) | (0.017) | (0.016) | (0.032) | (0.031) |
| 5 |  | 0.021 | -0.092 | 0.031 | 0.062\*\* | -0.002 | 0.014 | -0.072\*\*\* | -0.032 |
|  |  | (0.184) | (0.110) | (0.022) | (0.025) | (0.015) | (0.022) | (0.020) | (0.037) |
| 6 |  | 0.004 | -0.015 | 0.065\*\*\* | 0.057\*\*\* | 0.016\* | 0.016 | -0.073\*\* | -0.027 |
|  |  | (0.109) | (0.046) | (0.019) | (0.020) | (0.009) | (0.013) | (0.035) | (0.025) |
|  |  |  |  |  |  |  |  |  |  |
| Controls |  | No | Yes | No | Yes | No | Yes | No | Yes |

*Note:* Each cell represents the weighted least squares estimate from a separate regression, using only the city sample weights. Controls include baseline covariates used in the entropy-balancing scheme. Robust standard errors in parentheses are clustered by the national sampling unit.

\*/\*\*/\*\*\*Statistically significant at the .10/.05/.01 levels.

Data Appendix

This appendix describes in detail how we constructed several key outcome measures.

1. **Child disability**

We constructed a binary indicator for whether or not the focal child had a disability at the time of the interview. Because parents did not report the child’s disability status during the baseline interview, this variable was not constructed for the wave 1 (birth). Wave 2 asked about the focal child’s disability status in the mother and father surveys. Our construct favored the mother’s response but used the father’s response if the mother’s was unavailable. All other waves reported the child’s disability or health condition status in the primary caregiver survey.

The survey questions where respondents reported the child’s disability status varied across waves (Table 1). The wave 2 and wave 3 surveys asked about the focal child’s disability status through two questions:

1. Does (CHILD) have any physical disabilities?
2. What type of physical disability does he/she have?

If respondents answered “yes,” they had the opportunity to answer question 2 and circle as many conditions that apply. Note that although the question specified “physical disability,” the listed conditions included intellectual disabilities, such as developmental disorders. Conditions listed varied across waves (Table 2).

The question in waves 4 to 6 differs from this structure in two ways. First, instead of asking the parents to self-report physical disabilities present in their child, the survey in waves 4 to 6 asks respondents if a doctor or health professional has told the respondent that their child has a health condition. Second, the surveys in waves 4 to 6 eliminated the up-front binary question and instead collected information on a series of specific health conditions.

The varied question structure across waves has implications for how we constructed our physical disability variable. For waves 2 and 3, we used the binary variable to construct our child disability indicator. For waves 4 to 6, we used the series of questions that listed health conditions to construct the indicator.

**Appendix Table 1. Child disability survey questions across waves**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Wave 1** | **Wave 2** | **Wave 3** | **Wave 4** | **Wave 5** | **Wave 6** |
| Question | n/a | Does (CHILD) have any physical disabilities? | | Has a doctor or health professional ever told you that (CHILD) has any of the following  health conditions? | | Has a doctor or health professional ever told you that {YOUTH} has any of the following conditions? |
| Survey | n/a | Mother survey  and  Father survey | Primary caregiver survey | | | |

*Source:* Fragile Families & Child Wellbeing Study baseline and year 1 mother and father surveys, and year 3, year 5, year 9, and year 15 primary caregiver surveys.

Table 2 shows the conditions included in the child disability variable across waves. Note that certain conditions are not included in all waves. The wave 6 survey does not ask respondents whether the focal child has cerebral palsy, blindness, deafness, or Down syndrome. We considered cerebral palsy and Down syndrome to be permanent and extrapolated responses from previous waves to wave 6. We considered deafness and blindness to be permanent if the child reported the same conditions consistently in previous waves.

We also further grouped the disabilities into categories: sensory (blindness and deafness), neurodevelopmental (developmental, autism, attention-deficit/hyperactivity disorder), motor (cerebral palsy and problem with limbs). We considered speech and heart disorders as individual categories.

**2. Mother’s earning from all jobs last year, survey response**

We constructed the mother’s earnings from all jobs last year using the following survey question and probe from the mother survey:

1. About how much did you earn from (all of) your regular job(s) in the last 12 months? Please do not count any earnings from off-the-books or under-the-table jobs.
2. I just need to have a range. Can you tell me if it was (1) less than $5,000 (2) $5,001 to $10,000 (3) $10,001 to $15,000 (4) $15,001 to $20,000 (5) $20,001 to $25,000 (6) $25,001 to $30,000 (7) $30,001 to $40,000 (8) $40,001 to $60,000 (9) More than $60,000?

The question wording and structure was consistent across all six waves and was from the mother’s survey. We used the responses from the first question when available, and when not, we used the midpoint of the range reported in the second question. Respondents who never worked for two consecutive weeks or had never worked since the focal child was born skipped this question and were assigned a value of zero for this variable. We conducted some simple top and bottom coding to the earnings measures, determined by being five standard deviations from the mean, and adjusted to 2017 dollars using the CPI-U index of the Bureau of Labor Statistics.

Appendix Table 2. Conditions included in child disability variable across waves

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Wave 1** | **Wave 2** | **Wave 3** | **Wave 4** | **Wave 5** | **Wave 6** |
| Cerebral palsy |  | ✓ | ✓ | ✓ | ✓ | a |
| Blindness |  | ✓ | ✓ | ✓ | ✓ | a |
| Deafness |  | ✓ | ✓ | ✓ | ✓ | a |
| Down syndrome |  | ✓ | ✓ | ✓ | ✓ | a |
| Problem with limbs |  | ✓ | ✓ | ✓ | ✓ | ✓ |
| Other |  | ✓ | ✓ |  |  | ✓ |
| Heart disease |  | ✓b | ✓ b | ✓ | ✓ | ✓ |
| Developmental disorder |  | ✓ b | ✓ b | ✓ | ✓ | ✓ |
| Autism or Asperger syndromec |  |  |  | ✓ | ✓ | ✓ |
| Speech or language problem |  |  | ✓ b | ✓ | ✓ |  |
| Attention deficit disorder  or attention-deficit/ hyperactivity disorder |  |  |  | ✓ | ✓ | ✓ |
| Blood condition (e.g., anemia, leukemia) |  |  |  | ✓ | ✓ | ✓ |
| Depression or anxiety |  |  |  |  |  | ✓ |
| Diabetes |  |  |  |  | ✓ | ✓ |
| Seizures |  |  |  | ✓ | ✓ | ✓ |

*Source:* Fragile Families & Child Wellbeing Study baseline and year 1 mother and father surveys, and year 3, year 5, year 9, and year 15 primary caregiver surveys.

*Note:* Respondents were not asked about their child’s disability status in the baseline survey.

aThe Wave 6 survey did not ask respondents about their child’s cerebral palsy, blindness, deafness, or Down syndrome status. For the purpose of variable construction, these conditions are considered to be permanent and extrapolate to wave 6. bThese conditions were specified based on the “other” response and not asked as their own survey questions. cWaves 4, 5, and 6 asked respondents whether a doctor or health professional told them that their child had autism. The wave 6 survey included Asperger syndrome in the autism response option.

1. **Household income**

We use the household income measure constructed by the Fragile Families survey team at the Center for Research on Child Wellbeing. We provide a brief description here of how the measure was constructed, and further details can be found in the Fragile Families data documentation. The survey asks both parents to report their household income using the following question and probe. Respondents were instructed to include the income of everyone living in the household, money earned from jobs, rent, interest, dividends, and public assistance programs when reporting their total household income.

1. What was your total household income for the last year before taxes?
2. I just need to know a range. Can you tell me if it was (1) $4,999 or less (2) $5,000 to $9,999 (3) $10,000 to $14,999 (4) $15,000 to $19,999 (5) $20,000 to $24,999 (6) $25,000 to $34,999 (7) $35,000 to $49,999 (8) $50,000 to $74,999 (9) Greater than $75,000

For married and cohabitating couples, the household income measure was based on the mother’s report of income; if the mother’s was unavailable, the father’s was used. For those who provided bracketed household income at baseline, we imputed household income using the mean value of the bracket. If neither parent reported income, we imputed household income using Stata’s regression-based impute command and a number of covariates for mothers and fathers: city, age, years of education, race/ethnicity, earnings, immigrant status, employed last year, hours worked, total adults in household, earnings, received welfare, and marital status. For couples that were not married or cohabitating, the mother or father report was used if available; otherwise, we imputed missing data using the same method and covariates as for married and cohabitating couples. For father-constructed baseline household income, mother reports were used if the couple was married or cohabitating, with the exception of marital status. The percentage imputed varies by wave, ranging from 4.1 percent to 6.9 percent across waves 2 to 6. We imputed household income for 17 percent of the sample in wave 1 (baseline sample), but we do not use data from the baseline wave for our analysis. We conducted similar top and bottom coding to the income measures, determined by being five standard deviations from the mean, and adjusted to 2017 dollars using the CPI-U index published by the Bureau of Labor Statistics.

**Reference**

“The Introduction to the Fragile Families Public Use Data: Baseline, One-Year, Three-Year, and Five-Year Core Telephone Data.” Prepared by the staff at the Bendheim-Thoman Center for Research on Child Wellbeing, Princeton University. Retrieved from: http://www.fragilefamilies.princeton.edu/