Online Appendix 1: Calculations Used to Generate Estimated Effects of a $1,000 Increase in Family Income

<u>Note</u>: I use the BLS CPI inflation calculator to put all monetary values into 2018 dollars.

<u>Akee (2010)</u>

Estimates are based on reported estimates in Tables 4 and 5 for the full sample and children living in families that were ever poor. Standard errors in parentheses.

Full sample:
Estimated effect on the probability of graduating from high school is 0.156 (0.073)
Estimated effect on years of education at age 21 is 0.379 of a year (se 0.447)

Low Income sample:
Estimated effect on probability of graduating from high school is 0.391 (0.135)
Estimated effect on years of education at age 21 is 1.127 of a year (0.449)

As communicated by Randy Akee, these effects result from an additional $3,900 per year (in $1998), for four years. The effects of a one year increase would then be

Full sample:	0.156/4 = 0.039;	0.379/4 = 0.094
Low Income Sample:	0.391/4 = 0.098;	1.127/4 = 0.282

$3,900 in 1998 dollars is $5982 in 2018 dollars.

So, the effects of an additional $1,000 (2018) for one year are

Full sample:	0.039/(5982) *1,000 = .0065;	0.094/5982)*1,000 = 0.016
Low Income sample:	0.098/(5982) *1,000 = .016;	0.282/(5982)*1,000 = 0.047

Mean income for this sample is $20,919 in 1998 dollars, which corresponds to $32,086 in 2018 dollars.

<u>Almond, Hoynes, Schanzenbach (2011)</u>

I start with reported TOT effects for birth weight and LBW outcomes in columns 2 and 6 of Table 1 and calculate accompanying standard error estimates using estimates provided in Table 1. These correspond to:

Whites:
Birthweight 0.61% (estimated coefficient is 2.64 (0.896))
LBW -7.82% (estimated coefficient is -.0006 (0.0003))

Blacks:
Birthweight 1.02% (estimated coefficient is 4.12 (2.32))
LBW -9.41% (estimated coefficient is -.0016 (0.0010))

I use these estimates to create weighted averages, using the composition of white and black births in the sample reported in Table 1.

Estimated birthweight effect for the full population is
[97,785*0.6 + 27,374 *1.02]/[97,785+27,374] = [58671+27921]/125,159 = 0.69%

Estimated LBW effect for the full population is
[97,785*7.8+27,374*9.4]/[97,785+27,374] = [762723+257316]/125159= 8.14%

I use Bitler and Figinski's (2019) estimate of the average annual household FSP benefit of $814 in 1979 dollars ($2954 in 2018 dollars) to calculate the effect of a $1,000 increase as:

Birth weight = 0.69/2954 * 1,000 = 0.23%
LBW = 8.1/2954 * 1,000 = 2.74%

To translate birth weight effects into earnings effects, I use estimates from Black, Devereux and Salvanes (2007). They estimate that, in Norway, a 10% increase in birthweight increases wages by 1%. An increase in birth weight of 0.23% therefore translates into a 0.023 % increase in earnings. I could use this estimate, but instead I multiply it by two for the following reason: in Norway, the return to one year of school is 4%, whereas in the U.S. lower bound estimates of the rate of return to education are closer to 8%. For Norway, the effect of a 10% increase in birthweight is equivalent to about ¼ of a year of additional education. If I assume that the relationship between birthweight and education is the same in the two countries and that differences in the rate of return to education reflect differences in economic conditions, then the effect of birth weight on earnings in the U.S. should be twice the effect in Norway. This would yield an estimated effect on earnings of 0.046%.

I estimate mean income for this sample using information from Hoynes and Schanzenbach (2009) page 124 and Web Appendix Table 1. HS estimate that for their nonelderly low education sample, average annual food spending is $7280 (2005 dollars) among Food Stamp recipients, and that FS recipients' food spending is 36% of overall income. This suggests that average income in 2005 dollars should be about $20,222. In 2018 dollars this is $26,284.

Bailey, Hoynes, Rossin-Slater and Walker (2020)

Estimated effects are from Appendix Table 2, column 1. These are ITT for full exposure between conception and age 5.

Years of Schooling: 0.0367 (0.0119)
Log labor income: 0.0114 (0.0034)

Bailey et al. estimate a participation rate for this age group of 16%. So, the TOT estimates are

Years of Schooling: 0.0367/.16 = 0.229
Labor income: 0.0114/.16 = 7 percent increase (also noted on page 29 in the paper).

These estimates are TOT for 6 years of exposure. To get the TOT for 1 year of exposure, I divide by 6:

Years of Schooling: 0.229/6 = 0.038 additional years of schooling from 1 year of exposure
Log labor income: 7/6 = 1.16% increase in labor income from 1 year of exposure

To get the estimated impact of a $1,000 increase in income for one year, I start with Bitler and Figinski (2019) who estimate that the average annual household FSP benefit for their (very similar) sample was $814 in 1979 dollars. This corresponds to $2,954 in 2018 dollars. With this estimated benefit I then calculate

Years of Schooling: [.038/2954]*1,000 = 0.013 years of schooling
Log labor income: [1.16/2954]*1,000 = 0.393 percent increase in labor income

Mean income is calculated using the same information that I used to calculate mean income for AHS (2011) above. In 2018 dollars this is $26,284.

Bastian and Michelmore (2018)

I use estimates for the impact of EITC exposure between ages 13 and 18 in Table 6.

High School Graduation:

- effect of $1,000 ($2013) increase in income on high school graduation is 0.0021 (0.0011)
- $1,000 in $2013 is $1076 in $2018
- to estimate the effect of $1,000 increase in $2018 I calculate [0.002/1076]*1,000=0.0019
- the fraction of the sample who graduate from high school is 0.92, so to get a percent effect I divide [0.0019/0.92] = 0.2 percent

College graduation:

- effect of $1,000 in $2013 is 0.0013 (0.0012)
- effect of $1,000 increase in $2018 is [0.0013/1076]*1,000= 0.0012
- the fraction of the sample who graduate from college is 0.31 so to get a percent effect, I divide 0.0012/0.31 = 0.004 or 0.4 percent increase

Highest grade completed:

- effect of $1,000 in $2013 is 0.010 (0.0045)
- in $2018 this is an effect size of [0.01/1076]*1,000= 0.009 years

Earnings:

- effect of $1,000 in $2013 is 57.2 (32.4).
- mean earnings in 2013 are 25,391, so the percent effect is 57.2/25,391 = 0.002 or 0.2 percent

From Table 1, average family income at age 18 for their sample is $77,760 in $2013. This is $83,698 in $2018. (Note that this is higher than the income eligibility threshold of $51,567 in $2013 because not everyone in the sample qualifies). Therefore, it may be more reasonable to think of mean income for the affected sample as an amount less than $51,567 (in $2013).

Bulman, Fairlie, Goodman, and Isen (2021)

More Financially Constrained Households

The authors estimate that for lottery winnings less than $5 million, an additional $100,000 ($2010, this is $114,689 in $2018) in pre-tax lottery winnings increases the probability of college attendance by 0.19 (0.17) percentage points. This estimate is found in Table A22.

Thus, a $1,000 increase in 2018 would increase college attendance by [0.19/114,689]*1,000 = 0.0017 percentage points. The average college attendance rate for the full sample is 21.9 percent, so this represents a (0.0017/21.9)*100 =0.0078% increase. Note that it is likely that the college attendance rate for the low-income sample is lower than for the full sample.

To calculate the average earning return to college enrollment I calculate the fraction of students who complete college*the return to a college degree + the fraction of students who drop out*the return to completing some college.

The main sample of this paper is children who turned 18 between 2000 and 2013. According to the ACT website (https://www.act.org/content/dam/act/unsecured/documents/2015-Summary-

Tables.pdf), the percentage of four-year college students who earn a degree within five years of entry around this time is about 51.9 percent (Figure 1). If I assume that those who do not complete college receive two years of college education and that the return to a year of education is 10% (a low estimate) then the estimated earnings return is:

(0.519)*(4 years)*(0.10) + (0.481)*(2 years)*(0.10) = 30% average return to enrolling in college.

Using this estimate, I calculate that the estimated earnings return to $1,000 is 0.0078*0.3 = 0.0023%.

According to footnote 32 in Bulman et al. (2021), the more financially constrained sample includes lottery winners for whom average parent adjusted gross income was below $45,000 in $2010 dollars. To obtain an estimate of average income for this sample I use the 2007 Annual Social and Economic Supplement of the Current Population Survey to compute the average family income for the families with at least one 18-year-old child in the household and whose income is below $45,000 in 2010 dollars. The estimated average family income for this sample is 25,623s in $2010 or $29,310 in $2018.

Dahl and Lochner (2012)

From Table 3, the estimated effect of $1,000 in ($2000) on test scores is 0.061 (0.023) of a standard deviation.

$1,000 in $2000 = $1,529 in $2018

So the effect of $1,000 in 2018 is [0.061/ 1529]*1,000 = 0.040

Lundstrom (2017) documents a coding error in Dahl and Lochner. After correcting for the coding error, Lundstrom finds that the point estimate should be 32% lower, so I multiply by .68 and get an estimate of 0.027.

To get an estimate of mean income I start with their reports of the sample's median income in 1992 (right before the EITC expansions).

Median income in 1992 (right before 1993 expansions) is $26,852 in $2000

I use median income in 1992 ($26,854) which is $48,199 in $2018

To get an estimate of mean income I use information from the Census Bureau on median and mean income in 1992 available from https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-income-families.html, which indicates that the ratio of mean to median income was about 1.2 in 1992. Therefore, a rough estimate of mean income for this sample is $48,199*1.2 = $57,839.

Duncan, Morris and Rodrigues (2011)

The authors' preferred estimate (shown in Table 5) of the effect of $1,000 (in $2001) on test scores is 0.06 (0.019) of a standard deviation. A $1,000 increase in $2001 is equivalent to $1,416 in $2018.

So the effect of $1,000 in 2018 dollars is [0.06/1416]*1,000 = 0.04 or 4 percent of a standard deviation.

Information from Duncan, Morris and Clark-Kaufman (2005) suggests that the average income of the control group in these RCT's was about $11,278 in $2001. So, in $2018 mean income would be about $15,965.

East (2020)

Using National Vital Statistics data for birth cohorts 2000-2007 for the full sample of births to foreign born women (regardless of education level), estimated ITT effects of in utero FS eligibility are

Low birth weight: 0.01 percentage points (p<0.01), or 1 percent reduction (page 415).
Average birth weight: 6.5 gram increase (p<0.01), or 0.2 percent increase (page 415).

In an unpublished version of her paper, East uses these estimates to calculate the TOT effect of a $1,000 Food Stamp transfer (in $2009 dollars) as:

Low birth weight: 3% reduction
Average birth weight: 0.5% increase

$1,000 in $2009 is $1174 in $2018. So, to get the TOT estimate of a $1,000 transfer in 2018:

Low birth weight: [.03/1174]* 1,000 = 0.026 (2.6%)
Average birth weight: [0.005/1174]*1,000 = 0.004 (0.4%)

To translate birth weight effects into earnings effects, I use estimates from Black, Devereux and Salvanes (2007). They estimate that, in Norway, a 10% increase in birthweight increases wages by 1%. An increase in birth weight of 0.4% therefore translates into a 0.04 % increase in earnings. I could use this estimate, but instead I multiply it by two for the following reason: in Norway, the return to one year of school is 4%, whereas in the U.S. lower bound estimates of the rate of return to education are closer to 8%. For Norway, the effect of a 10% increase in birthweight is equivalent to about ¼ of a year of additional education. If I assume that the relationship between birthweight and education is the same in the two countries and that differences in the rate of return to education reflect differences in economic conditions, then the effect of birth weight on earnings in the U. S. should be twice the effect in Norway. This would yield an estimated effect on earnings of 0.08%.

Average baseline income (based on East's calculations using the CPS) is $18,731 ($1996). This is equivalent to $30,070 in $2018.

<u>Hilger (2016)</u>

Low-Income Sample

From Table 6, the estimated effect of parental layoff on children's earnings is -41.44 (26.63) in $2009. Average earnings for this sample are $7,400 in $2009, so the percent effect is -41.44 / 7,400 = - 0.0056 or -0.56%. I assume that earnings are measured at age 25 (as they are in Table 3).

In the same table, the estimated short-run (one year) effect of parental layoff on family income is provided is -$4,450.52 (224.12) in $2009. I assume that this is a post-tax family income measure (as in Table 2). The table provides the percent effect as -14.89%.

Putting these two estimates together, the impact of a 1% change in parental income on earnings is (-0.56) / (-14.89) = 0.038%

From Table 6, average family income one year before the layoff for this sample is $29,889 in $2009 dollars, or $35,088 in $2018.

$1,000 is 2.85% of $35,088.

Thus, the estimated effect of an additional $1,000 on average earnings for this sample is

(0.038)*(2.85) = 0.11%

Hoynes, Miller and Simon (2015)

Calculations are based on estimates reported on pages 190 and 197.

Low birth weight:
The TOT estimate of the effect of $1,000 ($2009) additional income is a 2.2 percent reduction in low birth weight. This is based on the estimate in column 2 of Table 2 (-0.354, with standard error estimate (0.074)).

$1,000 in $2009 is $1,182 in $2018

So the TOT of $1,000 in 2018 is [2.2/1182]*1,000 = 1.9% reduction in fraction low birth weight.

Average birth weight:
The TOT estimate of the effect of $1,000 ($2009) additional income is a 0.2 percent increase in mean birth weight. This is based on the estimate in column 1 of Table 6 (9.95 (2.05)).

So the TOT of $1,000 in 2018 is [0.2/1182]*1,000 = 0.17% increase in mean birth weight.

To translate birth weight effects into earnings effects, I use estimates from Black, Devereux and Salvanes (2007). They estimate that, in Norway, a 10% increase in birthweight increases wages by 1%. A 0.17% increase in birth weight therefore translates into a 0.017 % increase in earnings I could use this estimate, but instead I multiply it by two for the following reason: in Norway, the return to one year of school is 4%, whereas in the U.S. lower bound estimates of the rate of return to education are closer to 8%. For Norway, the effect of a 10% increase in birthweight is equivalent to about ¼ of a year of additional education. If I assume that the relationship between birthweight and education is the same in the two countries and that differences in the rate of return to education reflect differences in economic conditions, then the effect of birth weight on earnings in the U..S. should be twice the effect in Norway. This would yield an estimated effect on earnings of 0.034%.

Online Appendix Table 1 reports mean after tax income of $14,958 in $2009 for the same sample (parity 2+ vs. 1). In $2018 this is $17,560.

Hoynes, Schanzenbach, and Almond (2016)

ITT estimates from Table 4 are for full exposure between conception and age 5

Completed high school: 0.184 (0.108). The mean is 0.80 so this implies a 23% increase in probability of graduating.

Earnings: $3,600 (5,064). Mean earnings are 24,495. So, the increase is 3,600/24,495 = 15%.

Treatment is for 6 years. To get the estimated effect of one year of treatment, I divide the ITT estimates by 6. Estimated participation rate is 43% (p. 919), so the TOT effect of participating for one year is

High school completion: [23%/6]/.43 = 8.9%
Earnings: [15%/6]/.43 =5.7%

Bitler and Figinski (2019) estimate that the average annual household FSP benefit for their (very similar) sample was $814 (page 14, in $1979). This corresponds to $2,954 in $2018.

So the estimated benefits from an additional $1,000 are

High school completion: [8.9/2954]*1,000 =3%
Earnings: [5.7/2954]*1,000 = 1.9%

To estimate mean income for this sample I use information from Hoynes and Schanzenbach (2009) page 124 and Web Appendix Table 1. They estimate that for their nonelderly low education sample average annual food spending was $7,280 ($2005) among Food Stamp recipients, and that FS recipients' food spending was 36% of their overall income. This suggests that average income for their sample in $2005 dollars is about $20,222. In $2018 this is $26,284.

Jacob, Kapustin, and Ludwig (2014)

Estimates are based on reported IV estimates in Table 3 and Appendix Tables E6-E9.

Women:

Test scores:
Exposure at ages 0-6: 0.0029 (0.0316) standard deviation increase
Exposure at ages 6-18: 0.0300 (0.0273) standard deviation increase

High school graduation:
Exposure at ages 0-6: -.0022 (.0118), mean is 0.115, so percent decrease is 1.9%
Exposure at ages 6-18: 0.0190 (0.0176), mean is 0.58, so percent increase is 3.3%

Earnings:
Exposure at ages 0-6: -135.6 (121.19) mean is 713, so percent decrease is 19%

Exposure at ages 6-18: -145.4 (249.398); mean is 5,463, so percent decrease is 2.7%

Men:
Test scores:
Exposure at ages 0-6: 0.0634 (0.0325) standard deviation increase
Exposure at ages 6-18: 0.0126 (0.0273) standard deviation increase

High school graduation:
Exposure at ages 0-6: 0.015 (0.010) mean is 0.067, so percent increase is 22%
Exposure at ages 6-18: 0.0268 (0.0178) mean is 0.39, so percent increase is 6.9%

Earnings:
Exposure at ages 0-6: -57.7 (122.7) mean earning are 517, so percent decrease is 11.2%
Exposure at ages 6-18: 91.7 (250.6) mean earnings are 3,890, so percent increase is 2.4%

On p. 469 the authors report an average subsidy amount of $12,000 ($2013). This is equivalent to $12,916 in $2018.

To calculate the effect of a $1,000 increase in housing assistance:

Women:

Increase in test scores, exposure at ages 0-6:	[0.0029/12916]*1,000 = 0.00022 of a SD
Increase in test scores, exposure at ages 6-18:	[0.0300/12916[*1,000= 0.0023 of a SD
Decrease in HS graduation, exposure ages 0-6:	-[1.9%/12916]*1,000 = -0.15%
Increase in HS graduation, exposure ages 6-18:	[3.3%/12916] *1,000 = 0.25%
Decrease in earnings, exposure ages 0-6:	-[19%/12916] *1,000 = -1.5%
Decrease in earnings, exposure ages 6-18:	-[2.7%/12916] *1,000 = -0.2%

Men:

Increase in test scores, exposure at ages 0-6:	[0.0634/12916]*1,000=0.0049 of a SD
Increase in test scores, exposure at ages 6-18:	[0.0126/12916]*1,000=0.000976 of a SD
Increase in HS grad, exposure ages 0-6:	[22%/12916]*1,000 = 1.7%
Increase in HS grad, exposure ages 6-18:	[6.9%/12916]*1,000 = 0.53%
Decrease in earnings, exposure ages 0-6:	-[11.2%/12916] *1,000 = -0.9%
Increase in earnings, exposure ages 6-18:	[2.4%/12916] *1,000 = 0.2%

On p. 469, the authors report that average income for the sample is $19,000 ($2013). This is $20, 451 in $2018.

Lindo (2011)

Low Socioeconomic Sample

The estimated effect of father's job displacement on the average birth weight of children whose mothers have a high school education or less than a high school education is from column 4 of Table 4:

Birthweight: -0.012 (0.038); percent effect is $e^{(-0.012)} - 1 = -0.012$ or – 1.2%.

From Panel B of Table 5, the estimated effect of father's job displacement on log family income for this sample is -0.035 (0.123) whose percent effect is $e^{(-0.035)} - 1 = - 0.034$ or – 3.4%.

The estimated effect of a 1% change in family income for this sample is:

Birth weight: (-1.2) / (-3.4) = 0.35%.

The low socioeconomic sample is composed of children who were born between 1985 and 1996, whose mothers have no more than a high school education, and whose fathers experienced a job loss between 1968 and 1996. The estimates above are based on the model with maternal fixed effects, so the sample includes families with at least two children. I use the 1991 Annual Social and Economic Supplement of the Current Population Survey to compute average family income for families with at least two children, who have a child younger than or equal to age 1, and in which the mother has a high school education or less. I use the 1991 ASEC because 1991 is the median year of birth among the birth cohorts in the sample. Estimated average family income for this sample is 28,209 in $1991 or $51,947 in $2018.

$1,000 is 1.9% of $51,904.

Thus, the estimated effect of an additional $1,000 (in 2018) on average birth weight is (0.35)*(1.9) = 0.67%

To translate estimated birth weight effects into earnings effects, I use estimates from Black, Devereux and Salvanes (2007). They estimate that, in Norway, a 10% increase in birthweight increases wages by 1%. A 0.67% increase in birth weight therefore translates into a 0.067% increase in earnings. I could use this estimate, but instead I multiply it by two for the following reason: in Norway, the return to one year of school is 4%, whereas in the U.S. lower bound estimates of the rate of return to education are closer to 8%. For Norway, the effect of a 10% increase in birthweight is equivalent to about ¼ of a year of additional education. If I assume that the relationship between birthweight and education is the same in the two countries and that differences in the rate of return to education reflect differences in economic conditions, then the effect of birth weight on earnings in the U.S. should be twice the effect in Norway. This would yield an estimated effect on earnings of 0.13%.

Manoli and Turner (2018)

The authors estimate that for students in households around EITC Kink 1, an additional $1,000 ($2015, in $2018 this is $1,061) in cash-on-hand from tax refunds in the spring of the high school senior year increases college enrollment in the next year by 1.3 (0.352) percentage points. This estimate is found in Table 2.

So for this sample, a $1,000 increase in 2018 would increase college enrollment by [1.3/1061]*1,000 = 1.2 percentage points. Average college enrollment for this sample is 30 percent, so this represents a [1.2/30] = 4 percent increase

Note also that the effect of a $1,000 increase ($2015) at Kink 3 is 1.0 (0.861) percentage points (also reported in Table 2). In $2018 this is [1.0/1061]*1,000 = 0.9 percentage points. Average college enrollment for this sample is 43 percent, so this is a [.9/43] = 2 percent increase.

I could not easily calculate the average earnings return to college *enrollment*. This will depend on the fraction of students who complete college*the return to a college degree + fraction of students who drop out*the return to completing some college.

However, Bailey and Dynarski (2011) find that about 1/3 of students in the lowest income quartile who enroll in college also complete college (see Figures 2 and 3). If I assume that those who do not complete college receive two years of college education, and that the return to a year of education is 10% (a low estimate) then the estimated earnings return is:

(0.33)*(4 years)*.10 + (0.67)*(2 years)*0.10 = 0.132 + 0.134 = 0.266 or 26% average return to college among those who enroll.

Using this estimate, I calculate that at Kink 1 the estimated earnings return to $1,000 is 0.04 (26) = 1.04%. At Kink 3 the estimated earnings return to $1,000 is 0.02 (26) = 0.5 %

In the EITC Kink 1 sample, average pretax income is about $12,400 ($13,150 in $2018). In the EITC Kink 3 sample, average pretax income is about $41,973 ($44,516 in $2018).

Milligan and Stabile (2011)

From Table 3:

The estimated effect of $1,000 ($2004) in benefits on math test scores for the high school or less sample is 0.069 of a standard deviation. Estimated standard error is (0.015).

$1,000 in $2004 is $1,338 in $2018.

So, the effect of $1,000 in 2018 is [0.069/1338] *[1,000] = 0.052 of a SD increase

To estimate average pre-tax income in 2000 for Canadian families where at least one parent has no more education than a high school diploma, and there is at least one child under 10 (similar to the MS sample), I use information from the 2011 Canadian National Household Survey, and the link from Statistics Canada below.

The 2011 Canadian National Household Survey provides individual level data, which was used to calculate an estimate of 2010 pre-tax income for the subgroup of families described above by restricting the data to include only families in which either the mother or her spouse had completed high school or fewer years of schooling, and in which the youngest child was under 10. Detailed information about this data set can be accessed under this link.
Mothers and spouses' total personal income from all sources were added together, and then survey weights were used to estimate average pre-tax family income of $67,165 (in 2010 Canadian Dollars).

Comparable data were not easily accessible for 2000, so to turn this into a 2000 estimate, I multiply the 2010 estimate by the ratio of average income for all Canadian families in 2000 / average income for all Canadian families in 2010.

I obtain this ratio using information in the following table from https://www150.statcan.gc.ca/t1/tbl1/en/cv.action?pid=1110016701#timeframe. This table provides information on *after-tax* average income but was the best source I could easily find that provided relevant ratio over time. I used information on average family income for the group defined as "economic families, two persons or more." The ratio in real dollars is 67,700/78,800 = .859

Putting these together, my estimate of average pre-tax income for Canadian families with education attainment of high school or less at least one child under 10 in 2000 = 67,165 * .859 = $57,695 (in 2010 Canadian dollars).

I use https://www.bankofcanada.ca/rates/related/inflation-calculator/. to convert the estimate above to $2018 Canadian dollars. This value is $66,178.

Finally, I convert $66,178 Canadian dollars to 2018 US dollars using https://www.bankofcanada.ca/rates/exchange/currency-converter/. I choose an exchange rate midway through 2018 (06/30/18) to convert.

My estimate of average family income in for this sample in 2018 US dollars is therefore $50,256.

Oreopoulos, Page, and Stevens (2008)

Low Income Sample

From Column 1 of Table 8, the estimated effect of father's displacement on son's log average earnings for the households from the bottom income quartile is -0.143 (0.088). The percent change is therefore: $e^{(-0.143)} - 1 = -0.133$ or – 13.3%

The estimated effect of father's displacement on father's income for the low income sample is not provided in the paper. However, the authors do not find substantial differences across income quartiles in the effects of plant closings on father's log earnings (pg. 476-477). Thus, it's reasonable to assume that the effect on father's income for this sample is similar to that of the full sample.

In Column 5 of Table A2, the estimated effect of father's displacement on log father's income is -0.107 (0.010), or -10.1%.

Putting these two estimates together, I calculate the impact of a 1% change in father's income on son's income for the low income sample: (-13.32) / (-10.1) = 1.32%

In this paper, the displacement occurs when sons are between 10 and 14, so the median age of displacement is 12. This means that the children in this sample are typically experiencing the impacts of displacement for 6 years (between ages 12 and 18), and it is reasonable to assume that the estimated effect of displacement captures the effect of a six-year decline in father's income. The effect of a one-year decline is therefore 1.32/6 = 0.22%.

Information on pre-treatment income for this sample of fathers is not readily available. I begin by using individual level information from the 2011 Canadian National Household Survey (https://international.ipums.org/international-action/sample_details/country/ca#tab_ca2011a). These data allow me to calculate average income in 2010 among Canadian fathers whose income was in the bottom quartile of the income distribution, and who had at least one child between ages 10 and 14. I use total personal income from all sources. My estimate of 2010 income for this group is $29,800 (in 2010 Canadian Dollars)

To obtain an estimate of average income for a similar group of fathers in 1980 (before the job displacement), I multiply $29,800 by the ratio of average income for all Canadian families in 1980 / average income for all Canadian families in 2010. I obtain this ratio using information in the following table from Statistics Canada https://www150.statcan.gc.ca/t1/tbl1/en/cv.action?pid=1110016701#timeframe. I used information on average family income for the group defined as "economic families, two persons or more." The ratio in real dollars is 64,100 / 78,800 = 0.813.

Putting these together, my estimate of average income for Canadian fathers from the lowest income quartile and with at least one child between 10 and 14 in 1980 = $29,800 * 0.813 = $24,227 (in 2010 Canadian dollars).

I use https://www.bankofcanada.ca/rates/related/inflation-calculator/ to convert the estimate above to $2018 Canadian dollars. This value is $27,853.

Finally, I convert $27,853 Canadian dollars to 2018 US dollars using https://www.bankofcanada.ca/rates/exchange/currency-converter/. I choose an exchange rate midway through 2018 (06/30/18) to convert.

My estimate of fathers' average income for this sample in 2018 US dollars is therefore $21,152.

$1,000 is 4.73% of $21,152

Thus, the estimated effect of an additional $1,000 (in 2018 USD) on earnings is

(0.22)*(4.73) = 1.04%

Price and Song (2018)

From Table 9:

The estimated effect of treatment on earnings is -356 (601) in $2013. This is equivalent to -$390 (646) in $2018.

Mean adult earnings are $22,281 ($2013). In $2018 mean earnings are 23,983.

From page 8, the estimated annual increase in families' after-tax income due to treatment is $2,000 ($2013). In $2018 this is equivalent to $2,189. This was collected for an average of 3.36 years (based on conversations with David Price), for a total of $7,355.

To get the effect of a $1,000 increase:

[-390/7355] *1,000 = -53

The percent effect is therefore -53/23,983 = 0.22 percent decline.

Based on information from David Price, average post tax-transfer income among treatment and control families combined during the pre-experimental period was roughly $30,000 in $2013 dollars; or about $33,560 in $2018.