Cash-on-Hand & College Enrollment: Evidence from Population Tax Data and the Earned Income Tax Credit Day Manoli and Nicholas Turner Online Appendix

Appendix Figure 1. Regression Kink at EITC Kink 2

A. First Stage, Slope Change in EITC Benefits at EITC Kink 2



Notes: In Panels A and B, Distance to Kink measures EITC Income relative to EITC Kink 2. EITC income is defined as the income measure used to determine EITC benefits. Following official rules described in IRS Publication 596, EITC Income changes around EITC Kink 2. Specifically, EITC income is equal to earned income when AGI is less than the phase-out threshold, and EITC income is equal to the maximum of earned income and AGI if AGI is above the phase-out threshold. For Panel A, the circles show the mean tax refund within each \$100 bin of earnings relative to EITC Kink 2. The solid line shows fitted values within each \$100 bin of earnings relative to the kink 2. Panel B plots the number of tax returns for \$100 bins around each tax kink 2 point. The red squares are frequencies including the self-employed; the blue circles are frequencies when excluding the self-employed and the black triangles are frequencies for wage earners.

Appendix Figure 2.

EITC Kink 1 Reduced Form Graphical Evidence with Different Bin Sizes



Notes: In all panels, the circles show the mean enrollment rate within each bin of earnings relative to the tax kink point while the solid lines show fitted values within each bin of earnings relative to the kink points. In all cases, fitted values are obtained from regressions using the individual-level data in which an enrollment indicator is regressed on a linear control for earnings relative to the kink point and a dummy for earnings less than the kink point interacted with the linear control.

Appendix Figure 3.

EITC Kink 3 Reduced Form Graphical Evidence with Different Bin Sizes



Notes: In all panels, the circles show the mean enrollment rate within each bin of earnings relative to the tax kink point while the solid lines show fitted values within each bin of earnings relative to the kink points. In all cases, fitted values are obtained from regressions using the individual-level data in which an enrollment indicator is regressed on a linear control for earnings relative to the kink point and a dummy for earnings less than the kink point interacted with the linear control.

Appendix Figure 4. Federal Student Aid around EITC Kink Points



Notes: The plots show Expected Family Contribution (EFC) and Pell Grant amounts for \$100 bins of earnings relative to the kink for observations within the analysis samples around each EITC kink point. Percentiles of the amounts are computed within each bin. The EFC and Pell grant amounts are available from administrative data from the United States Department of Education.

Appendix Figure 5. Nonlinear Functions of the Running Variable



Notes: In all panels, the circles show the mean tax refund or enrollment rate for each \$100 bin of earnings relative to the tax kink points. The solid and dashed lines show fitted values for each \$100 bin of earnings relative to the kink points. Fitted values are obtained from regressions using the individual-level data in which tax refund or an enrollment indicator is regressed on a polynomial in earnings relative to the kink point and a dummy for earnings less than the kink point interacted with the polynomial. The polynomial is either linear, quadratic or cubic. \$100 bins of earnings relative to the kink points are assigned based on rounding earnings relative to the kink point to the nearest \$100 amount.

Appendix Figure 6. Alternative Bandwidths



Notes: Each plot shows results from estimating the RKD regression specifications at the specified bandwidths. Each regression includes a linear control in earnings relative to the kink point, an interaction between an indicator for earnings below the kink point and the linear control in earnings relative to the kink, and dummies for senior year, number of children and filing status. The baseline estimates correspond to the values shown at bandwidths of \$3000. The black circles show point estimates and the dashed lines show 95% confidence intervals for the point estimates. Each regression is estimated within the bandwidth denoted on the horizontal axis. Vertical lines denote the FG bandwidths. The EITC Kink 1 FG bandwidth is 2622.1208 and the EITC Kink 3 FG bandwidth is 3280.925. The FG bandwidths are calculated following Card et al (2015).



Notes: Each plot shows results from estimating the RKD regression specifications within a \$3000 bandwidth around the kink points, but observations with the absolute value of earnings relative to the kink below the donut threshold are excluded when estimating the regressions. The baseline estimates at a \$3000 bandwidth with no observations excluded correspond to the values shown at the \$0 donut threshold. Each regression includes a linear control in earnings relative to the kink point, an interaction between an indicator for earnings below the kink point and the linear control in earnings relative to the kink, and dummies for senior year, number of children and filing status. The black circles show point estimates and the dashed lines show 95% confidence intervals for the point estimates.

Appendix Figure 8. Placebo Analysis



Notes: These figures plot the estimated slope changes when varying the placebo kink points in \$100 increments around the true EITC kink points. For each figure, the triangles show the slope change in tax refund and enrollment rate relative to the placebo kink points. The horizontal dotted lines show the estimated slope changes at the true kink point. Fitted slope changes are obtained from regressions using the individual-level data in which tax refund or an enrollment indicator is regressed on a linear control for earnings relative to the placebo kink points, a dummy for earnings less than the placebo kink point and an interaction between the dummy variable and the linear control. Each figure also shows dotted lines for the 95% confidence interval bands around the estimates.

Appendix Figure 9. Enrollment versus Income



Notes: This plot is based on the full sample of high school seniors from 2001 through 2011 with CPI-adjusted income in the range shown. Enrollment is measured in the year after the high school senior year, and income is measured in the high school senior year. Similar to the EITC Kink 1 and EITC Kink 3 samples, individuals with any self-employment income are excluded from the Full Sample, \$0-\$100,000. The circles represent mean enrollment for each \$100 bins of CPI-adjusted income. The solid line plots mean fitted values within each bin. The fitted values are obtained from regressing an enrollment indicator on a linear control for income. The sample size and estimated slope coefficient are 19245908 and 0.392 for Panel A, 1015643 and 0.314 for Panel B, and 1173833 and 0.484 for Panel C. These slope coefficients reflect the percentage increase in enrollment per \$1000 of income.

Appendix Figure 10. RKD Graphical Analysis, EITC Kink 1 - Junior Year Sample



Notes: For Panels A and B, the circles show the mean tax refund and enrollment rate for each \$100 bin of earnings relative to the tax kink points, respectively. The solid lines show fitted values for each \$100 bin of earnings relative to the kink points. Fitted values are obtained from regressions using the individual-level data in which tax refund or an enrollment indicator is regressed on a linear control for earnings relative to the kink point and a dummy for earnings less than the kink point interacted with the linear control. \$100 bins are assigned based on rounding earnings relative to the kink point to the nearest \$100 amount. Panel C plots the number of tax returns for \$100 bins around each tax kink point. The red squares are frequencies including the self-employed; the blue triangles are frequencies when excluding the self-employed and the black circles are frequencies when excluding individuals with a difference between W2 wages and wages reported on the 1040 form of more than \$1000. This difference is attributable to non-third party verified wages. For Panel D, the circles show mean predicted enrollment rates for each \$100 bin of earnings relative to the tax kink points. Predicted enrollment is computed by obtaining fitted values from a regression of an enrollment indicator on dummies for calendar year, filing status, and number of dependents and linear controls for earned income in the senior and junior years.

Appendix Figure 11. Take-Up of Federal Student Aid by Income



Notes: The plot shows the percentage of enrolled students receiving student aid for \$100s bin of Total Income from IRS Form 1040. Receipt of federal student aid is measured using administrative data from the United States Department of Education, and enrollment is measured based on receipt of federal student aid or the presence of a 1098-T tuition statement in administrative tax data.

Appendix Table 1: Tax Kink Points

| | EIT | C Kink 1 | EITC Phase-Out | AGI Threshold | C | hild Tax C | redit |
|----------|------------------|-------------|------------------------|-------------------|----------|------------|---------|
| Tax Year | 1 Child | 2+ Children | Married Filing Jointly | Head of Household | kink | Rate | max |
| 2001 | \$7,140 | \$10,020 | \$13,100 | \$13,100 | \$10,000 | 10 | \$600 |
| 2002 | \$7 <i>,</i> 370 | \$10,350 | \$14,550 | \$13,550 | \$10,350 | 10 | \$600 |
| 2003 | \$7 <i>,</i> 490 | \$10,510 | \$14,750 | \$13,750 | \$10,500 | 10 | \$1,000 |
| 2004 | \$7,660 | \$10,750 | \$15,050 | \$14,050 | \$10,750 | 15 | \$1,000 |
| 2005 | \$7,830 | \$11,000 | \$16,400 | \$14,400 | \$11,000 | 15 | \$1,000 |
| 2006 | \$8,080 | \$11,340 | \$16,850 | \$14,850 | \$11,300 | 15 | \$1,000 |
| 2007 | \$8,390 | \$11,790 | \$17,400 | \$15,400 | \$11,750 | 15 | \$1,000 |
| 2008 | \$8,580 | \$12,060 | \$18,750 | \$15,750 | \$8,500 | 15 | \$1,000 |
| 2009 | \$8,950 | \$12,570 | \$21,450 | \$16,450 | \$3,000 | 15 | \$1,000 |
| 2010 | \$8 <i>,</i> 970 | \$12,590 | \$21,500 | \$16,500 | \$3,000 | 15 | \$1,000 |
| 2011 | \$9,100 | \$12,780 | \$21,800 | \$16,700 | \$3.000 | 15 | \$1.000 |

Notes: All dollar values are in nominal dollars.

| | | Panel A: 1 Child | | |
|------|------------------------|---------------------|------------------------|---------------------|
| | Head of Hou | usehold | Married Filir | ng Jointly |
| | Kink 2 | Kink 3 | Kink 2 | Kink 3 |
| Year | Beginning of Phase-Out | Ending of Phase-Out | Beginning of Phase-Out | Ending of Phase-Out |
| 2001 | 13,090 | 28,281 | 13,090 | 28,281 |
| 2002 | 13,520 | 29,201 | 14,520 | 30,201 |
| 2003 | 13,730 | 29,666 | 14,730 | 30,666 |
| 2004 | 14,040 | 30,338 | 15,040 | 31,338 |
| 2005 | 14,370 | 31,030 | 16,370 | 33,030 |
| 2006 | 14,810 | 32,001 | 16,810 | 34,001 |
| 2007 | 15,390 | 33,241 | 17,390 | 35,241 |
| 2008 | 15,740 | 33,995 | 18,740 | 36,995 |
| 2009 | 16,420 | 35,463 | 21,420 | 40,463 |
| 2010 | 16,450 | 35,535 | 21,460 | 40,545 |
| 2011 | 16,690 | 36,052 | 21,770 | 41,132 |

Appendix Table 2: EITC Phase-Out Expansion

Panel B: 2 Children

| | Head of Household | | Married Filing Jointly | | |
|------|------------------------|---------------------|------------------------|---------------------|--|
| | Kink 2 | Kink 3 | Kink 2 | Kink 3 | |
| Year | Beginning of Phase-Out | Ending of Phase-Out | Beginning of Phase-Out | Ending of Phase-Out | |
| 2001 | 13,090 | 32,121 | 13,090 | 32,121 | |
| 2002 | 13,520 | 33,178 | 14,520 | 34,178 | |
| 2003 | 13,730 | 33,692 | 14,730 | 34,692 | |
| 2004 | 14,040 | 34,458 | 15,040 | 35,458 | |
| 2005 | 14,370 | 35,263 | 16,370 | 37,263 | |
| 2006 | 14,810 | 36,348 | 16,810 | 38,348 | |
| 2007 | 15,390 | 37,783 | 17,390 | 39,783 | |
| 2008 | 15,740 | 38,646 | 18,740 | 41,646 | |
| 2009 | 16,420 | 40,295 | 21,420 | 45,295 | |
| 2010 | 16,450 | 40,363 | 21,460 | 45,373 | |
| 2011 | 16,690 | 40,964 | 21,770 | 46,044 | |

Panel C: \geq 3 Children

| | Head of Hou | Head of Household | | ng Jointly |
|------|------------------------|---------------------|------------------------|---------------------|
| | Kink 2 | Kink 3 | Kink 2 | Kink 3 |
| Year | Beginning of Phase-Out | Ending of Phase-Out | Beginning of Phase-Out | Ending of Phase-Out |
| 2001 | 13,090 | 32,121 | 13,090 | 32,121 |
| 2002 | 13,520 | 33,178 | 14,520 | 34,178 |
| 2003 | 13,730 | 33,692 | 14,730 | 34,692 |
| 2004 | 14,040 | 34,458 | 15,040 | 35,458 |
| 2005 | 14,370 | 35,263 | 16,370 | 37,263 |
| 2006 | 14,810 | 36,348 | 16,810 | 38,348 |
| 2007 | 15,390 | 37,783 | 17,390 | 39,783 |
| 2008 | 15,740 | 38,646 | 18,740 | 41,646 |
| 2009 | 16,420 | 43,279 | 21,420 | 48,279 |
| 2010 | 16,450 | 43,352 | 21,460 | 48,362 |
| 2011 | 16,690 | 43,998 | 21,770 | 49,078 |

Notes: Technical documentation on EITC program eligiblity and benefit rules are available in IRS Publication 596. Nominal dollar values are listed. Historical EITC parameters are available at www.taxpolicycenter.org/. Beginning in 2002, the phase-out points for married filing jointly taxpayers were higher than the phase-out points for head-of-househod filers. Conditional on the number of qualifying children, the differences between the phase-out points for head-of-household and married filing jointly taxpayers is 0 in 2001, \$1000 in 2002-2004, \$2000 in 2005-2007, \$3000 in 2008, \$5000 in 2009, \$5010 in 2010, \$5080 in 2011.

| | | | | | A. EITC Kink 1 | | | | |
|--------------------------------------|-------------|--------------|---------|-------------|----------------|----------|-------------|--------------|----------|
| | | Linear | | | Quadratic | | | Cubic | |
| | First Stage | Reduced Form | IV | First Stage | Reduced Form | IV | First Stage | Reduced Form | IV |
| Earnings Relative to Kink (kinkdist) | 0.440 | 0.564 | -0.0175 | 0.436 | 0.707 | -0.188 | 0.447 | 0.738 | 1.288 |
| | [0.00170] | [0.0598] | [0.105] | [0.00617] | [0.240] | [0.417] | [0.0144] | [0.597] | [1.064] |
| Slope Change at Kink (D*kinkdist) | -0.335 | -0.443 | | -0.323 | -0.662 | | -0.332 | 0.408 | |
| | [0.00298] | [0.119] | | [0.0110] | [0.464] | | [0.0239] | [1.178] | |
| Effect of \$100 on Enrollment | | | 1.323 | | | 2.051 | | | -1.230 |
| | | | [0.352] | | | [1.421] | | | [3.514] |
| kinkdist ² | | | | -0.000921 | 0.0519 | 0.0538 | 0.0105 | 0.248 | 0.261 |
| | | | | [0.00224] | [0.0723] | [0.0729] | [0.0127] | [0.480] | [0.447] |
| D*kinkdist ² | | | | -0.00216 | -0.0297 | -0.0253 | -0.0168 | -1.291 | -1.312 |
| | | | | [0.00269] | [0.0909] | [0.0919] | [0.0165] | [0.556] | [0.564] |
| kinkdist ³ | | | | | | | 0.00277 | 0.0630 | 0.0664 |
| | | | | | | | [0.00293] | [0.107] | [0.0990] |
| D*kinkdist ³ | | | | | | | -0.00186 | 0 190 | 0 188 |
| | | | | | | | [0.00437] | [0.200] | [0.192] |
| Ν | 1015643 | 1015643 | 1015643 | 1015643 | 1015643 | 1015643 | 1015643 | 1015643 | 1015643 |
| | | | | | | | | | |
| | | | | | B. EITC Kink 3 | | - | | |
| | | Linear | | | Ouadratic | | | Cubic | |

Appendix Table 3: Nonlinearity in the Running Variable

| | | | | | B. EITC Kink 3 | | | | |
|--------------------------------------|-------------|--------------|----------|-------------|----------------|----------|-------------|--------------|---------|
| | | Linear | | | Quadratic | | | Cubic | |
| | First Stage | Reduced Form | IV | First Stage | Reduced Form | IV | First Stage | Reduced Form | IV |
| Earnings Relative to Kink (kinkdist) | -0.130 | 0.354 | 0.484 | -0.122 | 0.0889 | 0.574 | -0.0949 | -0.166 | 1.422 |
| | [0.00297] | [0.0717] | [0.0508] | [0.00974] | [0.243] | [0.169] | [0.0258] | [0.525] | [0.622] |
| Slope Change at Kink (D*kinkdist) | 0.131 | 0.131 | | 0.134 | 0.532 | | 0.0960 | 1.607 | |
| | [0.00487] | [0.112] | | [0.0191] | [0.391] | | [0.0510] | [0.826] | |
| Effect of \$100 on Enrollment | | | 1.001 | | | 3.966 | | | 16.73 |
| | | | [0.861] | | | [3.018] | | | [13.04] |
| kinkdist ² | | | | 0.00341 | -0.0949 | -0.108 | 0.0283 | -0.232 | -0.706 |
| | | | | [0.00338] | [0.0907] | [0.103] | [0.0209] | [0.473] | [1.015] |
| D*kinkdist ² | | | | -0 00793 | 0.0577 | 0 0891 | -0 0264 | -0 573 | -0 131 |
| | | | | [0.00391] | [0.0855] | [0.0998] | [0.0219] | [0.491] | [0.816] |
| kinkdist ³ | | | | | | | 0.00575 | -0 0222 | -0 118 |
| KIIKUSt | | | | | | | [0.00469] | [0.113] | [0.227] |
| D*kinkdict ³ | | | | | | | 0.00601 | 0 202 | 0 219 |
| | | | | | | | [0.00772] | [0.149] | [0.304] |
| N | 1173833 | 1173833 | 1173833 | 1173833 | 1173833 | 1173833 | 1173833 | 1173833 | 1173833 |

Notes: Each column presents results from a separate regression. For the First Stage, the dependent variable is refunds, and for the reduced form and IV specifications, the dependent variable is an indicator for enrollment. Each regression includes dummy variables for senior year, number of children and filing status. Standarad errors are clustered based on \$100 bins of earnings relative to the kink.

| · + | | | | | | |
|--------------------------------------|------------------------------------------------------|----------------------|----------------------|--|--|--|
| | A. EITC Kink 1, Polynomials in Earned Income and AGI | | | | | |
| | First Stage | Reduced Form | IV | | | |
| | Dep Var = Refund | Dep Var = Enrollment | Dep Var = Enrollment | | | |
| Earnings Relative to Kink (kinkdist) | -0.214 | 0.852 | 1.140 | | | |
| | [0.00377] | [0.0935] | [0.159] | | | |
| Slope Change at Kink (D*kinkdist) | -0.402 [0.00660] | -0.501 [0.150] | | | | |
| Effect of \$1000 on Enrollment (IV) | | | 1.300 [0.356] | | | |
| Ν | 1015643 | 1015643 | 1015643 | | | |

Appendix Table 4: EITC K1, Accounting for Nonlinearity in Enrollment-Income Relationship

B. EITC Kink 3, Polynomials in AGI and Total Income

| | First Stage | Reduced Form | IV |
|--------------------------------------|------------------|----------------------|----------------------|
| | Dep Var = Refund | Dep Var = Enrollment | Dep Var = Enrollment |
| Earnings Relative to Kink (kinkdist) | -0.150 | 0.345 | 0.235 |
| | [0.00520] | [0.0977] | [0.104] |
| Slope Change at Kink (D*kinkdist) | 0.136 | -0.105 | |
| | [0.00563] | [0.116] | |
| Effect of \$1000 on Enrollment (IV) | | | -0.754 |
| | | | [0.826] |
| Ν | 1173833 | 1173833 | 1173833 |

Notes: Each coefficient is estimated from a separate regression. Each regression includes dummy variables for senior year, number of children and filing status. Standard errors are clustered based on \$100 bins of earnings relative to the kink point.

| | | First Stage | Reduced Form | IV |
|--------------------------------------|----------------------------------------------------------------------------------|------------------|----------------------|----------------------|
| | | Dep Var = Refund | Dep Var = Enrollment | Dep Var = Enrollment |
| Earnings Relative to Kink [kinkdist] | | 0.440 | 0.564 | -0.0175 |
| | Std Errors clustered based in \$100 bins of earnings relative to kink [baseline] | [0.00170] | [0.0598] | [0.105] |
| | No clustering | [0.00156] | [0.0609] | [0.0874] |
| | Std Errors clustered based on year and \$100 bins of earned income | [0.0169] | [0.0675] | [0.108] |
| | Std Errors clustered based on year and ZIP-3 | [0.00161] | [0.0603] | [0.0883] |
| Slope Change at Kink [D*kinkdist] | | -0.335 | -0.443 | |
| | Std Errors clustered based in \$100 bins of earnings relative to kink [baseline] | [0.00298] | [0.119] | |
| | No clustering | [0.00269] | [0.105] | |
| | Std Errors clustered based on year and \$100 bins of earned income | [0.0316] | [0.119] | |
| | Std Errors clustered based on year and ZIP-3 | [0.00282] | [0.105] | |
| Effect of \$1000 on Enrollment [IV] | | | | 1.323 |
| | Std Errors clustered based in \$100 bins of earnings relative to kink [baseline] | | | [0.352] |
| | No clustering | | | [0.314] |
| | Std Errors clustered based on year and \$100 bins of earned income | | | [0.388] |
| | Std Errors clustered based on year and ZIP-3 | | | [0.314] |
| Ν | | 1015643 | 1015643 | 1015643 |

Appendix Table 5: EITC Kink 1, Alternative Clustering for Standard Errors

| Appendix Table 6: EITC Kink 1, Additional Control Variables and Alternative Sample Restrictions | | | | | | | | |
|-------------------------------------------------------------------------------------------------|------------------|----------------------------|----------------------|-----------------------------|----------------------|----------------------|--|--|
| | Controlling | for Year*# Kids*Filing Sta | tus Fixed Effects | earned income - wages < 5 | | | | |
| | First Stage | Reduced Form | IV | First Stage | Reduced Form | IV | | |
| | Dep Var = Refund | Dep Var = Enrollment | Dep Var = Enrollment | Dep Var = Refund | Dep Var = Enrollment | Dep Var = Enrollment | | |
| Earnings Relative to Kink (kinkdist) | 0.440 | 0.556 | -0.00410 | 0.440 | 0.513 | -0.0609 | | |
| | [0.00172] | [0.0596] | [0.104] | [0.00163] | [0.0630] | [0.110] | | |
| | | | | | | | | |
| Slope Change at Kink (D*kinkdist) | -0.336 | -0.428 | | -0.336 | -0.439 | | | |
| | [0.00299] | [0.118] | | [0.00297] | [0.124] | | | |
| Effect of \$1000 on Encellment (IV) | | | 4 272 | | | 1 204 | | |
| Effect of \$1000 on Enrollment (IV) | | | 1.273 | | | 1.304 | | |
| | | | [0.350] | | | [0.367] | | |
| N | 1015643 | 1015643 | 1015643 | 892206 | 892206 | 892206 | | |
| | | | | | | | | |
| | | Earned Income = Wag | es | | Total Income = AGI | | | |
| | First Stage | Reduced Form | IV | First Stage | Reduced Form | IV | | |
| | Dep Var = Refund | Dep Var = Enrollment | Dep Var = Enrollment | Dep Var = Refund | Dep Var = Enrollment | Dep Var = Enrollment | | |
| Earnings Relative to Kink (kinkdist) | 0.442 | 0.507 | -0.206 | 0.440 | 0.538 | -0.00542 | | |
| | [0.00262] | [0.116] | [0.192] | [0.00173] | [0.0594] | [0.104] | | |
| Slope Change at Kink (D*kinkdist) | 0 227 | 0.544 | | 0.225 | 0.414 | | | |
| Slope change at kink (D kinkuist) | -0.337 | [0.344 | | [0.00001] | -0.414 | | | |
| | [0.00461] | [0.221] | | [0.00302] | [0.118] | | | |
| Effect of \$1000 on Enrollment (IV) | | | 1.614 | | | 1.236 | | |
| | | | [0.649] | | | [0.348] | | |
| N | 407911 | 407911 | 407911 | 982707 | 982707 | 982707 | | |

Notes: Each coefficient is estimated from a separate regression. Each regression includes dummy variables for senior year, number of children and filing status. Standard errors are clustered based on \$100 bins of earnings relative to the kink point.

| Dependent variable = Enroli | | | | | | | | | |
|-------------------------------------------|-----------------------------|-----------|-----------|-----------|-----------|--|--|--|--|
| | County-Enrollment Quintiles | | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | | | | |
| Average County Enrollment Rate | 27.93 | 37.70 | 44.04 | 50.42 | 60.39 | | | | |
| EITC K1 Sample, Regression Kink Estimates | | | | | | | | | |
| Mean Enrollment (Percentage) | 27.84 | 28.21 | 30.06 | 30.62 | 36.26 | | | | |
| Slope Change in Tax at Kink | -0.338 | -0.336 | -0.341 | -0.330 | -0.327 | | | | |
| (First Stage) | [0.00638] | [0.00610] | [0.00528] | [0.00562] | [0.00789] | | | | |
| Slope Change in Enroll at Kink | -0.198 | -0.210 | -0.627 | -0.198 | -0.879 | | | | |
| (Reduced Form) | [0.253] | [0.240] | [0.170] | [0.286] | [0.286] | | | | |
| Effect of \$1000 on Enroll (IV) | 0.588 | 0.625 | 1.838 | 0.599 | 2.688 | | | | |
| | [0.742] | [0.711] | [0.500] | [0.861] | [0.863] | | | | |
| Ν | 166659 | 207359 | 249544 | 208085 | 161233 | | | | |

Appendix Table 7: Geographic Heterogeneity Dependent Variable = Enroll

Notes: Within each year, county enrollment quintiles are computed by categorizing counties into the top 20% of enrollment rates, the next 20%, etc. down to the lowest 20% of enrollment rates). The first row presents the average county-level enrollment rates for counties in each quintile. The regression kink slope changes are then estimated using the EITC Kink 1 high school seniors who reside in these quintiles.

| | Full Sample | Avg AGI Quintile | |
|-------------------------------------------|-------------|--------------------|------------------|
| | | Lowest 4 Quintiles | Highest Quintile |
| Average AGI over 4 Prior Years | | 16212.22 | 50259.25 |
| Average AGI in Senior Year | | 12509.82 | 12515.40 |
| | | | |
| EITC K1 Sample, Regression Kink Estimates | _ | | |
| Mean Enroll (Percent) | 31.79 | 30.35 | 39.01 |
| | | | |
| Slope Change in Tax at Kink | -0.343 | -0.345 | -0.337 |
| (First Stage) | [0.00403] | [0.00403] | [0.0101] |
| | | | |
| Slope Change in Enroll at Kink | -0.263 | -0.389 | 0.225 |
| (Reduced Form) | [0.205] | [0.239] | [0.333] |
| | | | |
| Effect of \$1000 on Enroll (IV) | 0.767 | 1.127 | -0.668 |
| | [0.595] | [0.689] | [0.977] |
| | | | |
| N | 536413 | 447137 | 89276 |

Appendix Table 8: Heterogeneity by Average AGI Sample: HS Senior Year Cohorts 2005-2011, No Self-Employment Income in 4 Years Prior to HS Senior Year

Notes: This table presents results based on average AGI in the 4 years prior to the high school senior year. The sample is restricted to high school senior cohorts in 2005 through 2011 who do not have any self-employment income in any of the 4 years prior to the high school senior year. Quintiles of average AGI are computed within groups based on the high school senior year and the number of qualifying children. High school seniors who were not claimed as dependents in a year prior to the high school senior year have missing prior AGI, and these observations are included in the lowest 4 quintiles sample.

| | Reason for not applying for federal student aid | | | | | | | |
|----------------------|-------------------------------------------------|-----------------------------|-----------------------------------|--------------|-----------------------|--|--|--|
| Total Income | Did not want to take on debt | Forms were too much work | No information or how to apply | n No Need | Thought Ineligible | | | |
| All Income Groups | 40 | 19 | 23 | 51 | 61 | | | |
| 0 to 10,000 | 41 | 22 | 28 | 41 | 58 | | | |
| 10,001 to 20,000 | 42 | 21 | 29 | 46 | 59 | | | |
| 20,001 to 30,000 | 45 | 19 | 27 | 37 | 62 | | | |
| 30,001 to 40,000 | 43 | 21 | 24 | 41 | 60 | | | |
| 40,001 to 50,000 | 43 | 21 | 28 | 41 | 60 | | | |
| 50,001 to75,000 | 42 | 20 | 24 | 48 | 62 | | | |
| 75,001 to 100,000 | 39 | 18 | 23 | 55 | 61 | | | |
| 100,001 to 125,000 | 37 | 17 | 16 | 64 | 60 | | | |
| 125,001 to 150,000 | 35 | 12 | 12 | 68 | 63 | | | |
| Greater than 150,001 | 33 | 15 | 15 | 70 | 63 | | | |

Appendix Table 9: Non-Application by Income

Source: Data is from U.S. Department of Education, National Center for Education Statistics, 2007-2008 National Postsecondary Student Aid Study.

| Type of Institution | Year | \$0 | \$1 - 500 | \$501 - 1,500 | \$1,501 - 3,000 | \$3,001 - 5,000 | \$5,001 or more |
|-------------------------------|---------|---------|-----------|---------------|-----------------|-----------------|-----------------|
| Public 4-year | 1999-00 | 24.4 | 4.5 | 8.6 | 22.8 | 25.3 | 14.4 |
| | 2003-04 | 26.0 | 3.6 | 6.3 | 13.6 | 24.5 | 26.0 |
| | 2007-08 | 28.3 | 2.8 | 5.5 | 7.6 | 16.0 | 39.8 |
| | 2011-12 | 30.5 | 2.5 | 4.8 | 7.0 | 9.1 | 46.1 |
| Private not-for-profit 4-year | 1999-00 | 12.0 | 2.1 | 3.8 | 7.2 | 10.9 | 64.0 |
| | 2003-04 | 9.8 | 1.6 | 3.7 | 5.9 | 8.2 | 70.9 |
| | 2007-08 | 9.9 | 1.6 | 2.0 | 3.1 | 6.0 | 77.3 |
| | 2011-12 | 14.5 | 1.0 | 2.4 | 2.6 | 6.0 | 73.4 |
| Public 2-year | 1999-00 | 29.9 | 16.8 | 25.3 | 22.8 | 3.5 | 1.746 ! |
| | 2003-04 | 31.4 | 8.6 | 22.5 | 25.8 | 9.2 | 2.5 |
| | 2007-08 | 36.1 | 5.5 | 18.2 | 24.8 | 13.6 | 1.8 |
| | 2011-12 | 48.7 | 4.9 | 11.9 | 15.3 | 15.4 | 3.7 |
| Private for-profit | 1999-00 | 3.977! | 3.950 ! | 2.819! | 10.6 | 14.1 | 64.5 |
| | 2003-04 | 5.3 | 0.635 !! | 2.932! | 3.6 | 13.1 | 74.4 |
| | 2007-08 | 3.402 ! | 1.646 ! | 2.8 | 4.5 | 7.7 | 79.9 |
| | 2011-12 | 2.4 | 0.403 !! | 1.3 | 2.630 ! | 3.4 | 89.8 |

Appendix Table 10: Tuition and Fees minus All Grants, 2000-2012

Notes: The above table is created using NPSAS data and the PowerStats tool by NCES. The NPSAS data sample size was 95,000 for 2011-12; 113,500 for 2007-08; 79,900 for 2003-04; and 50,000 for 1999-2000. The subsample used in this table includes individuals between ages 18-20, who are full-time/full-year students. The rows show different type of institutions and the columns show different cost intervals for tuition minus all grants.

! Interpret data with caution. Estimate is unstable because the standard error represents more than 30 percent of the estimate.

!! Interpret data with caution. Estimate is unstable because the standard error represents more than 50 percent of the estimate.

Source: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study (NPSAS). PowerStats Tool available at http://nces.ed.gov/datalab/powerstats/default.aspx