From Better Neighborhoods to Better Futures: Tax Credits and Intergenerational Opportunity

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- This raises an important open question: Do modern transfer programs meaningfully improve long-run outcomes for children and families?
- We test this question using linked administrative IRS-Census data covering millions of children over 3+ decades
  - Outcomes: employment, earnings, mortality, family structure, neighborhood quality

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- Mixed evidence on whether increased resources lead families to move to higher quality neighborhoods
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- We test whether the EITC leads low-income families to move to higher-quality neighborhoods; a powerful—but expensive and often elusive—pathway to upward intergenerational mobility

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- We exploit rich policy variation by year, state, and number of children
  - Federal EITC expansions in the 1970s–2000s; largest changes in 1990s
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- We estimate the impact of *MaxEITC* on long-run outcomes with and without family fixed effects to account for unobserved family traits
- We also carry out a mediation analysis to decompose the channels behind the EITC's long-run effects, considering parental earnings, EITC transfer income, childhood neighborhood quality, health, etc.
  - Using estimates from this paper as well as previous EITC research

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    - Teenage exposure leads to the largest effects; smaller and still strongly positive at younger ages

Roadmap

- Discuss EITC policy changes and creation of *MaxEITC*
- Discuss data (linked IRS, Census, ACS, Opportunity Atlas)
- Empirical strategy and results for long-run outcomes
- Decompose longer-run effects on earnings into channels by estimating EITC's short-run effects and carrying out a mediation analysis

The EITC

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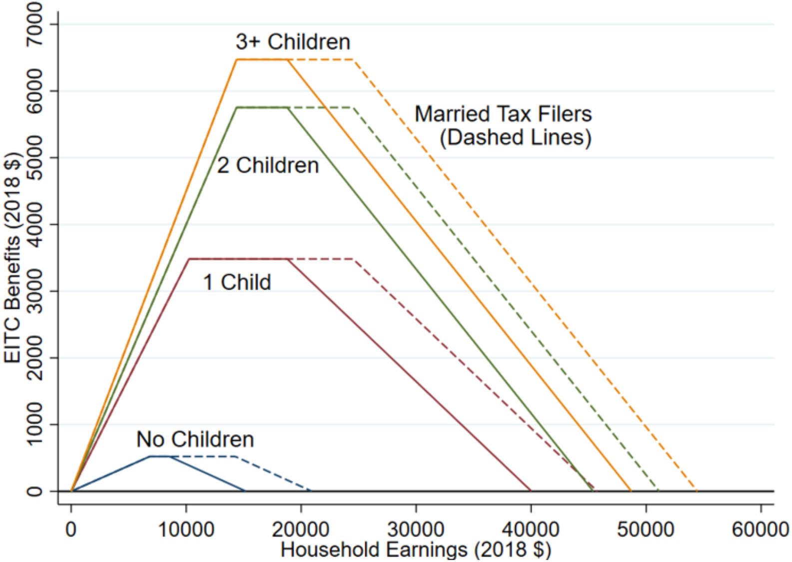
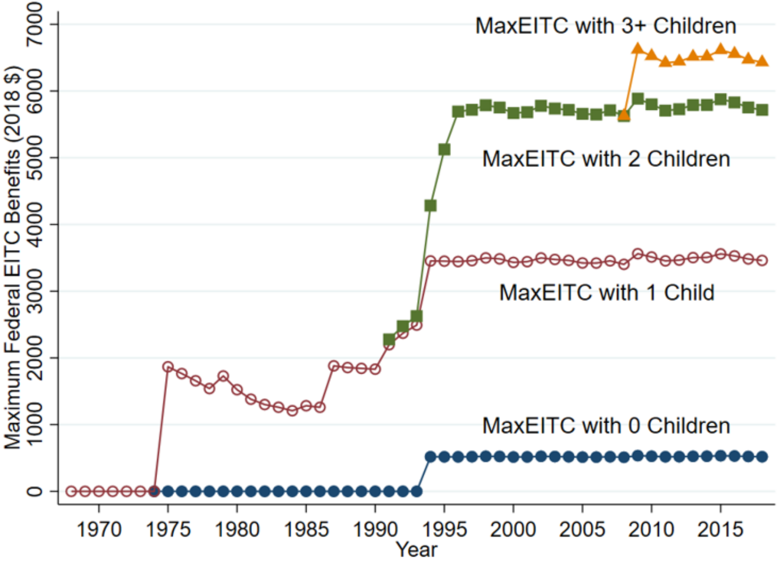
- EITC's impact on housing stability and migration:
  - Bastian and Black (2024) show EITC increases migration out of rural and distressed places—public ACS data, limited geography measures
  - Michelmore and Pilkauskas (2022) show EITC decreases housing instability and living doubled-up with other families

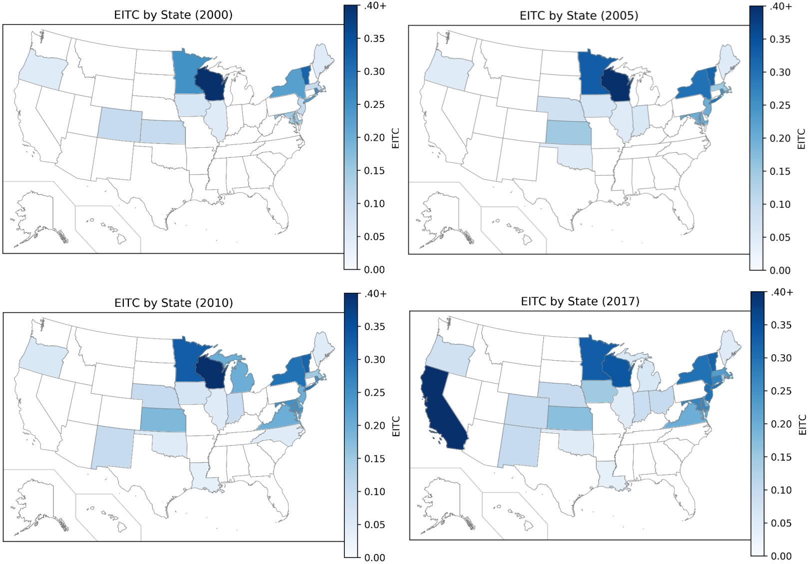
Federal EITC Structure



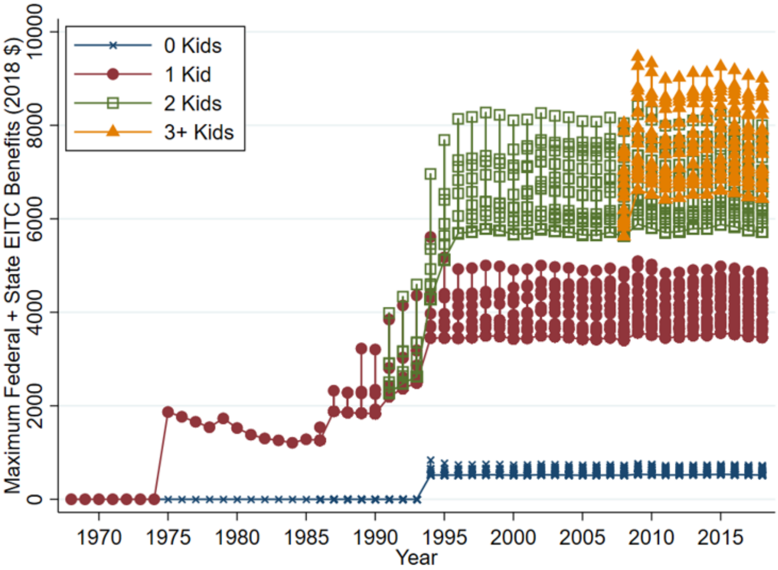
Federal *MaxEITC* Over Time



State EITCs Over Time



Federal+State *MaxEITC* Over Time



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- To look at long-run effects, we average *MaxEITC* over ages 0–18
- We also estimate effects of *MaxEITC* at ages 0–5, 6–12, and 13–18
- *MaxEITC* interpreted as average annual *MaxEITC* within each childhood age range
- Outcomes measured in adulthood from ages 19 to 34

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- Geographic identifiers (MAFIDs) from IRS-reported addresses and mapped to census tracts via the Census Bureau's MAFX file

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  - U.S. has 84,414 tracts; NYC has over 2,100; Chicago has 866
- Tracts capture changes in neighborhood quality, even for short moves
  - In contrast, public Census/ACS survey data identifies 19 PUMAs in Chicago

Empirical Strategy: Longer-Run Outcomes

- We estimate long-run effects using average annual childhood EITC exposure ($MaxEITC$) between ages 0 and 18:

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- We run everything with and without family FE
- Standard errors robust to heteroskedasticity, clustered at state level
- No weights used (since it is a random sample of population data)

Empirical Strategy: Longer-Run Outcomes

- We also estimate subgroup effects (e.g., by race, parents married):

$$Y_{ist} = \Sigma_g \beta_2^g MaxEITC_{ist}^{0-18} + X_{ist}'\gamma_2 + \epsilon_{ist}$$

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- We also estimate subgroup effects (e.g., by race, parents married):

$$Y_{ist} = \Sigma_g \beta_2^g MaxEITC_{ist}^{0-18} + X_{ist}' \gamma_2 + \epsilon_{ist}$$

- We also estimate effects by childhood age of exposure:

$$\begin{aligned} Y_{ist} = \beta_3 MaxEITC_{ist}^{0-5} + \beta_4 MaxEITC_{ist}^{6-12} + \\ \beta_5 MaxEITC_{ist}^{13-18} + X_{ist}' \gamma_3 + \epsilon_{ist} \end{aligned}$$

Childhood *MaxEITC* on Adult Male Outcomes

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	Real Earnings	Real AGI	Employed	Poverty <100%	Poverty <150%
	Panel A: Men Ages 19–25				
MaxEITC Ages 0–18	390	457	1.53	-0.70	-0.55
	(44)	(50)	(0.09)	(0.06)	(0.05)
N	1,997,000	1,997,000	1,997,000	1,997,000	1,997,000
	Panel B: Men Ages 26–34				
MaxEITC Ages 0–18	2700	3241	1.63	-2.05	-2.28
	(191)	(272)	(0.15)	(0.17)	(0.16)
N	684,000	684,000	684,000	684,000	684,000

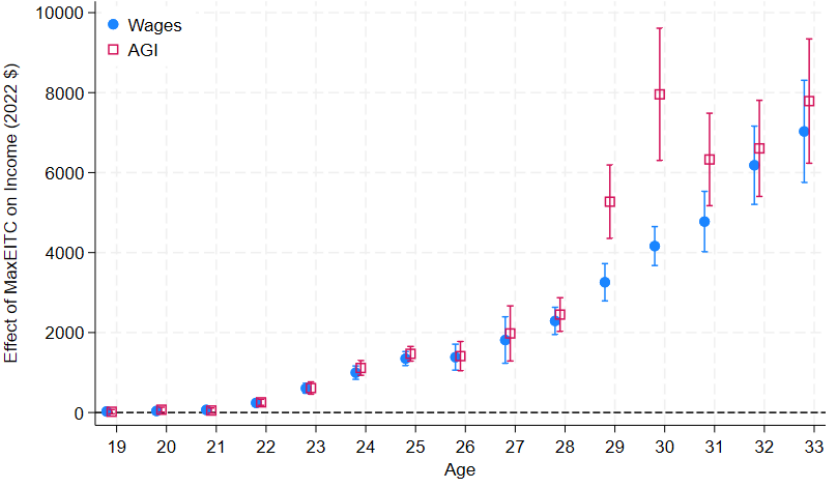
Childhood *MaxEITC* on Adult Female Outcomes

	Real Earnings	Real AGI	Employed	Poverty <100%	Poverty <150%
Panel C: Women Ages 19–25					
MaxEITC Ages 0–18	302	287	1.32	-0.81	-0.65
	(43)	(53)	(0.07)	(0.09)	(0.07)
N	1,951,000	1,951,000	1,951,000	1,951,000	1,951,000
Panel D: Women Ages 26–34					
MaxEITC Ages 0–18	2596	2453	1.54	-2.53	-2.63
	(278)	(383)	(0.10)	(0.14)	(0.14)
N	673,000	673,000	673,000	673,000	673,000

MaxEITC and Male Outcomes (Family FE)

	Real Earnings	Real AGI	Employed	Poverty <100%	Poverty <50%
Panel B: Men Ages 25–29					
MaxEITC Ages 0–18	1932	2434	2.18	-2.37	-2.06
	(550)	(843)	(0.40)	(0.41)	(0.37)
N = 709,000					
Panel B: Women Ages 25–29					
MaxEITC Ages 0–18	927	674	1.10	-2.16	-1.46
	(406)	(451)	(0.44)	(0.45)	(0.40)
N = 698,000					

MaxEITC and Outcomes by Adult Age



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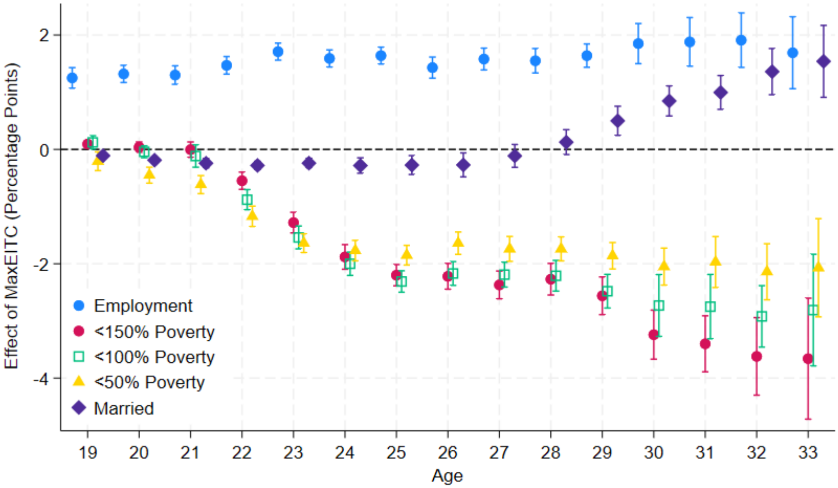
MaxEITC and More Outcomes by Adult Age



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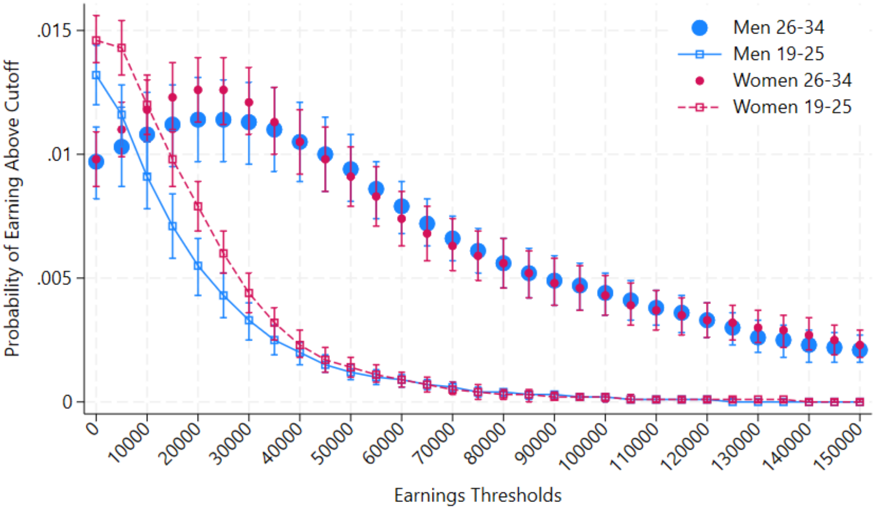
MaxEITC Impact on Earnings Distribution



- Binary outcomes = having earnings > each threshold

Impact of *MaxEITC* by Average Childhood Family AGI

	(1)	(2)	(3)	(4)	(5)	(6)
Outcome:	**Annual Earnings (2022 \$)**	**Annual AGI (2022 \$)**	**Employed**	**Poverty $<$50%**	**Poverty $<$100%**	**Poverty $<$150%**
Panel A: Low Income (Avg. AGI $\leq$ \$40,000 from Ages 0–18), N=976,000						
MaxEITC (Ages 0–18)	319	288	1.46	-1.26	-0.965	-0.547
	(27)	(30)	(0.075)	(0.079)	(0.060)	(0.044)
Panel B: High Income (Avg. AGI $>$ \$40,000 from Ages 0–18), N=2,148,000						
MaxEITC (Ages 0–18)	-8	11	1.20	-0.200	0.169	0.099
	(34)	(38)	(0.072)	(0.075)	(0.077)	(0.056)

- Sample = men and women combined, ages 19–24

MaxEITC by Child Age and Adult Outcomes

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	Real Wages	Real AGI	Employed	Poverty $<$50%	Poverty $<$100%	Poverty $<$150%
Panel A: Men 25–29, without Family FE						
MaxEITC Ages 0–5	633	647	0.65	-0.68	-0.78	-0.81
	(92)	(119)	(0.09)	(0.10)	(0.09)	(0.08)
MaxEITC Ages 6–12	116	119	0.44	-0.43	-0.51	-0.44
	(157)	(189)	(0.12)	(0.12)	(0.14)	(0.12)
MaxEITC Ages 13–18	1307	1461	0.72	-0.88	-0.96	-1.10
	(156)	(185)	(0.09)	(0.10)	(0.10)	(0.10)

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Panel B: Men 25–29, with Family FE						
MaxEITC Ages 0–5	398	643	0.55	-0.70	-0.99	-0.76
	(531)	(572)	(0.31)	(0.30)	(0.26)	(0.23)
MaxEITC Ages 6–12	596	887	0.53	-0.37	-0.40	-0.46
	(278)	(508)	(0.29)	(0.29)	(0.31)	(0.39)
MaxEITC Ages 13–18	773	746	1.04	-1.06	-1.00	-1.07
	(265)	(279)	(0.21)	(0.22)	(0.21)	(0.24)

MaxEITC Effects by Race/Ethnicity

MaxEITC Effects by Race/Ethnicity

Outcome:	Annual Earnings (2022 \$)	Annual AGI (2022 \$)	Working	Poverty <50%	Poverty <100%
	(1)	(2)	(3)	(4)	(5)
Men Ages 19–25 (N = 1,997,000)					
MaxEITC (Ages 0–18) × White	413	538	1.39	-0.74	-0.29
	(48)	(60)	(0.11)	(0.11)	(0.08)
MaxEITC (Ages 0–18) × Black	424	430	1.88	-1.49	-1.24
	(55)	(58)	(0.11)	(0.10)	(0.10)
MaxEITC (Ages 0–18) × Asian	44	-9	0.10	0.52	0.47
	(142)	(133)	(0.22)	(0.21)	(0.28)
MaxEITC (Ages 0–18) × Hispanic	345	328	1.65	-1.44	-1.07
	(88)	(106)	(0.11)	(0.13)	(0.11)
MaxEITC (Ages 0–18) × Native	289	416	1.97	-1.75	-1.00
	(525)	(519)	(1.21)	(1.25)	(1.00)
MaxEITC (Ages 0–18) × Other	303	495	1.35	-1.45	-1.28
	(160)	(146)	(0.27)	(0.26)	(0.26)

MaxEITC and Tract Traits as Adults (in Percentiles)

MaxEITC and Tract Traits as Adults (in Percentiles)

	HH Income 2000 Rank	College 2000 Rank	College 2010 Rank	HH Income 1990 Rank	HH Income 2016 Rank	Math Score Rank
Panel A: Men Ages 19–25						
MaxEITC Ages 0–18	1.36	1.15	1.14	1.27	1.27	0.703
	(0.066)	(0.077)	(0.071)	(0.078)	(0.055)	(0.071)
N	2,492,000	2,492,000	2,493,000	2,492,000	2,493,000	2,487,000
Panel B: Men Ages 26–34						
MaxEITC Ages 0–18	1.33	1.30	1.27	1.20	1.20	0.709
	(0.091)	(0.115)	(0.114)	(0.094)	(0.079)	(0.073)
N	903,000	903,000	903,000	903,000	903,000	901,000

- Very similar with and without family FE

MaxEITC Effects on Parental and Child Outcomes

	(1)	(2)	(3)	(4)	(5)	(6)
Outcome:	**Parental Earnings (2022 $)**	**Parental Working (Pct Pts)**	**Dead by 20 (Pct Pts)**	**Dead by 25 (Pct Pts)**	**Dead by 30 (Pct Pts)**	**Teen Birth (Pct Pts)**
MaxEITC (Ages 0–18)	6778 (357)	4.60 (0.188)	-0.235 (0.0128)	-0.395 (0.0219)	-0.466 (0.0247)	-0.00765 (0.00229)
Observations = 1,026,000 (smaller for columns 4 & 5)						

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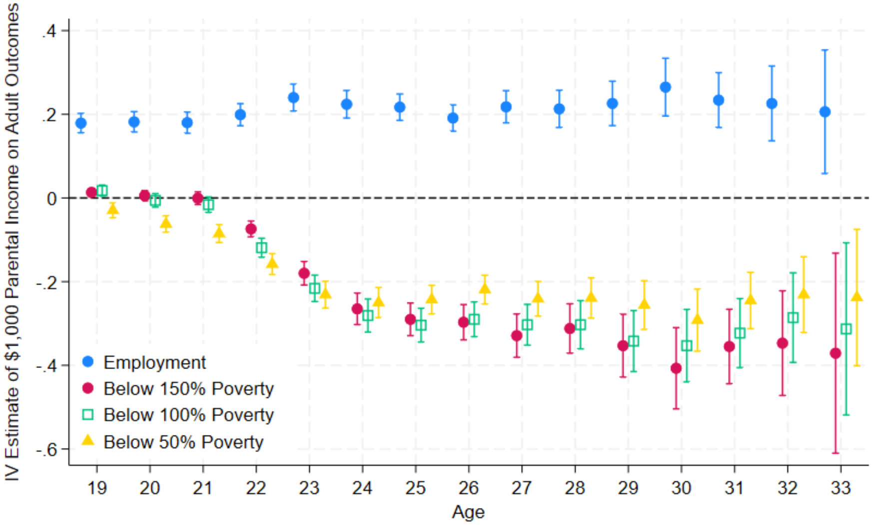
- Column 1 is the first stage for the following IV regressions
- *MaxEITC* $\rightarrow$ parental earnings during childhood $\rightarrow$ children's long-run outcomes

IV Effects by Age: $1,000 in Avg Annual Childhood Income



- First stage is strong (F-stats: 1,393–26,780)

IV Approach: Parent Income on Kids' Long-Run Outcomes

	Real AGI (2022 \$)	Real Earnings (2022 \$)	Working	Below 50% Pov.	Below 100% Pov.	Below 150% Pov.
	(1)	(2)	(3)	(4)	(5)	(6)
Parental AGI (\$1,000s)	210	233	1.070	-0.914	-0.704	-0.399
(Avg. Childhood AGI $\leq$\$40K)	(15)	(14)	(0.344)	(0.035)	(0.031)	(0.025)
Parental AGI (\$1,000s)	1	-1	0.109	-0.018	0.015	0.009
(Avg. Childhood AGI $>$\$40K)	(3)	(3)	(0.005)	(0.004)	(0.004)	(0.003)

- *MaxEITC* as IV for average annual parental income during childhood, on children's long-run outcomes
- Large effects for lower-income families, near-zero effects for higher-income families
- Similarly, much larger effects for children of unmarried parents

Interpreting IV Estimates

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- Taken together, IV confirms the parental income channel is important and only affects EITC-eligible lower-income and unmarried families

Takeaways

- We find positive long-run effects of the EITC on children's outcomes
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  - Married parents do not increase their labor supply in response to EITC $\implies$ EITC transfer income itself—and not just increased earnings and parental employment—helps explain positive long run effects
- Next we consider EITC's short run effects on parental earnings and neighborhood quality

Empirical Strategy: Short-Run Outcomes

- We estimate effects on parental income, employment, moving census tracts, moving to a higher quality tract (compared to time t):

$$Y_{i,s,t+j} = \beta_1 MaxEITC_{i,s,t} + X'_{i,s,t}\gamma_1 + \epsilon_{i,s,t} \quad \text{for } j \in [1,3]$$

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  - No weights used (since it is a random sample of population data)
- We also estimate effects of *MaxEITC* by children's age:

$$Y_{i,s,t} = \Sigma_{a\in[0,18]}\beta_2^a MaxEITC_{i,s,t} + X'_{i,s,t}\gamma_2 + \epsilon_{i,s,t}$$

MaxEITC Effects on Parental Outcomes

Outcome in Year $t+1$:	**Parental Earnings (2022 $)**		**Working Parent (Pct Pts)**	
	(1)	(2)	(3)	(4)
MaxEITC in Year t	6430		0.496	
	(805)		(0.089)	
MaxEITC in Year t × (Ages 0–5)		5596		0.099
		(905)		(0.095)
MaxEITC in Year t × (Ages 6–12)		6269		0.321
		(841)		(0.087)
MaxEITC in Year t × (Ages 13–18)		6353		0.508
		(800)		(0.084)
Observations	18,960,000		18,960,000	

- Previously showed estimate of average *MaxEITC* at ages 0–18 on average parental income at ages 0–18 (one obs per person)

Results: *MaxEITC* Decreases Net Migration

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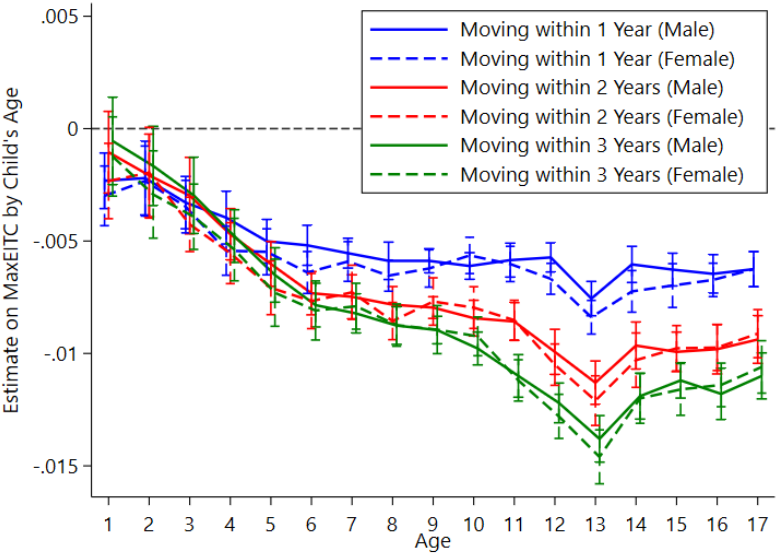

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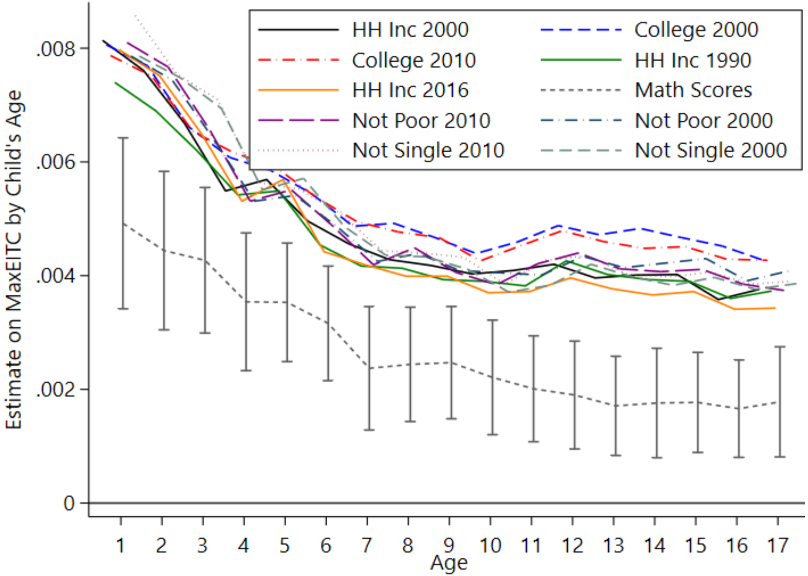

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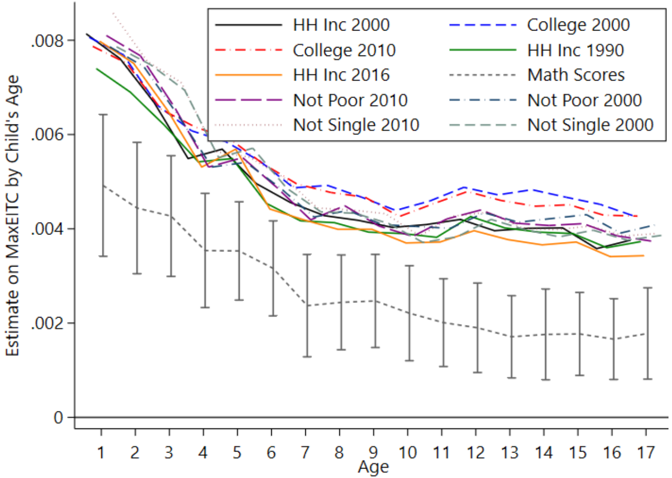
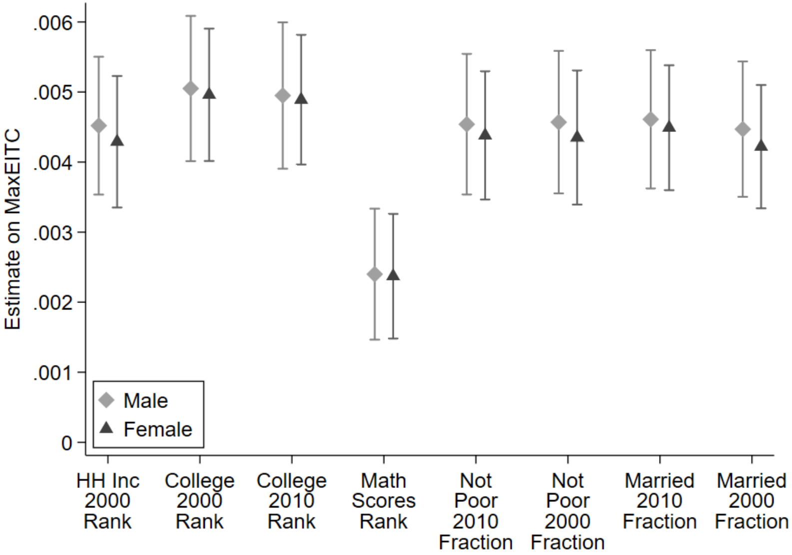
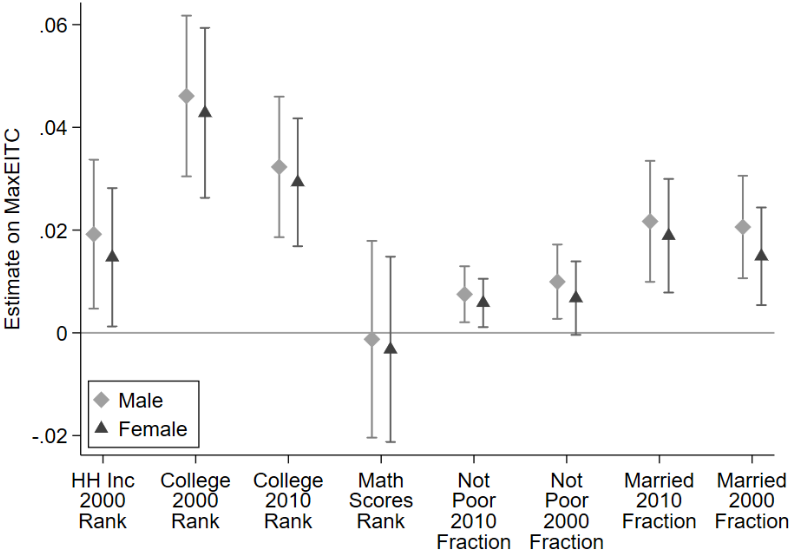


- About 70% of EITC-led moves to higher opportunity are within-county; zero impact on out-of-state moves

MaxEITC and Moving to Better Tracts in Childhood



MaxEITC and Tract-Traits in Levels in Childhood



Childhood EITC and Moving Outcomes (by Race)

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	Moved Tracts	Moved to Higher-Income Census Tract
$MaxEITC_t$ × White	-1.16	0.27
	(0.06)	(0.05)
$MaxEITC_t$ × Black	-0.29	0.68
	(0.06)	(0.06)
$MaxEITC_t$ × Asian	-1.05	0.30
	(0.19)	(0.06)
$MaxEITC_t$ × Hispanic	-0.84	0.47
	(0.07)	(0.05)
$MaxEITC_t$ × Native	-0.72	0.71
	(0.56)	(0.24)
$MaxEITC_t$ × Other	-0.68	0.48
	(0.10)	(0.05)

- Female; similar for male

Childhood EITC & Moving Outcomes (by Parental Traits)

	Move	Moved to Higher-Quality Tract:	
	Tracts	Income (in 2000)	College (in 2000)
Panel A: Female, by Parental Marital Status			
$MaxEITC_t \times$ Married	-1.73	0.15	0.12
	(0.05)	(0.05)	(0.05)
$MaxEITC_t \times$ Unmarried	-0.31	0.66	0.71
	(0.06)	(0.05)	(0.05)

- More moves to opportunity for kids of unmarried
- More residential stability for kids of married

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  - Parental earnings and EITC income: ∼\$1,530–\$1,600 (57–62%)
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- **Thank you!**