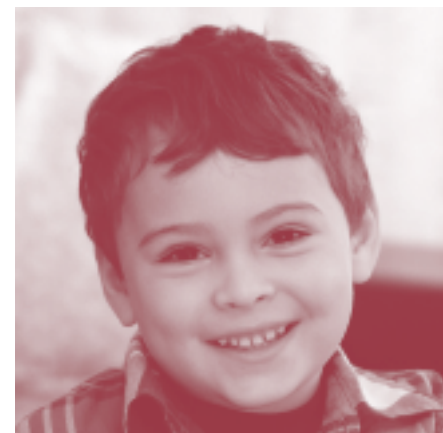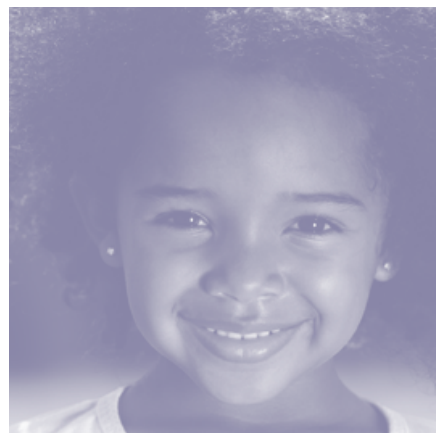# The Family Resource Simulator and Basic Needs Budget Calculator :

Brief Description, Demonstration, and Policy Modeling Capabilities

NCCP

National Center for Children in Poverty

Columbia University • Mailman School of Public Health
Department of Health Policy & Management

National Association
for Welfare Research and Statistics
Workshop

July 31, 2017

Seth Hartig

Overview

I. Modeling a family's basic needs using the Basic Needs Budget Calculator, a tool derived from the Family Resource Simulator

II. Modeling the impact of public benefit receipt using the Family Resource Simulator.

III. Modeling the impact of potential policy changes on families using the Family Resource Simulator

IV. Downloading Family Resource Simulator data

Basic Needs Budget Calculator (BNBC)

- Interactive web-based tool estimates basic expenses for a family, that outputs an annual salary (minus taxes and plus any refundable tax credits) that could cover those expenses.

- Outputs monthly and annual estimates for rent, food, child care, health expenses, transportation, taxes, and other necessities and shows how much a family would need to make hourly and annually to meet these basic needs.

- Users can also enter your own estimates for basic family expenses for customized results.

http://www.nccp.org/tools/frs/budget.php

Quick Demonstration of the BNBC

Basic Needs Budget Calculator

The Basic Needs Budget Calculator shows how much it takes for families to afford minimum daily necessities. It also allows you to create customized results by changing assumptions about basic family expenses.

Select Location and Family Characteristics

State	Select a State ▼
City/County	Select a Location ▼
Family Structure	⦿ Single-parent ○ Two-parent
Employment of second parent	Full time ▼
Age of first child	3 ▼
Age of second child	6 ▼
Age of third child	No third child ▼

CALCULATE BUDGET

Quick Demonstration of the BNBC

- Let's select a Cleveland family with the other default settings.

Quick Demonstration of the BNBC

- According to our model, it takes $52,479 for a family like this to make ends meet while relying only on earnings and refundable tax credits.

Basic Needs Budget Calculator — RESET

Basic Needs Budget: Cleveland/Cuyahoga County, OH (2015)
Single-parent family with 2 children, ages 3 and 6

	Annual	Monthly
Rent and utilities	$9,168	$764
Food	$6,849	$571
Child care (center-based)	$17,077	$1,423
Health insurance premiums (employer-based)	$3,631	$303
Out-of-pocket medical	$708	$59
Transportation	$4,931	$411
Other necessities	$4,100	$342
Debt	$0	$0
Payroll taxes	$4,015	$335
Income taxes (includes credits) [show detail]	$2,000	$167
TOTAL	$52,479	$4,373

Hourly wage needed: **$25**
Percent of the federal poverty level: **261%**

Quick Demonstration of the BNBC

- There are also customizable options at the bottom of the output screen:

Family Resource Simulator

♦ The BNBC output is derived from a more robust interactive tool, the Family Resource Simulator, which estimates changes in *net resources* (Earnings + Work Supports – Basic Family Expenses) as earnings rise .

♦ Includes TANF, SNAP, LIHEAP, CCDF subsidies, tax credits, Section 8, Medicaid/CHIP, ACA subsidies

♦ Can be used to model the effects of existing policies as well as policy reforms on family net resources

♦ Over the past 14 years, NCCP has developed simulators for 26 states and over 100 localities, most recently updating simulators for Colorado, Florida, and Ohio. We are currently updating the simulator for the District of Columbia.

♦ All simulators are available for public use at http://www.nccp.org/tools/frs/

Family Resource Simulator

- The Family Resource Simulator 's output can be generated using a step-by-step tool, available for modeling the same locations as the BNBC.

Scenario 1: No benefits, full costs

Assumptions (identical to those used for calculating a Basic Needs Budget)

- Using the Family Resources Simulator (FRS) models cost for a representative family in Ohio, assuming the following:
  - Single parent
  - Starting wage at minimum wage, $10.65/hour, the 2015 median wage in Ohio
  - Higher earnings levels reflect either more work hours (at starting wage) or higher wages once the parent starts working 40 hours per week
  - Two children: one 3-year-old and one 6-year-old
  - Child care is center-based, the more expensive of two options.
  - Family forgoes all public benefits, just like in the BNBC.

FRS Step 2 (Scenario 1)

Family Resource Simulator: Cleveland/Cuyahoga County, OH (2015)

step 1	step 2	step 3	step 4	step 5	step 6	step 7	step 8
City & State	**Family**	Income & Assets	Work Supports	Child Care	Health Insurance	Other Expenses	Results
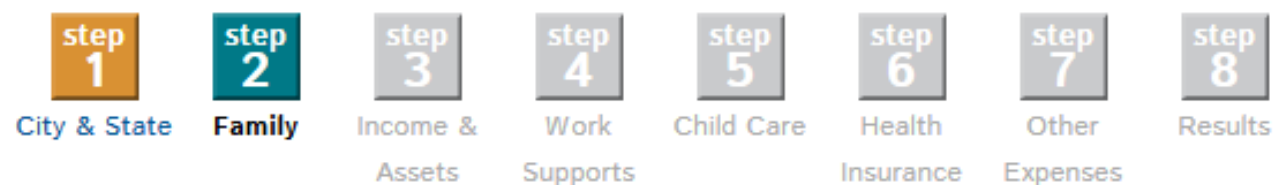
2 Select family characteristics. ❓

Family structure	Single-parent ▾
Age of first child ❓	3 ▾
Age of second child	6 ▾
Age of third child	No third child ▾

FRS Step 3 (Scenario 1)

step 1	step 2	step 3	step 4	step 5	step 6	step 7	step 8
City & State	Family	Income & Assets	Work Supports	Child Care	Health Insurance	Other Expenses	Results

3 Enter income sources, assets, and debt.

Starting wage rate ❓ $ 10.65 per hour

Child support income (amount paid by noncustodial parent) ❓ $ 0 per month

Amount of family savings (in checking or savings account) ❓ $ 0

Value of the family's car $ 0

Amount family owes on car ❓ $ 0

Debt payment (e.g., credit cards, medical debt, car payment) $ 0 per month

FRS Step 4 (Scenario 1)

4 Select work supports. ⊘

☐ Child Care and Development Fund (CCDF) Subsidies

> ☐ Use entrance standards instead of exit standards for eligibility to receive child care subsidies.
>
> Change entrance eligibility limit to [____] % of federal poverty guideline (policy change).

☐ SNAP/Food Stamps

☐ Public Health Insurance (Medicaid, SCHIP) ⊘

☐ Section 8 Housing Vouchers

☐ TANF Cash Assistance

☐ Lifeline

☐ Home Energy Assistance Program (HEAP)

Federal Tax Credits

☑ Earned Income Tax Credit (EITC)

☑ Child Tax Credit

☑ Child and Dependent Care Tax Credit

☐ Premium Tax Credit

State Tax Credits

☑ Earned Income Tax Credit (EITC)

> ☐ Change Value of State EITC to [____] % of Federal EITC (policy change)
>
> ☐ Make State EITC refundable (policy change)
>
> ☐ Remove cap limiting State EITC to half of tax liability for Ohio Taxable Incomes above $20,000 (policy change).

☑ Child and Dependent Care Tax Credit

FRS Step 5 (Scenario 1)

| step 1 City & State | step 2 Family | step 3 Income & Assets | step 4 Work Supports | step 5 Child Care | step 6 Health Insurance | step 7 Other Expenses | step 8 Results |

Make choices about child care.

Select setting or enter cost for child care.

🔘 **Select child care setting:** ❓

Child 1 (age 3)   Center-based care, licensed ($949/month) ▾

Child 2 (age 6)   Center-based care, licensed ($474/month) ▾

⭕ **Enter cost per child:** ❓

Child 1 (age 3) $ 0   per month

Child 2 (age 6) $ 0   per month

FRS Step 6 (Scenario 1)

step 1 City & State | step 2 Family | step 3 Income & Assets | step 4 Work Supports | step 5 Child Care | step 6 Health Insurance | step 7 Other Expenses | step 8 Results

6 Make choices about health insurance.

Choose private health insurance option. ⑦

Private health insurance cost estimates include insurance premiums only, not copayments or other out-of-pocket expenses.

◉ Employer-based plan: $303 per month for family coverage

◯ Individual/Nongroup plan: $476 per month for family coverage

◯ Other cost estimate: $ [0] per month for family coverage

FRS Step 7 (Scenario 1)

Make choices about other expenses.

Select Family Resource Simulator estimate or enter your own estimate.

Rent and utilities (cost when unsubsidized):

⦿ Fair Market Rent, as determined by the U.S. Department of Housing and Urban Development: $764 per month

○ Other cost estimate: $ [0] per month

Food:

⦿ Low-Cost Food Plan developed by the U.S. Department of Agriculture

○ Other cost estimate: $ [0] per month

Transportation:

⦿ Private transportation cost estimate

○ Other cost estimate: $ [0] per month

Other necessities:

⦿ Family Resource Simulator estimate of other necessities

○ Other cost estimate: $ [0] per month

FRS Output Screen (Scenario 1)

Family Resource Simulator: Cleveland/Cuyahoga County, OH (2015)

| step 1 City & State | step 2 Family | step 3 Income & Assets | step 4 Work Supports | step 5 Child Care | step 6 Health Insurance | step 7 Other Expenses | step 8 Results |

8 View results.

Net Family Resources

Resources and Expenses
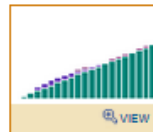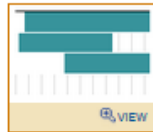
Family Resources

Benefits by Earnings Level

Net Family Resources (resources minus expenses)

- Net resources (resources minus expenses)
- Breakeven line
- Breakeven point (where resources equal expenses)

Net Resources: $10K, $5K, $0K, $-5K, $-10K, $-15K, $-20K, $-25K

Annual Earnings: 0K, 6K, 12K, 18K, 24K, 30K, 36K, 42K, 48K, 54K, 60K

© National Center for Children in Poverty
Family Resource Simulator, Ohio 2015 (Results reflect user choices.)
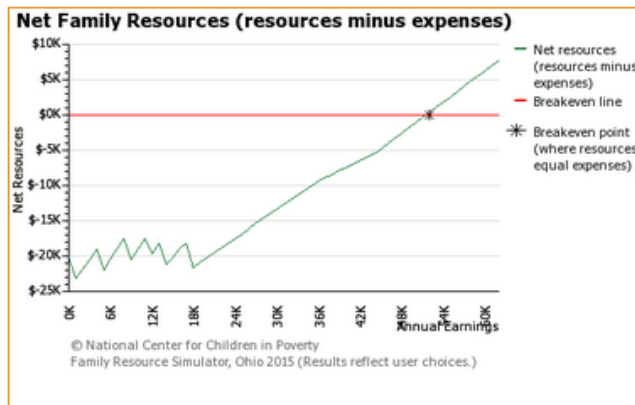
This graph displays net family resources as the family's earnings increase from $0 to the state median income. The green line represents the net resources available to the family after subtracting basic expenses. The red horizontal line represents the "break even" line, where the family's total resources are equal to basic expenses; asterisks indicate where the family reaches this point. For more information about how resources and expenses are calculated, see Calculating Family Resources and Calculating Family Expenses.

Scenario 1: Analysis

- One of the more helpful graphs generated in the output screen is the "Net Family Resources" graph.

Net Family Resources (resources minus expenses)

A line graph showing Net Resources (y-axis, from $-25K to $10K) versus Annual Earnings (x-axis, from 0K to 60K). The green "Net resources (resources minus expenses)" line starts near $-23K, oscillates in a sawtooth pattern around $-18K to $-22K through about 18K earnings, then rises steadily crossing the red "Breakeven line" at $0K (marked with the "Breakeven point where resources equal expenses" asterisk) around 48K earnings, and continues up to about $8K.

Legend:
- Net resources (resources minus expenses)
- Breakeven line
- Breakeven point (where resources equal expenses)

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Family Resource Simulator, Ohio 2015 (Results reflect user choices.)

- The earnings level at which the family "breaks even" is the same as the output the Basic Needs Budget Calculator generated.

- There is no way a family making less than middle-class earnings could afford the standard necessities modeled in this simulation without going deep into debt.

Scenario 2: Some Public Benefits

- What happens when we add in some widely used public benefits, specifically entitlements (SNAP and Medicaid)?

- As with Scenario 1, the family also accesses federal and state tax credits (including earned income credits, child tax credits, and child and dependent care tax credits)

4 Select work supports. ❓

☐ Child Care and Development Fund (CCDF) Subsidies

> ☐ Use entrance standards instead of exit standards for eligibility to receive child care subsidies.
> Change entrance eligibility limit to [____] % of federal poverty guideline (policy change).

☑ SNAP/Food Stamps
☑ Public Health Insurance (Medicaid, SCHIP) ❓
☐ Section 8 Housing Vouchers
☐ TANF Cash Assistance
☐ Lifeline
☐ Home Energy Assistance Program (HEAP)

Federal Tax Credits
 ☑ Earned Income Tax Credit (EITC)
 ☑ Child Tax Credit
 ☑ Child and Dependent Care Tax Credit
 ☑ Premium Tax Credit

State Tax Credits
 ☑ Earned Income Tax Credit (EITC)

> ☐ Change Value of State EITC to [____] % of Federal EITC (policy change)
> ☐ Make State EITC refundable (policy change)
> ☐ Remove cap limiting State EITC to half of tax liability for Ohio Taxable Incomes above $20,000 (policy change).

☑ Child and Dependent Care Tax Credit

Scenario 2: Some Public Benefits

- Assumptions (continued):
  - A less expensive but still standard type of child care (family child care homes

5 Make choices about child care.

Select setting or enter cost for child care.

◉ Select child care setting: ?

Child 1 (age 3) | Family child care home, certified. Type B homes, excludes limited agency/parent/providor inspected ($823/month) ▼

Child 2 (age 6) | Family child care home, certified. Type B homes, excludes limited agency/parent/providor inspected ($566/month) ▼

◯ Enter cost per child: ?

Child 1 (age 3) $ 0 per month

Child 2 (age 6) $ 0 per month

Scenario 2: Analysis

Net Family Resources (resources minus expenses)

© National Center for Children in Poverty
Family Resource Simulator, Ohio 2015 (Results reflect user choices.)
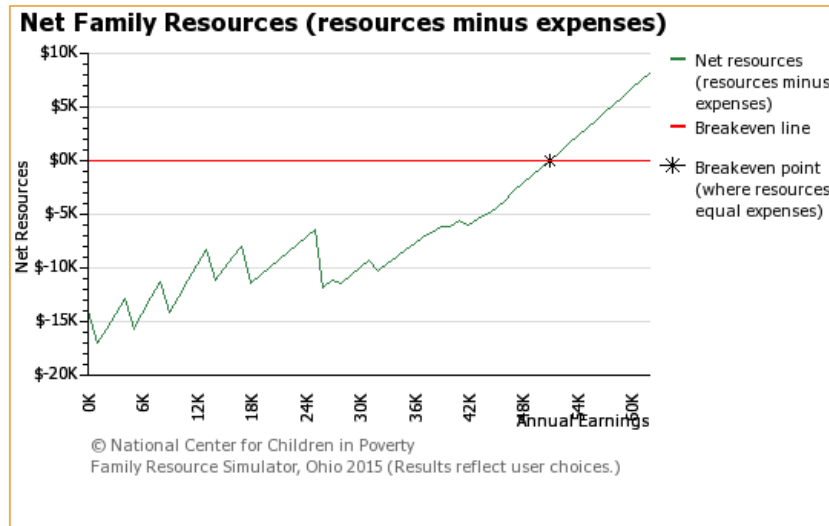
- The family gets closer to the breakeven line ($0 in net resources), but is still well below it.

- Entitlements and widely used public benefits alone cannot bring a low-income family of this structure above the breakeven line, as long as we use standard costs of housing, child care, and other necessities.

- How can a family avoid going deep into debt at lower earnings levels?

Scenario 3: "Doubling up"

- One approach to lowering costs is to "double up" with relatives or friends.

- "Doubling up" lessens their expenses but can lead to overcrowded, unsafe housing conditions and a reliance on the individuals outside the initial family unit, which can lead to unsafe environments for children and their parents.

- Examples of this are widespread among the working poor, as recent quantitative and qualitative studies show.
  - Matthew Desmond, *Evicted* (2016)
  - Kathryn Edin and Luke Shaefer, *$2.00 a Day: Living on Almost Nothing in America* (2015)

Scenario 3: "Doubling up"

- We can use the Family Resource Simulator's user options to In this scenario, let's say a family moves in with friends or relatives, who charge them $300 per month to help cover rent.

Scenario 3: Net Family Resources

Net Family Resources (resources minus expenses)

Loss of SNAP benefits

Breakeven points

Expenses greater than resources

Net resources (resources minus expenses)

Breakeven line

Breakeven point (where resources equal expenses)

Net Resources

Annual Earnings

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Family Resource Simulator, Ohio 2015 (Results reflect user choices.)

Scenario 3: Analysis

- In this scenario, the family achieves some level of stability at a about $24,000/year, but only a nominal gain in earnings above that point results in the loss of SNAP benefits, occurring when the family income exceeds SNAP's gross income eligibility limit in Ohio ($25,728).

- At incomes right above the SNAP cliff, a family faces more expenses than resources, since they lose SNAP benefits.

- The SNAP benefit cliff can be seen graphically by clicking on another of the FRS graphs, "Resources and Expenses," as the next slide illustrates. The bar representing SNAP benefits, disappears between $21,000 and $28,000.

Scenario 3: Resources and Expenses

Family Resources and Basic Expenses

RESOURCES
- SNAP/Food Stamps
- State tax credits
- Federal tax credits
- Earnings

EXPENSES
- Health care
- Child care
- Transportation
- Rent and utilities
- Food
- Other necessities
- Payroll taxes
- Income taxes (excluding credits

© National Center for Children in Poverty
Family Resource Simulator, Ohio 2015 (Results reflect user choices.)
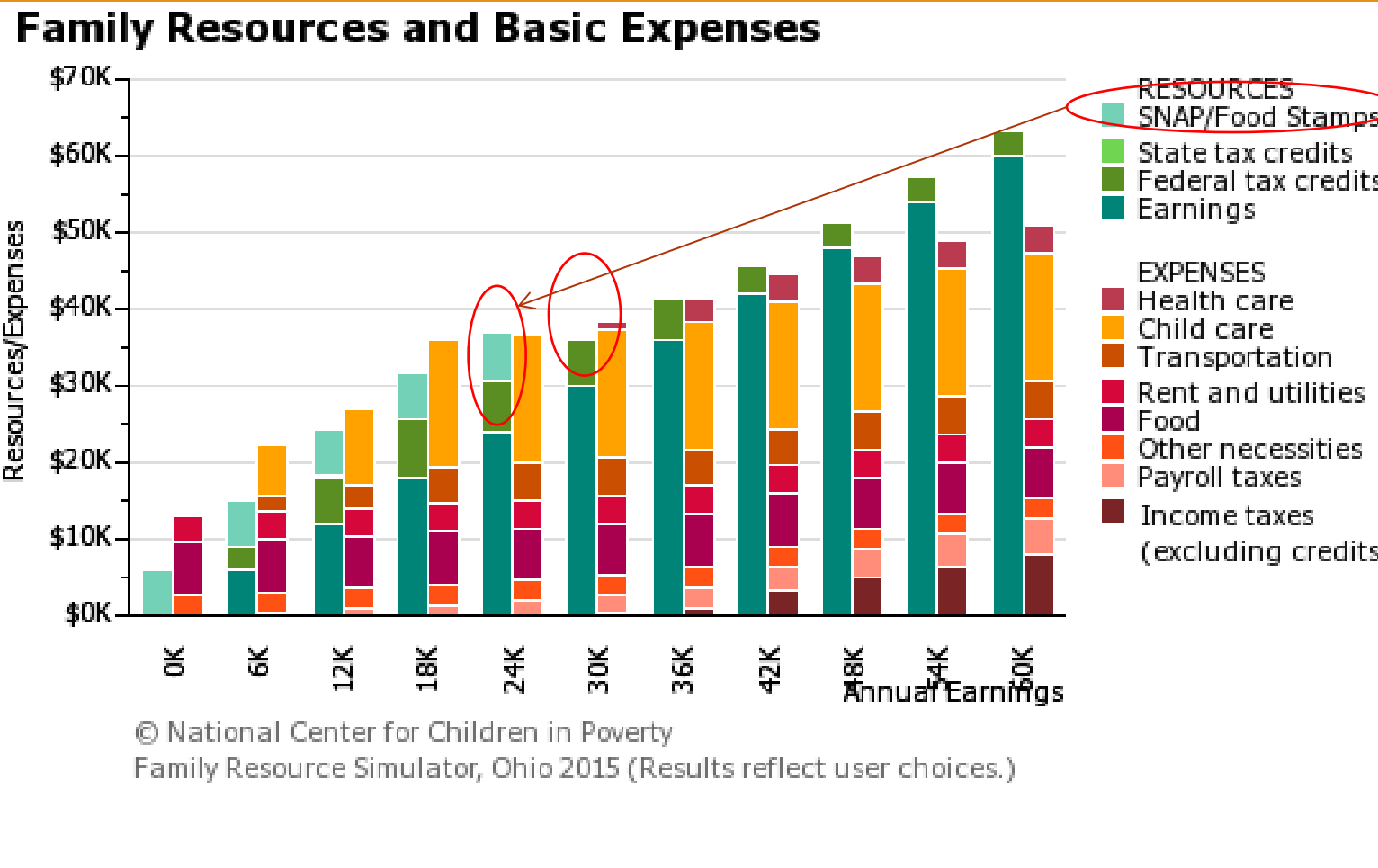
Interpretations

- How might a family in this situation adapt to the loss of SNAP benefits?

- Families could lower child care costs even further by relying on substandard care, but children in this family will be less prepared for school, as substandard child care has been shown to curb the cognitive and emotional development of children.

- Accessing Child Care Development Fund (CCDF) subsidies, which are distributed by state agencies via a block grant (with limited spots) and tied through categorical eligibility with Temporary Assistance for Needy Families (TANF) programs, offers one way that parents can reduce child care costs, but eligibility for this benefit is limited.

Scenario 4: CCDF subsidies

- We can also model CCDF subsidies using the Family Resource Simulator, and resetting the rent back to the Fair Market Rent.

4 Select work supports. ❓

☑ Child Care and Development Fund (CCDF) Subsidies

> ☐ Use entrance standards instead of exit standards for eligibility to receive child care subsidies.
>
> Change entrance eligibility limit to [____] % of federal poverty guideline (policy change).

☑ SNAP/Food Stamps
☑ Public Health Insurance (Medicaid, SCHIP) ❓
☐ Section 8 Housing Vouchers
☑ TANF Cash Assistance
☐ Lifeline
☐ Home Energy Assistance Program (HEAP)

Federal Tax Credits
  ☑ Earned Income Tax Credit (EITC)
  ☑ Child Tax Credit
  ☑ Child and Dependent Care Tax Credit
  ☑ Premium Tax Credit

State Tax Credits
  ☑ Earned Income Tax Credit (EITC)

> ☐ Change Value of State EITC to [____] % of Federal EITC (policy change).
> ☐ Make State EITC refundable (policy change).
> ☐ Remove cap limiting State EITC to half of tax liability for Ohio Taxable Incomes above $20,000 (policy change).

☑ Child and Dependent Care Tax Credit

Scenario 4: CCDF subsidies

- There is also a child care subsidy benefit cliff, but because Ohio recently revised its guidelines, its impact does not move the family below the break-even line:

Net Family Resources (resources minus expenses)

Loss of CCDF subsidies

Net resources (resources minus expenses)

Breakeven line

Breakeven point (where resources equal expenses)

© National Center for Children in Poverty
Family Resource Simulator, Ohio 2015 (Results reflect user choices.)

Using the policy modeling options

- Users can select several built-in policy modeling options on the public website in Ohio as well as other states:

4 Select work supports. ❓

☑ Child Care and Development Fund (CCDF) Subsidies

☐ Use entrance standards instead of exit standards for eligibility to receive child care subsidies.
Change entrance eligibility limit to ____ % of federal poverty guideline (policy change).

☑ SNAP/Food Stamps
☑ Public Health Insurance (Medicaid, SCHIP) ❓
☐ Section 8 Housing Vouchers
☑ TANF Cash Assistance
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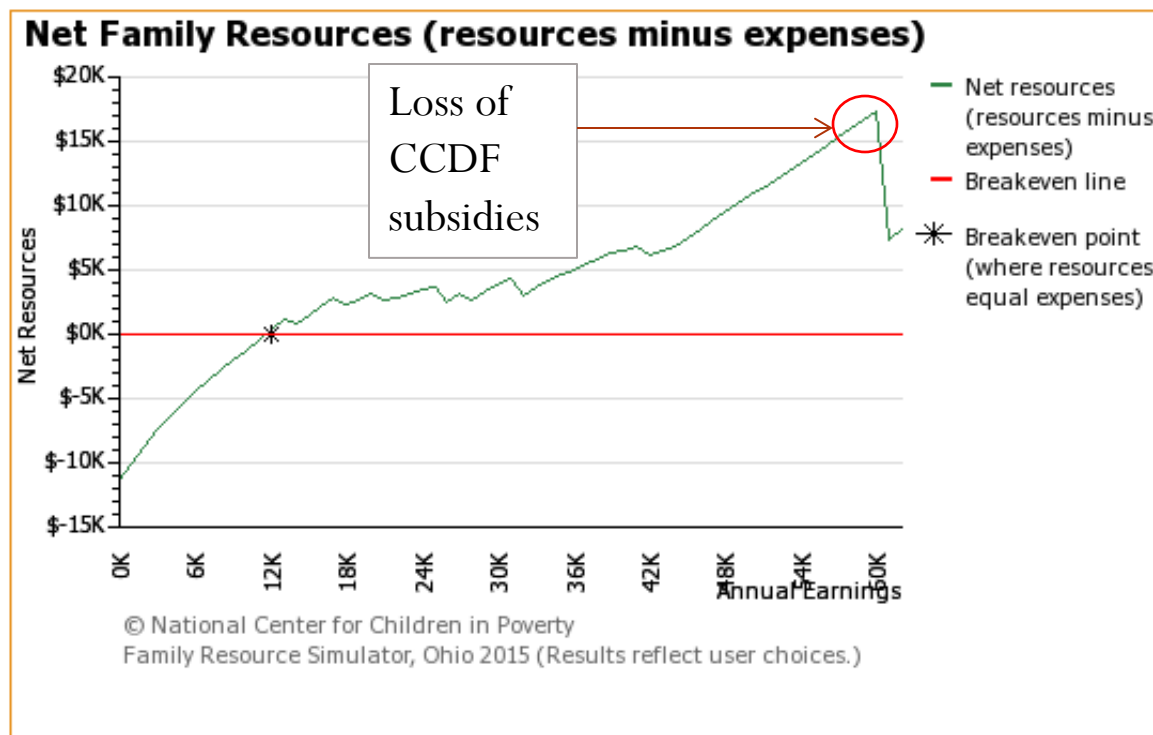☑ Child and Dependent Care Tax Credit
☑ Premium Tax Credit

State Tax Credits
☑ Earned Income Tax Credit (EITC)

☐ Change Value of State EITC to ____ % of Federal EITC (policy change)
☐ Make State EITC refundable (policy change)
☐ Remove cap limiting State EITC to half of tax liability for Ohio Taxable Incomes above $20,000 (policy change).

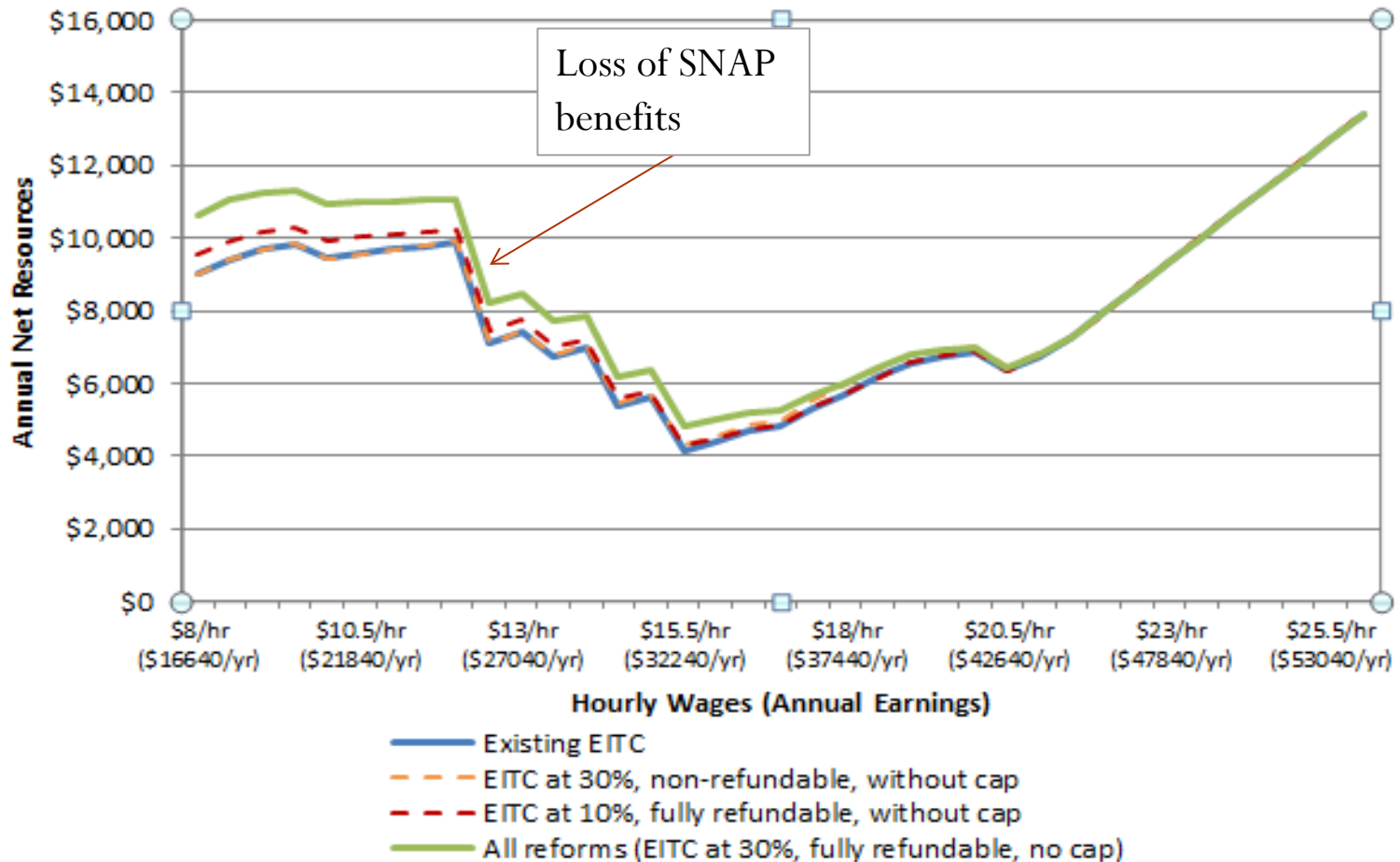☑ Child and Dependent Care Tax Credit

Policy modeling: Ohio Earned Income Tax Credit

- As part of a recent project done in collaboration with Policy Matters Ohio, NCCP used the Family Resource Simulator to model changes to the state's version of the Earned Income Tax Credit (EITC).

- Current OH EITC is a *nonrefundable* credit of 10% of the federal credit

- The value of the credit is *capped* at half of tax liability for filers earning more than $20,000/year

- Because of these limitations, few of Ohio's lowest-paid workers benefit from the credit

- Proposed reforms would: (i) raise the value of the credit to 30% of the federal EITC; (ii) make it refundable; (iii) remove the cap

Policy modeling: Ohio EITC

- Same family used in Scenarios 1-3, accessing CCDF, SNAP, Medicaid/CHIP, Section 8, TANF, utility subsidies, and federal and state tax credits:

Impact of EITC policy changes on a Cleveland Family

Loss of SNAP benefits

Legend:
- Existing EITC
- EITC at 30%, non-refundable, without cap
- EITC at 10%, fully refundable, without cap
- All reforms (EITC at 30%, fully refundable, no cap)

Y-axis: Annual Net Resources ($0 – $16,000)

X-axis: Hourly Wages (Annual Earnings)
$8/hr ($16640/yr), $10.5/hr ($21840/yr), $13/hr ($27040/yr), $15.5/hr ($32240/yr), $18/hr ($37440/yr), $20.5/hr ($42640/yr), $23/hr ($47840/yr), $25.5/hr ($53040/yr)

Findings from EITC analysis

- The line graph demonstrates that family benefits significantly from these changes, especially at lower levels of earnings. With annual earnings of $21K, the family gains about $1.5K from all 3 reforms.

- Refundability is vital. If left non-refundable, lower earners do not benefit from other reforms.

Getting the data

- The FRS includes ready-made graphs, but users can also use the "Download Numeric Data" function to access the data that informs those graphs.

- The data can be downloaded as .csv files.

- The column "Net Resources" is the column used to create the line graphs we have been using to analyze the above scenarios.

- Any of the columns can be used to create custom-made graphs in MS Excel.

Custom-made graphs

0K 6K 12K 18K 24K 30K 36K 42K

© National Center for Children in Poverty
Family Resource Simulator, Ohio 2015 (Results reflect

This graph displays net family resources as the family's
income. The green line represents the net resources av
expenses. The red horizontal line represents the "break
equal to basic expenses; asterisks indicate where the fa
about how resources and expenses are calculated, see
Family Expenses.

Methods

- Calculating Family Resources
- Calculating Family Expenses
- Assumptions for Determining Work Support Eligibility
- Estimating Family Child Care Needs

Also of

- Making "
- Basic Ne

Change Graph Settings

Maximum earnings   **Interval**

62134   1000   REDRAW

State median income: $62,134

## Downloads

Download Numeric Data

NCCP's Family Resource Simulator: OH 2015 (nccp.org/t
Output Generated Fri Oct 30 17:46:34 2015. Results refle

Federal Ea	State Earn	State Chil	Earnings	Net Resou	Chi
1	1	1	0	-6992.4	
1	1	1	1000	-9155.83	
1	1	1	2000	-7832.33	
1	1	1	3000	-6508.83	
1	1	1	4000	-8522.26	
1	1	1	5000	-7048.76	
1	1	1	6000	-5575.26	
1	1	1	7000	-7588.7	
1	1	1	8000	-6115.2	
1	1	1	9000	-4641.7	
1	1	1	10000	-3168.2	
1	1	1	11000	-5181.63	
1	1	1	12000	-3708.13	
1	1	1	13000	-2234.63	
1	1	1	14000	-4300.07	

Net Resources
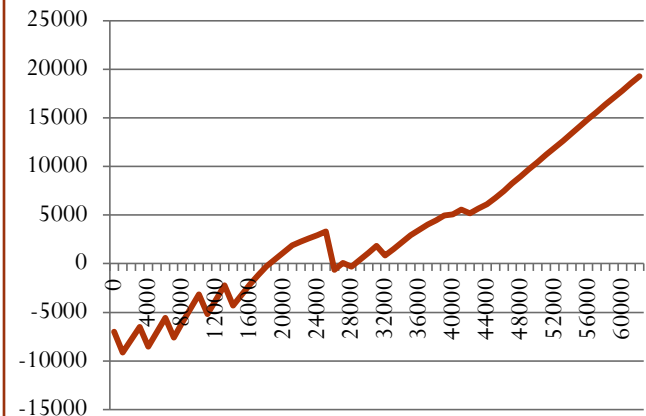
Comparing different scenarios

- The FRS is only currently able to generate graphs of one family scenario at a time. We are planning on allowing graphs to show comparisons of scenarios beginning with our 2017 simulator for the District of Columbia.

- For the time being, through Excel or other software, users can compare different scenarios by downloading the .csv files of different scenarios.

- We can use this method to demonstrate the impact of potential policy changes.

Upcoming additions

- We are currently working on a simulator for the District of Columbia that we are planning to include the following additions, among others:
  - WIC
  - SSI
  - School and summer meals programs
  - Afterschool programs
  - Nontraditional working hours
  - Parents with disabilities
  - Families with infants
  - Families with up to five children
- We expect to have the project completed in Fall 2017.

THANK YOU!

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