

Cliff Effect Simulations for Families in Suffolk County, Massachusetts: Exploring the Impact of Universal Childcare and Housing Assistance

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Overview of Chart Pack

- *Safety-net benefits decrease as recipients' income increases, but the result can be an overall drop in resources— sometimes so sharp that it feels like falling off a cliff (Albelda & Carr, 2017).*
- This chart pack is an updated version of an earlier chart pack, where we used 2014 tax rates and 2015 costs, benefit eligibility rules and benefit levels.
- To better understand cliff effects, we simulate the relationship between total resources and earnings for families of different sizes residing in Suffolk county, Massachusetts with two or three young children (ages four, nine, and fifteen).
- We also model a policy proposal for publicly provided Universal Education and Child Care (ECE) for children aged 2-12 and show its effect on cliffs and net resources for families.
- This chart pack graphically depicts this process and gives a better sense at what range of earnings the cliffs occur.

Summary of Key Findings

- Cliff effects occur over a much wider range of full-time hourly earnings when the family receives housing assistance. For instance, a family of 2, receiving all benefits including housing, faces cliffs from about \$12 per hour until \$25 per hour, whereas the same family faces cliffs from \$13 to \$24 per hour, when they do not receive housing assistance. This happens because, both the Earned Income Tax Credit (EITC) and housing assistance decline steeply and steadily from \$10 to \$28 per hour.
- The analyses reveal that the only way families can stay “above water” is with housing assistance. Housing assistance helps families reallocate resources to meet other costs and to stay afloat.
- Universal ECE has similar effects on cliffs as housing assistance. Provision of Universal ECE, reduces family costs and increase net resources, which in turn, helps families in covering costs for other needs. With Universal ECE, families face smaller cliffs.

Public Supports to Maintain Well Being

To make ends meet, low-income families rely on public benefits, which provide assistance with basic costs and help low-income families meet basic needs.

Working families with young children, especially single parent families, are the most likely to receive more than one support. This is because:

1. They are the most likely family type to be low-income and therefore eligible;
2. Many of these programs have been specifically targeted to them (like child care and cash assistance); and
3. Government agencies, schools, and other organizations have succeeded in their outreach to enroll families into programs for which they are eligible.

Families with young children face higher costs because their children must be cared for when parents are at work.

Public Support Programs Analyzed for the Chart Pack

- Refundable tax credits – Federal and state Earned Income Tax Credit (EITC) and Federal Child Tax Credit (CTC)
- Food assistance – Supplemental Nutrition Assistance Program (SNAP or Food Stamps) and Women, Infants, and Children (WIC)
- Health insurance – Medicaid and State Children’s Health Insurance Program (CHIP) (MassHealth) and Health Connector
- Cash assistance – Temporary Assistance for Families with Dependent Children (TAFDC)
- Child care vouchers – Federal and state programs that provide assistance for child care for children under age 13
- Housing assistance – Massachusetts Rental Voucher Program (MRVP)

Public Support Programs have Various Eligibility Rules

- Income eligibility levels differ for each of the public supports.
- Different programs count different forms of income and assets when determining eligibility (e.g. child care counts TAFDC as income, while most other programs do not).
- Different programs allow recipients to deduct different costs of basic needs from their income (up to a hard limit of countable income).
- The program inconsistency is compounded by the lack of a tool to navigate public benefits.

Previous Findings

- Cliff effects refers to a drop off in benefit levels as earnings increases, resulting in a decrease in total resources (earnings + benefits) at key earnings thresholds.
- Families face financial obstacles when a rise in earnings results in public benefits declining or dropping off completely. This gradual decline or end in benefit levels results in slopes or steep cliffs.
- Steep and/or long cliffs occur when several supports decline at around the same earnings levels.
- Several benefits fade out at an earnings level much below what it needed to cover basic costs. When this happens, families find themselves in a classic trap of earning too much to receive public supports but not enough to make ends meet.
- Cliff effects generate a feeling of “running in place,” forcing families to only earn just enough in order to keep the public supports they receive to make ends meet.

Estimating Cliff Effects: CSP Net Resources Simulator

- The simulator, developed by Albelda and Carr, calculates the amount of income a family has after taking into account basic costs, earnings, and the value of public supports (i.e. net resources).
 - *Net annual resources* = Net Annual Income – Net Annual Costs
 - *Net annual income* = (Earnings + Cash Assistance + Refundable tax credits) – Income and Payroll Taxes Owed
 - *Net annual costs* = Typical Costs for Basic Needs – Value of Benefits Received
- We graph net resources by income levels, measured by hourly wages. This allows us to see how much net resources a family has and where the cliff effects are.

Estimating Cliff Effects: Net Resource Simulator

- We used the net resource simulator to estimate the level of net annual resources at various wage levels for the following family types:
 - Full-time employed single parent with two children ages four and nine;
 - Full-time employed single parent with one child;
 - Full-time employed single parent with three children ages four, nine and fifteen;
- It is assumed that the parent(s) in each family type must find full-day care for younger children and part-time care for the older children during non-school hours.

Assumptions

- We use 2015 tax rates and estimated basic costs for 2016. Benefit eligibility rules and benefit levels are from 2016.
- We assume the adult starts working at \$10.00 per hour and works 2000 hours per year. That is equivalent to working a full-time job; 40 hours per week for 50 weeks annually. The simulator gradually pushes hourly wages upwards and you can observe changes in net resources and cliffs along the way.
- The more hours a single parent works, the more child care s/he needs, up to full-time care needs at 2000 hours per year.
- We can simulate net resources for different family types by city or region (given that basic costs and benefit levels can vary by location). Here we present the results for Suffolk County for a single parent with 1, 2, or 3 children.

OVERVIEW OF SIX PACKAGES OF BENEFITS SIMULATED:

	Pack 1	Pack 2	Pack 3	Pack 4	Pack 5	Pack 6
Massachusetts Rental Voucher Program (MRVP)	✓	✓				✓
Earned Income Tax credit (EITC)	✓	✓	✓	✓	✓	✓
Child Tax Credit (CTC)	✓	✓	✓	✓	✓	✓
Women, Infants, and Children (WIC)	✓	✓	✓	✓	✓	✓
Supplemental Nutrition Assistance Program (SNAP)	✓	✓	✓	✓	✓	✓
Transitional Aid to Families with Dependent Children (TAFDC)	✓			✓		
Child Care Voucher	✓			✓		
Universal Childcare					✓	✓
MassHealth (Medicaid)	✓	✓	✓	✓	✓	✓

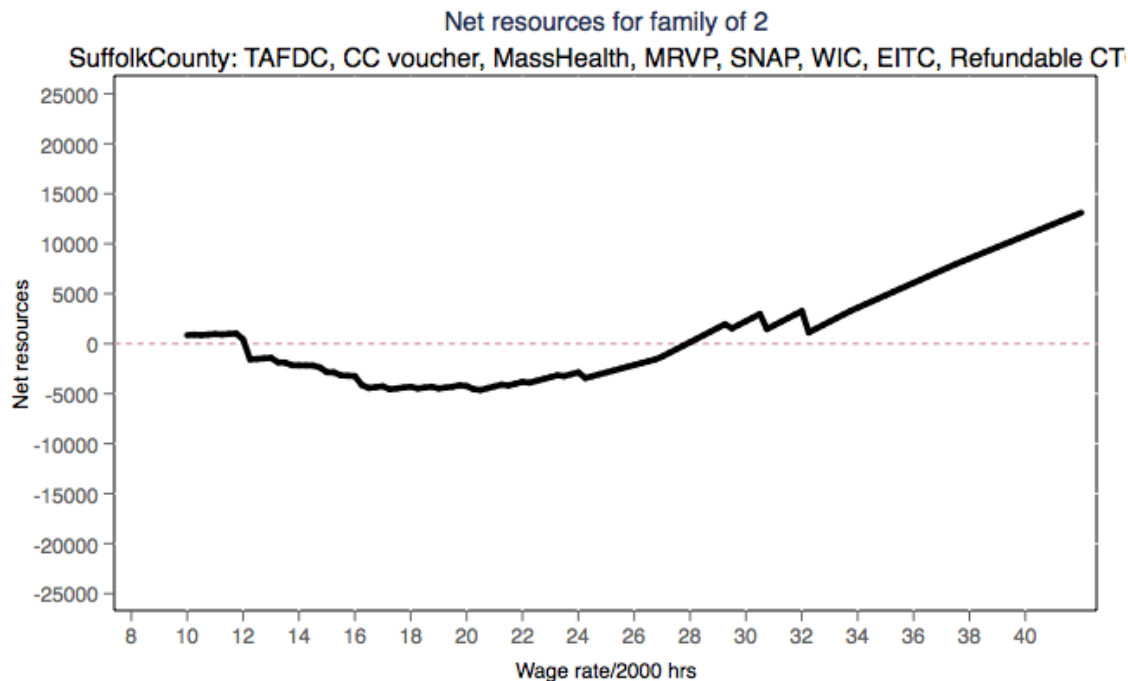
Family Costs

- Basic annual costs from the MIT Living Wage Calculator:
 - **Housing** – U.S. Housing and Urban Development (HUD) Fair Market Rents by County
 - **Child care** – Statewide average cost of care for 4 and 9 year olds
 - **Food** – U.S. Department of Agriculture’s low-cost food plan
 - **Health insurance** - Average premium cost of an employer-based plan in Massachusetts plus medical out of pocket expenses
 - **Transportation** –Statewide average
 - **Miscellaneous expenses** – Statewide average
 - **Taxes** – Payroll on earnings and income taxes owed
- Not included:
 - Major purchases
 - Savings
 - Emergency expenditures
 - Debt

**Family of 2:
Full-Time
Employed Single
Parent with One
Child**

FAMILY OF 2: PACK 1 (ALL BENEFITS — MRVP, EITC, CTC, MassHealth, SNAP, WIC, TANF, CC VOUCHER)

Graph: Net Resources by hourly wages



Source: CSP Net Resource Calculator

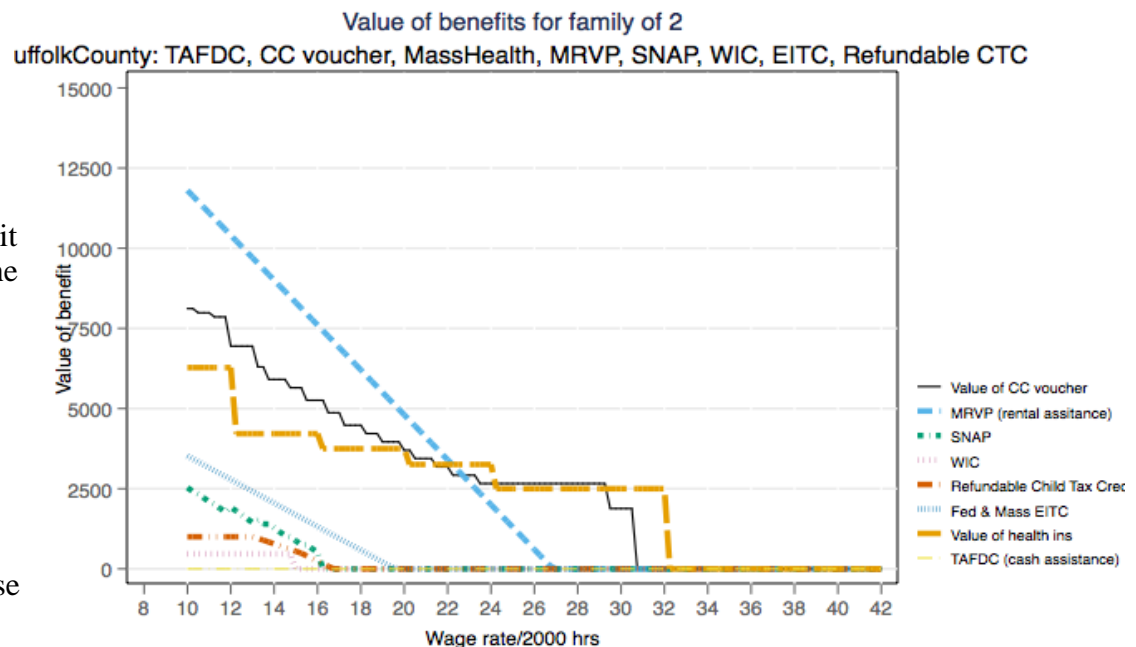
- **Level of net resources:** Working full-time (2000 hours), it takes around \$28 per hour (\$56,000 annually) to break even (when net resources are above the red line).
- **Cliff effects:** At \$24,000, \$62,000 and \$66,000 annually (\$12, \$30, and \$32 per hour), these families see net resources drop. This leaves the families no better off (at 2000 hrs) from \$12 per hour to about \$25 per hour. The cliff effects start occurring when the family is facing positive net resources of about \$2,000 per year.



FAMILY OF 2: PACK 1 (ALL BENEFITS — MRVP, EITC, CTC, MassHealth, SNAP, WIC, TANF, CC VOUCHER)

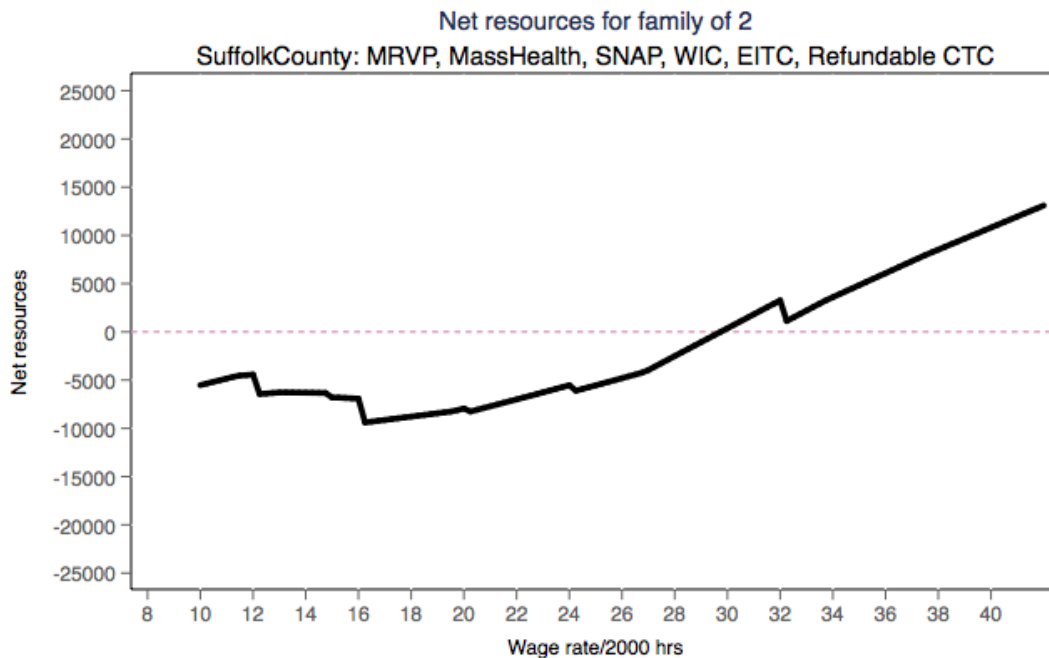
- EITC slides down at \$10.00 per hour (\$20,000 annually), and starts to decline at around 133% of FPL.
- SNAP starts sliding at \$10 per hour (\$20,000 annually), and stops at 200% FPL.
- The MRVP steeply declines, until it drops off entirely at \$27 per hour. The benefit level of the voucher keeps the family afloat at lower wages, but it drops steadily along with the other benefits. Thus, the family finds itself losing net resources as earnings increase between \$12 and \$28 per hour.
- There is a continuous decline in the value of childcare received starting from \$20,000 to \$50,000 per year (\$10 to \$25 per hour).
- WIC starts to decline at \$15 per hour.
- The MassHealth/Connector premium costs increase at \$12 per hour and reductions in CTC kick in at around \$13 per hour. All but health insurance assistance and child care fade out by \$28 per hour (\$56,000 annually).

Graph: Benefit levels



FAMILY OF 2: PACK 2 (MRVP, EITC, CTC, MassHealth, SNAP, WIC)

Graph: Net Resources by hourly wages



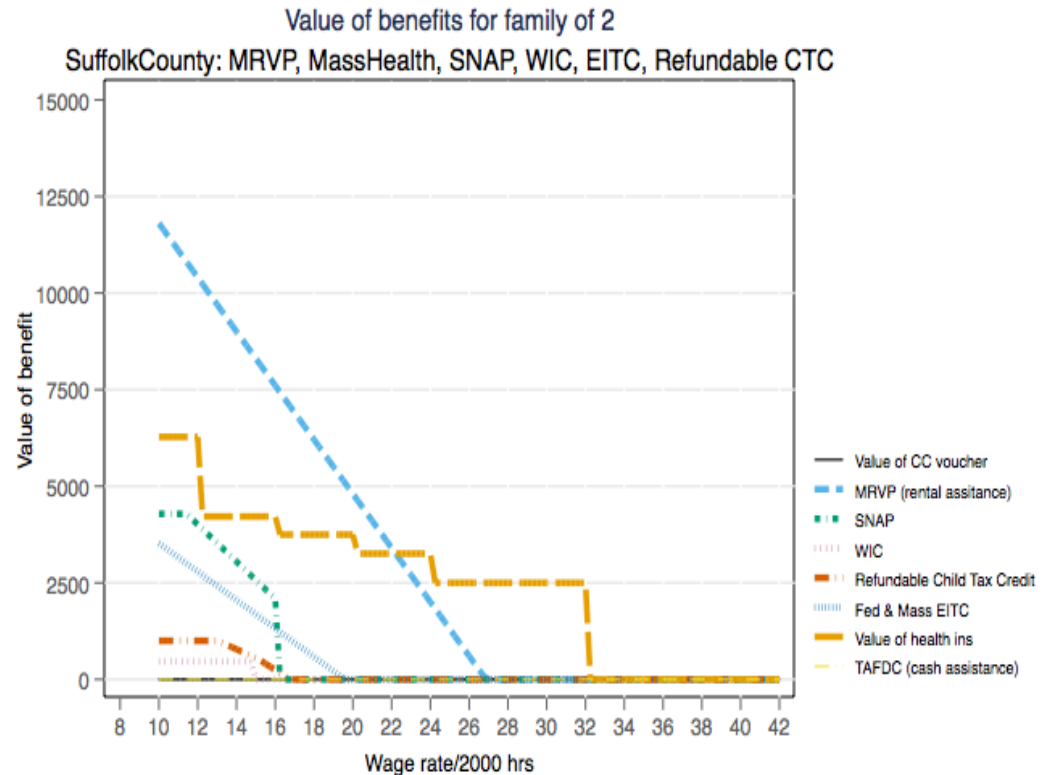
Source: CSP Net Resource Calculator

- **Level of net resources:** Working full-time (2000 hours), it takes around \$30 per hour (\$60,000 annually) to break even (when net resources are above the red line).
- **Cliff effects:** The cliffs range from \$12 per hour to \$32 per hour and there are six of them. The cliff effects start occurring when the family is facing negative net resources of about \$5,000 per year. These cliffs lead to families being worse off when working anywhere between \$13 per hour and \$26 per hour.

FAMILY OF 2: PACK 2 (MRVP, EITC, CTC, MassHealth, SNAP, WIC)

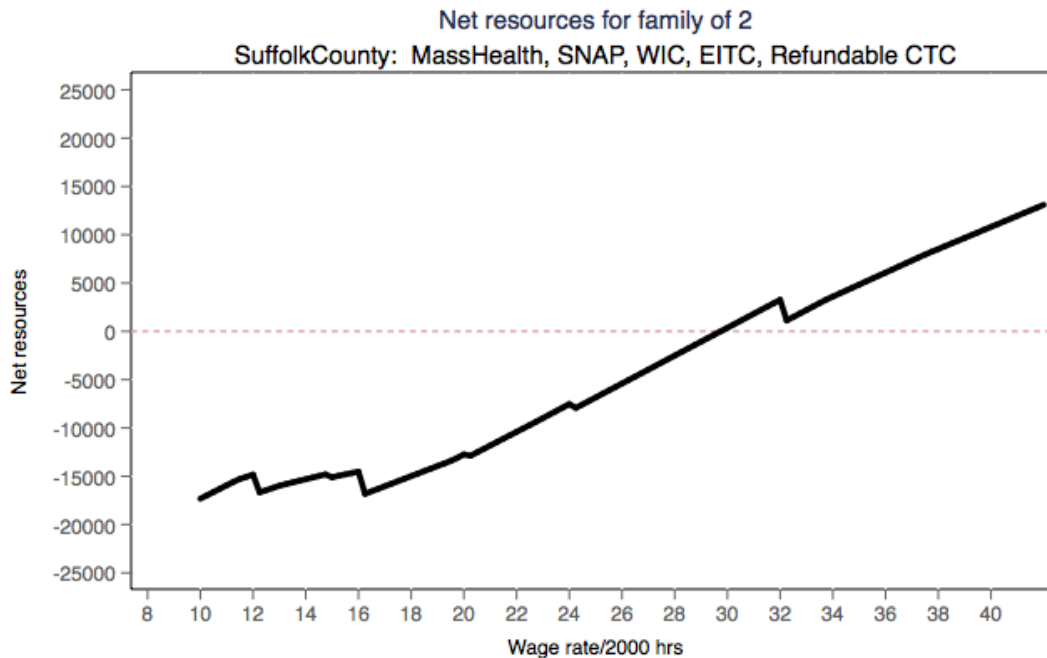
- In Package 2, families do not receive TANF or a childcare voucher.
- EITC slides down at \$10.00 per hour (\$20,000 annually).
- SNAP starts sliding at \$12 per hour (\$24,000 annually) until \$16 per hour (\$32,000 annually) where it drops off completely, and stops at 200% FPL.
- The MRVP steeply declines, until it drops off entirely at \$27 per hour. The benefit level of the voucher keeps the family afloat at lower wages, but it drops steadily along with the other benefits. This helps explain why the family finds itself losing net resources as earnings increase between \$11 and \$27 per hour.
- WIC starts to decline at \$15 per hour.
- The MassHealth/Connector premium costs increase at \$12 per hour and reductions in CTC kick in at around \$13 per hour. All but health insurance assistance fade out by \$28 per hour (\$56,000 annually).

Graph: Benefit levels



FAMILY OF 2: PACK 3 (EITC, CTC, MassHealth, SNAP, WIC)

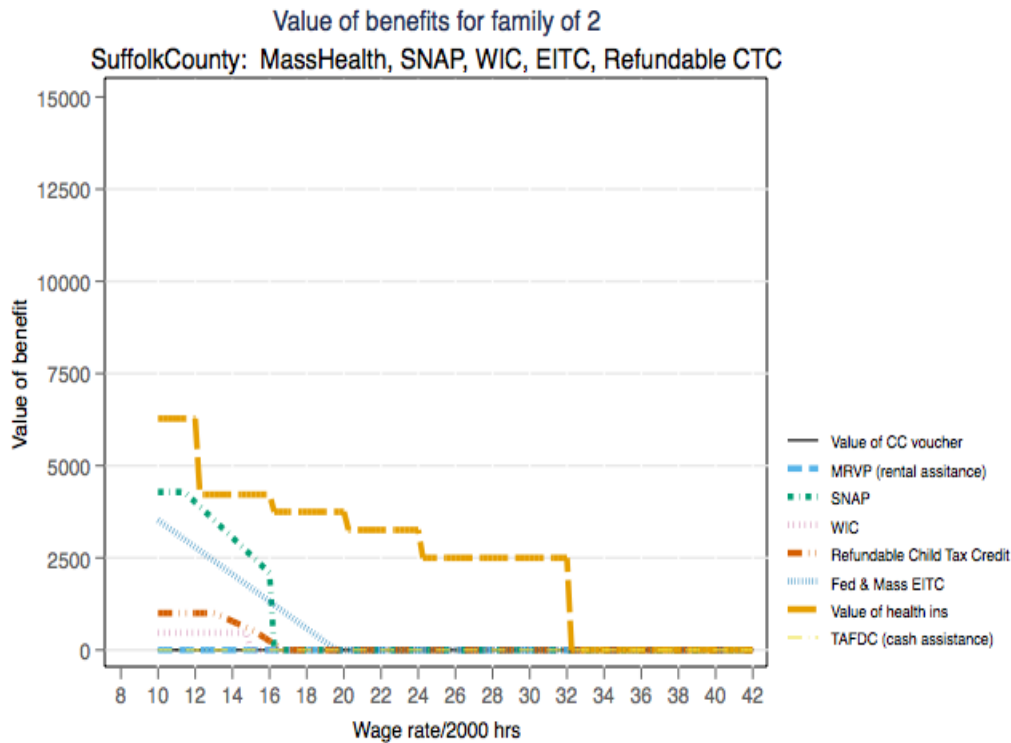
Graph: Net Resources by hourly wages



- **Level of net resources:** Working full-time (2000 hours), it takes around \$30 per hour (\$60,000 annually) to breakeven (when net resources are above the red line).
- **Cliff effects:** The cliffs range from \$11 per hour to \$32 per hour and there are six of them. The cliff effects start occurring when the family is facing negative net resources of about \$15,000 per year. These cliffs lead to families being worse off when working anywhere between \$11 per hour and \$17 per hour.

FAMILY OF 2: PACK 3 (EITC, CTC, MassHealth, SNAP, WIC)

Graph: Benefit levels



The families in this package do not receive any housing and cash assistance nor do they receive child care.

As package 1 and 2, EITC here slides down at \$10.00 per hour (\$20,000 annually) as well.

SNAP starts sliding at \$12 per hour (\$24,000 annually), and stops at 200% FPL.

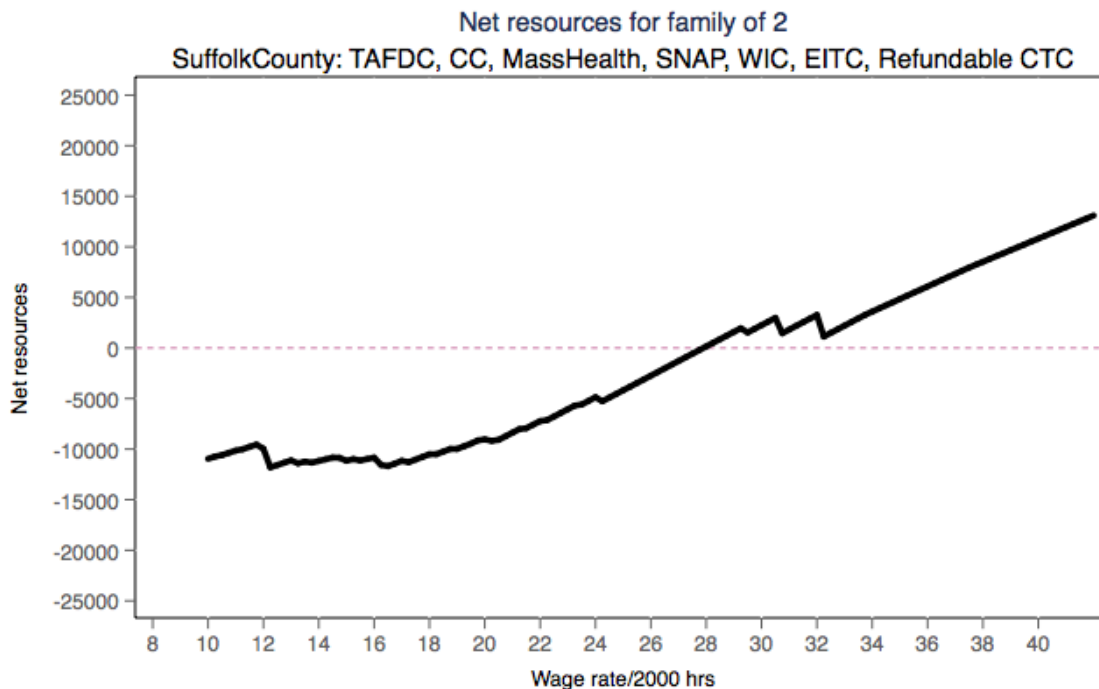
WIC starts to decline at \$15 per hour.

The MassHealth/Connector premium costs increase at \$12 per hour and reductions in CTC kick in at around \$13 per hour. All but health insurance assistance fade out by \$20 per hour (\$40,000 annually).



FAMILY OF 2: PACK 4 (EITC, CTC, MassHealth, SNAP, WIC, TANF, CC)

Graph: Net Resources by hourly wages



Source: CSP Net Resource Calculator

- **Level of net resources:** Working full-time (2000 hours), it takes around \$28 per hour (\$56,000 annually) to break even (when net resources are above the red line).
- **Cliff effects:** From \$22,000 to \$50,000 annually (\$11 to \$25 per hour), these families see net resources drop continuously. Cliffs start to recur when families are earning anywhere between \$29 per hour to \$32 per hour. This leaves the families no better off (at 2000 hours) from \$11 per hour to about \$25 per hour. The cliff effects start occurring when the family is facing net resources of -\$10,000 annually.

FAMILY OF 2: PACK 4 (EITC, CTC, MassHealth, SNAP, WIC, TANF, CC)

In package 4, families do not receive any housing assistance.

EITC slides down at \$10.00 per hour (\$20,000 annually).

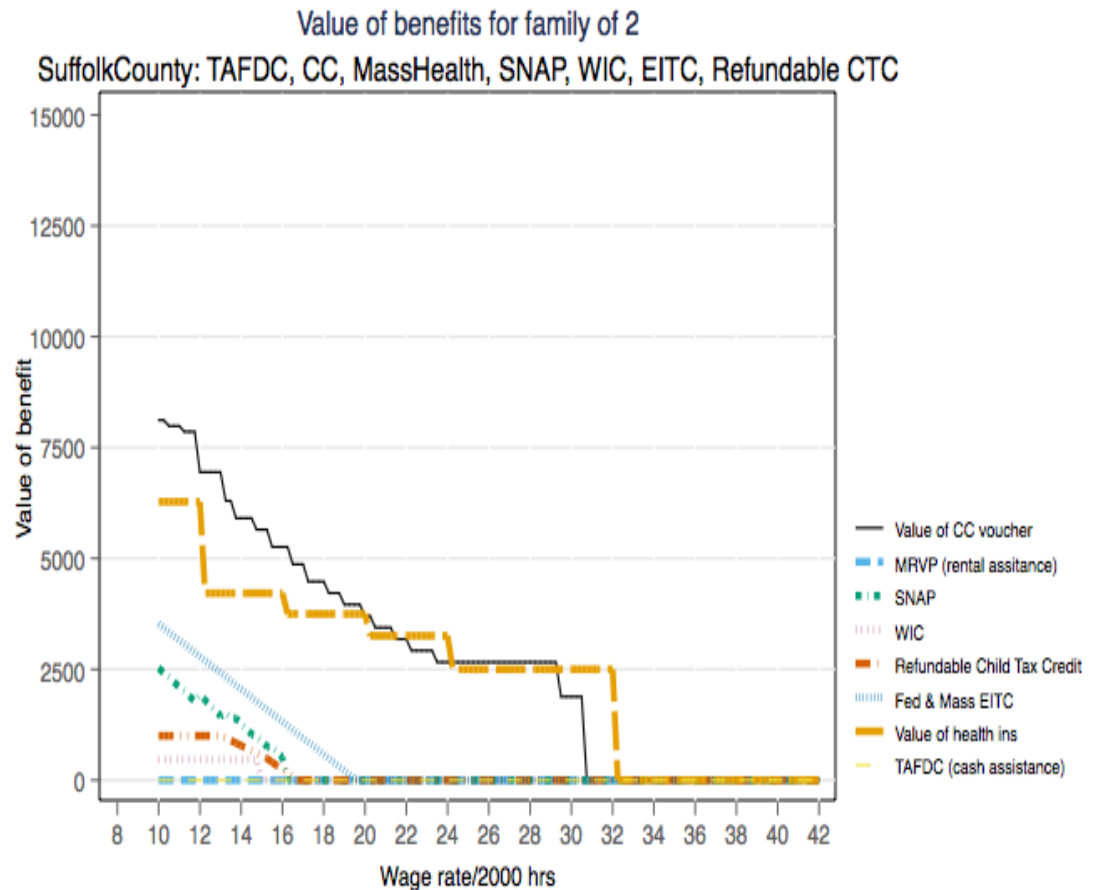
SNAP starts sliding at \$10 per hour (\$20,000 annually) until \$17 per hour (\$34,000 annually) where it drops off completely, and stops at 200% FPL.

There is a continuous decline in the value of childcare received starting from \$20,000 to \$48,000 per year (\$10 to \$24 per hour).

WIC starts to decline at \$15 per hour.

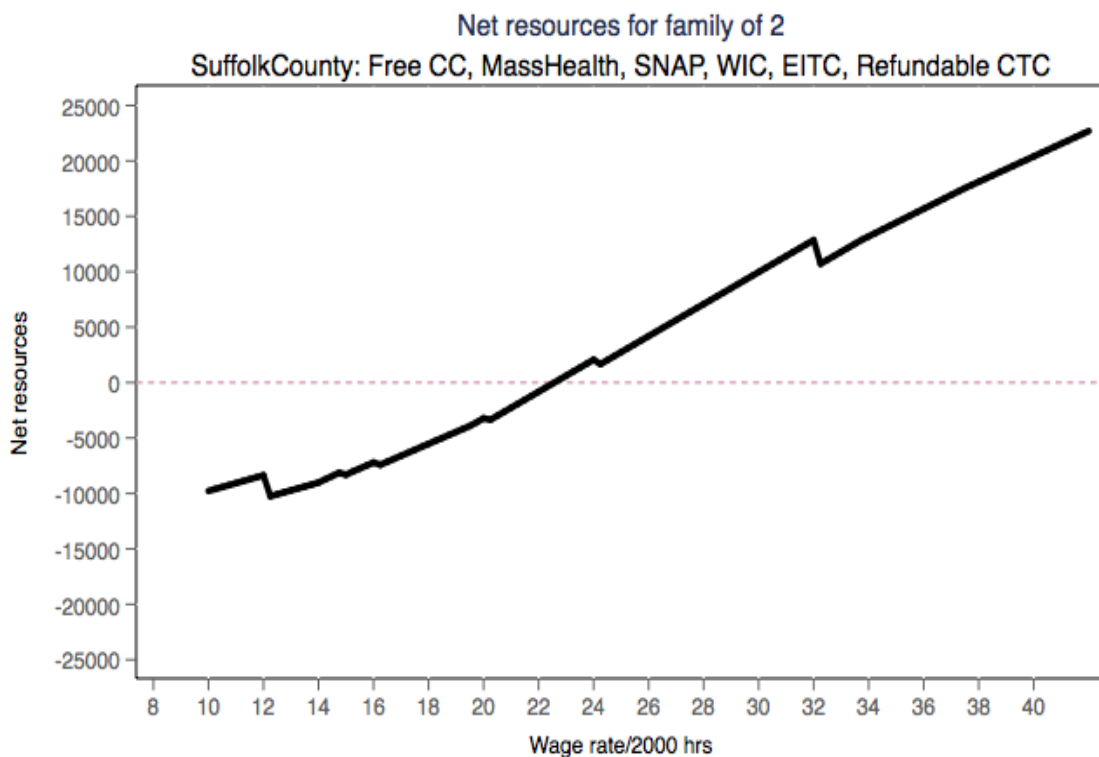
The MassHealth/Connector premium costs increase at \$12 per hour and reductions in CTC kick in at around \$13 per hour. All but health insurance assistance and childcare fade out by \$29 per hour (\$58,000 annually).

Graph: Benefit levels



FAMILY OF 2: PACK 5 (EITC, CTC, MassHealth, SNAP, WIC, UNIVERSAL CC)

Graph: Net Resources by hourly wages



Source: CSP Net Resource Calculator

- **Level of net resources:** Working full-time (2000 hours), it takes around \$22 per hour (\$44,000 annually) to break even (when net resources are above the red line).
- **Cliff effects:** The cliffs range from \$24,000 to \$64,000 annually (\$12 to \$32 per hour), and there are six of them. The cliff effects start occurring when the family is facing negative net resources of about \$10,000 annually. This leaves the families no better off (at 2000 hours) from \$11 per hour to about \$18 per hour.

FAMILY OF 2: PACK 5 (EITC, CTC, MassHealth, SNAP, WIC, UNIVERSAL CC)

In package 5, families do not receive housing and cash assistance.

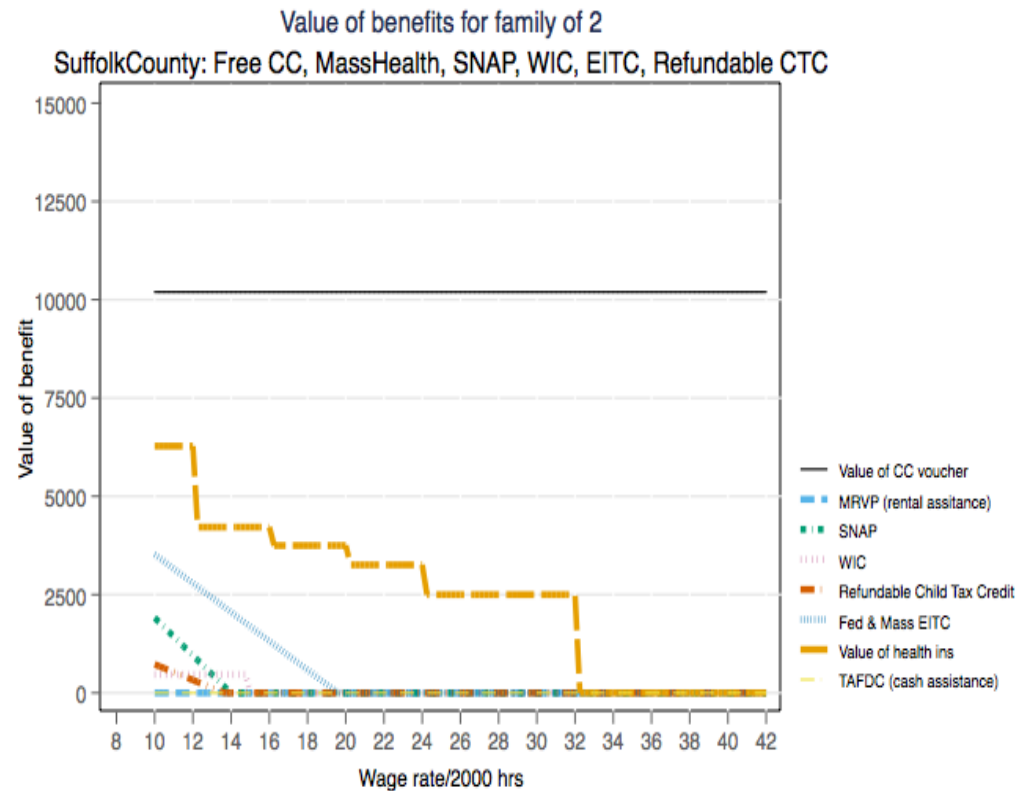
EITC slides down at \$10.00 per hour (\$20,000 annually), and declines at 133% of FPL.

At \$10 per hour (\$20,000 annually), families begin to receive universal child care.

SNAP starts to decline steeply at \$10 per hour (\$20,000 annually), until it drops off entirely at \$14 per hour (\$28,000 annually), and stops at 200% FPL.

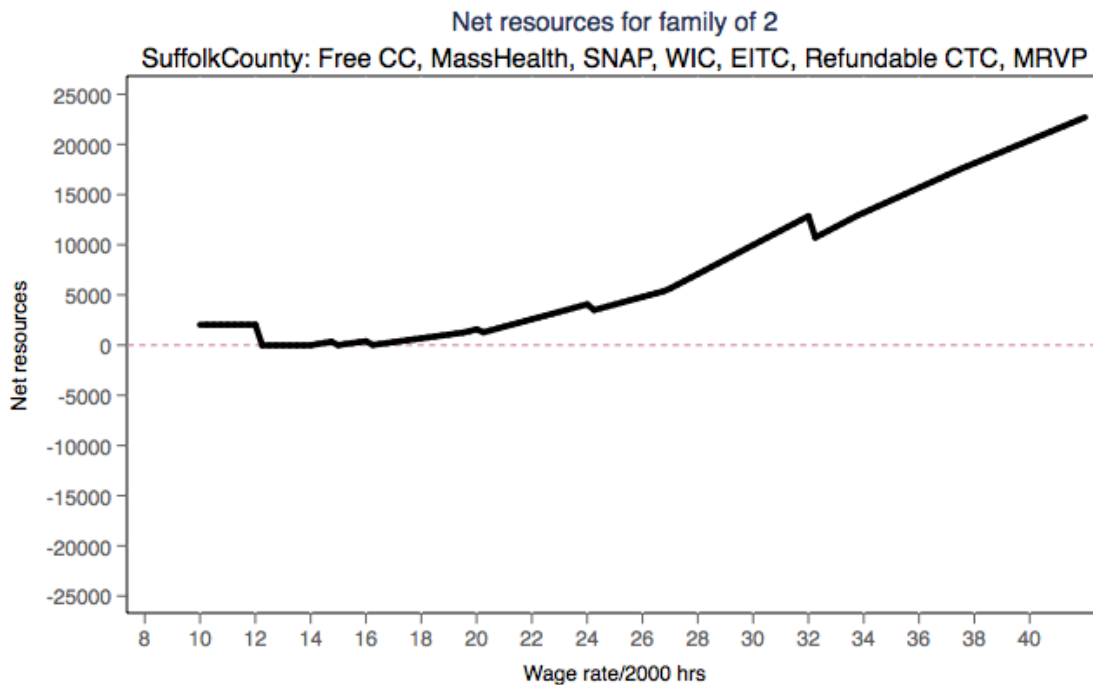
The MassHealth/ Connector premium costs increase at \$12 per hour and reductions in CTC kick in at around \$10 per hour. All but health insurance assistance fade out by \$22 per hour (\$44,000 annually).

Graph: Benefit levels



FAMILY OF 2:PACK 6 (MRVP, CTC, MassHealth, SNAP, WIC, UNIVERSAL CC)

Graph: Net Resources by hourly wages



Source: CSP Net Resource Calculator

- **Level of net resources:** Working full-time (2000 hours), it takes around \$16 per hour (\$32,000 annually) to break even (when net resources are above the red line).
- **Cliff effects:** The cliffs range from \$24,000 to \$64,000 annually (\$12 to \$32 per hour). The cliff effects start occurring when the family is facing positive net resources of about \$2,000 annually. This leaves the families no better off (at 2000 hours) from \$11 per hour to about \$21 per hour.
- These families seem to be running in place from about \$12 to \$16 per hour, with cliff at \$12, \$14, and \$16 per hour.

FAMILY OF 2: PACK 6 (MRVP, EITC, CTC, MassHealth, SNAP, WIC, UNIVERSAL CC)

EITC slides down at \$10.00 per hour (\$20,000 annually).

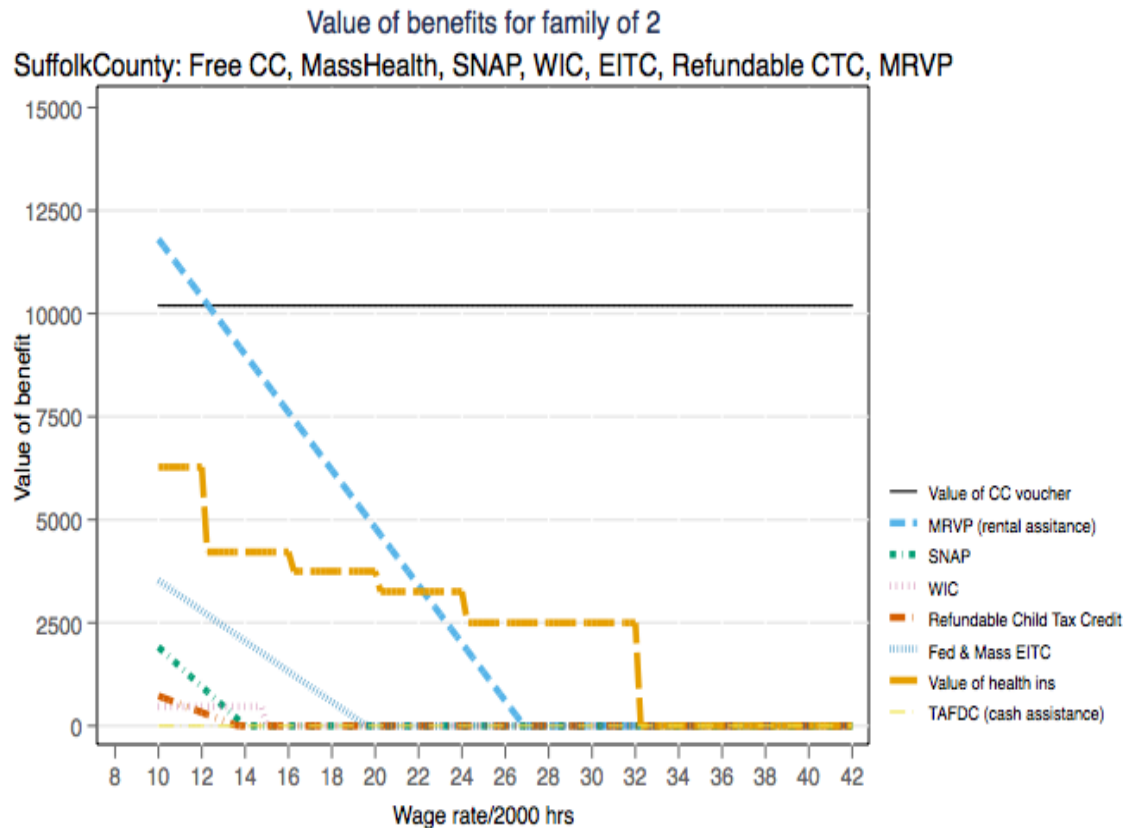
SNAP starts sliding at \$10 per hour (\$20,000 annually) until it drops off completely at \$14 per hour (\$28,000 annually), and stops at 200% FPL.

At \$10 per hour (\$20,000 annually), families begin to receive universal child care.

The MRVP steeply declines, until it drops off entirely at \$27 per hour. The benefit level of the voucher keeps the family afloat at lower wages, but it drops steadily along with the other benefits. Thus, the family finds itself losing net resources as earnings increase between \$11 and \$27 per hour.

The MassHealth/ Connector premium costs increase at \$12 per hour and reductions in CTC kick in at around \$10 per hour. All but health insurance assistance fade out by \$28 per hour (\$56,000 annually) at 300% of FPL.

Graph: Benefit levels



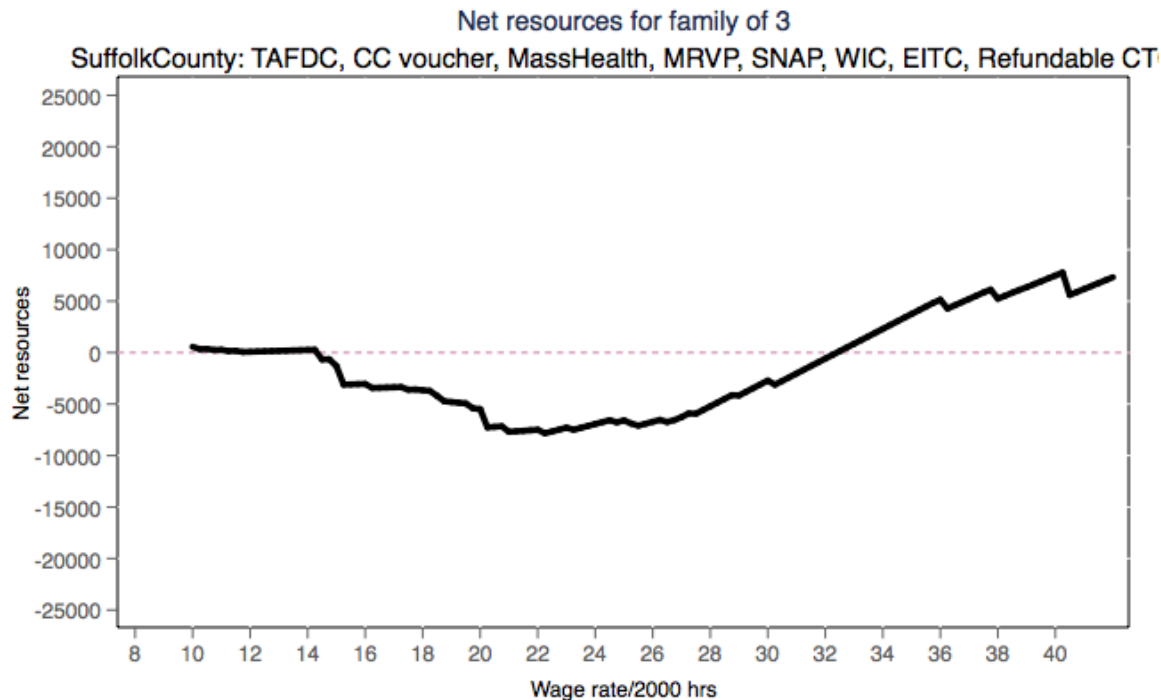
Summary for Family of 2

- The range of cliff effects for family of 2 are most prominent between \$12 and \$24 per hour (\$24,000 to \$48,000 annually) – 150% and 300% of FPL.
- Cliff effects occur over a much wider range of full-time hourly earnings when the family receives housing assistance.
- Housing and childcare assistance are essential to keep a family of two “above water.”

**Family of 3:
Full-Time
Employed Single
Parent with Two
Children**

FAMILY OF 3: PACK 1 (ALL BENEFITS — MRVP, EITC, CTC, MassHealth, SNAP, WIC, TANF, CC VOUCHER)

Graph: Net Resources by hourly wages



Source: CSP Net Resource Calculator

- **Level of net resources:** Working full-time (2000 hours), it takes around \$32 per hour (\$64,000 annually) to break even (when net resources are above the red line).
- **Cliff effects:** From \$28,000 to \$60,000 annually (\$14 to \$30 per hour), these families see net resources drop continuously. Cliffs start to recur when families are earning anywhere between \$36 per hour to \$40 per hour. The cliff effects start occurring when the family is breaking even with no net resources. This leaves the families no better off (at 2000 hours) from \$14 per hour to about \$32 per hour.

FAMILY OF 3: PACK 1 (ALL BENEFITS — MRVP, EITC, CTC, MassHealth, SNAP, WIC, TANF, CC VOUCHER)

EITC slides down at \$10.00 per hour (\$20,000 annually), and starts to declines at around 100% of FPL.

SNAP starts sliding at \$10 per hour (\$20,000 annually). Because families can deduct the cost of child care, these families remains eligible for maximum SNAP benefits longer, but loses eligibility at 200 FPL.

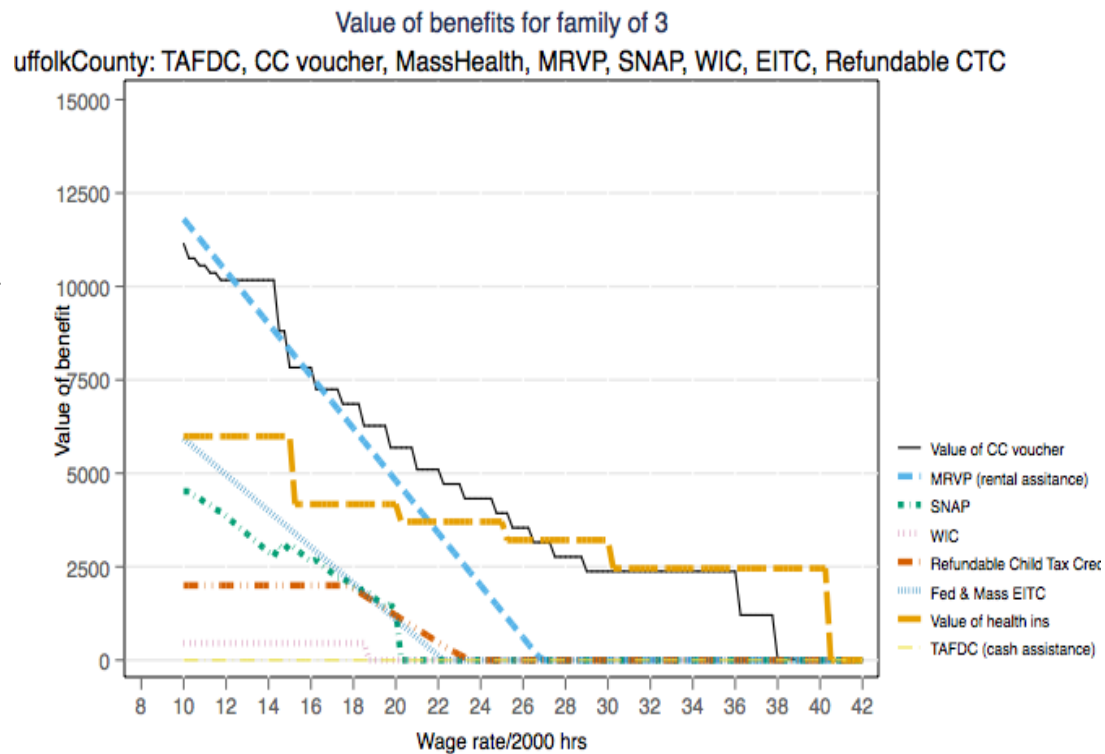
The MRVP steeply declines, until it drops off entirely at \$28 per hour. The benefit level of the voucher keeps the family afloat at lower wages, but it drops steadily along with the other benefits. This helps explains why the family finds itself losing net resources as earnings increase between \$14 and \$30 per hour.

There is a continuous decline in the value of childcare received starting from \$20,000 to \$59,000 per year (\$10 to \$29 per hour).

WIC drops of completely at \$19 per hour.

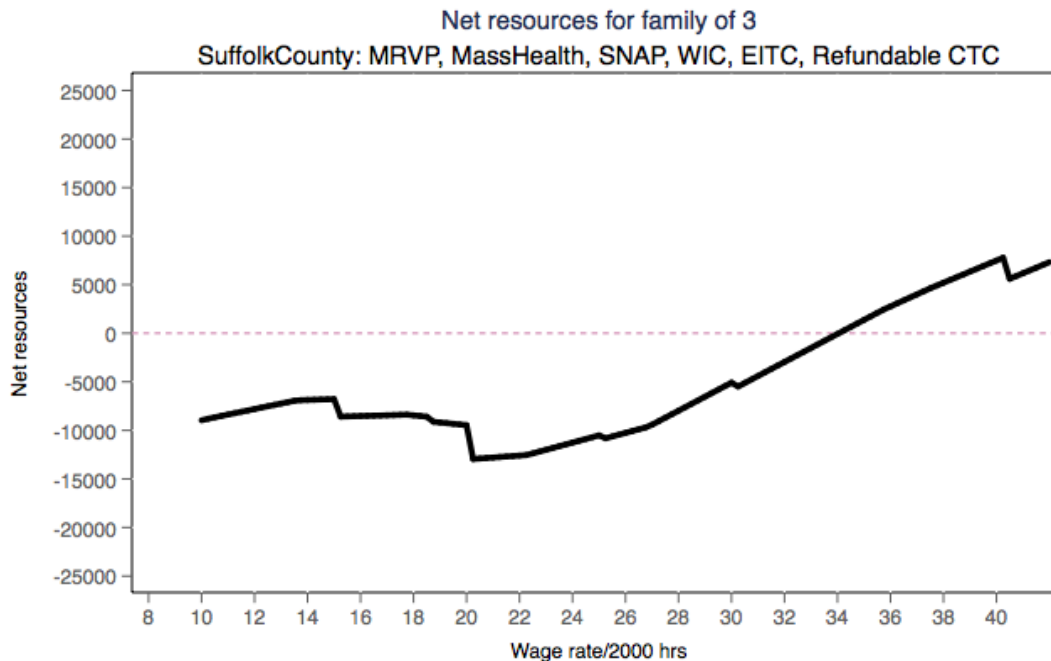
The MassHealth/ Connector premium costs increase at \$15 per hour and reductions in CTC kick in at around \$18 per hour. All but health insurance assistance and child care fade out by \$28 per hour.

Graph: Benefit levels



FAMILY OF 3: PACK 2 (MRVP, EITC, CTC, MassHealth, SNAP, WIC)

Graph: Net Resources by hourly wages

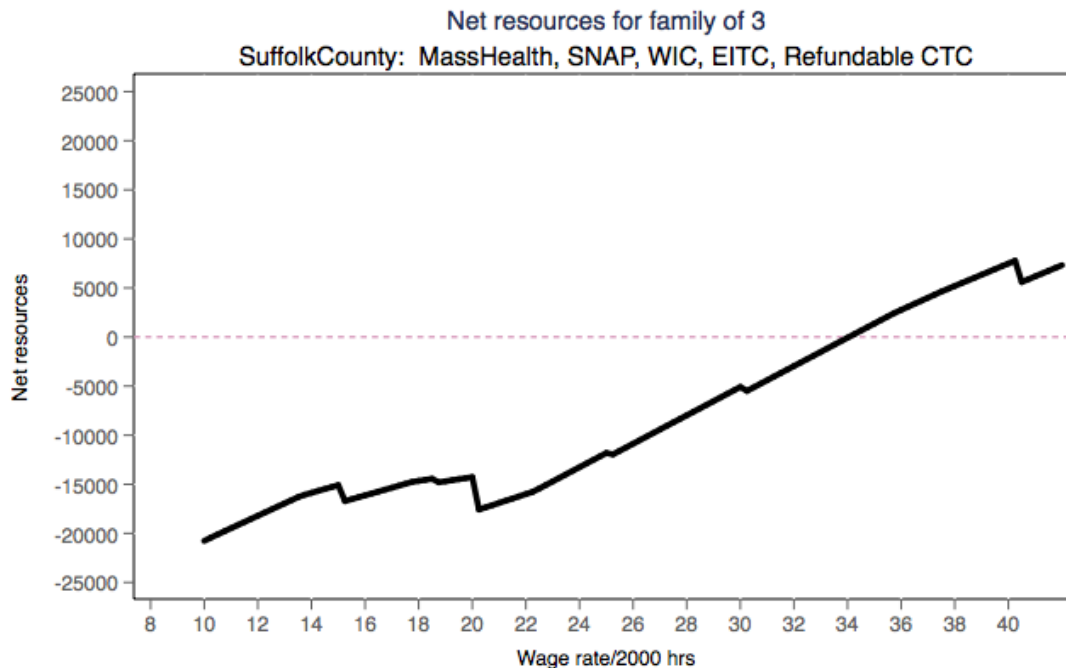


Source: CSP Net Resource Calculator

- **Level of net resources:** Working full-time (2000 hours), it takes around \$34 per hour (\$68,000 annually) to breakeven (when net resources are above the red line).
- **Cliff effects:** The cliffs range from \$15 per hour to \$39/per hour and there are six of them. The cliff effects start occurring when the family is facing negative net resources of about \$6,000 per year. These cliffs lead to families being worse off when working anywhere between \$15 per hour and \$30 per hour.

FAMILY OF 3: PACK 3 (EITC, CTC, MassHealth, SNAP, WIC)

Graph: Net Resources by hourly wages

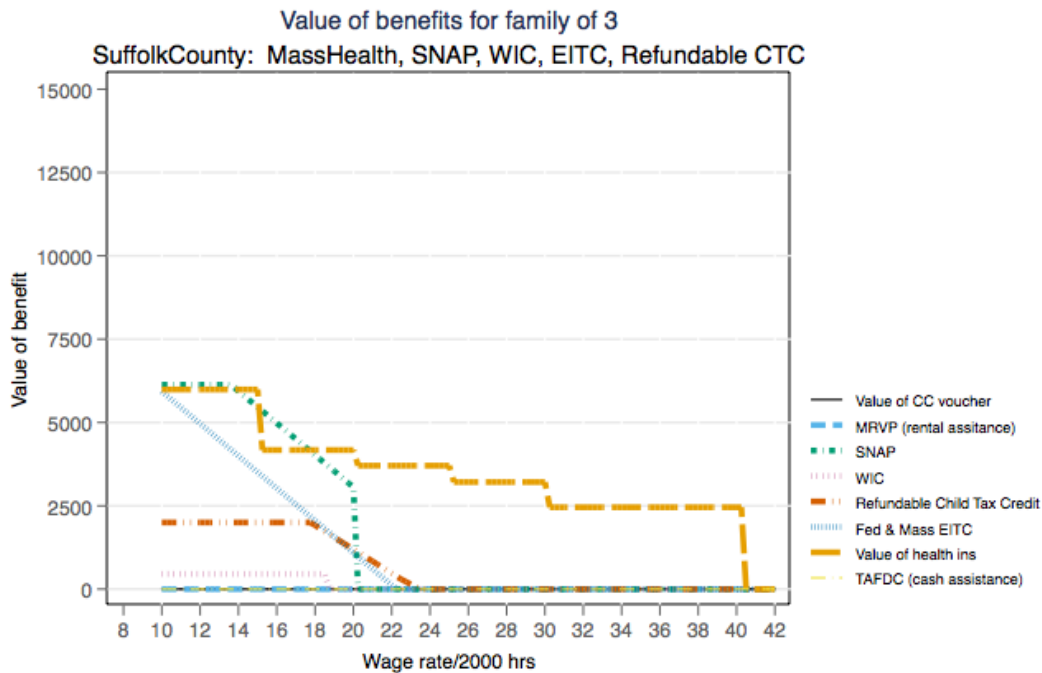


Source: CSP Net Resource Calculator

- **Level of net resources:** Working full-time (2000 hours), it takes around \$34 per hour (\$68,000 annually) to break even (when net resources are above the red line).
- **Cliff effects:** The cliffs range from \$15 per hour to \$39 per hour and there are six of them. The cliff effects start occurring when the family is facing negative net resources of about \$15,000 per year. These cliffs lead to families being worse off when working anywhere between \$15 per hour and \$20 per hour.

FAMILY OF 3: PACK 3 (EITC, CTC, MASSHEALTH, SNAP, WIC)

Graph: Benefit levels



The families in this package do not receive any housing or cash assistance nor do they receive child care.

As in packages 1 and 2, EITC here slides down at \$10.00 per hour (\$20,000 annually) as well.

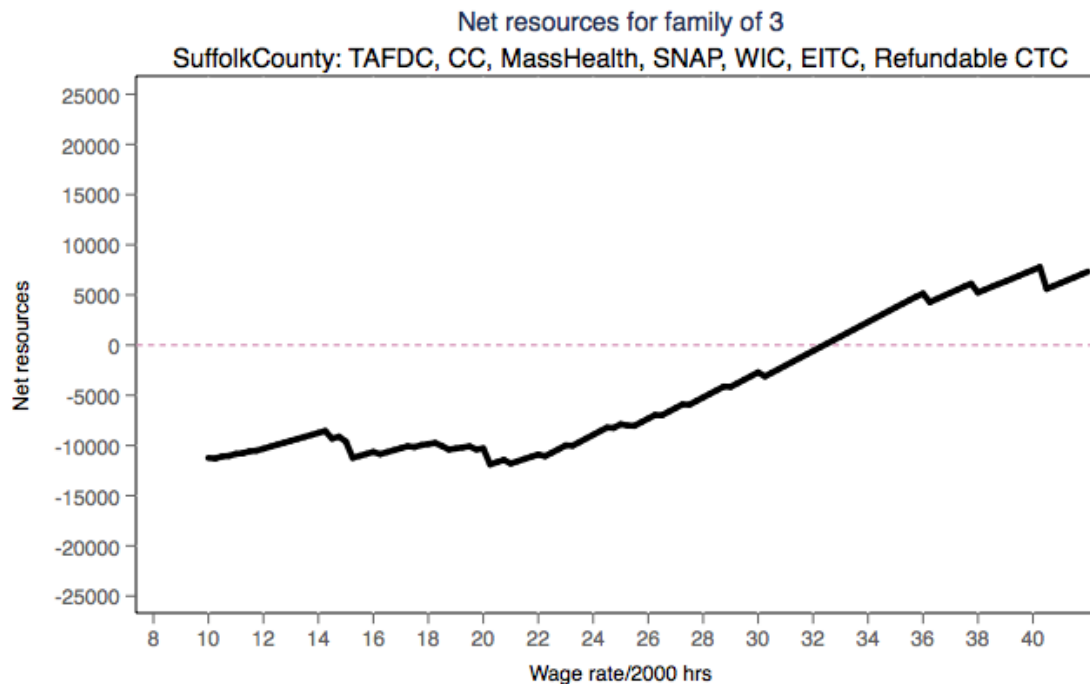
SNAP starts sliding at \$14 per hour (\$28,000 annually). Because families can deduct the cost of child care, this family remains eligible for maximum SNAP benefits longer, but loses eligibility at 200 FPL.

The MassHealth/ Connector premium costs increase at \$15 per hour and reductions in CTC kick in at around \$18 per hour. All but health insurance assistance fade out by \$24 per hour (\$48,000 annually).



FAMILY OF 3: PACK 4 (EITC, CTC, MassHealth, SNAP, WIC, TANF, CC)

Graph: Net Resources by hourly wages



Source: CSP Net Resource Calculator

- **Level of net resources:** Working full-time (2000 hours), it takes around \$32 per hour (\$64,000 annually) to break even (when net resources are above the red line).
- **Cliff effects:** From \$28,000 to \$60,000 annually (\$14 and \$30 per hour), these families see net resources drop continuously. Cliffs start to recur when families are earning anywhere between \$35 per hour to \$39 per hour. The cliff effects start occurring when the family is facing net resources of -\$8,000 annually. This leaves the families no better off (at 2000 hours) from \$14 per hour to about \$24 per hour.

FAMILY OF 3: PACK 4 (EITC, CTC, MassHealth, SNAP, WIC, TANF, CC)

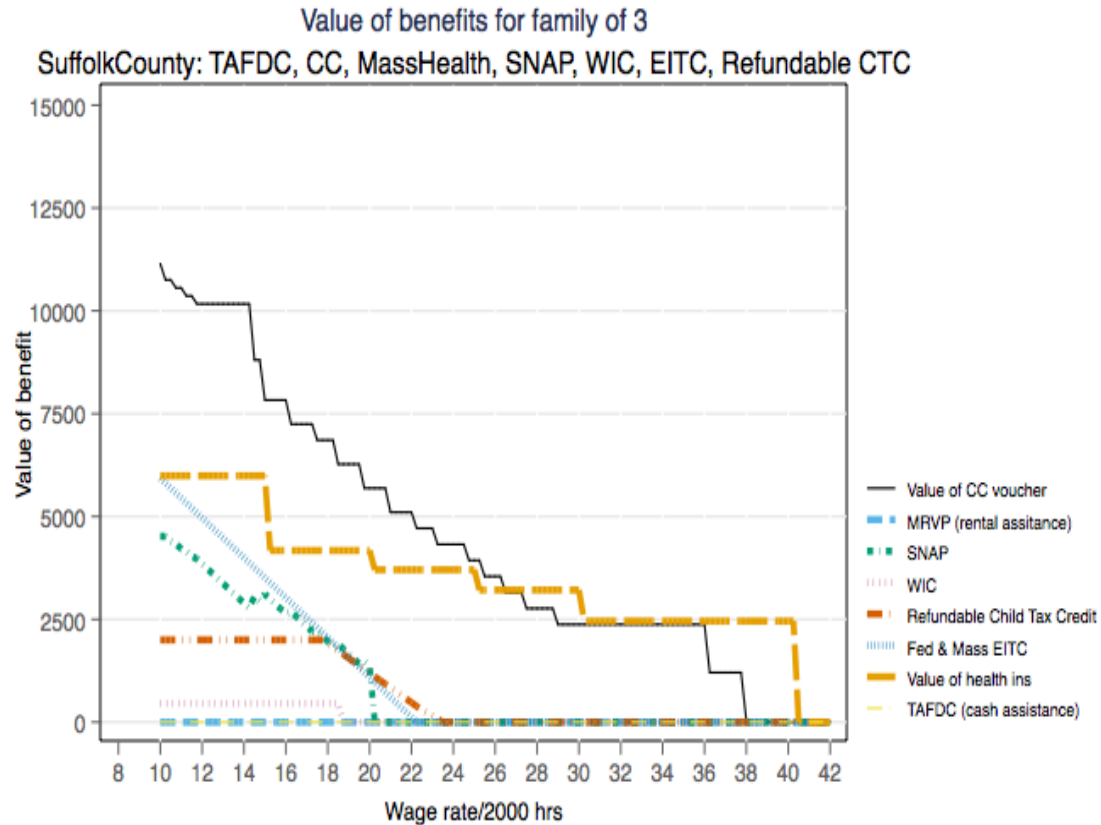
In package 4, families do not receive any housing assistance.

EITC slides down at \$10.00 per hour (\$20,000 annually).

SNAP starts sliding at \$10 per hour (\$20,000 annually). Because families can deduct the cost of child care, this family remains eligible for maximum SNAP benefits longer, but loses eligibility at 200 FPL.

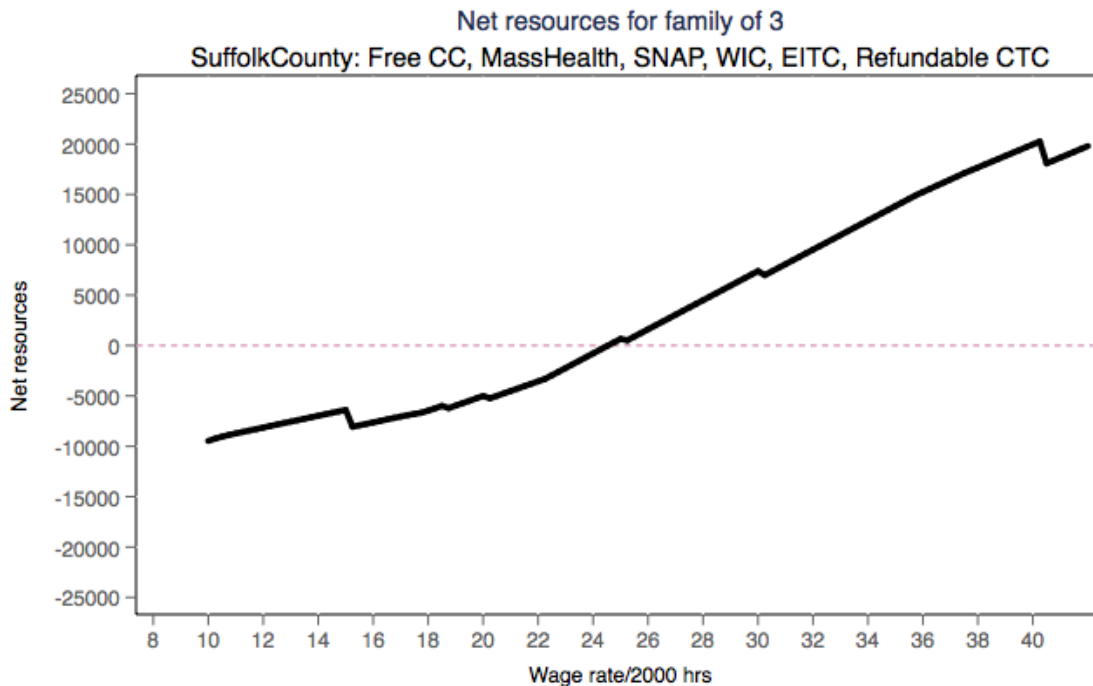
The MassHealth/ Connector premium costs increase at \$15 per hour and reductions in CTC kick in at around \$18 per hour. All but health insurance assistance and child care fade out by \$24 per hour (\$48,000 annually). Childcare declines steeply and continuously as the earnings increase, until it entirely stops at \$38 per hour (\$76,000 annually).

Graph: Benefit levels



FAMILY OF 3: PACK 5 (EITC, CTC, MassHealth, SNAP, WIC, UNIVERSAL CC)

Graph: Net Resources by hourly wages



Source: CSP Net Resource Calculator

- **Level of net resources:** Working full-time (2000 hours), it takes around \$24 per hour (\$48,000 annually) to break even (when net resources are above the red line).
- **Cliff effects:** The cliffs range from \$15 per hour to \$39 and there are six of them. The cliff effects start occurring when the family is facing negative net resources of about \$5,000 annually. This leaves the family no better off (at 2000 hours) from \$15 per hour to about \$19 per hour.

FAMILY OF 3: PACK 5 (EITC, CTC, MassHealth, SNAP, WIC, UNIVERSAL CC)

In package 5, families do not receive housing or cash assistance.

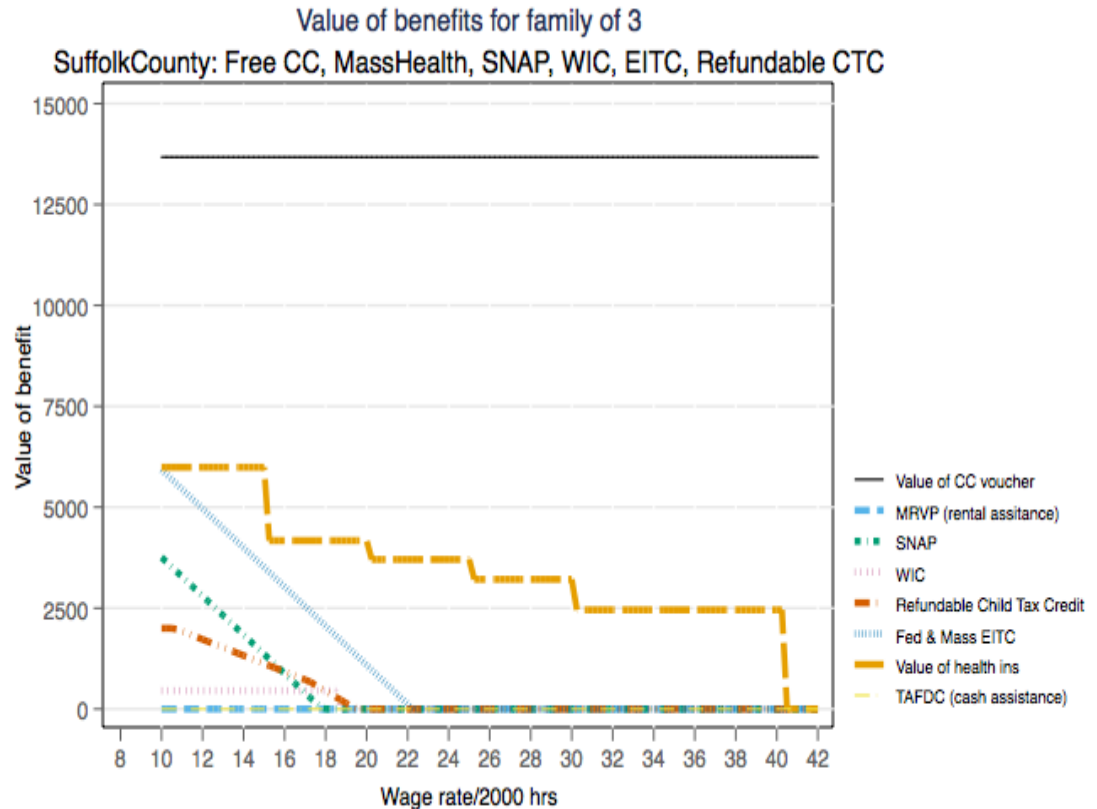
EITC slides down at \$10.00 per hour (\$20,000 annually).

At \$10 per hour (\$20,000 annually), families begin to receive universal child care.

SNAP starts to decline steeply at \$10 per hour (\$20,000 annually), until it drops off entirely at \$18 per hour (\$36,000 annually), when families lose eligibility at 200% FPL.

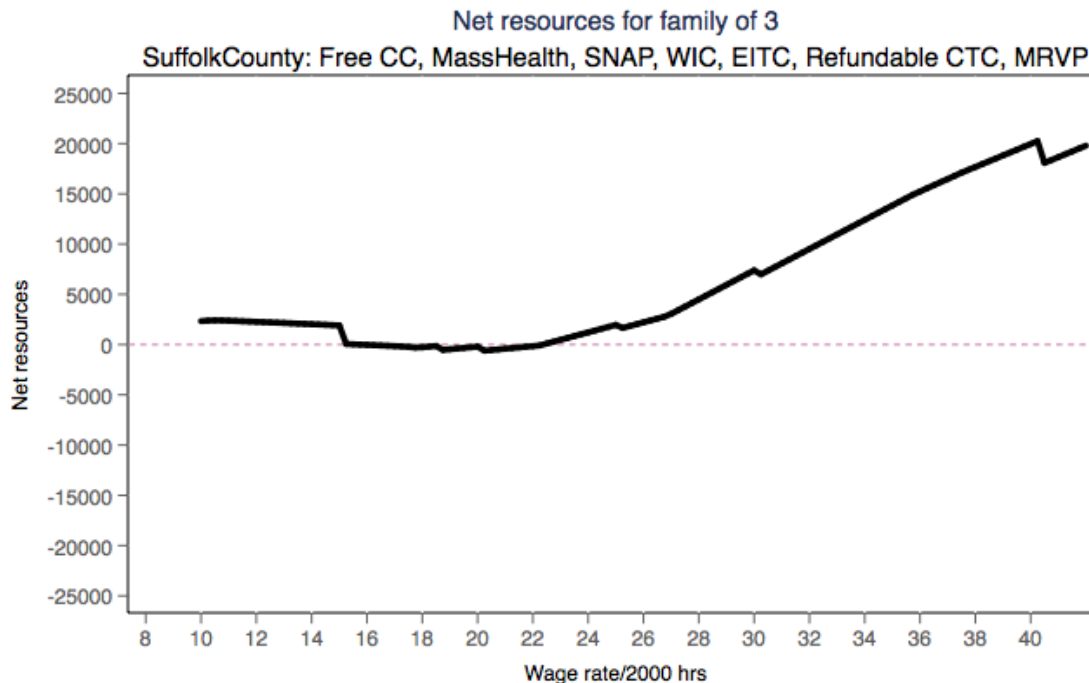
The MassHealth/ Connector premium costs increase at \$15 per hour and reductions in CTC kick in at around \$11 per hour. All but health insurance assistance fade out by \$23 per hour (\$46,000 annually).

Graph: Benefit levels



FAMILY OF 3: PACK 6 (MRVP, CTC, MassHealth, SNAP, WIC, UNIVERSAL CC)

Graph: Net Resources by hourly wages



Source: CSP Net Resource Calculator

- **Level of net resources:** Working full-time (2000 hours), it takes around \$23 per hour (\$46,000 annually) to break even (when net resources are above the red line).
- **Cliff effects:** At \$30,000 and \$44,000 annually (\$15 and \$22 per hour), these families see net resources drop. This leaves the families no better off (at 2000 hours) from \$15 per hour to about \$25 per hour. The cliff effects start occurring when the family is facing positive net resources of about \$1,000 annually.
- Also, these families seem to be running in place from about \$15 to \$23, with cliffs at \$15, \$19, and \$21 per hour.

FAMILY OF 3: PACK 6 (MRVP, CTC, MassHealth, SNAP, WIC, UNIVERSAL CC)

Graph: Benefit levels

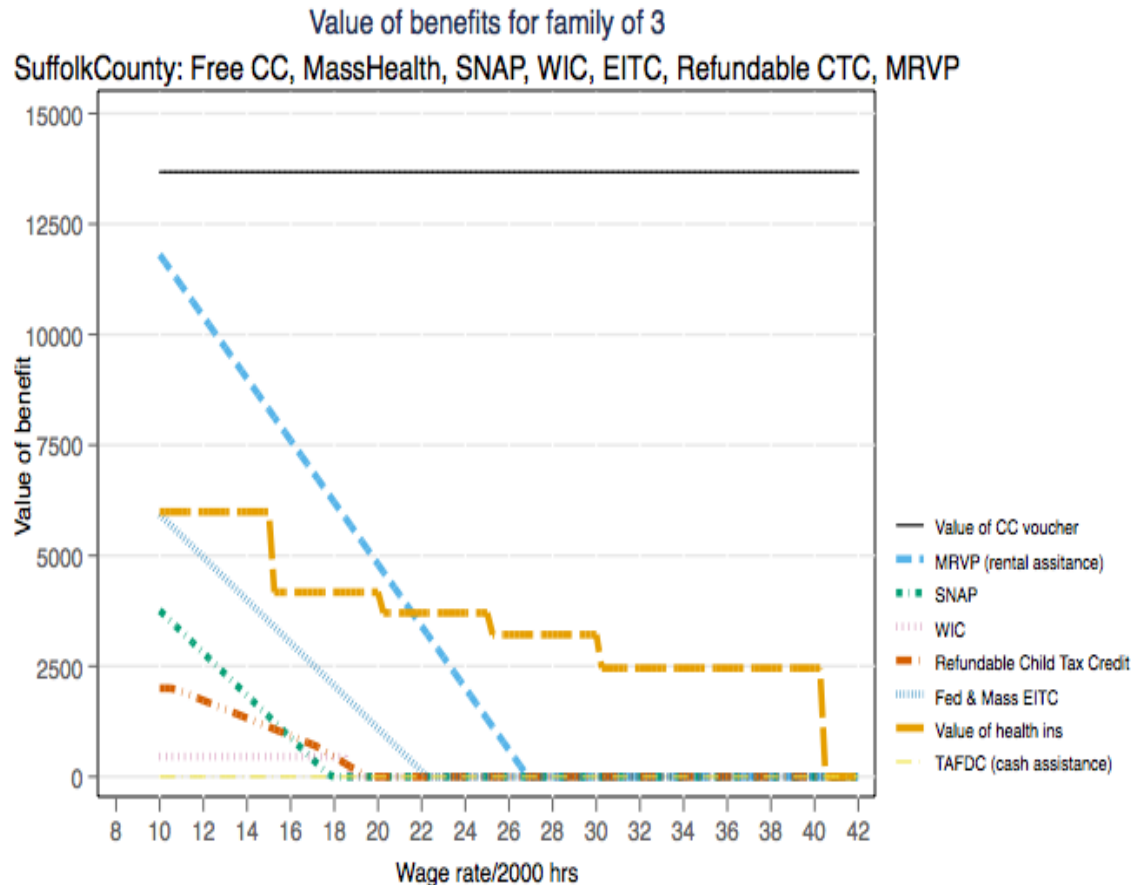
EITC slides down at \$10.00 per hour (\$20,000 annually).

SNAP starts sliding at \$10 per hour (\$20,000 annually) until it drops off completely at \$18 per hour (\$36,000 annually), with families losing eligibility at 200 FPL.

At \$10 per hour (\$20,000 annually), families begin to receive universal child care.

The MRVP steeply declines, until it drops off entirely at \$27 per hour. The benefit level of the voucher keeps the family afloat at lower wages, but it drops steadily along with the other benefits. Thus, the family finds itself losing net resources as earnings increase between \$15 and \$28 per hour.

The MassHealth/Connector premium costs increase at \$15 per hour and reductions in CTC kick in at around \$11 per hour. All but health insurance assistance fade out by \$28 per hour (\$56,000 annually).



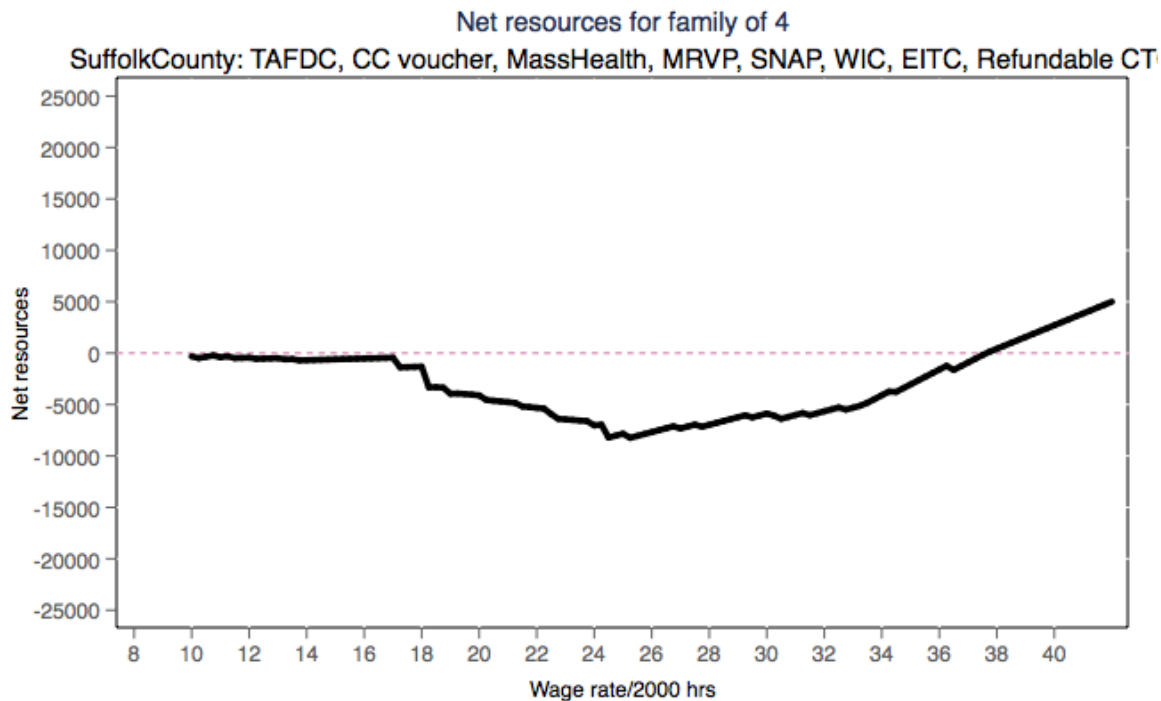
Summary for Family of 3

- Cliff effects occur over a wider range of full-time hourly earnings when the family receives housing assistance.
- The range of cliff effects for family of 3 are most prominent between \$15 and \$22 per hour (\$30,000 to \$44,000 annually), but the “running in place” effect occurs over a wider range (\$13 to \$24 per hour), when families struggle to keep the benefits.
- Comparing packages 2 and 3:
 - For package 2 with housing (MRVP), cliff effects are most prominent between \$13 and \$22 per hour (\$26,000 to \$44,000 annually)— 150% and 300% of FPL.
 - For package 3 (without MRVP), cliff effects are most prominent between \$15 and \$21 per hour (\$30,000 to \$42,000 annually)— 150% and 250% of FPL.
- Childcare and housing assistance (Package 6) are necessary to keep a low-income family of 3 “above water.”

**Family of 4:
Full-Time
Employed Single
Parent with Three
Children**

FAMILY OF 4: PACK 1 (ALL BENEFITS — MRVP, EITC, CTC, MassHealth, SNAP, WIC, TANF, CC VOUCHER)

Graph: Net Resources by hourly wages



Source: CSP Net Resource Calculator

- **Level of net resources:** Working full-time (2000 hours), it takes around \$37 per hour (\$74,000 annually) to break even (when net resources are above the red line).
- **Cliff effects:** From \$34,000 to \$76,000 annually (\$17 to \$38 per hour), these families see net resources drop continuously. The cliff effects start occurring when the family is facing net resources of \$1,000 annually. Thus the family no better off (at 2000 hours) when the parent is earning anywhere between \$17 per hour to about \$38 per hour.

FAMILY OF 4: PACK 1 (ALL BENEFITS — MRVP, EITC, CTC, MassHealth, SNAP, WIC, TANF, CC VOUCHER)

EITC slides down at \$10.00 per hour (\$20,000 annually), and starts to decline at around 100% of FPL.

SNAP starts sliding at \$10 per hour (\$20,000 annually). Because families can deduct the cost of child care, these families remain eligible for maximum SNAP benefits longer, but lose eligibility at 200 FPL.

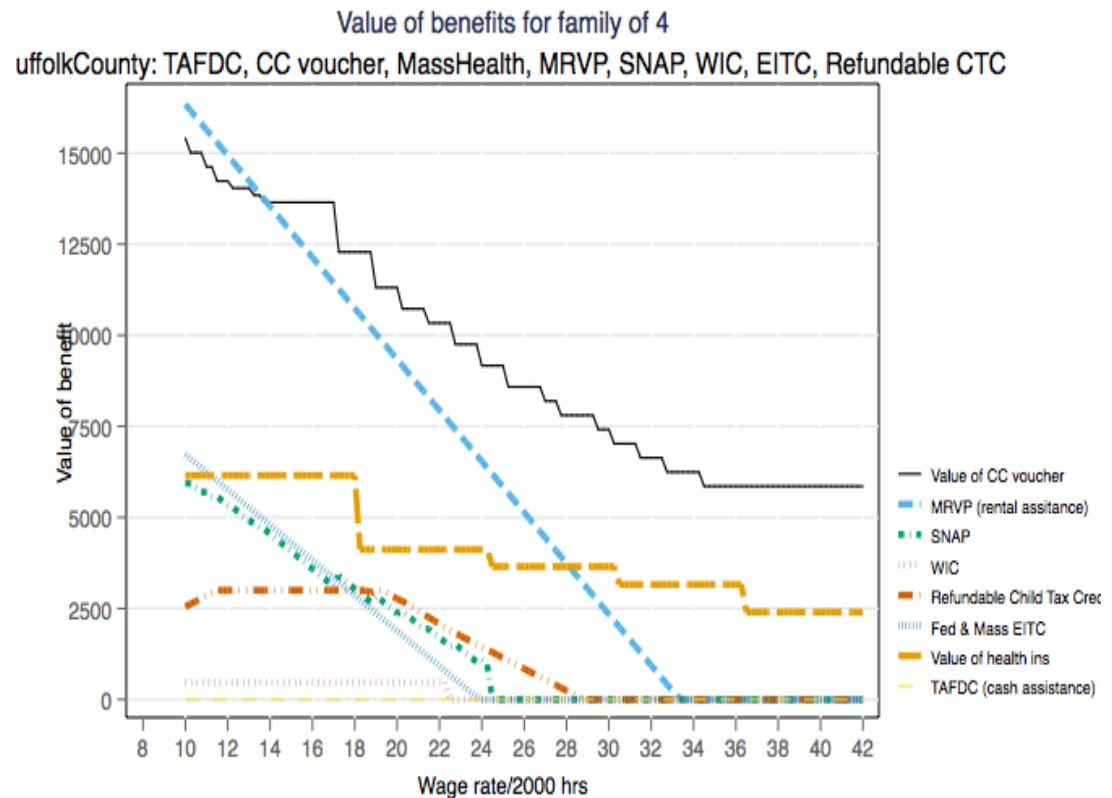
The MRVP steeply declines, until it drops off entirely at \$34 per hour. The benefit level of the voucher keeps the family afloat at lower wages, but it drops steadily along with the other benefits. Thus the family finds itself losing net resources as earnings increase between \$17 and \$35 per hour.

There is a continuous decline in the value of childcare received starting from \$20,000 to \$70,000 per year (\$10 to \$35 per hour).

WIC starts to decline at \$22 per hour.

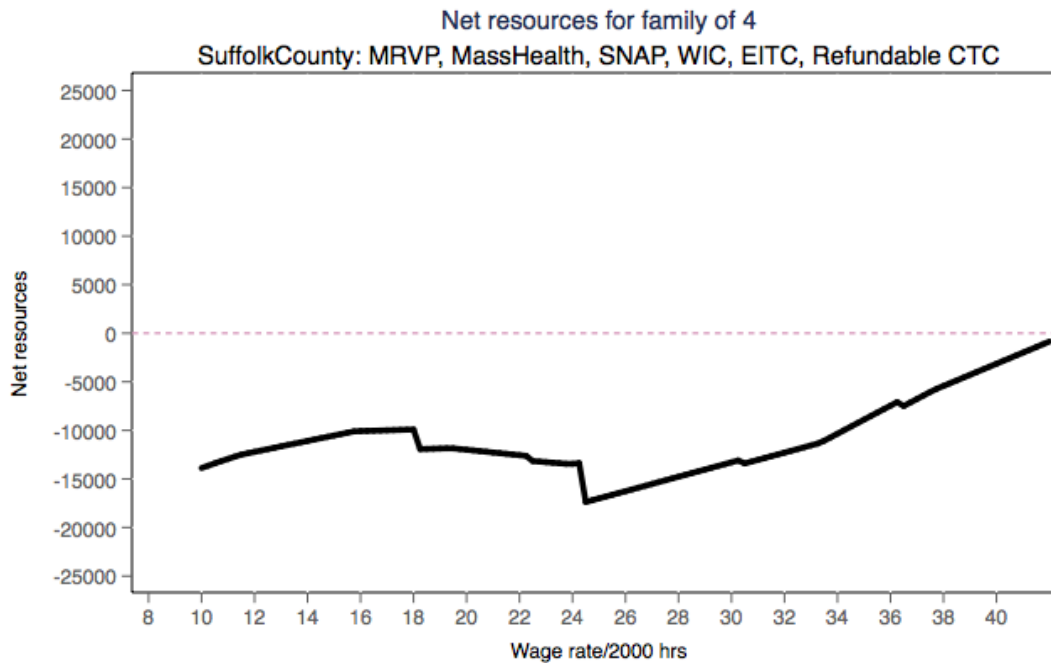
The MassHealth/Connector premium costs increase at \$18 per hour and reductions in CTC kick in at around \$19 per hour. All but health insurance assistance and child care fade out by \$34 per hour.

Graph: Benefit levels



FAMILY OF 4: PACK 2 (MRVP, EITC, CTC, MassHealth, SNAP, WIC)

Graph: Net Resources by hourly wages



Source: CSP Net Resource Calculator

- **Level of net resources:** Working full-time (2000 hours), it seems that these families strive hard to even make ends meet.
- **Cliff effects:** The cliffs range from \$36,000 to \$74,000 annually (\$18 and \$37 per hour), and there are five of them. The cliff effects start occurring when the family is facing negative net resources of about \$10,000 per year. This leaves the families no better off (at 2000 hours) from \$17 per hour to about \$35 per hour.

FAMILY OF 4: PACK 2 (MRVP, EITC, CTC, MassHealth, SNAP, WIC)

EITC slides down at \$10.00 per hour (\$20,000 annually), and starts to decline at approximately 100% of FPL.

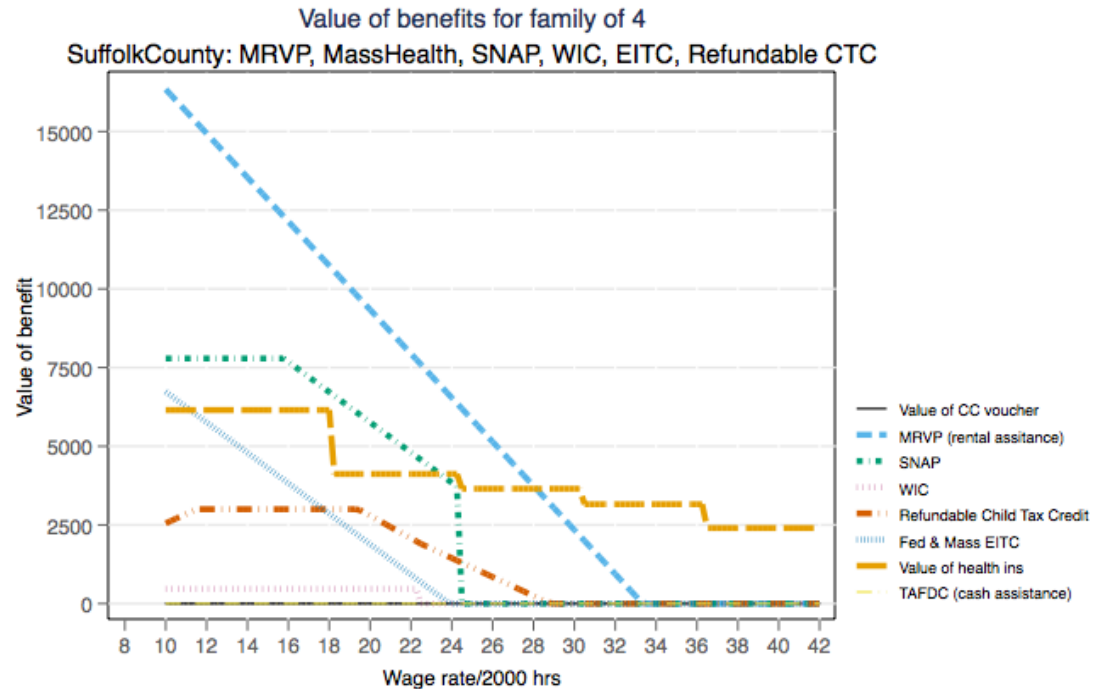
SNAP starts sliding at \$16 per hour (\$32,000 annually) until it drops off entirely at \$25 per hour (\$50,000 annually).

The MRVP steeply declines, until it drops off entirely at \$34 per hour. The benefit level of the voucher keeps the family afloat at lower wages, but it drops steadily along with the other benefits. Thus, the family finds itself losing net resources as earnings increase between \$17 and \$25 per hour.

WIC starts to decline at \$23 per hour.

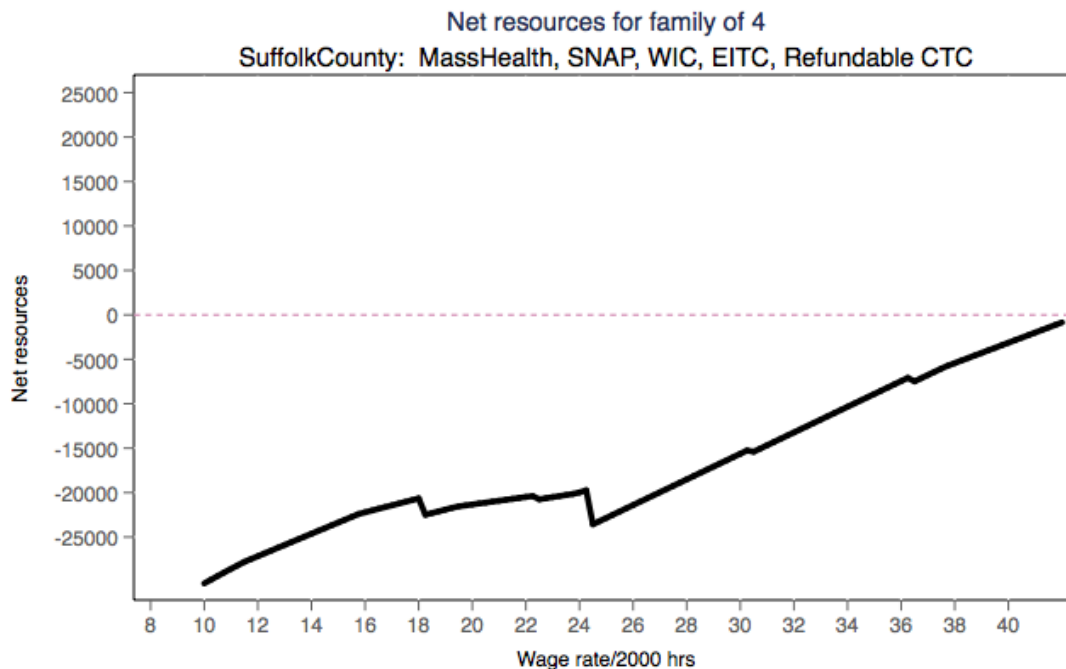
The MassHealth/Connector premium costs increase at \$18 per hour and reductions in CTC kick in at around \$19 per hour. All but health insurance assistance fade out by \$34 per hour (\$68,000 annually).

Graph: Benefit levels



FAMILY OF 4: PACK 3 (EITC, CTC, MassHealth, SNAP, WIC)

Graph: Net Resources by hourly wages

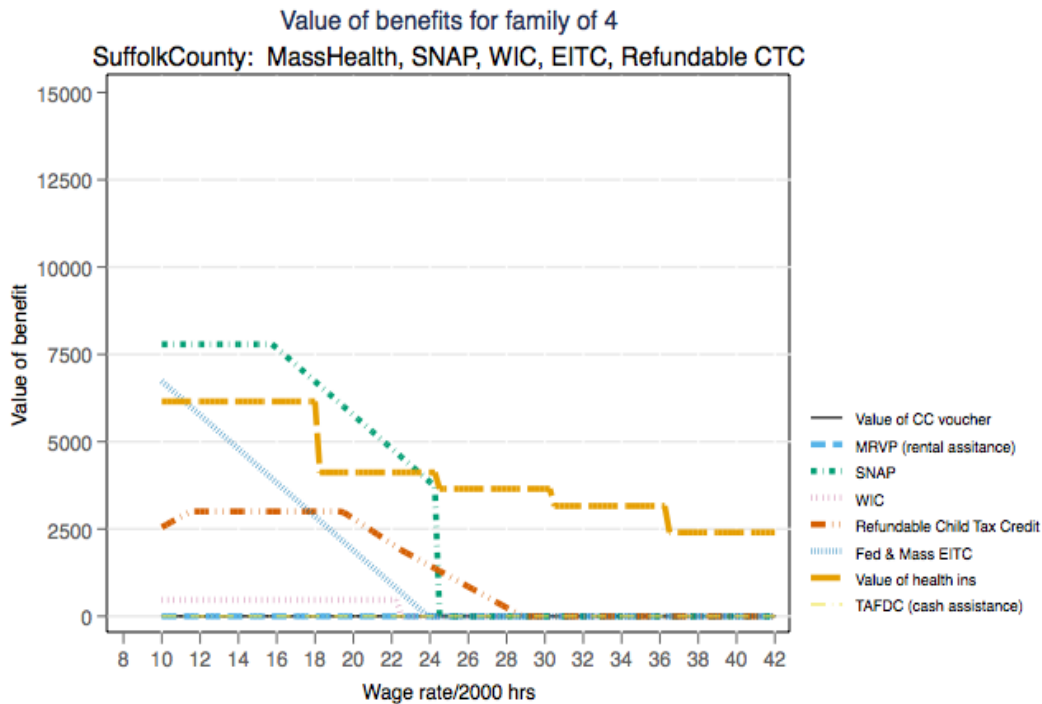


Source: CSP Net Resource Calculator

- **Level of net resources:** Working full-time (2000 hours), it seems that these families strive hard to even make ends meet.
- **Cliff effects:** The cliffs range from \$34,000 to \$74,000 annually (\$17 and \$37 per hour), and there are five of them. The cliff effects start occurring when the family is facing negative net resources of about \$20,000 per year. This leaves the families no better off (at 2000 hours) from \$17 per hour to about \$25 per hour.

FAMILY OF 4: PACK 3 (EITC, CTC, MassHealth, SNAP, WIC)

Graph: Benefit levels



The families in this package do not receive any housing and cash assistance nor do they receive child care.

As in packages 1 and 2, EITC here slides down at \$10.00 per hour (\$20,000 annually) as well.

SNAP starts sliding at \$17 per hour (\$34,000 annually). Because families can deduct the cost of child care, this family remains eligible for maximum SNAP benefits longer, but loses eligibility at 200 FPL.

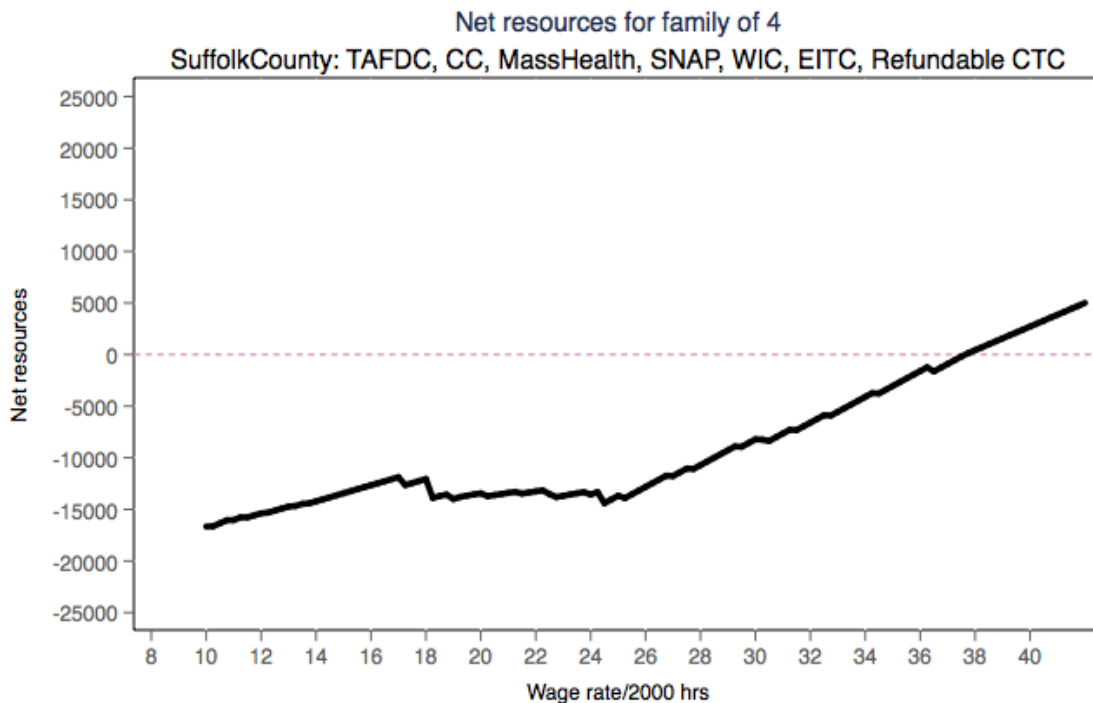
WIC starts to decline at \$22 per hour.

The MassHealth/ Connector premium costs increase at \$18 per hour and reductions in CTC kick in at around \$20 per hour. All but health insurance assistance fade out by \$30 per hour (\$60,000 annually).



FAMILY OF 4: PACK 4 (EITC, CTC, MassHealth, SNAP, WIC, TANF, CC)

Graph: Net Resources by hourly wages



Source: CSP Net Resource Calculator

- **Level of net resources:** Working full-time (2000 hours), it takes around \$38 per hour (\$76,000 annually) to break even (when net resources are above the red line).
- **Cliff effects:** The cliff ranges from \$34,000 to \$72,000 annually (\$17 to \$36 per hour). The cliff effects start occurring when the family is facing net resources of -\$12,000 annually. This leaves the families no better off (at 2000 hours) from \$17 per hour to about \$27 per hour.

FAMILY OF 4: PACK 4 (EITC, CTC, MassHealth, SNAP, WIC, TANF, CC)

In package 4, families do not receive any housing assistance.

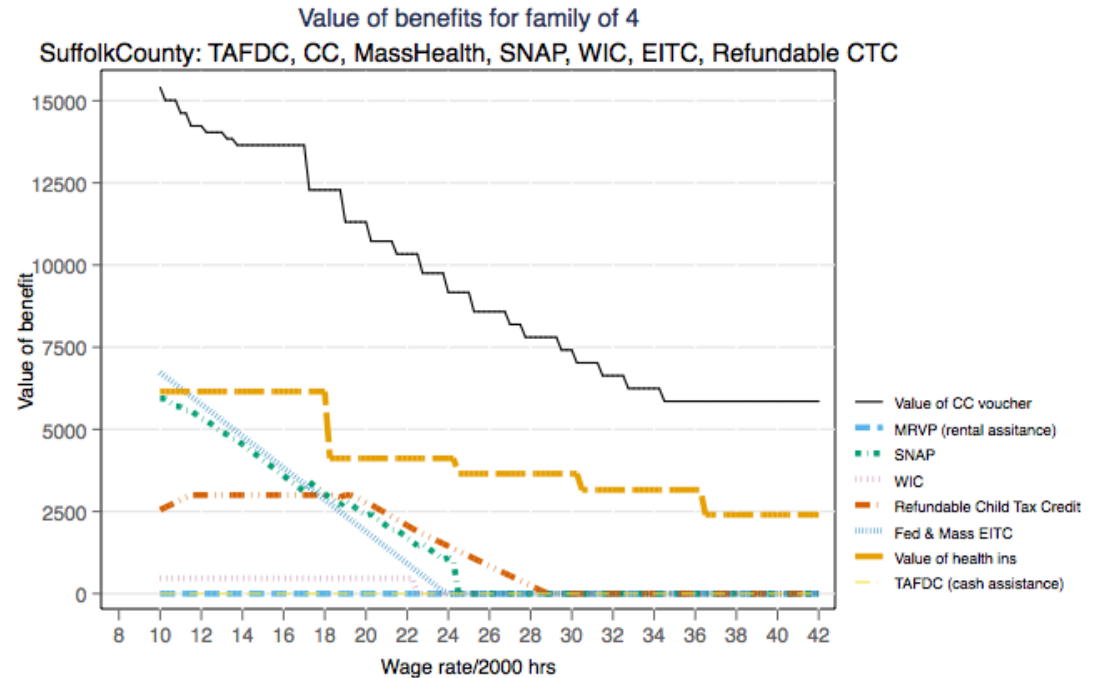
EITC slides down at \$10.00 per hour (\$20,000 annually).

SNAP starts sliding at \$10 per hour (\$20,000 annually). Because families can deduct the cost of child care, this family remains eligible for maximum SNAP benefits longer, but loses eligibility at 200 FPL.

The MassHealth/ Connector premium costs increase at \$18 per hour and reductions in CTC kick in at around \$20 per hour. All but health insurance assistance and child care fade out by \$30 per hour (\$60,000 annually). Childcare declines steeply and continuously as the earnings increase, till families income reaches around \$35 per hour (\$70,000 annually).

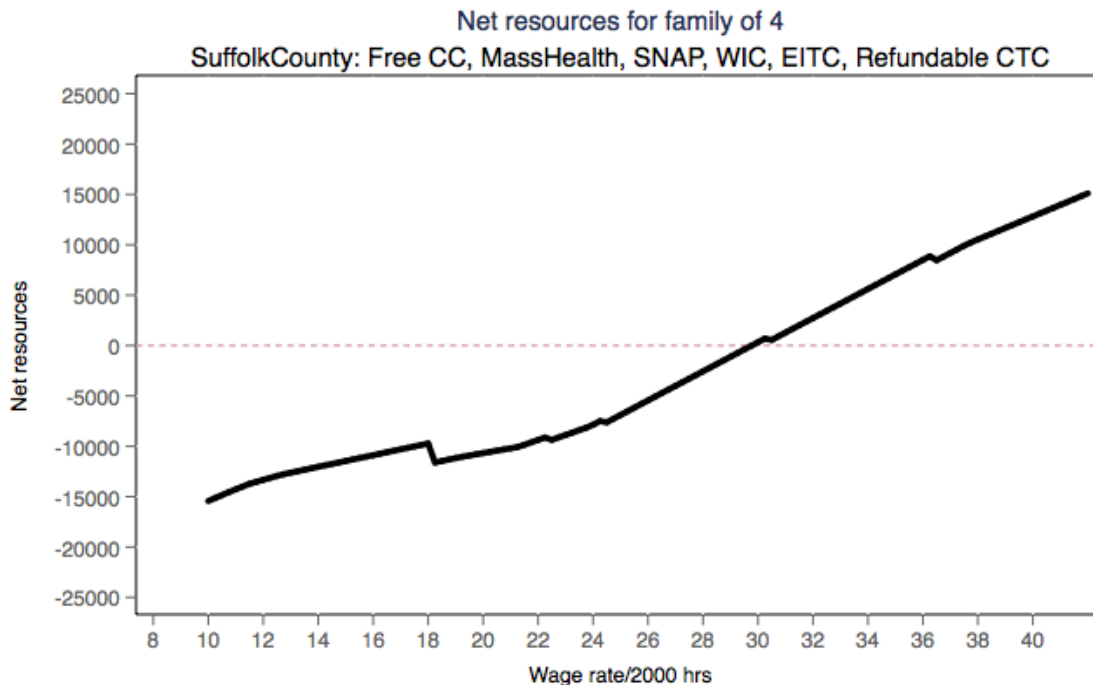
WIC starts to decline at \$22 per hour.

Graph: Benefit levels



FAMILY OF 4: PACK 5 (EITC, CTC, MassHealth, SNAP, WIC, UNIVERSAL CC)

Graph: Net Resources by hourly wages



Source: CSP Net Resource Calculator

- **Level of net resources:** Working full-time (2000 hours), it takes around \$30 per hour (\$60,000 annually) to break even (when net resources are above the red line).
- **Cliff effects:** The cliff ranges from \$34,000 to \$70,000 annually (\$17 to \$35 per hour), and there are five of them. The cliff effects start occurring when the family is facing negative net resources of about \$10,000 annually. This leaves the family no better off (at 2000 hrs) from \$17 per hour to about \$22 per hour.

FAMILY OF 4: PACK 5 (EITC, CTC, MassHealth, SNAP, WIC, UNIVERSAL CC)

In package 5, we prevent families from receiving housing and cash assistance.

EITC slides down at \$10.00 per hour (\$20,000 annually).

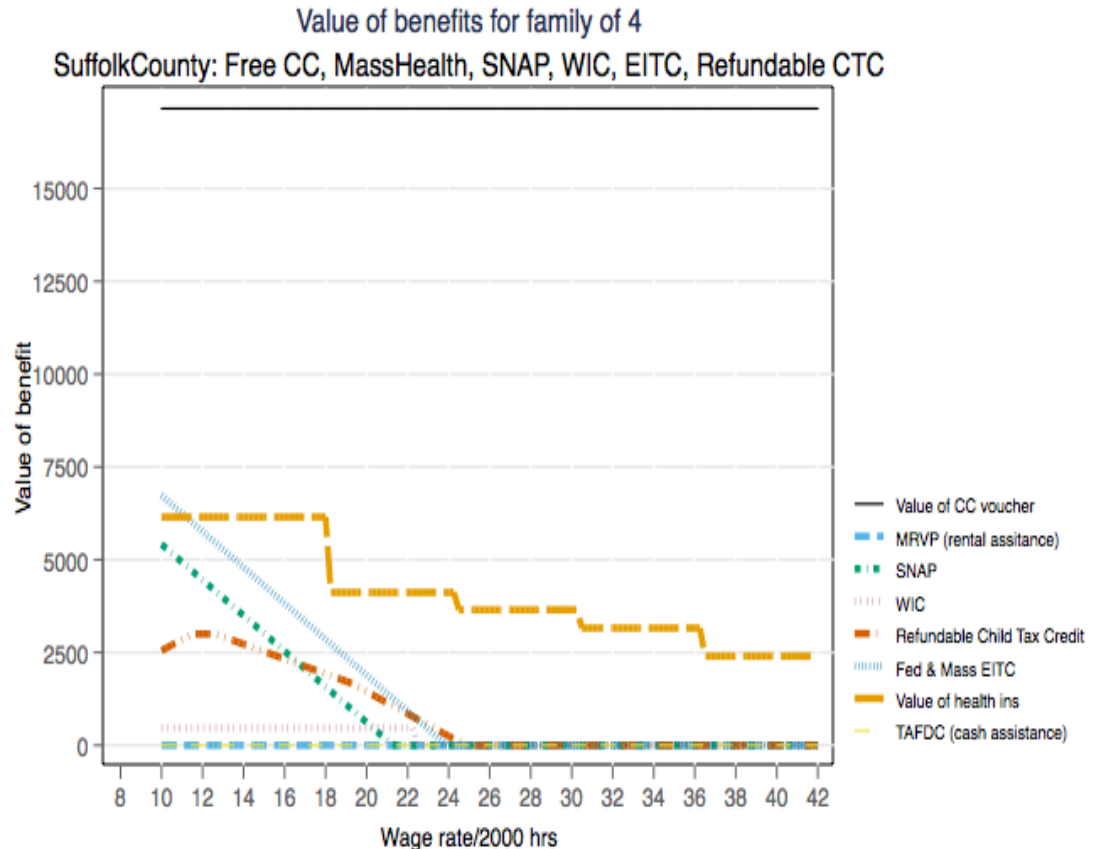
At \$10 per hour (\$20,000 annually), families begin to receive universal child care.

SNAP starts to decline steeply at \$10 per hour (\$20,000 annually), until it drops off entirely at \$21 per hour (\$42,000 annually), when families lose eligibility at 200% FPL.

The MassHealth/ Connector premium costs increase at \$18 per hour and reductions in CTC kick in at around \$12 per hour. All but health insurance assistance fade out by \$25 per hour (\$50,000 annually).

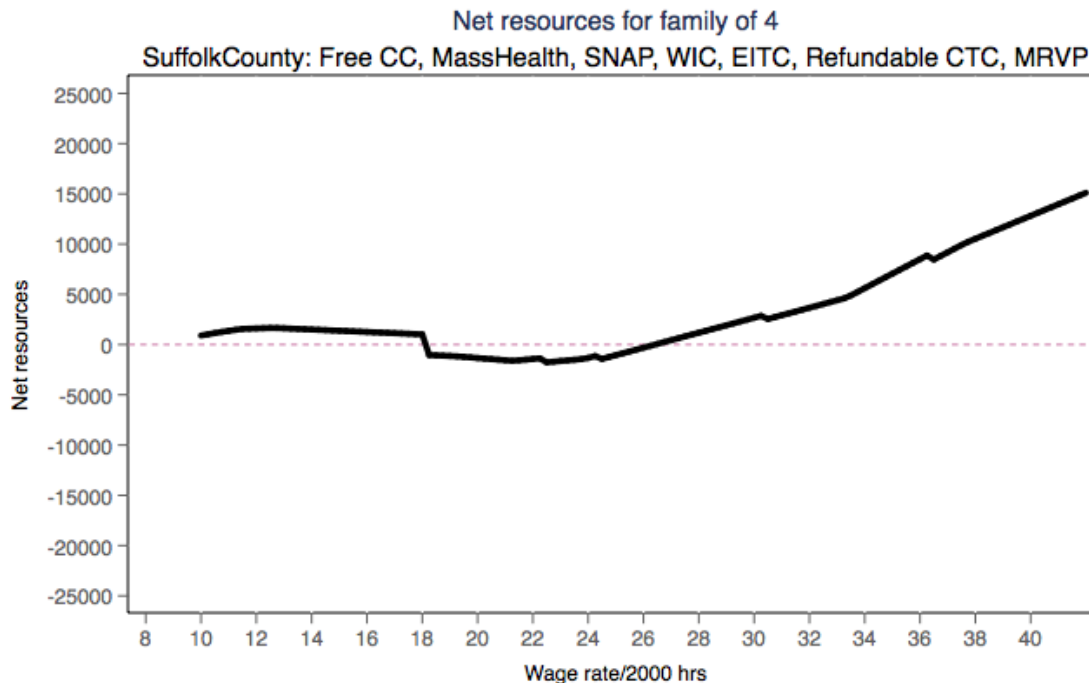
WIC starts to decline at \$22 per hour.

Graph: Benefit levels



FAMILY OF 4: PACK 6 (MRVP, CTC, MassHealth, SNAP, WIC, UNIVERSAL CC)

Graph: Net Resources by hourly wages



- **Level of net resources:** Working full-time (2000 hours), it takes around \$27 per hour (\$54,000 annually) to breakeven (when net resources are above the red line).
- **Cliff effects:** The cliff ranges from \$34,000 to \$74,000 annually (\$17 to \$34 per hour), and there are five of them. The cliff effects start occurring when the family is facing positive net resources of about \$1,000 annually. This leaves the family no better off (at 2000 hours) from \$17 per hour to about \$27 per hour.
- Also, these families seem to be running in place from about \$17 to \$23, with cliffs at \$17, \$22, and \$24 (150% of FPL) per hour.

FAMILY OF 4: PACK 6 (MRVP, CTC, MassHealth, SNAP, WIC, UNIVERSAL CC)

EITC slides down at \$10.00 per hour (\$20,000 annually).

SNAP starts sliding at \$10 per hour (\$20,000 annually) until it drops off completely at \$21 per hour (\$42,000 annually), with families losing eligibility at 200 FPL.

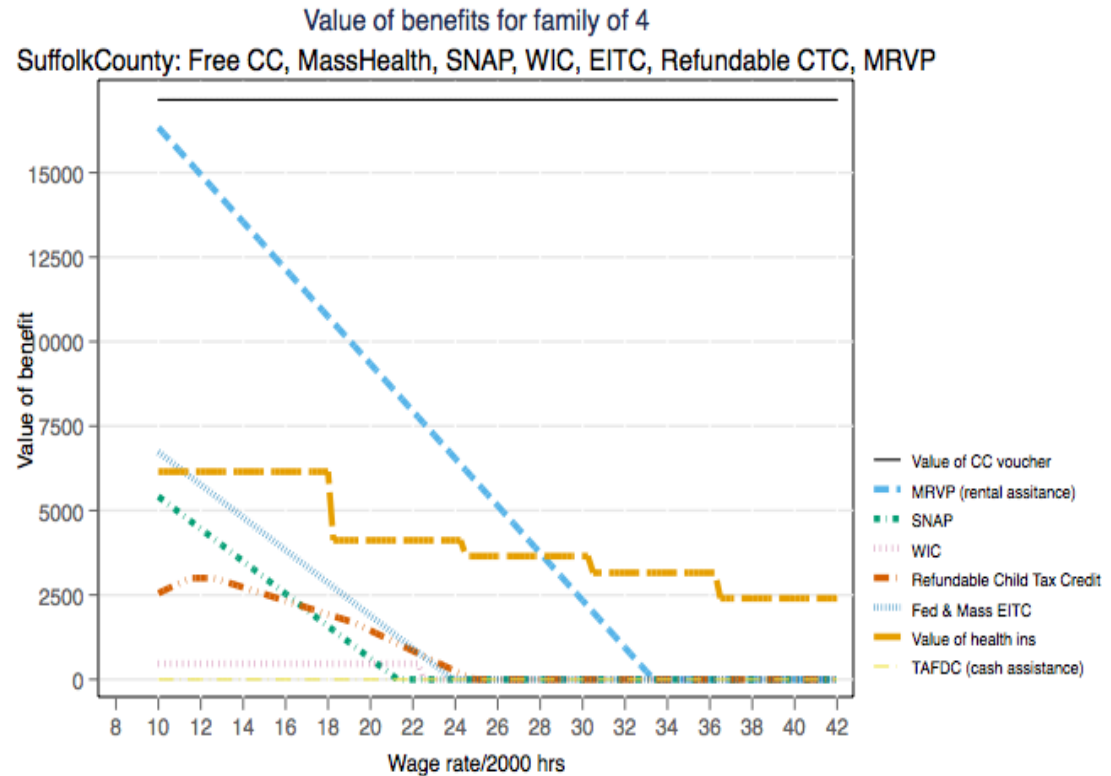
At \$10 per hour (\$20,000 annually), families begin to receive universal child care.

The MRVP steeply declines, until it drops off entirely at \$34 per hour. The benefit level of the voucher keeps the family afloat at lower wages, but it drops steadily along with the other benefits. Thus the family finds itself losing net resources as earnings increase between \$17 and \$24 per hour.

The MassHealth/ Connector premium costs increase at \$18 per hour and reductions in CTC kick in at around \$12 per hour.

WIC starts to decline at \$22 per hour.

Graph: Benefit levels



Summary for Family of 4 (One Parent with Three Children)

- Cliff effects occur over a much wider range of full-time hourly earnings when the family receives housing assistance.
- Compared to a family of 3, where cliffs take place at incomes ranging from \$15 to \$22 per hour, the cliffs for a family of 4 take place at a higher income level.
- Instead, the range of cliff effects for family of 4 are most prominent between \$17 and \$25 per hour (\$34,000 to \$50,000 annually).

How Do Cliffs Function by Benefit?

- ▶ Federal and State EITC – These tax credits tend to decline on a slope rather than cliffs.
- ▶ SNAP – SNAP benefits tend to decline at a gradual slope at first, followed by a steep cliff; the decline tends to be steeper for larger families.
- ▶ WIC – The level of WIC benefits remains relatively unchanged regardless of which combination of other benefits a family receives.
- ▶ Health Insurance (Medicaid and CHIP) – Health insurance benefits tend to decline with several steep cliffs (like stairs) rather than gradually.
- ▶ Cash Assistance – None of the families in these simulations receive cash assistance (because they are not eligible).
- ▶ Child Care Vouchers – Child care vouchers tend to decline gradually, but steeply.
- ▶ MRVP – MRVP declines at a constant rate, there are no large cliffs.

References

- ▶ Albelda, Randy, and Carr, Michael (Winter 2017). Combining Earnings with Public Supports: Cliff Effects in Massachusetts. *Center for Social Policy, University of Massachusetts Boston.*
- ▶ Albelda, Randy, and Carr, Michael (September 2016). Between a Rock and a Hard Place: A Closer Look at Cliff Effects in Massachusetts. *Center for Social Policy, University of Massachusetts Boston.*
- ▶ Bingulac, Marija, Carey, Caitlin, and Crandall, Susan R. (August, 2017). The Road to the Cliff Edge: Understanding Financial Gaps in Public Assistance Programs Available to Massachusetts Families. *Center for Social Policy, University of Massachusetts Boston.*
- ▶ Crandall, Susan R. (October 2018). An Overview of Cliff Effects: Impacts on Workforce Policy. Presented at the Department of Labor Employment and Training Region I Meeting at the Boston Federal Reserve Bank.
- ▶ <http://livingwage.mit.edu> for the living-wage calculator; links for individual states appear on the right. We use costs adjusted by Suffolk county to reflect the variation in housing costs across the state.
- ▶ See <http://users.nber.org/~taxsim/>; used to obtain the tax rates for 2015.