THE NC BENEFITS CLIFFS PROBLEM—
AND IT'S WORSE THAN YOU THINK

- The Limited Prospects for a Single Mom in North Carolina
- The Cliffs Explained
- Some Actionable Ways to Find Solutions

Seeking Compassionate and Fiscally Responsible Solutions to Safety-Net Programs

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Acronyms

ACA	Affordable Care Act (P.L. 111–148)
ACTC	Additional Child Tax Credit—the refundable portion of the Child Tax Credit
BBCE	Broad-Based Categorical Eligibility pursuant to SNAP eligibility
CHIP	Children's Health Insurance Program
COVID-19	Coronavirus disease that caused a pandemic starting in 2020
EITC	Earned Income Tax Credit
FNS	Food and Nutrition Service of the U.S. Department of Agriculture
FPL	Federal Poverty Level
GCO	Georgia Center for Opportunity
HHS	U.S. Department of Health and Human Services
HIX	Health Insurance Exchanges that are run by the government
HUD	U.S. Department of Housing and Urban Development
LIHEAP	Low Income Home Energy Assistance Program
MA	Medical Assistance—any or all of the medical assistance programs
MAGI	Modified Adjusted Gross Income pursuant to the Premium Tax Credit
Medicaid	Federal-state joint medical assistance program
NCHHS	North Carolina Department of Health and Human
PMPM	Per Member Per Month, the capitation rate used for Medicaid costs
PTC	Premium Tax Credit
Section 8	Housing Choose Voucher Program, a federal rental assistance program
SNAP	Supplemental Nutrition Assistance Program, a.k.a. Food Stamps
SSI	Supplement Security Income program run
TANF	Temporary Assistance for Needy Families, a federal block grant program
U.S. or US	The United States of America
WFFAP	Work First Family Assistance Program, North Carolina's TANF program
WIC	Women, Infants, and Children program

Introduction

The American Dream is intended for everyone. Yet, a recent WSJ/NORC poll showed that only 36 percent of registered voters believed the dream still holds true. The plurality at 45 percent said that it "once held true but not anymore." Respondents were prompted to define the American Dream as "if you work hard, you'll get ahead."[1]

The same poll also asked registered voters whether they agreed with this statement: "The economic and political systems in the country are stacked against people like me." Half of those surveyed strongly or somewhat agreed with that statement.

The poll did not delve into the reasons why so many respondents lacked belief in the American Dream or that the system is stacked against them, but our analysis of the safety-net system in North Carolina gives evidence to support their skepticism that the system could indeed be stacked against them.

Safety-net programs are defined as means-tested government assistance programs meant to alleviate poverty. It includes refundable tax credits, cash grants, food assistance, medical care assistance, child care subsidies, and rental assistance for housing. While the system provides important relief for many Americans struggling in poverty, it also can disincentivize those who want to escape the system. Along their prospective journey of economic mobility, families will likely find circumstances when the loss of earnings from taxation in combination with the loss of safety-net benefits will not make it worthwhile for them to earn more or seek promotions. This phenomenon is a direct result of high Earnings Loss Rates, also called high Effective Marginal Tax Rates by economists.

Benefit cliffs are the extreme case of high Earnings Loss Rates. They happen when families lose more income than what they gain from an increase in earnings. In other words, they paradoxically take a financial hit from earning more money. It presents them with an unfair tradeoff between choosing a loss in income and advancing their long-term prospects for prosperity.

Work itself has many benefits, and some safety-net programs not only encourage work but have work requirements. The Georgia Center for Opportunity (GCO) conducted literature reviews of academic research into both the benefits of work and

[1] WSJ/NORC Poll October 2023, conducted by NORC at the University of Chicago with funding from the Wall Street Journal. 1,163 registered voters were interviewed from October 19, 2023, to October 24, 2023, with a margin of sampling error of +/- 4.03 percentage points at the 95% confidence levels: https://s.wsj.net/public/resources/documents/WSJ_NORC_Partial_Oct_2023.pdf.

the negative consequences from nonwork. Work has far more benefits than simply financial gains. Work is associated with improved mental health, a sense of self-worth and dignity, improved education outcomes for children, and reduced recidivism for property crimes and robbery. Conversely, nonwork can be devastating to a family and is associated with a lower personal sense of wellbeing, deterioration of familial relationships, worse mental and physical health, and lower probability of better outcomes for their children with regard to education and future carrier earnings.[2]

The Earned Income Tax Credit (EITC) is an example of a safety-net program that encourages work. The benefits are calculated based on earnings, and, after tapering up to a maximum, they taper off slowly. Previously known as the Food Stamp Program, the Supplemental Nutrition Assistance Program (SNAP) is an example of a program that has work requirements. It has a general work requirement, but also a more stringent work requirement for Abled Bodied Adults Without Dependents.

However, work requirements do not overcome the systemic and aggregate disincentives to earning more embedded in the safety-net system—the topic of this paper. SNAP participants can do both: fulfill the program work requirements and hold back on the number hours they work or refuse to accept pay raises. Additionally, SNAP work requirements are inconsistently enforced, diluting their effectiveness.

Therefore, it is necessary to address the disincentives to work embedded in the system. These disincentives are unintended consequences of the very programs intended to help people. Naturally, if there were no safety-net programs or taxation, workers would be incentivized to earn more every time because they would get to keep all the fruits of their labor—as opposed to having most of their gains taken by the government—and they would never run into the all-to-common extreme case where they lose more in income than what they gain from increased earnings.

This report will demonstrate that in the case of a single mom in North Carolina, the system discourages her from seeking higher earnings across her prospective range of potential earnings. She will require massive pay raises to have that incentive restored, encouraging her to seek more safety-net benefits and not more earnings.

[2] Georgia Center for Opportunity, "Understanding the Impact of Nonwork on Communities and Individuals" webpage: https://foropportunity.org/nonwork. The webpage includes a link to the full report on the negative aspects of nonwork. GCO will be rolling out its literature review on the positive benefits of work in early 2024, which will be available on its website.

The Single Mom in North Carolina

Sophia is a thirty-year old single mom with two children, and she struggles to make ends meet. She works jobs as much as she can, and part of the purpose of this paper is to discover what happens to her overall financial prospects when her earnings change. She has a daughter, Emma, who is 8 years old and attends public school, and a son, Johnnie, who is 2 years old. Unfortunately, the father is not in the household and unable to provide child support. Sophia must juggle all the responsibilities of the household by herself, which includes the demanding task of caring for her two children. She is constantly looking for ways to ease her burden and maximize benefits she and her children receive.[3]

Fortunately, there are numerous safety-net benefits that can help her out. The basic benefits package includes the following ten programs provided Sophia's household is income and asset eligible:

- EITC is available through the Internal Revenue Service as a fully refundable tax credit, which means she can receive payments from the "tax" system without having to make a net contribution to federal income taxes. There are drawbacks to this program that will be discussed later.
- Additional Child Tax Credit (ACTC) available also through the Internal Revenue Service, which is the fully refundable portion of the Child Tax Credit. It has the same drawbacks as the EITC despite recent efforts in Congress to make them monthly payments after what was realized during the COVID-19 pandemic.
- Cash grants from the Work First Family Assistance Program (WFFAP), which is North Carolina's Temporary Assistance for Needy Families (TANF) program—a federal block grant. To qualify for the federal funds, the state of North Carolina is required to spend state money on related programs, known as maintenance-of-effort spending.
- Cash grants from the Low-Income Home Energy Assistance Program (LIHEAP), a pass-through federal grant program administered by the state.
- SNAP benefits for the purchase of food paid through monthly debit cards are funded by the federal government but administered by the North Carolina Department of Health and Human Services (NCHHS).
- Subsidized school lunches through the National School Lunch Program and breakfasts through the School Breakfast Program—are two related programs

[3] Sophia's family is a hypothetical case but representative of the circumstances many families find themselves in.

funded by the federal government and passed through the state to its public school districts and other schools in the state. The programs provide free meals, or reduced-price meals, or a lesser subsidy to lower the price.

- A supplemental food package distributed by NCHHS and funded by the federal Women, Infants, and Children (WIC) program, which may be available to Sophia because Johnnie is less than five years old.
- Medicaid—which is jointly funded by the state of North Carolina and the federal government—is available to Johnnie and Emma until Sophia earns no more than 216 percent of the poverty level as determined by the U.S. Department of Health and Human Services (HHS). However, Sophia is eligible only until she earns no more than 138 of the federal poverty level (FPL). North Carolina's Children's Health Insurance Program (CHIP) was merged into Medicaid and no longer exists.[4]
- When not eligible for Medicaid or fully paid employer-based health insurance coverage, Sophia and her family may be eligible for the Premium Tax Credit (PTC)—created by the Affordable Care Act (ACA)[5]—for purchasing individual coverage through the regulated Health Insurance Exchange (HIX). [6] Sophia will become eligible once she comes off Medicaid when her income exceeds 138 percent of the current FPL, and her children become eligible when her income exceeds 216 percent of FPL. In 2023, there was no upper income limit to qualify for the Premium Tax Credit.

If anyone in Sophia's household has a disability, she or that child could be eligible for Supplemental Security Income (SSI), which is administered by the Social Security

[4] The percentage poverty levels for Medicaid include a 5 percent income disregard. As of April 1, 2023, North Carolina ended Health Choices, its Children's Health Insurance Program, and all children covered by Health Choices were transferred to North Carolina's Medicaid program. On December 1, 2023, North Carolina expanded Medicaid pursuant to the Affordable Care Act to all low-income adults. Prior to December 1, Sophia would have qualified for Medicaid pursuant to her status as a custodial parent for up to 36 percent of the poverty level.

[5] Patient Protection and Affordable Care Act, Public Law 111-148, March 23, 2010.

[6] There are exceptions to the rule that an individual or family cannot qualify for the premium tax credit through HIX if they qualify for Medicaid or have employer-based health insurance coverage. Now that North Carolina expanded Medicaid, the Medicaid exception no longer applies. If employer-based insurance is deemed unaffordable or inadequate, then the individual or family would qualify. Also see Bernadette Fernandez, Health Insurance Premium Tax Credit and Cost-Sharing Reductions, Congressional Research Service, R44425, Updated January 17, 2023, p. 5: https://crsreports.congress.gov/product/pdf/R/R44425.

Administration[7] supplemented with Medicaid and Medicare for healthcare coverage. If this were the case, SSI would become the eleventh program of the basic benefits package.

If Sophia works or is participating in a qualifying job training program and within the State income limits, she would be eligible for North Carolina's Subsidized Child Care Assistance program. States receive federal money for their child care assistance programs from the Child Care and Development Block Grant program.[8]

However, subsidized child care services are not considered to be part of the basic benefits package because they are not considered to be an entitlement, such as SNAP or Medicaid benefits. Moreover, subsidized child care programs have struggled with the unavailability of spaces and long wait lists. According to the federal agency administering the block grant program, only 23 percent of the nation's children eligible for subsidized child care, per state rules, received subsidies.[9] The U.S. Government Accountability Office concluded that while some states use wait lists, they are difficult to maintain.[10] North Carolina requires local agencies to maintain wait lists,[11] and data made available by the Child Care Services Association indicate that the state's wait list has dropped dramatically over the past few years: from 31,254 children, ages 0 to 12, before the COVID-19 pandemic to an average of 3,966 for 2023.[12]

Rental assistance is also not part of the basic benefits package because subsidized housing is not an entitlement, and it is much harder to obtain. In 2023, there were 6.9 million individuals nationwide in public housing or receiving a Section 8 housing

[7] If Sophia herself has a disability and she had worked long enough to qualify, she could qualify for Social Security Disability Income.

[8] 42 U.S. Code Subchapter II–B - Child Care and Development Block Grant.

[9] Nina Chien, *Factsheet: Estimates of Child Care Eligibility for Fiscal Year 2019*, Office of the Assistant Secretary for Planning & Evaluation, U.S. Department of Human Services, September 2022: https://aspe.hhs.gov/sites/default/files/documents/c348c484e48774718ffee84aab34a91b/cy2019-child-care-subsidy-eligibility.pdf.

[10] U.S. Government Accountability Office, Child Care: Subsidy Eligibility and Receipt, and Wait Lists, GAO-21—245R, February 18, 2021: https://www.gao.gov/products/gao-21-245r.

[11] North Carolina Subsidized Child Care Assistance Program Policy Manual, Chapter 10, Waiting List Policies, Revised September 29, 2023: https://policies.ncdhhs.gov/divisional/child-development/child-care-subsidy-services/policies/chapter-10-waiting-list-policies-5.pdf.

[12] Child Care Services Association, North Carolina Early Care and Education (NC ECE) Data Repository, Child Care in North Carolina Factsheets, accessed January 10, 2024: https://www.childcareservices.org/research/nc-ece-data-repo. Because December 2023 data were unavailable, the average is based on the first eleven months of the year.

choice voucher, comprising 2 percent of the U.S. population. Three fourths of those individuals had Section 8 vouchers. This compares to 42 million individuals participating in SNAP for 12.5 percent of the population and 92.3 million people enrolled in Medicaid or CHIP, or 27.6 percent of the population.[13]

Upon closer examination, the comparison overstates a family's chances of receiving a Section 8 voucher or getting into public housing because many of the housing assistance recipients have incomes above the income limits of either SNAP or Medicaid. Once a family receives a Section 8 voucher, it is allowed to remain in the program above the initial income eligibility limit to get on the wait list. In practice, this means that there are families receiving Section 8 vouchers at income levels much higher than what either SNAP or Medicaid would allow, which can be seen clearly later in this paper when we add Section 8 housing to the benefits package (Chart 25 and Chart 29). How much higher than the allowable income of the other programs varies greatly, depending on the housing costs of the local area. The higher the housing costs, the higher the subsidy lasts up the income scale.

The difficulty in obtaining housing assistance can be explained by a few facts. First, public housing units have been capped since 1992, and the number of units has

[13] The Medicaid and CHIP enrollment numbers are averaged from January 2023 through September 2023, the most recent available from Medicaid and CHIP Enrollment Trend Snapshots of the Centers for Medicare & Medicaid Services, U.S. Department of Health and Human Services (https://www.medicaid.gov/medicaid/program-information/medicaid-chip-enrollment-data/medicaid-and-chip-enrollment-trend-snapshot/index.html). However, these numbers differ significantly from Census Bureau data that shows only 62 million with Medicaid, including CHIP, for 2022. Enrollment data are considered more reliable than survey data. Therefore, we quote the enrollment data. For the Census survey data, see Katherine Keisler-Starkey, Lisa N. Bunch, and Rachel A. Lindstrom, U.S. Census Bureau, Current Population Reports, P60-281, *Health Insurance Coverage in the United States: 2022*, U.S. Government Publishing Office, Washington, DC, September 2023: https://www.census.gov/content/dam/Census/library/publications/2023/demo/p60-281.pdf. The number of persons benefiting from the housing program were queried from the Assisted Housing Dataset, Office of Policy Development and Research, U.S. Department of Housing and Urban Development for the Calendar Year 2023, are based on 2000 Census data, and are unavailable as monthly data (https://www.huduser.gov/portal/datasets/assthsg.html). The SNAP participation numbers are averaged monthly numbers from January 2023 to October 2023, the most recent month available from SNAP Program Data Tables of the Food and Nutrition Service, U.S. Department of Agriculture (https://www.fns.usda.gov/pd/supplemental-nutrition-assistance-program-snap). The U.S. population is based on the Annual Estimates of the Resident Population for the United States, Regions, States, District of Columbia, and Puerto Rico for July 1, 2023, NST-EST2023-POP, U.S. Census Bureau (https://www.census.gov/data/tables/time-series/demo/popest/2020s-state-total.html).

fallen by about 30 percent since then.[14] Second, the expense of the Section 8 housing voucher program has severely limited the ability to fund growth in the program to the extent that public housing authorities, who mostly run the program,[15] keep their wait lists closed. In other words, applicants wanting a voucher cannot even get on a wait list. Once public housing authorities work down their wait lists, they typically open it up for just a few days, and close it down again because of the overwhelming response. Finally, many public housing authorities use a lottery system to select winners to receive the benefits.[16]

For this paper, we use the Section 8 housing voucher program in our modeling because many more individuals benefit from Section 8 voucher than who are in public housing, and it is easier to determine the value of a Section 8 voucher, which is based on market pricing, than estimating the value of public housing. However, the rules of determining benefits for the two programs are essentially the same.

[14] Maggie McCarty, "The Public Housing Program," *In Focus* briefing, Congressional Research Service, IF12547, December 11, 2023: https://crsreports.congress.gov/product/pdf/IF/IF12547.

[15] There are a few exceptions to the rule that Public Housing Authorities run the Section 8 housing voucher program. For example, the Georgia Department of Community Affairs runs the program for most—but not all—counties, or partial counties, in Georgia.

[16] In fact, HUD guidelines explicitly allow for lotteries in selecting who will receive the benefits. Chapter 4 (Waiting List and Tenant Selection): https://www.hud.gov/sites/documents/DOC_35614.PDF.

Benefit Cliffs for Basic Package without Medical Assistance

Suppose Sophia receives the basic benefits package without medical assistance. The purpose of excluding medical assistance is not to assume she has an employer providing healthcare or that she is without coverage, but to examine the other safety-net programs in the basic benefits package before adding in medical assistance. In the next section, we will examine medical assistance that has many complexities.

Chart 1: Standard Cliff Chart for Scenario 1
Basic benefits package without medical assistance & no disabilities

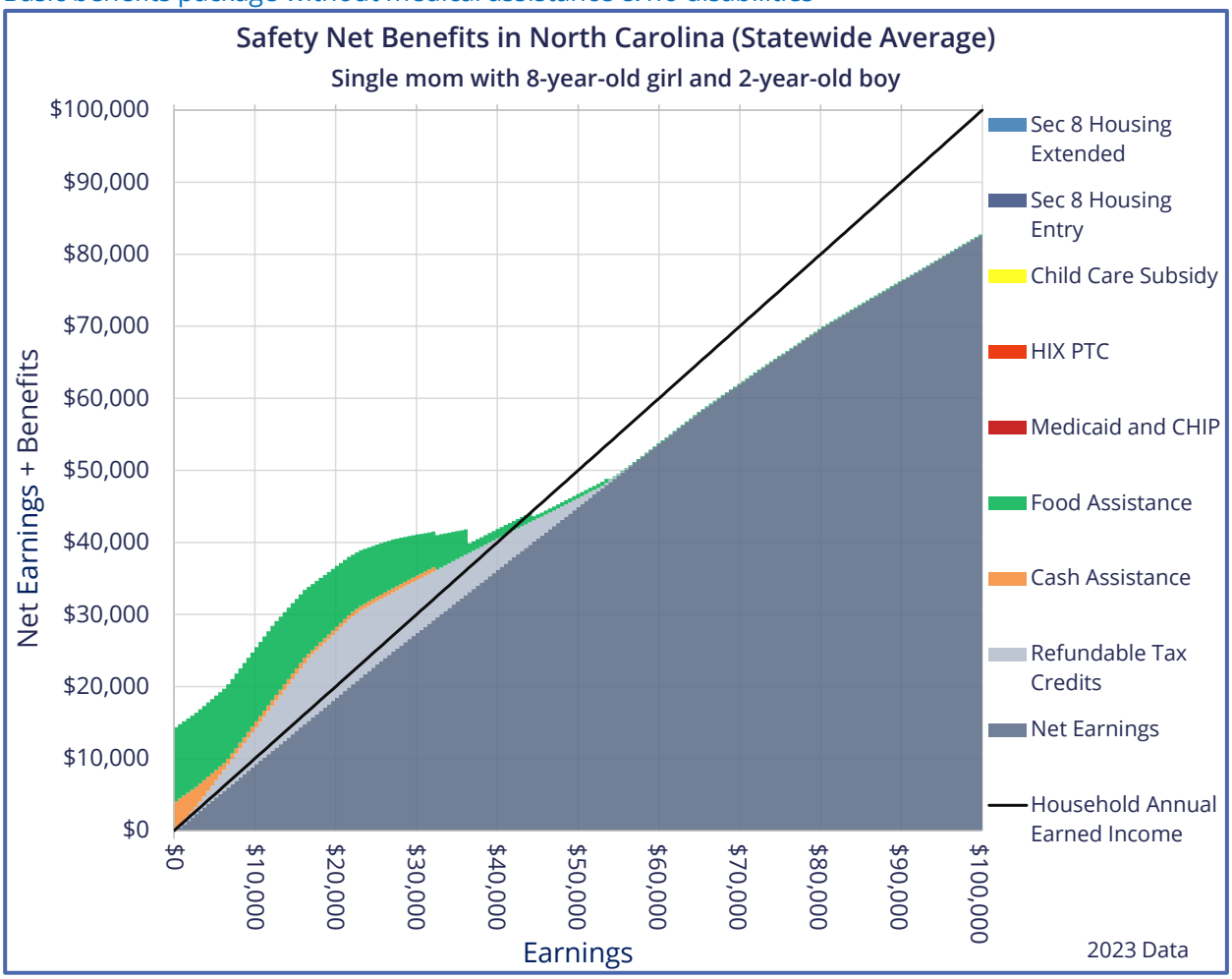


Chart 1 displays Sophia's prospective financial circumstances—which we will call the first scenario—over a range of earnings by comparing her gross earnings with her net earnings—after federal payroll taxes, federal income taxes, and state income taxes are deducted—plus her family's safety-net benefits. The horizontal axis of the chart is the independent variable consisting of her gross earnings, and the vertical axis is the combination of net earnings and safety-net benefits. The chart inputs are categorized and color coded as follows:

- Net earnings are layered on the bottom, shown as the dark-gray-shaded area.
- Refundable tax credits—consisting of the EITC and ACTC—come next as the light-gray-shaded area.
- Cash assistance—consisting of TANF cash grants, LIHEAP cash grants, and SSI (when someone in the household has a disability, which is not the situation in Chart 1 but will be in Chart 2)—comes next on top as orange-shaded area.
- Food assistance is the green-shaded area, which is the top layer shown in this chart, consisting of SNAP, subsidized school lunches and breakfasts, and supplemental WIC food packages.
- Not shown in this graph, but indicated in the Legend on the right, and working upward from Food Assistance, are Medicaid and CHIP (which is just Medicaid for North Carolina) in the dark-shaded-red area, the Premium Tax Credit for the Health Insurance Exchange (label as PTC HIX) in the light-shaded-red area; Child Care Subsidy in the yellow-shaded area; Section 8 housing entry, which is the eligibility income limit to get on the wait list for Section housing assistance in the dark-blue-shaded area, and Section 8 housing extended, which shows how long a household may still receive Section 8 housing benefits, in the light-blue-shaded area.
- In addition to being shown on the horizontal axis, gross earnings are shown as a diagonal black line across the chart, giving an easy reference line for comparison purposes.

As shown in Chart 1, Sophia's total income, which includes benefits, peaks at $41,801 when she has earnings of $36,000, which approximates the annual return of an hourly wage of $17.15, assuming 40 hours of work per week. If she would accept a pay raise of $500 per year, or approximately 24 cents per hour, she would lose $1,919 from taxation and lost benefits, mostly due to her loss of $2,099 in SNAP benefits, which is a large benefit cliff and part of food assistance in the green shaded area. The green shaded area also includes the other food assistance programs that Sophia and her family would receive. These are free or reduced-price or general subsidized school lunches and breakfasts for her 8-year-old daughter and a supplemental food benefit for her 2-year-old child from the WIC program. These programs also have unintended consequences that are not as dramatic, which will be discussed later.

The loss in SNAP benefits requires further explanation due to the complexity of how SNAP benefits are determined. Federal law imposes a gross income limit on households without members who are elderly or have a disability, which would terminate SNAP benefits for Sophia's family once she earns more than $29,940.

However, NCHHS has adopted Broad-Based Categorical Eligibility (BBCE) with a revised gross income limit of 200 percent of FPL,[17] which is $46,080. While BBCE lessens the SNAP benefit cliff, it generally worsens disincentives when combined with other safety-net programs.[18]

However, SNAP also imposes a net income limit equal to 100 percent of FPL, which is $23,040 for Sophia. Net income is determined by subtracting allowable deductions from countable gross income. One assumption in the GCO model uses Fair Market Rent—as published by the Department and Housing and Urban Development (HUD) and is used for determining Section 8 housing benefits—for Sophia's housing and utility costs, which is processed through a complicated formula as an excess shelter expense deduction. Another assumption for this scenario is that Sophia does not receive subsidized child care benefits, and she takes an advantage of a close relative, such as her mother, to care for her children while she works, making her dependent care costs equal to zero, which is another allowable deduction against countable gross income. Sophia, like all households, also receives a standard deduction.

The assumed deductions show that the net income limit truncates Sophia's SNAP benefits well before reaching zero and Sophia reaches earnings equal to North Carolina's BBCE gross income limit, which is what will usually occur based on GCO modeling. Although NCHHS adopted the 200 percent of FLP as the gross income limit,

[17] North Carolina Department of Health and Human Services, Food and Nutrition Manual, FNS 220 Categorical Eligibility and FNS 360 Determining Benefit Levels: https://policies.ncdhhs.gov/divisional/social-services/food-and-nutrition-services/policy-manuals

[18] Had NCHHS not adopted BBCE, Sophia's total income would have peaked at $43,689 with $29,500, with a prospective benefit cliff of $6,481. The GCO model uses weighted-average income limits for Calendar Year 2023. Households with disabled members are not affected by the BBCE program because they are not subject to the gross income limit.
Also, the SNAP benefits shown in Chart 1 ignores the Emergency Allotment Program that North Carolina participated in through February 2023 in response to the COVID-19 pandemic, giving each SNAP household at least the maximum allotment, and in some cases, above the maximum allotment. This program dramatically increased SNAP benefit cliffs and would overstate the current situation. Therefore, the numbers generated for this paper assumed non-emergency SNAP eligibility rules for the entire 2023 calendar year. For more information on the impact of the Emergency Allotment Program, see Erik Randolph, *Solving the Food Assistance (SNAP) Benefits Cliffs: Fixing the Safety Net System*, October 4, 2023 (https://foropportunity.org/wp-content/uploads/2023/10/SNAP-Cliffs-Solution-v1.9.pdf).
Finally, federal rules based on 7 CFR 273.10(e)(2)(ii)(A) allow states to use tables instead of calculations, which would vary the of benefit amounts from the calculation method as shown in GCO modeling.

in practice most households without elderly or disabled members will not reach that threshold unless they have an unusual and unlikely high expense deductions.

Because of the wide variance in shelter costs and dependent care costs, the income level and the size of the SNAP benefit loss when a household hits the net income limit will also vary. In other words, the peak earnings before the SNAP benefit cliff can be thousands of dollars less than $36,000 or more than $36,000 up to $46,080. What is not possible is that there would not be a SNAP benefits cliffs. GCO modeling shows that no matter what Sophia earns using BBCE rules, there will always a benefit cliff of at least $1,968 in 2023,[19] and most often because of the net income limit.[20] Moreover, the income levels and size of the cliffs will vary each year with annual SNAP factor cost of living updates, but the pattern will remain the same.

Broad-Based Categorical Eligibility also deserves further explanation. The rules and reasons justifying BBCE are not only complex for the general public but has also been complex for state SNAP administrators. Ever since the Food and Nutrition Service (FNS) of the U.S. Department of Agriculture approved the final rule on BBCE on November 21, 2000,[21] FNS has published "questions and answers" and "questions and answers" to "questions and answers" to explain to states how they can use an unintentional loophole to SNAP eligibility rules known as BBCE. Ever since, the interpretation of BBCE expanded from requiring households to receive a service relating to one of the four purposes of the TANF program—(1) helping needy families keep children in their homes, (2) ending dependence on government benefits through work and marriage, (3) reducing out-of-wedlock pregnancies, and (4) formation and maintenance of two-parent families[22]—to simply notifying SNAP applicants and participants up for renewal of the availability of such services without them actually utilizing those services. Furthermore, BBCE allows states to ignore excess asset tests that further expands the eligible population beyond the statutory 130 percent of FPL gross income limit. North Carolina is one of at least 28 states that

[19] The minimum $1,968 differs from the $2,099 because it is calculated using FFY 2023, as opposed to calendar year 2023. Both calculations assume the emergency allotment program is not in effect.

[20] For the reasons, see *Solving the Food Assistance (SNAP) Benefits Cliffs: Fixing the Safety Net System*, (https://foropportunity.org/wp-content/uploads/2023/10/SNAP-Cliffs-Solution-v1.9.pdf).

[21] See Arthur T. Foley, Program Development Division Director, Memo to All Regional Directors, " Questions & Answers On Categorical Eligibility & Vehicles," November 20, 2009: https://fns-prod.azureedge.us/sites/default/files/resource-files/Categorical-Eligibility-Vehicle-QandA-07-30-01.pdf

[22] Gene Falk, *The Temporary Assistance for Needy Families (TANF) Block Grant*, Congressional Research Service, In Focus Report, IF10036 Updated June 22, 2023 https://crsreports.congress.gov/product/pdf/IF/IF10036

have adopted BBCE by simple notification and with the 200 percent of FPL gross income limit, making all households without elderly or disabled members BBCE eligible.[23]

Back to Chart 1, for Sophia to recoup her lost benefits at the peak of $36,000, she would need to earn $40,000, which would require a pay raise of $4,000, or 11.1 percent. Unless she can meet that threshold, the system discourages her from seeking more pay.

However, if she could overcome the cliff by jumping from $36,000 to $41,000 in earnings, it would still be in her best interest because her prospect for earning more would face only two smaller cliffs more easily overcome with pay raises. At $44,000, she will face a loss of $468 if she earns $44,500. This loss should be interpreted as Sophia losing $468 on top of losing all of her additional $500 in earnings, and this cliff principally comes from her daughter losing eligibility for reduced-price school meals. At $53,500, Sophia would face a small cliff of $52—again, losing $52 on top of losing all of her $500 in additional earnings if she would earn $54,000—principally from her son losing his WIC food benefit.

Refundable income tax credits—displayed in the light-gray-shaded area in Chart 1—are purposely displayed separately from the non-refundable portion of income taxes for two reasons. First, these tax credits are part of the safety-net system that uses the vehicle of the tax collection system to provide cash to Sophia and other needy families. Second, if the refundable tax credits were included as part of the tax liability, it would show Sophia's after-tax income to be greater than her gross earnings over a large range of prospective earnings. Instead, the chart displays her gross earnings as a solid black line, and the distance between the dark-gray-shaded area and the line is due to the reduction in payroll and non-refundable income taxes. The light-gray-shaded area (designating refundable tax credits) is purposely placed on top of the gray area (net earnings), which, together with the dark-gray-shaded area, displays the total post-tax earnings (that includes refundable tax subsidies), allowing us to see the impact of her income taxes by comparing to the solid black line. The

[23] The exceptions for SNAP BBCE are for program violations. Updated January 24, 2024, FNS lists 27 states having 200 percent of FPL gross income limits for BBCE on its webpage, but it incorrectly lists Louisiana as not having 200 percent. Louisiana adopted the 200 percent in July 2022. It is unclear how many other inaccuracies are on the webpage. U.S, Food and Nutrition Service, Department of Agriculture, Broad-Based Categorical Eligibility (BBCE), January 2024. Webpage: https://www.fns.usda.gov/snap/broad-based-categorical-eligibility#, accessed March 7, 2024, and PDF version: https://www.fns.usda.gov/sites/default/files/resource-files/BBCE-States-Chart-Jan-2024.pdf.

displayed refundable tax credits consist of the Earned Income Tax Credit and the Additional Child Tax Credit. The Premium Tax Credit will be addressed separately.

Refundable tax credits by themselves do not cause any difficulties when it comes to benefit cliffs because they grow with earnings, reach a maximum for a range of earnings, and then slowly taper back down. However, there are still issues with refundable tax credits not shown with the output data because of constraints of the modeling. Foremost, the benefits are inaccessible during the year, frustrating regular access to the cash for low-income families that sorely need cash flow.[24] Instead, families must wait for the Internal Revenue Service to process their tax form and send them their refunds the following year. Second, not all households spend the money wisely when they do receive the benefit in a large lumpsum.[25] Third, research has shown that refundable tax credits have marriage penalties[26] that go beyond the scope of this paper. And finally, refundable tax credits are notorious for high levels of noncompliance.[27]

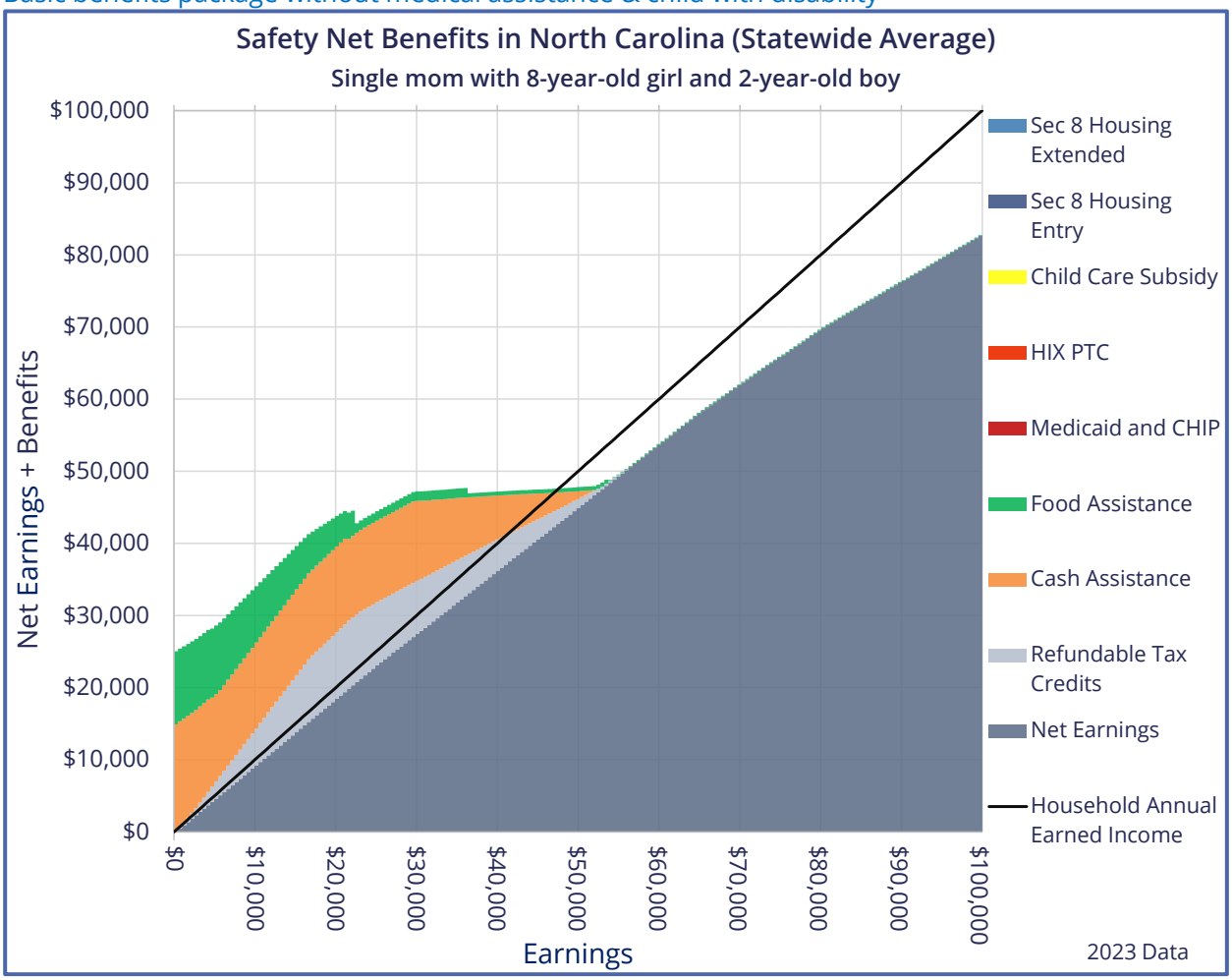
Cash assistance—the orange-shaded area in Chart 1—turns out to be a small amount compared to other assistance categories. In this case, cash assistance consists of cash grants from North Carolina's Work First Family Assistance Program and LIHEAP. While these cash grants are relatively small for Scenario 1, compared to the other benefits, they can significantly impact household income at those very low-income levels. The cash grant from WFFAP tapers nicely, causing no benefit cliff issues.

However, LIHEAP has a hard cutoff that creates a small cliff that can be easily overcome with higher pay raises. After exiting the program, which appears with $32,500 in earnings on Chart 1, Sophia would lose $600, meaning that she would require an annual pay raise above $600 to recoup the loss. It would not be $600 because of the Earnings Loss Rate, which will be explained in greater detail later. But

[24] The Earned Income Tax Credit used to have an advanced payment system through employers, but it was repealed in 2010 due to underutilization and administrative difficulties. During the COVID-19 pandemic, the child tax credit was made available as monthly payments, but that provision expired.
[25] The fact that many households do not spend their refundable tax credits wisely comes from several informal interviews with federal and state officials who administer or administered safety-net programs and who are familiar with common behavior of program participants.
[26] The Georgia Center for Opportunity is currently analyzing marriage penalty issues with regard to refundable tax credits but has not yet published results.
[27] There are many sources on noncompliance issues of refundable tax credits, including the following report: United States Government Accountability Office, *Refundable Tax Credits: Comprehensive Compliance Strategy and Expand Use of Data Could Strengthen IRS's Efforts to Address Noncompliance*, GAO-16-475 May 2016: https://www.gao.gov/assets/gao-16-475.pdf.

for now, a $600 pay raise would encounter at least payroll taxes deducted from it, meaning that she would not be able to recoup the entire $600 in lost benefit without a larger pay raise. In this case, the loss of LIHEAP is compounded by diminishing benefits from refundable tax credits. Our modelling uses $500 annual increments for gross earnings, which equates to approximately 24 cents per hour for a full-time job, and it does indeed show a cliff of $484 at $32,500 when Sophia loses her LIHEAP benefit, meaning she loses all her $500 in additional earnings plus she loses another $484 on top of that, putting her behind from where she was.

Chart 2: Standard Cliff Chart for Scenario 2
Basic benefits package without medical assistance & child with disability



If anyone in Sophia's household has a disability, such as one of her children, and using all other assumptions for Scenario 1, the person with the disability could be eligible for Supplemental Security Income, which would provide additional cash income to the household. If this were the case for Sophia, and assuming Johnnie has a disability that qualifies for SSI, her circumstance would change dramatically as

displayed in Chart 2, which we will call Scenario 2. Her peak cliff occurs at $36,000, requiring a pay raise of $12,500, or an increase of 35 percent, to overcome her loss.

The most notable change from before (Chart 1 with no disabilities) is an infusion of SSI cash into Sophia's household included as part of the orange-shaded area on Chart 2, providing a maximum of $11,292 that does not start to taper until Sophia earns more than $29,500. The cash benefit acknowledges that certain disabilities come with additional expenses that SSI is intended to offset, depending on the nature of the disability.[28]

However, once SSI begins tapering off, it essentially eliminates all incentives for Sophia to earn more money, which occurs just under $30,000. In other words, SSI simply does not taper properly, and when combined with net earnings and refundable tax credits, it creates a disincentive desert—a term coined by Economics Professor Craig Richardson[29]—where for a wide range of prospective earnings, there are no incentives to earn more money, which we will revisit a little bit later. This unpleasant phenomenon carries through every subsequent scenario shown in this paper when there is a child with a disability in the household.

Another notable difference between Chart 2 (assuming Johnnie has a disability) and Chart 1 (no disability) is the SNAP benefits—included as part of the green shaded area—now end at $22,000. Households having members with a disability do not have a gross income limit, making BBCE irrelevant. As In Sophia's case, all terminations of benefits are caused by the net income limit, which contributes to a SNAP benefit loss of $2,058 when Sophia would earn $22,500. Combined with other factors, her loss in SNAP benefits is compounded by the loss of free school meals—and her daughter would not qualify for reduced-price school meals[30]—leaving her with a benefit cliff of $1,740.

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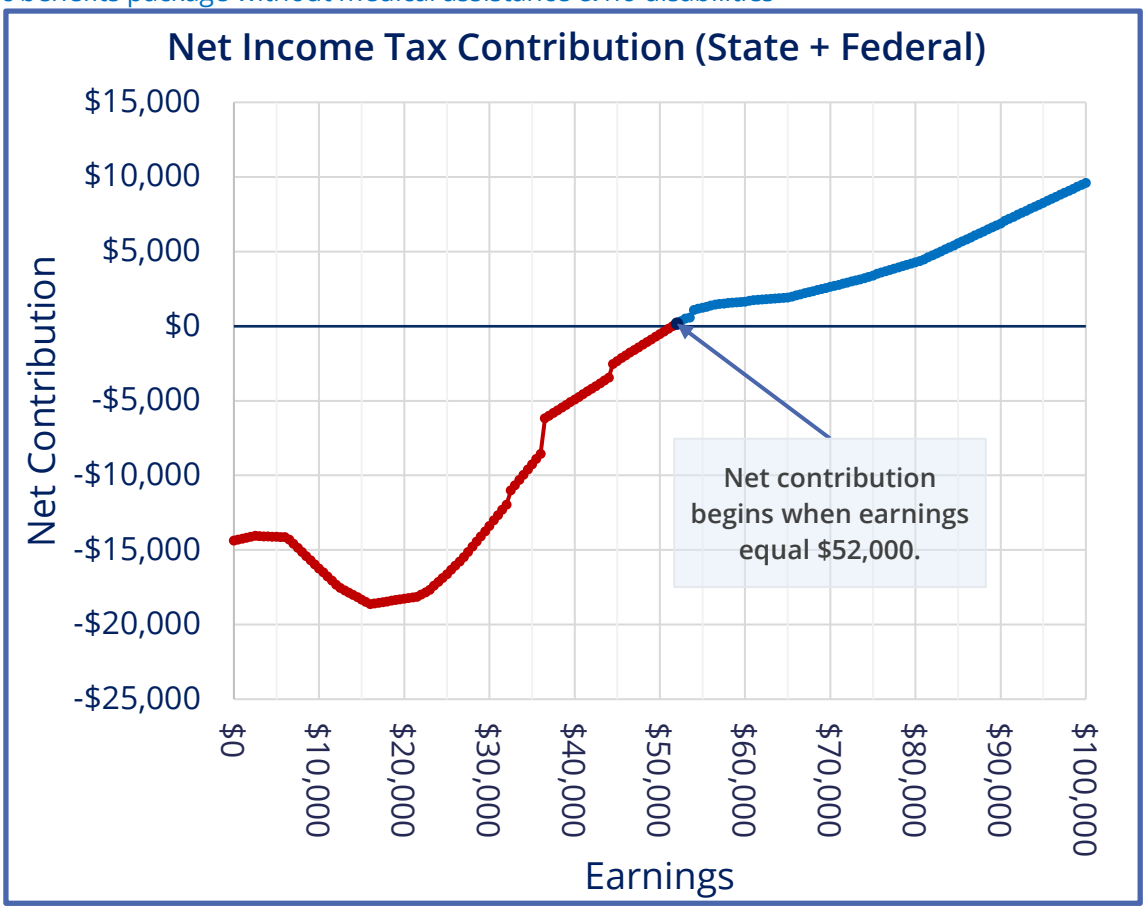
[28] For example, some disabilities might require special medical equipment or accommodations.

[29] Economics Professor Dr. Craig Richardson, Director, Center for the Study of Economic Mobility, Winston-Salem State University. Also see Craig Richardson and Zachary Blizard, "Benefits Cliffs, Disincentive Deserts, and Economic Mobility," Journal of Poverty, Volume 26, 2022— Issue 1, January 8, 2021: https://www.tandfonline.com/doi/full/10.1080/10875549.2020.1869665.

[30] The National School Lunch Program and the School Breakfast Program make families receiving SNAP categorically eligible, but they also count as income any income from the Social Security Administration. Therefore, at the point when Sophia's family comes off SNAP in this example, she is already above the threshold to receive free school meals or reduced-price school meals. It should be noted that there are some school districts, because of the high percentage of families receiving SNAP or Medicaid, that provide free school lunches regardless of family income.

It will take a $4,000 pay raise—or 18.2 percent—for Sophia to recover from her SNAP benefit cliff, requiring her to earn $26,000. She will face another cliff at $36,000 in earnings when her daughter loses her reduced-price school meals. In this case, she will need a $12,500 pay raise—or 34.7 percent—to overcome her loss, requiring earnings of $48,500. Thereafter, she will gain from earning with the final benefit cliff of $52 at $54,000 when her sons WIC benefit disappears.

Chart 3: Net Income Tax Contribution Chart for Scenario 1
Basic benefits package without medical assistance & no disabilities

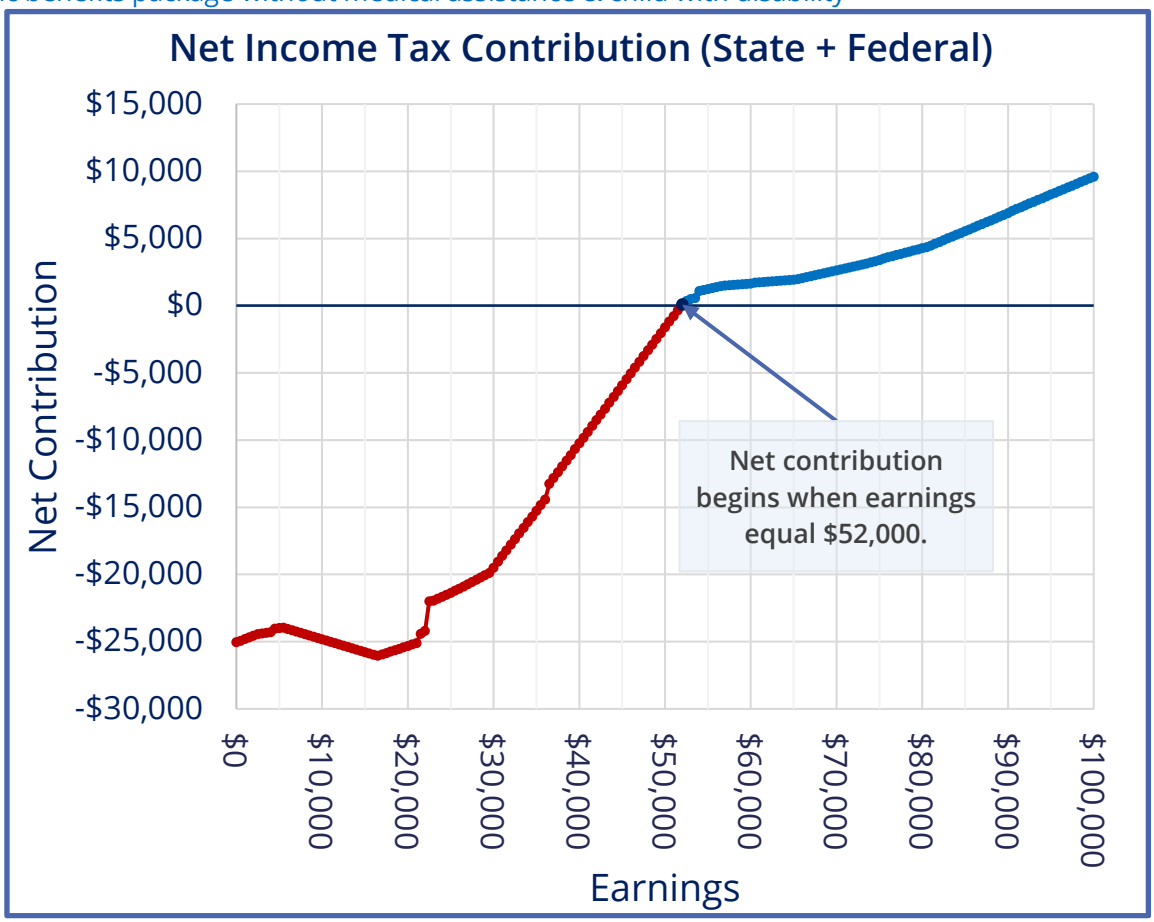


Assuming again that no one in Sophia's home has a disability (Scenario 1), as displayed in Chart 1, Sophia will not make a net contribution in income taxes until she earns $52,000, as shown in Chart 3. Net contribution is calculated simply by subtracting the safety-net benefits she receives from what she pays in both federal and state income taxes. When her net contribution is negative, then she receives more in benefits than what she pays in income taxes. If the net contribution is positive, it is the opposite—she pays more in income taxes than what she receives in benefits. For this scenario, the net cost to the government for her paying safety-net benefits will peak at $18,642 when Sophia earns $16,000. Although Sophia will not

make a net income tax contribution until she earns $52,000, she will have paid other taxes not considered in this calculation, such as contributing to North Carolina's sales and use tax that varies from 6.75 percent to 7.5 percent, depending on the county.[31]

The lowest earnings level when Sophia makes a positive Net Income Tax Contribution will be used to standardize the range of earnings when quantifying the disincentives for each scenario. It is a reasonable threshold because once a family makes a positive net contribution, then safety-net benefits simply reduce the family's income tax obligations, and the household is clearly no longer dependent on the government for income. This is more easily discerned with refundable tax credits when the credits simply reduce income tax liability resulting in an income tax payment as opposed to the taxpayer receiving a net payment out of government revenue.

Chart 4: Net Income Tax Contribution Chart for Scenario 2
Basic benefits package without medical assistance & child with disability



[31] North Carolina Department of Revenue, Sales and Use Tax Rates Effective October 1, 2022 webpage (accessed December 19, 2023): https://www.ncdor.gov/taxes-forms/sales-and-use-tax/sales-and-use-tax-rates-other-information/sales-and-use-tax-rates-effective-october-1-2022-0.

If we consider the case where Johnnie has a disability (Scenario 2), Sophia's net income tax contribution will also not occur until $52,000. But, of course, over the prospective range of earnings, the net cost to the government for the safety-net programs would be considerably more as displayed in Chart 4. The cost to the government peaks at $26,060 when Sophia earns $16,500.

For Sophia to overcome benefit cliffs, such as the $1,919 loss at $36,000 for the first scenario (no child with a disability—Chart 1), and as pointed out earlier, it is not as simple as earning an additional amount equivalent to the loss. The reason is influenced by the Earnings Loss Rate. Suppose for a moment that Sophia did earn $1,919 more to make up the loss. She would not be allowed to keep all of that $1,919. Her federal payroll taxes would siphon off 7.65 percent, and she would owe North Carolina income taxes and other state and local payroll taxes. Therefore, instead of recouping her loss, Sophia would indeed be worse off.

Table 1: Earnings Loss Rate Severity Scale Policy Guide

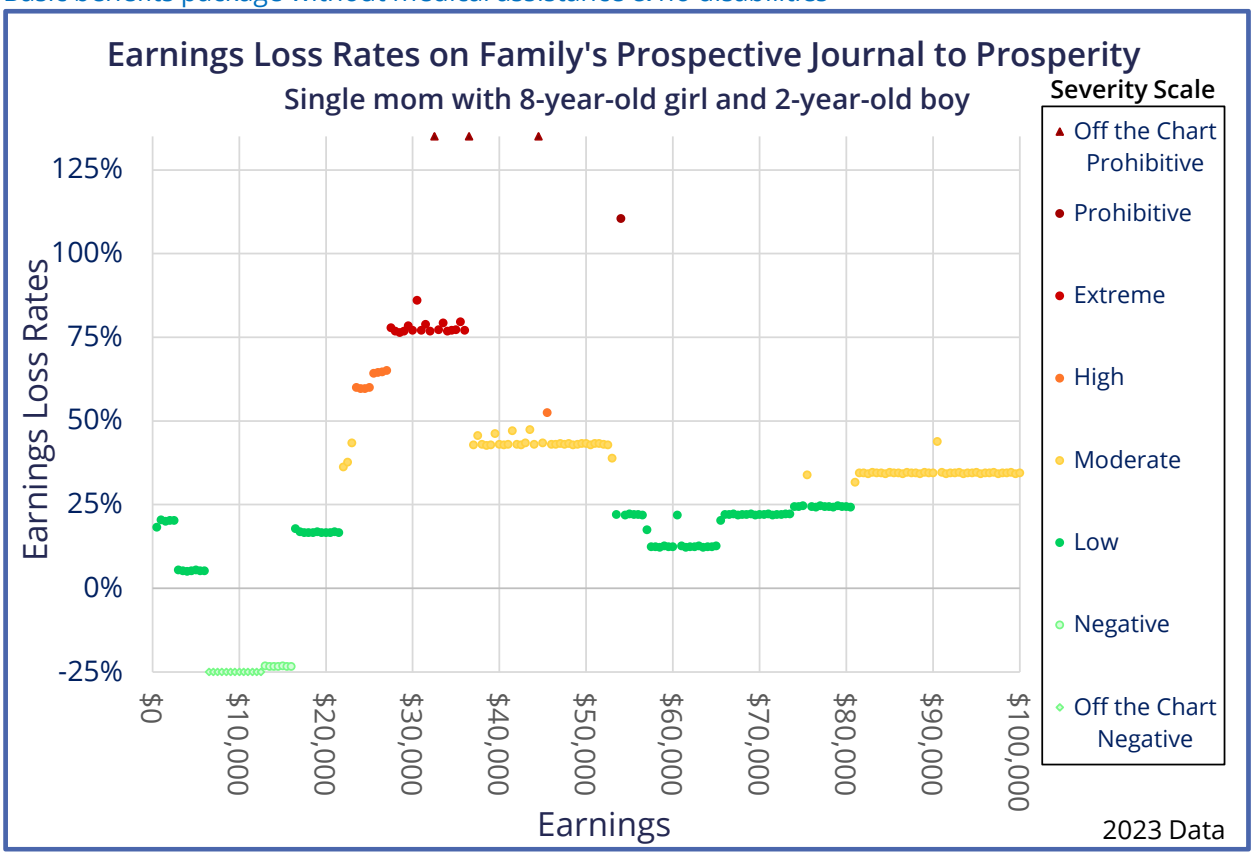
Severity	Range	Description
Prohibitive	100% < ELR	Benefit cliff: total disincentive, punitive, and very significant potential for behavioral change to avoid loss
Extreme	75% < ELR ≤ 100%	Extreme severity: little to no incentive for gaining more income, and significant potential for behavioral changes to avoid loss
High	50% < ELR ≤ 75%	High severity: high potential for behavioral changes to avoid loss
Moderate	25% < ELR ≤ 50%	Moderate severity: some moderate potential impact on behavior to avoid loss
Low	0% ≤ ELR ≤ 25%	Low severity: little to no potential impact on behavior to avoid loss
Negative	ELR < 0%	Negative severity: benefit gain exceeds gain in earnings, creating significant potential on behavior to earn more

Shown in Table 1, we have developed a severity scale policy guide to help understand the impact of Earnings Loss Rates. Simply replacing lost benefits with earned income would have an Earnings Loss Rate of 100 percent. This means that 100 percent of additional earnings are taken away by either taxes or lost benefits, and Sophia would be no better off from her additional earnings. If the rate is above 100 percent, then it is defined as a benefit cliff where she would lose more through taxation and lost benefits than what she would gain from the additional earnings. If Sophia gets to keep all of her additional earnings, her Earnings Loss Rate would be 0 percent. If the rate is a negative number, then she gains more in benefits than what she made with

the additional earnings. This can happen when she suddenly qualifies for a new safety-net benefit, or when safety-net benefits ramp up with increased earnings, such as the EITC, before reaching the maximum benefit amount.

Table 1 provides a scale that moves from prohibitive Earnings Loss Rates (above 100 percent) to negative Earnings Loss Rates. It splits the range between prohibitive and negative rates into four equal categories. Low Earnings Loss Rates, ranging from 0 percent to 25 percent, have little or no potential impact on behavior to avoid benefit losses. Each subsequent category, working upward, is associated with increasing behavioral changes to avoid the losses: moderate (over 25 percent to 50 percent), high (over 50 percent to 75 percent), and extreme (over 75 percent to 100 percent).[32]

Chart 5: Standard Earnings Loss Rate Chart for Scenario 1
Basic benefits package without medical assistance & no disabilities



The Earnings Loss Rate Severity Scale provides a way to evaluate Chart 1 and Chart 2 on how safety-net programs impact the incentive to work for additional money or

[32] Assigning a severity scale to Earnings Loss Rates is an area ripe for economic behavioral research. The scale we developed uses general economic reasoning for the descriptions of expected behavior. Economic behavioral research might be able to refine the categories and descriptions.

seek higher paying wages. The lower the rate, the higher the incentive for work and earning more money. Chart 5 shows the first example for Sophia's family when no one is disabled. Once Sophia earns $23,500 (shown on the horizontal axis), the total net earnings and benefits begin to flatten out up until the major benefit cliff at $36,500, a range of $9,000 in earnings. This range is seen in the chart beginning as orange dots indicating high Earnings Loss Rates where we would expect a high potential for behavioral changes to avoid the loss, as described in the severity scale policy guide (Table 1). The orange dots are followed by red dots, indicating extreme earnings loss rates based on the same severity scale policy guide. For this scenario, it would be a reasonable behavioral response for Sophia not to pursue higher pay once she hits the high Earnings Loss Rate zone at $23,500.

The dark-red dots in the upper portion of Chart 5 indicate prohibitive Earnings Loss Rates, or benefit cliffs, and the dark-red triangles indicate prohibitive rates that are off the chart, or rates greater than 125 percent. Because the GCO cliff model uses $500 increments in earnings, an Earnings Loss Rate of 125 percent would be a loss of $625 comprised of losing all of the $500 in additional earnings plus losing another $125. The chart has four earning intervals with benefit cliffs: a $484 off-the-chart loss at the $32,500 mostly due to losing LIHEAP, a $1,919 off-the-chart loss at $36,500 mostly due to losing SNAP, a $468 off-the-chart loss at $44,500 mostly due to losing reduced-price school meals, and a $52 loss at $54,000, mostly due to losing WIC food benefits. The second benefit cliff can be easily found in Chart 1, and the other three benefit cliffs can be also seen but are harder to spot. However, all four benefit cliffs are easily spotted in Chart 5 that plots the Earnings Loss Rates.

The Yellow dots on Chart 5 indicate moderate Earnings Loss Rates; green dots indicate low rates; and the light green dots indicate negative rates. The light green diamond shaped markers at the bottom of the chart indicate off-the-chart negative rates, which would be less than −25 percent.

Except for the off-the-chart markers at the bottom and top of the plot area, the higher the markers are on the chart, the higher the Earnings Loss Rates, and the lower the markers, the lower the rates.

Chart 6: Earnings Loss Rate Distribution Chart for Scenario 1
Basic benefits package without medical assistance & no disabilities

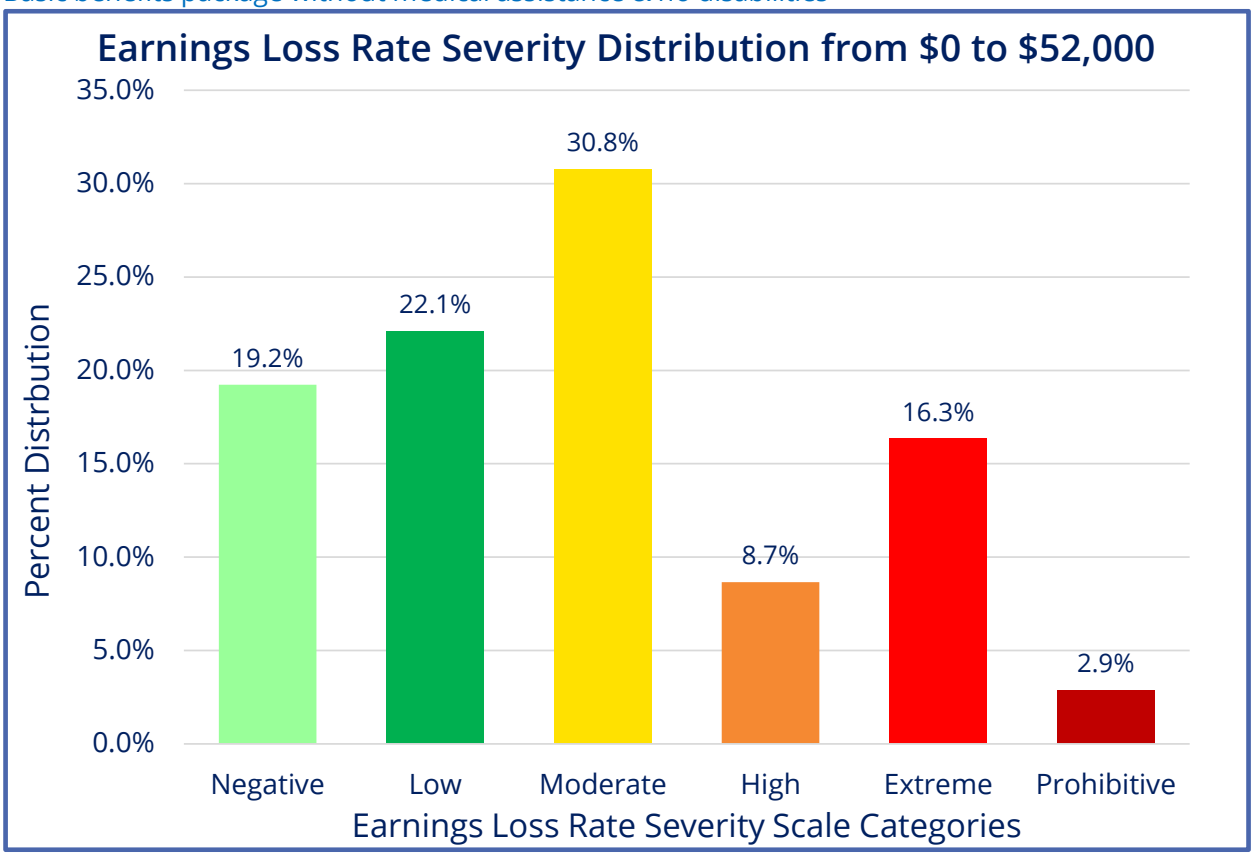
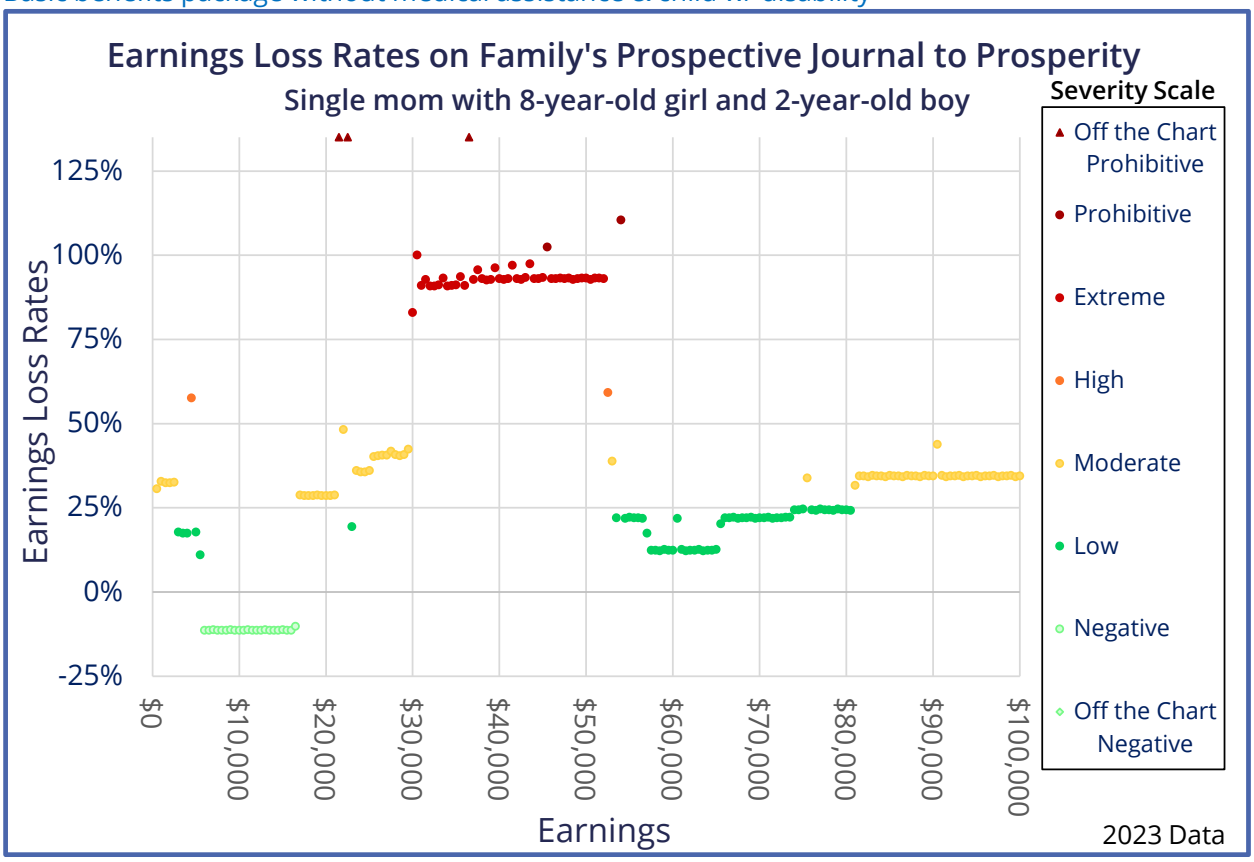


Chart 6 aggregates the distribution of Earnings Loss Rates for Sophia for Scenario 1 (no one with a disability). It shows the percentage of each category of Earnings Loss Rates from when Sophia has no income until when she makes a net contribution to income taxes at $52,000. Again, the modeling calculates earnings in $500 annual increments—approximately 24 cents per hour.

Ideally, the distribution should have no earning increments categorized as high, extreme, or prohibitive. For this first scenario, 19.2 percent of those increments are negative, 22.1 percent are low, and 30.8 percent are moderate. None of these should be problematic. However, 8.7 percent are high, 16.3 percent are extreme, and 2.9 percent are prohibitive, meaning benefit cliffs.

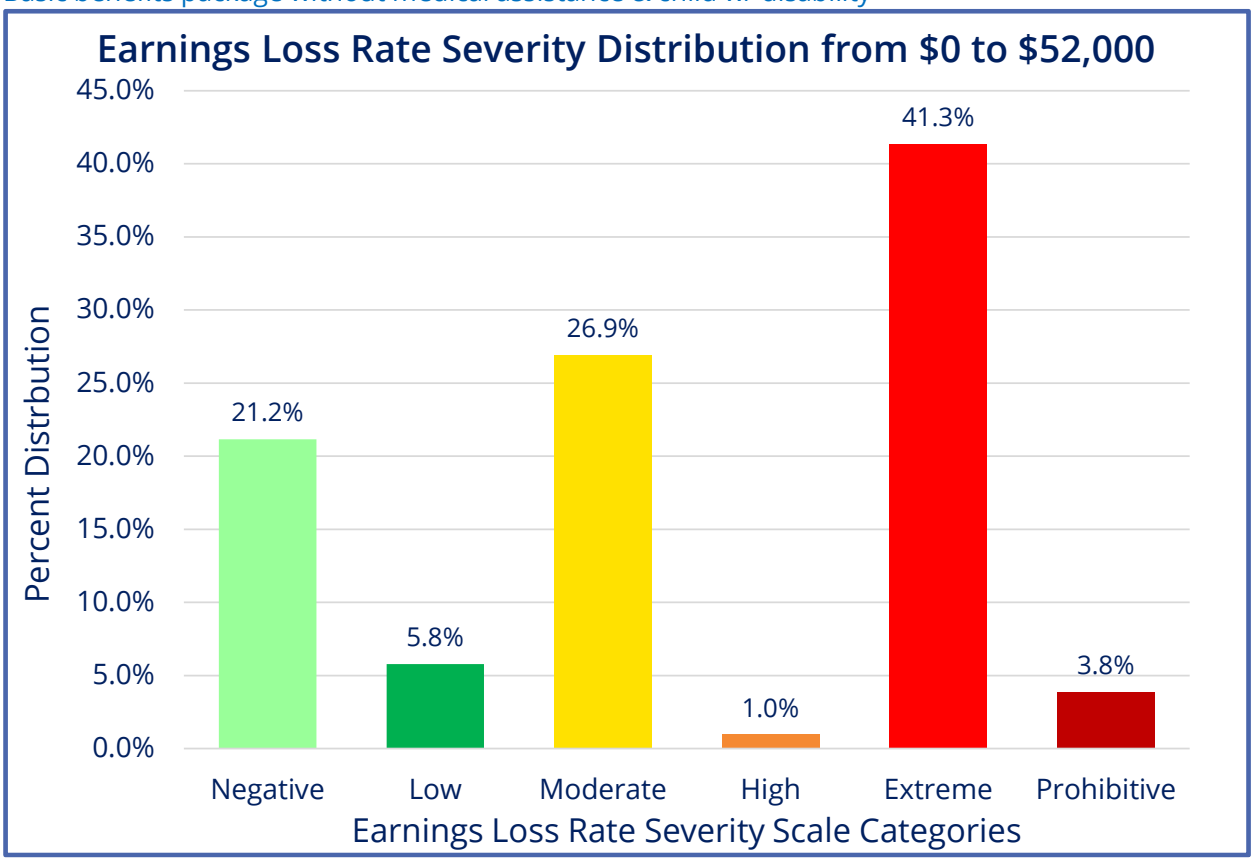
Chart 7: Standard Earnings Loss Rates Chart for Scenario 2
Basic benefits package without medical assistance & child w/ disability



If Johnnie has a disability (Scenario 2), it worsens incentives for Sophia to earn more money. Chart 7 displays the results, and, with two exceptions, all the markers from earnings of $22,000 to $52,000 show extreme Earnings Loss Rates, which is worse than those shown on Chart 5 (Scenario 1) both in the range and values of the extreme rates. The two exceptions within the range of extreme rates are both prohibitive rates, that is, benefits cliffs. Notably, one extreme rate within the range has a value of 100 percent, which means no gain and no loss from the additional earnings, which is, by definition almost but not quite a cliff. In addition, there are three more benefit cliffs—at $21,500 in earnings, $22,500 in earnings, and $54,000 in earnings, bringing the number to five benefit cliffs, which is more than Scenario 2.

In fact, 29 earning intervals that were moderate in Scenario 1 are extreme in Scenario 2, and 9 that were high are now extreme. This graphically quantifies and shows the disincentive deserts that Professor Craig Richardson warns about.

Chart 8: Earnings Loss Rate Distribution Chart for Scenario 2
Basic benefits package without medical assistance & child w/ disability



The worse disincentives may show more dramatically when comparing the distribution of the Earnings Loss Rate severity categories within the range of $0 to $52,000. Chart 8 (Scenario 2) shows how the distribution changed from Chart 6 (Scenario 1) where 16.3 percent of earnings intervals have extreme Earnings Loss Rate. With Scenario 2, 41.3 percent of the earnings intervals do. Of the remaining earning intervals in Chart 8, and in descending order, 26.9 percent have moderate rates, 21.1 percent have negative rates, 5.8 percent have low rates, 3.8 percent have prohibitive rates (meaning benefit cliffs), and 1.0 percent have high rates.

In summary, the changes in benefits, simply because Johnnie has a disability and no other changes in the assumptions, made a dramatic change in Sophia's prospective financial circumstances. Her incentives to earn more money begin to suffer from extreme earnings losses when she reaches $30,000 and extends to $52,000 with two benefit cliffs within the range. Therefore, it is not just the cliffs that are problematic. It is also the range of extreme disincentives.

Benefit Cliffs for Basic Package

The scenarios we just examined excluded medical assistance from the basic benefits package to allow us to focus on those safety-net programs before we add the complexities of medical assistance. Medical assistance completes the basic benefits package, which is difficult to model and requires close examination to understand its full impact. Medical assistance consists of Medicaid, CHIP, and the Premium Tax Credit applicable to individual health insurance obtained through the government-run Health Insurance Exchanges (HIX).

Modeling medical assistance is important not just because access to medical care is necessary for treating illness and overall health of individuals on safety-net programs, but also because eligible applicants cannot be denied program participation. Moreover, out of all safety-net program areas, medical assistance programs have, by far, the most participants and highest cost for government.[33]

Effective December 1, 2023, North Carolina expanded Medicaid to cover adults at 138 percent of FPL,[34] and this paper assumes full expansion for all in 2023. Also, on April 1, 2023, North Carolina terminated its Children Health Insurance Program, called Health Choices, and transferred all children that were in Health Choices to

[33] In State Fiscal Year 2023, the total expenditure, including federal and state funds, for Medicaid was $881 billion. However, this total includes Long-Term Support Services (LTSS) that inflate the number. For the prior year, roughly 25 percent were for LTSS, meaning the number is probably closer to $660 billion. No other safety-net program comes close to that lower total. For example, TANF and associated programs cost $21 billion. For FFY 2023, SNAP benefits plus the federal share of administrative costs were $113 billion. SSI was 63.3 billion in benefits in Calendar Year 2023, and $57 billion in Earned Income Tax Credit benefits were processed in Calendar Year 2023 for Tax Year 2022. Adding the costs of CHIP and PTC to total Medicaid spending brings the total for the category close to $1 Trillion. Medicaid and TANF numbers are from the National Association of State Budget Officers, *1991-2023 State Expenditure Report Data*: https://www.nasbo.org/reports-data/historical-data. CHIP and PTC estimates came from the Congressional Budget Office, Table 1-4: *The Budget and Economic Outlook: 2023 to 2033:* https://www.cbo.gov/publication/58946. Estimates of LTSS spending come from The Medicaid and CHIP Payment and Access Commission, Exhibit 17, Total Medicaid Benefit Spending by State and Category: https://www.macpac.gov/publication/total-medicaid-benefit-spending-by-state-and-category. SNAP data came from the U.S. Food and Nutrition Service, *SNAP Program Data*: https://www.fns.usda.gov/pd/supplemental-nutrition-assistance-program-snap. SSI data came from the Social Security Administration, SSI Monthly Statistics, December 2023, Table 2: https://www.ssa.gov/policy/docs/statcomps/ssi_monthly/index.html. Earned Income Tax Credit data came from the U.S. Internal Revenue Service: *2022 EITC Tax Returns by State Processed in 2023*: https://www.eitc.irs.gov/eitc-central/statistics-for-tax-returns-with-eitc/statistics-for-tax-returns-with-the-earned-income. Examples of participation numbers were already provided.

[34] North Carolina Department of Health and Human Services, *NCMedicaid for More People*, flyer, Division of Health Benefits flyer, last updated December 1, 2023.

Medicaid.[35] The paper assumes Medicaid for all children for the entire Calendar Year of 2023. Therefore, the scenarios presented here and for the remainder of the paper will not truly reflect Sophia's medical assistance situation as it occurred in Calendar Year 2023. However, it will represent her prospects for 2024 and beyond, which better enables us to understand her experience with the safety-net system as it currently stands, barring no other major changes to safety-net programs.

Medicaid calculations in our model are based on per member per month (PMPM) costs of the program, which reflects the true cost to the government for providing healthcare services to program participants, and those numbers often separate the costs of disabled individuals from nondisabled individuals, enabling the data to be more refined. In this regard, PMPMs should be equal to the capitation rates paid by the states to insurers for Medicaid managed care, but can also be calculated from data reports. These cost data are relatively easy to obtain and make a good basis for comparison.

However, there are certainly drawbacks to using PMPMs. Foremost among those drawbacks, which is well known within the policy world, is that Medicaid is notorious for poor health outcomes, and probably related to that, Medicaid participants can lack the same access to healthcare providers when compared to other healthcare programs, such as employer-based health insurance and Medicare, which is the health insurance program for retirees administered by the Social Security Administration and not to be confused with Medicaid, which is for disabled and disadvantaged low-income individuals.[36]

A factor offered as an explanation for Medicaid's poor outcomes is the low rates Medicaid pays to healthcare providers. Consequentially, many providers limit the number of Medicaid patients they serve, and there are those who do not take any Medicaid patients.[37] Most states, like North Carolina, have instituted managed care

[35] North Carolina Department of Health and Human Services, "NC Health Choice Move to Medicaid," Division of Health Benefits informational page: https://medicaid.ncdhhs.gov/nc-health-choice-move-medicaid, last accessed January 13, 2024.

[36] There has been much written about the poor outcomes of Medicaid, and lively debate ensued after several academic studies showed worse outcomes for those on Medicaid as opposed to having no health insurance at all. Avik Roy's writings provide a good introduction to the discussion, including his article "Why Medicaid is a Humanitarian Catastrophe," *The Apothecary, Forbes*, March 2, 2011: https://www.forbes.com/sites/theapothecary/2011/03/02/why-medicaid-is-a-humanitarian-catastrophe.

[37] In 2020, the American Medical Association published a brief summary of research showing the relationship between Medicaid payments and access to care. *Summary of Research: Medicaid Physician*

for its Medicaid program that improves access to services to a limited extent, but managed care networks control costs by contracting with a network of providers that limits choices and options for program participants.[38]

What this means for the modeling is that the cost of Medicaid is understated, and it does not show how Medicaid lacks the same quality of care and access as other health insurance coverage. Thus, there are both good and bad potential impacts for Medicaid participants moving off the program. The good impact is that individuals and families moving off Medicaid to employer-based health coverage or individual coverage through HIX, if they are fortunate enough to obtain that coverage, will likely see an improvement in access to care and healthcare outcomes. However, on the flip side, out-of-pocket costs will go up and not all individuals will be able to participate in employer-based coverage or attain coverage on their own.

The cost of employer-based healthcare has been rising, and to afford offering coverage to their employees, employers have been increasing out-of-pocket costs for their employees. For low-wage workers, this can be a burden, and some have opted for no coverage, or they might opt to decline pay raises so they can still receive Medicaid. According to the KFF (formerly called as the Kaiser Family Foundation) annual survey of employer health benefits for 2023, 21 percent of employees were ineligible for their employer's health benefits; 25 percent of those eligible did not take up the benefits offered to them, and workers who did take up their employer's plan paid on average 17 percent of the cost of the premium for single coverage plan, or $117 per month, and 29 percent for family coverage, or $548 per month.[39]

With our benefits cliffs modeling, Premium Tax Credits could have been shown as part of refundable tax credits, but because of its relationship to health insurance, our modeling links them instead to medical assistance. Like Medicaid, the health insurance exchanges and the implementation of the benefits that come with them have their own set of problems. At the onset, insurance offered through the

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Payment and Access to Care, Advocacy Resource Center, American Medical Association, 2020: https://www.ama-assn.org/system/files/2020-10/research-summary-medicaid-physician-payment.pdf.

[38] Centers for Medicare & Medicaid Services, "Managed Care State Profiles and State Program Features," Medicaid.gov webpage: https://www.medicaid.gov/medicaid/managed-care/profiles-program-features/index.html.

[39] Gary Claxton, Matthew Rae, Aubrey Winger, and Emma Wager, Employer Health Benefits: 2023 Annual Survey, KFF, pp. 66, 70, and 88: https://files.kff.org/attachment/Employer-Health-Benefits-Survey-2023-Annual-Survey.pdf .

exchanges has drastically increased in price from what they were prior to the implementation of ACA, with premiums more than doubling in some cases, complicated by coverage plans available on the market prior to implementation becoming illegal to be offered on the exchanges and many insurers abandoning participation in the government-run exchanges.[40]

For Sophia, the Premium Tax Credit is only an option when she or her children no longer qualify for Medicaid, and she is not offered coverage from her employer that is deemed adequate and affordable, defined by government regulations as having an actuarial value—a measure of how generous a plan is in providing benefits—less than 60 percent and requiring premium cost sharing to be below a set percentage based on a sliding scale. Otherwise, she may purchase coverage through her local government-run health insurance exchange and receive the tax credit to help with the cost of the premium.[41]

Although the Affordable Care Act required insurers to lower out-of-pocket costs, these were dependent on Congressional appropriations to insurers that did not occur, and a legal battle ensued. Federal law prohibits insurers from requiring premium contributions for those eligible starting 100 percent of FPL to 150 percent of FPL. Because North Carolina expanded Medicaid per the ACA, the new starting point for coverage is 138 percent of FPL for North Carolina, requiring instead adult applicants to get Medicaid.[42]

Thereafter, starting at 151 percent of FPL, premium contributions are mandated on a sliding scale with benchmarks of 2 percent of modified adjusted gross income (MAGI) at 200 percent of the of FPL, 6 percent of MAGI at 300 percent of FPL, and 8.5 percent of MAGI at 400 percent of FPL. The contributions are implemented by reducing the value of the Premium Tax Credit that leaves a premium balance to be paid by the tax filer.[43]

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[40] The problem with the initial implementation has been extensively researched and documented, including numerous Congressional hearings.

[41] Bernadette Fernandez, *Health Insurance Premium Tax Credit and Cost-Sharing Reductions*: https://crsreports.congress.gov/product/pdf/R/R44425.

[42] Applicants for coverage through HIX who are eligible for Medicaid are diverted to Medicaid. See, for example, the answer to "What if I'm Eligible for Medicaid, But Want to Buy an Insurance Plan in the Marketplace Instead?" on Eligibility.com: https://eligibility.com/medicaid/what-if-im-eligible-for-medicaid-but-want-to-buy-an-insurance-plan-in-the-marketplace-instead, accessed February 16, 2024.

[43] *Idem*

However, premium contributions are just one aspect of cost sharing. Plans can also have deductibles that must be met before insurance claims are paid, coinsurance requirements to pay a percentage of the medical expenses, and copayments for a fixed amount when services are rendered. The U.S. Department of Health & Human Services issued regulations for the Silver Plans—the basis for the Premium Tax Credits—to lower out-of-pocket costs for consumers at the lower income range of eligibility, which incidentally caused premium increases. These subsidies to insurers target Silver Plans offered on HIX for families with incomes below 250 percent of the prior year's FPL. Silver Plans have a 70 percent actuarial value, but the subsides increase those values as follows: an actuarial value of 94 percent for families with incomes up to 150 percent of FPL; 87 percent for over 150 percent to 200 percent; and 94 percent for over 200 percent to 250 percent.[44]

Table 2: Affordable Care Act Health Insurance Exchanges Cost-Sharing Limits

Federal Poverty Level using Modified Adjusted Gross Income*	2023 Annual Out-of-Pocket Cost Limit	
	Individual Coverage	Family Coverage
100% to 138%	Ineligible for subsidies due to availability of Medicaid enrollment for North Carolinians	
>138% to 200%	$3,000	$6,000
>200% to 250%	$7,250	$14,500
>250% to 400%	$9,100	$18,200

* Percentages are fixed, but federal law bases the income levels on the prior year.

In short, there are still out-of-pocket costs, even for families on the lower end of income. Table 2 summarizes the limits on out-of-pocket costs.[45] Even with these limits, these costs can still be burdensome when exiting Medicaid, especially if the family has a child with a disability who usually requires more medical services. The

[44] Idem.

[45] Idem, and "Premium Adjustment Percentage, Maximum Annual Limitation on Cost Sharing, Reduced Maximum Annual Limitation on Cost Sharing, and Required Contribution Percentage for the 2023 Benefit Yea," Centers for Medicare & Medicaid Services Memorandum, December 28, 2021: https://www.cms.gov/files/document/2023-papi-parameters-guidance-v4-final-12-27-21-508.pdf; Out-of-pocket maximum/limit webpage, HealthCare.gov, U.S. Centers for Medicare & Medicaid Services: https://www.healthcare.gov/glossary/out-of-pocket-maximum-limit, accessed January 24, 2024.

federal poverty levels in Table 2 are set by HHS,[46] and the prior year's FPL are used for purposes of the Premium Tax Credit.[47] For a family of three in the 48 contiguous states, 100 percent of the prior year's FPL was $23,030 in 2023, and 138 percent was $31,781. Within this range, the family must receive Medicaid in North Carolina. The next cutoff is 150 percent of FPL, which was $34,545 in 2023, when it is required for the individual or family to begin making contributions to the cost of the premium. From 138 percent of FPL to 200 percent, which was $46,060 in 2023, the out-of-pocket cost limits were $3,000 for an individual plan and $6,000 for a family plan. From 200 percent to 250 percent ($57,575), the out-of-pocket cost limits were $7,250 for an individual plan and $14,500 for a family plan. From 250 percent to 400 percent ($92,120), the limits were $9,100 for an individual plan and $18,200 for a family plan.

Finally, for families like Sophia's, there are really limited options when purchasing coverage through HIX other than purchasing a Silver Plan. Purchasing a less generous plan, such as a Bronze Plan, would enable the Premium Tax Credit to cover more of the cost of the premium, but out-of-pocket costs will be higher. Purchasing a more generous plan, such as a Gold Plan or Platinum Plan, will have higher premium costs not covered by the tax credit, and may not even have lower out-of-pocket costs than a Silver Plan if the family is eligible for subsidies that increase the actuarial value or Silver Plans.[48]

[46] Office of the Assistant Secretary for Planning and Evaluation, Prior HHS Poverty Guidelines and Federal Register References: https://aspe.hhs.gov/topics/poverty-economic-mobility/poverty-guidelines/prior-hhs-poverty-guidelines-federal-register-references, accessed January 25, 2024.
[47] 26 U.S. Code § 36B.
[48] Bernadette Fernandez, *Health Insurance Premium Tax Credit and Cost-Sharing Reductions*: https://crsreports.congress.gov/product/pdf/R/R44425.

Chart 9: Standard Cliff Chart for Scenario 3
Basic benefits package & no disabilities

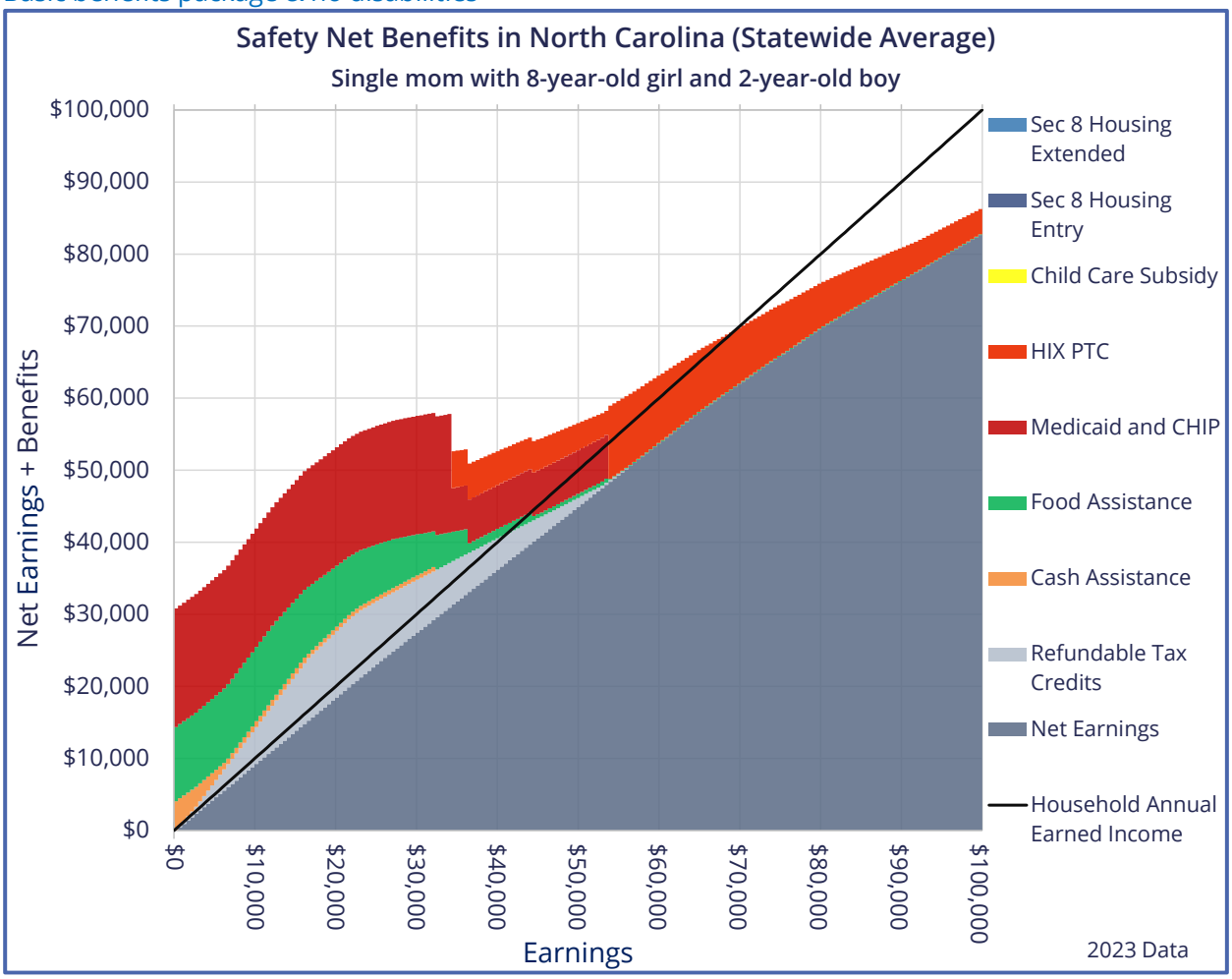


Chart 9 shows the benefit cliff situation for Scenario 2—the basic benefits package without a child with a disability. Medicaid benefits are displayed as the dark-red-shaded area, labeled as Medicaid and CHIP, but in the case of North Carolina, all CHIP participants are now served by Medicaid. The Health Insurance Exchange Premium Tax Credit (HIX PTC) is shown as the light-red-shaded area. Sophia's peak cliff now occurs at $32,000 in earnings, requiring a pay raise of $21,500 or an increase of 67 percent, to overcome the loss.

Adding medical assistance impacts Sophia's prospects by creating another major cliff in addition to the large cliff of $1,919 at $36,500 in earnings due to the loss of SNAP benefits, and the minor cliffs from the loss of LIHEAP, reduced-price school meals, and WIC food benefits. At earnings of $34,500, she would lose, just for herself and not her children, her Medicaid coverage, which has a value of $10,391, which calculates to a cliff of $4,983, which will be explained shortly. If Sophia were offered

a generous health plan by her employer, it could smooth over the loss. However, it Is much more likely that the employer plan would have premium cost sharing, deductibles, coinsurance, or copayments, or all those components, which could make it difficult for Sophia to participate in the plan.

If her employer's plan is deemed to be inadequate or unaffordable by regulations, or there is not an employer plan available to her, Sophia could try to pick up coverage from the government-run HIX and receive the Premium Tax Credit, which she could receive monthly to help offset the cost of the premium. This is the basis for the cliff of $10,391, which is the difference between the PMPM cost of Medicaid and the value of the Premium Tax Credit for which she would qualify.

Because of the structure of the regulations, she will choose a Silver Plan that has a $3,000 limit on out-of-pocket expenses, but she cannot be charged to contribute to the cost of the premium as of yet. With earnings of only $34,500, out-of-pocket expenses of $3,000 could be significant for her, and whether she reaches that limit will depend on her medical needs.

By earning just $275 more, taking her earnings to $34,775, which is 151 percent of the prior year's FPL, Sophia will be required to begin contributing to the cost of the premium, which, in this case, is only $14. Her contributions will increase with each percent of FPL as her income increases, based on a sliding scale. If her prospective income hits $46,060, her out-of-pocket limit jumps to $7,250, which includes a required $921 contribution to the cost of her premium.

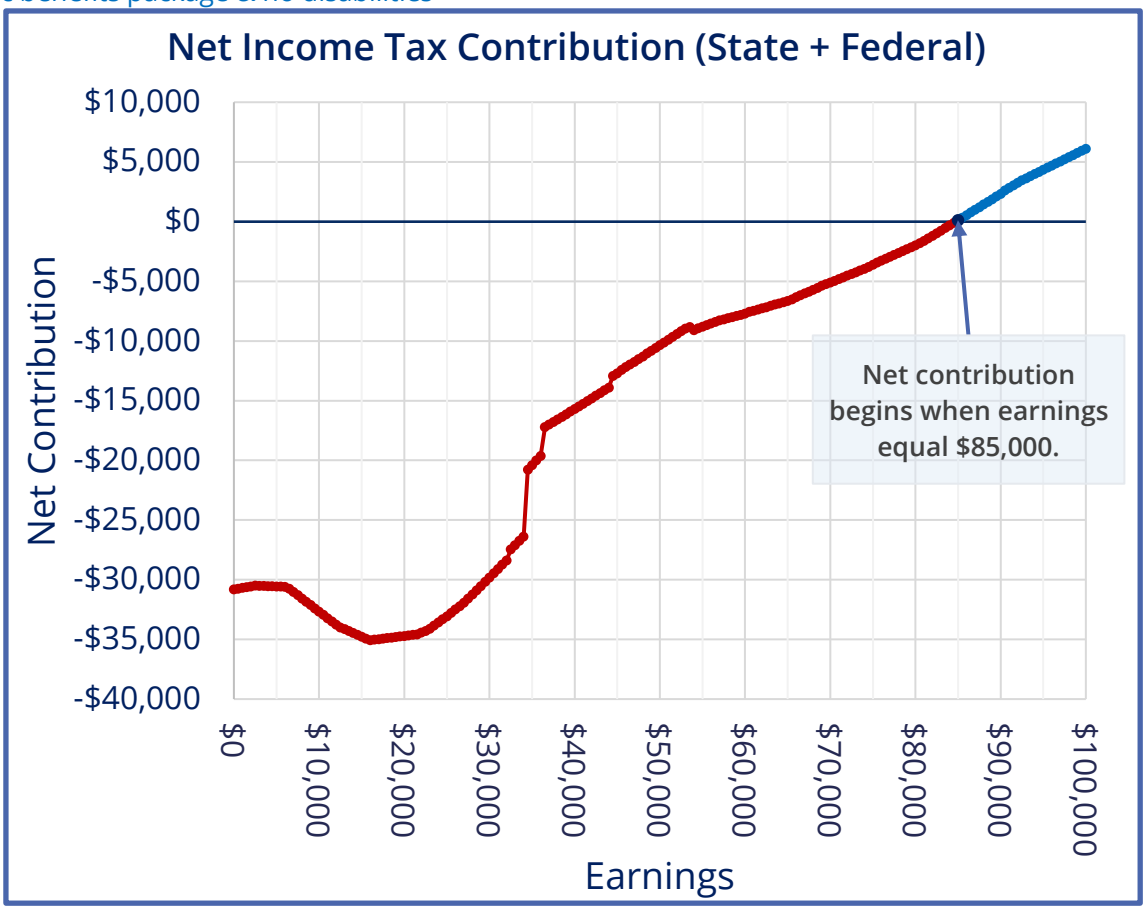
When her children come off Medicaid at $54,000, it shows up in Chart 9 as a slight increase in benefits, but this is misleading due to a limitation of the methodology used to calculate health benefits. The GCO cliff model itself shows the value or cost of the benefits, but it does not attempt to show various out-of-pocket costs that Sophia might incur. In this instance, the Medicaid PMPM cost for the children is less than the additional amount she would receive for the Premium Tax Credit. However, her out-of-pocket limit doubles to $14,500, because she would need a family plan, which includes a required contribution of $1,814 to the cost of the premium.

With earnings of $57,575, her out-of-pocket limit increases to $18,200, including a required premium contribution of $2,303. For Tax Year 2023 through 2025, Congress suspended the upper limit of eligibility for the Premium Tax Credit, which was 400 percent of the prior year's FPL, or $92,120 in 2023.[49] Sophia will be required to pay

[49] P.L.117-169, August 16, 2022.

8.5 percent of her MAGI until she will pay the full amount of the premium, which will happen when her income reaches $141,232.[50]

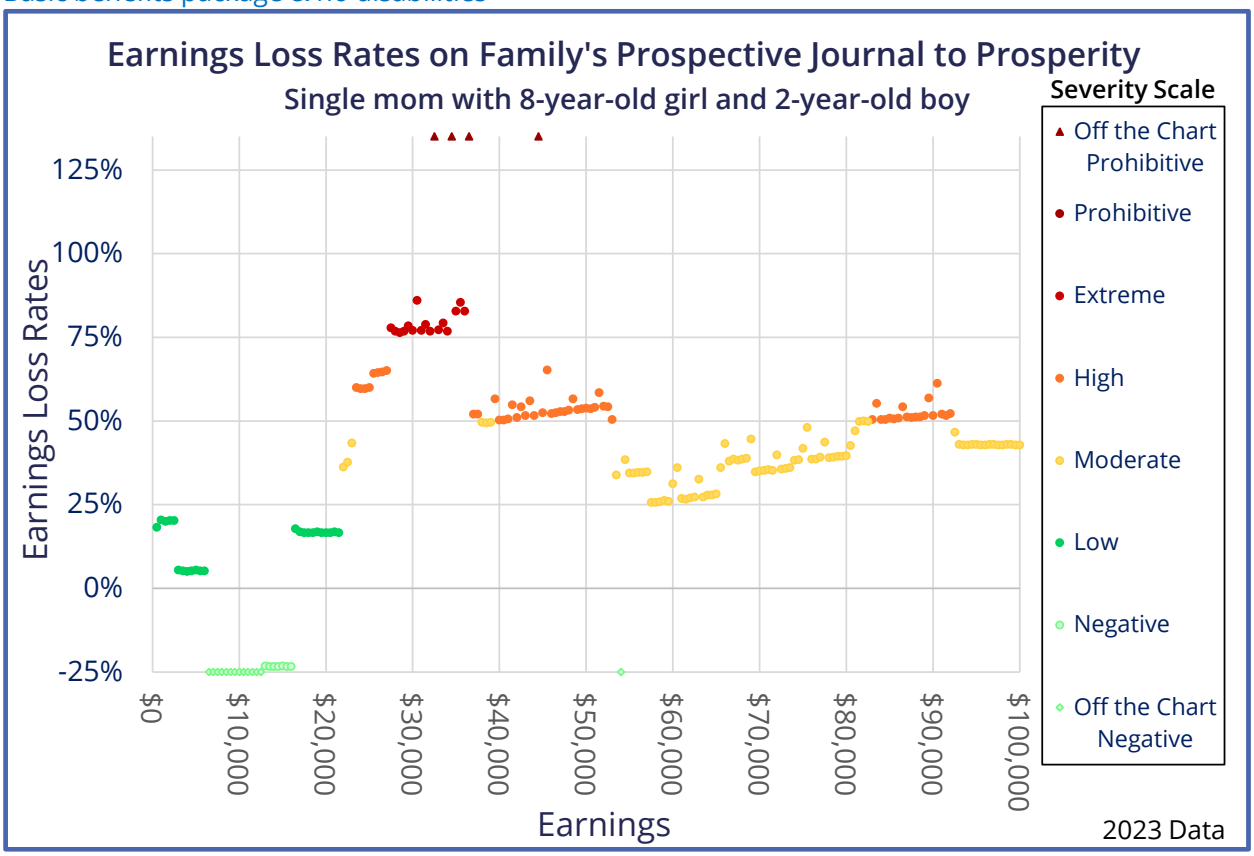
Chart 10: Net Income Tax Contribution Chart for Scenario 3
Basic benefits package & no disabilities



The addition of medical assistance to the picture also impacts the point when Sophia will make a net contribution to income taxes. Chart 10 shows that the contribution would begin at $85,000, instead of at $52,000, which is a function of the size of the Premium Tax Credit as well as the extent PTC reaches up the income scale. The net cost to the government peaks at $35,087 when Sophia earns $16,000.

[50] The calculation of when Sophia will no longer be eligible for the Premium Tax Credit is based on the Second Lowest Price Silver Plan, which had a statewide average of $12,005 for North Caroline in 2023, and her required premium contribution of 8.5 percent of MAGI.

Chart 11: Standard Earnings Loss Rates Chart for Scenario 3
Basic benefits package & no disabilities



The disincentives for earning more money for Scenario 3 (basic benefits package with no disabilities) are worse than for Scenario 1 (basic benefits package without medical assistance and with no disabilities). Chart 11 shows how the Earnings Loss Rates shift upward from Chart 5 from earnings of $34,500 (when Sophia loses Medicaid) until for the remainder of the chart that ends at earnings of $100,000. The single exception is when the children come off Medicaid at $54,000, which shows a decrease in the Earnings Loss Rate. However, as already shown, this decrease is misleading due to out-of-pocket medical expenses, including premium cost sharing, not shown in the modeling, making it a hidden benefit cliff. Adding medical assistance has made 53 earnings intervals that had low Earnings Loss Rates in Scenario 1 to have moderate rates in Scenario 3; and 47 intervals that were moderate that are now high, and there is a new benefit cliff and a hidden benefit cliff. As a result, the Earnings Loss Rates are generally higher, indicating worse disincentives for earning more money.

Chart 12: Earnings Loss Rate Severity Distribution Chart for Scenario 3
Basic benefits package & no disabilities

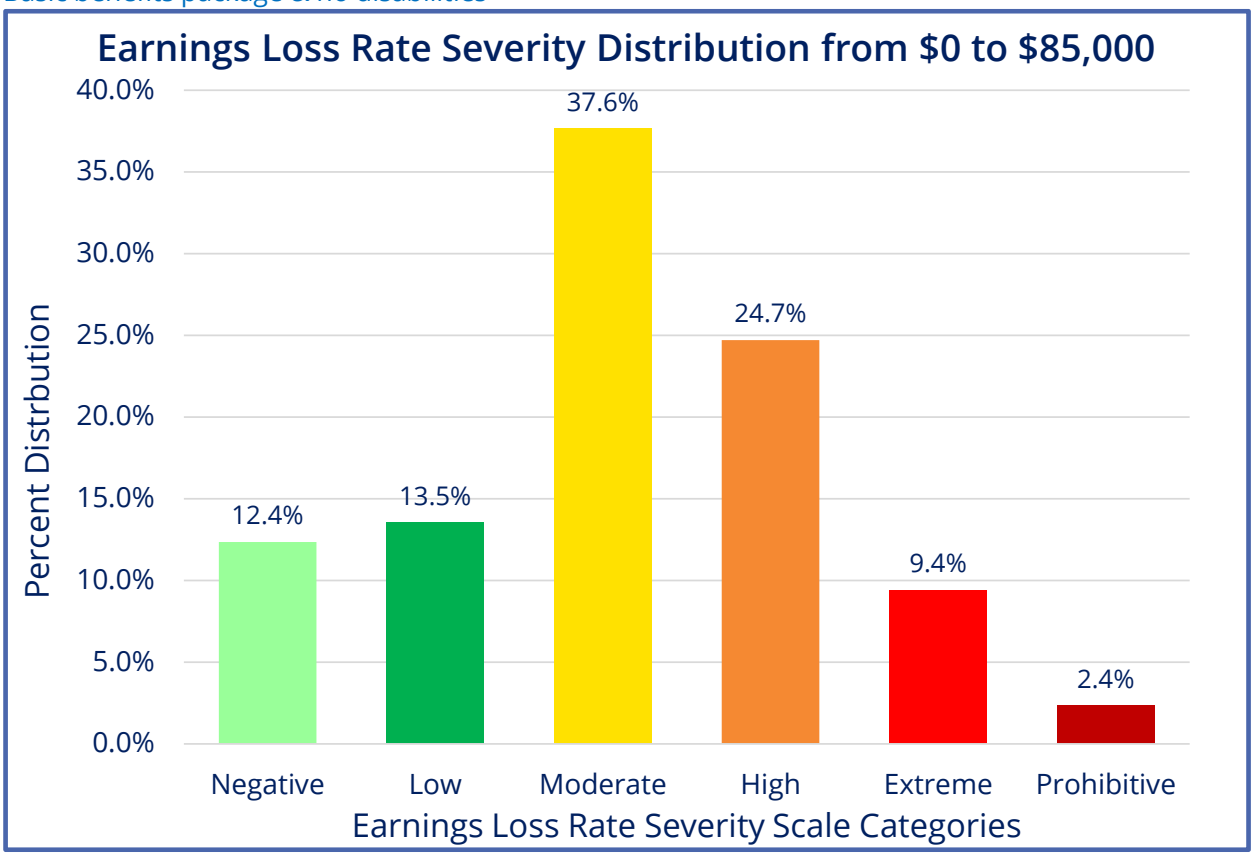
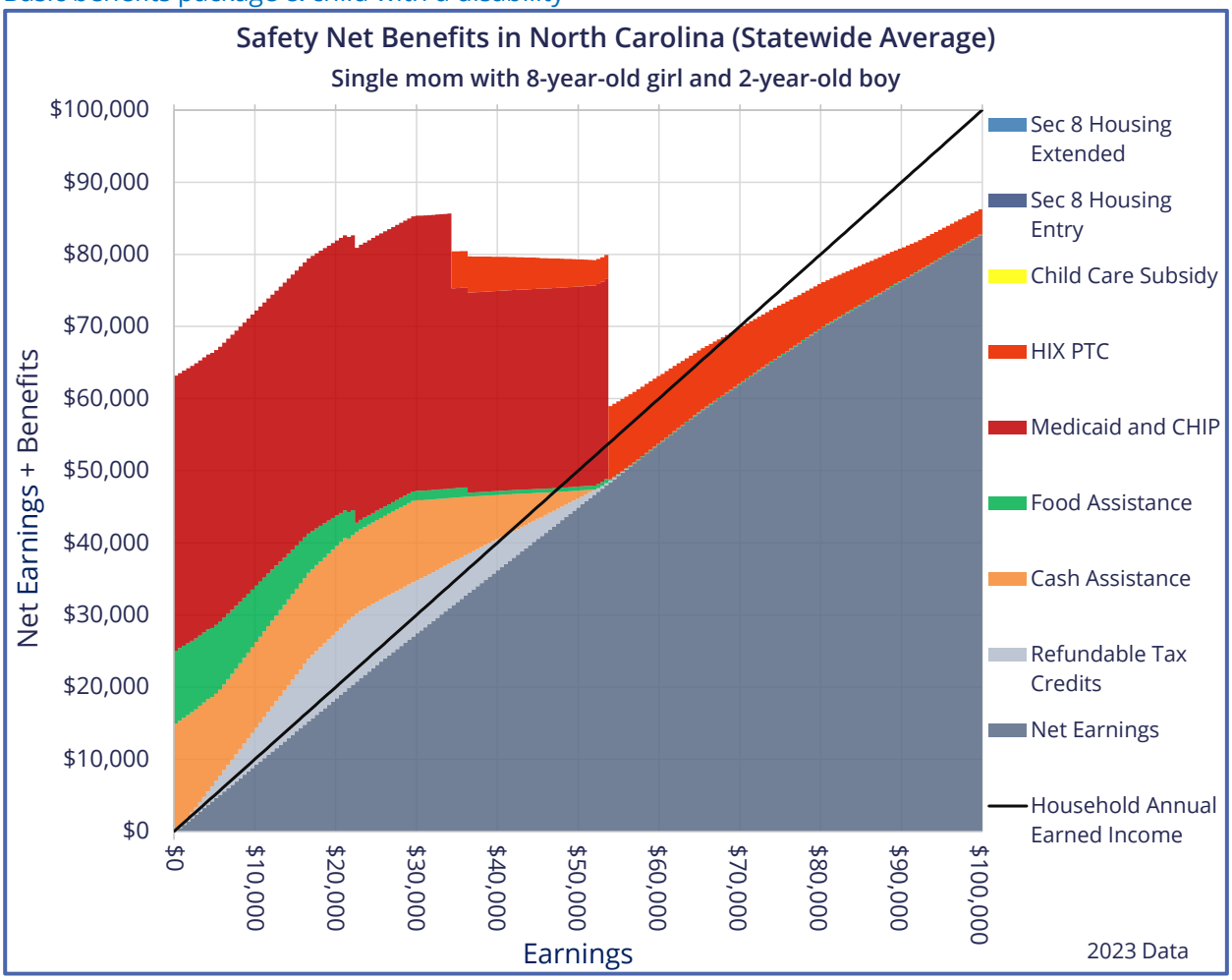


Chart 12 shows the revised distribution of the severity of Earnings Loss Rates. Moderate Earnings Loss Rates represent 37.6 percent of the earnings intervals, followed by high rates at 24.7 percent, low at 13.5 percent, negative at 12.4 percent, extreme at 9.4 percent, and prohibitive at 2.4 percent. However, the scale of the range has changed from the range of $0 to $52,000 without medical assistance to a range of $0 to $85,000. The upper end of the range is determined by the earnings level when Sophia makes a net contribution to income taxes.

Chart 13: Standard Cliff Chart for Scenario 4
Basic benefits package & child with a disability



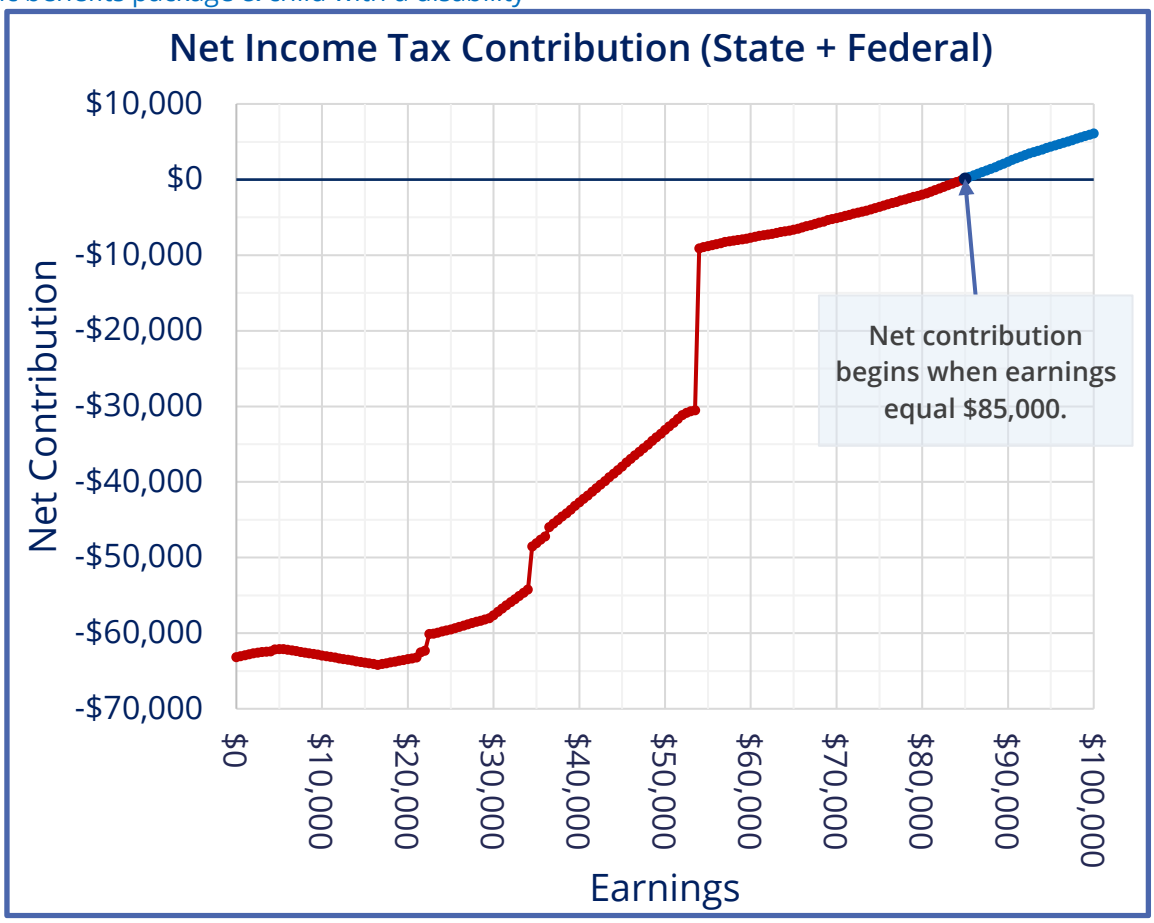
Next, we consider the case of the basic benefits package when Johnnie has a disability (Scenario 4). The cost of Medicaid changes dramatically from Scenario 3 (no child with a disability). As expected, because of the need for greater care, the PMPM cost of Medicaid for a disabled person is more, which is reflected by the greater Medicaid costs in the dark-red-shaded areas in Chart 13. Sophia's peak at $36,000, and she would be required to earn $53,646, or an increase of 158%, to make up for the loss.

All the difficulties in modeling medical assistance explained in the beginning of this Section, and elaborated on with Scenario 3, hold true for Scenario 4. Sophia will experience out-of-pocket medical expenses coming off Medicaid, even if she purchases coverage through HIX and receives the Premium Tax Credit. Only now, when her children exit Medicaid, her out-of-pocket medical expenses will in all likelihood be much higher because of having a child with a disability. The modeling

clearly shows this in Chart 13, which show up as the steep benefits cliff when Sophia's prospective earnings reaches $54,000.

Moreover, all the problems explained with Scenario 2 (basic benefits package without medical assistance with a child with a disability) as shown in Chart 2 still remain. The long stretch of benefit cliffs and disincentives persist in Scenario 4 (Chart 13), including the elongated disincentive deserts from the poorly designed tapering of SSI shown in the orange-shaded areas as part of cash assistance.

Chart 14: Net Income Tax Contribution Chart for Scenario 4
Basic benefits package & child with a disability



For the basic benefits package with a child with a disability (Scenario 4), Sophia will not make a net contribution to income taxes until she has earnings of $85,000, as shown in Chart 14. This earnings level is the same as the Scenario 3 when no one in the household was disabled. The net cost to the government peaks at $64,193 when Sophia earns $16,500. The higher cost is due to the higher PMPM Medicaid cost for a child with a disability.

Chart 15: Standard Earnings Loss Rates Chart for Scenario 4
Basic benefits package & child with a disability

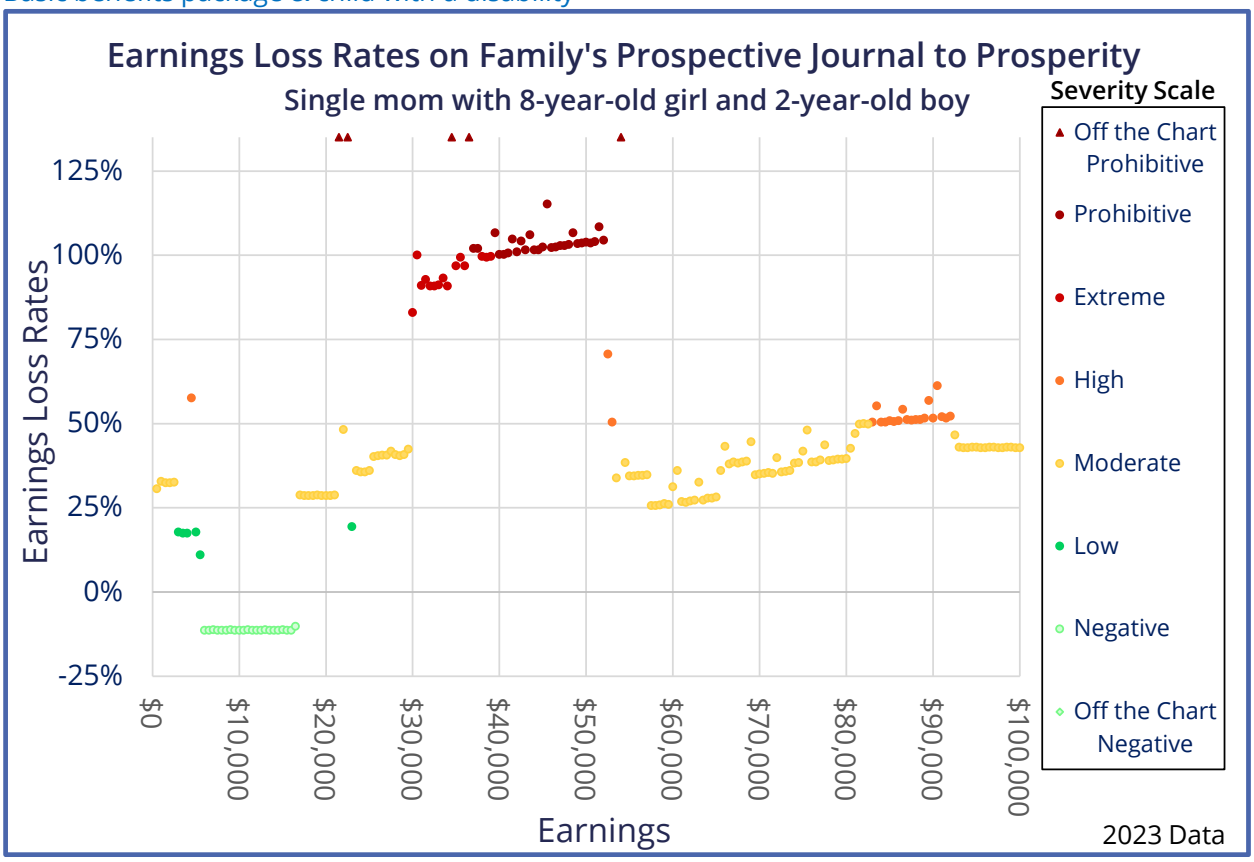


Chart 15 shows the severity of the Earnings Loss Rates for the basic benefits package when one child has a disability, and the results are worse than any of the scenarios shown thus far. Compared to Chart 7 (Scenario 2 with a child with a disability without medical assistance), 132 earnings intervals have worse earnings loss rates and none are better: 53 earning intervals that had low severity Earnings Loss Rates are now moderate, 20 moderate intervals become high, and 28 extreme intervals become prohibitive. There are no earnings intervals with a negative, low, or moderate severity Earnings Loss Rate from $30,000 to $53,000. Nearly two thirds of the intervals are prohibitive (benefit cliffs), followed by almost one third with extreme Earnings Loss Rates. The remaining two intervals have high Earnings Loss Rates.

There is literally no reason for Sophia to earn more than $29,500 because of the series of benefit cliffs mixed in with extreme Earnings Loss Rates she will suffer with additional earnings.

Chart 16: Earnings Loss Rate Severity Distribution Chart for Scenario 4
Basic benefits package & child with a disability

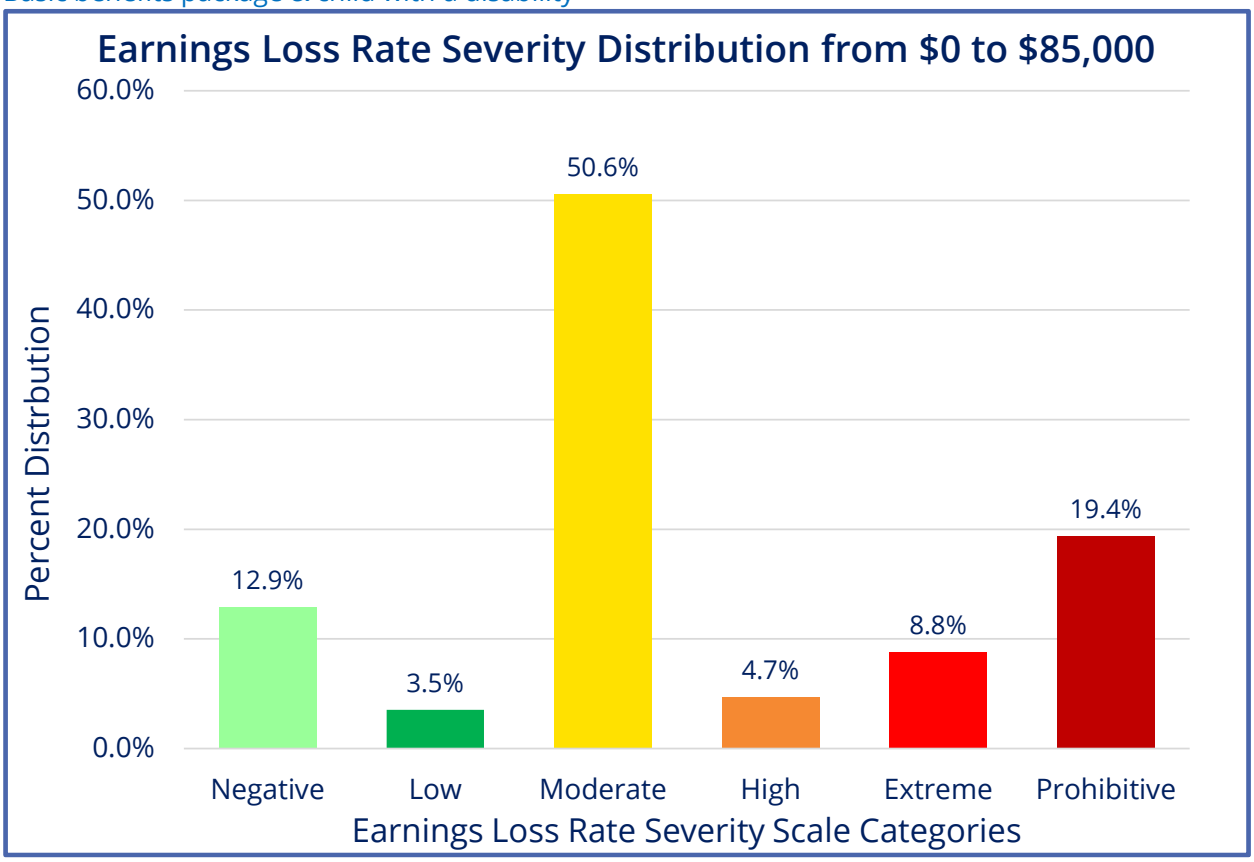
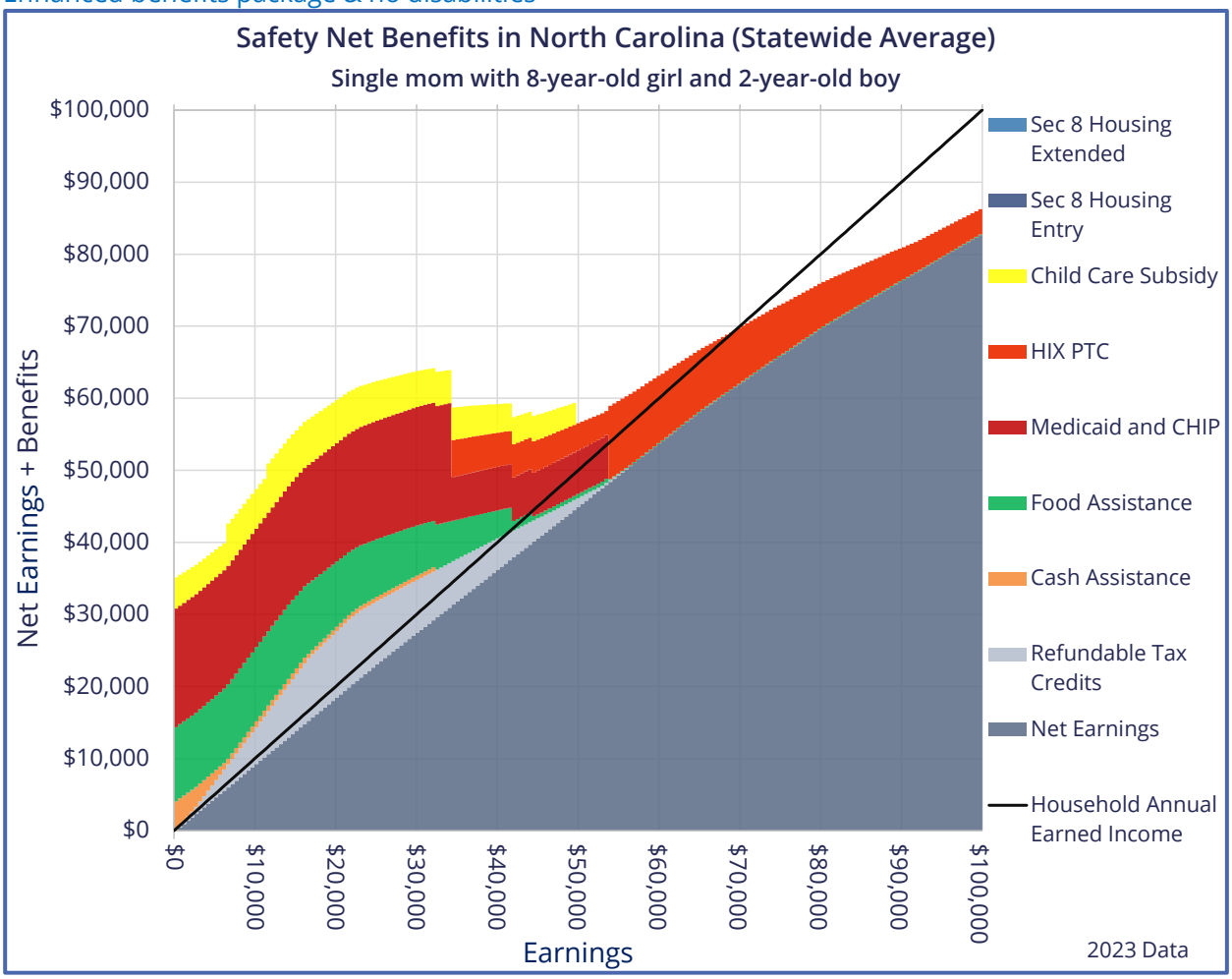


Chart 16 gives the distribution of the severity classifications of the Earnings Loss Rates. Over the range up to $85,000 (when Sophia will make a net contribution to income taxes), 50.5 percent of earnings intervals have moderate Earnings Loss Rates, followed by 19.4 percent that are prohibitive, 12.9 percent that are negative, 8.8 percent are high, 4.7 percent are extreme, and just 3.5 percent are low, which is the ideal category.

Benefit Cliffs for Enhanced Benefits Package

For the next two scenarios, we will add subsidized child care to the basic benefits package for the enhanced benefits package. The assumption used for this scenario is that Sophia would choose to place her children in a One Star child care center based on North Carolina's Subsidized Child Care program.

Chart 17: Standard Cliff Chart for Scenario 5
Enhanced benefits package & no disabilities



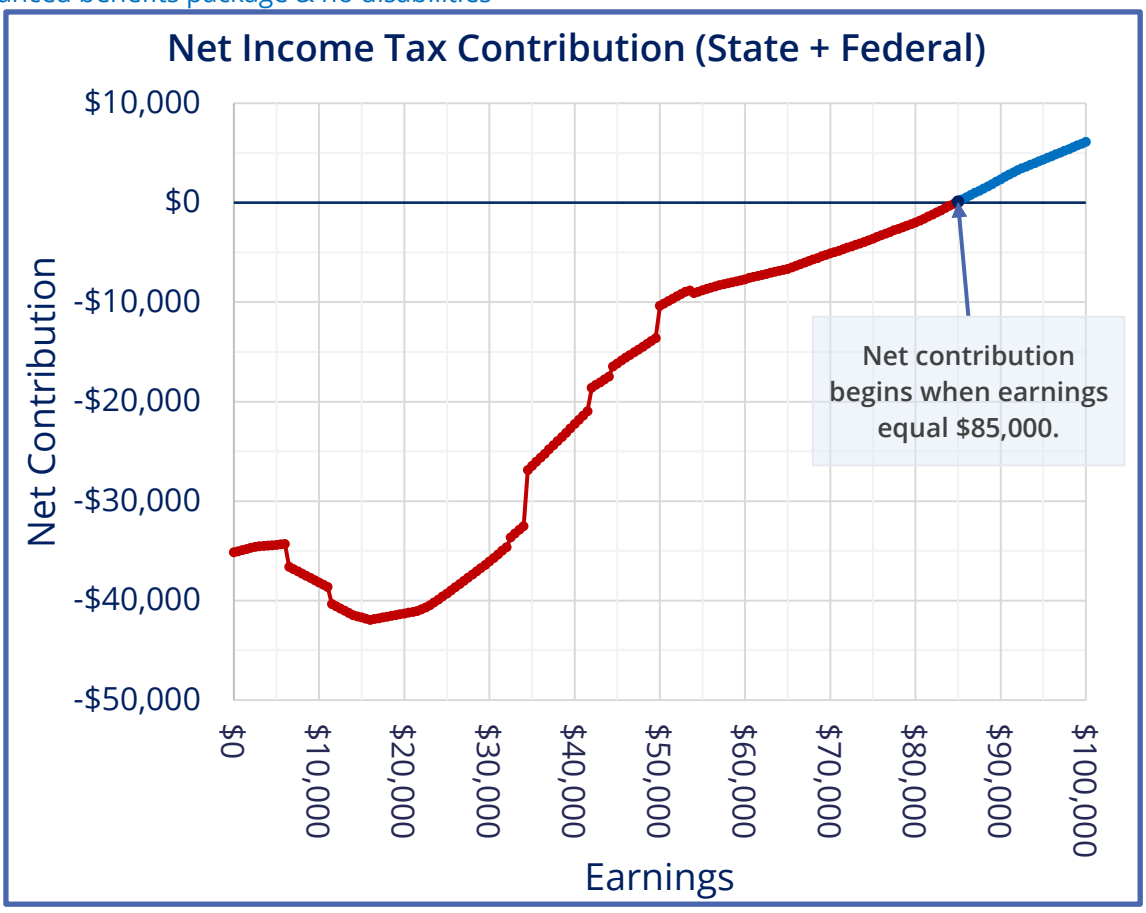
Assuming Sophia's household has no one with a qualifying disability, Chart 17 displays the impact of adding subsidized child care—shown in the yellow-shaded area on the top of the plotted area—to the basic benefits package of safety-net programs (Scenario 5). Her peak cliff occurs at $32,000, requiring a $30,000 pay raise, or an increase of 94 percent, to overcome her loss. The chart looks basically the same with all the large and small cliffs found in Chart 9 (the basic benefits package), but with two notable changes.

First, there is another cliff in Scenario 5 when subsidized child care goes away, bringing the number of cliffs to five. The hidden cliff when her children lose Medicaid is still true for this Scenario 5. Sophia could receive subsidized child care up to $49,500, but, if she earns more, she will lose $3,032 in benefits. When added to the other factors, the cliff would be a loss of $2,801 with $50,000 in earnings.

An important nuance is that once a custodial parent has enrolled in a subsidized child care program, the subsidy will continue for the remainder of the term even if she gains additional earnings. However, upon renewal, she would lose the child care subsidy, making the loss not immediate, but delayed.

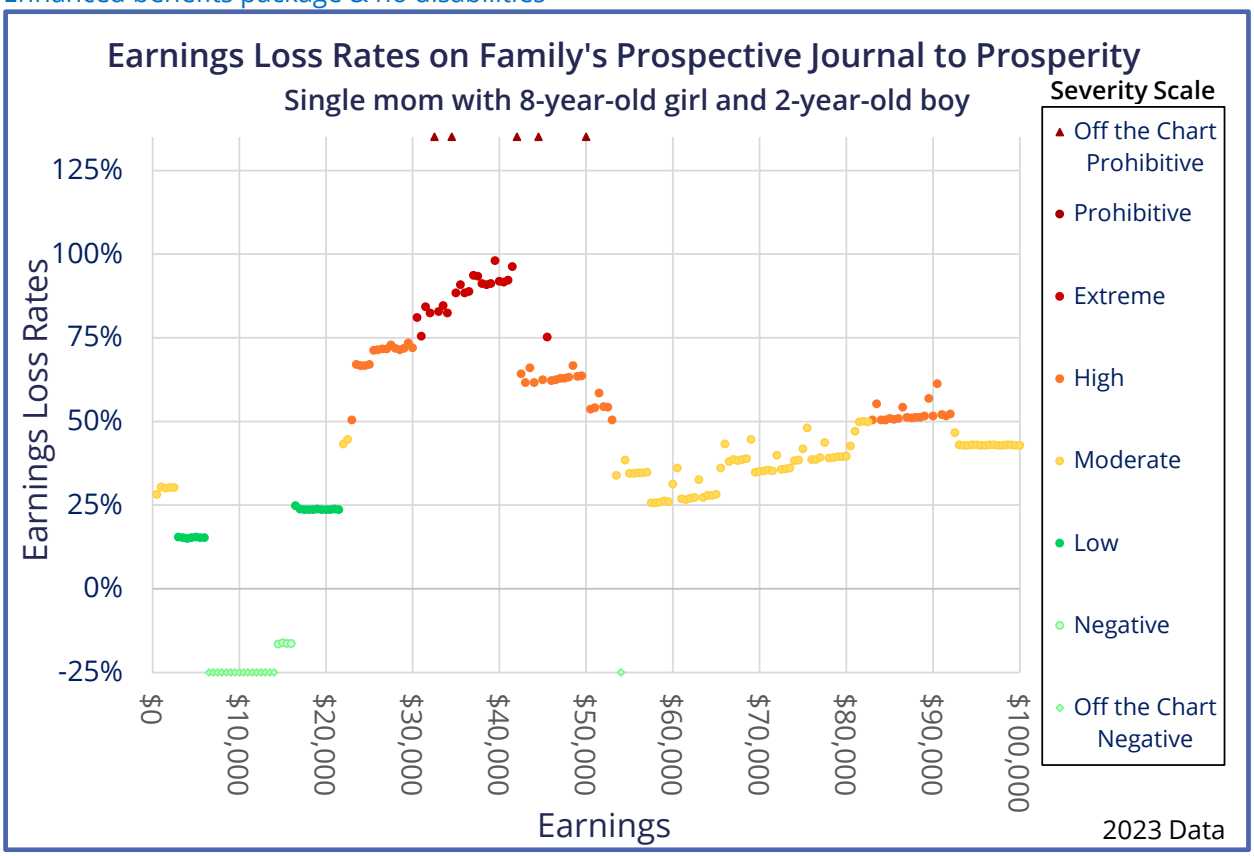
The second change is one that might easily be missed. The SNAP loss is reduced slightly from $2,099 (in Scenario 3) to $1,987 because Sophia will be able to deduct her cost-sharing fees for subsidized child care as dependent care expenses. However, on the plus side, the benefit cliff hits at $42,000 in earnings, which is higher than $36,500 in earnings for Scenario 3.

Chart 18: Net Income Tax Contribution Chart for Scenario 5
Enhanced benefits package & no disabilities



As shown in Chart 18, Sophia will not make a net contribution to income taxes for Scenario 5 until she has earnings of $85,000, which is the same as the basic benefits package in Scenarios 3 and 4. The net cost to the government peaks at $41,949 when Sophia's prospective earnings would be $16,000.

Chart 19: Standard Earnings Loss Rates Chart for Scenario 5
Enhanced benefits package & no disabilities



The disincentives to earn more money have become worse by adding child care to the basic benefits package. Chart 19 displays the Earnings Loss Rates for Scenario 5. Compared to the basic benefits package (without a child with a disability) in Chart 11, 71 earnings intervals have higher Earnings Loss Rates and 9 have lower rates: 5 low rates become moderate, 1 moderate rate becomes high and another 3 moderate rates become extreme, 8 high rates become extreme and 2 high rates become prohibitive. There are no negative, low or moderate Earnings Loss Rates from $23,000 to $53,000, an earnings range of more than $30,000. All are high, extreme, or prohibitive Earnings Loss Rates.

Chart 20: Earnings Loss Rate Severity Distribution Chart for Scenario 5
Enhanced benefits package & no disabilities

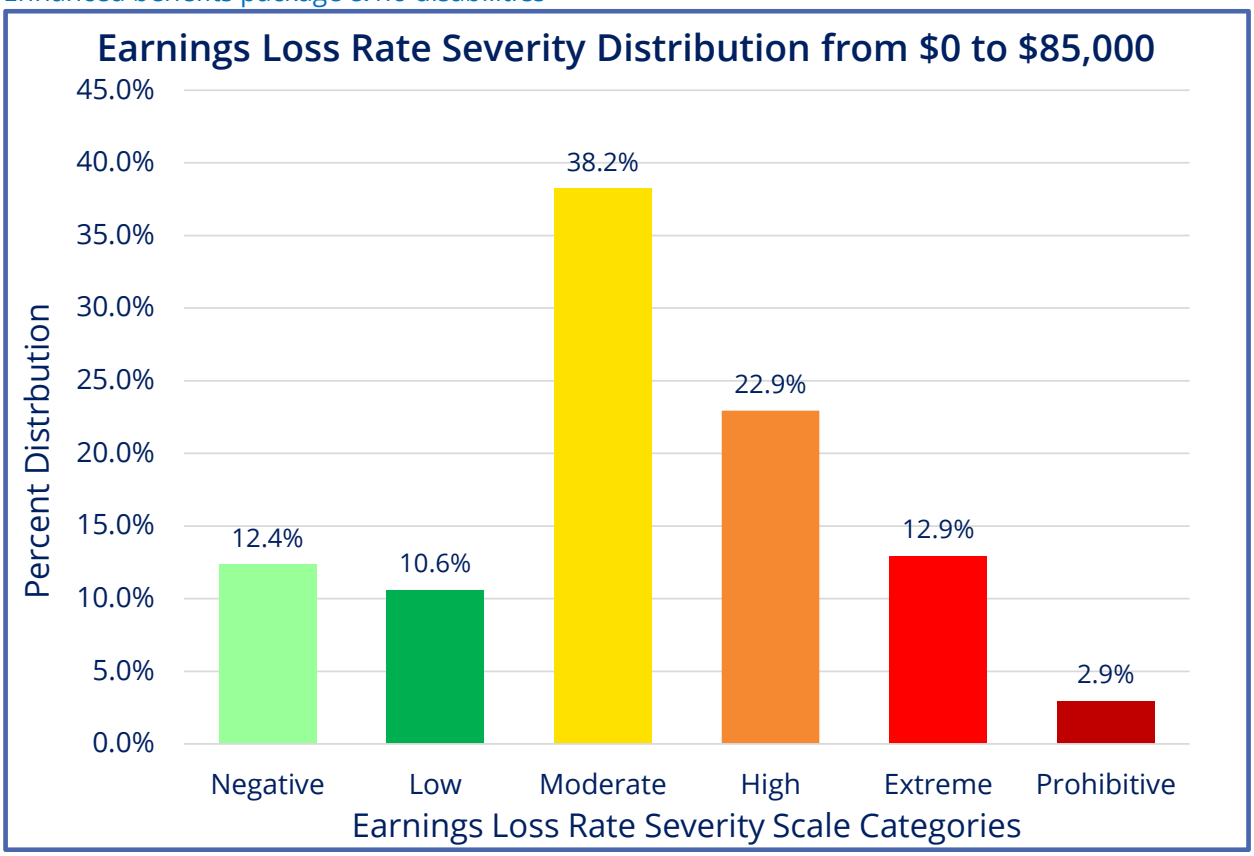
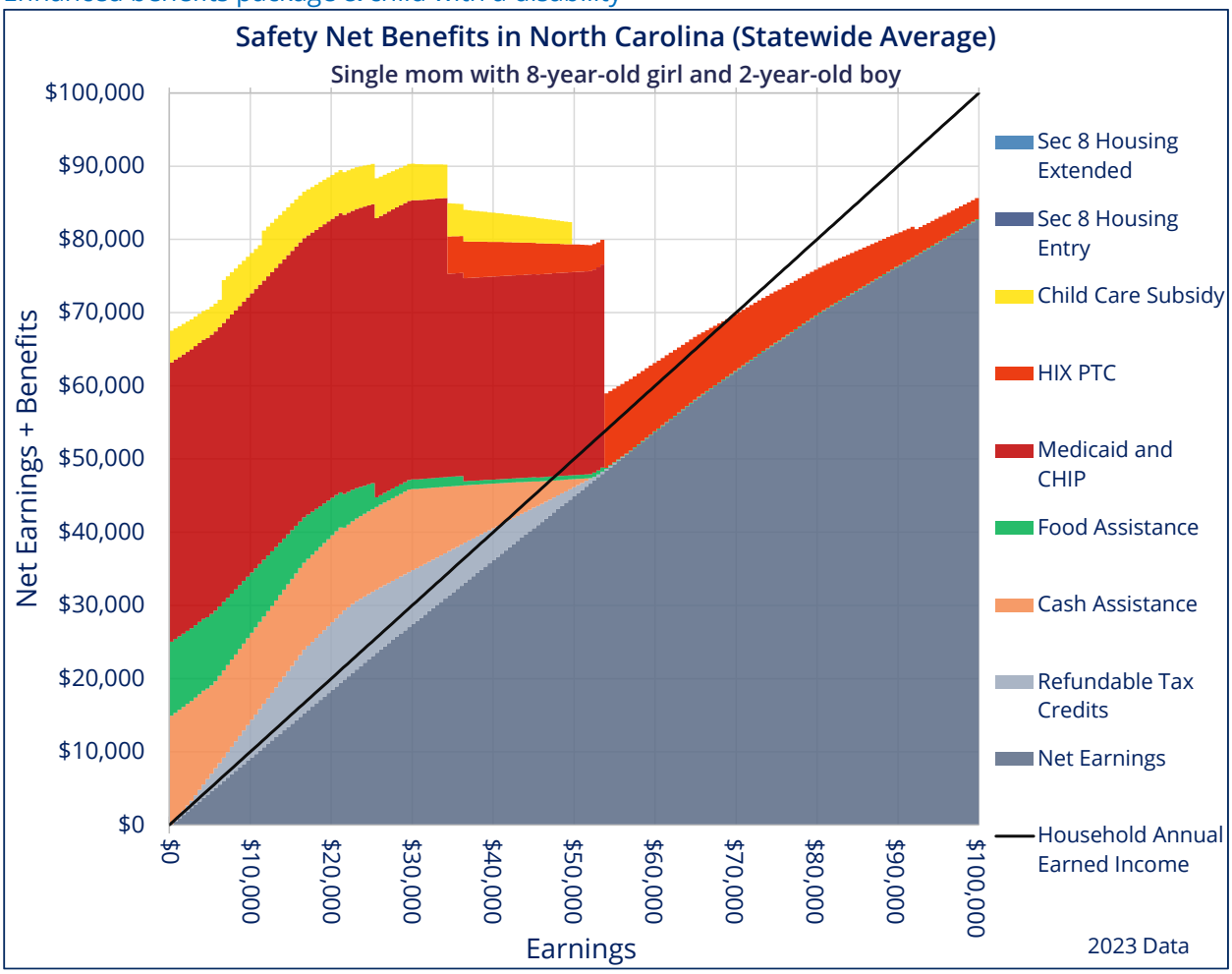


Chart 20 shows the Earnings Loss Rate severity categories for Scenario 5 from $0 earnings to $85,000 (when Sophia will make a net contribution to income taxes): 38.2 percent of Earnings Loss Rates are moderate, 22.9 percent are high, 1.2 percent are extreme, 12.4 percent are negative, 10.6 percent are low, and 2.9 percent are prohibitive.

Chart 21: Standard Cliff Chart for Scenario 6
Enhanced benefits package & child with a disability



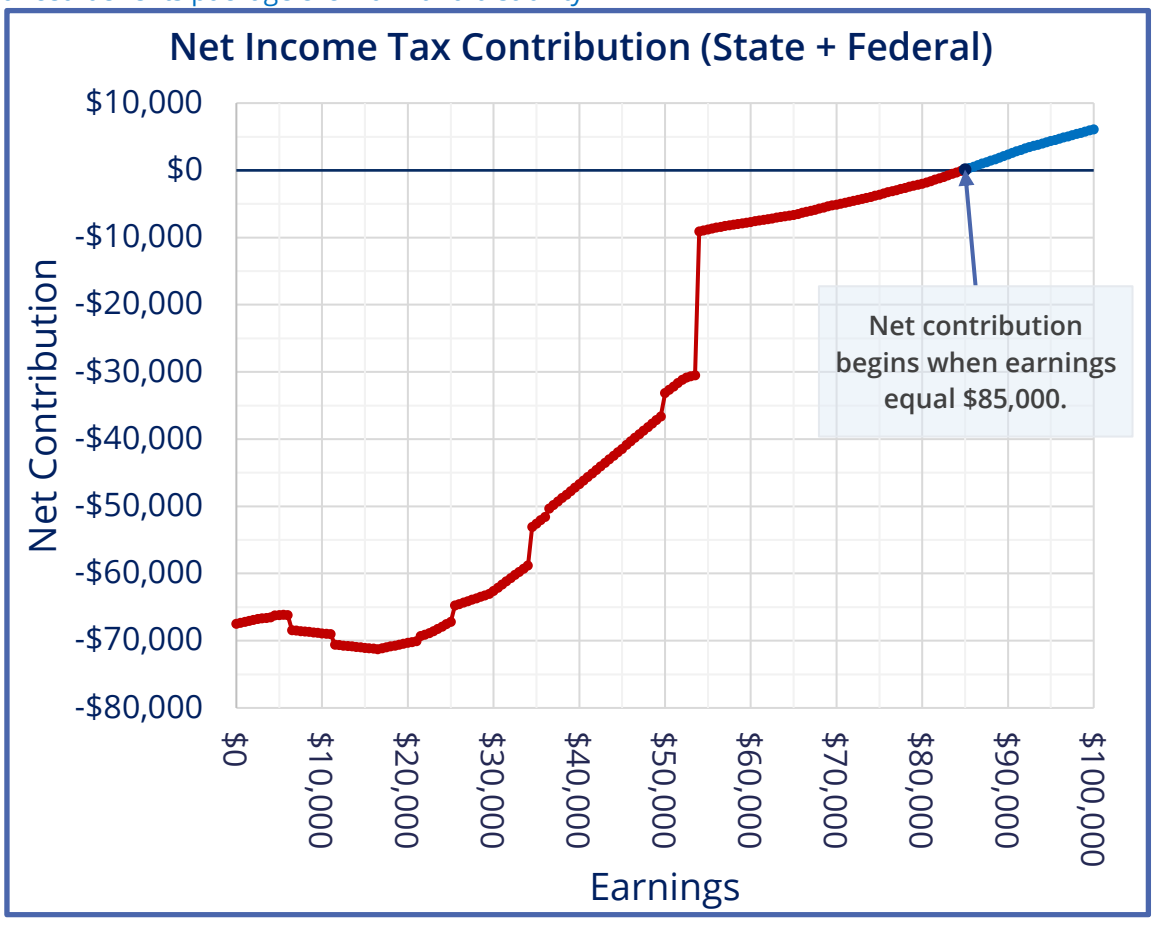
However, if Johnnie has a disability and Sophia has the enhanced benefits package (Scenario 6), her prospects become worse in terms of benefit cliffs and disincentives to earn more money. Chart 21 displays the results with subsidized child care being the yellow-shaded area. There are 47 benefit cliffs displayed on the chart using $500 earnings intervals. Her peak cliff occurs at $30,000, requiring a pay raise of $75,500, or an increase of 252 percent, to overcome her loss.

Except for two changes, the results look similar to the basic benefits package with a child with a disability (Scenario 4) shown by Chart 13. First, there is a new cliff when Sophia loses the subsidized child care benefit, which is nearly the same as Scenario 5 (if no children have a disability). Sophia could receive subsidized child care up to $49,500, but, if she would earn more, she loses the $3,032 subsidy. When added to the other factors, the cliff would be a loss of $3,051. As with the last scenario (without a child with a disability), the actual loss would not be immediate, but delayed.

The second change is one that is easy to miss. The SNAP benefit is reduced—which is better but unfortunately still uncomfortably significant—because Sophia will not be able to deduct as much in dependent care expenses. However, and for the worse, the SNAP cliff actually occurs at a lower earnings level when compared with Scenario 5 (the enhanced benefits package without a child with a disability).

Combined with other factors, the benefit cliff would now be $1,968 when she loses her $2,103 in SNAP benefits at $25,500, as opposed to a cliff of $1,906 from losing $1,987 in SNAP benefits at $42,000 when no one in the family has a disability. The reason for losing the benefit at a lower earnings level has to do with a single factor. SNAP counts cash assistance, including SSI, as income in determining eligibility. Because NCHHS using BBCE rules, the gross income limit becomes a non-factor, and the net income limit determines the exit income for SNAP.

Chart 22: Net Income Tax Contribution Chart for Scenario 6
Enhanced benefits package & child with a disability



For Scenario 6 (enhanced benefits package with a child with a disability), Chart 22 shows that when Sophia makes a net contribution to income taxes, it is the same as

before (Scenarios 3, 4, and 5), at $85,000 earnings, but, naturally, the net cost of the safety-net program benefits to government is even greater than any of the prior scenarios. It peaks at $71,268 when Sophia earns $16,500.

Chart 23: Standard Earnings Loss Rates Chart for Scenario 6
Enhanced benefits package & child with a disability

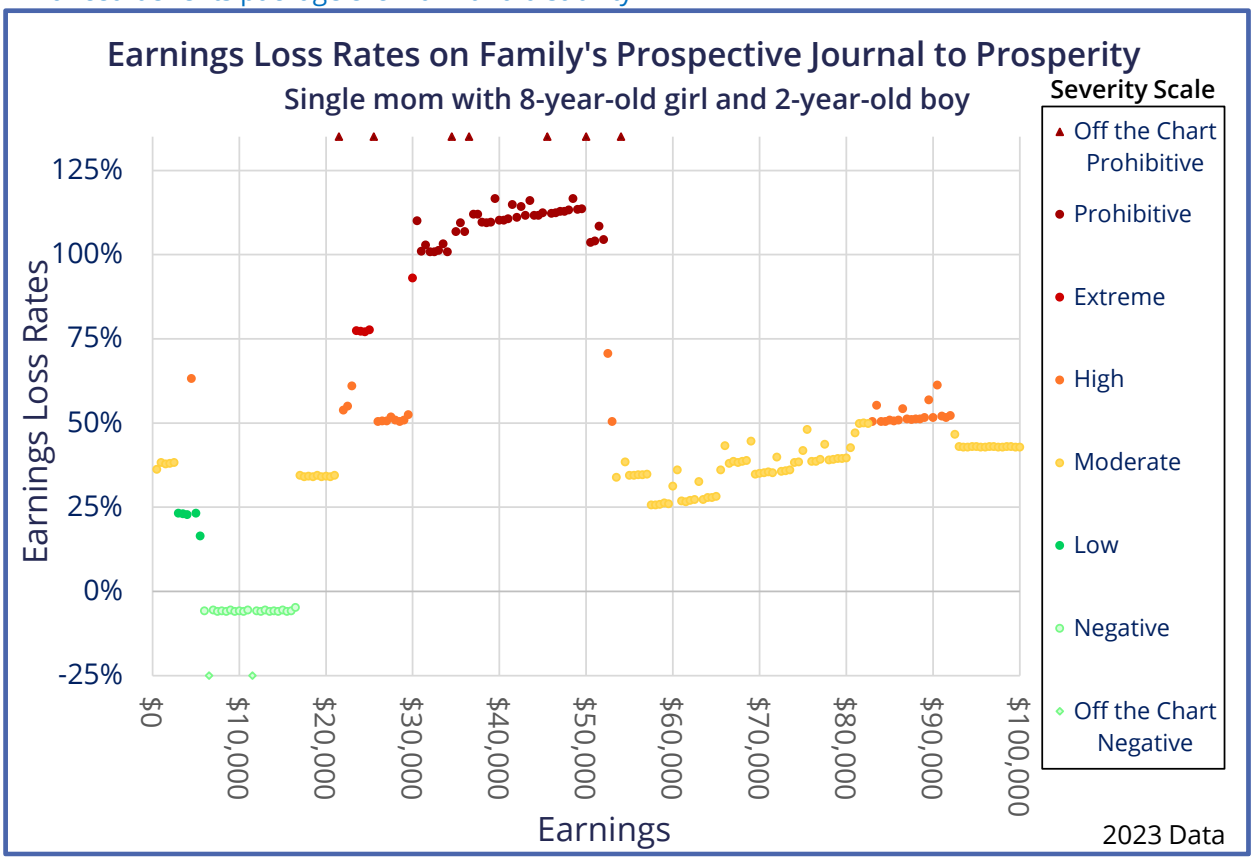
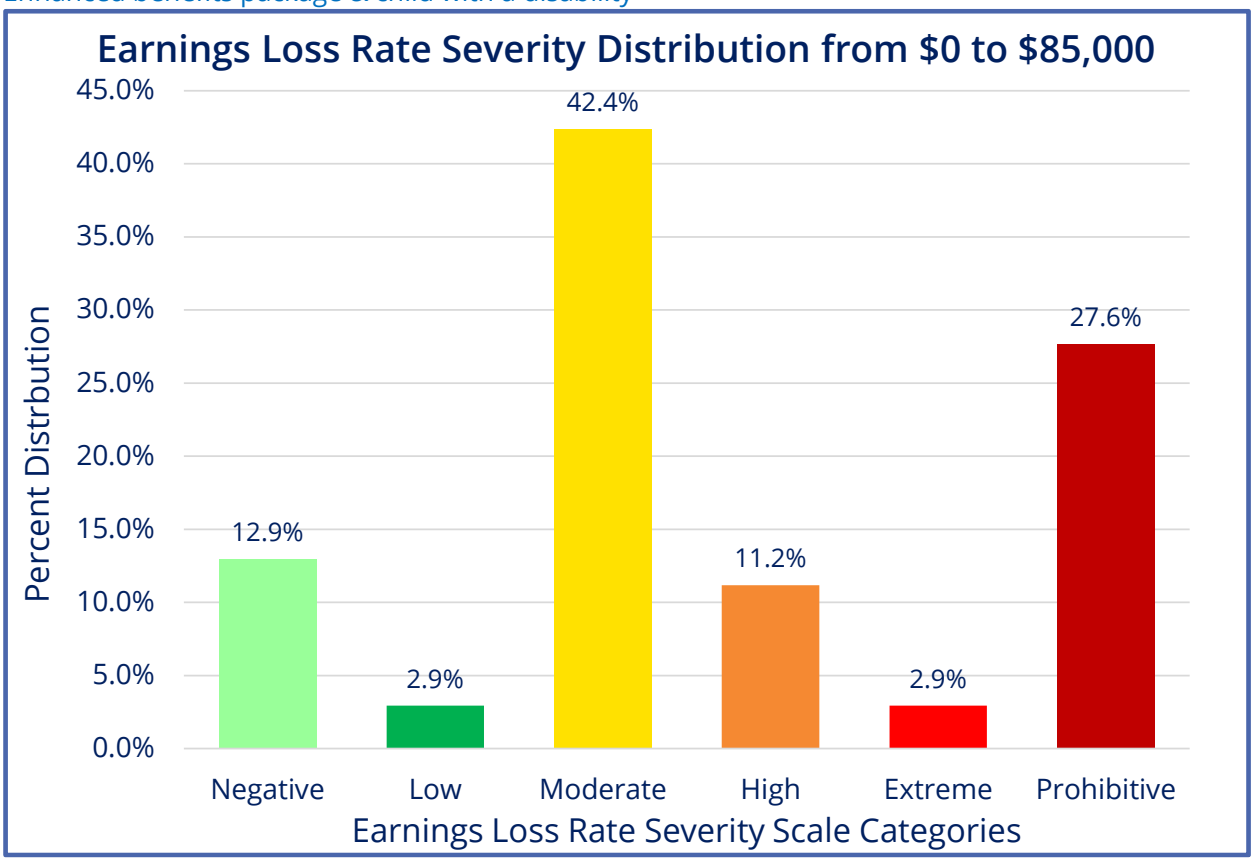


Chart 23 shows the Earnings Loss Rates for this scenario. At first glance, it may not look much different from the bad results of Scenario 4 (basic benefits package with a child with a disability) shown in Chart 15, but there are indeed differences, mostly for the worse. There are 77 earnings intervals where the Earnings Loss Rates became worse, but just 1 interval is better: 9 moderate intervals become high, 4 moderate become extreme, and 1 moderate becomes prohibitive; and 14 extreme intervals become prohibitive (which are the new benefit cliffs).

Chart 24: Earnings Loss Rate Severity Distribution Chart for Scenario 6
Enhanced benefits package & child with a disability

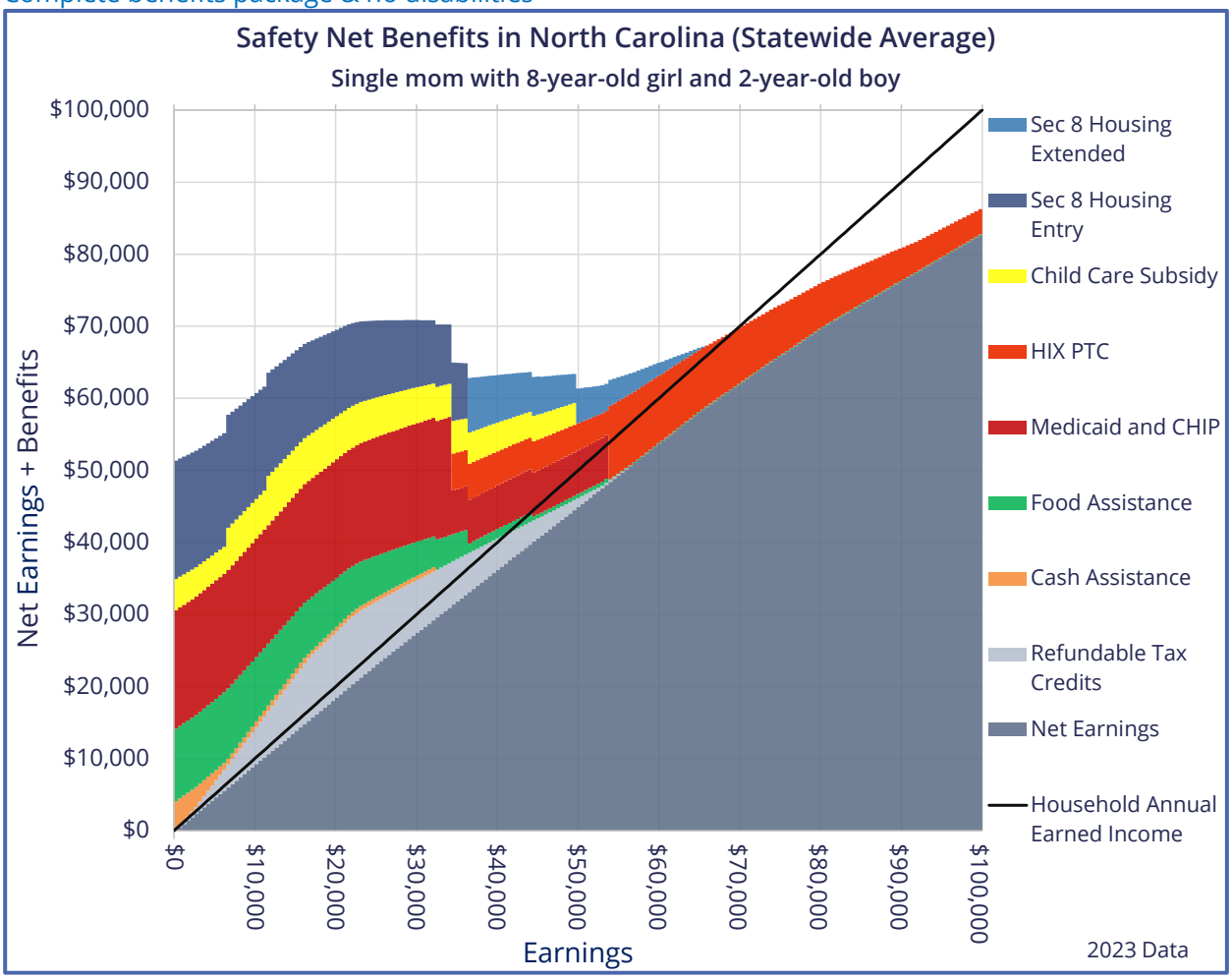


As shown in Chart 24, the distribution of the Earnings Loss Rate severity categories for Scenario 6 is not encouraging. The distribution is from $0 earnings to $85,000 earnings, when Sophia makes a net contribution to income taxes: 27.6 percent of the earnings intervals are prohibitive, which is concentrated between over $30,000 and $52,000, a significant range of earnings. What this means in practice is that for every $500 increase in earnings, she loses more than $500 for 28 percent of the earnings intervals. The distribution of the other Earnings Loss Rates, in descending order, are 42.4 percent of earnings intervals have moderate Earnings Loss Rates, 12.9 percent have negative rates, 11.2 percent have high rates, 2.9 percent have low rates, and another 2.9 percent of extreme rates.

Benefit Cliffs for the Complete Package of Benefits

Finally, we consider the scenario if Sophia gets the complete benefits package by winning a Section 8 housing voucher to rent an apartment. As already explained, these are very difficult to get, but let us examine how it impacts disincentives to earning more money.

Chart 25: Standard Cliff Chart for Scenario 7
Complete benefits package & no disabilities



Section 8 housing benefits are displayed in the blue-shaded areas on the top part of Chart 25, which is for the complete benefits package without a child with a disability (Scenario 7). The first part of Section 8 benefits is labeled as "Sec 8 Housing Entry," which is the income limit for a family of similar size to apply to the program, assuming that the agency administering the Section 8 program has opened up for applications to get on the wait list. Once a family gets selected to receive a voucher, then the family may continue to receive the voucher even if its income exceeds the entry

income eligibility limit. This is shown in the lighter shade of blue on the top of the chart and is labeled "Sec 8 Housing Extended."

Assuming no disabled members in Sophia's family, it may appear that Section 8 housing vouchers do not add new cliffs (compared to Chart 25 with Chart 17) because Section 8 housing benefits taper off slowly. However, this turns out not to be the case because 8 relatively small benefit cliffs are created, which will be explained shortly while the 5 benefit cliffs and the hidden benefit cliff from Scenario 5 remain in place.

For this Scenario 7, Sophia's peak cliff occurs at $30,000 in earnings, requiring a pay raise of $42,000, or an increase of 140 percent, to overcome the loss.

The cliff due to the loss of SNAP is somewhat more because the excess shelter expense deduction is lessened because of the housing subsidies. The loss of SNAP benefits is now $2,051, resulting in a benefit cliff of $2,051 when combined with other factors. This compares to a SNAP benefit loss of $1,987 for the enhanced benefits package (Scenario 5), resulting in a benefit cliff of $1,906. However, because the excess shelter expense deduction is less, the SNAP benefit cliff now hits at $36,500 in earnings, instead of $42,000 in earnings.

For the complete benefits package (and based on our model assumptions), Sophia will need to earn $72,000 to recoup her total net earnings and benefits (that is, $70,859) when she was earning $30,000. If her prospective earnings would be able to jump from earning $30,000 to $72,000, which would be a 140 percent increase in pay, she would essentially stay even to what she had. To emphasize the point, for every earnings level between $30,000 and $72,000, she would have less than what she had at $29,000.

At prospective earnings of $29,500, there is a small $2 benefit cliff—meaning for a $500 gain in earnings she would lose $502, not due to any specific loss in eligibility for a safety-net program, but due to the combination of increasing taxes and declining benefits. This is an example of what we have termed a cliff due to the stacking effect, when the combination of declining benefit reduction rates and increasing tax rates can create a new benefit cliff without losing eligibility for any safety-net program.

The next two cliffs are also due to the stacking effect: a $40 cliff at $30,500 and a $4 cliff at $31,500. The next cliff is $594 when Sophia loses LIHEAP at $32,500, and then another stacking effect cliff of $6 at $33,500. This is followed by a $5,273 cliff when she loses Medicaid for herself (but not for her children) at $34,500 which accounts

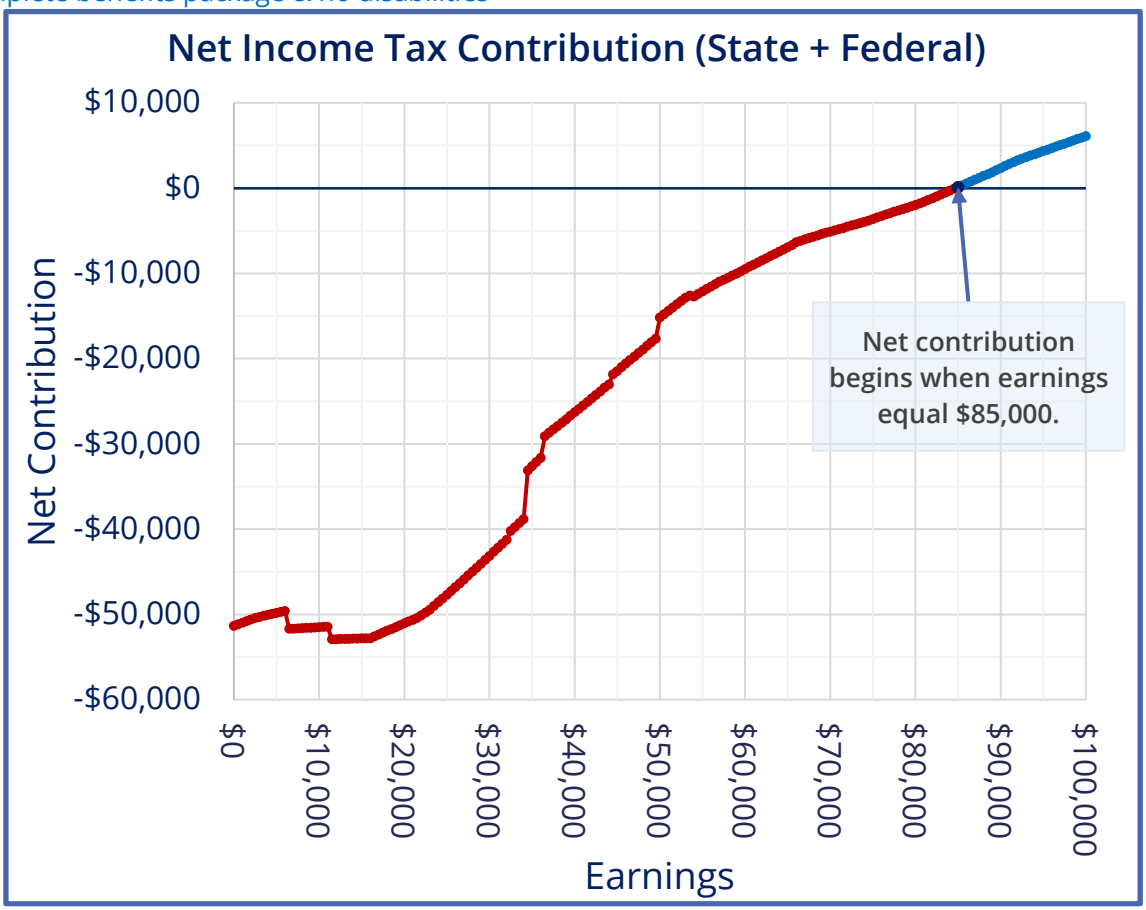
for the additional benefit of the premium tax credit for health care coverage from the health insurance exchanges. As explained earlier, this impact can be mitigated by a generous employer-based health coverage plan, but it is much more likely that that plan will have high out-of-pocket costs. Also, as explained, she will encounter out-of-pocket medical expenses if she purchases coverage through HIX.

The Medicaid cliff is followed by three stacking effect cliffs of $24, $37, and $24 at earnings of $35,000, $35,500, and $36,000, respectively. The next earnings interval at $36,500 is the SNAP benefit cliff of $2,051. There is a $13 cliff when free school lunches and breakfasts step down to reduced-price meals at $31,500 in earnings. There is a $489 cliff at $32,500 when she loses LIHEAP benefits. Her next cliff is a significant $5,168 loss when she loses Medicaid for herself (but not for her children),

Her next cliff of $696 will occur when she earns $44,500 and her daughter is no longer eligible for reduced-price school meals. There is another small $11 cliff at $45,500 in earnings due to the stacking effect. There will be a significant $2,041 cliff at $50,000 in earnings due to her loss of subsidized child care benefits, which will have a delayed impact. Finally, there is the hidden benefit cliff at $54,000, which is not shown by the modeling due to out-of-pocket medical costs not covered by employer-based health coverage or premium tax credit if Sophia purchases her coverage through HIX.

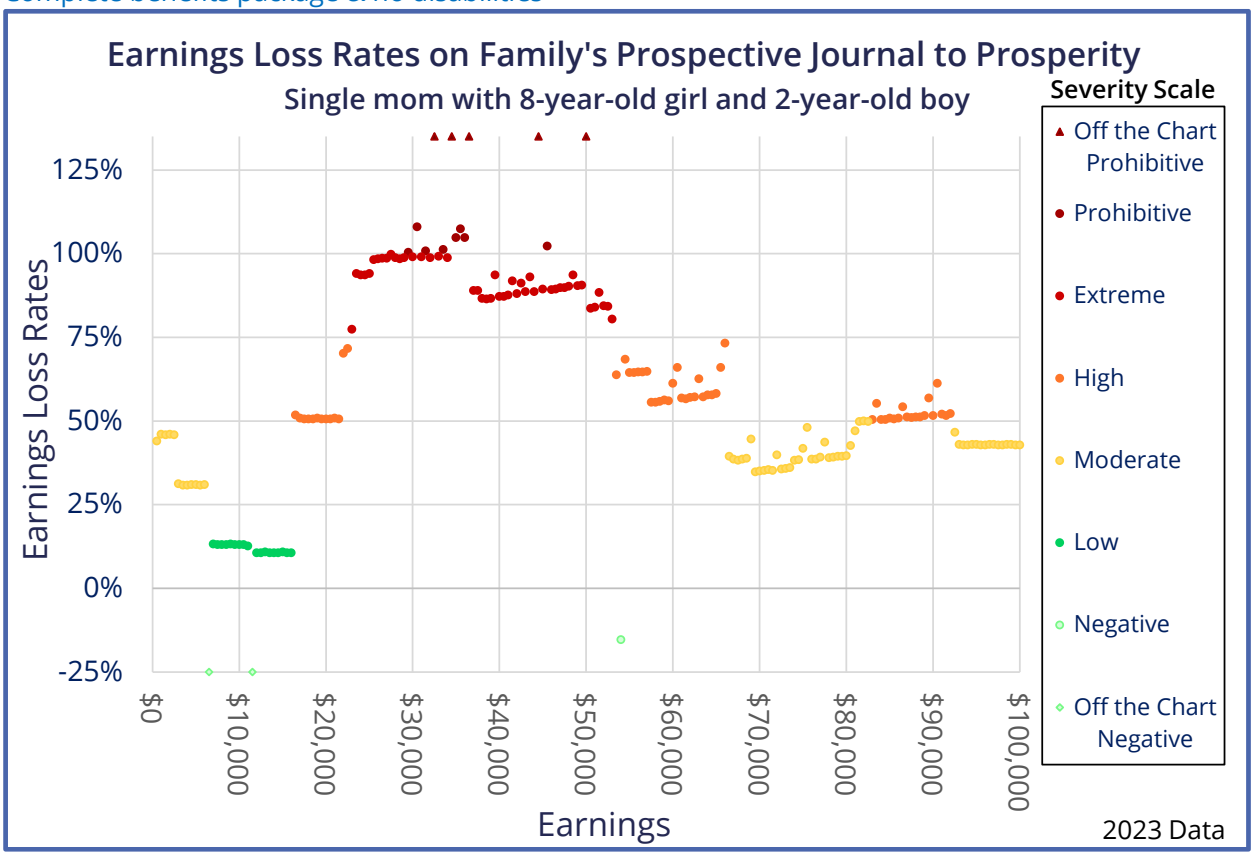
However, there is another problem easily detected in Chart 25. Leading up to her maximum income (including safety-net benefits) cliff at $30,000, her gain from earnings is relatively flat, indicating high and extreme Earnings Loss Rates, which we will soon examine in greater detail later with Chart 27. In the meantime, it is difficult to know Sophia's tolerance for high Earnings Loss Rates. She might decide at $16,000 earnings, that she will not tolerate high earning losses, or at $22,500, the extreme losses she will face.

Chart 26: Net Income Tax Contribution Chart for Scenario 7
Complete benefits package & no disabilities



In this complete benefits package scenario where no one in the household has a disability (Scenario 7), Sophia will still make a net contribution to income taxes at $85,000, as shown in Chart 26. This is the same for all prior scenarios, except when medical assistance is excluded from the basic benefits package. The difference, of course, as shown here, when comparing Chart 18 (Scenario 5— enhanced benefits package without a child with a disability) and Chart 10 (Scenario 3—basic benefits package without a child with a disability) is that the net cost to the government is greatest with the complete benefits package, which is $52,930 when Sophia earns just $11,500.

Chart 27: Standard Earnings Loss Rates Chart for Scenario 7
Complete benefits package & no disabilities



For Scenario 7, Chart 27 shows the Earnings Loss Rates for Sophia on her prospective journey to prosperity. These rates are calculated as before, using $500 increments in earnings. With one exception, beginning with $16,500 in earnings to $66,000 in earnings, there are no negative, low, or moderate Earnings Loss Rates. Rather 48 percent of the earnings intervals have extreme Earnings Loss Rates, followed by high (38 percent), and then 13 prohibitive rates (13 percent). The single exception is the hidden cliff at earnings of $54,000 when her children come off Medicaid, which increases her premium tax credit if she would access her healthcare coverage on the individual health insurance market. However, as explained earlier, this benefit is misleading and may not be realized due to higher out-of-pocket medical expenses, erasing the single exception that appears to be an incentive.

When compared to the Chart 19 (Scenario 5—enhanced benefits package), the Earnings Loss Rates for 100 earning intervals of the complete benefits package (Chart 27) have become worse and 12 have become better: 7 earnings intervals moved from low severity to moderate severity, 27 moved from moderate to high, 33 moved from

high to extreme, 1 moved from high to prohibitive, and 8 moved from extreme to prohibitive.

Chart 28: Earnings Loss Rate Severity Distribution Chart for Scenario 7
Complete benefits package & no disabilities

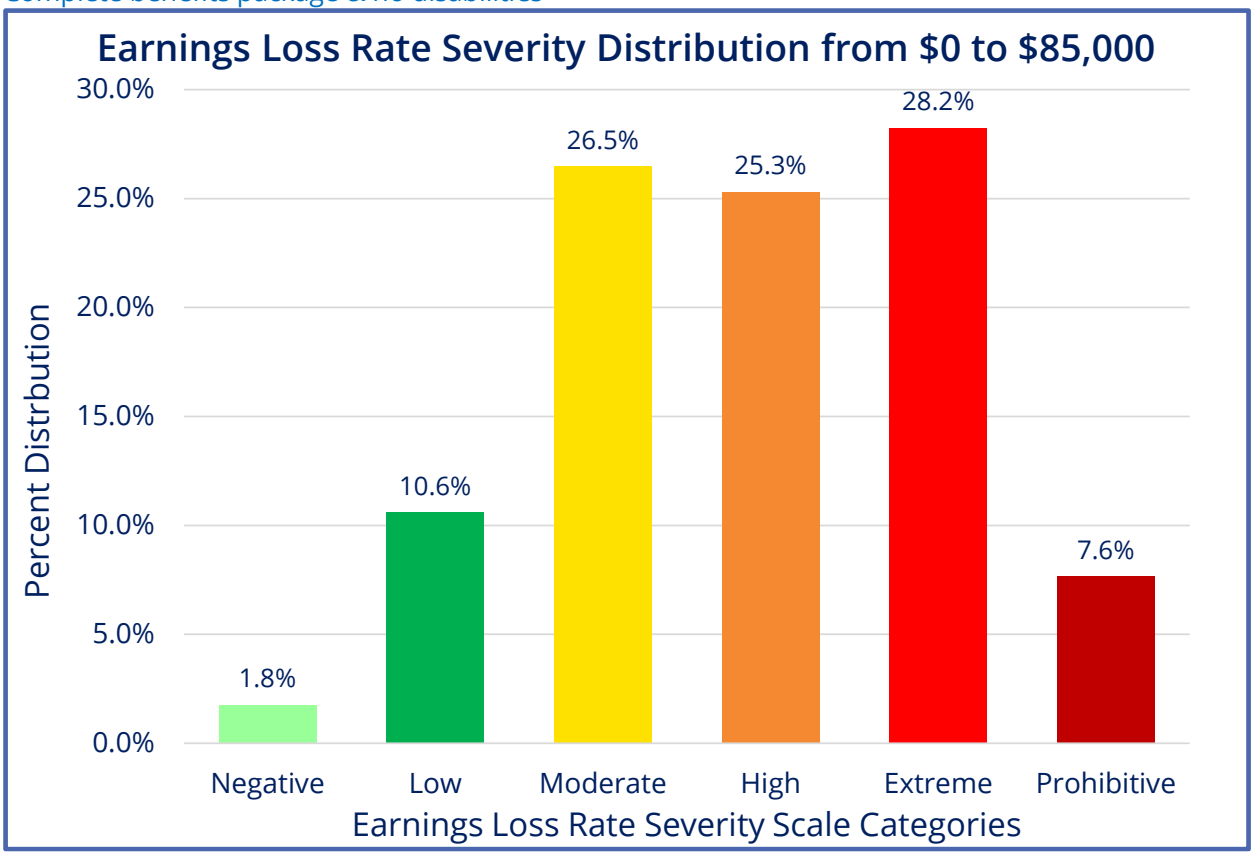
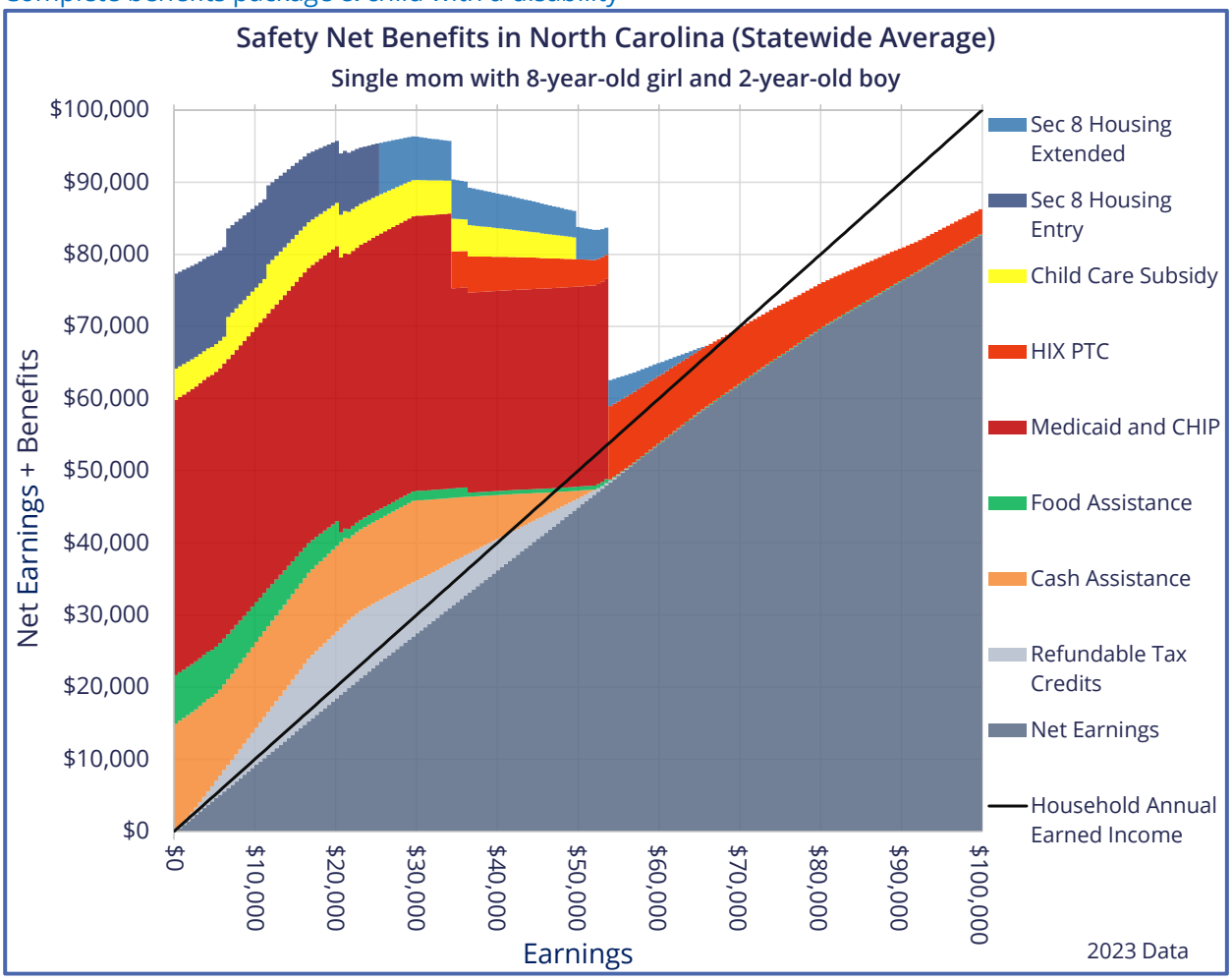


Chart 28 displays the Earnings Loss Rate severity distribution of the complete benefits package without any disabilities in the household from $0 in earnings to $85,000 in earnings, which is the point at which Sophia will make a positive net contribution to income taxes. An astounding 28.2 percent of the earnings intervals have extreme Earnings Loss Rates, 26.5 percent have moderate rates, 25.3 percent have high rates, 10.6 percent are low, 7.6 percent are prohibitive, and 1.8 percent are negative.

Chart 29: Standard Cliff Chart for Scenario 8
Complete benefits package & child with a disability



Now what if Sophia had a child with a disability with the complete benefits package? Scenario 8 is the last scenario we consider, and as might be expected, it has the worst results in terms of benefit cliffs and disincentives for earning more money from any of the scenarios already considered. Her peak cliff occurs at $29,500 in earnings, requiring a pay raise of $88,000 in earnings, or an increase of 298 percent, to overcome the loss.

The results are shown in Chart 29. As with the prior scenario (that is, Scenario 7—the complete benefits package without a child with a disability), housing benefits are shown layered on top of the other benefits, and the housing benefits taper away slowly. However, there are so many benefit cliffs in Scenario 5 (Chart 21— enhanced benefits package with a child with a disability)—47 in all—it is difficult to spot the new benefit cliff due to adding Section 8 housing.

The impact of adding Section 8 housing has two changes for the SNAP benefit cliff. While there is still a SNAP benefit cliff, it is less and occurs at lower earnings than all other scenarios explored in this paper. The loss of $1,987 in SNAP benefits creates a $1,749 benefit cliff when Sophia's prospect earnings of $20,500.

As with Scenario 6 (enhanced benefits package with a child with a disability), the reason for losing the SNAP benefit at a lower earnings level has to do with a combination of two factors. First, as with Scenario 6, SNAP counts SSI as income in determining eligibility. Second, SNAP eligibility rules allow for another deduction in addition to the dependent care expense deduction, which is the excess shelter expense deduction. Because Sophia now receives Section 8 housing vouchers, her excess shelter deduction is reduced, causing the net income limit to terminate the SNAP benefits at an even lower earnings level. It is the net income limit that truncates the benefits at $20,500.

This final scenario has by far the worst disincentives for Sophia to earn more money. In fact, her combined net earnings and benefits reach $95,743 when she earns $20,000, the earnings interval before the SNAP benefit cliff. To recover from the loss, she must earn $27,000—which would be a $7,000 pay raise, or a 35 percent increase in earnings. In between $20,000 and $27,000, most of her earnings intervals have high or extreme Earnings Loss Rates, and one benefit cliff of $248 at $21,500 in earnings.

Sophia will reach a new income peak at $29,500 when her net earnings and benefits reach $96,355. However, she is disincentivized from anything more because her total net earnings and benefits will start a steady decline with increased earnings—a series of 45 benefit cliffs in a row—that will last until she earns $52,000.

In other words, there will be a continuous drop in benefits over a range of $22,500 in earnings. Some of the cliffs within this range are severe. It includes a $5,344 cliff at $34,500 when Sophia loses Medicaid (but her children do not lose Medicaid). A $850 cliff at $36,500 when Sophia's daughter no longer qualifies for reduced-price school meals, which has a value of $753. A $2,216 cliff at $50,000 when Sophia no longer qualifies for subsidized child care services, a loss valued at $3,032. (As before, she will not lose the child care subsidies immediately and may continue to fulfill the term, but at the next redetermination, the subsidy will go away.)

However, Sophia's prospective journey in earnings has not seen all her benefit cliffs. Before reaching the next cliff, there are small gains of $22, $98, and $181 for each

$500 prospective increment in earnings starting at $52,300, which have extreme and high Earnings Loss Rates. Then, Sophia can hit a $21,110 benefit cliff at prospective earnings of $54,000. This significant cliff is due to a combination of losses: $27,741 lost in Medicaid benefits for her children, which has a higher cost due to her child with a disability, and a lost WIC food benefit valued at $442. The major question Sophia will face at this prospective earnings level is whether she can find healthcare coverage for her two children, one of whom has a disability. It will require a generous employer-based health plan or a good plan from the individual market, but in all likelihood, if she can find such a plan, her out-of-pocket costs will be high, and perhaps prohibitively high.

After her children's Medicaid cliff, there are only a few safety-net programs in effect for Sophia. The refundable portion of the Child Tax Credit is still available, but it is tapering off and will disappear when Sophia prospectively earns $57,000. The federal subsidy to lower the cost of school meals for all children, worth $117, is still available and will remain so no matter what income Sophia earns. The remaining two safety-net programs above $57,000 are Section 8 housing vouchers, which will taper away to zero at $66,500, and the Premium Tax Credit.

At $85,000 in earnings, when Sophia begins to make a positive contribution to income taxes, she will still be receiving the Premium Tax Credit, a value of $5,434, and her nonrefundable tax liable for federal taxes will be $2,625, meaning she will receive $2,809 from the tax system without paying into the federal system. This will be offset by a North Carolina income tax obligation of $3,034. Combined with the $117 value for school lunches, Sophia's will have paid $108 toward income taxes.[51]

At $92,500, Sophia's Premium Tax Credit will be $4,142 and her nonrefundable federal tax liability will be $4,275, requiring a net contribution of $133 to the federal system, which will be the first time Sophia makes a positive contribution to federal income taxes. She will owe $3,438 in North Carolina Income Taxes.

At $100,000, which is the end of the chart, Sophia will receive $3,505 from the Premium Tax Credit, but she will owe $2,420 in federal income taxes, and she will also owe $3,794 in North Carolina Income Taxes. Sophia is eligible to receive the

[51] All tax calculations assume standard deductions, no other tax credits, and no unusual circumstances,

Premium Tax Credit until her required contribution exceeds the cost of the premium. Thus, it will continue until Sophia has income of $141,232.[52]

Chart 30: Net Income Tax Contribution Chart for Scenario 8
Complete benefits package & child with a disability

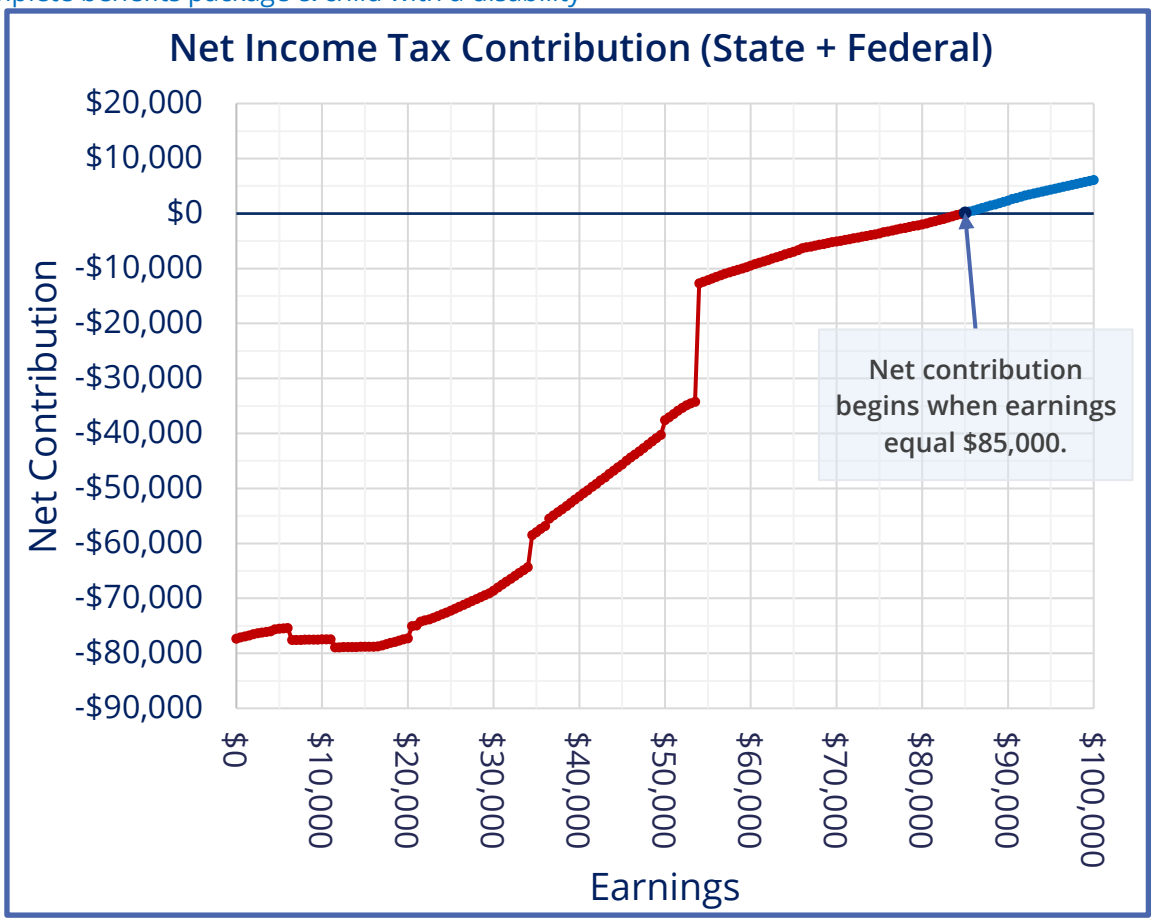


Chart 30 shows when Sophia will begin making net contributions to income taxes for the Scenario 8 (complete benefits package with a child with a disability). Again, as with all other scenarios except for the basic benefits package less medical assistance, Sophia's net contribution will begin when her earnings equal $85,000. However, the net fiscal cost to the government before she reaches that point for Scenario 8 is by far the greatest of any of the scenarios examined for this paper. It will peak at $78,934 when Sophia earns just $11,500.

[52] The calculation of when Sophia will no longer be eligible for the Premium Tax Credit is based on the Second Lowest Price Silver Plan and her required premium contribution of 8.5 percent of MAGI.

Chart 31: Standard Earnings Loss Rates Chart for Scenario 8
Complete benefits package & child with a disability

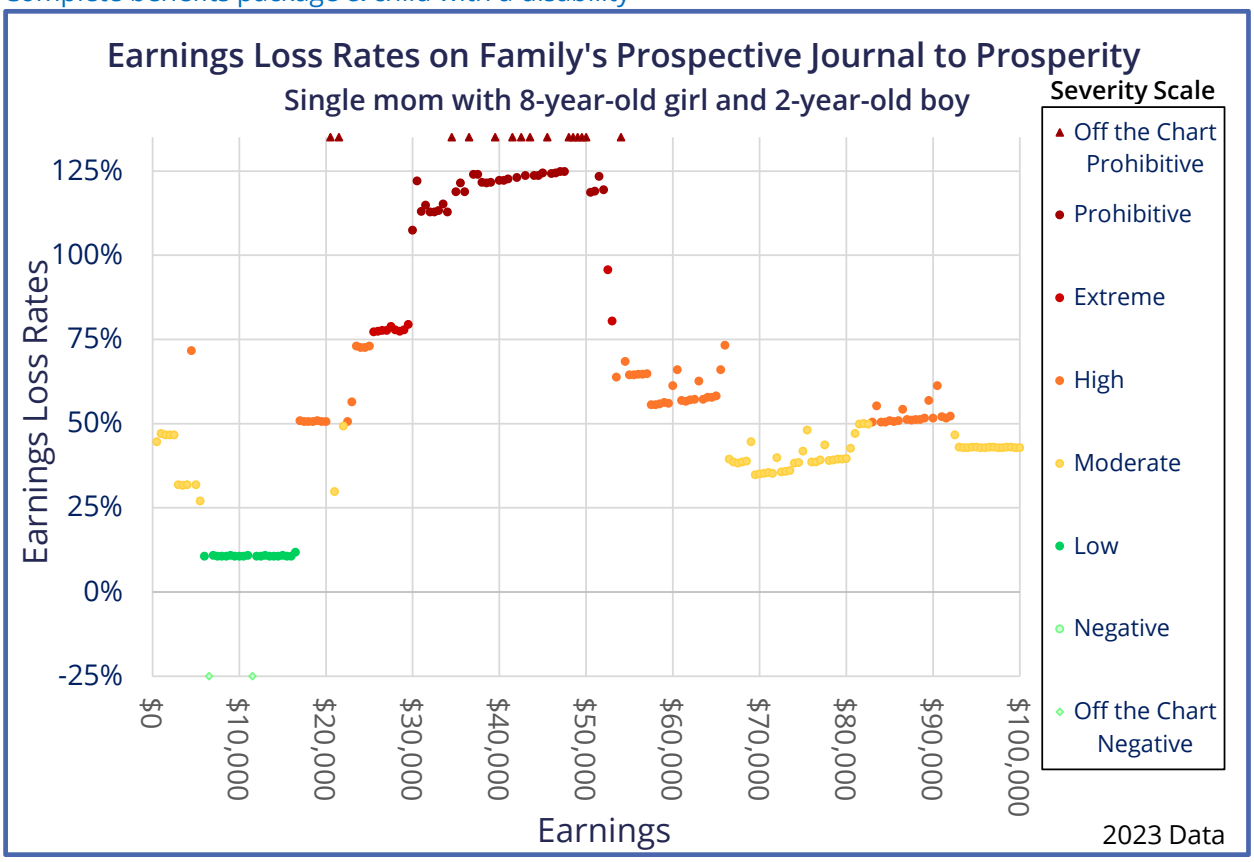


Chart 31 shows the Earnings Loss Rates across the prospective earnings for Sophia assuming Scenario 8 (the current scenario of the complete benefits package with a child with a disability). Starting with earnings immediately at $25,500 and ending with earnings at $53,000, a range of more than $27,500, her Earnings Loss Rates all are either extreme or prohibitive. In fact, 80 percent of the time, they are prohibitive.

Compared to Chart 23 (Scenario 6: enhanced benefits package with a disabled chart), there are 100 earnings intervals (based on increments of $500 annual earnings), or half of all graphed points, that increased in Earnings Loss Rate severity, and eleven intervals that decreased in severity. There were 5 earnings intervals having low Earnings Loss Rates that now are moderate rates. 32 intervals that were moderate now have high rates, 1 moderate became prohibitive, 10 highs became extreme, and 1 extreme became prohibitive. Also notable is that in Chart 23 (Scenario 6), there are 7 earnings intervals that were off-the-chart prohibitive, meaning an Earnings Loss Rate greater than 125 percent. For Chart 31, there are 15 off-the-chart prohibitive earning intervals.

Chart 32: Earnings Loss Rate Severity Distribution Chart for Scenario 8
Complete benefits package & child with a disability

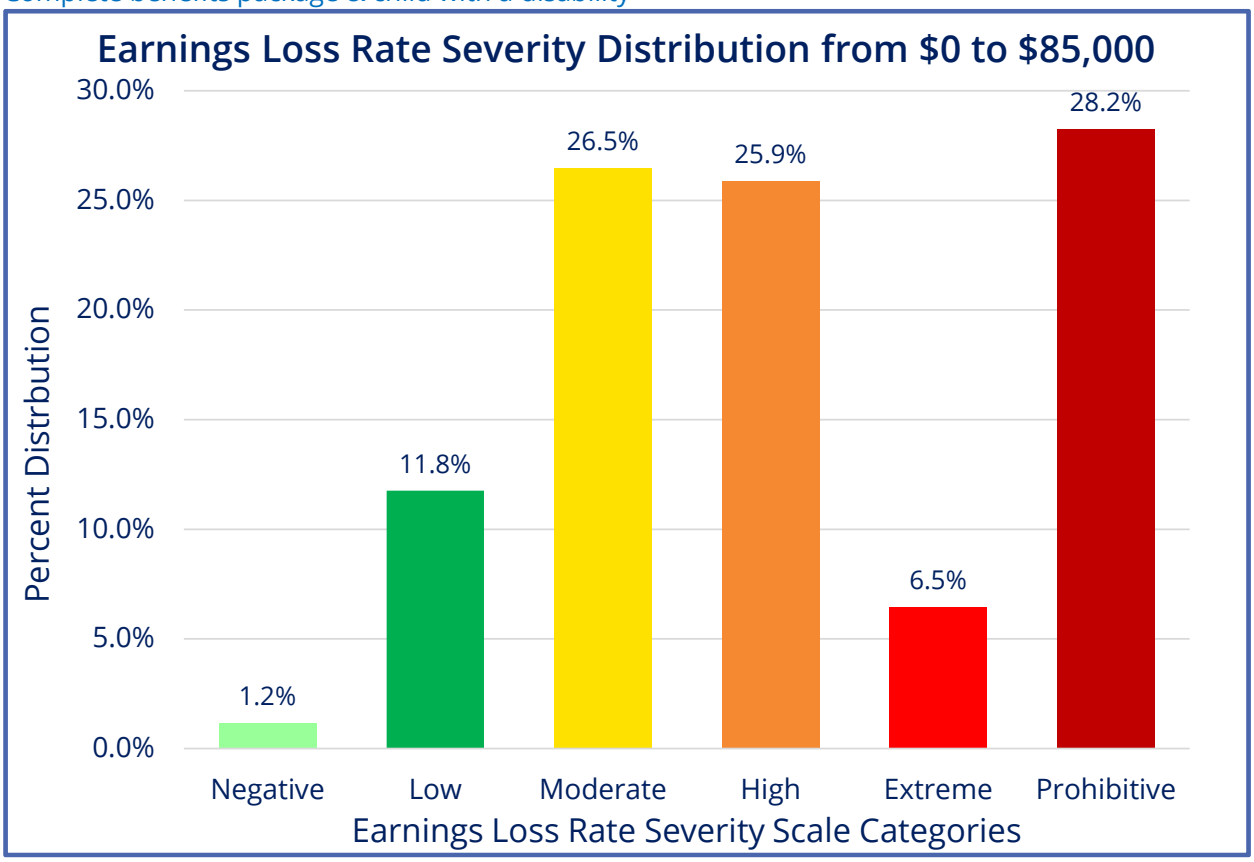


Chart 32 shows the severity distribution of Earnings Loss Rates for Scenario 8 (complete benefits package with a child with a disability). Using the same range of analysis from $0 to $85,000 in earnings when Sophia would begin making net contributions to income taxes, 28.2 percent of the earnings intervals have prohibitive Earnings Loss Rates, which is benefits cliffs, more than any other category. In other words, there are 48 benefit cliffs between $0 and $85,000 in earnings, measured by $500 increments in annual earnings, which is equivalent to approximately 24 cents per hour full-time wage.

Next in descending ranked order, 26.5 percent of the wage intervals have moderate Earnings Loss Rates, 25.9 percent have high rates, 11.8 percent have low rates, 6.5 percent have extreme rates, and 1.2 percent have negative rates.

Scenarios Summation

Putting Everything in Proper Context

In this paper we considered the prospective situation of a single mom, Sophia, in North Carolina, who has two children: an eight-year-old daughter named Emma and a two-year-old son named Johnnie. We considered two situations for Sophia. The first being that no one in the family has a disability, and then we assumed that her boy has a disability that qualified for Supplemental Security Income benefits. Except for Medicaid, all data was based on 2023 statewide averages. Because North Carolina expanded Medicaid on December 1, 2023, to include non-disabled adults pursuant to an option of the Affordable Care Act and on April 1, 2023, the state terminated its Health Choices program, transferring children participating in the program to Medicaid, we assumed the expansion and the transfer were for the entire year, which will be more helpful looking forward.

Then we examined four safety-net program benefit packages. First, we looked at the basic benefits package without medical assistance to examine those benefits—consisting of refundable tax credits, cash assistance programs, and food assistance programs— before adding in the complexities of medical assistance. We then looked at the basic benefits package that includes medical assistance. Then we added subsidized child care benefits for the enhanced benefits package, and the final package considered was a complete benefits package that also included housing assistance benefits. We selected rental assistance benefits from the Section 8 housing voucher program to represent housing benefits, which are calculated the same way public housing benefits are calculated.

Certain patterns emerged. Despite some serious problems of not providing monthly cash flow, marriage penalties, and noncompliance issues, refundable tax credits do not cause benefit cliffs. These benefits are linked to earnings, ramp up to a plateau, and then taper slowly away with increased earnings. TANF cash assistance and SSI also taper and do not contribute by themselves to benefit cliffs. However, the taper rate of SSI, when combined with net earnings, refundable tax credits, and other cash assistance programs, literally wipes out all incentives to earn more money. LIHEAP cash payments do not have a tapering feature and create a small benefit cliff when the benefits end.

Food assistance benefits are dominated by SNAP, the largest program in the category. Its program features are complicated to understand from a modeling perspective. It causes interactions with other safety-net benefits, but in all cases, it

causes benefit cliffs when exiting the program. The SNAP benefit losses range from $1,987 to $2.103. Because NCHHS adopted Broad-Based Categorical Eligibility rules, the net income limit determines the exit incomes for all scenarios.

Other food assistance programs modeled are free and reduced-price school lunches and breakfasts, and food packages from the Women, Infants, and Children program. The school meal programs do not taper benefits, but they do step down benefits from free meals to reduced-price meals and then again to a general subsidy when the reduced-price meals expire. The WIC food benefits do not taper or step down.

Medical assistance has its own set of complexities. The most problematic is the Medicaid cliff when Sophia or the children come off Medicaid. A generous employer-based health insurance plan might compensate for the loss, but most likely there will be premium shares, deductibles, coinsurance, copayments, or any combination thereof, that can make the policy unaffordable for low-income employees. Most times, employers simply cannot afford high-end health insurance for their employees as prices are increasingly becoming less affordable.

If Sophia were offered an employer-based plan deemed adequate and affordable by government regulations, which are defined in a way that allow for higher shared costs, she would not qualify for the Premium Tax Credit. Otherwise, she could seek individual coverage through her government-run health insurance exchange that will enable her to receive the tax credit. This option appears to be a solution in this circumstance, but the solution is just superficial. The vision of Affordable Care Act to adequately control out-of-pocket medical costs has not been fulfilled with the government program. Table 2 shows the out-of-pocket cost limits for Sophia that were effective in 2023 that will not be covered by the Premium Tax Credit. Starting at $34,775, which is 151 percent of the prior year's FPL, Sophia's will be required to begin making contributions to the cost of her insurance premiums based on a sliding scale, which is implemented by calculating her Premium Tax Credit to be the difference of the cost of the second lowest Silver Plan and her required premium contribution. Other than a Silver Plan, there are little options available to Sophia. If she chooses a lower cost plan, such as a Bronze Plan, it will come with higher out-of-pocket costs. If she chooses a more expensive plan, such as a Gold Plan, the Premium Tax Credit will cover less of the higher premium cost. Her circumstances worsen if she has a child with a disability that usually incurs more medical expenses.

Unless single moms have relatives or other trusted individuals who can care for their children for free or at a nominal cost, subsidized child care is essential to earn the

income that they need. However, subsidized child care has benefit cliffs of their own that come in at higher earnings levels.

Section 8 housing benefits do taper to zero, but there are other complications. First, they are very hard to come by, and many public housing authorities that implement the program rely on lotteries to select winners. It is even difficult for eligible families to get just on the waitlist, and, because of the prohibitive fiscal costs of unreasonably attempting to provide benefits to everyone who might otherwise qualify, many families who have the similar circumstances of those already in the program, including finances, are not eligible for the program.

The second complication is that by the time housing benefits are included in a benefits package, the tapering of benefits has become a complex aggregate of tapering rates and cutoff points, causing incentives for earning more money to evaporate for large ranges of earnings, and in a few instances, they create new but small benefit cliffs due to the stacking effect.

There is one remaining point on putting benefit cliffs into context. This paper focuses on the prospective experience of a single mom with two children, but marriage and cohabitation are also considerations when it comes to changing one's financial circumstances. During pre-industrial America, marriage was an absolute necessity to run a household,[53] but today marriage is becoming increasingly associated with the middle and upper classes. In fact, marriage has been promoted as an anti-poverty strategy because of the statistical association between single parent households and poverty.[54]

The safety-net system itself shares some of the blame for the correlation. GCO published a paper in 2017 that concluded "the more welfare benefits received, the greater the extent and severity of marriage penalties. The basic package of benefits—refundable tax credits, TANF cash, food assistance, and medical assistance—reduces the financial advantage for marriage and increases the severity of penalties, and for a significant subset of wage combinations."[55] More disturbingly, the prospective

[53] Ruth Schwartz Cowan, *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave*, New York: Basic Books, Inc., Publishers, 1983, Chapter 2.
[54] Robert Rector, *Q&A: Why Marriage May Be the Strongest Antidote to Child Poverty*, Heritage Foundation Commentary, November 25, 2012: https://www.heritage.org/marriage-and-family/commentary/qa-why-marriage-may-be-the-strongest-antidote-child-poverty.
[55] Erik Randolph, *Deep Red Valleys*, Georgia Center for Opportunity, February 2017: https://foropportunity.org/wp-content/uploads/2017/02/Deep-Red-Valleys_WEB.pdf

earnings level where the single mom faces her worst benefits cliffs is often near the point where marriage penalties are at their worst, effectively shutting down marriage a potential avenue for overcoming benefits cliffs. The exception would be if the single mom can find a person to marry who has substantially more income than her income, but people normally do not marry outside their social and economic classes.

More recent GCO research showed that marriage penalties can even extend to cohabitating couples. Marriage penalties in SNAP can also apply to nonmarried couples, discouraging compliance with SNAP rules to disclose members in the same household who share and prepare meals together. [56]

The prospects for marriage penalties go beyond the financial circumstances of single parents. Children growing up in stable married families are more likely to do better economically, educationally, and socially over their life spans, and communities with more married couples typically are more stable and prosperous.[57]

Cliffs and Disincentives to Earn More Money Summary

As already demonstrated, there is not just one benefit cliff per each scenario. There are many benefits cliffs. The more safety-net programs a family participates in, the more benefit cliffs the family can encounter over a prospective earnings range. The reason is clear. Each program comes with its own set of rules. Some programs taper benefits smoothly as income increases, and other programs either step down or have hard cutoffs that create cliffs when exiting the program.

Moreover, as has also been shown, the tapering of benefits does not guarantee that the program will not create cliffs. SSI tapers benefits to zero, but the tapering rate is too steep, creating disincentives when combined with other benefit programs. Section 8 housing benefits also taper to zero, but they can create cliffs when stacked on other benefit programs and increasing taxes.

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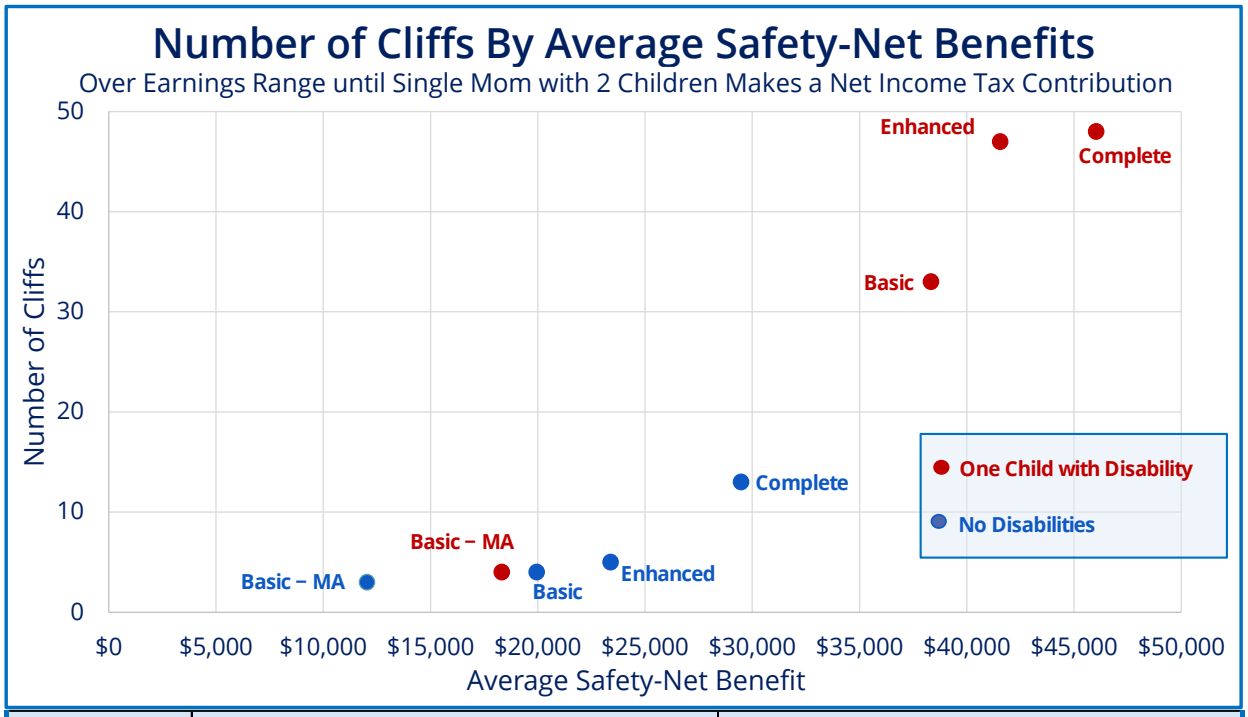
[56] *Solving the Food Assistance (SNAP) Benefits Cliffs: Fixing the Safety Net System:* https://foropportunity.org/wp-content/uploads/2023/10/SNAP-Cliffs-Solution-v1.9.pdf.

[57] Bradford Wilcox, Chris Gersten, and Jerry Regier, *Marriage Penalties in Means-Tested Tax and Transfer Programs: Issues and Options*, OFA Report 2019-01, Washington, DC: Office of Family Assistance, Administration for Children and Families, U.S. Department of Health and Human Services, 2019, p. 3: https://www.acf.hhs.gov/sites/default/files/documents/ofa/hmrf_marriagepenalties_paper_final50812_6_19.pdf.

Chart 33: Cliffs Versus Benefits for All Scenarios



	Without Disabilities				With One Child with a Disability			
Description	**Basic – MA**	**Basic**	**Enhanced**	**Complete**	**Basic – MA**	**Basic**	**Enhanced**	**Complete**
Average Benefit	$12,043	$19,956	$23,402	$29,481	$18,329	$38,337	$41,566	$46,042
Number of Cliffs	3	4	5	13	4	33	47	48

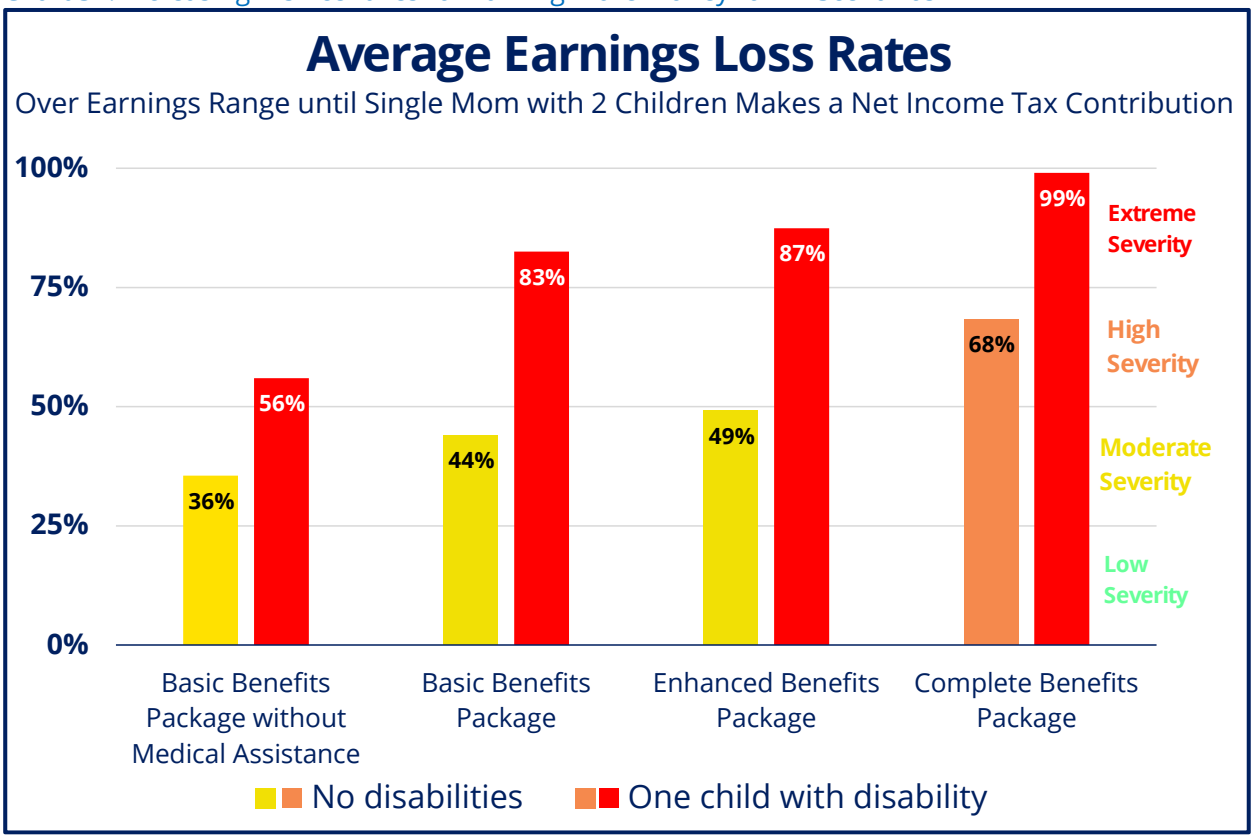
Codes: Basic – MA = Basic Benefits Package without Medical Assistance: Basic = Basic Benefits Package; Enhanced = Enhanced Benefits Package; and Complete = Complete Benefits Package

Chart 33 shows how the number of benefits cliffs increase with the size of safety-net benefit packages. The X axis gives the size of average of benefit package over the range of earnings until Sophia makes a positive net contribution to income taxes ($52,000 for the basic benefits package without medical assistance, and $85,000 for the other packages), and the Y axis shows the number of cliffs over the same ranges. When no one in Sophia's family has a disability, shown in the blue dots, the number of benefits cliffs increase from 3 to 4 to 5 to 13 as we move from increasing average benefits of $12,043 to $19,956 to $23,402 to $29,481. The number of cliffs in this case do not count the hidden cliffs when Sophia's children come off Medicaid, which would add one more cliff for the Basic, Enhanced, and Complete Benefit Packages. These numbers comport to Scenarios 1, 3, 5, and 7, which are the basic benefits package without medical assistance, the basic benefits package, the enhanced benefits package, and the complete benefits package.

The Red dots in Chart 33 show the same relationship when Sophia has a child with a disability. It shows the same direct relationship, but the results are more extreme.

The number cliffs increase from 4 to 33 to 47 to 48 when the size of the average packages increase from $18,329 to $38,337 to $41,566 to $46,042. These numbers comport to Scenarios 2, 4, 6, and 8.

Chart 34: Increasing Disincentives for Earning More Money for All Scenarios



Similar to the number of benefits cliffs, disincentives to earn more money worsen as benefit packages increase in size. To quantify the increasing disincentives, Chart 34 provides the *average* Earnings Loss Rates over the entire range of earnings for Sophia until she makes a net income tax contribution. Each benefits package has a pair of columns. The left column shows the average Earnings Loss Rate when no one in the household has a disability. The right column shows the average for when one child has a disability.

The averages are simply the average of all the Earnings Loss Rates for each earnings interval—which increase in increments of $500—up until the prospective earnings when Sophia makes a net contribution to income taxes. For Scenarios 1 and 2 (the basic benefits package less medical assistance), there are 104 Earnings Loss Rates that are averaged. For the other benefits packages (Scenarios 3 through 8), there are 170 Earnings Loss Rates that are averaged.

When no one in the family has a disability, which are the left columns in each pair, Chart 34 shows that the average Earnings Loss Rates increased from 36 percent to 44 percent to 49 percent to 68 percent as the benefits packages increase in size. These averages comport to Scenario 1 (basic benefits package without medical assistance), Scenario 3 (basic benefits package), Scenario 5 (enhanced benefits package), and Scenario 7 (the complete benefits package).

For when there is one child in the household with a disability, which are the right columns in each pair, the averages increase from 56 percent to 83 percent to 87 percent to 99 percent. These averages comport to Scenario 2 (basic benefits package without medical assistance), Scenario 4 (basic benefits package), Scenario 6 (enhanced benefits package), and Scenario 8 (the complete benefits package).

The columns are color coded based on the categories in the Earnings Loss Rate Severity Scale Policy Guide (Table 1). If the averages have a low severity, which is preferred, then they are colored green. None of the scenarios have a low severity. Three of the columns are colored yellow, which indicates moderate severity. Two of the columns are colored orange, which have a high severity, and three columns are coded red, which have an extreme severity.

Because these are averages, they can hide the number of cliffs and the earnings intervals with high or extreme severity ratings. The fact that two columns in Chart 34 have high severity ratings, and three have extreme severity ratings, raises concerns over how significantly safety-net programs disincentivizes program participants to try to earn more money. A more detailed picture of the disincentives can be viewed in Chart 5 and Chart 6 for Scenario 1, Chart 7 and Chart 8 for Scenario 2, Chart 11 and Chart 12 for Scenario 3, Chart 15 and Chart 16 for Scenario 4, Chart 19 and Chart 20 for Scenario 5, Chart 23 and Chart 24 for Scenario 6, Chart 27 and Chart 28 for Scenario 7, and Chart 31 and Chart 32 for Scenario 8.

Challenges to Overcome Peak Benefits Cliffs Summary

The most important thing for a family when it encounters a benefit cliff is the ability to overcome the cliff. This can be done by attaining a pay raise that jumps over the benefit cliff. For example, there might be a benefit cliff when facing a pay raise of 25 cents per hour that could be overcome with a 50 cent per hour pay raise. Workers also might be willing to take a temporary hit from a benefits cliff if they know that they are on a path that holds the promise of greater prosperity in the future. Sadly, this study has found major benefits cliffs for a single mom with two children that can be extremely discouraging.

Chart 35: Overcoming Peak Cliffs for All Scenarios
Increasing Average Benefits Received with Benefits Package Size

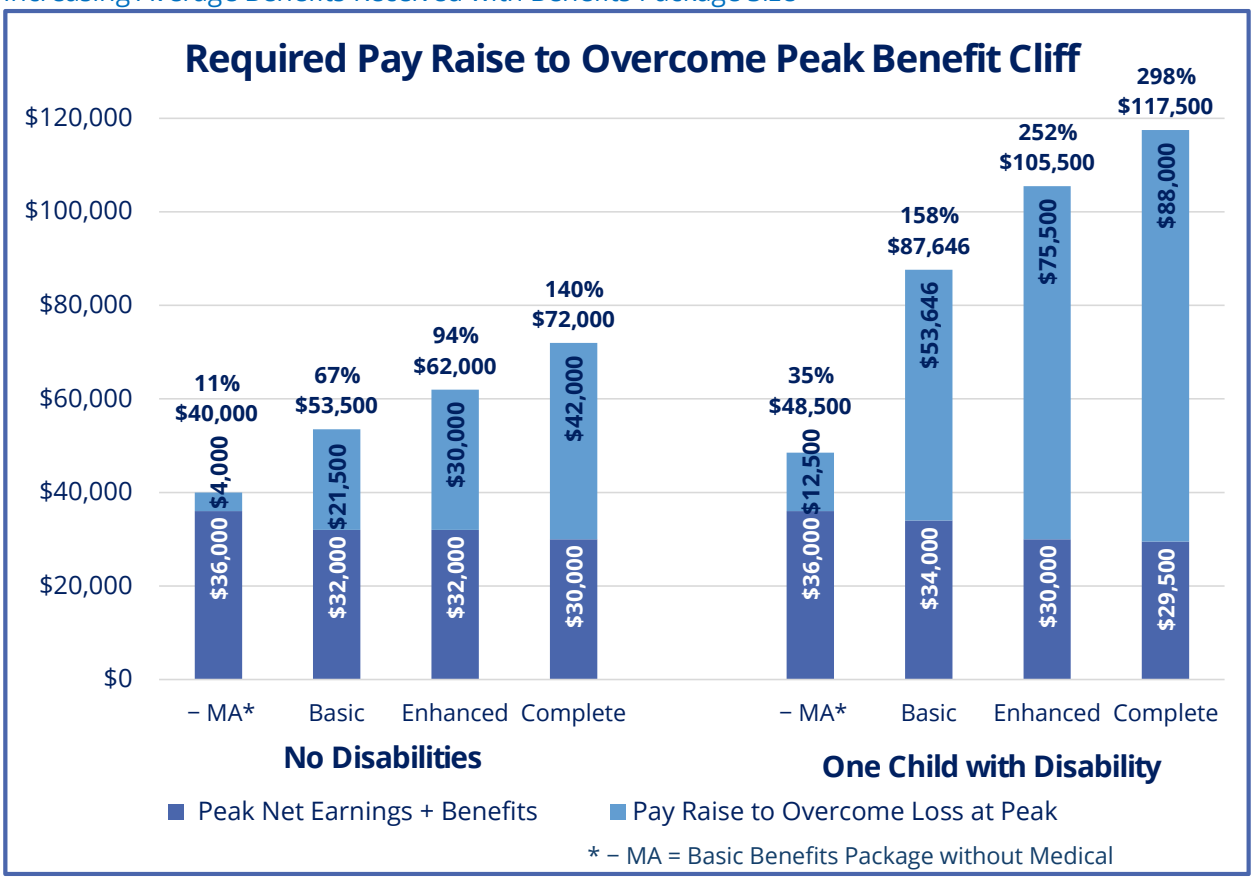


Chart 35 displays the significant pay raises Sophia will need to simply recover from the benefits cliffs for each scenario when her net earnings and benefits reach their peak value. All pay raises are atypical, requiring a major increase in pay. Sophia reaches her peak between a range of $29,000 and $36,000, depending on the benefit package and whether she has a child with a disability.

Without anyone in the household with a disability, and as shown in Chart 35, Sophia would require a pay raise of $4,000, or an increase of 11 percent, to overcome her loss from her peak cliff at earnings of $36,000 for the basic benefits package without medical assistance (Scenario 1). For the basic benefits package (Scenario 3), her peak cliff occurs at earnings of $32,000, requiring a pay raise of $21,500, or 67 percent to overcome her loss. For the enhanced benefits package (Scenario 5), her peak cliff also occurs at $32,000, requiring a pay raise of $30,000, or 94 percent to overcome her loss. For the complete benefits package (Scenario 7), her peak cliff occurs at $30,000, requiring a pay raise of $42,000, or 140 percent.

Note that with these pay raises, Sophia will not be better off. She will simply have the same amount of net earnings and benefits. For example, with the basic benefits package, earnings of $53,500 have no financial advantage over earnings of $32,000. Or with the complete benefits package, $72,000 has no financial advantage over $30,000. However, what she would gain is hope and a pathway of prospective earnings toward greater prosperity.

With a child with a disability, as shown in Chart 35, Sophia would require a pay raise of $12,500, or 35 percent, to overcome her peak cliff at $36,000 in earnings for the basic benefits package without medical assistance (Scenario 2) . For the basic benefits package (Scenario 4), her peak cliff occurs at $34,000 in earnings, requiring a pay raise of $53,646, or 158 percent, to overcome her loss. For the enhanced benefits package (Scenario 6), her peak cliff occurs at $30,000 in earnings, requiring a pay raise of $75,500, or 252 percent, to overcome her loss. For the complete benefits package (Scenario 8), her peak cliff occurs at $29,500 in earnings, requiring a pay raise of $88,000, or 302 percent, to overcome her loss.

Again, there is no financial advantage for Sophia in Scenario 8 to earn $117,500 as opposed to $29,500, but she could gain hope and a pathway toward greater prosperity.

The values in Chart 35 are based on calculations of the GCO Cliff Model, which show the earnings required to recover her peak income of net earnings and benefits. These numbers will change every year given inflation and cost of living adjustments, and likely several times during a year given the disjointed safety-net system. Also, these numbers are based on a single mom with two children. Household size will also vary when peak earnings and the size of benefit cliffs. They will be lower for smaller household sizes, and larger for larger household sizes Nevertheless, GCO has been modeling the system since 2016, and while the numbers change, the patterns stay essentially the same.

Another approach to understand what is needed to overcome cliffs—and this approach might be more helpful in designing solutions to the problem—would be to use Earnings Loss Rates to make sure the incentives to continuously seek higher pay and promotions are preserved for participants of safety-net programs.

Table 3: Earnings Loss Rates & Overcoming Cliffs with No Disabilities
Summary of peak cliffs and recovery earnings with no disabilities

Description	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package
Peak Net Earnings & Benefits Before Major Cliffs	$41,810	$57,959	$64,181	$70,862
Earnings	$36,000	$32,000	$32,000	$30,000
Benefits	$5,810	$25,959	$32,181	$40,862
Recovery Earnings at 100% Earnings Loss Rate	$41,810	$57,959	$64,181	$70,862
Earnings increase to recover @ 100% ELR	16.1%	81.1%	100.6%	136.2%
Recovery Earnings at 75% Earnings Loss Rate	$43,747	$66,612	$74,908	$84,483
Earnings increase to recover @ 75% ELR	21.5%	108.2%	134.1%	181.6%
Recovery Earnings at 50% Earnings Loss Rate	$47,620	$83,918	$96,362	$111,724
Earnings increase to recover @ 50% ELR	32.3%	162.2%	201.1%	272.4%
Recovery Earnings at 25% Earnings Loss Rate	$59,240	$135,836	$160,724	$193,448
Earnings increase to recover @ 25% ELR	64.6%	324.5%	402.3%	544.8%

Table 3 shows those benefit levels when the net income and safety-net benefits peak before it reaches major cliff for when no one in Sophia's family was disabled. Moving left to right (after the description), the columns in the table show Scenario 1, Scenario 3, Scenario 5, and Scenario 7. The first row in the table provides the peak income, which is earnings plus safety-net benefits, before the major benefits cliffs. The next two rows provide the earnings and benefits at that peak income.

The remaining rows provide calculations of what Sophia must earn to overcome the loss in benefits due to the cliffs using four different assumptions for the Earnings Loss Rates required to overcome the loss, along with what percent increase in earnings Sophia would need to reach those earnings levels. The four chosen Earnings Loss Rates are 100 percent, 75 percent, 50 percent, and 25 percent, which correspond to the upper limits of the extreme, high, moderate, and low categories of the Earnings Loss Rate Severity Scale Policy Guide (Table 1).

Table 4: Earnings Loss Rates & Overcoming Cliffs with One Child with a Disability
Summary of peak cliffs and recovery earnings with a child with a disability

Description	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package
Peak Net Earnings & Benefits Before Major Cliffs	$47,679	$85,646	$90,331	$96,355
Earnings	$36,000	$34,000	$30,000	$29,500
Benefits	$11,679	$51,646	$60,331	$66,855
Recovery Earnings at 100% Earnings Loss Rate	$47,679	$85,646	$90,331	$96,355
Earnings increase to recover @ 100% ELR	32.4%	151.9%	201.1%	226.6%
Recovery Earnings at 75% Earnings Loss Rate	$51,572	$102,861	$110,441	$118,640
Earnings increase to recover @ 75% ELR	43.3%	202.5%	268.1%	302.2%
Recovery Earnings at 50% Earnings Loss Rate	$59,358	$137,292	$150,662	$163,210
Earnings increase to recover @ 50% ELR	64.9%	303.8%	402.2%	453.3%
Recovery Earnings at 25% Earnings Loss Rate	$82,716	$240,584	$271,324	$296,920
Earnings increase to recover @ 25% ELR	129.8%	607.6%	804.4%	906.5%

Table 4 shows the same data and has the same explanations as for Table 3, except it shows the situation when Sophia's two-year-old son has a qualifying disability. Moving left to right (after the description), the columns show Scenario 2, Scenario 4, Scenario 6, and Scenario 8.

The results for both situations—as found in Table 3 (no one in the household has a disability) and Table 4 (one child has a disability)—show that the peak net earnings and safety-net benefit vary within the range of $29,500 to $36,000. These thresholds are the same as found in Chart 35. The larger the benefits package, the lower is her ideal threshold of what she should earn. These are the points where she will maximize her aggregate benefits, unless, of course, she could gain an unusually sizeable and atypical increase in her earnings.

Moreover, if Sophia is close to her threshold in earnings, her best option for improving her financial situation would be to secure more safety-net benefits for herself and family, and it would be a reasonable strategy for her to stay at the lowest threshold in case she can secure additional benefits. This would be the rational economic behavior in her own self-interest. As will be seen in a moment, attempting to improve her situation with earnings may just not be a reasonable alternative, unless she could fast track major improvements in her marketability in the job market.

Let us first take the case of the extreme Earnings Loss Rate of 100 percent, which would simply replace the lost benefits with additional earnings.[58] For example, in Table 3, the basic benefits package has a peak net earnings and benefits of $57,959 where benefits comprise $25,959 compared to her $32,000 in earnings. A 100 percent Earnings Loss Rate would have her earn $57,959 before she regains her lost benefits, which is precisely an 81.1 percent increase—of her current earnings. However, because we have not accounted for increased taxes, this would not fully restore her loss in benefits. Therefore, the Earnings Loss Rate cannot be 100 percent. It must be lower than 100 percent.

Let us look at another example in Table 3, the Earnings Loss Rate of 75 percent for the basic benefits package. It is more likely to restore the income level of what she lost. In this case, she would need to earn $66,612 before she would be made whole for lost benefits, which is a 108.2 percent increase in earnings, more than doubling her earnings. In order for Sophia to accomplish this, she would need to be very motivated and develop a more highly demanded skill in the job market than what she likely has at the moment. Given that she has two children and an absent father, it will be difficult for Sophia to find the time necessary to develop the needed skills.

Although a 75 percent Earnings Loss Rate is clearly better than a 100 percent loss rate, it is still on the upper end of the high severity using the Earnings Loss Rate Severity Scale Policy Guide (Table 1), meaning there is not much of an incentive for Sophia to make that extraordinary effort to make the jump. A more reasonable Earnings Loss Rate would be 50 percent, where the government takes away half of what she earns through taxation and reduced benefits. In this case, Sophia would need to earn $83,918, a 162.2 percent increase. Needless to say, the effort required to increase one's earnings this much would be a monumental task.

The last example given is an Earnings Loss Rate of 25 percent, which would have the highest incentive to earn more money. However, this would require Sophia to earn $135,836. This result shows the potential impracticality of using a low rate as the benchmark from the standpoint of crafting a solution to fix the benefit cliff problem, which might require an unacceptable combination of reducing benefits and expanding income eligibility at a great cost to government.

[58] The values in Table 3 and Table 4 will not match Chart 35 for several reasons. First, using Earnings Loss Rates to measure the recovery assumes does not account for additional benefits at higher income levels. In the meantime, Chart 35 uses precise calculations based on current eligibility rules that account for those benefits at every earnings interval.

Table 3 provides the same calculations for the other three benefit packages. As the benefit packages increase in size, the greater are the earnings she will need to overcome the loss in benefits at her peak net earnings and safety-net benefits. For example, for the complete benefits package, that as a maximum benefit at $30,000, she would require earnings of $84,483 at a 75 percent Earnings Loss Rate, or earnings of $111,724 at a 50 percent Earnings Loss Rate, to recover from what she had at $30,000 in earnings.

The numbers are worse in Table 4 that assumes her little boy has a disability. Using the same examples, Sophia would need to increase her earnings by 141.9 percent to $85,646 to replace her lost benefits from the basic benefits package from when she earned $34,000, using a 100 percent Earnings Loss Rate, or $102,861 using a 75 percent Earnings Loss Rate, or $137,292 at 50 percent Earnings Loss Rate. For the complete benefits package, Sophia would need $96,355 at a 100 percent Earnings Loss Rate, $118,640 at a 75 percent Earnings Loss Rate, or $163,210 at a 50 percent Earnings Loss Rate to replace what she had at $29,500.

The numbers in Table 3 and Table 4 can be discouraging for Sophia and families like hers and daunting for policymakers who want to fix the system. It leaves single moms with two children little reason to try to earn more than $29,500, and their best strategy may be to try to increase their safety-net benefits.

Marriage is a possible strategy to overcome cliffs. However, marriage penalties with the tax and safety-net systems interfere with this strategy for many single moms. Therefore, the process to find solutions to benefits cliffs must be accompanied with a process to find solutions for marriage penalties. Both need to be addressed if policymakers want to maximize the impact of lifting people out of poverty.

While the magnitude of the problem may be overwhelming to policymakers and others who want to fix the benefits cliffs and marriage penalties problems, read on for some strategies on how to find solutions.

Strategies to Overcome Cliffs

The purpose of this paper is to lay out the complexities and gravity of the benefit cliff problem using the example of a single mom family with two children in North Carolina and her prospective to earn more money. The hope is that it will inspire others to undertake serious efforts to address the problem in a way that restores incentives to earn more, eliminates the prohibitive benefit cliffs, is fiscally responsible for government and economically feasible.

In the meantime, the Georgia Center for Opportunity continues to research solutions that can help find solutions for both benefits cliffs and marriage penalties. These strategies are summarized below.

What State Governments Can Do

State governments have some control over safety-net issues, and we offer three strategies to correct benefit cliffs with regard to SNAP, medical assistance, and subsidized child care. We chose these safety-net programs because we believe that if these cliffs are solved, it would go a long way to solving the overall problem with regard to households without disabled members, and it would be a great step forward in solving cliffs for families with members who have disabilities.

The Georgia Center for Opportunity released a study,[59] cited numerous times already, that includes a recommendation for states who do not want to wait for Congress to fix the SNAP benefit cliff and want to go ahead and apply for and receive a Section 2026 waiver to SNAP rules that allows the state to demonstrate how to fix SNAP benefit cliffs. The demonstration project would require testing 15 percent of the state's SNAP participants with new eligibility rules, which are detailed in the study. Incidentally, the report also recommended that states could also demonstrate how to mitigate SNAP marriage penalties.

Demonstration projects in safety-net programs are quite common. In fact, Congress has explicitly authorized demonstration projects for the very reason of allowing states to test methods and find solutions to vexing problems. It enables a single state

[59] *Solving the Food Assistance (SNAP) Benefits Cliffs: Fixing the Safety Net System:* https://foropportunity.org/wp-content/uploads/2023/10/SNAP-Cliffs-Solution-v1.9.pdf. Because North Carolina uses 200 percent of FPL BBCE, it might consider using a Benefits Reduction Rate of 20 percent as opposed to the 30 percent recommended in the report.

to demonstrate a viable solution that can pave the way for other states and lead Congress to a national solution, which is how welfare reform in 1996 was enacted.[60]

The limitations to modeling medical assistance, as explained earlier in this report, can be leveraged to substantially reduce benefits cliffs. What is not shown in the modeling are the out-of-pocket costs if a family has employer-based coverage or obtains coverage from the government-run health insurance exchanges. Therefore, GCO has been advocating for a wholesale approach to healthcare insurance reform using the actuarial basis underlying insurance. Fortunately, federal law has waivers whereby states can achieve this wholesale reform, allowing them to rearrange their healthcare systems to better serve their citizens in a manner that eliminates the problem of portability and preexisting conditions—and achieves universal coverage using the most free-market approach currently utilized when it comes to healthcare and that is consumer-directed, enhances quality of care, and preserves innovation.

The recommendation is that states use Section 1332 of the Affordable Care Act, which is a very broad and unusually flexible waiver, along with standard Section 1115 waivers to craft a much better healthcare system as envisioned. GCO has produced several papers on what such a system would look like, which is based on the success of a healthcare system developed in Switzerland and argued persuasively by a few notable health policy experts as the model for reform.[61] This solution relies on the

[60] Wisconsin Works demonstrated principles in how to run welfare programs that lead to the enactment of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 that replaced the Aid to Families with Dependent Children (AFDC) program with the Temporary Assistance for Needy Families (TANF) block grant.

[61] GCO has produced several documents on how to attain universal coverage using market-based, consumer-driven market-based systems based on the Swiss Model. See Erik Randolph, A Real Solution for Health Insurance and Medical Assistance, Georgia Center for Opportunity, January 2018: https://georgiaopportunity.org/wp-content/uploads/2018/02/WEB-A-Real-Solution-for-Health-Insurance-.pdf, and Erik Randolph, *What Does An Ideal Solution To The Health Insurance Crisis Look Like? Principles for Policymakers when crafting a federal waiver application.* Georgia Center for Opportunity, July 2019: https://foropportunity.org/wp-content/uploads/2019/07/19-057-GCO-HealthCare-Ideal2.pdf. Also see Regina E. Herzlinger and Ramin Paras-Parsi, "Consumer-Driven Health Care: Lessons from Switzerland," JAMA, Vol. 292, September 9, 2004, p. 1213 (https://jamanetwork.com/journals/jama/article-abstract/199398); Avik Roy, "Why Switzerland Has the World's Best Health Care System," Forbes, April 28, 2011 (https://www.forbes.com/sites/theapothecary/2011/04/29/why-switzerland-has-the-worlds-best-health-care-system) ; and Avik Roy, "Switzerland: A Case Study in Consumer-Driven Health Care," Forbes, December 26, 2012 (https://www.forbes.com/sites/aroy/2012/12/26/switzerland-a-case-study-in-consumer-driven-health-care); and Robert E. Leu, Frans F. H. Rutten, Werner Brouwer, Pius Matter, and Christian Rütschi, The Swiss and Dutch Health Insurance Systems: Universal Coverage and Regulated Competitive Insurance Markets Pub. No. 1220,

actuarial basis on the backend of how insurance works and extends the demographic pool for that basis to equalize the health risks among the entire population.[62] The good news is that this solution already exists in practice and is not theoretical. Not to oversimplify the task, but it is really just a matter of figuring out how states can best adapt the model to their demographic circumstances.

Subsidized child care is another area of research for the Georgia Center for Opportunity. However, the Center has not yet published results, although staffers believe they have a good sense of what steps will be necessary. Subsidized child care is a federal block grant that gives more flexibility to states than SNAP, and states can alter their state plan within federal statutory limits to effectuate necessary changes to their programs.

In general, the child care solution will lie with better use of quality dollars to improve child safety, increase supply, and reduce costs, emphasizing child support from noncustodial parents, and restructuring the cost-sharing sliding scales to incentivize lower cost settings. In the coming months, GCO will be producing more details on best options for the states when it comes to subsidized child care.

In addition, GCO has been advocating for states to adopt the One Door Model, which is an administrative structure that combines safety-net programs with workforce services. Based on the success of Utah's Department of Workforce Services, this integration of services provides an organizational structure that will better enable the necessary reforms to address benefits cliffs. GCO is part of the Alliance for Opportunity that provides more information on the One Door Model, and has been collaborating with Mason Bishop, nonresident fellow of the American Enterprise Institute, on promoting the model.[63]

Commonwealth Fund, January 2009 (https://www.commonwealthfund.org/sites/default/files/documents/___media_files_publications_fund_report_2009_jan_the_swiss_and_dutch_health_insurance_systems__universal_coverage_and_regulated_competitive_insurance_leu_swissdutchhltinssystems_1220_pdf.pdf).

[62] The solution relies on a risk equalization fund, which is not the same as a high-risk pool, and a mechanism to redistribute the risk among health insurers.

[63] For more information, see the website for Alliance for Opportunity, specifically the links Safety Nets > One Door Out of Poverty and Into Opportunity: https://allianceforopportunity.com. Also, Mason Bishop, a nonresident fellow of the American Enterprise Institute, is the nation's leading expert on the topic and has been collaborating with the Alliance. See Mason M. Bishop, *The Utah Model: Workforce Programs and Services Integration Tool Kit*, American Enterprise Institute, July 2023: https://www.aei.org/research-products/report/the-utah-model-workforce-programs-and-services-integration-tool-kit.

What Congress Can Do

If it has the will and the crucial know-how, Congress could solve many of the problems of benefit cliffs and marriage penalties. However, it will likely need help in the way of demonstration projects from the states and carefully selected experts.

The SNAP paper GCO produced already referenced[64] includes six specific recommendations for Congress on how it can solve SNAP benefit cliffs. Obviously, we recommend that Congress follows those recommendations. In general, the recommendations would simplify the eligibility system with a fixed benefits reduction rate that begins immediately once the household begins to have earnings, and it consolidates the two income limits into a single income limit that corresponds to a calculated exit point whereby the household can easily overcome the loss in benefits with a typical pay raise. These are explained in greater detail in the referenced study.

The same GCO study also recommends two SNAP rule changes to mitigate SNAP marriage penalties. First, Congress can create a married-couple standard deduction, and it can change the definition of a household to include all members with few exceptions.

When it comes to healthcare, states can already adapt the Swiss model to their situation using Section 1332 and Section 1115 waivers, which will require approval of the federal government. However, Congress can encourage states in this direction by providing incentives, and it can direct federal agencies to provide technical assistance to the states to help them successfully adopt and adapt the model.

When it comes to subsidized child care, we have identified one provision in federal regulations that could cause concern when states work to introduce incentives in their cost sharing plans. We believe that the Department of Health and Human Services misapplied the equality provision for providers to the sliding scale, limiting how states can revise their sliding scales to incentivize lower cost but safe settings that foster early learning and development. Although this misapplication can be fixed by regulation, Congress may choose to fix the problem through legislation.

In addition to these three safety-net program areas, there are other problem areas that Congress might want to visit. The most important among them is the improper tapering of SSI benefits, as clearly demonstrated by our modeling presented in this

[64] *Solving the Food Assistance (SNAP) Benefits Cliffs: Fixing the Safety Net System:* https://foropportunity.org/wp-content/uploads/2023/10/SNAP-Cliffs-Solution-v1.9.pdf.

paper. SSI also has severe marriage penalties not addressed in this paper. GCO has not yet completed the analysis, modeling, or recommendations pursuant to a benefit cliff or marriage penalty solution for SSI.

Also, GCO's internal analysis of the Earned Income Tax Credit has shown marriage penalties for many marriage scenarios, with particularly severe penalties when both parties in the marriage are working and at least one of them has children. GCO will be publishing its recommendations on how policymakers can best address the marriage penalty problem in the EITC later this year.

Congress might consider reviewing all safety-net programs that do not taper benefits, such as LIHEAP, subsidized school meals, and WIC food packages. GCO's modeling can help guide solutions with those programs. In fact, GCO has previously recommended safety-net program consolidation that will help control benefit cliffs.[65] For example, consolidation of all non-commodity food programs, that is, SNAP, school meals and WIC supplemental food benefits—and following the recommendation on how to solve the SNAP benefit cliff problem—would solve the cliff problems for school meals and WIC in addition to that of SNAP.

Finally, Congress might also consider federal legislation to encourage states to adopt the One Door Model that enables states to emphasize the importance of work and develop the ideal administrative infrastructure to tackle the problem of benefit cliffs.

What Nonprofits Can Do

Nonprofit organizations that work with families participating in safety-net programs can help in a number of ways. Perhaps the best role they can play is to help participants set goals, acquire soft and hard work skills, and connect with employers offering living wages.

[65] GCO had produced a series of three reports on benefit cliffs and framework for reform, released in 2018. Although intended for Georgia, the reports have principles that can be applied to other states. The second report in the series lays out principles and an overall framework, including program consolidation, and the third report gives provides a roadmap to begin a process toward implementation. Authored by Erik Randolph, the reports are the *Systemic Welfare in Georgia Part 1: The Case for Reform*, January 2018: https://foropportunity.org/wp-content/uploads/2018/02/WEB-Part-1-Systemic_Welfare_Reform.pdf; *Systemic Welfare in Georgia Part 2: Principles and Framework for Reform*, January 2018: https://foropportunity.org/wp-content/uploads/2018/02/WEB-Part-2-Systemic_Welfare_Reform.pdf; and *Systemic Welfare in Georgia Part 3: How the New System Will Work*, , January 2018: https://foropportunity.org/wp-content/uploads/2018/02/WEB-Part-3-Systemic-Welfare-Reform.pdf.

They can also provide coaching and education services to help them learn about financial literacy, life organization skills, and how to deal with the strains of poverty. They can also provide specific services, such as food banks, transportation to jobs and necessary services, and emergency cash.

They can help by providing family relationship courses to have healthy marriages and strong relationships with their children and extended family members. Marriage is negatively associated with poverty and positively associated with better outcomes for children and communities.

Nonprofits can also work with employers and others to pull resources together to provide necessary services, such as child care services and transportation to and from work and important services, such as doctor appointments.

Finally, they can help by providing or connecting people with addiction services or mental health therapists when needed.

What Employers Can Do

If they can afford it, employers can provide healthcare coverage that offers lower out-of-pocket costs and health savings accounts to help employees pay for those out-of-pocket expenses. If large enough, employers can provide their employees with transportation services or child care services. All employers, including small businesses, may be able to collaborate with other employers to provide these benefits, such as transportation and child care services for their employees. In this way, employers can help their employees weather the benefits cliffs they face as they earn additional income.

What Individuals Can Do

If it is not too late, individuals can follow the success sequence, which consists of first graduating from high school and completing one's education, finding a well-paying job, getting married, and having children. According to one study, following these in order has a 97 percent success rate for not living in poverty. In contrast, those getting the sequence out of order have a probability of 52 percent to be living in poverty.[66]

However, it is never too late for individuals to take control of their own destiny and turn their lives around. Even if individuals did not get the sequence in order, they can

[66] Wendy Wang and Brad Wilcox, *The Power of the Success Sequence for disadvantaged Young Adults*, American Enterprise Institute and Institute for Family Studies, May 2022: https://www.aei.org/wp-content/uploads/2022/05/successsequencedisadvantagedya-final.pdf.

still make inroads to improving their lives. They can set education and job training goals allowing them to obtain jobs that pay enough where they no longer require benefits from safety-net assistance programs, and they need to follow through on their goals by seeking opportunities to get the education and training they need and get connected to jobs.

They can also seek help from nonprofit organizations, including faith-based organizations, to help them in numerous ways, which may include helping them with financial literacy, family relations, knowing how to raise highly capable children, dependency problems, and social networking that may lead to viable employment.

Conclusion

Safety-net programs can help individuals in times of need. However, for single moms who need assistance, there are serious drawbacks that can trap them in the system. A case study of a hypothetical single mom with two children in North Carolina using precise rules of eligibility revealed that the safety-net system has benefit cliffs and serious disincentives for earning more money. This report examined four benefit packages and considered two situations where no one in the single mom's family has a disability, and when one child has a disability. In every case, there are multiple cliffs on a range of prospective annual earnings from $0 to $100,000.

The more benefits that safety-net packages have, the more numerous and severe are the disincentives and benefit cliffs, and the more difficult it is for the single mom to overcome them. The situation worsens significantly when one of the children has a disability.

In general, the safety-net system is sending a message that low-income single moms with two children in 2023 should not earn more than $29,500 because she will suffer financially if she earns more. This threshold changes each year and by household size, but the pattern stays the same. For the basic benefits package, she will need almost double her earnings to overcome the loss of benefits. For packages with more benefits, it will require substantially more than doubling her earnings. Therefore, it is rational economic behavior for her to turn down opportunities to earn more.

Not only that, but severe disincentives start earlier than the $29,500 threshold, where it would be equally rational for her to not seek higher earnings at even lower incomes. This evidence demonstrates that work requirements attached to safety-net programs are not enough. The disincentives in the system itself also need to be addressed.

This study explains each cliff—little or big—potentially encountered by single moms with two children, and why they occur. Some cliffs occur because some programs—such as subsidized child care or the school lunch program—have hard cutoffs instead of gradually tapering off benefits with increased earnings.

They also occur in programs that include a tapering feature. For example, Supplemental Security Income tapers benefits with earnings, but the tapering rate is too steep, causing cliffs and other severe disincentives to earn more money once it is combined with other benefit programs. The Supplemental Nutrition Assistance Program (SNAP, formerly called the Food Stamp Program) tapers benefits, but

program features delay the income level for when the tapering starts, and benefits are almost always truncated by the SNAP Gross Income Limit or the Net Income Limit.

Finally, having too many uncoordinated benefit programs can cause cliffs without the loss of eligibility from any safety-net assistance program. This phenomenon is known as a cliff due to the stacking effect and can be easily seen when Section 8 housing assistance is added to the benefits package.

The study examines the many nuances of the major safety-net programs and exposes other problems not easily discerned by the modeling. Among the nuances are the drawbacks of Refundable Tax Credits that do not have benefit cliffs but have marriage penalties, lack monthly income flow for needy participants, and suffer from poor program compliance.

Medical assistance programs have problems of their own. Other than being known for generally having poor health outcomes for its enrollees, Medicaid introduces cliffs for participants who exit the program because they will likely experience significant out-of-pocket expenses whether they obtain coverage through their employer or through government-run Health Insurance Exchanges.

Subsidized child care services can have severe cliffs, and there is no guarantee in obtaining the subsidy or finding a slot for child care services. Section 8 housing benefits are the most difficult to obtain because of the prohibitive fiscal costs of unreasonably attempting to provide benefits to everyone who might otherwise qualify.

Single moms might look to marriage as a way to overcome benefits cliffs, but then the system has severe marriage penalties that shut down that avenue in most cases.

This report lists strategies for state governments, Congress, non-profit organizations, employers, and individuals on what they can do to help fix the safety-net system in a fiscally responsible manner, or to help ease the situation in addressing benefit cliffs, marriage penalties, and, more generally, disincentives for earning more money.

Although the task appears daunting, GCO believes it can be solved through collective, dedicated, and persistent action by public policymakers and partners, if they follow specific recommended strategies mentioned in the study.

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Appendix A: Data Tables

The following two tables summarize the data used to determine the safety-net benefits for the hypothetical family.

Table 5: Cliff Model Output Assuming No Person with a Disability

Earned Income	Net Earnings	Refundable Tax Credits	Cash Assistance	Food Assistance for Basic Benefits Package	Food Assistance for Enhanced Benefits Package	Food Assistance for Complete Benefits Package	All Medical Assistance	Child Care Subsidy	Section 8 Housing
$0	$0	$0	$4,064	$10,306	$10,306	$10,087	$16,445	$4,334	$16,433
$500	$462	$210	$3,801	$10,306	$10,306	$10,064	$16,445	$4,284	$16,377
$1,000	$923	$410	$3,538	$10,306	$10,306	$10,042	$16,445	$4,234	$16,321
$1,500	$1,385	$610	$3,276	$10,306	$10,306	$10,020	$16,445	$4,184	$16,264
$2,000	$1,847	$810	$3,013	$10,306	$10,306	$9,997	$16,445	$4,134	$16,208
$2,500	$2,309	$1,010	$2,750	$10,306	$10,306	$9,975	$16,445	$4,084	$16,152
$3,000	$2,770	$1,285	$2,487	$10,306	$10,306	$9,952	$16,445	$4,034	$16,096
$3,500	$3,232	$1,560	$2,224	$10,306	$10,306	$9,930	$16,445	$3,984	$16,040
$4,000	$3,694	$1,835	$1,962	$10,306	$10,306	$9,908	$16,445	$3,934	$15,983
$4,500	$4,156	$2,110	$1,699	$10,306	$10,306	$9,885	$16,445	$3,884	$15,927
$5,000	$4,617	$2,385	$1,436	$10,306	$10,306	$9,863	$16,445	$3,834	$15,871
$5,500	$5,079	$2,660	$1,173	$10,306	$10,306	$9,841	$16,445	$3,784	$15,815
$6,000	$5,541	$2,935	$910	$10,306	$10,306	$9,818	$16,445	$3,734	$15,759
$6,500	$6,003	$3,210	$800	$10,306	$10,306	$9,741	$16,445	$5,851	$15,657
$7,000	$6,464	$3,485	$800	$10,306	$10,306	$9,624	$16,445	$5,801	$15,522
$7,500	$6,926	$3,760	$800	$10,306	$10,306	$9,507	$16,445	$5,751	$15,387
$8,000	$7,388	$4,035	$800	$10,306	$10,306	$9,390	$16,445	$5,701	$15,252

Earned Income	Net Earnings	Refundable Tax Credits	Cash Assistance	Food Assistance for Basic Benefits Package	Food Assistance for Enhanced Benefits Package	Food Assistance for Complete Benefits Package	All Medical Assistance	Child Care Subsidy	Section 8 Housing
$8,500	$7,850	$4,310	$800	$10,306	$10,306	$9,273	$16,445	$5,651	$15,117
$9,000	$8,311	$4,585	$800	$10,306	$10,306	$9,156	$16,445	$5,601	$14,982
$9,500	$8,773	$4,860	$800	$10,306	$10,306	$9,039	$16,445	$5,551	$14,847
$10,000	$9,235	$5,135	$800	$10,306	$10,306	$8,922	$16,445	$5,501	$14,712
$10,500	$9,697	$5,410	$800	$10,306	$10,306	$8,805	$16,445	$5,451	$14,577
$11,000	$10,158	$5,685	$800	$10,306	$10,306	$8,691	$16,445	$5,401	$14,442
$11,500	$10,620	$5,960	$800	$10,306	$10,306	$8,586	$16,445	$6,832	$14,307
$12,000	$11,082	$6,235	$800	$10,306	$10,306	$8,481	$16,445	$6,782	$14,172
$12,500	$11,544	$6,510	$800	$10,247	$10,306	$8,376	$16,445	$6,732	$14,037
$13,000	$12,005	$6,785	$800	$10,127	$10,306	$8,271	$16,445	$6,682	$13,902
$13,500	$12,467	$7,060	$800	$10,007	$10,306	$8,166	$16,445	$6,632	$13,767
$14,000	$12,929	$7,335	$800	$9,887	$10,306	$8,061	$16,445	$6,582	$13,632
$14,500	$13,391	$7,610	$800	$9,767	$10,202	$7,956	$16,445	$6,532	$13,497
$15,000	$13,852	$7,885	$800	$9,647	$10,097	$7,851	$16,445	$6,482	$13,362
$15,500	$14,314	$8,160	$800	$9,527	$9,992	$7,746	$16,445	$6,432	$13,227
$16,000	$14,776	$8,435	$800	$9,407	$9,887	$7,641	$16,445	$6,382	$13,092
$16,500	$15,238	$8,704	$600	$9,287	$9,782	$7,536	$16,445	$6,332	$12,957
$17,000	$15,699	$8,779	$600	$9,167	$9,677	$7,431	$16,445	$6,282	$12,822
$17,500	$16,161	$8,854	$600	$9,047	$9,572	$7,326	$16,445	$6,232	$12,687
$18,000	$16,623	$8,929	$600	$8,927	$9,467	$7,221	$16,445	$6,182	$12,552
$18,500	$17,085	$9,004	$600	$8,807	$9,362	$7,116	$16,445	$6,132	$12,417

Earned Income	Net Earnings	Refundable Tax Credits	Cash Assistance	Food Assistance for Basic Benefits Package	Food Assistance for Enhanced Benefits Package	Food Assistance for Complete Benefits Package	All Medical Assistance	Child Care Subsidy	Section 8 Housing
$19,000	$17,546	$9,079	$600	$8,687	$9,257	$7,011	$16,445	$6,082	$12,282
$19,500	$18,008	$9,154	$600	$8,567	$9,152	$6,906	$16,445	$6,032	$12,147
$20,000	$18,470	$9,229	$600	$8,447	$9,047	$6,801	$16,445	$5,982	$12,012
$20,500	$18,932	$9,304	$600	$8,327	$8,942	$6,696	$16,445	$5,932	$11,877
$21,000	$19,393	$9,379	$600	$8,207	$8,837	$6,591	$16,445	$5,882	$11,742
$21,500	$19,855	$9,454	$600	$8,087	$8,732	$6,486	$16,445	$5,832	$11,607
$22,000	$20,317	$9,431	$600	$7,967	$8,627	$6,381	$16,445	$5,782	$11,472
$22,500	$20,779	$9,401	$600	$7,847	$8,522	$6,276	$16,445	$5,732	$11,337
$23,000	$21,240	$9,343	$600	$7,727	$8,417	$6,171	$16,445	$5,682	$11,202
$23,500	$21,702	$9,201	$600	$7,607	$8,312	$6,066	$16,445	$5,632	$11,067
$24,000	$22,164	$9,061	$600	$7,487	$8,207	$5,961	$16,445	$5,582	$10,932
$24,500	$22,626	$8,921	$600	$7,367	$8,102	$5,856	$16,445	$5,532	$10,797
$25,000	$23,087	$8,780	$600	$7,247	$7,997	$5,751	$16,445	$5,482	$10,662
$25,500	$23,531	$8,635	$600	$7,127	$7,892	$5,646	$16,445	$5,432	$10,527
$26,000	$23,969	$8,495	$600	$7,007	$7,787	$5,541	$16,445	$5,382	$10,392
$26,500	$24,408	$8,353	$600	$6,887	$7,682	$5,436	$16,445	$5,332	$10,257
$27,000	$24,845	$8,213	$600	$6,765	$7,577	$5,331	$16,445	$5,282	$10,122
$27,500	$25,283	$8,066	$600	$6,585	$7,472	$5,226	$16,445	$5,232	$9,987
$28,000	$25,721	$7,924	$600	$6,405	$7,367	$5,121	$16,445	$5,182	$9,852
$28,500	$26,160	$7,783	$600	$6,225	$7,262	$5,016	$16,445	$5,132	$9,717
$29,000	$26,597	$7,642	$600	$6,045	$7,157	$4,911	$16,445	$5,082	$9,582

Earned Income	Net Earnings	Refundable Tax Credits	Cash Assistance	Food Assistance for Basic Benefits Package	Food Assistance for Enhanced Benefits Package	Food Assistance for Complete Benefits Package	All Medical Assistance	Child Care Subsidy	Section 8 Housing
$29,500	$27,035	$7,492	$600	$5,865	$7,052	$4,806	$16,445	$5,032	$9,447
$30,000	$27,473	$7,349	$600	$5,685	$6,947	$4,701	$16,445	$4,982	$9,312
$30,500	$27,864	$7,208	$600	$5,505	$6,842	$4,596	$16,445	$4,932	$9,177
$31,000	$28,301	$7,066	$600	$5,325	$6,720	$4,491	$16,445	$4,882	$9,042
$31,500	$28,740	$6,913	$600	$5,145	$6,563	$4,386	$16,445	$4,832	$8,907
$32,000	$29,178	$6,771	$600	$4,965	$6,405	$4,281	$16,445	$4,782	$8,772
$32,500	$29,616	$6,629	$0	$4,785	$6,248	$4,176	$16,445	$4,732	$8,637
$33,000	$30,053	$6,486	$0	$4,605	$6,090	$4,071	$16,445	$4,682	$8,502
$33,500	$30,492	$6,331	$0	$4,425	$5,933	$3,966	$16,445	$4,632	$8,367
$34,000	$30,930	$6,189	$0	$4,245	$5,775	$3,861	$16,445	$4,582	$8,232
$34,500	$31,368	$6,046	$0	$4,065	$5,618	$3,756	$11,167	$4,532	$8,097
$35,000	$31,805	$5,903	$0	$3,885	$5,460	$3,651	$11,139	$4,482	$7,962
$35,500	$32,244	$5,746	$0	$3,705	$5,303	$3,546	$11,110	$4,432	$7,827
$36,000	$32,682	$5,603	$0	$3,525	$5,145	$3,441	$11,081	$4,382	$7,692
$36,500	$33,120	$5,459	$0	$1,312	$4,988	$1,312	$11,050	$4,332	$7,557
$37,000	$33,557	$5,308	$0	$1,312	$4,830	$1,312	$11,004	$4,282	$7,422
$37,500	$33,996	$5,141	$0	$1,312	$4,673	$1,312	$10,972	$4,232	$7,287
$38,000	$34,434	$4,988	$0	$1,312	$4,515	$1,312	$10,939	$4,182	$7,152
$38,500	$34,872	$4,837	$0	$1,312	$4,358	$1,312	$10,905	$4,132	$7,017
$39,000	$35,309	$4,686	$0	$1,312	$4,200	$1,312	$10,871	$4,082	$6,882
$39,500	$35,748	$4,516	$0	$1,312	$4,043	$1,312	$10,819	$4,032	$6,747

Earned Income	Net Earnings	Refundable Tax Credits	Cash Assistance	Food Assistance for Basic Benefits Package	Food Assistance for Enhanced Benefits Package	Food Assistance for Complete Benefits Package	All Medical Assistance	Child Care Subsidy	Section 8 Housing
$40,000	$36,186	$4,363	$0	$1,312	$3,885	$1,312	$10,783	$3,982	$6,612
$40,500	$36,624	$4,211	$0	$1,312	$3,728	$1,312	$10,746	$3,932	$6,477
$41,000	$37,061	$4,059	$0	$1,312	$3,570	$1,312	$10,708	$3,882	$6,342
$41,500	$37,500	$3,885	$0	$1,312	$3,413	$1,312	$10,669	$3,832	$6,207
$42,000	$37,938	$3,732	$0	$1,312	$1,312	$1,312	$10,629	$3,782	$6,072
$42,500	$38,376	$3,580	$0	$1,312	$1,312	$1,312	$10,572	$3,732	$5,937
$43,000	$38,813	$3,426	$0	$1,312	$1,312	$1,312	$10,531	$3,682	$5,802
$43,500	$39,252	$3,250	$0	$1,312	$1,312	$1,312	$10,488	$3,632	$5,667
$44,000	$39,690	$3,097	$0	$1,312	$1,312	$1,312	$10,445	$3,582	$5,532
$44,500	$40,128	$2,944	$0	$559	$559	$559	$10,402	$3,532	$5,397
$45,000	$40,565	$2,790	$0	$559	$559	$559	$10,357	$3,482	$5,262
$45,500	$40,956	$2,637	$0	$559	$559	$559	$10,293	$3,432	$5,127
$46,000	$41,394	$2,484	$0	$559	$559	$559	$10,247	$3,382	$4,992
$46,500	$41,833	$2,330	$0	$559	$559	$559	$10,200	$3,332	$4,857
$47,000	$42,270	$2,177	$0	$559	$559	$559	$10,152	$3,282	$4,722
$47,500	$42,708	$2,024	$0	$559	$559	$559	$10,103	$3,232	$4,587
$48,000	$43,146	$1,870	$0	$559	$559	$559	$10,053	$3,182	$4,452
$48,500	$43,585	$1,717	$0	$559	$559	$559	$9,984	$3,132	$4,317
$49,000	$44,023	$1,564	$0	$559	$559	$559	$9,932	$3,082	$4,182
$49,500	$44,460	$1,411	$0	$559	$559	$559	$9,880	$3,032	$4,047
$50,000	$44,898	$1,257	$0	$559	$559	$559	$9,827	$0	$4,807

Earned Income	Net Earnings	Refundable Tax Credits	Cash Assistance	Food Assistance for Basic Benefits Package	Food Assistance for Enhanced Benefits Package	Food Assistance for Complete Benefits Package	All Medical Assistance	Child Care Subsidy	Section 8 Housing
$50,500	$45,337	$1,104	$0	$559	$559	$559	$9,773	$0	$4,657
$51,000	$45,774	$951	$0	$559	$559	$559	$9,719	$0	$4,507
$51,500	$46,212	$797	$0	$559	$559	$559	$9,643	$0	$4,357
$52,000	$46,650	$644	$0	$559	$559	$559	$9,586	$0	$4,207
$52,500	$47,089	$491	$0	$559	$559	$559	$9,529	$0	$4,057
$53,000	$47,526	$360	$0	$559	$559	$559	$9,471	$0	$3,907
$53,500	$47,964	$312	$0	$559	$559	$559	$9,412	$0	$3,757
$54,000	$48,402	$264	$0	$117	$117	$117	$10,191	$0	$3,607
$54,500	$48,841	$216	$0	$117	$117	$117	$10,108	$0	$3,457
$55,000	$49,278	$168	$0	$117	$117	$117	$10,047	$0	$3,307
$55,500	$49,716	$120	$0	$117	$117	$117	$9,985	$0	$3,157
$56,000	$50,154	$72	$0	$117	$117	$117	$9,922	$0	$3,007
$56,500	$50,593	$24	$0	$117	$117	$117	$9,858	$0	$2,857
$57,000	$51,030	$0	$0	$117	$117	$117	$9,771	$0	$2,707
$57,500	$51,468	$0	$0	$117	$117	$117	$9,705	$0	$2,557
$58,000	$51,906	$0	$0	$117	$117	$117	$9,639	$0	$2,407
$58,500	$52,345	$0	$0	$117	$117	$117	$9,571	$0	$2,257
$59,000	$52,782	$0	$0	$117	$117	$117	$9,503	$0	$2,107
$59,500	$53,220	$0	$0	$117	$117	$117	$9,435	$0	$1,957
$60,000	$53,658	$0	$0	$117	$117	$117	$9,341	$0	$1,807
$60,500	$54,049	$0	$0	$117	$117	$117	$9,270	$0	$1,657

Earned Income	Net Earnings	Refundable Tax Credits	Cash Assistance	Food Assistance for Basic Benefits Package	Food Assistance for Enhanced Benefits Package	Food Assistance for Complete Benefits Package	All Medical Assistance	Child Care Subsidy	Section 8 Housing
$61,000	$54,486	$0	$0	$117	$117	$117	$9,199	$0	$1,507
$61,500	$54,925	$0	$0	$117	$117	$117	$9,127	$0	$1,357
$62,000	$55,363	$0	$0	$117	$117	$117	$9,054	$0	$1,207
$62,500	$55,801	$0	$0	$117	$117	$117	$8,980	$0	$1,057
$63,000	$56,238	$0	$0	$117	$117	$117	$8,880	$0	$907
$63,500	$56,677	$0	$0	$117	$117	$117	$8,805	$0	$757
$64,000	$57,115	$0	$0	$117	$117	$117	$8,728	$0	$607
$64,500	$57,553	$0	$0	$117	$117	$117	$8,651	$0	$457
$65,000	$57,990	$0	$0	$117	$117	$117	$8,573	$0	$307
$65,500	$58,389	$0	$0	$117	$117	$117	$8,494	$0	$157
$66,000	$58,779	$0	$0	$117	$117	$117	$8,388	$0	$7
$66,500	$59,169	$0	$0	$117	$117	$117	$8,308	$0	$0
$67,000	$59,558	$0	$0	$117	$117	$117	$8,226	$0	$0
$67,500	$59,949	$0	$0	$117	$117	$117	$8,144	$0	$0
$68,000	$60,339	$0	$0	$117	$117	$117	$8,061	$0	$0
$68,500	$60,729	$0	$0	$117	$117	$117	$7,977	$0	$0
$69,000	$61,118	$0	$0	$117	$117	$117	$7,865	$0	$0
$69,500	$61,509	$0	$0	$117	$117	$117	$7,800	$0	$0
$70,000	$61,899	$0	$0	$117	$117	$117	$7,735	$0	$0
$70,500	$62,289	$0	$0	$117	$117	$117	$7,669	$0	$0
$71,000	$62,678	$0	$0	$117	$117	$117	$7,603	$0	$0

Earned Income	Net Earnings	Refundable Tax Credits	Cash Assistance	Food Assistance for Basic Benefits Package	Food Assistance for Enhanced Benefits Package	Food Assistance for Complete Benefits Package	All Medical Assistance	Child Care Subsidy	Section 8 Housing
$71,500	$63,069	$0	$0	$117	$117	$117	$7,536	$0	$0
$72,000	$63,459	$0	$0	$117	$117	$117	$7,447	$0	$0
$72,500	$63,849	$0	$0	$117	$117	$117	$7,379	$0	$0
$73,000	$64,238	$0	$0	$117	$117	$117	$7,311	$0	$0
$73,500	$64,627	$0	$0	$117	$117	$117	$7,242	$0	$0
$74,000	$65,005	$0	$0	$117	$117	$117	$7,173	$0	$0
$74,500	$65,383	$0	$0	$117	$117	$117	$7,103	$0	$0
$75,000	$65,760	$0	$0	$117	$117	$117	$7,017	$0	$0
$75,500	$66,091	$0	$0	$117	$117	$117	$6,946	$0	$0
$76,000	$66,469	$0	$0	$117	$117	$117	$6,875	$0	$0
$76,500	$66,848	$0	$0	$117	$117	$117	$6,803	$0	$0
$77,000	$67,225	$0	$0	$117	$117	$117	$6,730	$0	$0
$77,500	$67,603	$0	$0	$117	$117	$117	$6,634	$0	$0
$78,000	$67,981	$0	$0	$117	$117	$117	$6,561	$0	$0
$78,500	$68,360	$0	$0	$117	$117	$117	$6,486	$0	$0
$79,000	$68,737	$0	$0	$117	$117	$117	$6,412	$0	$0
$79,500	$69,115	$0	$0	$117	$117	$117	$6,337	$0	$0
$80,000	$69,493	$0	$0	$117	$117	$117	$6,261	$0	$0
$80,500	$69,872	$0	$0	$117	$117	$117	$6,169	$0	$0
$81,000	$70,214	$0	$0	$117	$117	$117	$6,092	$0	$0
$81,500	$70,542	$0	$0	$117	$117	$117	$6,015	$0	$0

Earned Income	Net Earnings	Refundable Tax Credits	Cash Assistance	Food Assistance for Basic Benefits Package	Food Assistance for Enhanced Benefits Package	Food Assistance for Complete Benefits Package	All Medical Assistance	Child Care Subsidy	Section 8 Housing
$82,000	$70,870	$0	$0	$117	$117	$117	$5,937	$0	$0
$82,500	$71,199	$0	$0	$117	$117	$117	$5,859	$0	$0
$83,000	$71,526	$0	$0	$117	$117	$117	$5,780	$0	$0
$83,500	$71,854	$0	$0	$117	$117	$117	$5,676	$0	$0
$84,000	$72,182	$0	$0	$117	$117	$117	$5,596	$0	$0
$84,500	$72,511	$0	$0	$117	$117	$117	$5,515	$0	$0
$85,000	$72,838	$0	$0	$117	$117	$117	$5,434	$0	$0
$85,500	$73,166	$0	$0	$117	$117	$117	$5,353	$0	$0
$86,000	$73,494	$0	$0	$117	$117	$117	$5,271	$0	$0
$86,500	$73,823	$0	$0	$117	$117	$117	$5,171	$0	$0
$87,000	$74,150	$0	$0	$117	$117	$117	$5,088	$0	$0
$87,500	$74,478	$0	$0	$117	$117	$117	$5,005	$0	$0
$88,000	$74,806	$0	$0	$117	$117	$117	$4,921	$0	$0
$88,500	$75,135	$0	$0	$117	$117	$117	$4,836	$0	$0
$89,000	$75,462	$0	$0	$117	$117	$117	$4,751	$0	$0
$89,500	$75,790	$0	$0	$117	$117	$117	$4,639	$0	$0
$90,000	$76,118	$0	$0	$117	$117	$117	$4,553	$0	$0
$90,500	$76,399	$0	$0	$117	$117	$117	$4,466	$0	$0
$91,000	$76,726	$0	$0	$117	$117	$117	$4,379	$0	$0
$91,500	$77,055	$0	$0	$117	$117	$117	$4,292	$0	$0
$92,000	$77,383	$0	$0	$117	$117	$117	$4,203	$0	$0

Earned Income	Net Earnings	Refundable Tax Credits	Cash Assistance	Food Assistance for Basic Benefits Package	Food Assistance for Enhanced Benefits Package	Food Assistance for Complete Benefits Package	All Medical Assistance	Child Care Subsidy	Section 8 Housing
$92,500	$77,711	$0	$0	$117	$117	$117	$4,142	$0	$0
$93,000	$78,038	$0	$0	$117	$117	$117	$4,100	$0	$0
$93,500	$78,367	$0	$0	$117	$117	$117	$4,057	$0	$0
$94,000	$78,695	$0	$0	$117	$117	$117	$4,015	$0	$0
$94,500	$79,023	$0	$0	$117	$117	$117	$3,972	$0	$0
$95,000	$79,350	$0	$0	$117	$117	$117	$3,930	$0	$0
$95,500	$79,679	$0	$0	$117	$117	$117	$3,887	$0	$0
$96,000	$80,007	$0	$0	$117	$117	$117	$3,845	$0	$0
$96,500	$80,335	$0	$0	$117	$117	$117	$3,802	$0	$0
$97,000	$80,662	$0	$0	$117	$117	$117	$3,760	$0	$0
$97,500	$80,991	$0	$0	$117	$117	$117	$3,717	$0	$0
$98,000	$81,319	$0	$0	$117	$117	$117	$3,675	$0	$0
$98,500	$81,647	$0	$0	$117	$117	$117	$3,632	$0	$0
$99,000	$81,974	$0	$0	$117	$117	$117	$3,590	$0	$0
$99,500	$82,303	$0	$0	$117	$117	$117	$3,547	$0	$0
$100,000	$82,631	$0	$0	$117	$117	$117	$3,505	$0	$0

Table 6: Cliff Model Output Assuming One Child with a Disability

Earned Income	Net Earnings	Refundable Tax Credits	Cash Assistance	Food Assistance for Basic Benefits Package	Food Assistance for Enhanced Benefits Package	Food Assistance for Complete Benefits Package	All Medical Assistance	Child Care Subsidy	Section 8 Housing
$0	$0	$0	$14,924	$10,130	$10,130	$6,764	$38,133	$4,334	$13,175
$500	$462	$210	$14,661	$10,068	$10,090	$6,738	$38,133	$4,284	$13,119
$1,000	$923	$410	$14,398	$10,006	$10,051	$6,711	$38,133	$4,234	$13,063
$1,500	$1,385	$610	$14,136	$9,944	$10,012	$6,685	$38,133	$4,184	$13,006
$2,000	$1,847	$810	$13,873	$9,883	$9,973	$6,659	$38,133	$4,134	$12,950
$2,500	$2,309	$1,010	$13,610	$9,821	$9,933	$6,633	$38,133	$4,084	$12,894
$3,000	$2,770	$1,285	$13,347	$9,759	$9,894	$6,607	$38,133	$4,034	$12,838
$3,500	$3,232	$1,560	$13,084	$9,698	$9,855	$6,581	$38,133	$3,984	$12,782
$4,000	$3,694	$1,835	$12,822	$9,636	$9,816	$6,554	$38,133	$3,934	$12,725
$4,500	$4,156	$2,110	$12,359	$9,574	$9,776	$6,528	$38,133	$3,884	$12,669
$5,000	$4,617	$2,385	$12,096	$9,512	$9,737	$6,502	$38,133	$3,834	$12,613
$5,500	$5,079	$2,660	$11,892	$9,424	$9,672	$6,458	$38,133	$3,784	$12,539
$6,000	$5,541	$2,935	$11,892	$9,244	$9,514	$6,353	$38,133	$3,734	$12,404
$6,500	$6,003	$3,210	$11,892	$9,064	$9,357	$6,248	$38,133	$5,851	$12,269
$7,000	$6,464	$3,485	$11,892	$8,884	$9,199	$6,143	$38,133	$5,801	$12,134
$7,500	$6,926	$3,760	$11,892	$8,704	$9,042	$6,038	$38,133	$5,751	$11,999
$8,000	$7,388	$4,035	$11,892	$8,524	$8,884	$5,933	$38,133	$5,701	$11,864
$8,500	$7,850	$4,310	$11,892	$8,344	$8,727	$5,828	$38,133	$5,651	$11,729
$9,000	$8,311	$4,585	$11,892	$8,164	$8,569	$5,723	$38,133	$5,601	$11,594
$9,500	$8,773	$4,860	$11,892	$7,984	$8,412	$5,618	$38,133	$5,551	$11,459

Earned Income	Net Earnings	Refundable Tax Credits	Cash Assistance	Food Assistance for Basic Benefits Package	Food Assistance for Enhanced Benefits Package	Food Assistance for Complete Benefits Package	All Medical Assistance	Child Care Subsidy	Section 8 Housing
$10,000	$9,235	$5,135	$11,892	$7,804	$8,254	$5,513	$38,133	$5,501	$11,324
$10,500	$9,697	$5,410	$11,892	$7,624	$8,097	$5,408	$38,133	$5,451	$11,189
$11,000	$10,158	$5,685	$11,892	$7,444	$7,939	$5,303	$38,133	$5,401	$11,054
$11,500	$10,620	$5,960	$11,892	$7,264	$7,782	$5,198	$38,133	$6,832	$10,919
$12,000	$11,082	$6,235	$11,892	$7,084	$7,624	$5,093	$38,133	$6,782	$10,784
$12,500	$11,544	$6,510	$11,892	$6,904	$7,467	$4,988	$38,133	$6,732	$10,649
$13,000	$12,005	$6,785	$11,892	$6,724	$7,309	$4,883	$38,133	$6,682	$10,514
$13,500	$12,467	$7,060	$11,892	$6,544	$7,152	$4,778	$38,133	$6,632	$10,379
$14,000	$12,929	$7,335	$11,892	$6,364	$6,994	$4,673	$38,133	$6,582	$10,244
$14,500	$13,391	$7,610	$11,892	$6,184	$6,837	$4,568	$38,133	$6,532	$10,109
$15,000	$13,852	$7,885	$11,892	$6,004	$6,679	$4,463	$38,133	$6,482	$9,974
$15,500	$14,314	$8,160	$11,892	$5,824	$6,522	$4,358	$38,133	$6,432	$9,839
$16,000	$14,776	$8,435	$11,892	$5,644	$6,364	$4,253	$38,133	$6,382	$9,704
$16,500	$15,238	$8,704	$11,892	$5,464	$6,207	$4,148	$38,133	$6,332	$9,569
$17,000	$15,699	$8,779	$11,892	$5,284	$6,049	$4,043	$38,133	$6,282	$9,434
$17,500	$16,161	$8,854	$11,892	$5,104	$5,892	$3,938	$38,133	$6,232	$9,299
$18,000	$16,623	$8,929	$11,892	$4,924	$5,734	$3,833	$38,133	$6,182	$9,164
$18,500	$17,085	$9,004	$11,892	$4,744	$5,577	$3,728	$38,133	$6,132	$9,029
$19,000	$17,546	$9,079	$11,892	$4,564	$5,419	$3,623	$38,133	$6,082	$8,894
$19,500	$18,008	$9,154	$11,892	$4,384	$5,262	$3,518	$38,133	$6,032	$8,759
$20,000	$18,470	$9,229	$11,892	$4,204	$5,104	$3,413	$38,133	$5,982	$8,624

Earned Income	Net Earnings	Refundable Tax Credits	Cash Assistance	Food Assistance for Basic Benefits Package	Food Assistance for Enhanced Benefits Package	Food Assistance for Complete Benefits Package	All Medical Assistance	Child Care Subsidy	Section 8 Housing
$20,500	$18,932	$9,304	$11,892	$4,024	$4,947	$1,312	$38,133	$5,932	$8,489
$21,000	$19,393	$9,379	$11,892	$3,844	$4,789	$1,312	$38,133	$5,882	$8,354
$21,500	$19,855	$9,454	$11,292	$3,664	$4,632	$1,312	$38,133	$5,832	$8,219
$22,000	$20,317	$9,431	$11,292	$3,484	$4,474	$1,312	$38,133	$5,782	$8,084
$22,500	$20,779	$9,401	$11,292	$1,312	$4,317	$1,312	$38,133	$5,732	$7,949
$23,000	$21,240	$9,343	$11,292	$1,312	$4,159	$1,312	$38,133	$5,682	$7,814
$23,500	$21,702	$9,201	$11,292	$1,312	$4,002	$1,312	$38,133	$5,632	$7,679
$24,000	$22,164	$9,061	$11,292	$1,312	$3,844	$1,312	$38,133	$5,582	$7,544
$24,500	$22,626	$8,921	$11,292	$1,312	$3,687	$1,312	$38,133	$5,532	$7,409
$25,000	$23,087	$8,780	$11,292	$1,312	$3,529	$1,312	$38,133	$5,482	$7,274
$25,500	$23,531	$8,635	$11,292	$1,312	$1,312	$1,312	$38,133	$5,432	$7,139
$26,000	$23,969	$8,495	$11,292	$1,312	$1,312	$1,312	$38,133	$5,382	$7,004
$26,500	$24,408	$8,353	$11,292	$1,312	$1,312	$1,312	$38,133	$5,332	$6,869
$27,000	$24,845	$8,213	$11,292	$1,312	$1,312	$1,312	$38,133	$5,282	$6,734
$27,500	$25,283	$8,066	$11,292	$1,312	$1,312	$1,312	$38,133	$5,232	$6,599
$28,000	$25,721	$7,924	$11,292	$1,312	$1,312	$1,312	$38,133	$5,182	$6,464
$28,500	$26,160	$7,783	$11,292	$1,312	$1,312	$1,312	$38,133	$5,132	$6,329
$29,000	$26,597	$7,642	$11,292	$1,312	$1,312	$1,312	$38,133	$5,082	$6,194
$29,500	$27,035	$7,492	$11,292	$1,312	$1,312	$1,312	$38,133	$5,032	$6,059
$30,000	$27,473	$7,349	$11,082	$1,312	$1,312	$1,312	$38,133	$4,982	$5,987
$30,500	$27,864	$7,208	$10,832	$1,312	$1,312	$1,312	$38,133	$4,932	$5,927

Earned Income	Net Earnings	Refundable Tax Credits	Cash Assistance	Food Assistance for Basic Benefits Package	Food Assistance for Enhanced Benefits Package	Food Assistance for Complete Benefits Package	All Medical Assistance	Child Care Subsidy	Section 8 Housing
$31,000	$28,301	$7,066	$10,582	$1,312	$1,312	$1,312	$38,133	$4,882	$5,867
$31,500	$28,740	$6,913	$10,332	$1,312	$1,312	$1,312	$38,133	$4,832	$5,807
$32,000	$29,178	$6,771	$10,082	$1,312	$1,312	$1,312	$38,133	$4,782	$5,747
$32,500	$29,616	$6,629	$9,832	$1,312	$1,312	$1,312	$38,133	$4,732	$5,687
$33,000	$30,053	$6,486	$9,582	$1,312	$1,312	$1,312	$38,133	$4,682	$5,627
$33,500	$30,492	$6,331	$9,332	$1,312	$1,312	$1,312	$38,133	$4,632	$5,567
$34,000	$30,930	$6,189	$9,082	$1,312	$1,312	$1,312	$38,133	$4,582	$5,507
$34,500	$31,368	$6,046	$8,832	$1,312	$1,312	$1,312	$32,854	$4,532	$5,447
$35,000	$31,805	$5,903	$8,582	$1,312	$1,312	$1,312	$32,826	$4,482	$5,387
$35,500	$32,244	$5,746	$8,332	$1,312	$1,312	$1,312	$32,797	$4,432	$5,327
$36,000	$32,682	$5,603	$8,082	$1,312	$1,312	$1,312	$32,768	$4,382	$5,267
$36,500	$33,120	$5,459	$7,832	$559	$559	$559	$32,737	$4,332	$5,207
$37,000	$33,557	$5,308	$7,582	$559	$559	$559	$32,691	$4,282	$5,147
$37,500	$33,996	$5,141	$7,332	$559	$559	$559	$32,659	$4,232	$5,087
$38,000	$34,434	$4,988	$7,082	$559	$559	$559	$32,626	$4,182	$5,027
$38,500	$34,872	$4,837	$6,832	$559	$559	$559	$32,592	$4,132	$4,967
$39,000	$35,309	$4,686	$6,582	$559	$559	$559	$32,558	$4,082	$4,907
$39,500	$35,748	$4,516	$6,332	$559	$559	$559	$32,506	$4,032	$4,847
$40,000	$36,186	$4,363	$6,082	$559	$559	$559	$32,470	$3,982	$4,787
$40,500	$36,624	$4,211	$5,832	$559	$559	$559	$32,433	$3,932	$4,727
$41,000	$37,061	$4,059	$5,582	$559	$559	$559	$32,395	$3,882	$4,667

Earned Income	Net Earnings	Refundable Tax Credits	Cash Assistance	Food Assistance for Basic Benefits Package	Food Assistance for Enhanced Benefits Package	Food Assistance for Complete Benefits Package	All Medical Assistance	Child Care Subsidy	Section 8 Housing
$41,500	$37,500	$3,885	$5,332	$559	$559	$559	$32,356	$3,832	$4,607
$42,000	$37,938	$3,732	$5,082	$559	$559	$559	$32,316	$3,782	$4,547
$42,500	$38,376	$3,580	$4,832	$559	$559	$559	$32,259	$3,732	$4,487
$43,000	$38,813	$3,426	$4,582	$559	$559	$559	$32,218	$3,682	$4,427
$43,500	$39,252	$3,250	$4,332	$559	$559	$559	$32,175	$3,632	$4,367
$44,000	$39,690	$3,097	$4,082	$559	$559	$559	$32,132	$3,582	$4,307
$44,500	$40,128	$2,944	$3,832	$559	$559	$559	$32,089	$3,532	$4,247
$45,000	$40,565	$2,790	$3,582	$559	$559	$559	$32,044	$3,482	$4,187
$45,500	$40,956	$2,637	$3,332	$559	$559	$559	$31,980	$3,432	$4,127
$46,000	$41,394	$2,484	$3,082	$559	$559	$559	$31,934	$3,382	$4,067
$46,500	$41,833	$2,330	$2,832	$559	$559	$559	$31,887	$3,332	$4,007
$47,000	$42,270	$2,177	$2,582	$559	$559	$559	$31,839	$3,282	$3,947
$47,500	$42,708	$2,024	$2,332	$559	$559	$559	$31,790	$3,232	$3,887
$48,000	$43,146	$1,870	$2,082	$559	$559	$559	$31,740	$3,182	$3,827
$48,500	$43,585	$1,717	$1,832	$559	$559	$559	$31,671	$3,132	$3,767
$49,000	$44,023	$1,564	$1,582	$559	$559	$559	$31,619	$3,082	$3,707
$49,500	$44,460	$1,411	$1,332	$559	$559	$559	$31,567	$3,032	$3,647
$50,000	$44,898	$1,257	$1,082	$559	$559	$559	$31,514	$0	$4,482
$50,500	$45,337	$1,104	$832	$559	$559	$559	$31,460	$0	$4,407
$51,000	$45,774	$951	$582	$559	$559	$559	$31,406	$0	$4,332
$51,500	$46,212	$797	$332	$559	$559	$559	$31,330	$0	$4,257

Earned Income	Net Earnings	Refundable Tax Credits	Cash Assistance	Food Assistance for Basic Benefits Package	Food Assistance for Enhanced Benefits Package	Food Assistance for Complete Benefits Package	All Medical Assistance	Child Care Subsidy	Section 8 Housing
$52,000	$46,650	$644	$82	$559	$559	$559	$31,273	$0	$4,182
$52,500	$47,089	$491	$0	$559	$559	$559	$31,216	$0	$4,057
$53,000	$47,526	$360	$0	$559	$559	$559	$31,158	$0	$3,907
$53,500	$47,964	$312	$0	$559	$559	$559	$31,099	$0	$3,757
$54,000	$48,402	$264	$0	$117	$117	$117	$10,191	$0	$3,607
$54,500	$48,841	$216	$0	$117	$117	$117	$10,108	$0	$3,457
$55,000	$49,278	$168	$0	$117	$117	$117	$10,047	$0	$3,307
$55,500	$49,716	$120	$0	$117	$117	$117	$9,985	$0	$3,157
$56,000	$50,154	$72	$0	$117	$117	$117	$9,922	$0	$3,007
$56,500	$50,593	$24	$0	$117	$117	$117	$9,858	$0	$2,857
$57,000	$51,030	$0	$0	$117	$117	$117	$9,771	$0	$2,707
$57,500	$51,468	$0	$0	$117	$117	$117	$9,705	$0	$2,557
$58,000	$51,906	$0	$0	$117	$117	$117	$9,639	$0	$2,407
$58,500	$52,345	$0	$0	$117	$117	$117	$9,571	$0	$2,257
$59,000	$52,782	$0	$0	$117	$117	$117	$9,503	$0	$2,107
$59,500	$53,220	$0	$0	$117	$117	$117	$9,435	$0	$1,957
$60,000	$53,658	$0	$0	$117	$117	$117	$9,341	$0	$1,807
$60,500	$54,049	$0	$0	$117	$117	$117	$9,270	$0	$1,657
$61,000	$54,486	$0	$0	$117	$117	$117	$9,199	$0	$1,507
$61,500	$54,925	$0	$0	$117	$117	$117	$9,127	$0	$1,357
$62,000	$55,363	$0	$0	$117	$117	$117	$9,054	$0	$1,207

Earned Income	Net Earnings	Refundable Tax Credits	Cash Assistance	Food Assistance for Basic Benefits Package	Food Assistance for Enhanced Benefits Package	Food Assistance for Complete Benefits Package	All Medical Assistance	Child Care Subsidy	Section 8 Housing
$62,500	$55,801	$0	$0	$117	$117	$117	$8,980	$0	$1,057
$63,000	$56,238	$0	$0	$117	$117	$117	$8,880	$0	$907
$63,500	$56,677	$0	$0	$117	$117	$117	$8,805	$0	$757
$64,000	$57,115	$0	$0	$117	$117	$117	$8,728	$0	$607
$64,500	$57,553	$0	$0	$117	$117	$117	$8,651	$0	$457
$65,000	$57,990	$0	$0	$117	$117	$117	$8,573	$0	$307
$65,500	$58,389	$0	$0	$117	$117	$117	$8,494	$0	$157
$66,000	$58,779	$0	$0	$117	$117	$117	$8,388	$0	$7
$66,500	$59,169	$0	$0	$117	$117	$117	$8,308	$0	$0
$67,000	$59,558	$0	$0	$117	$117	$117	$8,226	$0	$0
$67,500	$59,949	$0	$0	$117	$117	$117	$8,144	$0	$0
$68,000	$60,339	$0	$0	$117	$117	$117	$8,061	$0	$0
$68,500	$60,729	$0	$0	$117	$117	$117	$7,977	$0	$0
$69,000	$61,118	$0	$0	$117	$117	$117	$7,865	$0	$0
$69,500	$61,509	$0	$0	$117	$117	$117	$7,800	$0	$0
$70,000	$61,899	$0	$0	$117	$117	$117	$7,735	$0	$0
$70,500	$62,289	$0	$0	$117	$117	$117	$7,669	$0	$0
$71,000	$62,678	$0	$0	$117	$117	$117	$7,603	$0	$0
$71,500	$63,069	$0	$0	$117	$117	$117	$7,536	$0	$0
$72,000	$63,459	$0	$0	$117	$117	$117	$7,447	$0	$0
$72,500	$63,849	$0	$0	$117	$117	$117	$7,379	$0	$0

Earned Income	Net Earnings	Refundable Tax Credits	Cash Assistance	Food Assistance for Basic Benefits Package	Food Assistance for Enhanced Benefits Package	Food Assistance for Complete Benefits Package	All Medical Assistance	Child Care Subsidy	Section 8 Housing
$73,000	$64,238	$0	$0	$117	$117	$117	$7,311	$0	$0
$73,500	$64,627	$0	$0	$117	$117	$117	$7,242	$0	$0
$74,000	$65,005	$0	$0	$117	$117	$117	$7,173	$0	$0
$74,500	$65,383	$0	$0	$117	$117	$117	$7,103	$0	$0
$75,000	$65,760	$0	$0	$117	$117	$117	$7,017	$0	$0
$75,500	$66,091	$0	$0	$117	$117	$117	$6,946	$0	$0
$76,000	$66,469	$0	$0	$117	$117	$117	$6,875	$0	$0
$76,500	$66,848	$0	$0	$117	$117	$117	$6,803	$0	$0
$77,000	$67,225	$0	$0	$117	$117	$117	$6,730	$0	$0
$77,500	$67,603	$0	$0	$117	$117	$117	$6,634	$0	$0
$78,000	$67,981	$0	$0	$117	$117	$117	$6,561	$0	$0
$78,500	$68,360	$0	$0	$117	$117	$117	$6,486	$0	$0
$79,000	$68,737	$0	$0	$117	$117	$117	$6,412	$0	$0
$79,500	$69,115	$0	$0	$117	$117	$117	$6,337	$0	$0
$80,000	$69,493	$0	$0	$117	$117	$117	$6,261	$0	$0
$80,500	$69,872	$0	$0	$117	$117	$117	$6,169	$0	$0
$81,000	$70,214	$0	$0	$117	$117	$117	$6,092	$0	$0
$81,500	$70,542	$0	$0	$117	$117	$117	$6,015	$0	$0
$82,000	$70,870	$0	$0	$117	$117	$117	$5,937	$0	$0
$82,500	$71,199	$0	$0	$117	$117	$117	$5,859	$0	$0
$83,000	$71,526	$0	$0	$117	$117	$117	$5,780	$0	$0

Earned Income	Net Earnings	Refundable Tax Credits	Cash Assistance	Food Assistance for Basic Benefits Package	Food Assistance for Enhanced Benefits Package	Food Assistance for Complete Benefits Package	All Medical Assistance	Child Care Subsidy	Section 8 Housing
$83,500	$71,854	$0	$0	$117	$117	$117	$5,676	$0	$0
$84,000	$72,182	$0	$0	$117	$117	$117	$5,596	$0	$0
$84,500	$72,511	$0	$0	$117	$117	$117	$5,515	$0	$0
$85,000	$72,838	$0	$0	$117	$117	$117	$5,434	$0	$0
$85,500	$73,166	$0	$0	$117	$117	$117	$5,353	$0	$0
$86,000	$73,494	$0	$0	$117	$117	$117	$5,271	$0	$0
$86,500	$73,823	$0	$0	$117	$117	$117	$5,171	$0	$0
$87,000	$74,150	$0	$0	$117	$117	$117	$5,088	$0	$0
$87,500	$74,478	$0	$0	$117	$117	$117	$5,005	$0	$0
$88,000	$74,806	$0	$0	$117	$117	$117	$4,921	$0	$0
$88,500	$75,135	$0	$0	$117	$117	$117	$4,836	$0	$0
$89,000	$75,462	$0	$0	$117	$117	$117	$4,751	$0	$0
$89,500	$75,790	$0	$0	$117	$117	$117	$4,639	$0	$0
$90,000	$76,118	$0	$0	$117	$117	$117	$4,553	$0	$0
$90,500	$76,399	$0	$0	$117	$117	$117	$4,466	$0	$0
$91,000	$76,726	$0	$0	$117	$117	$117	$4,379	$0	$0
$91,500	$77,055	$0	$0	$117	$117	$117	$4,292	$0	$0
$92,000	$77,383	$0	$0	$117	$117	$117	$4,203	$0	$0
$92,500	$77,711	$0	$0	$117	$117	$117	$4,142	$0	$0
$93,000	$78,038	$0	$0	$117	$117	$117	$4,100	$0	$0
$93,500	$78,367	$0	$0	$117	$117	$117	$4,057	$0	$0

Earned Income	Net Earnings	Refundable Tax Credits	Cash Assistance	Food Assistance for Basic Benefits Package	Food Assistance for Enhanced Benefits Package	Food Assistance for Complete Benefits Package	All Medical Assistance	Child Care Subsidy	Section 8 Housing
$94,000	$78,695	$0	$0	$117	$117	$117	$4,015	$0	$0
$94,500	$79,023	$0	$0	$117	$117	$117	$3,972	$0	$0
$95,000	$79,350	$0	$0	$117	$117	$117	$3,930	$0	$0
$95,500	$79,679	$0	$0	$117	$117	$117	$3,887	$0	$0
$96,000	$80,007	$0	$0	$117	$117	$117	$3,845	$0	$0
$96,500	$80,335	$0	$0	$117	$117	$117	$3,802	$0	$0
$97,000	$80,662	$0	$0	$117	$117	$117	$3,760	$0	$0
$97,500	$80,991	$0	$0	$117	$117	$117	$3,717	$0	$0
$98,000	$81,319	$0	$0	$117	$117	$117	$3,675	$0	$0
$98,500	$81,647	$0	$0	$117	$117	$117	$3,632	$0	$0
$99,000	$81,974	$0	$0	$117	$117	$117	$3,590	$0	$0
$99,500	$82,303	$0	$0	$117	$117	$117	$3,547	$0	$0
$100,000	$82,631	$0	$0	$117	$117	$117	$3,505	$0	$0

Table 7: Earnings Loss Rates per Earned Income Interval

Earned Income	No One in the Family with a Disability				One Child in the Family with a Disability			
	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package
$0								
$500	18.2%	18.2%	28.2%	44.0%	30.6%	30.6%	36.2%	44.6%
$1,000	20.4%	20.4%	30.4%	46.0%	32.8%	32.8%	38.2%	47.0%
$1,500	20.0%	20.0%	30.0%	45.8%	32.4%	32.4%	37.8%	46.6%
$2,000	20.2%	20.2%	30.2%	46.0%	32.4%	32.4%	38.0%	46.6%
$2,500	20.2%	20.2%	30.2%	45.8%	32.6%	32.6%	38.2%	46.6%
$3,000	5.4%	5.4%	15.4%	31.2%	17.8%	17.8%	23.2%	31.8%
$3,500	5.2%	5.2%	15.2%	30.8%	17.4%	17.4%	23.0%	31.6%
$4,000	5.0%	5.0%	15.0%	30.8%	17.4%	17.4%	22.8%	31.8%
$4,500	5.2%	5.2%	15.2%	31.0%	57.6%	57.6%	63.2%	71.6%
$5,000	5.4%	5.4%	15.4%	31.0%	17.8%	17.8%	23.2%	31.8%
$5,500	5.2%	5.2%	15.2%	30.8%	11.0%	11.0%	16.4%	27.0%
$6,000	5.2%	5.2%	15.2%	31.0%	-11.4%	-11.4%	-5.8%	10.6%
$6,500	-25.4%	-25.4%	-448.8%	-413.0%	-11.4%	-11.4%	-439.4%	-422.8%
$7,000	-47.2%	-47.2%	-37.2%	13.2%	-11.2%	-11.2%	-5.6%	10.8%
$7,500	-47.4%	-47.4%	-37.4%	13.0%	-11.4%	-11.4%	-6.0%	10.6%
$8,000	-47.4%	-47.4%	-37.4%	13.0%	-11.4%	-11.4%	-5.8%	10.6%
$8,500	-47.4%	-47.4%	-37.4%	13.0%	-11.4%	-11.4%	-6.0%	10.6%
$9,000	-47.2%	-47.2%	-37.2%	13.2%	-11.2%	-11.2%	-5.6%	10.8%

Earned Income	No One in the Family with a Disability				One Child in the Family with a Disability			
	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package
$9,500	-47.4%	-47.4%	-37.4%	13.0%	-11.4%	-11.4%	-6.0%	10.6%
$10,000	-47.4%	-47.4%	-37.4%	13.0%	-11.4%	-11.4%	-5.8%	10.6%
$10,500	-47.4%	-47.4%	-37.4%	13.0%	-11.4%	-11.4%	-6.0%	10.6%
$11,000	-47.2%	-47.2%	-37.2%	12.6%	-11.2%	-11.2%	-5.6%	10.8%
$11,500	-47.4%	-47.4%	-333.6%	-285.6%	-11.4%	-11.4%	-302.2%	-285.6%
$12,000	-47.4%	-47.4%	-37.4%	10.6%	-11.4%	-11.4%	-5.8%	10.6%
$12,500	-47.4%	-47.4%	-37.4%	10.6%	-11.4%	-11.4%	-6.0%	10.6%
$13,000	-47.2%	-47.2%	-37.2%	10.8%	-11.2%	-11.2%	-5.6%	10.8%
$13,500	-47.4%	-47.4%	-37.4%	10.6%	-11.4%	-11.4%	-6.0%	10.6%
$14,000	-47.4%	-47.4%	-37.4%	10.6%	-11.4%	-11.4%	-5.8%	10.6%
$14,500	-47.4%	-47.4%	-16.6%	10.6%	-11.4%	-11.4%	-6.0%	10.6%
$15,000	-47.2%	-47.2%	-16.2%	10.8%	-11.2%	-11.2%	-5.6%	10.8%
$15,500	-47.4%	-47.4%	-16.4%	10.6%	-11.4%	-11.4%	-6.0%	10.6%
$16,000	-47.4%	-47.4%	-16.4%	10.6%	-11.4%	-11.4%	-5.8%	10.6%
$16,500	-6.2%	-6.2%	24.8%	51.8%	-10.2%	-10.2%	-4.8%	11.8%
$17,000	-7.2%	-7.2%	23.8%	50.8%	28.8%	28.8%	34.4%	50.8%
$17,500	-7.4%	-7.4%	23.6%	50.6%	28.6%	28.6%	34.0%	50.6%
$18,000	-7.4%	-7.4%	23.6%	50.6%	28.6%	28.6%	34.2%	50.6%
$18,500	-7.4%	-7.4%	23.6%	50.6%	28.6%	28.6%	34.0%	50.6%
$19,000	-7.2%	-7.2%	23.8%	50.8%	28.8%	28.8%	34.4%	50.8%

Earned Income	No One in the Family with a Disability				One Child in the Family with a Disability			
	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package
$19,500	-7.4%	-7.4%	23.6%	50.6%	28.6%	28.6%	34.0%	50.6%
$20,000	-7.4%	-7.4%	23.6%	50.6%	28.6%	28.6%	34.2%	50.6%
$20,500	-7.4%	-7.4%	23.6%	50.6%	28.6%	28.6%	34.0%	449.8%
$21,000	-7.2%	-7.2%	23.8%	50.8%	28.8%	28.8%	34.4%	29.8%
$21,500	-7.4%	-7.4%	23.6%	50.6%	148.6%	148.6%	154.0%	149.6%
$22,000	12.2%	12.2%	43.2%	70.2%	48.2%	48.2%	53.8%	49.2%
$22,500	26.4%	26.4%	44.6%	71.6%	448.0%	448.0%	55.0%	50.6%
$23,000	43.4%	43.4%	50.4%	77.4%	19.4%	19.4%	61.0%	56.4%
$23,500	60.0%	60.0%	67.0%	94.0%	36.0%	36.0%	77.4%	73.0%
$24,000	59.6%	59.6%	66.6%	93.6%	35.6%	35.6%	77.2%	72.6%
$24,500	59.6%	59.6%	66.6%	93.6%	35.6%	35.6%	77.0%	72.6%
$25,000	60.0%	60.0%	67.0%	94.0%	36.0%	36.0%	77.6%	73.0%
$25,500	64.2%	64.2%	71.2%	98.2%	40.2%	40.2%	493.6%	77.2%
$26,000	64.4%	64.4%	71.4%	98.4%	40.4%	40.4%	50.4%	77.4%
$26,500	64.6%	64.6%	71.6%	98.6%	40.6%	40.6%	50.6%	77.6%
$27,000	64.6%	64.6%	71.6%	98.6%	40.6%	40.6%	50.6%	77.6%
$27,500	65.8%	65.8%	72.8%	99.8%	41.8%	41.8%	51.8%	78.8%
$28,000	64.8%	64.8%	71.8%	98.8%	40.8%	40.8%	50.8%	77.8%
$28,500	64.4%	64.4%	71.4%	98.4%	40.4%	40.4%	50.4%	77.4%
$29,000	64.8%	64.8%	71.8%	98.8%	40.8%	40.8%	50.8%	77.8%

Earned Income	No One in the Family with a Disability				One Child in the Family with a Disability			
	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package
$29,500	66.4%	66.4%	73.4%	100.4%	42.4%	42.4%	52.4%	79.4%
$30,000	1468.2%	1468.2%	1176.2%	754.0%	83.0%	83.0%	93.0%	107.4%
$30,500	50.0%	50.0%	60.0%	87.0%	100.0%	100.0%	110.0%	122.0%
$31,000	41.0%	41.0%	51.0%	78.0%	91.0%	91.0%	101.0%	113.0%
$31,500	65.6%	65.6%	75.6%	102.6%	92.8%	92.8%	102.8%	114.8%
$32,000	40.8%	40.8%	50.8%	77.8%	90.8%	90.8%	100.8%	112.8%
$32,500	160.8%	160.8%	170.8%	197.8%	90.8%	90.8%	100.8%	112.8%
$33,000	41.2%	41.2%	51.2%	78.2%	91.2%	91.2%	101.2%	113.2%
$33,500	43.2%	43.2%	53.2%	80.2%	93.2%	93.2%	103.2%	115.2%
$34,000	40.8%	40.8%	50.8%	77.8%	90.8%	90.8%	100.8%	112.8%
$34,500	41.0%	1096.6%	1106.6%	1133.6%	91.0%	1146.8%	1156.8%	1168.8%
$35,000	41.2%	46.8%	56.8%	83.8%	91.2%	96.8%	106.8%	118.8%
$35,500	43.6%	49.4%	59.4%	86.4%	93.6%	99.4%	109.4%	121.4%
$36,000	41.0%	46.8%	56.8%	83.8%	91.0%	96.8%	106.8%	118.8%
$36,500	41.2%	47.4%	57.4%	84.4%	241.8%	248.0%	258.0%	270.0%
$37,000	42.8%	52.0%	62.0%	89.0%	92.8%	102.0%	112.0%	124.0%
$37,500	45.6%	52.0%	62.0%	89.0%	95.6%	102.0%	112.0%	124.0%
$38,000	43.0%	49.6%	59.6%	86.6%	93.0%	99.6%	109.6%	121.6%
$38,500	42.6%	49.4%	59.4%	86.4%	92.6%	99.4%	109.4%	121.4%
$39,000	42.8%	49.6%	59.6%	86.6%	92.8%	99.6%	109.6%	121.6%

Earned Income	No One in the Family with a Disability				One Child in the Family with a Disability			
	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package
$39,500	46.2%	56.6%	66.6%	93.6%	96.2%	106.6%	116.6%	128.6%
$40,000	43.0%	50.2%	60.2%	87.2%	93.0%	100.2%	110.2%	122.2%
$40,500	42.8%	50.2%	60.2%	87.2%	92.8%	100.2%	110.2%	122.2%
$41,000	43.0%	50.6%	60.6%	87.6%	93.0%	100.6%	110.6%	122.6%
$41,500	47.0%	54.8%	64.8%	91.8%	97.0%	104.8%	114.8%	126.8%
$42,000	43.0%	51.0%	61.0%	88.0%	93.0%	101.0%	111.0%	123.0%
$42,500	42.8%	54.2%	64.2%	91.2%	92.8%	104.2%	114.2%	126.2%
$43,000	43.4%	51.6%	61.6%	88.6%	93.4%	101.6%	111.6%	123.6%
$43,500	47.4%	56.0%	66.0%	93.0%	97.4%	106.0%	116.0%	128.0%
$44,000	43.0%	51.6%	61.6%	88.6%	93.0%	101.6%	111.6%	123.6%
$44,500	193.6%	202.2%	212.2%	239.2%	93.0%	101.6%	111.6%	123.6%
$45,000	43.4%	52.4%	62.4%	89.4%	93.4%	102.4%	112.4%	124.4%
$45,500	52.4%	65.2%	75.2%	102.2%	102.4%	115.2%	125.2%	137.2%
$46,000	43.0%	52.2%	62.2%	89.2%	93.0%	102.2%	112.2%	124.2%
$46,500	43.0%	52.4%	62.4%	89.4%	93.0%	102.4%	112.4%	124.4%
$47,000	43.2%	52.8%	62.8%	89.8%	93.2%	102.8%	112.8%	124.8%
$47,500	43.0%	52.8%	62.8%	89.8%	93.0%	102.8%	112.8%	124.8%
$48,000	43.2%	53.2%	63.2%	90.2%	93.2%	103.2%	113.2%	125.2%
$48,500	42.8%	56.6%	66.6%	93.6%	92.8%	106.6%	116.6%	128.6%
$49,000	43.0%	53.4%	63.4%	90.4%	93.0%	103.4%	113.4%	125.4%

Earned Income	No One in the Family with a Disability				One Child in the Family with a Disability			
	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package
$49,500	43.2%	53.6%	63.6%	90.6%	93.2%	103.6%	113.6%	125.6%
$50,000	43.2%	53.8%	660.2%	508.2%	93.2%	103.8%	710.2%	543.2%
$50,500	42.8%	53.6%	53.6%	83.6%	92.8%	103.6%	103.6%	118.6%
$51,000	43.2%	54.0%	54.0%	84.0%	93.2%	104.0%	104.0%	119.0%
$51,500	43.2%	58.4%	58.4%	88.4%	93.2%	108.4%	108.4%	123.4%
$52,000	43.0%	54.4%	54.4%	84.4%	93.0%	104.4%	104.4%	119.4%
$52,500	42.8%	54.2%	54.2%	84.2%	59.2%	70.6%	70.6%	95.6%
$53,000	38.8%	50.4%	50.4%	80.4%	38.8%	50.4%	50.4%	80.4%
$53,500	22.0%	33.8%	33.8%	63.8%	22.0%	33.8%	33.8%	63.8%
$54,000	110.4%	-45.4%	-45.4%	-15.4%	110.4%	4292.0%	4292.0%	4322.0%
$54,500	21.8%	38.4%	38.4%	68.4%	21.8%	38.4%	38.4%	68.4%
$55,000	22.2%	34.4%	34.4%	64.4%	22.2%	34.4%	34.4%	64.4%
$55,500	22.0%	34.4%	34.4%	64.4%	22.0%	34.4%	34.4%	64.4%
$56,000	22.0%	34.6%	34.6%	64.6%	22.0%	34.6%	34.6%	64.6%
$56,500	21.8%	34.6%	34.6%	64.6%	21.8%	34.6%	34.6%	64.6%
$57,000	17.4%	34.8%	34.8%	64.8%	17.4%	34.8%	34.8%	64.8%
$57,500	12.4%	25.6%	25.6%	55.6%	12.4%	25.6%	25.6%	55.6%
$58,000	12.4%	25.6%	25.6%	55.6%	12.4%	25.6%	25.6%	55.6%
$58,500	12.2%	25.8%	25.8%	55.8%	12.2%	25.8%	25.8%	55.8%
$59,000	12.6%	26.2%	26.2%	56.2%	12.6%	26.2%	26.2%	56.2%

Earned Income	No One in the Family with a Disability				One Child in the Family with a Disability			
	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package
$59,500	12.4%	26.0%	26.0%	56.0%	12.4%	26.0%	26.0%	56.0%
$60,000	12.4%	31.2%	31.2%	61.2%	12.4%	31.2%	31.2%	61.2%
$60,500	21.8%	36.0%	36.0%	66.0%	21.8%	36.0%	36.0%	66.0%
$61,000	12.6%	26.8%	26.8%	56.8%	12.6%	26.8%	26.8%	56.8%
$61,500	12.2%	26.6%	26.6%	56.6%	12.2%	26.6%	26.6%	56.6%
$62,000	12.4%	27.0%	27.0%	57.0%	12.4%	27.0%	27.0%	57.0%
$62,500	12.4%	27.2%	27.2%	57.2%	12.4%	27.2%	27.2%	57.2%
$63,000	12.6%	32.6%	32.6%	62.6%	12.6%	32.6%	32.6%	62.6%
$63,500	12.2%	27.2%	27.2%	57.2%	12.2%	27.2%	27.2%	57.2%
$64,000	12.4%	27.8%	27.8%	57.8%	12.4%	27.8%	27.8%	57.8%
$64,500	12.4%	27.8%	27.8%	57.8%	12.4%	27.8%	27.8%	57.8%
$65,000	12.6%	28.2%	28.2%	58.2%	12.6%	28.2%	28.2%	58.2%
$65,500	20.2%	36.0%	36.0%	66.0%	20.2%	36.0%	36.0%	66.0%
$66,000	22.0%	43.2%	43.2%	73.2%	22.0%	43.2%	43.2%	73.2%
$66,500	22.0%	38.0%	38.0%	39.4%	22.0%	38.0%	38.0%	39.4%
$67,000	22.2%	38.6%	38.6%	38.6%	22.2%	38.6%	38.6%	38.6%
$67,500	21.8%	38.2%	38.2%	38.2%	21.8%	38.2%	38.2%	38.2%
$68,000	22.0%	38.6%	38.6%	38.6%	22.0%	38.6%	38.6%	38.6%
$68,500	22.0%	38.8%	38.8%	38.8%	22.0%	38.8%	38.8%	38.8%
$69,000	22.2%	44.6%	44.6%	44.6%	22.2%	44.6%	44.6%	44.6%

Earned Income	No One in the Family with a Disability				One Child in the Family with a Disability			
	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package
$69,500	21.8%	34.8%	34.8%	34.8%	21.8%	34.8%	34.8%	34.8%
$70,000	22.0%	35.0%	35.0%	35.0%	22.0%	35.0%	35.0%	35.0%
$70,500	22.0%	35.2%	35.2%	35.2%	22.0%	35.2%	35.2%	35.2%
$71,000	22.2%	35.4%	35.4%	35.4%	22.2%	35.4%	35.4%	35.4%
$71,500	21.8%	35.2%	35.2%	35.2%	21.8%	35.2%	35.2%	35.2%
$72,000	22.0%	39.8%	39.8%	39.8%	22.0%	39.8%	39.8%	39.8%
$72,500	22.0%	35.6%	35.6%	35.6%	22.0%	35.6%	35.6%	35.6%
$73,000	22.2%	35.8%	35.8%	35.8%	22.2%	35.8%	35.8%	35.8%
$73,500	22.2%	36.0%	36.0%	36.0%	22.2%	36.0%	36.0%	36.0%
$74,000	24.4%	38.2%	38.2%	38.2%	24.4%	38.2%	38.2%	38.2%
$74,500	24.4%	38.4%	38.4%	38.4%	24.4%	38.4%	38.4%	38.4%
$75,000	24.6%	41.8%	41.8%	41.8%	24.6%	41.8%	41.8%	41.8%
$75,500	33.8%	48.0%	48.0%	48.0%	33.8%	48.0%	48.0%	48.0%
$76,000	24.4%	38.6%	38.6%	38.6%	24.4%	38.6%	38.6%	38.6%
$76,500	24.2%	38.6%	38.6%	38.6%	24.2%	38.6%	38.6%	38.6%
$77,000	24.6%	39.2%	39.2%	39.2%	24.6%	39.2%	39.2%	39.2%
$77,500	24.4%	43.6%	43.6%	43.6%	24.4%	43.6%	43.6%	43.6%
$78,000	24.4%	39.0%	39.0%	39.0%	24.4%	39.0%	39.0%	39.0%
$78,500	24.2%	39.2%	39.2%	39.2%	24.2%	39.2%	39.2%	39.2%
$79,000	24.6%	39.4%	39.4%	39.4%	24.6%	39.4%	39.4%	39.4%

Earned Income	No One in the Family with a Disability				One Child in the Family with a Disability			
	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package
$79,500	24.4%	39.4%	39.4%	39.4%	24.4%	39.4%	39.4%	39.4%
$80,000	24.4%	39.6%	39.6%	39.6%	24.4%	39.6%	39.6%	39.6%
$80,500	24.2%	42.6%	42.6%	42.6%	24.2%	42.6%	42.6%	42.6%
$81,000	31.6%	47.0%	47.0%	47.0%	31.6%	47.0%	47.0%	47.0%
$81,500	34.4%	49.8%	49.8%	49.8%	34.4%	49.8%	49.8%	49.8%
$82,000	34.4%	50.0%	50.0%	50.0%	34.4%	50.0%	50.0%	50.0%
$82,500	34.2%	49.8%	49.8%	49.8%	34.2%	49.8%	49.8%	49.8%
$83,000	34.6%	50.4%	50.4%	50.4%	34.6%	50.4%	50.4%	50.4%
$83,500	34.4%	55.2%	55.2%	55.2%	34.4%	55.2%	55.2%	55.2%
$84,000	34.4%	50.4%	50.4%	50.4%	34.4%	50.4%	50.4%	50.4%
$84,500	34.2%	50.4%	50.4%	50.4%	34.2%	50.4%	50.4%	50.4%
$85,000	34.6%	50.8%	50.8%	50.8%	34.6%	50.8%	50.8%	50.8%
$85,500	34.4%	50.6%	50.6%	50.6%	34.4%	50.6%	50.6%	50.6%
$86,000	34.4%	50.8%	50.8%	50.8%	34.4%	50.8%	50.8%	50.8%
$86,500	34.2%	54.2%	54.2%	54.2%	34.2%	54.2%	54.2%	54.2%
$87,000	34.6%	51.2%	51.2%	51.2%	34.6%	51.2%	51.2%	51.2%
$87,500	34.4%	51.0%	51.0%	51.0%	34.4%	51.0%	51.0%	51.0%
$88,000	34.4%	51.2%	51.2%	51.2%	34.4%	51.2%	51.2%	51.2%
$88,500	34.2%	51.2%	51.2%	51.2%	34.2%	51.2%	51.2%	51.2%
$89,000	34.6%	51.6%	51.6%	51.6%	34.6%	51.6%	51.6%	51.6%

Earned Income	No One in the Family with a Disability				One Child in the Family with a Disability			
	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package
$89,500	34.4%	56.8%	56.8%	56.8%	34.4%	56.8%	56.8%	56.8%
$90,000	34.4%	51.6%	51.6%	51.6%	34.4%	51.6%	51.6%	51.6%
$90,500	43.8%	61.2%	61.2%	61.2%	43.8%	61.2%	61.2%	61.2%
$91,000	34.6%	52.0%	52.0%	52.0%	34.6%	52.0%	52.0%	52.0%
$91,500	34.2%	51.6%	51.6%	51.6%	34.2%	51.6%	51.6%	51.6%
$92,000	34.4%	52.2%	52.2%	52.2%	34.4%	52.2%	52.2%	52.2%
$92,500	34.4%	46.6%	46.6%	46.6%	34.4%	46.6%	46.6%	46.6%
$93,000	34.6%	43.0%	43.0%	43.0%	34.6%	43.0%	43.0%	43.0%
$93,500	34.2%	42.8%	42.8%	42.8%	34.2%	42.8%	42.8%	42.8%
$94,000	34.4%	42.8%	42.8%	42.8%	34.4%	42.8%	42.8%	42.8%
$94,500	34.4%	43.0%	43.0%	43.0%	34.4%	43.0%	43.0%	43.0%
$95,000	34.6%	43.0%	43.0%	43.0%	34.6%	43.0%	43.0%	43.0%
$95,500	34.2%	42.8%	42.8%	42.8%	34.2%	42.8%	42.8%	42.8%
$96,000	34.4%	42.8%	42.8%	42.8%	34.4%	42.8%	42.8%	42.8%
$96,500	34.4%	43.0%	43.0%	43.0%	34.4%	43.0%	43.0%	43.0%
$97,000	34.6%	43.0%	43.0%	43.0%	34.6%	43.0%	43.0%	43.0%
$97,500	34.2%	42.8%	42.8%	42.8%	34.2%	42.8%	42.8%	42.8%
$98,000	34.4%	42.8%	42.8%	42.8%	34.4%	42.8%	42.8%	42.8%
$98,500	34.4%	43.0%	43.0%	43.0%	34.4%	43.0%	43.0%	43.0%
$99,000	34.6%	43.0%	43.0%	43.0%	34.6%	43.0%	43.0%	43.0%

Earned Income	No One in the Family with a Disability				One Child in the Family with a Disability			
	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package	Basic Benefits Package Less Medical Assistance	Basic Benefits Package	Enhanced Benefits Package	Complete Benefits Package
$99,500	34.2%	42.8%	42.8%	42.8%	34.2%	42.8%	42.8%	42.8%
$100,000	34.4%	42.8%	42.8%	42.8%	34.4%	42.8%	42.8%	42.8%

Appendix B: Methodology

The Georgia Center of Opportunity has the most robust benefit cliff model in the country, updated through 2023. Data for 2024 are not yet available. The model includes thirteen states, including North Carolina, and the data are refined at the county level and include statewide averages. The model calculates federal payroll taxes, federal income taxes, state income taxes, refundable tax credits, TANF cash grants, LIHEAP grants, SSI benefits, SNAP benefits, subsidized school means, WIC food packages, Medicaid, CHIP, subsidies for individual health insurance markets per the Affordable Care Act, subsidized child care, and Section 8 housing vouchers. The model is not meant to replicate Federal, State and Local tax and eligibility systems, but to aggregate, through a computational model, the impact and effects of the system on most household constructs.

The model can handle a variety of familial situations. It can have up to four adults, including single mom, single dad, married couple, couple living together, grandparent, stepparent, foster parent, aunt, and uncle. The model takes inputs for the age, veteran status, pregnancy status, married status, SNAP household participation, disability status, and type of disability benefit. It can also take inputs on unearned income, including disability income and child support.

It can handle up to six children and specify the age, sex, primary caretaker of the child, the relationship to the caretaker, the disability status, whether the child is in school, the subsidized child care setting, and the child care rate category.

The model also allows for an input for the type of heating and cooling used to calculate LIHEAP benefits.

In addition, the model supports a web-based model that allows for public viewing at https://benefitscliffs.org. While this web-based version does not have all the functionality, it nevertheless allows the public and researchers to get a good sense of the complexity and cliffs problem of the safety-net system.

The modeling calculates benefits at $500-dollar annual increments—that approximate 24 cents per hour for a full-time job—from $0 to $100,000. Specific benefits and taxes can be toggled off and on to study the impact of various combinations or single programs when isolated. At times, the report required calculating benefits above $100,000, and these calculations were accomplished by extending the necessary components of the modeling to derive the answers.

The model uses precise rules of eligibility as determined by federal and state statutes, federal and state regulations, and other federal and state guidelines and publications. Rarely, and only as necessary, does the GCO team use sources other than from official sources.

Tax rules are obtained directly from statutes, the Internal Revenue Service, and states' department of revenues. TANF cash grant and LIHEAP grant information come directly from the states' agencies administering the programs, and cross-referenced by comparing to the HHS-sponsored Welfare Rules Database developed and maintained by the Urban Institute. SSI grants come from the Social Security Administration. All rules and data on food assistance programs come from the Food and Nutrition Service of the U.S. Department of Agriculture and state administrating agencies. Medical assistance data come from the U.S. Department of Health and Human Services, the Internal Revenue Service, state administering agencies, and the Robert Wood Foundation for HIX data. Subsidized child care data come from the state agencies administering the program and HHS, and are cross-referenced by comparing to the HHS-sponsored Child Care and Developmental Fund Policies Database developed and maintained by the Urban Institute including. Section 8 housing voucher data come from the U.S. Department of Housing and Urban Development.

The model calculates eligibility and benefit amounts based on the inputs. It uses sophisticated logic, computer algorithms, and databases of factors and coefficients. Although there is always a possibility of a variation with official tax and eligibility systems, as well as some program factors that are not modeled, the GCO team regularly reviews the model and runs validation tests for accuracy of the outputs. When errors are found, they are usually corrected fairly quickly.

For this report, 2023 statewide average data was selected for North Carolina, except Medicaid data assumed full-year expansion for nondisabled adults pursuant to the option of the Affordable Care Act that was implement on December 1, 2023, and it assumed for 2023 the transfer of all children from the Health Choices program to Medicaid that was effective April 1, 2023. When program factors vary across the state, statewide averages are weighted by program usage, if available, or by population, if unavailable. Rarely are benefit factors projected into the future, but when they are, statistically valid methodologies are used.

The inputs used for this study was a single mother, head of household for federal tax purposes, age 30, not a veteran, not pregnant, not married, she prepares meals with

her children, and not disabled. For the first child, the inputs are age 8, female, caretaker is the mother, not disabled, in K through 12 grades in school, and uses a One Star Center for child care. The input for the second child is age 2, male, caretaker is the mother, not in school, and uses a Center setting with a One Star rate for child care. The disability status of the second child was run twice: first, for having no disability, and second, for having a disability. Electricity was selected for the heating and cooling type used.

Basic assumptions include no unusual circumstances for tax purposes, no excessive assets, no child support received, and fair market rent as published by the U.S. Department of Housing and Urban Development. When subsidized child care was not selected for scenarios, state allowable rates were assumed using data from the state's subsidized child care program, and the text of the report explains the nuances of doing so and how other assumptions would change the results for SNAP output. Likewise, when Section 8 housing was not included in the scenarios, Fair Market Rents as published by the U.S. Department of Housing and Urban Development were used for shelter costs, and the text of the report explains the nuances of doing so and how other assumptions would change the results for SNAP output.

The model also calculates net contributions to income taxes, which combines both federal and state income taxes, and Earnings Loss Rates. The inputs were run through the model, and Table 5 and Table 6 show the safety-net program results by earnings increment and safety-net categories. Table 7 shows the Earnings Loss Rates for each earnings increment. Within the report, the results are displayed and summarized in 35 charts. The remaining tables include displaying the Earnings Loss Rate Severity Scale Policy Guide, which was created by the author as a tool to help evaluate the impact on work incentives, and other necessary information. The policy guide was not based on economic behavior experimentation, but rather economic reasoning and dividing the categories into four even categories between 0 and 1, naming them low, moderate, high, and extreme. Values above 1 are the same as benefit cliffs, and they were named prohibitive. Negative values are the opposite of prohibitive.

The analysis in the report is based on years of experience and research to evaluate the data and nuances of the programs, as well as the impact on individuals and their families. The report also includes other calculations outside the cliff model, which are evident in the main body of the report.