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How Far Did SNAP Benefits Fall Short of Covering the Cost of a Meal in 2020?

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The Supplemental Nutrition Assistance Program (SNAP) aims to reduce hunger and food insecurity by augmenting low-income families' purchasing power. It is the primary federal food assistance program in the US: nearly 40 million people received benefits totaling approximately \$74 billion in fiscal year 2020.¹ Substantial evidence shows that SNAP effectively reduces food insecurity and poverty for millions of people and has important long-term benefits. For most recipients, SNAP supplements a family's food budget. But for the nearly 4 in 10 households receiving SNAP that have zero net income,² SNAP benefits are the only way for families to purchase the meals they need to receive minimum levels of nutrition and reduce food insecurity.³

Despite being an important tool for reducing food insecurity, the effectiveness of SNAP is limited by the inadequacy of the benefit level (Caswell and Yaktine 2013; Davis and You 2011; Gundersen, Waxman, and Crumbaugh 2019; Ziliak 2016). Several studies have documented the limitations in the Thrifty Food Plan (TFP), which SNAP benefit levels are based on. In an earlier version of this brief, we documented one of these limitations: the failure of the SNAP benefit to account for the wide geographic variation in food prices across the US (Waxman, Gundersen, and Thompson 2018). Additional research has also examined variation in food prices and concluded that geographic price variation can have a significant impact on the affordability of food and the adequacy of food assistance (Bronchetti, Christensen, and Hansen 2016; Gregory and Coleman-Jensen 2013; Leibtag 2007). In this brief, we update our assessment of the adequacy of SNAP benefits by examining their efficacy in the context of food prices across the US. We compare the maximum SNAP benefit per meal with the average cost of a meal purchased by food-secure households with incomes below the federal gross income limit for SNAP, adjusted for differences in county-level food prices using 2020 food price data from NielsenIQ. We then adjust the maximum benefit 15 percent, which is the size of the temporary increase in the maximum SNAP benefit implemented from January 2021 through



September 2021 in response to the COVID-19 pandemic. This adjustment allows us to examine how effectively the boost reduces the meal cost gap in counties across the US.

We find the following:

- The average cost of a meal purchased by food-secure people (“a modestly priced meal”) with low incomes is \$2.41, 22 percent higher than the maximum SNAP benefit.
- In 2020, the maximum SNAP benefit did not cover the cost of a modestly priced meal in 96 percent of all US counties, or 3,020 of 3,142 counties.
- Between January and September 2021, the maximum SNAP benefit has been increased 15 percent to boost assistance to low-income families during the pandemic. In this analysis, we implement a 15 percent increase on the weighted average maximum benefit for 2020 and find that the number of counties with a SNAP meal cost gap drops from 3,020 to 1,271, a reduction of about 60 percent.
- Even with the 15 percent increase, approximately 4 in 10 counties (40.5 percent) continue to experience a gap between the maximum SNAP benefit per meal and the cost of a modestly priced meal.

Background

The amount of SNAP benefits an eligible household receives is calculated by subtracting 30 percent of the household’s net income from the value of the TFP, a “minimal-cost” nutritionally adequate food plan that varies by household size and composition.⁴ The TFP is a set of market baskets developed by the US Department of Agriculture (USDA) for different age and gender categories that specify the types and quantities of food that people can purchase to be prepared at home. The TFP reflects assumptions about dietary needs, actual consumption patterns, and food prices. It was last revised in 2006; at that time, the USDA determined that the revised plan could still be achieved at the same inflation-adjusted cost as the previous plan (Carlson et al. 2007). SNAP is not expected to cover the full costs of a household food budget except for households with zero net income (Oliveira et al. 2018). In fiscal year 2019, approximately 36 percent of SNAP households had no net income after eligible deductions (Cronquist 2021).

Benefit levels are based on the cost of the TFP for a family of four (two adults and two children) and then adjusted for different household sizes. Benefit levels assume that larger households need to spend less per person when purchasing food and that smaller households have higher per person expenses because costs are spread over fewer people. Research has suggested that the formula used to adjust benefits for smaller families may be insufficient (Caswell and Yaktine 2013). The TFP has not been re-evaluated since 2006 (Carlson et al. 2007). The 2018 Farm Bill mandated a re-examination of the Thrifty Food Plan by 2022, and the Biden administration announced plans to expedite this work as part of an executive order issued in January 2021.⁵



SNAP has been an important buffer for food insecurity during the pandemic recession. Congress acted quickly through the Families First Coronavirus Response Act in March 2020 to give states the ability to provide a higher amount of SNAP benefits (known as emergency allotments) as food insecurity rose quickly at the beginning of the pandemic.⁶ However, the Trump administration interpreted the law as not authorizing these additional benefits for SNAP households who qualified for the maximum SNAP benefit, meaning they have been determined to have zero net income available for purchasing food. As a result, benefits did not increase for these households until the passage of the December 2020 COVID relief package, which specifically authorized a 15 percent increase to the maximum SNAP benefit from January to June 2021. The American Rescue Plan subsequently extended that 15 percent increase through September 2021.⁷ Beginning in April 2020, all SNAP households could receive at least \$95 more than the benefit for which they would otherwise qualify. Recent survey data suggest that food insecurity has fallen between March 2020 and spring 2021 (Waxman and Gupta 2021), and prior evidence from the Great Recession suggests that the increased support through SNAP likely made a significant contribution to those improved circumstances (Nord and Prell 2011). Given that the maximum benefit level was not increased until early 2021, much of the impact may have come from the emergency allotments for other SNAP participants.

In June 2021, the USDA released a new study reporting that nearly 9 in 10 SNAP participant households face barriers to securing a healthy diet, with the cost of food cited as the most common hurdle.⁸ SNAP participants who reported facing one or more barriers to affording a nutritious diet were twice as likely to be food insecure.

SNAP Benefits and Food Prices

The value of the TFP is adjusted annually based on the average national prices in the consumer price index (CPI) for the categories of food in the TFP market basket. But benefits are not adjusted for geographic differences in food costs among the 48 contiguous states or the District of Columbia. Many studies have demonstrated that food prices vary across the country (Gundersen, Waxman and Crumbaugh 2019; Leibtag 2007; Todd, Leibtag, and Penberthy 2011). Research has found that prices tend to be higher in the West and the East than in the South and Midwest (Leibtag 2007). Other analyses have demonstrated that, in contrast to the popular belief that higher-than-average food prices are primarily an issue for large urban areas, many rural counties also experience elevated prices.⁹ SNAP participants who live in areas with higher food costs cannot purchase as much food with their benefits and may need to rely more on cheaper, lower-quality foods (Oliveira et al. 2018). Research by Todd, Leibtag, and Penberthy (2011) suggests that geographic price differences between healthier and less healthy foods may explain differences in health outcomes.

SNAP and Food Insecurity

The primary goal of SNAP is to alleviate food insecurity (box 1), defined as the lack of consistent access to adequate food to ensure active, healthy living for all household members. Food insecurity, which is a significant public health concern, can exacerbate underlying health problems (Gundersen



and Ziliak 2015). Food-insecure children are at least twice as likely as food-secure children to be in fair or poor health, are 1.4 times more likely to suffer from asthma (Gundersen and Ziliak 2015) and are more likely to be hospitalized (Cook et al. 2004). Food insecurity is associated with chronic disease in adults, including diabetes and poor glycemic control (Seligman et al. 2007; Seligman et al. 2010).

Strong evidence suggests that SNAP is meeting its central goal of reducing food insecurity (Gundersen, Kreider and Pepper 2017; Kreider et al. 2012; Swann 2017; McKernan, Ratcliffe, and Braga 2021). Nevertheless, SNAP participants have higher food insecurity rates than income-eligible people who do not receive benefits, in part because households tend to seek benefits when most in need. In 2019, SNAP participants had a food insecurity rate of 49.7 percent; those with incomes below 130 percent of the federal poverty level who did not receive SNAP had a food insecurity rate of 22.6 percent (Coleman-Jensen et al. 2020, table 8). Given that just over half of SNAP households are food insecure, we are interested in understanding how SNAP could be modified to raise participants into food security.

BOX 1

How Is Food Security Measured?

Food insecurity in the United States is measured through questions in the Core Food Security Module (CFSM), part of an annual supplement to the Current Population Survey. The CFSM includes 18 questions for households with children and a subset of 10 questions for households without children. Examples of questions include “I worried whether our food would run out before we got money to buy more,” “Did you or the other adults in your household ever cut the size of your meals or skip meals because there wasn’t enough money for food?” “Were you ever hungry but did not eat because you couldn’t afford enough food?” and “Did a child in the household ever not eat for a full day because you couldn’t afford enough food?” Each question is qualified by the stipulation that the problem was caused by lack of money. Under the official definition established by the USDA, a response is labeled affirmative if the answer is “yes” (rather than “no”) or “sometimes” or “often” (rather than “never”). Based on their responses to the CFSM, households are placed into three food insecurity categories. A household is food secure if it responds affirmatively to two or fewer questions; low food secure if it responds affirmatively to three to seven questions; and very low food secure if it responds affirmatively to eight or more questions. Households in the latter two categories, low food secure or very low food secure, are considered food insecure.

Research has shown that higher food prices are associated with higher rates of food insecurity. For example, a study by Gregory and Coleman-Jensen (2013) at the Economic Research Service found that an increase in the price of a TFP-like basket of food equal to about \$10 is associated with a 2.5 percentage-point increase in household food insecurity, a 2.4 percentage-point increase in adult food insecurity, and a 3.1 percentage-point increase in child food insecurity. The authors further estimate that SNAP households living in places with the highest quartile of food prices are between 8 and 10 percentage points (between 15 and 20 percent) more likely to be food insecure than SNAP households living in areas with the lowest quartile of food prices. (See research by Courtemanche et al. [2019] for more on this topic.) Because the primary goal of SNAP is to alleviate food insecurity, the



ongoing use of a standard national maximum benefit that does not capture the cost of a meal in most counties suggests that the program is not structured to fully achieve its objectives. The adequacy of the SNAP benefit is particularly important given that nearly 4 in 10 SNAP households have zero net income, meaning that they have no other resources available for food purchases (Cronquist 2021).

Data and Methods

We construct county-level estimates of the adequacy of SNAP benefits in the following manner. These methods are very similar to those used in our previous report (Waxman, Gundersen, and Thompson 2018).

Establishing the SNAP per Meal Benefit

We first establish the SNAP per meal benefit for 2020, the most recent year for which we can access county-level food price data. The amount of SNAP benefits each person or family receives depends on various factors, including the size of the household, its gross income level, and the expense deductions the household may be able to take that lower the income used to determine the benefit amount.¹⁰ Individuals or families with zero net income are entitled to the maximum benefit for their household size; those with more income receive a prorated monthly benefit. Because we are particularly interested in how well the maximum benefit can help people meet the actual cost of a meal in their community, we take an average of the maximum benefit each household size can receive and adjust it for the share of each household size among those enrolled in SNAP in 2020. We then divide the monthly benefit by the typical number of meals we assume people consume each month (3 meals a day \times 31 days, or 93 meals). We arrive at a per meal maximum benefit of \$1.97. This overstates the per meal SNAP amount available to SNAP participants who do not qualify for the maximum benefit. With the 15 percent increase, the per meal maximum benefit is \$2.27.

Calculating the Average Cost of a Modestly Priced Meal in the Continental US

We begin with estimates from the Current Population Survey (CPS) of the amount that low-income, food-secure households are spending on food each week. Because people with higher incomes have more resources to spend on food, we restrict our analysis to people in households with incomes at or below 130 percent of the federal poverty level, which is roughly equivalent to the SNAP eligibility threshold for income before deductions (gross income). We have also chosen to use only responses from individuals who are “food secure” based on their answers to standard questions in an annual supplement to the CPS. Our reasoning is that “food insecure” families are likely underspending on food, even for a TFP meal, because of limited resources. We divide weekly food expenditures for respondents by the typical number of meals we expect people would eat in a week (3 meals a day \times 7 days a week). When calculating a national average meal cost across counties, we weight the county meal costs by the number of SNAP participants, based on Census Bureau Small Area Income and Poverty Estimates Program in 2019.¹¹ On average, the national cost of a meal for households meeting our criteria is \$2.41 for 2020.



Adjusting the Modestly Priced Meal Cost for County Food Prices

We adjust the national per meal cost for the relative prices paid for the TFP market basket in each county in the US. Maximum SNAP benefit values are adjusted separately for Alaska and Hawaii. Our source for a county-level food price index is a unique dataset from Feeding America's annual Map the Meal Gap study,¹² which incorporates food price data contributed by NielsenIQ¹³ to estimate the local meal cost by county.¹⁴ NielsenIQ analyzes nationwide sales data, including in-store scanning data and Homescan data, from fixed-weight food items coded with Universal Product Codes and assigns each item to one of the 26 food categories in the TFP (for more details about TFP, see Carlson et al. 2007). These data are then weighted to the TFP market basket based on pounds purchased per week by age and gender. For the current analysis, we examine pounds purchased by men ages 19 to 50. Although other TFPs for different ages or genders would produce different total market basket costs, relative pricing between counties (our goal for this analysis) is not affected. The total market basket (including any applicable state and county taxes) is then translated into an adjustment factor that can be applied to any dollar amount. This adjustment differs by county, revealing differences in food costs. We then consider, by county, the gap between the maximum benefit and the average meal cost. That difference measures the amount that SNAP benefits per meal would need to increase to fully meet meal costs.

Categorizing Counties by Geography

We designate each of the 3,142 counties as either rural (63 percent) or urban (37 percent). Rural counties are those that meet the US Office of Management and Budget criteria for nonmetropolitan areas; urban counties reflect the metropolitan definition. (In reality, many counties contain a combination of urban and rural populations.) This approach follows the convention used in Feeding America's annual Map the Meal Gap study, which also provides county- and congressional district-level data on the number and household income levels of food-insecure populations that can complement the data in this report.¹⁵

Results

The average cost of a meal in the US is \$2.41, 22 percent higher than maximum SNAP benefits. In 2020, before the increase in SNAP benefits, the maximum SNAP benefit did not cover the cost of a modestly priced meal in 96 percent of all US counties. For families without a net income, maximum SNAP benefits are not enough to cover a minimally adequate diet in 3,020 of 3,142 counties in the US.

Urban and rural counties are both affected by the gap in maximum SNAP benefits. In rural counties, the average shortfall of maximum SNAP benefits is 13 percent; in urban counties, the shortfall is about 23 percent. On average, the monthly shortfall of benefits in rural areas is \$23.89 and in urban areas it is \$42.63. These gaps underline the significant shortfalls that are particularly experienced in urban areas.



In table 1, we list the 20 counties with the largest gap between maximum SNAP benefits and the average cost of a meal. These counties include high-cost urban areas, such as New York and San Francisco, as well as smaller rural counties with resort towns, such as Blaine County, ID; El Dorado County, CA; and Leelanau County, MI. In these 20 counties, average meal costs range from \$3.23 to \$6.16, which is 64 to 213 percent higher than the SNAP per meal benefit.

TABLE 1

Top 20 Counties of Biggest Gap between Maximum SNAP per Meal Benefit and Average Meal Costs

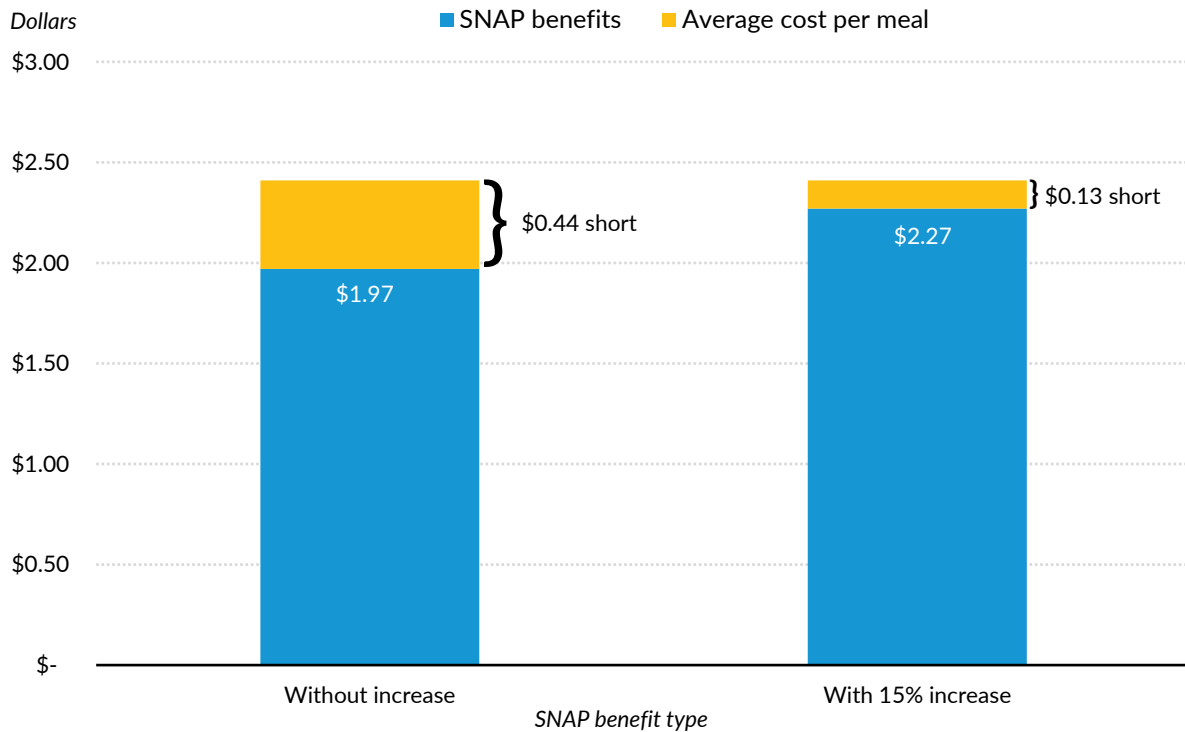
County	Total SNAP participants	Meal cost	Meal cost minus SNAP benefit	Urban/rural designation
Leelanau County, Michigan	755	\$6.16	\$4.19	Rural
Klickitat County, Washington	3,322	\$4.05	\$2.08	Rural
New York County, New York	2,698,656	\$3.99	\$2.02	Urban
Nevada County, California	6,818	\$3.69	\$1.72	Rural
Pacific County, Washington	3,942	\$3.70	\$1.73	Rural
Blaine County, Idaho	529	\$3.62	\$1.65	Rural
Bristol County, Rhode Island	2,850	\$3.50	\$1.53	Urban
Calaveras County, California	4,685	\$3.50	\$1.53	Rural
Crook County, Oregon	4,355	\$3.46	\$1.49	Rural
Teton County, Wyoming	63	\$3.41	\$1.44	Rural
San Francisco County, California	44,932	\$3.37	\$1.40	Urban
Monroe County, Florida	5,629	\$3.37	\$1.40	Rural
El Dorado County, California	10,591	\$3.31	\$1.34	Urban
Marin County, California	9,129	\$3.31	\$1.34	Urban
Summit County, Utah	542	\$3.32	\$1.35	Rural
Summit County, Colorado	488	\$3.29	\$1.32	Rural
Barnstable County, Massachusetts	15,370	\$3.29	\$1.32	Urban
Chisago County, Minnesota	2,238	\$3.24	\$1.27	Urban
San Benito County, California	4,352	\$3.23	\$1.26	Urban
Charlottesville city, Virginia	3,900	\$3.23	\$1.26	Urban

Source: Author calculations, 2018 Census Bureau SAIPE estimates of SNAP participation by county; Feeding America's Map the Meal Gap data, including NielsenIQ county-level food price data, adjusted for state and local taxes and OMB geographic classifications; 2020 USDA maximum benefit allotments.

We implement a 15 percent increase on the weighted average maximum benefit, following the temporary policy put in place during 2021 in response to the pandemic. With this boost, the share of all counties where the cost of a meal is not fully covered by SNAP benefits per meal falls to 40.5 percent. The number of counties where benefits are not enough to cover a minimally adequate diet drops to 1,271. On average, the gap between increased maximum SNAP benefits and the average cost of a meal is just \$0.13. But in Leelanau County, MI, where the largest gap exists, the shortfall is still about \$3.90 per meal. Urban areas also see large shortfalls. In New York County, the gap is \$1.73 per meal, and in San Francisco County, the gap is \$1.11 per meal.



FIGURE 1
SNAP Maximum Benefit Gaps



Source: Authors' analysis using data from the US Department of Agriculture and NielsenIQ.

Counties with Largest Gaps Between Maximum SNAP Benefits and Average Meal Cost

We also examine the counties in the top 10 percent of largest gaps between maximum SNAP benefits and average meal cost. We find the following:

- The 312 counties composing the 10 percent of counties with the largest gaps span across 42 states and DC. The average cost per meal among these states is \$2.72, which is 38 percent higher than the maximum SNAP benefit without the increase.
- With the 15 percent increase, that difference drops to the cost per meal being 20 percent greater than maximum SNAP benefits.
- In 2020, California had the most counties in this group, with 28 counties; Florida, Colorado, and New York all tied for the second largest number of counties, with 23 counties each.

Monthly SNAP Benefit Shortfall

We can also think about the shortfall in SNAP benefits as an accumulation over the course of a month, since SNAP allotments are provided monthly.



- Nationally, maximum SNAP benefits fall short of meeting monthly meal costs by \$39.99 per person ($\$0.44 \text{ per meal} \times 3 \text{ meals a day} \times 31 \text{ days}$).
- Incorporating the 15 percent increase, maximum SNAP benefits still fall short of monthly meal costs by \$12.81.
- In the counties with the top 10 percent highest gaps in benefits, the monthly shortfall is \$69.75 per person without the 15 percent increase in benefits and \$42.68 with the increase.

Counties Where Maximum SNAP Benefits are Sufficient

Before the increase in the maximum SNAP benefits authorized in the December pandemic-relief package that extended SNAP benefits per meal, maximum SNAP benefits covered the cost of a meal in only 122 counties in the US. If we exclude counties in Alaska and Hawaii, which already receive an adjustment for higher food prices, the number of counties where the SNAP benefit per meal covers costs falls to 108. These counties lie in 14 different states, largely in Texas (44 counties), Kentucky (28 counties), and Indiana (14 counties).

Discussion

In discussions about SNAP benefit adequacy, it is sometimes argued that SNAP is not intended to meet the full costs of a family's food budget. True, the program design anticipates that participating families will contribute additional resources to their household food budget. But approximately 4 in 10 households receiving SNAP have zero net income, either because they have no household income or because their qualifying income is reduced to zero after accounting for eligible expense deductions. If SNAP does not cover the cost of a meal, people in such households will be at high risk of experiencing food insecurity. This analysis suggests that even the maximum SNAP benefit is not sufficient to cover the cost of the TFP in nearly all US counties and that differences in food prices can significantly alter the utility of the program based solely on where a family lives. Although the shortfalls are particularly acute in many urban areas, this analysis further confirms that relatively high food prices affect a wide variety of communities—small and large, urban and rural, and in all geographic regions of the continental US—making it a concern to policymakers and stakeholders across the country.

Consistent evidence has demonstrated that SNAP is a government program that works: it reduces food insecurity in adults and children (Gundersen, Kreider, and Pepper 2017; McKernan, Ratcliffe, and Braga 2021), and it has been shown to improve long-term health outcomes among children who receive benefits when they are young (Almond, Hoynes, and Schanzenbach 2011; Hoynes, Schanzenbach, and Almond 2016). It also helps low-income families meet basic needs by augmenting their purchasing power and smoothing shocks that arise from economic cycles and the instability of individual household income (Ziliak 2015). More broadly, SNAP stabilizes the economy by counteracting downturns in the business cycle that diminish purchasing power (Ganong and Liebman 2013).



Although SNAP helps reduce food insecurity, a significant body of evidence suggests that the current design of the program is inadequate and therefore falls short of the promise it holds for improving outcomes among those struggling to put food on the table. A 2013 report from an expert committee at the Institute of Medicine concluded that the benefit design is not adequate (Caswell and Yaktine 2013), and others have recently explored ideas for improving SNAP benefits. Ziliak (2016) argues that among the design problems with the TFP are the failure of the underlying assumptions to account for the time needed to prepare meals at home, the lack of attention to dietary needs of adolescent household members, and the failure to address geographic variations in cost. Ziliak suggests a multistage plan for improving SNAP adequacy that begins by increasing the TFP amount 20 percent and then proceeds to more fundamental readjustments. Ziliak's proposed adjustment is similar in magnitude to our estimate of the average gap nationally between per meal costs and the SNAP meal benefit, but such an adjustment would represent only a first step in addressing the wide geographic variation we document. Gundersen, Kreider, and Pepper (2018) also suggest increasing SNAP benefits, basing their analysis on households' reports of the dollars needed to be food secure. Under their arguably most feasible plan, Gundersen and colleagues find that an across-the-board weekly increase in SNAP benefits of \$42 per household would lead to a 61.8 percent decline in food insecurity at a cost of \$27 billion. More recent work by Gundersen (2021) shows that implementing this increase in SNAP benefits and providing the maximum SNAP benefit to all Americans with incomes less than 400 percent of the federal poverty level would lead to a 98 percent decline in food insecurity.

Our brief explores yet another important way that SNAP benefits can be assessed for adequacy: by taking into account food price variations among the communities where program participants live. This analysis isolates one policy lever: the ineffectiveness of the maximum SNAP allotment to respond to the realities of local food prices. It is one component of a broader strategy for ensuring that SNAP can continue its mission of reducing food insecurity by supporting the purchasing power of low-income families.

Notes

- ¹ "SNAP Data Tables," Food and Nutrition Service, last updated June 11, 2021, <https://www.fns.usda.gov/pd/supplemental-nutrition-assistance-program-snap>.
- ² "Characteristics of SNAP Households: FY 2019," Food and Nutrition Service, last updated March 29, 2021, <https://www.fns.usda.gov/snap/characteristics-snap-households-fy-2019>.
- ³ SNAP is not expected to cover the full costs of a household's food budget unless that household has zero net income (Oliveira et al. 2018).
- ⁴ The subtraction of 30 percent is tied to an assumption adopted when the Food Stamp program began that households spent about one-third of their incomes on food. Since then, the costs of housing, child care, and other basic needs have become more prominent in most household budgets.
- ⁵ "Fact Sheet: President Biden's New Executive Actions Deliver Economic Relief for American Families and Businesses amid the COVID-19 Crises," press release, White House, January 22, 2021, <https://www.whitehouse.gov/briefing-room/statements-releases/2021/01/22/fact-sheet-president-bidens->



[new-executive-actions-deliver-economic-relief-for-american-families-and-businesses-amid-the-covid-19-crises/](#).

⁶ See H.R. 6201, 116th Cong. (2020).

⁷ See H.R. 1319, 117th Cong. (2021).

⁸ “USDA Releases Study on Hurdles to Healthy Eating on SNAP: Provides Updates on Efforts to Improve Access to Nutritious Foods,” press release, US Department of Agriculture, Food and Nutrition Service, June 23, 2021, <https://www.fns.usda.gov/news-item/usda-0143.21>.

⁹ “Hunger and Poverty in the United States | Map the Meal Gap,” Feeding America, accessed July 16, 2021, <https://map.feedingamerica.org/>.

¹⁰ For example, households may be eligible for an excess shelter cost deduction if shelter expenses exceed half the household’s income after other deductions.

¹¹ See “Small Area Income and Poverty Estimates (SAIPE) Program,” US Census Bureau, accessed July 15, 2021, <https://www.census.gov/programs-surveys/saipe.html>.

¹² More information about the Map the Meal Gap study at Feeding America and the data sources are available at <http://map.feedingamerica.org/>.

¹³ NielsenIQ is not responsible for and had no role in analyzing and preparing the results reported herein.

¹⁴ “Hunger and Poverty in the United States | Map the Meal Gap,” Feeding America, accessed July 16, 2021, <https://map.feedingamerica.org/>.

¹⁵ “Hunger and Poverty in the United States | Map the Meal Gap,” Feeding America, accessed July 16, 2021, <https://map.feedingamerica.org/>.

References

Almond, Douglas, Hilary W. Hoynes, and Diane Whitmore Schanzenbach. 2011. “Inside the War on Poverty: The Impact of Food Stamps on Birth Outcomes.” *Review of Economics and Statistics* 93 (2): 387–403.

Bronchetti, Erin, Garrett Christensen, and Benjamin Hansen. 2016. “Variation in Food Prices and SNAP Adequacy for Purchasing the Thrifty Food Plan.” DP2016-03. Lexington: University of Kentucky Center for Poverty Research.

Carlson, Andrea, Mark Lino, WenYen Juan, Kenneth Hanson, and P. Peter Basiotis. 2007. *Thrifty Food Plan, 2006*. CNPP-19. Alexandria, VA: US Department of Agriculture, Center for Nutrition Policy and Promotion.

Caswell, Julie A., and Ann L. Yaktine, eds. 2013. *Supplemental Nutrition Assistance Program: Examining the Evidence to Define Benefit Adequacy*. Institute of Medicine and National Research Council. Washington DC: National Academies Press.

Coleman-Jensen, Alisha, Matthew P. Rabbitt, Christian A. Gregory, and Anita Singh. 2020. “Household Food Security in the United States in 2019.” Washington, DC: US Department of Agriculture.

Cook, John T., Deborah A. Frank, Carol Berkowitz, Maureen M. Black, Patrick H. Casey, Diana B. Cutts, Alan F. Meyers, Nieves Zaldivar, Anne Skalicky, Suzette Levenson, Tim Heeren, and Mark Nord. 2004. “Food Insecurity Is Associated with Adverse Health Outcomes among Human Infants and Toddlers.” *Journal of Nutrition* 134 (6): 1432–38.

Courtemanche, Charles, Art Carden, Xilin Zhou, and Murugi Ndirangu. 2019. “Do Walmart Supercenters Improve Food Security?” *Applied Economic Perspectives and Policy* 41 (2): 177–98.

Cronquist, Kathryn. 2021. *Characteristics of Supplemental Nutrition Assistance Program Households: Fiscal Year 2019*. Washington, DC: US Department of Agriculture.



- Davis, George C., and Wen You. 2011. "Not Enough Money or Not Enough Time to Satisfy the Thrifty Food Plan? A Cost Difference Approach for Estimating a Money-Time Threshold." *Food Policy* 36 (2): 101–7. <https://www.sciencedirect.com/science/article/pii/S0306919210000941>.
- Ganong, Peter, and Jeffrey B. Liebman. 2013. "The Decline, Rebound, and Further Rise in SNAP Enrollment: Disentangling Business Cycle Fluctuations and Policy Changes." Working paper 19363. Cambridge, MA: National Bureau of Economic Research.
- Gregory, Christian, and Alisha Coleman-Jensen. 2013. "Do High Food Prices Increase Food Insecurity in the United States?" *Applied Economic Perspectives and Policy* 35 (4): 679–701.
- Gundersen, Craig. 2021. "A Proposal to Reconstruct the Supplemental Nutrition Assistance Program (SNAP) into a Universal Basic Income Program for Food." *Food Policy* 101: 102096.
- Gundersen, Craig, Brent Kreider, and John V. Pepper. 2017. "Partial Identification Methods for Evaluating Food Assistance Programs: A Case Study of the Causal Impact of SNAP on Food Insecurity." *American Journal of Agricultural Economics* 99 (1): 875–93.
- Gundersen, Craig, Elaine Waxman, and Amy S. Crumbaugh. 2019. "An Examination of the Adequacy of Supplemental Nutrition Assistance Program (SNAP) Benefit Levels: Impacts on Food Insecurity." *Agricultural and Resource Economics Review* 48 (Special Issue 3): 433–47.
- Gundersen, Craig, and James P. Ziliak. 2015. "Food Insecurity and Health Outcomes." *Health Affairs* 34 (11): 1830–39.
- Hoynes, Hilary, Diane Whitmore Schanzenbach, and Douglas Almond. 2016. "Long-Run Impacts of Childhood Access to the Safety Net." *American Economic Review* 106 (4): 903–34.
- Kreider, Brent, John Pepper, Craig Gundersen, and Dean Jolliffe. 2012. "Identifying the Effects of SNAP (Food Stamps) on Child Health Outcomes when Participation Is Endogenous and Misreported." *Journal of the American Statistical Association* 107: 958–75.
- Leibtag, Ephraim. 2007. "Stretching the Food Stamp Dollar: Regional Price Differences Affect Affordability of Food." Washington, DC: US Department of Agriculture, Economic Research Service.
- McKernan, Signe-Mary, Caroline Ratcliffe, and Breno Braga. 2021. "The Effect of the US Safety Net on Material Hardship over Two Decades." *Journal of Public Economics* 197: 104403.
- Nord, Mark, and Mark Prell. 2011. "Food Security Improved Following the 2009 ARRA Increase in SNAP Benefits." Washington, DC: US Department of Agriculture.
- Oliveira, Victor, Mark Prell, Laura Tiehen, and David Smallwood. 2018. "Design Issues in USDA's Supplemental Nutrition Assistance Program: Looking Ahead by Looking Back." ERR-243. Washington, DC: US Department of Agriculture, Economic Research Service.
- Seligman, Hilary K., Andrew B. Bindman, Eric Vittinghoff, Alka M. Kanaya, and Margot B. Kushel. 2007. "Food Insecurity Is Associated with Diabetes Mellitus: Results from the National Health Examination and Nutrition Examination Survey (NHANES) 1999–2002." *Journal of General Internal Medicine* 22 (7): 1018–23.
- Seligman, Hilary, Terry Davis, Dean Schillinger, and Michael Wolf. 2010. "Food Insecurity is Associated with Hypoglycemia and Poor Diabetes Self-Management in a Low-Income Sample with Diabetes." *Journal of Health Care for the Poor and Underserved* 21 (4): 1227–33.
- Swann, Christopher. 2017. "Household History, SNAP Participation, and Food Insecurity." *Journal of Food Policy* 73: 1–9.
- Todd, Jessica E., Ephraim Leibtag, and Corttney Penberthy. 2011. *Geographic Differences in the Relative Price of Healthy Foods*. Washington, DC: US Department of Agriculture, Economic Research Service.
- Waxman, Elaine, Craig Gundersen, and Megan Thompson. 2018. "How Far Do SNAP Benefits Fall Short of Covering the Cost of a Meal?" Washington, DC: Urban Institute.
- Waxman, Elaine, and Poonam Gupta. 2021. "Food Insecurity Fell Nearly 30 Percent between Spring 2020 and 2021." Washington, DC: Urban Institute.



Ziliak James P. 2015. "Why Are So Many Americans on Food Stamps? The Role of the Economy, Policy, and Demographics." In *SNAP Matters: How Food Stamps Affect Health and Well-Being*, edited by Judith Bartfeld, Craig Gundersen, Timothy M. Smeeding, and James P. Ziliak, 18–49. Stanford, CA: Stanford University Press.

———. 2016. *Modernizing SNAP Benefits*. Washington, DC: Brookings Institution, Hamilton Project.

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