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Budget Model

Macroeconomic and Distributional Effects of the Scheduled October 2021 Expansion of the Supplemental Nutrition Assistance Program (SNAP)

Summary: The USDA re-evaluation of the Thrifty Food Plan increases the average SNAP benefit by $36.24 per person per month starting in October 2021. PWBM projects that the increase in SNAP spending lowers GDP by 0.2 percent by 2031. People who receive SNAP as well as older working age individuals are helped by policy change while young people with high incomes as well as rich retirees are harmed due to lower future wages and a fall in the return to capital.

Data: Researchers interested in obtaining well-organized government data related to the SNAP program can download it from the PWBM database interface. Data produced by our models can be downloaded using the links provided below.

Introduction

On Monday, August 16 the U.S. Department of Agriculture (USDA) released a re-evaluation of the Thrifty Food Plan (TFP). This food plan is the basis on which Supplemental Nutrition Assistance Program (SNAP) benefits are calculated. The USDA re-evaluation of the Thrifty Food Plan increases the average SNAP benefit by $36.24 per month, per person, starting in October 2021, from the previous average monthly benefit of $121.

How Snap Benefits are Calculated

The Supplemental Nutrition Assistance Program (SNAP) provides monthly financial assistance to families that might otherwise have trouble affording food. In 2020, the program enrolled 39.8 million Americans, down from a peak of 47.6 million in 2012, and costs 79 billion dollars. SNAP benefits can be used to purchase most types of food, but cannot be used for alcohol, food that is "hot" when purchased, or any food from a restaurant.[1]

To be eligible for SNAP benefits, a family[2] must meet the following requirements:

- Their combined gross monthly income must be on or below 130 percent of the Federal Poverty Line (FPL) for a family of their location/size.[3]
- Their total "countable assets" cannot exceed $2250 (or $3500 for households with at least one person age 60+). "Countable assets" excludes home value, and generally excludes vehicle value, although the exact rules vary by state and type of vehicle.
- They meet certain work or education requirements, defined as working a job, searching for work, or attending school at least half the time. These requirements are waived for some groups, including children, seniors, disabled people, and pregnant women. These work requirements were temporarily waived in many cases in April 2020 due to Covid-19.
- As a result of 1996, and 1998 welfare reform legislation, they must be a native-born citizen, or be a legal immigrant with 5 years as a lawful resident. Some refugees and other migrants are granted eligibility as well.
- Their net income must be on or below 100 percent of the FPL. Net Income is calculated from gross income using a series of deductions.

The SNAP benefit each qualifying family receives is calculated using a formula based on the expected cost of a nutritious diet which is referred to as the Thrifty Food Plan (TFP). This plan estimates diet costs based on a price index of various types of food and determines the maximum benefit needed to afford such a diet depending on household size. The SNAP formula calculates what should be the SNAP benefit so that a qualifying family can afford the TFP diet and not spend more than 30 percent of their modified net income.[4] We state the formula for SNAP benefits as follows:

$$\text{SNAP Benefit} = \text{Maximum Benefit} - \text{Modified Net Income} * 0.3$$

The review of the TFP by the USDA, directed by Congress in the 2018 Farm Bill, concluded that in order to achieve this plan, the maximum SNAP benefit qualifying families can get had to be increased by 21 percent relative to the maximum benefits people received before the temporary benefit expansion of 2021 (27 percent compared to pre-pandemic levels).[5] For a family of four, the maximum benefit at the end of 2020 was $680. After the temporary benefit expansion of 15 percent, it was $782. This temporary expansion is set to expire in September 2021 and be replaced by the new values that stem from the TFP re-evaluation. From October 2021 onwards, a family of four will receive a maximum benefit of $835.[6] As a result of this increase, the average SNAP benefit will increase by $36.24 per month, per person.

Estimated Economic Effect

To quantify the economic effects of the re-evaluation of the TFP, we increase the maximum SNAP benefit starting in 2022, leaving all other taxes and policies the same as our baseline economy. In future analyses, the new maximum benefits will be current law and thus part of our baseline. Since all other taxes and policies are the same as in the baseline, the increase in SNAP is financed with public debt.

Table 1: Macroeconomic effects of new SNAP benefit policy versus previous baseline

Percent Change from Baseline

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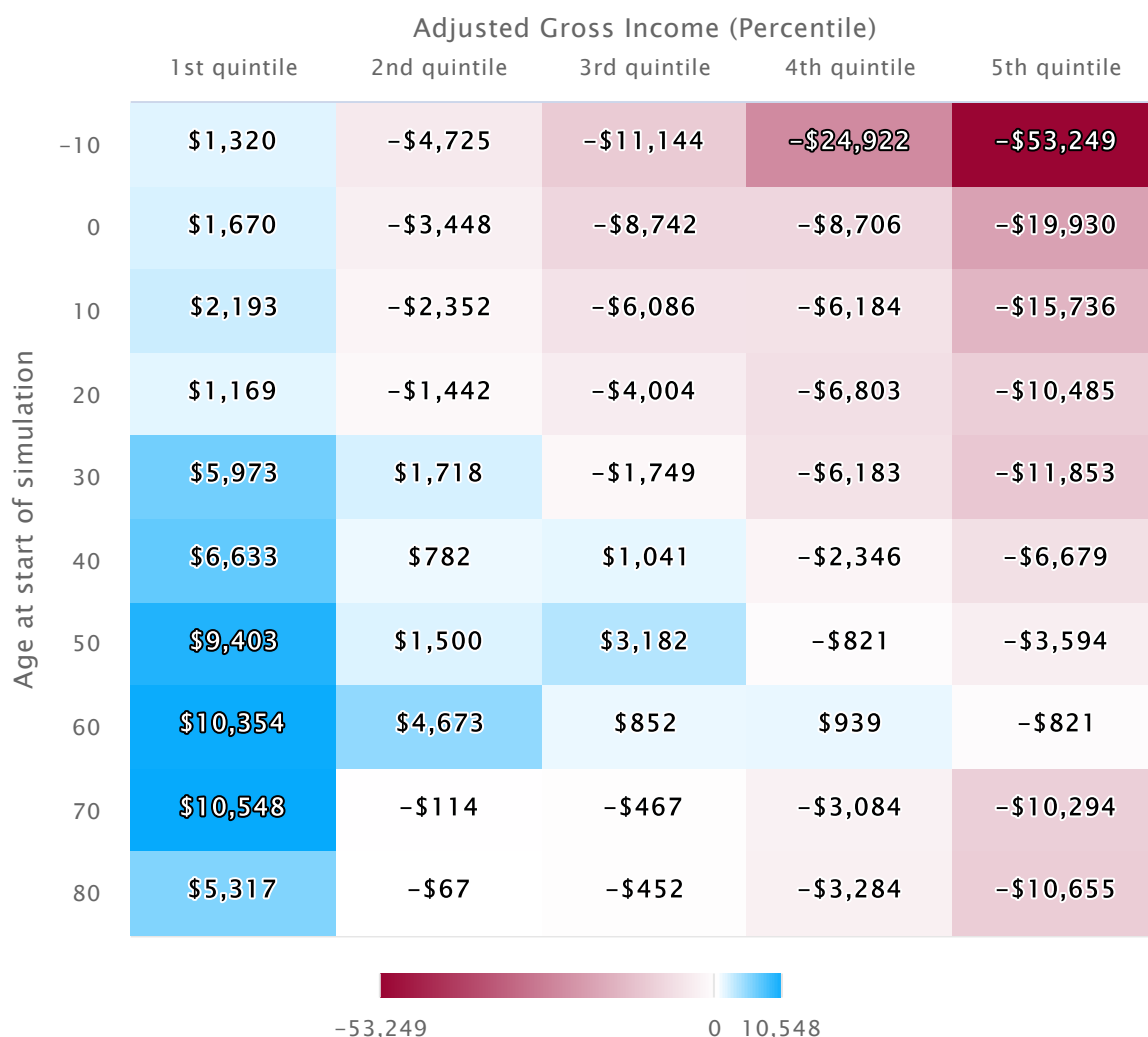| Year	GDP	Capital Stock	Hourly Wage	Hours Worked	Government Debt
2031	-0.2	-0.4	0.2	-0.4	2.1
2041	-0.3	-0.9	0.0	-0.4	3.7
2051	-0.5	-1.4	-0.1	-0.4	4.7

Table 1 shows projected macroeconomic effects of increasing the maximum SNAP benefit. Since the increase in SNAP spending is financed by government debt, the economy with the new SNAP benefit accrues 2.1 percent more government debt by 2031, 3.5 percent more government debt in 2041, and 4.6 percent more in 2051, relative to an economy with the previous SNAP benefits. Higher SNAP benefits increase household income and reduce incentives to work. As a result, hours worked fell by 0.4 percent throughout the period analyzed. Average hourly wage first rises because of the smaller labor supply but decreases as time goes by due to the decrease in capital that makes each worker less efficient. Average wage goes up by 0.2 percent in 2031, does not change in 2040 relative to the baseline, and goes down by 0.1 percent in 2051. The capital stock is 0.4 percent lower in 2031, 0.8 percent lower in 2041, and 1.3 percent lower in 2051. The fall in capital stock, coupled with the reduction of hours worked, reduces GDP relative to the previous baseline. In 2031, GDP will be 0.2 percent lower. In 2041, it is 0.3 percent lower, and it is 0.5 percent lower in 2051.

Dynamic Distributive Effects

Table 2 presents our estimated equivalent variation (EV) measures by age and income quintile at the time of the policy change. The EV measures the one-time payment a person requires in order to be made indifferent between living in a world with the new SNAP benefits relative to a world where the SNAP benefits are not updated. The age of -10 shown in the first column of Table 2 refers to someone born 10 years after the policy has been implemented. A positive (negative) dollar value shown in the remaining columns means that the policy is economically beneficial (detrimental) by the shown dollar amount for the average person in the corresponding age and income group. So, for example, a person who is age 40 and in the 1st quantile at the time of policy change receives a lifetime (present) value equal to $6,633 from the change in the SNAP program. This payment covers all direct policy as well as indirect macroeconomic changes that impact this individual.

Table 2: Equivalent Variation of new SNAP benefit policy versus previous baseline

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Adjusted Gross Income (Percentile)

Age at start of simulation	1st quintile	2nd quintile	3rd quintile	4th quintile	5th quintile
−10	$1,320	−$4,725	−$11,144	−$24,922	−$53,249
0	$1,670	−$3,448	−$8,742	−$8,706	−$19,930
10	$2,193	−$2,352	−$6,086	−$6,184	−$15,736
20	$1,169	−$1,442	−$4,004	−$6,803	−$10,485
30	$5,973	$1,718	−$1,749	−$6,183	−$11,853
40	$6,633	$782	$1,041	−$2,346	−$6,679
50	$9,403	$1,500	$3,182	−$821	−$3,594
60	$10,354	$4,673	$852	$939	−$821
70	$10,548	−$114	−$467	−$3,084	−$10,294
80	$5,317	−$67	−$452	−$3,284	−$10,655

−53,249 0 10,548

Many people in the first quintile receive the new SNAP benefit and thus, on average, gain from the policy change. People in higher income brackets and who are not yet in the labor force (e.g., ages −10, 0, and 10 and 20) generally suffer from the policy since the average hourly wage goes down in the distant future after they enter the workforce. The negative effect of the policy is larger for higher income people since the probability that they get SNAP benefits at some point in the future is low. Working age older people who are in the second quintile and above benefit from the short-term increase in wage. However, for retired people outside of the 1st income quantile, the policy is generally detrimental since the return on their capital savings decreases in the shorter term after the policy is in place.

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1. See details here. ↵

2. A "Family" for the purposes of SNAP is defined as a cohabitating group that purchases and prepares meals together. ↵

3. Households with elderly residents must have gross incomes at or below 160 percent of the FPL. ↵

4. Several deductions are applied to the earned income of an individual to get their modified net income. These include a flat deduction of 20 percent of earned income, a standard deduction based on size of household, a deduction for dependent care of children, a deduction for shelter costs, and other smaller deductions such as alimony payments (in some states) and excess medical expenses (for elderly/disabled members). ↵

5. Detailed information on the Thrifty Food Plan can be found here. ↵

6. This value is for most states and D.C.. More details on maximum values for other regions and family size that result from the TFP re-evaluation can be found here. ↵