The Economic Impact of Increasing the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) Fruit & Vegetable Cash-Value Benefit

Allison Bauman and Dawn Thilmany
Colorado State University

COLORADO STATE UNIVERSITY

ACKNOWLEDGEMENTS

Project Leads:

Cissie Bonini, Vouchers 4 Veggies
Jennifer Tong, Vouchers 4 Veggies
Sanjana Marpadga, Vouchers 4 Veggies

Research Team:

Allison Bauman, Colorado State University
Dawn Thilmany, Colorado State University

Design By:

Kari Paine

Published: August 2021

This project was sponsored by Vouchers 4 Veggies, a program of UCSF Center for Vulnerable Populations.

INTRODUCTION

According to Feeding America, 45 million people, including 15 million children, in the United States (U.S.) experienced food insecurity in 2020.[1] Beyond hunger, many lack consistent access to nutrient-rich foods, such as fruits and vegetables, due to budget limitations, high cost, and limited access to such goods at the markets where they shop. Research shows that consumption of fruits and vegetables reduces the risk of many causes of illness and death, including cardiovascular disease, Type 2 diabetes, obesity, and some cancers.[2] However, in the U.S., only one in ten adults consumes the daily recommended servings of fruits and vegetables with this number lower amongst low-income populations.[3] For children, 60% do not consume enough fruit to meet daily recommendations and 93% do not consume enough vegetables.[4] Healthy eating during pregnancy and early childhood is particularly important. Good nutrition during pregnancy supports fetal growth and development and can protect the pregnant person's health. Similarly, adequate nutrition in early childhood can promote physical, social, and cognitive development and establish healthy eating habits.[5]

To promote nutrition security and healthy eating and address disparities in access, the U.S. Department of Agriculture (USDA) provides a fruit and vegetable cash-value benefit (previously known as the cash-value voucher) as part of the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). This benefit allows participants to purchase fruits and vegetables as part of their WIC food package, stretching their food dollar for healthy food items. Currently, the monthly cash-value benefit is $9 per child and $11 per pregnant, postpartum, and breastfeeding person. While the cash-value benefit does expand access to fruits and vegetables, the current amount is inadequate to meet the 2020-2025 Dietary Guidelines for Americans' (DGAs) recommendations for pregnancy, lactation, and early childhood. The American Rescue Plan Act of 2021, which was signed into law by President Biden as a response to increasing food insecurity rates due to the COVID-19 pandemic, has offered states and tribal nations the option to temporarily increase the monthly cash-value benefit to $35 per WIC participant (child and adult) for a four-month period from June to September 2021.[6]

The WIC cash-value benefit and other similar food supplement programs are likely to have a positive impact across a diverse set of stakeholders: to consumers through improvements in food security and health; to local farmers and grocery store owners through an increase in

[1] https://www.feedingamerica.org/sites/default/files/2021-03/National%20Projections%20Brief_3.9.2021_0.pdf
[2] https://www.hsph.harvard.edu/nutritionsource/what-should-you-eat/vegetables-and-fruits/
[3] https://www.cdc.gov/nccdphp/dnpao/division-information/media-tools/adults-fruits-vegetables.html
[4] https://www.cdc.gov/media/releases/2014/p0805-fruits-vegetables.html
[5] https://www.cbpp.org/research/food-assistance/wic-works-addressing-the-nutrition-and-health-needs-of-low-income-families
[6] https://www.fns.usda.gov/wic/policy-memorandum-2021-3

sales and expansion of their customer base; and more broadly, to local economies through spillovers that lead to a positive economic impact from benefits to the former. **In this report, we estimate the economic impact to the economies of California, Colorado, Iowa, and Texas and the economic contribution to the U.S. economy if the monthly WIC fruit and vegetable cash-value benefits were to permanently increase to $35 per WIC participant (child and adult).** We chose these four diverse states, which differ in location, population size, and economic activity, to allow us to provide a range of estimates.

This report relies heavily on the data, methods, and results as developed in *The Economic Contributions of Healthy Food Incentives* report, based on a collaboration lead by SPUR and Fair Food Network and in partnership with Colorado State University and ten partner organizations that operate incentive programs in states across the country.[7] Data and methods described here are a simplified version of those presented in that earlier report.

DATA

To estimate the potential state economic impacts and national economic contribution of the WIC fruit and vegetable cash-value benefit, we use data from currently operating WIC programs and 2016 state-level data from the commercially available software IMpact Analysis for PLANning (IMPLAN) from the IMPLAN Group LLC. To evaluate potential estimated state impacts if the WIC cash-value benefit were to scale up from $9 per child and $11 per adult to $35 per child and per adult, we use primary data collected from state WIC offices on patterns across cash-value benefit redemptions, in combination with participation data from the U.S. Department of Agriculture Food and Nutrition Service (USDA FNS) and estimated increases in participation to determine the total sales the programs will generate. We then use scenarios run through the IMPLAN model of the broader economy to estimate the economic impacts in California, Colorado, Iowa, and Texas to provide a range of potential estimates.

PRIMARY DATA

Data was collected from state WIC offices for the total cash-value benefits redeemed from March 2020 to March 2021 in California, Colorado, Iowa, and Texas (Table 1). To estimate the potential increase in WIC participation as a result of increasing the cash-value benefit to $35, the project team spoke with several researchers in the field, and while there is no hard data or research on potential scenarios, there was a consensus that 5% is a conservative estimate of the potential increase in WIC participation. This participation estimate considers historically low WIC coverage rates. In 2018, the national WIC coverage rate (the share of eligible people who participated in WIC) was 57%.[8] Therefore, we assume a modest increase

[7] https://fairfoodnetwork.org/from-the-field/incentives-impact/
[8] https://www.fns.usda.gov/wic/eligibility-and-coverage-rates-2018

in participation, which includes an increase in utilization of those currently in the WIC program and increases in new participants, with an increased cash-value benefit amount.

We were not able to access a national estimate of WIC cash-value benefits. Therefore, we estimate U.S. cash-value benefits by calculating the cash-value benefit per WIC participant for each state in our sample and taking an average. We then take this average cash-value benefit per WIC participant and multiply it by the number of WIC participants in the U.S. to get an estimate of U.S. cash-value benefits. This approach assumes that our sample of states is representative of the cash-value benefits spent per participant across the country.

Table 1. WIC cash-value benefits, by state and U.S.

State	Cash-value benefits
California	$71,993,823
Colorado	$5,244,334
Iowa	$3,537,015
Texas	$43,049,547
U.S.	$431,950,946

Source: State-level data collected from state WIC offices. National data estimated from the state level data and USDA FNS data on 2017 WIC coverage rates by state.

SECONDARY DATA AND SCENARIOS

The vast majority of WIC cash-value benefits are redeemed at retail food stores. While participants can redeem their cash-value benefits at participating farmers' markets in their states, redemptions at farmers' markets represent <1% of total redemptions.[9] In California, cash-value benefits at farmers' markets represented 0.01% of total redemptions in the state. In Colorado and Iowa, 100% of cash-value benefits were redeemed at retail stores. In Texas, cash-value benefits can only be redeemed at one farmers' market in the state. While we do not have data on the percentage of redemptions at farmers' markets in Texas, 2019 data on Supplemental Food and Nutrition (SNAP) redemptions at farmers' market is available. The USDA FNS reported the percentage of SNAP redemptions at farmers' markets by state[10] for fiscal year 2019. In Texas, farmers' market redemptions represent 0.003% of total redemptions in the state. We assume the percentage of WIC cash-value benefits redeemed at farmers' markets in Texas to be the same as SNAP. While SNAP and WIC cash-value benefits are different, SNAP redemptions are the best source of data available for farmers' market spending in Texas. For our U.S. estimate, we assume all cash-value benefits are redeemed at food outlets, not including farmers' markets. As we know a small percentage of redemptions occur at farmers' markets, this assumption provides a conservative estimate given the higher economic multiplier associated with farmers' markets compared to other retail

[9] https://farmersmarketcoalition.org/advocacy/wic-cvv/

[10] https://fns-prod.azureedge.net/sites/default/files/resource-files/SNAP-Farmers-Markets-Redemptions-13.19.pdf

outlets. Estimated percentage of cash-value benefit redemptions by market channel are presented in Table 2.

Table 1. Estimated cash-value benefit redemptions by market channel

	% of total cash-value benefits	
State	Farmers' markets	All other retail food outlets
California	0.01%	99.99%
Colorado	0%	100%
Iowa	0%	100%
Texas	0.003%	99.997%
U.S.	0%	100%

Source: USDA FNS 2019 SNAP redemptions at farmers' markets and data collected from state WIC offices. National data is assumed.

In order to accurately estimate the increase to $35 per child and per adult from $9 per child and $11 per adult, we need to allocate cash-value benefits redeemed for children separately from those redeemed for adults. We use USDA FNS data on 2017 WIC coverage rates by state[11] to determine the proportion of participants that are children and adults (Table 3).

Table 3. Proportion of WIC participants that are children and adults

State	% Children	% Adults
California	71%	29%
Colorado	75%	25%
Iowa	69%	31%
Texas	65%	35%
U.S.	76%	24%

Source: USDA FNS and 2017 WIC coverage rates by state and nationally.

We then take the current cash-value benefits that have been allocated to children and divide that total by $9 and the cash-value benefits that have been allocated to adults and divide that total by $11. This calculation assumes that each participant spends the full amount of the benefit. Using these estimated ratios, we multiply both by $35 to get the estimated cash-value benefit redemptions if participation remains the same. To estimate cash-value benefits redemptions if participation were to increase, we increase the estimated participation numbers by 5% and multiply that by $35. The increase in participation could mean current WIC participants redeeming more benefits than previously and/or new WIC participants redeeming benefits. These figures are presented in Table 4. We first present the estimated current economic impact (states)/contribution (U.S.) of cash-value benefits. We then present the estimated economic impacts (states)/contribution (U.S.) if cash-value benefits were

[11] https://www.fns.usda.gov/wic-2017-eligibility-and-coverage-rates

increased from $9 to $35 for children and $11 to $35 for adults, assuming participation remains the same, as well as another scenario assuming participation increases by 5%.

Table 4. Current WIC cash-value benefit redemptions and estimated redemptions if benefits increased to $35, assuming current WIC participation and a 5% increase in WIC participation

	Cash-value benefits: $9/$11	Cash-value benefits: $35	
State	Current redemptions	Redemptions if WIC participation rates remain the same	Redemptions if WIC participation increases by 5%
California	$71,993,823	$265,384,593	$278,653,823
Colorado	$5,244,334	$19,467,605	$20,440,985
Iowa	$3,537,015	$12,988,547	$13,637,974
Texas	$43,049,547	$156,649,421	$164,481,892
U.S.	$431,950,946	$1,606,929,629	$1,687,276,111

Source: Estimated by researchers using primary and secondary data as described in Tables 1 and 3

METHODOLOGY

IMPLAN is a commonly used input-output model that provides a framework to track the flow of money from one entity to another throughout an economy in a given period of time. It allows one to conduct an economic impact analysis, measuring how variables within the model respond to exogenous changes (i.e., additional spending in the economy resulting from incentive programs).[12] An economic impact assessment estimates the change in cash flowing through specific linkages throughout the economy after a shock. For our state-level estimates, we focus on the economic *impacts* of the WIC fruit and vegetable cash-value benefit program as we are assessing the impact of new money from the federal government coming into a state's economy.

Comparatively, an economic contribution analysis defines the magnitude of a project or program's role within the context of the overall economy of a region. For our national estimates, we focus on the economic *contributions* of the WIC fruit and vegetable cash-value benefit program as we do not have new money coming into the U.S. economy but rather a reallocation of money.

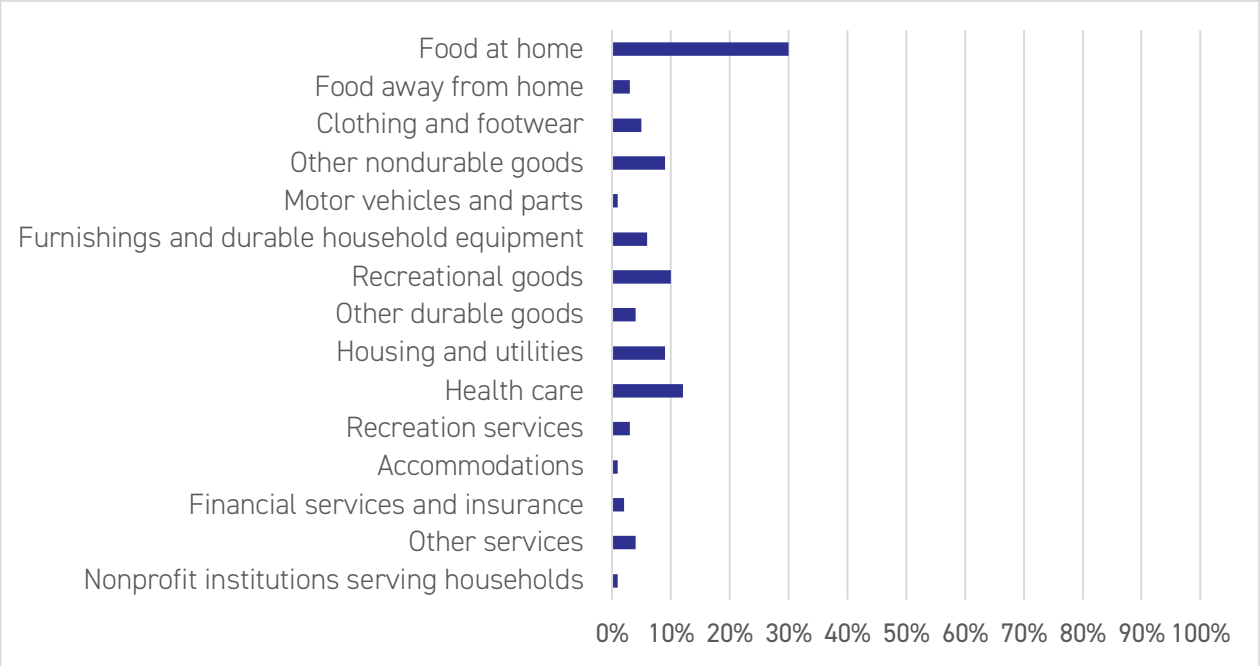
[12] We use IMPLAN data, but all calculations are conducted outside of IMPLAN in a spreadsheet to allow for customized economic sectors and sectoral linkages. We estimate Type SAM multipliers and assume industry sectors, employee compensation, proprietor income and households are endogenous. Other property type income and taxes on production and imports are assumed to be exogenous.

ALLOCATING INCREASED SPENDING ACROSS THE ECONOMY AND MARGINING

An important component to consider is the displacement of spending in the economy as a result of the cash-value benefit program. While participants are required to spend benefits on fruits and vegetables, they are not prohibited from reallocating their cash budget. This may lead to transference of cash previously used on produce to food at restaurants or nonfood items. While participants are likely to spend more on fruits and vegetables as a result of the WIC program, we assume they reallocate at least some of their increased purchasing power resulting from the cash-value benefit program to eating at restaurants and on nonfood items.

We allocate spending across the economy based on a 2019 study by U.S Department of Agriculture Economic Research Service (USDA ERS) on the economic impacts of SNAP[13] showing that when SNAP recipients' purchasing power increases, they put 30% of their increased purchasing power toward "food at home" (i.e., groceries). The remaining 70% goes toward other expenses such as prepared food, transportation, housing, utilities, clothes, and everything else that people spend money on in the economy (Figure 1).

Figure 1. Distribution of additional SNAP spending



Source: USDA ERS, 2019, The Supplemental Nutrition Assistance Program (SNAP) and the Economy: New Estimates of the SNAP Multiplier.

[13] Canning, Patrick and Brian Stacy. The Supplemental Nutrition Assistance Program (SNAP) and the Economy: New Estimates of the SNAP Multiplier, ERR-265, U.S. Department of Agriculture, Economic Research Service, July 2019. Available at: https://www.ers.usda.gov/webdocs/publications/93529/err-265.pdf?v=1289.2

A portion of the spending circulating in the economy is used by businesses to purchase inputs and pay workers from within the state and stays circulating in the state's economy, while the remaining flows out of the state into the national and global economy. The total impact is the direct effect plus the ripple effect of increased spending throughout the economy. To calculate the implied impact multiplier,[14] we take the total impact divided by the cash-value benefits.

IMPLAN DATA

We use three measures of economic activity: output, employment, and labor income. Output is the value of industry production (sales plus net inventory change). Employment is an industry-specific mix of full-time, part-time, and seasonal employment. Employment is a job that can either be a full-time or part-time. A person can hold more than one job, so the job count and number of persons employed is not necessarily the same. Jobs are calculated following the U.S. Bureau of Economic Analysis (USDA BEA) and Bureau of Labor Statistics (USDA BLS) definition which is the full-time/part-time annual average. For example, one job lasting 12 months is equivalent to 2 jobs lasting 6 months. Employment is an annual average and is not equal to the full-time equivalents.

Labor income includes employee compensation and proprietor income. Employee compensation includes wages, salaries, benefits, and payroll taxes. Proprietor income is current production income of sole proprietors, partnerships and tax-exempt cooperatives and excluded dividends, monetary interest received by nonfinancial business and rental income received if not primarily in the real estate business. Labor income can be negative if there is a net loss to the proprietor.

[14] We calculate a Type SAM multiplier.

RESULTS

Results are presented to show the current economic impact for state-level estimates and economic contribution for the national estimate of WIC cash-value benefits and the estimated impact (states)/contribution (U.S.) if cash-value benefits were increased from $9 per child and $11 per adult to $35 per child and per adult, assuming current participation rates and a 5% increase in participation. Because we allocate redemptions across market channels at the same percentage for the current and expansion scenarios, the output multiplier is the same across all scenarios for each state. The output multiplier is presented in Table 5.

CURRENT ECONOMIC IMPACT FOR STATE-LEVEL ESTIMATES AND CONTRIBUTION FOR NATIONAL ESTIMATE

In 2020, $72 million in WIC cash-value benefits were redeemed in **California** (Table 5). The resulting economic impact to California's economy as a result of this program was $115.2 million, 824 jobs,[15] and $43.6 million in labor income.[16] The implied output multiplier is 1.6. **This means that for every dollar spent on cash-value benefits, the impact to the economy expanded to a realized effect of 1.6 dollars.**

In 2020, $5.2 million in WIC cash-value benefits were redeemed in **Colorado** (Table 5). The resulting economic impact to Colorado's economy of this program was $7.4 million, 60 jobs, and $2.8 million in labor income. The implied output multiplier is 1.4. **This means that for every dollar spent on cash-value benefits, the impact to the economy expanded to a realized effect of 1.4 dollars.**

In 2020, $3.5 million in WIC cash-value benefits were redeemed in **Iowa** (Table 5). The resulting economic impact to Iowa's economy of this program was $3.9 million, 36 jobs, and $1.4 million in labor income. The implied output multiplier is 1.1. **This means that for every dollar spent on cash-value benefits, the impact to the economy expanded to a realized effect of 1.1 dollars.**

In 2020, $43 million in WIC cash-value benefits were redeemed in **Texas** (Table 5). The resulting economic impact to Texas's economy of this program was $62.7 million, 477 jobs, and $22.8 million in labor income. The implied output multiplier is 1.5. **This means that for every dollar spent on cash-value benefits the impact to the economy expanded to a realized effect of 1.5 dollars.**

In 2020, an estimated $432 million in WIC cash-value benefits were redeemed in the **U.S.** (Table 5). The resulting economic contribution to the U.S. economy of this program was

[15] Employment is a job, that job can either be a full time or a part-time job and a person can hold more than one job, so the job count and number of persons employed is not necessarily the same

[16] Employee compensation and proprietor income

$964.6 million, 6,596 jobs, and $326.3 million in labor income. The implied output multiplier ranges from 1.1-1.6. For the contribution multipliers if WIC cash-value benefits were scaled nationwide, we present a range, based on the multipliers estimated from each state. Although we are referring to this as a national economic contribution, we decided to frame the analysis considering how economic activity would change across a representative set of participants, farmers' markets, and communities, and then scale those representative contributions to the national level considering the overall number and size of those impacted stakeholders. Since we had the most detailed data from states in this study, the ranges for representative contributions are "bound" by the multiplier levels estimated for those programs and places. **This means that for every dollar spent on cash-value benefits the impact to the economy expanded to a realized effect of 1.1-1.6 dollars.**

Table 5. Cash-value benefits, estimated current economic impact (states)/contribution (U.S) and implied output multiplier

	Cash-value benefits ($)	Economic impact (states)/contribution (U.S.)			Output multiplier
		Output ($)	Employment (jobs)	Labor income ($)	
California	71,993,823	115,204,540	824	43,582,440	1.6
Colorado	5,244,334	7,431,917	60	2,776,838	1.4
Iowa	3,537,015	3,910,509	36	1,366,169	1.1
Texas	43,049,547	62,692,334	477	22,773,103	1.5
U.S.	431,950,946	964,617,909	6,596	326,291,268	1.1 – 1.6

Notes: Figures represent estimated economic impact for the state level estimates and economic contribution for the national estimate

ESTIMATED ECONOMIC IMPACT FOR STATE-LEVEL ESTIMATES AND CONTRIBUTION FOR NATIONAL ESTIMATE IF CASH-VALUE BENEFITS INCREASE TO $35

We now estimate the economic impacts (states) and contribution (U.S.) if the cash-value benefit were increased from $9 per child and $11 per adult to $35 per child and per adult. Results are presented assuming WIC participation remains the same (lower bound) and assuming WIC participation increases by 5% (upper bound). All results are presented in Table 6. We then present the estimated change in output, taking the estimated economic impact (states)/contribution (U.S.) from increasing the benefit minus the current estimated economic impact (states)/contribution (U.S.) (Table 7).

If cash-value benefits were increased to $35 in **California**, the lower bound for cash-value benefits redeemed in the state is $265.4 million. This results in an estimated economic impact to the state's economy of $424.7 million, 3,038 jobs, and $160.7 million in labor income. The upper bound for total cash-value benefits redeemed in the state is $278.7 million. This results in an estimated economic impact in the state's economy of $447.1 million, 3,198 jobs, and $169.2 million in labor income. **Overall, we see an estimated increase in economic impact to the state's economy of $309 million to $332 million as a result of raising the cash-value benefit to $35.**

If cash-value benefits were increased to $35 in **Colorado**, the lower bound for cash-value benefits redeemed in the state is $19.5 million. This results in an estimated economic impact to the state's economy of $27.5 million, 222 jobs, and $10.3 million in labor income. The upper bound for total cash-value benefits redeemed in the state is $20.4 million. This results in an estimated economic impact in the state's economy of $29.2 million, 235 jobs, and $10.9 million in labor income. **Overall, we see an estimated increase in economic impact to the state's economy of $20 million to $22 million as a result of raising the cash-value benefit to $35.**

If cash-value benefits were increased to $35 in **Iowa**, the lower bound for cash-value benefits redeemed in the state is $13 million. This results in an estimated economic impact to the state's economy of $14.4 million, 132 jobs, and $5 million in labor income. The upper bound for total cash-value benefits redeemed in the state is $13.6 million. This results in an estimated economic impact in the state's economy of $15.2 million, 139 jobs, and $5.3 million in labor income. **Overall, we see an estimated increase in economic impact to the state's economy of $10 million to $11 million as a result of raising the cash-value benefit to $35.**

If cash-value benefits were increased to $35 in **Texas**, the lower bound for cash-value benefits redeemed in the state is $156.6 million. This results in an estimated economic impact to the state's economy of $228 million, 1,735 jobs, and $82.8 million in labor income. The upper bound for total cash-value benefits redeemed in the state is $164.5 million. This results in an estimated economic impact in the state's economy of $240.3 million, 1,831 jobs, and $87.3 million in labor income. **Overall, we see an estimated increase in economic impact to the state's economy of $165 million to $178 million as a result of raising the cash-value benefit to $35.**

If cash-value benefits were increased to $35 in the **U.S.**, the lower bound for cash-value benefits redeemed is $1.61 billion. This results in an estimated economic contribution to the U.S. economy of $3.59 billion, 24,539 jobs, and $1.21 billion in labor income. The upper bound for total cash-value benefits redeemed in the U.S. is $1.69 billion. This results in an estimated economic contribution to the U.S. economy of $3.77 billion, 25,776 jobs, and $1.28 billion in labor income. **Overall, we see an estimated increase in economic contribution to**

the U.S. economy of $2.62 billion to $2.81 billion as a result of raising the cash-value benefit to $35.

Table 6. Potential economic impacts (states)/contributions (U.S.) if cash-value benefits were increased to $35 per child and per adult, assuming current WIC participation rates and a 5% increase in participation

	Current WIC participation rates				WIC participation increases by 5%			
	Cash-value benefits ($)	Output ($)	Employment (jobs)	Labor income ($)	Cash-value benefits ($)	Output ($)	Employment (jobs)	Labor income ($)
California	265,384,593	424,668,513	3,038	160,654,171	278,653,823	447,146,966	3,198	169,165,961
Colorado	19,467,605	27,511,156	222	10,279,632	20,440,985	29,210,723	235	10,915,756
Iowa	12,988,547	14,360,083	132	5,016,815	13,637,974	15,151,969	139	5,296,063
Texas	156,649,421	227,985,395	1,735	82,817,193	164,481,892	240,319,440	1,831	87,316,030
U.S.	1,606,929,629	3,588,539,659	24,539	1,213,857,988	1,687,276,111	3,769,793,386	25,776	1,275,170,939

Notes: Figures represent estimated economic impact for the state level estimates and economic contribution for the national estimate

Table 7. Estimated increase in economic impact (states)/contribution (U.S.) to the state's economy if cash-value benefits were increased to $35 per child and per adult, assuming current WIC participation rates and a 5% increase in participation

	Current WIC participation rates				WIC participation increases by 5%			
	Change in cash-value benefits ($)	Change in output ($)	Change in employment (jobs)	Change in labor income ($)	Change in cash-value benefits ($)	Change in output ($)	Change in employment (jobs)	Change in labor income ($)
California	193,390,770	309,463,973	2,214	117,071,731	206,660,000	331,942,426	2,374	125,583,521
Colorado	14,223,271	20,079,239	162	7,502,794	15,196,651	21,778,806	175	8,138,918
Iowa	9,451,532	10,449,574	96	3,650,646	10,100,959	11,241,460	103	3,929,894
Texas	113,599,874	165,293,061	1,258	60,044,090	121,432,345	177,627,106	1,354	64,542,927
U.S.	1,174,978,683	2,623,921,750	17,943	887,566,720	1,255,325,165	2,805,175,477	19,180	948,879,671

Notes: Figures represent estimated economic impact for the state level estimates and economic contribution for the national estimate

CONCLUSION

Since 2007, the USDA has provided a fruit and vegetable cash-value benefit (previously known as the cash-value voucher) as part of the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), which allows participants to purchase fruits and vegetables as part of their WIC food package. Not only does this program provide significant health benefits for program participants, but it also may heighten economic activity for the food sector (and its allied businesses) in the region and positively impact state and national economies.

In this study, we estimate the economic impact in California, Colorado, Iowa, and Texas and the economic contribution to the U.S. if WIC cash-value benefits were to scale up from $9 per child and $11 per adult to $35 per child and per adult. While data limitations did not allow for the evaluation of all U.S. states, the set of states chosen for this analysis is intended to represent a range of potential impact; most U.S. states will have a multiplier that falls within the presented range. Because we do not have data on WIC cash-value benefits for the U.S., we estimate it using an average cash-value benefit per WIC participant of the states in this study. This approach assumes that our sample of states is representative of the cash-value benefits spent per participant across the country. For a more accurate future assessment, data on cash-value benefit redemption from all states would need to be analyzed.

We share three measures of economic activity: output, employment, and labor income and provide estimates assuming participation remains the same and assuming participation increases by 5%. Unlike some other methods of monetary transfer from the government, cash-value benefits cannot be saved, and thus, are fully spent in a timely manner within the state's economy. As such, they warrant special consideration as a form of stimulus that is broadly distributed in the economy.

To estimate the economic impacts for each of the four states, we use a combination of redemption data by market channel from state WIC offices as well as USDA FNS data on WIC participation rates. We find that for every dollar of cash-value benefit spent, the impact to the state's economy is 1.1-1.6 dollars. Iowa represents the lower bound of this estimate, and California represents the upper bound; most states in the U.S. are likely to fall within this range. States with higher fruit and vegetable production and higher economic activity have a larger economic multiplier compared to states with lower fruit and vegetable production and lower economic activity. For example, while Iowa has large agricultural production, most is exported and not comprised of fruits and vegetables consumed within the state. This, combined with a largely rural state (rural areas generally having lower economic activity), creates a lower economic multiplier for the state of Iowa. To estimate the national economic contribution, we use the range of economic multipliers (1.1-1.6) estimated from each state.

As a result of increasing the cash-value benefit to $35 per child and per adult, we estimate an increased economic impact to California's economy of $309 million to $332 million, an increase of $20 million to $22 million to Colorado's economy, an increase of $10 million to $11 million to Iowa's economy, and an increase of $165 million to $178 million to Texas's economy. For the U.S., we estimate an increased economic contribution to the U.S. economy of $2.62 to $2.81 billion.

Economic impact and contribution estimates in this report incorporated relatively conservative assumptions regarding the substitution effect and estimated increase in WIC participation. Therefore, the observed economic impact (states)/contribution (U.S.) given an increase to the cash-value benefit to $35 may result in larger measures of economic activity than the ones presented. In addition to the significant health benefits an increased cash-value benefit may have to those WIC families receiving benefits, we highlight the broad economic implications that may occur state and nationwide in this report. It is our hope that this report can provide policymakers and relevant stakeholders some guidance when considering the tradeoffs of policy changes impacting WIC recipients.