

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK**

MAKE THE ROAD NEW YORK, AFRICAN SERVICES COMMITTEE, ASIAN AMERICAN FEDERATION, CATHOLIC CHARITIES COMMUNITY SERVICES (ARCHDIOCESE OF NEW YORK), and CATHOLIC LEGAL IMMIGRATION NETWORK, INC.,

Plaintiffs,

vs.

KEN CUCCINELLI, in his official capacity as Acting Director of United States Citizenship and Immigration Services; UNITED STATES CITIZENSHIP & IMMIGRATION SERVICES; KEVIN K. McALEENAN, in his official capacity as Acting Secretary of Homeland Security; and UNITED STATES DEPARTMENT OF HOMELAND SECURITY,

Defendants.

19-cv-07993 (GBD)

**DECLARATION OF DIANE
SCHANZENBACH, Ph.D.**

I, **Diane Whitmore Schanzenbach**, declare pursuant to 28 U.S.C. § 1746 that the following is true and correct:

1. My name is Diane Whitmore Schanzenbach. I make this declaration in support of Plaintiffs' Request for a preliminary injunction.

Background

2. I am the Director of the Institute for Policy Research at Northwestern University, where I am also the Margaret Walker Alexander Professor of Social Policy and Economics. For the past two decades, I have conducted and published numerous peer-reviewed research studies and book chapters on the Supplemental Nutrition Assistance Program, commonly known as SNAP. I recently served as a member of the Institute of Medicine's Committee on Examination

of the Adequacy of Food Resources and SNAP Allotments, and the Committee on National Statistics of the National Academy of Sciences Committee on Improving Consumer Data for Food and Nutrition Policy Research for the Economic Research Service, United States Department of Agriculture (USDA). I was previously the Director of the Hamilton Project, an economic policy initiative at the Brookings Institution. I hold a Ph.D. in economics from Princeton University. My declaration draws primarily from research that I have conducted or reviewed that use economic and econometric methods to consider the role of SNAP and other influences on food consumption, food insecurity, economic well-being, and other outcomes. My Curriculum Vitae is attached as Exhibit A to this declaration.

3. I have previously testified before the House Agriculture Committee and the U.S. Senate Committee on Agriculture, Nutrition and Forestry regarding SNAP. I have previously provided an expert declaration in *Texas Taxpayer & Student Fairness Coalition, et al. v. Edgewood Independent School District, et al. v. Robert Scott*, Cause No. D-1-GN-11-003130 (200th Judicial District, Texas). I have not provided testimony in any other litigation.

4. I have been engaged by counsel for Plaintiffs in this case to evaluate the effect of the new public charge rule (“the public charge rule” or “the Rule”)¹ on the use of SNAP benefits and the resulting effects on individuals, communities, and the nation.

Summary

5. As described below, from my expert review, I conclude that because of the chilling effects of the public charge rule, enrollment among SNAP households with immigrant members will decline by nearly 20 percent and that 524,897 households will not participate in SNAP due to the Rule. These households include 1.78 million individuals, many of whom are

¹ Inadmissibility on Public Charge Grounds, 84 Fed. Reg. 41,292 (Aug. 14, 2019) (to be codified at 8 C.F.R. pts. 103, 212, 213, 214, 245, 248).

citizens. The loss of SNAP benefits will cause substantial harm to households and their communities, and will especially cause harm to young children in those households; 35 percent of participating SNAP households with noncitizen members had a young child between ages 0 and 4 in the household. Research reviewed below suggests that the loss of these benefits will have lasting impacts on health and well-being in the short-, medium, and long-term. I also conclude that the annual economic loss from foregone SNAP benefits due to the Rule will be \$2.0 billion and that the economic multiplier impacts of these losses yields a likely annual economic loss of \$3.2 billion.

6. My findings show that the Department of Homeland Security (DHS) and U.S. Citizenship and Immigration Service (USCIS) misunderstand the supplemental nature of SNAP. Participating SNAP households with immigrant members on average receive a minority of their total resources from SNAP payments. In data from 2017, over half of SNAP households with immigrant members that did not contain an elderly or disabled member had earnings in the month they received benefits.

7. I also found significant problems in DHS's estimates. First, DHS substantially understates the number of immigrant households that may be impacted. I estimate that there are 2.6 million households on SNAP that include noncitizen members, and these households include 6.5 million people who receive SNAP, and 8.9 million individuals overall in the households, whereas DHS estimates that there are 1.5 million households on SNAP that include noncitizen members, and these households include 5.1 million individuals.

8. Second, DHS compounds this error by making an unreasonable estimate of a likely disenrollment effect based on chilling effects estimates that are substantially outside of the range of credible social science estimates. A justifiable estimate is that enrollment among SNAP

households with immigrant members will decline by around 20 percent. I estimate that 524,897 households will not participate in SNAP due to the Rule. These households include 1.78 million individuals, whereas DHS estimates that there will be 65,612 households and 222,868 households that will not participate.

9. I predict the annual total amount of foregone SNAP benefits due to the Rule will be \$2.0 billion. This figure is about 10 times greater than DHS's estimates,² which are flawed both in terms of the number of SNAP households with immigrant members and in the likely rate of disenrollment or foregone enrollment. Including the economic multiplier impacts of these losses yields a likely annual economic loss of \$3.2 billion. The estimated lost benefits to the state of New York will be \$179 million annually, which will result in \$287 million in lost economic activity. Connecticut is estimated to lose \$22.7 million in benefits and \$36.3 million in economic activity. Vermont is estimated to lose \$1.0 million in benefits and \$1.6 million in economic activity.

I. Background on SNAP

A. Overview of SNAP

10. The Supplemental Nutrition Assistance Program (SNAP), previously known as the Food Stamp Program, is a cornerstone of the U.S. safety net. SNAP is the only social benefits program universally available to low-income Americans, and, in 2018, it assisted 40 million people in a typical month—about one out of every eight Americans. Overall, \$60.6 billion was spent on benefits in 2018. SNAP benefits typically are paid once per month on an electronic benefits transfer card that can be used in a food retailer's checkout line like a debit card, to purchase eligible goods which include most foods that are intended to be taken home and eaten.

² See Regulatory Impact Analysis, Inadmissibility on Public Charge Grounds, Table 22.

11. SNAP is designed to prop up families' purchasing power when their incomes are low, and helps to buffer households' economic shocks due to job loss or other income declines. SNAP also has a stated goal of strengthening the agricultural economy, and every \$1 increase in SNAP benefits has been shown to increase economic activity in the economy by \$1.60.³ In addition, SNAP plays an important role as an automatic stabilizer, responding powerfully and quickly in times of economic downturns. During a recession, as unemployment rises, many families' incomes fall, making more of them eligible for SNAP benefits (or making those already eligible for SNAP eligible for larger benefits). Benefits are quickly spent, generally in the local economy, providing an economic stimulus.⁴

12. SNAP benefits are designed to fill the gap between a family's resources that are available to purchase food and the price of a low-cost food diet. Maximum benefits vary by household size. The maximum monthly benefit for a family of three in fiscal year 2019 is \$505, or about \$17 per day. Most families do not receive the maximum benefit because they have some resources (for example, earnings) that they can spend on groceries, and SNAP benefits are reduced accordingly. The average monthly SNAP benefit received for a family of three in 2019 is \$378, or a little over \$12 per family per day (approximately \$4 per person per day).⁵

13. By design, SNAP can very quickly adapt to declining economic conditions. During a recession as more households become eligible for the program they can be quickly enrolled, with total program outlays automatically increasing along with need. SNAP payments and caseloads increased in the wake of the Great Recession, and, at their peak in 2012, 15

³ Bivens, Josh. 2011. Method memo on estimating the jobs impact of various policy changes. Report, Economic Policy Institute.

⁴ Hoynes, Hilary and Diane Whitmore Schanzenbach. 2019. Strengthening SNAP as an Automatic Stabilizer. In Boushey, Heather, Ryan Nunn and Jay Shambaugh, eds., *Recession Ready: Fiscal Policies to Stabilize the American Economy*.

⁵ See CBPP, A Quick Guide to SNAP Eligibility and Benefits, <https://www.cbpp.org/research/food-assistance/a-quick-guide-to-snap-eligibility-and-benefits>.

percent of the population participated in SNAP.⁶ As the economy has recovered and unemployment rates have declined, caseloads have fallen such that by 2018 the participation rate fell to 12.3 percent of the population, with the Congressional Budget Office predicting further declines in the coming years as long as the economy continues to thrive.⁷ This feature of SNAP means that a household's likelihood of participating in SNAP varies due to macroeconomic conditions that are out of their control.

B. Eligibility for SNAP

14. Under federal rules, to be eligible for SNAP a household's income and assets must meet three tests. First, their gross monthly income (before any deductions are applied) must be no higher than 130 percent of the poverty line, unless there is an elderly or disabled member in the household. Second, their net income must be no higher than 100 percent of the poverty line (after a series of deductions—including a standard deduction available to all households, some earned income, childcare expenses, legally obligated child support, housing costs that exceed half of the family's net income, and medical expenses for elderly or disabled household members).⁸ Third, the household's assets must fall below \$2,250, or \$3,500 (which generally include bank accounts, but not other significant assets such as retirement savings, most automobiles, or homes of residence) for households with an elderly or disabled member. States have the option to raise the gross income and asset limits; in 2019, 31 states have adopted higher income and asset limits, and another nine states have adopted higher asset limits only.⁹ As a result, many SNAP participants have income above the poverty line and many have significant

⁶ Schanzenbach, Diane Whitmore. 2017. The Future of SNAP: Continuing to Balance Protection and Incentives. In *Reforming the Farm Bill*, American Enterprise Institute.

⁷ Greenstein, Robert, Brynne Keith-Jennings, and Dottie Rosenbaum. 2018. Factors Affecting SNAP Caseloads. Center on Budget and Policy Priorities.

⁸ All SNAP households are eligible for the standard deduction, 69 percent claim the shelter deduction, and 31 percent claim the earnings deduction. Childcare, child support, and medical expense deductions are claimed by four, two, and six percent, respectively (CBPP, *A Quick Guide to SNAP Eligibility and Benefits*).

⁹ Schanzenbach, Diane. 2019. Who Would Be Affected by Proposed Changes to SNAP? Econofact.

assets.^{10,11} During normal economic times, unemployed, nondisabled childless adults (also known as ABAWDs, or “able-bodied adults without dependents”) are subject to a 20-hour-per-week work requirement in order to receive benefits.

15. Some noncitizens are eligible for SNAP, and may be awarded benefits if they also satisfy the program’s other eligibility requirements such as income and resource limits. Noncitizens may be eligible if they are in a qualified aliens category and, in most cases, meet one additional condition. Qualified aliens include: lawfully admitted for permanent residence (LPRs, or green card holders) also including Amerasian immigrants; asylees; parolees; deportation (or removal) withheld; conditional entrants; Cuban or Haitian entrants; battered noncitizens; refugees; trafficking victims; Iraqi and Afghan Special Immigrants; certain American Indians born abroad; and certain Hmong or Highland Laotian tribal members. In addition, most qualified aliens must also meet one of the following conditions to be eligible for SNAP: five years of United States residence; 40 qualifying work quarters; under the age of 18; blind or disabled; elderly who lawfully resided in the U.S. on August 22, 1996; and active duty military (excluding National Guard) or honorably discharged veterans. Noncitizens that are tourists or students are generally not eligible. Undocumented noncitizens have never been eligible for SNAP, though such individuals may live in a household that receives SNAP benefits for other members.

16. In some cases, an intending immigrant undergoing adjustment would be eligible for SNAP before his or her green card application is approved. More commonly, the applicant undergoing the public charge determination only would be eligible for SNAP five years after he or she adjusts. But an adjusted LPR may be eligible for SNAP sooner if he or she is under age 18, in receipt of a disability-based benefit, can be credited with 40 qualifying quarters of work,

¹⁰ Schanzenbach, Diane. 2019. Who Would Be Affected by Proposed Changes to SNAP? Econofact.

¹¹ Ratcliffe, Caroline, Signe-Mary McKernan, Laura Wheaton, Emma Kalish, Catherine Ruggles, Sara Armstrong, and Christina Oberlin. 2016. Asset Limits, SNAP Participation and Financial Stability. Urban Institute Report.

or was lawfully residing in the United States and 65 or older when PRWORA was signed into law on August 22, 1996.

C. Background on Characteristics of SNAP Users

17. USDA collects information on participating SNAP households in its “Quality Control (QC) Data,” which are publicly available on the agency’s website.¹² In this section, I use these data to describe SNAP households in the 50 states plus the District of Columbia, broken into two groups: (1) all households on SNAP, for comparison; and (2) households that receive SNAP benefits and contain at least one member who is a noncitizen, whether or not the noncitizen member(s) are eligible for or themselves participate in SNAP. DHS’s Regulatory Impact Analysis issued with the Rule stated that it based its calculations on the total share of foreign-born noncitizens as a percentage of the U.S. population,¹³ and my analysis mirrors that approach. As shown in Table 1, 11.3 percent of SNAP households have a noncitizen household member (column 2).

18. As shown in Table 1, 11.3 percent of SNAP households have a noncitizen household member (column 2). Households with noncitizens are more likely than households on SNAP in general to have any child or a young child (age 0 to 4) in the household and less likely to have an elderly or disabled member as the overall caseload. Households with noncitizens have larger household sizes than SNAP households overall, and all else equal, that implies that they will receive larger SNAP benefits due to the larger household size.

¹² The SNAP QC data are generated from monthly reviews of SNAP cases conducted by state SNAP agencies, to assess the accuracy of eligibility determinations and benefit calculations. The public-use database contains detailed demographic, economic, and SNAP eligibility information for a nationally representative sample of approximately 45,500 SNAP units. The data are released annually, and are available at the following website: <https://www.fns.usda.gov/resource/snap-quality-control-data>.

¹³ See Regulatory Impact Analysis, Inadmissibility on Public Charge Grounds, Table 14.

Table 1: Demographic Characteristics of SNAP Households (2017)

	All SNAP Households (1)	SNAP Households with Any Noncitizen (2)
Share of HH's on SNAP	100.0%	11.3%
Share of HH's with children aged 0–4	20.4%	34.6%
Share of HH's with children < age 18	41.7%	67.4%
Share of HH's w/elderly or disabled member	44.4%	28.3%
Average household size	2.18	3.33

19. SNAP households with noncitizens are substantially more likely to include someone who is employed (measured as having earnings greater than zero) than the overall SNAP caseload. Among SNAP households that do not contain an elderly or disabled member, 58.7 percent of households with noncitizen members have earnings in a given month, compared with 31.4 percent of SNAP households overall. In my calculations, earnings are measured as a snapshot — measuring those having positive earnings in the month that they participated in the SNAP QC data collection. Studies that use different datasets that can follow SNAP participants over time (including in months that they do not receive SNAP benefits) estimate even higher shares of employment.¹⁴ SNAP participants tend to work in sectors that have variable hours and higher rates of job turnover and unemployment.¹⁵ As a result, measuring employment in a single month for this population understates the share that will be employed at some point in the months surrounding SNAP receipt. Consistent with this increased likelihood of having earnings,

¹⁴ These studies follow SNAP participants in general, and due to data limitations cannot reliably separate immigrant SNAP participants. Longitudinal studies find that 74 percent of adults on SNAP work in the year before or after they receive SNAP benefits. About two-thirds of SNAP recipients are not expected to work, primarily because they are children, elderly or disabled. See Center on Budget and Policy Priorities. 2019. Policy Basics: The Supplemental Nutrition Assistance Program (SNAP).

¹⁵ Butcher, Kristin F. and Diane Whitmore Schanzenbach. 2018. Most Workers in Low-Wage Labor Market Work Substantial Hours, in Volatile Jobs. Center on Budget and Policy Priorities. Policy Futures Report.

SNAP comprises a smaller share of the total household budget for households with noncitizen members than it does for the overall caseload.¹⁶ Reflecting in part larger household sizes, households with noncitizens receive more in monthly SNAP benefits than the overall caseload.

Table 2: Economic Characteristics of SNAP Households (2017)

	All SNAP Households (1)	SNAP Households with Any Noncitizen (2)
Share with earnings (among households without elderly/disabled members)	31.4%	58.7%
SNAP as a share of total income	36.9%	35.0%
Average monthly SNAP benefits	\$244.90	\$305.60

Because the data contains information on detailed citizenship status for each household member, I can describe mixed-status households which include noncitizens as well as citizens. Among SNAP households with a married couple head and at least one child in the household, I calculate that 13.6 percent of spouses have different immigration statuses from one another. As shown in Table 3 below, 5.7 percent of SNAP households overall have at least one noncitizen parent and at least one citizen child (including 4.8 percent with only a citizen child or children, and 0.9 percent that have at least two children, at least one of whom is a citizen and at least one of whom is not). The majority of mixed-status families have young children, ages 0 to 4, in the household. Prior research (further described below) suggests that a substantial share of citizen children with immigrant parents dropped off SNAP when many immigrants were temporarily barred from the program in 1996, even though citizen children were still eligible for SNAP.¹⁷ Research also shows that the impact of SNAP on later-life economic and health outcomes is important for

¹⁶ SNAP as a share of total income is calculated as SNAP benefits as a share of SNAP benefits plus earnings plus unearned income.

children through age 18, and is particularly large for young children, underscoring the need to protect young children from the loss of SNAP benefits.¹⁸

Table 3: Characteristics of Households Receiving SNAP, by Citizenship of Parents and Children (2017)

	Citizen Parent, Citizen Child (1)	Noncitizen Parent, Citizen Child (2)	Noncitizen Parent, Mixed-status Children (3)	Noncitizen Parent, Noncitizen Child (4)
Share of total caseload	33.5%	4.8%	0.9%	0.6%
Household contains a young child (0–4)	49.6%	53.1%	60.4%	14.0%
Average benefit	\$402.12	\$353.71	\$337.02	\$340.84

D. Positive Impacts to Individuals and Families Who Receive SNAP

20. Many studies have documented a range of positive impacts of SNAP benefits on those who participate, both in the short-run and for children in the medium- and long-run. Loss of access to SNAP benefits will cause substantial harm to households and their communities, and will especially cause harm to young children in those households.¹⁹

21. Studies show that SNAP reduces poverty: SNAP kept 8.4 million people out of poverty in 2015 (the most recent data available), including 3.8 million children. It also lifted 4.7 million people, including 2.0 million children out of deep poverty, defined as household income

¹⁷ East, Chloe N. Forthcoming. The Effect of Food Stamps on Children’s Health: Evidence from Immigrants’ Changing Eligibility. *Journal of Human Resources*.

¹⁸ 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.

¹⁹ Most of the SNAP studies described below measure the impact on participants generally—not just on immigrants, however, it is reasonable to assume that SNAP impacts on immigrants are similar to those on participants overall. This assumption can be tested in the case of pregnant women’s access to SNAP. Studies of the overall SNAP population and those limited to immigrants show that SNAP benefits have similar positive impacts on birth outcomes for both groups. See Almond, Douglas, Hilary W. Hoynes, and Diane Whitmore Schanzenbach. 2011. Inside the war on poverty: The impact of food stamps on birth outcomes. *The Review of Economics and Statistics* 93.2 (2011): 387–403. See also East, Chloe N. Forthcoming. The Effect of Food Stamps on Children’s Health: Evidence from Immigrants’ Changing Eligibility. *Journal of Human Resources*.

below half of the poverty threshold.²⁰ SNAP participation has been shown to reduce food insecurity and improve dietary quality,²¹ and also improves measures of economic distress such as falling behind on mortgage or utility payments or forgoing medical treatment due to lack of resources.²²

22. SNAP has long-lasting positive effects: Recent research has documented important benefits of SNAP beyond the short-term “in the moment” reductions in poverty and food insecurity. SNAP is a very good investment that helps prevent lasting negative effects of inadequate childhood resources, demonstrably improving children’s health in the short, medium, and long run, and children’s economic outcomes in the long run.

23. Some of the best evidence comes from studies of birth cohorts that had differential access to SNAP—then called the food stamp program—when it was originally introduced in the 1960s as part of the War on Poverty. Congress phased in the program across different counties over the span of a decade, which provides researchers the opportunity to statistically isolate the program’s impact by comparing children born at different times—and living in different counties in the same states—during the rollout period.

24. One study using this design demonstrates that when a pregnant woman had access to the program during her third trimester, her baby weighed more at birth, and was also less likely to weigh below the clinical threshold of low birth weight.²³ This outcome was significant

²⁰ Wheaton, Laura and Victoria Tran. 2018. The Antipoverty Effects of the Supplemental Nutrition Assistance Program. The Urban Institute.

²¹ Bitler, Marianne P. 2016. The Health and Nutrition Effects of SNAP: Selection into the Program and a Review of the Literature on its Effects. In *SNAP Matters: How Food Stamps Affect Health and Well-Being*, J. Bartfeld, C. Gundersen, T. Smeeding, and J. Ziliak (eds.), Redwood City, CA: Stanford University Press, 134-160.

²² Shaefer, H. Luke and Italo. A. Gutierrez. 2013. The Supplemental Nutrition Assistance Program and material hardships among low-income households with children. *Social Service Review* 87 (4): 753–779.

²³ Almond, Douglas, Hilary W. Hoynes, and Diane Whitmore Schanzenbach. 2011. Inside the war on poverty: The impact of food stamps on birth outcomes. *The Review of Economics and Statistics* 93.2 (2011): 387–403.

because a child that has a weight below this clinical threshold is more likely to encounter health and development problems.²⁴

25. Subsequent studies evaluate adult outcomes for those given access to SNAP during childhood, and find that SNAP causes improvements in education, health, and economic outcomes. In particular, access to SNAP from conception through age 5 increased a child's likelihood of graduating from high school by 18 percentage points.²⁵

26. Adult health—measured as an index comprising obesity, high blood pressure, diabetes, heart disease and heart attack—was markedly improved if the individual had access to the program during early childhood.²⁶ Looking at a broader range of economic and education outcomes, among women SNAP access improved an index of adult economic outcomes including educational attainment, employment, earnings, family income, and reduced the likelihood that they would be poor or participate in SNAP or TANF (the cash welfare program) during adulthood. There were positive impacts on economic and education outcomes for SNAP access from age 6 through 18 as well as from conception through age 5.²⁷

27. More recent research extends this work and finds that early life access to SNAP benefits leads to improvements in long-term earnings and education, and reductions in mortality and criminal activity.²⁸ In other words, SNAP provides critical benefits to children, which increases their health and human capital accumulation during childhood, which, in turn, helps

²⁴ Figlio, D., Guryan, J., Karbownik, K. and Roth, J., 2014. The effects of poor neonatal health on children's cognitive development. *American Economic Review*, 104 (12), 3921–55.

²⁵ 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.

²⁶ *Ibid.*

²⁷ Impacts of SNAP access in later childhood did not impact health outcomes, though. See Hoynes, Hilary, Diane Whitmore Schanzenbach, and Douglas Almond. 2012. Long-run impacts of childhood access to the safety net. *NBER Working Paper 18535*.

²⁸ Bailey, Martha, Hilary Hoynes, Maya Rossin-Slater, and Reed Walker. 2019. Is the Social Safety Net a Long-Term Investment? Large-Scale Evidence from the Food Stamps Program. *Goldman School of Public Policy Working Paper*.

them to escape poverty when they grow up. A decline in the availability of benefits is likely to lead to worse outcomes for these children in adulthood.²⁹

28. Other high-quality evidence on the impact of SNAP are based on a policy change which temporarily barred many legal immigrants from the program. In 1996 after the passage of the Personal Responsibility and Work Opportunity Act as part of welfare reform, many legal immigrants were barred from SNAP participation.³⁰ In 1998 and 1999, a few states began restoring benefits using their own state funds. At the Federal level, benefits were restored in April 2003 for many immigrants. One study focuses on these SNAP immigrant eligibility changes to investigate the impact on U.S. citizen children born to immigrants.³¹ Even though the children's eligibility for SNAP remained unchanged, a substantial share of them stopped participating in SNAP when their parent(s) lost access to the program. The study finds that SNAP participation rates among children of immigrants declined by eight percentage points when their parent(s) lost access, and that on average this policy change resulted in \$185 in monthly SNAP benefits lost per household. The study then estimates the impact of this decline in SNAP participation during early childhood (conception through age 4) on subsequent health (measured at ages 6–16), and finds declines in parent-reported health and increases in school absences. Furthermore, loss of access to SNAP among pregnant women in their third trimester due to this policy change resulted in lower birth weights and an increased likelihood of a low birth weight birth.

²⁹ Hoynes, Hilary W. and Diane Whitmore Schanzenbach. 2018. Safety Net Investments in Children. *Brookings Papers on Economic Activity*, Spring.

³⁰ The rules were different for immigrants who were in the country before August 22, 1996 when welfare reform was enacted and for those who arrived after welfare reform. This study is limited to those who arrived prior to welfare reform.

³¹ East, Chloe N. Forthcoming. The Effect of Food Stamps on Children's Health: Evidence from Immigrants' Changing Eligibility. *Journal of Human Resources*.

E. Positive Impacts to Society of SNAP for Immigrant Families.

29. There are a number of spillover impacts onto society at large from SNAP participation among immigrant families. SNAP has an important direct stimulus impact on the economy. Its recipients quickly spend the benefits, providing a relatively rapid fiscal stimulus to the local economy including the retail, wholesale, and transportation systems that deliver the food purchased. The USDA estimates that every \$5 in new SNAP benefits generates as much as \$9 of economic activity.³² This translates into almost 10,000 jobs from \$1 billion dollars in additional SNAP spending. The Congressional Budget Office estimates that on average \$1 in changed SNAP spending yields \$1.50 in economic benefits, while Mark Zandi of Moody's Analytics' Economy.com estimates the benefits to be \$1.70 for every dollar in changed SNAP spending. In the simulations that follow, I adopt the midpoint between these estimates, \$1.60 for every \$1 in changed SNAP spending.³³

30. Many of the direct effects described in the section above also have spillover impacts to the broader society. Increased food insecurity will likely increase demand at food banks and other food charities.³⁴ Decreases in SNAP participation result in worse health outcomes,^{35,36} and are associated with increased health care expenditures.³⁷ There are expected education costs as well. Declines in SNAP participation increase school absence rates³⁸ and

³² Hanson, Kenneth. 2010. The Food Assistance National Input-Output Multiplier (FANIOM) Model and Stimulus Effects of SNAP. USDA, Economic Research Service, *Economic Research Report Number 103*.

³³ See Bivens, Josh. 2011. Method memo on estimating the jobs impact of various policy changes. Report, Economic Policy Institute.

³⁴ Bazerghi, C., McKay, FH, and Dunn M. 2016. The Role of Food Banks in Addressing Food Insecurity: A Systematic Review. *Journal of Community Health* 41(4): 732–40.

³⁵ East, Chloe N. Forthcoming. The Effect of Food Stamps on Children's Health: Evidence from Immigrants' Changing Eligibility. *Journal of Human Resources*.

³⁶ 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.

³⁷ Berkowitz, Seth, Hilary K. Seligman, and Sanjay Basu. 2017. Impact of Food Insecurity and SNAP Participation on Healthcare Utilization and Expenditures. University of Kentucky Center for Poverty Research White Paper.

³⁸ East, Chloe N. Forthcoming. The Effect of Food Stamps on Children's Health: Evidence from Immigrants' Changing Eligibility. *Journal of Human Resources*.

reduce participation in school meals.³⁹ Another study has shown that math and reading test scores in grades 3 through 8 are lower when SNAP benefits are inadequate.⁴⁰ Fewer resources for children can drive up education costs in the short- and medium-run due to increased need for special education, more grade retentions, and higher absenteeism.⁴¹ Many of the long-run impacts on economic and health outcomes from children's access to SNAP also have social aspects. For example, increased earnings result in decreased costs for future social benefits programs and increased tax revenues; removing children from SNAP would reverse these long-term gains.⁴²

II. Likely Adverse Impacts of Public Charge Rule

A. Impact on Noncitizen Households

31. To determine the likely impact of the Public Charge rule, one must estimate the number of people living in households that participate in SNAP that also have a noncitizen member of the household, in order to determine the population “at risk” of nonparticipation in SNAP. One must also estimate the share of this group who will drop off of SNAP or will forego applying for benefits due to the Rule. Multiplying the “at risk” population by the share who are likely to drop off gives the number of people expected to exit or forego SNAP due to the Rule. Estimating the average benefit per person in households with immigrants allows for calculation of the total dollar amount of benefits expected to be lost. Finally, to assess the overall economic impact of the lost SNAP payments one must multiply benefits by an accepted macroeconomic

³⁹ Davis, Lisa. 2019. Protecting Children's Access to School Meals by Maintaining Broad-Based Categorical Eligibility in SNAP. Testimony before the House Committee on Agriculture, Subcommittee on Nutrition, Oversight and Operations, U.S. House of Representatives.

⁴⁰ Gassman-Pines, Anna and Laura Bellows. 2018. Food Instability and Academic Achievement: A Quasi-Experiment Using SNAP Benefit Timing. *American Educational Research Journal* 55(5): 897-927.

⁴¹ Shepard, Donald S., Elizabeth Setren, and Donna Cooper. 2011. Hunger in America: The Suffering We All Pay For. Center for American Progress Report.

⁴² 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.

“multiplier.” This is an underestimate of the true costs of the lost SNAP benefits, however, because it fails to quantify the long-term costs to children in these households and the attendant social costs described above.

32. It is important to base the analysis on all SNAP households that contain noncitizens, because research has shown that there are important spillover effects from SNAP rule changes that affect noncitizens, even onto groups that are not directly affected by the rule changes. For example, studies of the 1996 policy change which temporarily barred many legal immigrants from the program document that groups living in households with noncitizens who generally were not themselves barred from participation reduced their participation in SNAP, including refugees⁴³ and citizen children of noncitizen parents.⁴⁴ A recent study asked adults in immigrant families whether they or a family member did not participate in a government benefits program in 2018 for fear of risking future green card status, and found that adults in 20.7 percent of low-income immigrant families reported avoiding public benefits. Even though the Rule would only directly impact adults who do not hold a green card, nonetheless there were reports of benefit avoidance even among households with immigration and citizenship statuses that would never be subject to the Rule.⁴⁵ These studies imply that analysis of the impact of the Rule should be based on all SNAP households with noncitizen members.

33. Table 4 below presents estimates of the number of SNAP households, and the number of individuals residing in those households, that contain noncitizen members. Columns 1

⁴³ Fix, Michael E. and Jeffery S. Passel. 1999. Trends in Noncitizens’ and Citizens’ Use of Public Benefits Following Welfare Reform. Urban Institute Report.

⁴⁴ East, Chloe N. Forthcoming. The Effect of Food Stamps on Children’s Health: Evidence from Immigrants’ Changing Eligibility. *Journal of Human Resources*.

⁴⁵ Bernstein, Hamutal, Dulce Gonzalez, Michael Karpman, and Stephen Zuckerman. 2019. One in Seven Adults in Immigrant Families Reported Avoiding Public Benefit Programs in 2018. Urban Institute.

and 2 list the average annual number of households and persons on SNAP from fiscal year 2013 to 2017, drawn from publicly available USDA sources.⁴⁶

34. In column 3, I present the number of SNAP households containing a noncitizen member, which I calculated from the 2013–2017 USDA SNAP Quality Control (QC) data, using sampling weights provided in the dataset. The number of SNAP households containing a noncitizen member I calculate is 2.6 million, which is 1.7 times the number reported by DHS. The implied share of SNAP households with noncitizen members (dividing column 3 by column 2 in row A) is 11.83 percent. In column 4, I calculate from the SNAP QC data the number of people residing in SNAP households that contain noncitizen members, and find that the population is 8.9 million people.⁴⁷ This number includes 4.5 million children under the age of 18, and 1.6 million children aged 0 to 5.

Table 4: Estimates of Numbers of People in SNAP Households with Noncitizens

	People on SNAP(1)	Households on SNAP(2)	# HH's on SNAP w/ Noncitizen Members(3)	# People in SNAP HH's w/ Noncitizen Members(4)	% HH w/ Noncitizen Member(5)
A. QC estimates: Any noncitizen in SNAP HH	45,291,847	22,193,029	2,624,483	8,896,997	0.1183
B. DHS reported	45,294,831	22,195,369	1,547,017	5,182,502	0.0697

35. Next, in Table 5, I estimate annual SNAP benefits received by households with noncitizen members.⁴⁸ I calculate annual SNAP benefits per recipient⁴⁹ to be \$1,556, and annual SNAP benefits per participating household to be \$3,794.

⁴⁶ Data are available here: <https://fns-prod.azureedge.net/sites/default/files/resource-files/SNAPsummary-8.pdf>.

⁴⁷ Note that not all of these individuals living in SNAP households are themselves receiving SNAP benefits; some are ineligible or otherwise not participating, although other member(s) of their households participate in SNAP. The average household size among SNAP households with noncitizen members in the SNAP QC data is 3.39.

⁴⁸ The SNAP QC data measure monthly SNAP benefits, and to translate this into an annual estimate I multiply the monthly benefit by 12.

Table 5: Estimates of Annual SNAP Benefits in SNAP Households with Noncitizens

	Average SNAP/Recipient Annual Benefits(1)	Average SNAP/Household Annual Benefits(2)
A. QC estimates: Any noncitizen in SNAP HH	\$ 1,556.10	\$ 3,793.68
B. DHS reported	\$ 1,527.59	\$ 3,117.41

36. Next, I calculate the number of individuals and households that would be expected to disenroll from SNAP or avoid enrolling in SNAP due to the public charge rule. The social science research indicates that many immigrants will avoid participating in SNAP even if they are still eligible for the program. A number of research estimates, described below, imply that participation will decline by around 20 percent.

37. Some of the best estimates from the research literature of the likely disenrollment impact come from studies that investigated the barring of many immigrants from SNAP in 1996, followed by the subsequent restoration of eligibility for many immigrants. These studies show that disenrollment impacts will not only impact those who lose eligibility directly, but also establish a chilling effect onto other populations that also reduce their participation in response to policy changes. One study finds that U.S. citizen children, who did not experience any changes in SNAP eligibility, were less likely to enroll in SNAP when their immigrant parent(s) lost access.⁵⁰ The magnitude of the enrollment decline implies a 19.3 percent decline in the levels of SNAP participation among U.S. citizen children with immigrant parents.⁵¹ A different study

⁴⁹ SNAP benefits per recipient are calculated as household SNAP benefits divided by the number of household members participating in SNAP. On average, there are 2.46 household members who receive SNAP benefits, and 3.42 household members in total, including those who do not receive SNAP benefits.

⁵⁰ East, Chloe N. Forthcoming. The Effect of Food Stamps on Children's Health: Evidence from Immigrants' Changing Eligibility. *Journal of Human Resources*.

⁵¹ To arrive at an estimate of implied caseload decline, I estimated the likelihood that citizen children living with noncitizen adults participate in SNAP in 2016, and calculated the decline in number of participants if the likelihood were to decline by eight percentage points, as estimated by East. See East, Chloe N. Forthcoming.

using a broader measure of participation in social benefits programs after many immigrants lost access to SNAP estimated a 21 percent decline in immigrants' use of social benefits programs after welfare reform.⁵² This study also found similar sharp declines among refugees, even though few refugees lost their eligibility to participate in the programs.

38. Studying the landscape today, a 2019 Urban Institute report finds that 20.7 percent of adults in low-income immigrant families did not participate in a social benefits program because of the “chilling effects” of the proposed changes to the public charge rule.⁵³

39. Together, these studies have two implications. First, the expected decline in participation will impact more than the groups directly impacted by the Rule, but will also impact other groups such as refugees and citizen members of households containing noncitizens. Second, a reasonable assumption of the likely magnitude of the decline in SNAP participation will be around 20 percent.⁵⁴

40. In Table 6 below, I calculate the predicted declines in SNAP participation based on the range of findings from the studies described above. Assuming a 20 percent nonparticipation rate, I predict that 1.78 million people will be living in the 524,897 households that are predicted not to participate in SNAP. I also provide predictions based on each study described above, with nonparticipation rates estimated to be 19.3 percent, 20.7 percent, and 21.0

The Effect of Food Stamps on Children's Health: Evidence from Immigrants' Changing Eligibility. *Journal of Human Resources*.

⁵² Fix, Michael E. and Jeffery S. Passel. 1999. Trends in Noncitizens' and Citizens' Use of Public Benefits Following Welfare Reform. Urban Institute Report.

⁵³ Bernstein, Hamutal, Dulce Gonzalez, Michael Karpman and Stephen Zuckerman. 2019. One in Seven Adults in Immigrant Families Reported Avoiding Public Benefit Programs in 2018. Urban Institute.

⁵⁴ Although there have already been reports of disenrollment, there will be more. The prior studies (East; Fix and Passel) find that disenrollment continues for several years after a policy change until the total impact on enrollment is realized, and the same is expected in this case. In addition, the recent Urban Institute study (Bernstein et al.) finds that 31 percent of adults in immigrant families who had heard a lot about the Rule avoided benefits. The avoidance rates were smaller for those who had heard “some” about the proposed rule (fifteen percent avoided benefits) and those who had heard “nothing at all” about the proposed rule (six percent avoided benefits). As the Rule receives additional publicity while it is scheduled to go into effect, more families will know more about it, and they will become more likely to avoid benefits.

percent, respectively. For completeness, I also present estimates based on the DHS preferred estimate for nonparticipation, which is 2.5 percent, well out of the range of the prior studies. DHS also considers a 54 percent nonparticipation effect, which is from an estimate of the impacts of welfare reform on SNAP participation among immigrants published by the USDA's Food and Nutrition Service's Office of Analysis, Nutrition and Education. The number of non-participating households are 65,612 at DHS's 2.5 percent rate, and 1.42 million at the 54 percent rate.

Table 6: SNAP Non-participation due to Public Charge Rule, Various Assumptions

	Person-level Analysis(1)	Household- level Analysis(2)
A. 20% Assumption	1,782,947	524,897
B. 19.3% Assumption (East 2018)	1,720,544	506,525
C. 20.7% Assumption (Urban Institute 2019)	1,845,350	543,268
D. 21% Assumption (Urban Institute 1999)	1,872,094	551,141
E. DHS's 2.5% Assumption	222,868	65,612
F. 54% Assumption (Genser, FNS, USDA)	4,813,957	1,417,221

41. To calculate the economic impacts of SNAP non-participation due to the public charge rule, I multiply annual SNAP benefits per SNAP household containing noncitizens (Table 5, row A, column 2) by the predicted number of households that will not participate (Table 6, row A, column 2).

42. The estimated dollar value of annual foregone SNAP benefits is shown below in Table 7 in row C, and is estimated to be \$2.0 billion.⁵⁵ As described above, since SNAP benefits are quickly spent, generally in the recipient's local community, this will have spillover effects to other aspects of the economy such as food retailers. As discussed above, to account for these

⁵⁵ Parallel calculations using person-level predictions instead of household-level predictions yield estimates that are 11 percent larger.

spillover effects, macroeconomists multiply changes in SNAP payments by a fiscal multiplier to account for the total economic impact. The median SNAP fiscal multiplier described in a recent report on fiscal multipliers is 1.6.⁵⁶ Accounting for this SNAP fiscal multiplier effect, the estimated annual direct economic cost of the public charge rule will be \$3.2 billion. The USDA estimates that the SNAP multiplier could be as high as 1.8. On the low side, Blinder and Zandi estimate that during good economic times it could be 1.22. Using these fiscal multipliers, the range of total economic impact could be as high as \$3.6 billion or as low as \$2.4 billion.⁵⁷ Note that these estimates do not include all costs. For example, they do not include the long-term harm that would be expected to occur for children in affected households, and they do not include administrative costs to SNAP.

Table 7: Estimated Cost of SNAP Non-Participation due to Public Charge Rule

A. Annual benefits per HH	\$ 3,793.68
B. Number of nonparticipating HH's	524,897
C. Estimated annual foregone SNAP benefits	\$ 1,991,289,733
D. Row C times 1.6 fiscal multiplier	\$ 3,186,063,574
E. Comparison: DHS estimate of foregone SNAP benefits	\$ 197,919,143
F. Ratio: Economic cost/DHS calculations (Row D/Row E)	16

43. The noncitizen population is not uniformly distributed across states, so some states will incur larger costs than others. Table 8 below, presents estimates of the share of the total noncitizen population by state, averaged over 2013–2017 and including the District of

⁵⁶ As described above, I took the median SNAP multiplier of a range of estimates used by experts. *See* Bivens, Josh. 2011. Method memo on estimating the jobs impact of various policy changes. Economic Policy Institute Report. The United States Department of Agriculture has used a slightly higher multiplier of 1.79. *See* <https://www.ers.usda.gov/publications/pub-details/?pubid=44749>.

⁵⁷ *See* Hanson, Kenneth. 2010. The Food Assistance National Input-Output Multiplier (FANIOM) Model and Stimulus Effects of SNAP. USDA, Economic Research Service, *Economic Research Report Number 103*. *See also* Schanzenbach, Diane Whitmore, Ryan Nunn, Lauren Bauer, David Boddy, and Greg Nantz. 2016. Nine Facts about the Great Recession and Tools for Fighting the Next Downturn. The Hamilton Project at the Brookings Institution Report.

Columbia, for New York, Connecticut, and Vermont.⁵⁸ I estimate the cost of foregone SNAP benefits to each state, assuming the costs per state are in proportion to the share of the noncitizen population that reside in each state. New York is predicted to lose \$179 million in SNAP benefits annually, which translates to a predicted decline in economic activity of \$323 million. The estimated annual total in the states of New York, Connecticut, and Vermont together is \$203 million in SNAP benefits and \$366 million in economic activity.

Table 8: Estimated Cost of SNAP Nonparticipation due to Public Charge Rule, Selected States

	State's Share of Noncitizen Population(1)	Estimated Annual Foregone SNAP Benefits(2)	Including Economic Multiplier Effect(3)
New York	0.0902	\$ 179,634,190	\$ 287,414,704
Connecticut	0.0114	\$ 22,673,423	\$ 36,277,477
Vermont	0.0005	\$ 990,145	\$ 1,584,233
NY + CT + VT	0.1021	\$ 203,297,758	\$ 325,276,413

B. Basis of My Conclusions and Flaws in DHS Analysis

44. My estimated cost of SNAP nonparticipation is 16 times the DHS estimate.⁵⁹ My estimate is based on sound social science principles using appropriate data. In contrast, DHS's analysis is not based on reasonable assumptions and does not use appropriate data.

45. The DHS deficiencies are revealed by examining three differences in calculations. *First*, I estimate that the number of households on SNAP with noncitizen members is 1.7 times

⁵⁸ Numbers drawn from Kaiser Family Foundation reports on state noncitizen populations, see <https://www.kff.org/other/state-indicator/distribution-by-citizenship-status/>

⁵⁹ See Regulatory Impact Analysis, Inadmissibility on Public Charge Grounds, Table 17.

the number estimated by DHS.⁶⁰ *Second*, I assume a 20 percent nonparticipation impact, 8 times larger than the DHS assumption of 2.5 percent. *Third*, I estimate the costs based on a direct measure of benefits paid to SNAP households with noncitizens. I describe each difference in more detail below.

46. First, DHS's incorrect estimates of the number of SNAP households including noncitizens are presented in row B of Table 4.⁶¹ I calculate this number from the SNAP QC data, which are the appropriate source for this information and is the administrative data source that USDA uses to measure characteristics of the SNAP caseload.⁶² DHS could have also done this analysis. The data on actual SNAP participation is readily available. Instead, DHS chose a crude method of calculating the number of these households—it simply assumed that the percentage of households containing foreign-born noncitizens on SNAP was equal to the proportion of households containing foreign-born noncitizens relative to the overall number of U.S. households (*i.e.*, 6.97%). DHS estimated the number of households containing foreign-born noncitizens participating in SNAP by multiplying the number of households on SNAP by the 6.97 percent, which DHS reports to be the Census Bureau's estimate of the share of the overall U.S. population that are foreign-born noncitizens.⁶³ DHS's method results in a substantial underestimate; calculated from the SNAP QC data, we see that the share of households on SNAP with noncitizen members is actually 11.83 percent. Correcting the flawed DHS assumption

⁶⁰ I also estimate SNAP benefits per household containing noncitizen members to be 94 percent of the DHS estimate. This difference would imply that in this step I would calculate a smaller total cost than DHS.

⁶¹ These are reproduced from Regulatory Impact Analysis, Inadmissibility on Public Charge Grounds, Table 14.

⁶² See Lauffer, Sarah, Alma Vigil, Chrystine Tadler, and Elaine Wilcox-Cook. 2018. Technical Documentation for the Fiscal Year 2017 Supplemental Nutrition Assistance Program Quality Control Database and the QC Minimodel. Mathematica Policy Research Report.

⁶³ The DHS estimate of the average number of people on SNAP and households on SNAP (2013–2017) differs slightly from my calculations; this is likely due to the release of revised data between the time when their analysis was conducted in 2018 and when mine was conducted in 2019. Note that DHS reports in the footnotes to Table 14 that they estimate the number of households by dividing the number of people by an average household size of 2.64. This appears to be incorrect, and they appear to have obtained the data on household participation directly from USDA.

increases the number of SNAP households with noncitizens by 70 percent, to 2.6 million households.⁶⁴

47. Second, DHS estimates the potential SNAP nonparticipation rate due to the public charge rule change to be 2.5 percent. They come to this by estimating that 2.5 percent of foreign-born noncitizens apply for an adjustment of status, and that the impact of the public charge rule will primarily impact this group. This ignores potential spillover impacts onto other groups, and assumes that the impacts are limited only to the group applying for an adjustment of status in one particular year. As described above, research suggests the DHS assumption is far too low. Research based on the impacts of welfare reform as well as current estimates on the share of immigrants avoiding participation in public benefits clearly show that the nonparticipation impacts will spill over to a larger group. For example, prior research found declines in participation among refugees and citizens residing in households with noncitizens, even though their eligibility for SNAP and other benefits programs was not substantially changed.⁶⁵ This prior research estimates a nonparticipation response around 20 percent, which is eight times the DHS estimate.

48. Third, DHS underestimates the average SNAP benefit for households with noncitizens. In its calculations, DHS uses overall average SNAP benefits per recipient. This is an inaccurate estimate, because it does not account for different characteristics among households with noncitizens that affect benefit amounts, such as larger household sizes and a higher

⁶⁴ As shown in Table 5, the DHS estimates of average SNAP benefits per person or household differ from the ones I calculate from the SNAP QC data. At the household level, I estimate SNAP benefits to be 22 percent higher than those estimated by DHS.

⁶⁵ See East, Chloe N. Forthcoming. The Effect of Food Stamps on Children's Health: Evidence from Immigrants' Changing Eligibility. *Journal of Human Resources*. See also Fix, Michael E. and Jeffery S. Passel. 1999. Trends in Noncitizens' and Citizens' Use of Public Benefits Following Welfare Reform. Urban Institute Report.

likelihood of having earnings.⁶⁶ As above, DHS could have used SNAP QC administrative data to produce a more appropriate estimate for its calculations.

Together, these differences imply that my estimate of the economic cost of the predicted decline in SNAP participation due to the public charge rule is 16 times the cost predicted by DHS (see Table 7, Row F).⁶⁷

⁶⁶ See Tables 1 and 2 in this Declaration.

⁶⁷ Without the fiscal multiplier effect, my estimates of the value of foregone SNAP benefits is 10 times the DHS estimate.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on this 9 day of Sept, 2019.

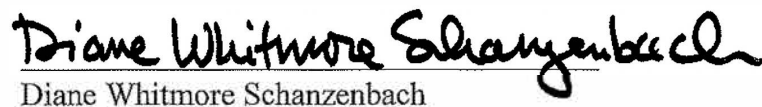

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- "Putting Your Major to Work: Career Paths after College," with Ryan Nunn and Gregory Nantz. The Hamilton Project at the Brookings Institution, May 2017.
- "Eight Economic Facts on Higher Education," with Lauren Bauer and Audrey Breitwieser. The Hamilton Project at the Brookings Institution, April 2017.
- "In Order That They Might Rest Their Arguments on Facts: The Vital Role of Government-Collected Data," with Nicholas Eberstadt, Ryan Nunn, and Michael R. Strain. The Hamilton Project at the Brookings Institution and AEI, March 2017.
- "Twelve Economic Facts on Energy and Climate Change," with Ryan Nunn, Audrey Breitwieser, Megan Mumford, Gregory Nantz, Michael Greenstone, and Sam Ori. The Hamilton Project at the Brookings Institution, March 2017.
- "If You Build It: A Guide to the Economics of Infrastructure Investment," with Ryan Nunn and Greg Nantz. The Hamilton Project at the Brookings Institution, February 2017.
- "Money Lightens the Load," with Ryan Nunn, Megan Mumford, and Lauren Bauer. The Hamilton Project at the Brookings Institution, December 2016.
- "Lessons for Broadening School Accountability under the Every Student Succeeds Act," with Lauren Bauer and Megan Mumford. The Hamilton Project at the Brookings Institution, October 2016.
- "Twelve Facts about Incarceration and Prisoner Reentry," with Ryan Nunn, Lauren Bauer, Audrey Breitwieser, Megan Mumford, and Gregory Nantz. The Hamilton Project at the Brookings Institution, October 2016.
- "Seven Facts on Noncognitive Skills from Education to the Labor Market," with Ryan Nunn, Lauren Bauer, Megan Mumford, and Audrey Breitwieser. The Hamilton Project at the Brookings Institution, October 2016.
- "The Economics of Private Prisons," with Megan Mumford and Ryan Nunn. The Hamilton Project at the Brookings Institution, October 2016.
- "The Long-Term Impact of the Head Start Program," with Lauren Bauer. The Hamilton Project at the Brookings Institution, August 2016.
- "The Changing Landscape of American Life Expectancy," with Ryan Nunn and Lauren Bauer. The Hamilton Project at the Brookings Institution, June 2016.

- "Who is Poor in the United States?" with Lauren Bauer and Ryan Nunn. The Hamilton Project at the Brookings Institution, June 2016.
- "Where Does All the Money Go: Shifts in Household Spending Over the Past 30 Years," with Ryan Nunn, Lauren Bauer, and Megan Mumford. The Hamilton Project at the Brookings Institution, June 2016.
- "Nine Facts about the Great Recession and Tools for Fighting the Next Downturn," with Ryan Nunn, Lauren Bauer, David Boddy and Greg Nantz. The Hamilton Project at the Brookings Institution, May 2016.
- "Are Nutrition Policies Making Teenagers Hungry?" with Lauren Bauer. The Hamilton Project at the Brookings Institution, April 2016.
- "Twelve Facts about Food Insecurity and SNAP," with Lauren Bauer and Greg Nantz. The Hamilton Project at the Brookings Institution, April 2016.
- "Who Has Access to Charter Schools?" with Megan Mumford and Lauren Bauer. The Hamilton Project at the Brookings Institution, March 2016.
- "Fourteen Economic Facts on Education and Economic Opportunity," with David Boddy, Megan Mumford and Greg Nantz. The Hamilton Project at the Brookings Institution, March 2016.
- "An Additional Measure of the Hamilton Project's Jobs Gap Analysis," with David Boddy. The Hamilton Project at the Brookings Institution, February 2016.
- "Workers and the Online Gig Economy," with Jane Dokko and Megan Mumford. The Hamilton Project at the Brookings Institution, December 2015.
- "Six Economic Facts about Health Care and the Health Insurance Market after the Affordable Care Act," with David Boddy, Jane Dokko, and Greg Nantz. The Hamilton Project at the Brookings Institution, October 2015.
- "Expanding Preschool Access for Disadvantaged Children," with Elizabeth Cascio, in Melissa S. Kearney and Benjamin H. Harris, eds., *Policies to Address Poverty in America*, The Hamilton Project at the Brookings Institution, June 2014.
- "Does Class Size Matter?" Policy brief, National Education Policy Center. February 2014.
- Strengthening SNAP for a More Food-Secure, Healthy America*, discussion paper, The Hamilton Project at the Brookings Institution, December 2013.
- "The Safety Net: An Investment in Kids," with Hilary Hoynes, Spotlight on Poverty. July 2013.
- "\$320,000 Kindergarten Teachers," Phi Delta Kappan 92(3): 322-25. November 2010
- "Leaving children behind ... by design," *Milken Institute Review* Quarter 1 2008, pp. 18-25.
- "Many U.S. Children are Left Behind by Design" with Derek Neal, VoxEU.org, August 2007.
- "Beneficiaries of Proposed Social Security-Related Tax Cut Have Significant Wealth," with Robert Greenstein, *Center on Budget and Policy Priorities Policy Brief*, September 2000.

GRANTS AND FUNDED PROJECTS

Related to Social Policy

Research, Innovation, and Development Grant in Economics, US Department of Agriculture (administered by University of Wisconsin), "The Impacts of School Lunch Reforms on Student Outcomes," Principal Investigator, \$39,932, 2015-2016.

University of Kentucky Center for Poverty Research, *Research Program on Childhood Hunger*, "New Evidence on Why Children's Food Security Varies across Households with Similar Incomes," Principal Investigator, \$244,254, 2012-2014.

Russell Sage Foundation, "Understanding Food Insecurity During the Great Recession," Principal Investigator, \$146,614, 2011-2013.

Robert Wood Johnson Foundation, Changes in Health Care Financing and Organization, "Evaluating the Impact of SCHIP Expansions on Household Spending and Consumption using Consumer Expenditure Survey Data," Co-Investigator, \$124,694, 2008-2009.

Food Assistance and Nutrition Research Program (FANRP), US Department of Agriculture, "Identifying Behavioral Economics Factors Affecting Food Consumption," Principal Investigator, \$399,773, 2007-2009.

Research, Innovation, and Development Grant in Economics, US Department of Agriculture (administered by University of Wisconsin), "Measuring the Impacts of Stigma and Time Cost in the Food Stamp Enrollment Decision," Principal Investigator, \$29,921, 2006-2007.

Research, Innovation, and Development Grant in Economics, US Department of Agriculture (administered by University of Chicago), "The Introduction of the Food Stamp Program: Impacts on Food Consumption and Family Well-Being," Principal Investigator, \$37,748, 2005-2006.

Related to Education and Children

Robert Wood Johnson Foundation, "A Policy Agenda for Improving Child Outcomes," Principal Investigator, \$730,700, 2019-2020.

Spencer Foundation Grant, "School Finance Reform and the Distribution of Student Achievement," Principal Investigator, \$305,469, 2014-2016.

Institute for Educational Sciences, Predoctoral Interdisciplinary Research Training Programs in the Education Sciences Grant, "Multidisciplinary Program in Education Sciences," Principal Investigator, \$3,908,332, 2014-2019.

Smith Richardson Foundation, Grant, "Assessing the Impacts on Students of Closing Persistently Failing Schools," Principal Investigator, \$60,000, 2008-2011.

Institute for Educational Sciences, Research on High School Reform Grant, "Assessing the Effectiveness of Chicago's Small High School Initiative," Principal Investigator, \$336,664, 2006-2008.

Robert Wood Johnson Foundation, Healthy Eating Research Grant, "The Effect of School Accountability Policies on Childhood Obesity," Principal Investigator, \$74,995, 2006-2008.

NICHD University of Chicago Population Research Center pilot award, "Does Accountability Promote General or Test-Specific Skills?" Principal Investigator, \$8000, 2005-2006.

NAEP Secondary Analysis Grant, US Department of Education, "Advancing Education Improvement by Improving Child Health: An Analysis of NAEP Data," Principal Investigator, \$99,912, 2005-2006.

AWARDS AND FELLOWSHIPS

- Elected to the National Academy of Education, 2019
- Raymond Vernon Memorial Award, 2013
- Excellence in Refereeing Award, *American Economic Review*, 2012

- Woodrow Wilson Fellowship, Princeton University, 2000–2002
- Peggy Howard Fellowship, Wellesley College, 2001
- National Science Foundation Traineeship in the Economics of Education, 1997–2000
- Social Science Research Council Program in Applied Economics, 1998

PROFESSIONAL ACTIVITIES

Editorial Service

- Coeditor, *Journal of Human Resources*, 2018-present.
- Associate Editor, *Journal of Human Resources*, 2014-2018.
- Editorial Board Member, *Journal of Policy Analysis and Management*, 2016-present.
- Editorial Board Member, *American Economic Journal—Applied Economics*.

National Committee Service

- Robert Wood Johnson Foundation, Policies for Action, National Advisory Committee, Chair, 2016-present.
- Institute of Medicine CNSTAT Panel on Improving USDA's Consumer Data for Food and Nutrition Policy Research, 2018-present.
- Society for Research in Education Effectiveness, Program Committee for 2017 Annual Meeting.
- Society of Labor Economists, Program Committee for 2016, 2017 Annual Meetings.
- American Economic Association, Program Committee for 2015 Annual Meeting.
- Institute of Medicine Committee on Examination of the Adequacy of Food Resources and SNAP Allotments, 2011-13.
- Technical Work Group, Healthy Incentives Pilot (HIP) Evaluation, 2010-13.

Keynote Addresses

- BKK Bureau Kwaliteit Kinderopvang "Creating Opportunities" Conference, Berlin, Germany, November 2018.
- VATT Institute for Economic Research, Helsinki, Finland, October 2018.
- International Workshop on Applied Economics of Education, Catanzaro, Italy, 2018.
- Early Childhood Education Impact Evaluation Workshop, World Bank, Abu Dhabi, 2018.
- Hunger Action Summit, Second Harvest Food Bank, 2017.
- Early Childhood Inequality Workshop, Nuremberg Germany, 2016.
- Dennis Hastert Center, Wheaton College, 2014.
- Calderwood Lecture, Wellesley College, 2014.
- Illinois Education Research Council, 2012.
- Francis Marion University, Center of Excellence to Prepare Teachers of Children of Poverty, 2011.

Referee: *American Economic Review*, *American Economic Journal: Applied Economics*, *American Economic Journal: Economic Policy*, *The B.E. Journals in Economic Analysis and Policy*, *Canadian Journal of Economics*, *Developmental Psychology*, *Economic Inquiry*, *Economic Journal*, *Economics and Human Biology*, *Economics of Education Review*, *Economics Letters*, *Education Finance and Policy*, *Educational Evaluation and Policy Analysis*, *Health Economics*, *Industrial and Labor Relations Review*, *Journal of Health Economics*, *Journal of Human Resources*, *Journal of Labor Economics*, *Journal of Policy Analysis and Management*, *Journal of Political Economy*, *Journal of Public Economics*, *Labour Economics*, *Oxford University Press*, *Quarterly Journal of Economics*, *Review of Economics and Statistics*, *Review of*

Economic Studies, Scandinavian Journal of Economics, Science, State and Local Government Review, Social Science Quarterly, Social Service Review, Southern Economic Journal.

Grant Reviewer: U.S. Department of Agriculture; National Institutes of Health; National Science Foundation; Robert Wood Johnson Foundation; Smith Richardson Foundation; Spencer Foundation.

TEACHING EXPERIENCE

Northwestern University (2010 to date)

Quantitative Methods I (PhD course)

Economics of Social Policy (Undergraduate course)

Education Policy (PhD course)

Contemporary Issues in Education (Undergraduate course)

University of Chicago (2004 to 2010)

Statistical Methods for Policy Research (Graduate course)

Economics of Education Policy (Graduate course)

Education Policy & Reform (Graduate course)

Program Evaluation (Graduate course)

OTHER EMPLOYMENT

Economic Counselor, Seaborg Associates, Inc., Santa Monica, CA, September 1998–August 2001.

Research Assistant, Council of Economic Advisers, Washington, D.C., April 1996–May 1997.

Research Assistant, Survey of Consumer Finances, Board of Governors of the Federal Reserve System, Washington, D.C., August 1995–April 1996.