Policy Efforts to Reduce Material Hardship for Low-Income Families

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The United States' policy efforts to improve family well-being through safety net programs lag behind those of other developed countries, relative to the size of the overall economy.[1] **Efforts to control the federal budget and shift government priorities could shrink these programs even further. What is at risk? This study evaluates the effect of key income-tested programs on material hardship in the United States.**

We find that participation in three programs (Temporary Assistance for Needy Families [TANF], the Supplemental Nutrition Assistance Program [SNAP], or public health insurance) reduces the total number of hardships low-income families with children experience by 48 percent and reduces their food insufficiency by 72 percent (figure 1).[2] We find a 40 percent reduction in unmet medical or dental need, but this finding is not statistically significant in our conservative standard error estimate.[3] Our participation measure captures participation in any of the three programs because most families are using multiple programs (described below) and the programs likely have an interactive effect that makes them difficult to disentangle.

This brief focuses on three measures of material hardship: food insufficiency, unmet medical or dental need, and number of hardships experienced. **Food insufficiency** measures whether people had to cut back their food consumption because of a lack of money in the past 4 months.[4] **Unmet medical or dental need** measures whether people needed to go to the doctor or dentist but could not afford to in the past 12 months. **Number of hardships** includes any general report of not meeting essential expenses, inability to

pay rent or mortgage, eviction, unpaid utility bills, utility service cut, phone service cut, unmet medical or dental need, and food insufficiency.

The Safety Net Plays a Large Role in Decreasing Material Hardship
The effects of TANF, SNAP, or public health insurance receipt on material hardships experienced by low-income families with children, 1992–2011

■ Number of hardships   ■ Food insufficiency   ■ Unmet medical or dental need

-48%**

-72%*

-40%

Percentage change
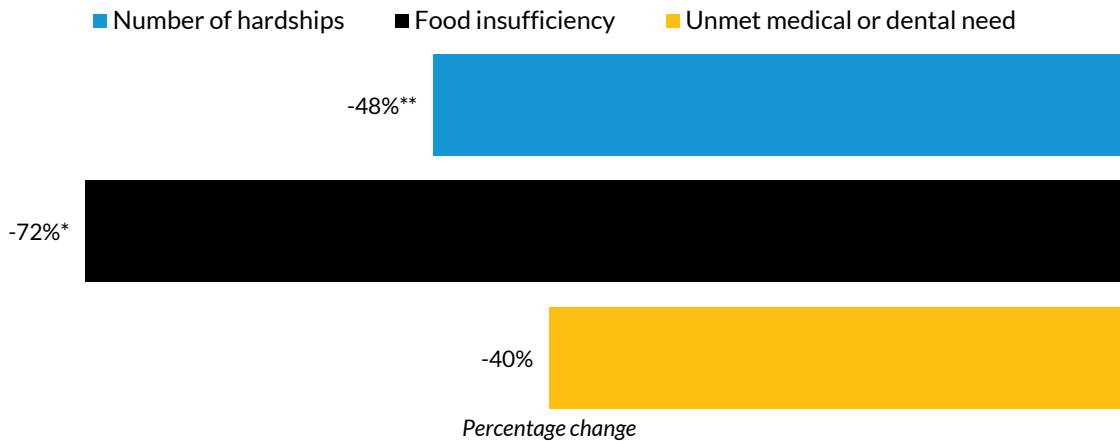
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Sources: Weighted Survey of Income and Program Participation and state policy and economic data from 1992 to 2011.
Notes: SNAP = Supplemental Nutrition Assistance Program, TANF = Temporary Assistance for Needy Families. Based on three two-stage least squares regression models that control for observable and unobservable differences between households that receive benefits versus households that do not receive benefits. (See table 1 for details.) Low-income households are those with income below 200 percent of the federal poverty level. **Number of hardships** includes up to nine hardships: (1) general report of not meeting essential expenses, (2) inability to pay rent or mortgage, (3) eviction, (4) unpaid utility bills, (5) utility service cut, (6) phone service cut, (7) unmet medical need, (8) unmet dental need, and (9) food insufficiency.
* $p < 0.1$, ** $p < 0.05$

Focusing on a more diffuse measure of state and federal policies instead of direct program participation, we find evidence that a $1 increase in the minimum wage (but not the earned income tax credit) reduces material hardship by 4–6 percent among low-income families with children.[5]

This brief uses multiple panels of the US Census Bureau's Survey of Income and Program Participation (SIPP) and supplementary data sources to describe spending on and participation in cash welfare, food stamps, or public health insurance programs and estimate their effect on reducing material hardship for low-income families with children from 1992 to 2011, the most recent year with SIPP data for all three material hardship measures. This is the first study we are aware of that measures the effect of multiple program receipt on unmet medical or dental need and the total number of hardships experienced.

We find that participating in TANF, SNAP, or Medicaid or the State Children's Health Insurance Program (SCHIP) reduced material hardship by 48 percent among low-income households with

children. This surprisingly large reduction points to the risk posed by cutting safety net programs. When families cannot pay their bills or housing costs, they contribute less in sales and property taxes, a key source of revenue for cities, and are more likely to be evicted (McKernan, Ratcliffe, and Kalish 2017). Homelessness can lead to job loss for parents and instability and insecurity for children, including an increased likelihood of being removed from the family. As a result, cutting the safety net and increasing the number of families experiencing material hardship in America could have devastating long-term consequences for children and increase the need for child welfare services.

Material Hardship and the Safety Net, 1992–2011

There is growing interest in measuring and understanding people's experiences with material hardship. Hardship indicators represent direct measures of well-being; in contrast, income poverty measures, such as the official federal poverty measure, are indicators of whether people have the resources (e.g., money) to cover basic needs. There is a moderate correlation between hardship measures and income poverty measures (Iceland and Bauman 2007; Mayer and Jencks 1989; Sullivan, Turner, and Danziger 2008), but there are several reasons why the correlation is not stronger. For one, poverty is based on a flow of income, such as earnings or cash transfers from government programs, whereas people might have other resources to meet basic needs, such as wealth or access to credit (Meyer and Sullivan 2003). There might also be errors in reported income, as people might not report income from all sources (Czajka and Denmead 2008; Edin and Lein 1997; Mayer and Jencks 1989; Sullivan, Turner, and Danziger 2008). Thus, there are many reasons to analyze the effects of government transfers on material hardship rather than just on the official poverty measure.

How prevalent is material hardship in the United States? Figure 2 shows how many low-income households with children reported certain hardships in any year between 1992 and 2011. The percentage of low-income families with children who experienced at least one hardship was highest in 1992 (51 percent) before declining to 43 percent in 1995 and fluctuating between 44 and 47 percent through 2011. Although not shown in the figure, the average number of hardships reported was at a high of 1.6 in 1992 before declining to between 1.2 and 1.3 in all of the following years. Nine was the maximum number of hardships that a family could report.

Among low-income families with children, 7 percent experienced food insufficiency in 2011, only slightly fewer than in 1992 (8 percent). It is difficult to definitively say why there was very little change in food insufficiency during a period characterized by changing economic conditions, including the Great Recession of 2007–09. One possible reason is the increased use of program benefits such as SNAP during economic downturns. For example, SNAP caseloads increased significantly from 2007 to 2013, during the recession and the period of slow recovery following it, before declining in 2014 and 2015 (Rosenbaum and Keith-Jennings 2016).

FIGURE 2

Nearly Half of Low-Income Families with Children Experience Material Hardship

The share of low-income families with children experiencing material hardships, 1992–2011
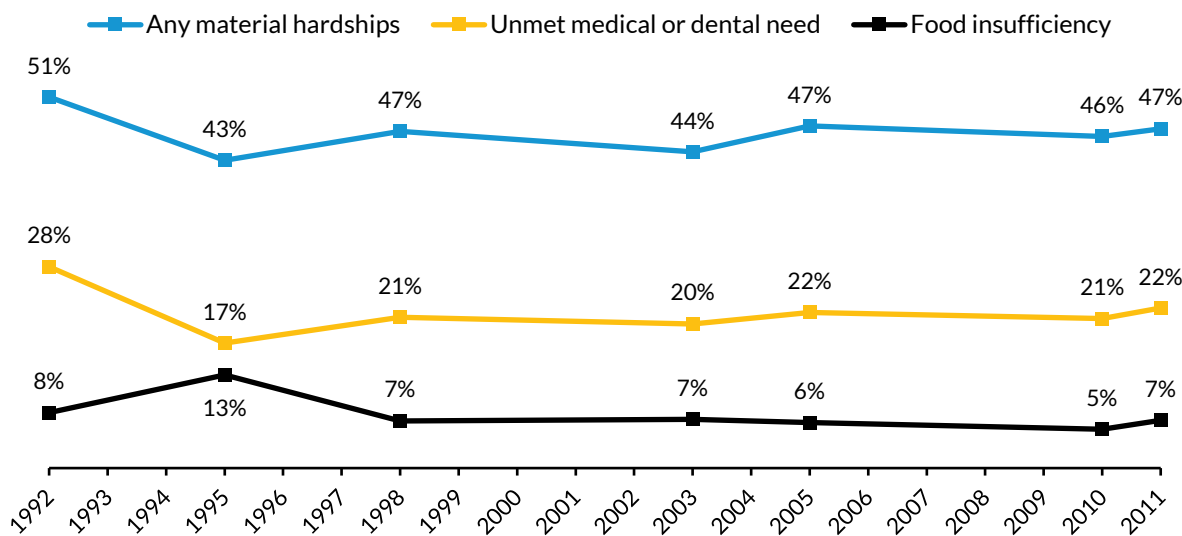
Source: Survey of Income and Program Participation Adult Well-Being Topical Module data for 1992, 1995, 1998, 2003, 2005, 2010, and 2011.

Notes: Low-income households are those with income below 200 percent of the federal poverty level. All percentages are weighted. **Any material hardship** includes any general report of not meeting essential expenses, inability to pay rent or mortgage, eviction, unpaid utility bills, utility service cut, phone service cut, unmet medical or dental need, and food insufficiency.

For unmet medical or dental need, we see a substantial decline from 28 percent in 1992 to 17 percent in 1995. This could reflect the expansion of Medicaid from 1990 to 1995 (Ben-Shalom, Moffitt, and Scholz 2012). Thereafter, unmet medical need increased modestly to 22 percent in 2011, perhaps reflecting steady increases in out-of-pocket medical care expenses.[6]

Along with these changes in material hardship have come changes in safety net spending. Safety net programs are all intended, directly or indirectly, to reduce material hardship. Some, like SNAP and Medicaid, aim to reduce specific hardships; others that provide cash are presumably intended to reduce all hardships generally, at least to some degree.

Federal spending on the safety net has shifted away from cash welfare toward the earned income tax credit and Medicaid, though the increase in Medicaid spending has been primarily driven by increased enrollment (from around 29 million in 1992 to around 58 million in 2011) and not increased spending per participant (Iglehart and Sommers 2015). Figure 3 shows trends in federal safety net spending from 1990 to 2015 for four prominent programs.[7]

FIGURE 3
Federal Spending Has Shifted Away from AFDC/TANF Cash Assistance
Federal spending on safety net programs from 1990 to 2015, billions of constant 2015 dollars

■ 1990 ■ 2000 ■ 2010 ■ 2015
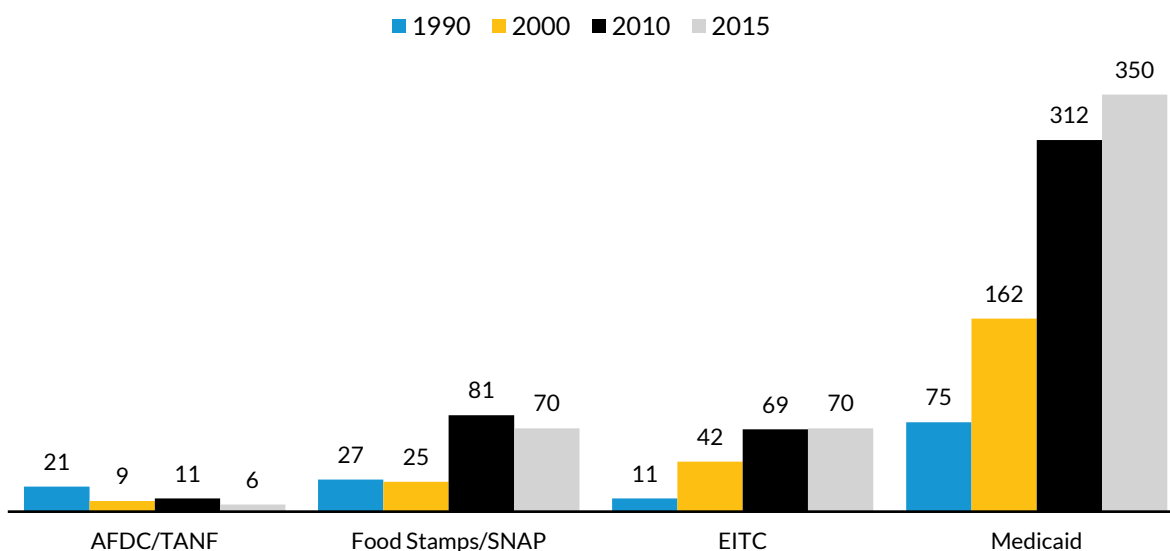
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Sources: Unpublished data from Urban Institute's Kids' Share database (Edelstein et al. 2016) and Table 8.5, "Outlays for Mandatory and Related Programs: 1962–2023," available at "Office of Management and Budget Historical Tables," The White House, accessed August 13, 2018, https://www.whitehouse.gov/omb/historical-tables/.
Notes: AFDC = Aid to Families with Dependent Children, TANF = Temporary Assistance for Needy Families, SNAP = Supplemental Nutrition Assistance Program, EITC = earned income tax credit. Expenditures reflect actual outlays, not authorizations, so TANF spending differs from the block grant amount because states do not spend their entire block grant within each grant year.

Cash welfare payments from the Aid to Families with Dependent Children and TANF programs declined over the period. This was largely a result of welfare reform in 1996 that brought an end to six decades of federal policy guaranteeing a minimum level of unconditional cash aid to families with children living in poverty. Essentially, welfare reform abolished Aid to Families with Dependent Children and replaced it with a system of fixed block grants to states, which states have used to fund TANF cash assistance and a wide range of other activities. The value of the block grants has fallen because of inflation. During the recession, funds were added through the American Recovery and Reinvestment Act (funding the TANF Emergency Contingency Fund), giving a temporary boost to TANF funding in 2010. States have wide latitude afforded by their block grants. In 2015, only 25 percent of TANF funds went to cash (basic) assistance, 9 percent went to work activities, and 19 percent went to child care (HHS 2017), suggesting that barely half of the spending sticks where it would be most helpful in paying household bills (Bitler and Hoynes 2016). Federal law sets a five-year lifetime limit on receipt of federal TANF cash assistance, although states can establish shorter time limits or use state funds to support families beyond the federal limit. Hahn and colleagues (2017) document state policy choices in their report, *Why Does Cash Welfare Depend on Where You Live?* As a fixed block grant, federal TANF spending does not respond to changes in need, such as those brought on by the Great Recession. TANF

caseloads rose only slightly during the recession and by far less than SNAP caseloads, suggesting that the program is no longer a safety net Americans can count on in tough times.

Spending on food stamps (now SNAP) declined in the 1990s but increased significantly in the late 2000s, in the wake of the Great Recession, before declining modestly from 2010 to 2015. As noted earlier, SNAP responded in significant and expected ways during the recession (Bitler and Hoynes 2015; Moffitt 2013). In fact, Pilkauskas, Currie, and Garfinkel (2012) find that food hardship during the Great Recession might have increased by twice the amount actually observed if not for SNAP.

Spending on the earned income tax credit (EITC) grew rapidly in the 1990s, at least partly because of the expansion of the program during the Clinton administration, and this growth continued, albeit more slowly, through the 2000s. The EITC generally has had broad bipartisan support because it is designed to encourage work, as a family member needs to be working to be eligible.

Finally, spending on public health insurance grew rapidly over the period. This was fueled in part by general increases in medical expenses but primarily by expansions to the program itself. For example, the Children's Health Insurance Program (CHIP), created in 1997, provides coverage for uninsured children who are in families with low incomes but above the previous cutoff for Medicaid eligibility.

A growing share of low-income families with children received assistance from at least one of TANF, SNAP, or Medicaid/SCHIP from 1990 to 2013 (figure 4): 69 percent received benefits from at least one of the three programs in 2013, up from 40 percent in 1990. The growth was propelled mainly by increases in the percentage of people who reported receiving either Medicaid only or both SNAP and Medicaid/SCHIP. Receipt of TANF among low-income families fell dramatically over the period.[8] One important concern with studies that measure the effect of only one program on outcomes is that the effects of participation in one program (e.g., TANF or SNAP) will reflect participation in other programs (e.g., Medicaid/SCHIP) if participants are likely to participate in multiple programs. Among families that received at least one benefit in 2013, we calculate that 59 percent received two or more benefits (not shown). The vast majority of recipients of TANF or SNAP received two or more benefits. For example, 93 percent of TANF recipients in 2013 also received SNAP and Medicaid/SCHIP, and 77 percent of SNAP recipients in 2013 also received Medicaid. To address how participation in one program reflects participation in other programs, our study measures participation in any of the three programs as the primary variable of interest.

Growth in Benefit Receipt Is Driven by Enrollment in Medicaid/SCHIP

Benefit receipt combinations among low-income families with children, 1990–2013
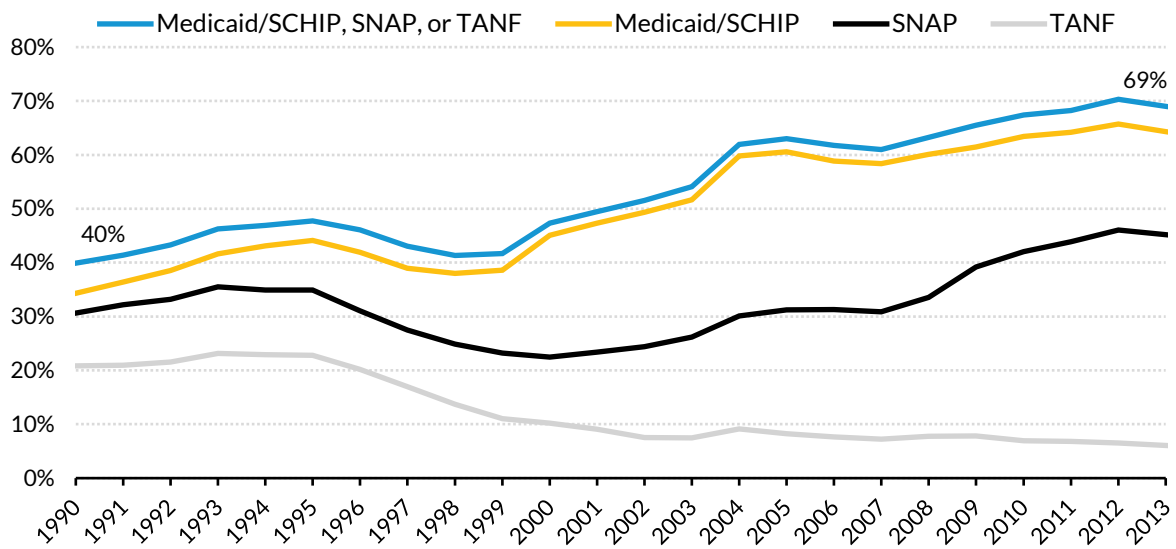
Source: Weighted Survey of Income and Program Participation data from 1990 to 2013.
Notes: SCHIP = State Children's Health Insurance Program, TANF = Temporary Assistance to Needy Families, SNAP = Supplemental Nutrition Assistance Program. Low-income households are those with income below 200 percent of the federal poverty level.

Effect of the Safety Net on Hardship

Does the safety net help decrease material hardship among low-income families with children? We estimate that participation in TANF, SNAP, or public health insurance programs reduces the number of material hardships (among the nine we measure) by 48 percent and food insufficiency by 72 percent. These estimates hold constant minimum wage and EITC policy changes over time.

Although they are not safety net programs, state and federal minimum wage and EITC policies can have important implications for family well-being and occurrences of hardship. We find evidence that a $1 increase in the minimum wage (but not the EITC) reduces material hardship by 4–6 percent among low-income families with children. This estimate does not capture the effect of a family receiving the minimum wage or EITC but the state's generosity regardless of whether the family receives it. These are average reductions from 1992 to 2011; 2011 is the latest year with SIPP data for our three material hardship measures.

Our analysis is based on monthly data from the SIPP and captures material hardship at multiple points between 1992 and 2011—specifically 1992, 1995, 1998, 2003, 2005, 2010, and 2011. We supplement the SIPP data with state-level economic and policy data from multiple sources, such as the Welfare Rules Database and SNAP Policy Database.[9] The variation in state-level TANF, SNAP, and

Medicaid/SCHIP policies (and program rules) is key to our research design. We use an instrumental variables approach that uses the variation in state policies to identify the effect of TANF, SNAP, or public health insurance participation on material hardship.[10] This approach accounts for potential behavioral responses to the programs (e.g., working less, though the programs have work requirements). We measure the overall effect after accounting for these costs and responses. Our analysis also examines the contemporaneous effect of minimum wage and EITC policies on material hardship. (See McKernan, Ratcliffe, and Iceland [2018] for more details.)

TANF, SNAP, or Public Health Insurance

Overall, we expect safety net programs to reduce material hardship, as these programs are designed to provide families with additional resources to meet their basic needs, and some are meant to directly alleviate specific hardships. TANF provides cash benefits to recipients. SNAP likewise provides resources to buy food and thus may reduce food insufficiency. Public health insurance programs such as Medicaid and SCHIP help families meet medical needs and expenses.

Although these income-tested programs likely directly reduce material hardship, they could also hypothetically increase it. Some have expressed concern that programs designed to help people with low incomes may change their behavior by providing disincentives to work. Strong supporters of this view assert that disincentives contribute to a "culture of poverty" (Murray 1984; Rector 1993). Previous research has generally found some small disincentive effects of welfare benefits on work (Ben-Shalom, Moffitt, and Scholz 2012). Beyond this, a recent analysis of the Food Stamp Program in the 1960s and early 1970s finds that the program's introduction reduced the annual hours worked and employment of single mothers but had no significant impacts on earnings or family income or on populations other than single mothers (Hoynes and Schanzenbach 2012). Today's more work-focused safety net is likely to have fewer disincentives. For example, the EITC, discussed later, actually encourages work (Ben-Shalom, Moffitt, and Scholz 2012).

Overall, we find the direct benefits of participating in the three income-tested programs outweigh any potential negative behavioral effects for our material hardship measures. Low-income families with children who received TANF benefits, SNAP benefits, or were covered by public health insurance experienced 48 percent fewer material hardships (table 1). No study we are aware of has estimated the effect of multiple program receipt on the total number of hardships experienced.

TABLE 1

Effect of Safety Net Programs on Material Hardship

Key explanatory variables	Number of Hardships		Food Insufficiency		Unmet Medical or Dental Need	
	2SLS	Change	2SLS	Change	2SLS	Change
Household receives TANF, SNAP, or public health insurance	-1.226**	-48%	-0.184*	-72%	-0.149	-40%
	[0.514]		[0.101]		[0.148]	
Earned income tax credit (refundable state and federal, $/100)	0.007	1%	-0.001	-1%	0.000	0%
	[0.006]		[0.001]		[0.001]	
Regular minimum wage ($)	-0.009	-1%	-0.008	-10%	0.001	0%
	[0.048]		[0.006]		[0.011]	
Subminimum wage ($)	-0.049***	-4%	-0.002	-3%	-0.014***	-6%
	[0.017]		[0.002]		[0.004]	
Observations	92,966		94,202		93,930	

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Source: Weighted Survey of Income and Program Participation and state policy and economic data for 1992, 1995, 1998, 2003, 2005, 2010, and 2011.

Notes: 2SLS = two-stage least squares, SNAP = Supplemental Nutrition Assistance Program, TANF = Temporary Assistance for Needy Families. Low-income households are those with income below 200 percent of the federal poverty level. Robust standard errors based on a conservative adjustment for clustering by state in brackets. Models also included controls for demographic characteristics (age, age squared, black non-Hispanic, Hispanic, other non-Hispanic, less than high school education, high school diploma only, associate's degree only, single male–headed household, single female–headed household, some adults are not US citizens, no adults are US citizens, metropolitan area, number of adults in household, number of children in household), economic characteristics (state unemployment rate, state per capita income, employment-to-population ratio, US quarterly gross domestic product), and state and year fixed effects. Instrumental variables in two-stage least squares models are the TANF maximum monthly benefit for a family of three, SNAP outreach spending per person with income below 150 percent of the federal poverty level, all legal noncitizen adults eligible for SNAP, and the share of children eligible for public health insurance.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Receiving TANF, SNAP, or public health insurance also reduced food insufficiency by 72 percent (18.4 percentage points) among low-income families with children.[11] We expect that participation in our three-program measure will have a larger effect than participation in only one of the programs because of their interactive effects. Given that families typically participate in more than one program, studies measuring participation in just one program may be picking up the effect of multiple programs.

Indeed, the 18.4 percentage point reduction we measured is large, but it is consistent with earlier studies that find SNAP receipt alone reduces food insecurity by 12.8–16.8 percentage points (Kreider et al. 2012; Ratcliffe, McKernan, and Zhang 2011; Shaefer and Gutierrez 2013) and food insufficiency by 6–11 percentage points (Gundersen, Kreider, and Pepper 2017). Schmidt, Shore-Sheppard, and Watson's (2016) smaller estimate that being eligible for $1,000 in potential TANF, Supplemental Security Income, EITC, food assistance, and Medicaid benefits reduces low food security by 1.1 percentage points is not directly comparable partly because it measures benefit eligibility, not receipt. In the years covered by their study, only 48–72 percent of eligible households participated in SNAP (Gray and Cunnyngham 2014).

We also find a 40 percent reduction in unmet medical or dental need, but this finding is not measured precisely enough to be statistically significant after we conservatively adjust our standard errors for clustering by state. In interpreting this result, it is important to keep in mind that public health insurance expansions targeted to children might be missed in our models, which capture unmet medical or dental need for both parents and children (i.e., the entire household). That is, significant declines in unmet medical or dental need for children could be obscured because parents, and thus the household, still have unmet needs.

EITC and Minimum Wage Policies

We also examine how EITC and minimum wage policies (not household receipt) affect the material hardship of low-income families with children.

In general, we expect that the EITC, measured as the maximum credit available (federal and state combined) for a family with two children, will decrease hardship by increasing family income. However, because the credit is received in an annual lump sum at tax time, there may not be an appreciable effect on hardships experienced outside of tax filing season. Also, although the literature generally finds that the EITC increases employment (Eissa and Liebman 1996; Grogger 2003; Meyer and Rosenbaum 2001; Nichols and Rothstein 2015) and earnings (Hoynes and Patel 2016), the costs associated with employment (e.g., child care, transportation) can have an offsetting effect on material hardship.

We find no evidence that the EITC affects the likelihood of experiencing food insufficiency or unmet medical or dental needs. This is surprising given that research shows the EITC increases employment (Grogger 2003; Nichols and Rothstein 2015). So why do we find no reduction in hardship? Perhaps hardship is most concentrated among people who are not on the margin of employment. Or perhaps, as Grogger (2003) suggests in explaining his finding that expanding the EITC has no net effect on income, EITC expansions decrease other safety net benefits while increasing employment and earnings.[12] Finally, as mentioned above, costs associated with increased employment, such as paying for child care, could increase hardship.[13] Another possibility is that the EITC does not vary enough across states to identify an effect. Even if we do not find positive impacts here, positive impacts (e.g., employment and earnings) elsewhere in the literature suggest more research is needed.

An increase in the minimum wage can decrease material hardship via higher earnings, but only if work hours do not fall or fall only a little. If a minimum wage increase leads employers to hire fewer low-skilled workers (or lay off existing workers) or reduce employees' hours, then material hardship can increase. By and large, the literature has found minimum wage increases have no statistically significant effect (or a small negative effect) on employment and earnings, although the effect is larger for specific subgroups (e.g., teenagers) and in areas where the minimum wage is more binding (i.e., areas with more minimum wage workers) (Acs et al. 2014; Addison, Blackburn, and Cotti 2012; CBO 2014; Dube, Lester, and Reich 2010; Neumark 2017; Neumark and Wascher 2007).[14] A notable exception is an analysis of Seattle's recent minimum wage increase from $11 to $13, which was found to reduce low-wage workers' employment and their average monthly incomes by $125 (Jardim et al. 2017).[15] There is also evidence

that increases in the minimum wage lead to larger employment declines in the longer term (Meer and West 2016).

Examining the contemporaneous effect of the minimum wage on material hardship, we find evidence that increases in the minimum wage reduce material hardship. We examine two policies: the minimum wage for jobs covered by the Fair Labor Standards Act (the "regular" minimum wage) and the wage for those not covered (the "subminimum" wage). Workers in jobs not covered by the regular minimum wage include those in small businesses, in businesses not involving interstate commerce, in seasonal or recreational jobs, and in fishing operations, as well as executive, administrative, and professional employees.[16] Our evidence suggests that increases in both the regular minimum wage and the subminimum wage are important, although we find more consistent results for the subminimum wage. A $1 increase in the subminimum wage is estimated to decrease the number of hardships by 4 percent among low-income families with children and the likelihood of unmet medical need by 6 percent. These findings are consistent with several studies that find that increases in the minimum wage reduce poverty (Acs et al. 2014; CBO 2014; Dube 2013), although the finding is not universal, as Neumark and Wascher (2007) find that increases in the minimum wage increase poverty.

Conclusion

Our evidence that the safety net's TANF, SNAP, and public health insurance programs reduced material hardship for low-income families with children by 48 percent over the past quarter century suggests that the basic needs of families would be at risk should these safety net programs be cut. Food insufficiency, unmet medical and dental need, and the inability to pay basic bills hurt families today and tomorrow. That is not to say the programs cannot be made more effective. For example, TANF could be more responsive to business cycles and could better target resources to the neediest families, all while preserving its emphasis on encouraging work (Bitler and Hoynes 2016).

Our study highlights the importance of examining the effect of programs not just on the official poverty measure, as many previous studies have done, but also on indicators of material hardship. After all, many of the programs we analyzed might have a particularly large impact on material hardship because some of them, such as SNAP and public health insurance, are specifically intended to reduce hardships such as food insufficiency and unmet medical need. In addition, the receipt of SNAP, public health insurance, and the EITC are not captured in the official poverty measure, as the indicator of resources in that measure does not include many noncash or near-cash benefits. Indeed, our empirical results confirm the substantial effects of many of these programs on the material hardships experienced by US households.

Safety net programs are not just good for families in tough times; they can also be good for the economy. When program spending increases during a recession and puts money in the hands of low-income families (as well-targeted, automatically stabilizing safety net programs should), people with low incomes are more likely to spend money and stimulate the economy. Evidence from the Great Recession suggests the biggest "bang for the buck" in terms of consumer spending comes from safety net programs

such as Medicaid, SNAP, and unemployment insurance (Blinder 2016; Schanzenbach et al. 2016). Tax cuts to people with low incomes have the second-largest impact. Tax cuts benefiting businesses had less of an effect.

We find increases in the regular minimum wage had no effect on material hardship, but our results suggest that increasing the subminimum wage to the regular minimum wage level would reduce the number of hardships and the unmet medical or dental need families experience. We find no evidence that increases in the EITC reduces material hardship. Moving from a system where the EITC is only available once a year to one that makes it easy for taxpayers to access the EITC multiple times throughout the year could improve its ability to reduce hardship. Even with this change, the EITC would not help when work is unavailable or people are sick and unable to work. An improved TANF program could fill these gaps (Bitler and Hoynes 2016).

In short, although many commentators point to the persistence of poverty and hardship as evidence that safety net programs do not work and are a waste of taxpayer dollars, our analysis suggests that hardship would be even more prevalent without such programs. One reason for this is that economic growth in recent years has been uneven, and that growth was punctuated by a devastating recession. Income and wealth inequality have risen markedly since the early 1970s, putting additional strain on low-income families, whose wages have largely stagnated even as the cost of basic needs, such as housing and health care, have risen substantially (Piketty and Saez 2003).[17] Thus, efforts to reduce poverty and material hardship are occurring at a time when macroeconomic forces are working against them.

Appendix: Data and Empirical Model

We use both individual- and state-level data in these analyses. The individual-level data are from the Survey of Income and Program Participation (SIPP), a longitudinal dataset that follows people over time. Our analysis includes SIPP data from June 1992 to July 2011 and focuses on low-income households (below 200 percent of the federal poverty level) with children. These data are augmented with information on state economic and social program policies and rules from multiple sources, including the Welfare Rules Database, Transfer Income Model, and the SNAP Policy Database.

Estimating the relationship between material hardship and program participation is complicated by observed and unobserved differences between participants and nonparticipants. The two groups differ on such factors as other social policies they face (e.g., state minimum wage), economic conditions (e.g., unemployment rate), unobservable individual characteristics (e.g., personal sentiment toward social programs or work), and unobservable state characteristics (e.g., public sentiment toward safety net program participants). Measuring the causal relationship between material hardship and program participation requires disentangling the effect of program participation on poverty from these other factors.

We use instrumental variables estimation to control for the endogeneity of TANF, SNAP, or public health insurance program participation in our treatment-on-the treated estimates. We also control for state and year fixed effects to separate the impacts of program participation from unobservable state and time differences. We adjust our standard errors for clustering by state using a conservative adjust-

ment (Abadie et al. 2017), which reduces the precision of our estimates and thus the statistical significance.

The ideal instruments will be (1) strongly correlated with program participation and (2) not otherwise related to material hardship, given the additional covariates for which we control. The instruments we use are state policy variables that govern program eligibility. These variables are set at the state level and not controlled by any given sample member. Thus, at a minimum, we think it is reasonable to believe that the resulting instrumental variables estimates will be less biased asymptotically than standard ordinary least squares estimates. Moreover, if the policy instruments meet the exclusion restriction (2) discussed above, which we think is likely, then we can estimate program effects consistently. We acknowledge that state policies may respond to lagged economic outcomes, but this will not generally lead to overstating the impacts of participation. In particular, if program eligibility rules tend to be loosened in response to need, then the estimated effects from our instrumental variables model would likely be conservative. In addition, the state fixed effects in our model remove the cross-state source of this endogeneity.

We identify four program rules that are predictors of TANF, SNAP, or public health insurance receipt but do not independently affect material hardship:

- the TANF maximum monthly benefit for a family of three

- SNAP outreach spending per person with income less than 150 percent of the federal poverty level

- all legal noncitizen adults eligible for SNAP federal benefits or state-funded food assistance

- the share of children eligible for public health insurance, given the state restrictions in place in a given year and month

Future research could examine the participation effect and the strength of the instruments by time period (e.g., under Aid to Families with Dependent Children versus TANF).

Unlike benefit receipt, our EITC and minimum wage variables measure state and federal policy and not household receipt of the EITC or minimum wage. That is, these variables reflect state and federal choice, not household choice. Thus, we control for their endogeneity with state fixed effects and year dummies that let us measure the effect of the policies on material hardship within states over time and across states within a year. The EITC and minimum wage variables are included in the model as control variables of interest. We measure the effect of state minimum wage and EITC policies using reduced-form intent-to-treat estimates.

See McKernan, Ratcliffe, and Iceland (2018) for more information on the instrumental variables and empirical model.

Notes

1 According to data from the Organisation for Economic Co-operation and Development, overall social expenditures in the US were 19.3 percent of GDP in 2016, compared with the average of 21.0 percent of GDP for the 35 developed economies analyzed. Much of this spending is for old-age and health benefits. Excluding old-age and health benefits, US spending for working-age income supports in 2013–14 (the latest year of data available at this level) was roughly half the average (2.3 percent versus 4.2 percent of GDP, respectively) (OECD 2016).

2 Low-income households are those with incomes below 200 percent of the federal poverty level. We measure participation using a treatment-on-the-treated estimate with endogenous participation instrumented with policy parameters.

3 Our standard error clustering adjustment is conservative (Abadie et al. 2017). See McKernan, Ratcliffe, and Iceland (2018) for more details.

4 We focus on food insufficiency instead of food insecurity because data on food insecurity are not available in the SIPP before 1998. Food-insufficient households—those that cut back their food consumption because of a lack of money—are more similar to households with "very low food security" than the broader group of food-insecure households (defined by the US Department of Agriculture's Economic Research Services). In the years we observe both food insecurity and food insufficiency data in the SIPP, we find that low-income households with children are about three times more likely to experience food insufficiency than food insecurity. This is similar to the difference in rates of food insecurity and very low food security over the years covered by this study, which range from 2.6 to 3.4 times higher (Coleman-Jensen et al. 2017).

5 We measure the effect of state minimum wage and EITC policies using reduced-form intent-to-treat estimates of the contemporaneous effect of state policies (not whether a person receives the minimum wage or EITC). This estimate captures the state's generosity regardless of whether the family receives either benefit.

6 See table 95, "Personal health care expenditures, by source of funds and type of expenditure: United States, selected years 1960–2014," at "Health, United States, 2015 - Health Expenditures," Centers for Disease Control and Prevention, last modified April 27, 2016, http://www.cdc.gov/nchs/hus/healthexpenditures.htm.

7 For trends in total (federal, state, and local) public expenditures per capita from 1970 to 2006, see Moffitt (2015). Per capita measures adjust for population growth changes over time rather than need.

8 "State Fact Sheets: Trends in State TANF-to-Poverty Ratios," Center on Budget and Policy Priorities, last modified December 13, 2017, https://www.cbpp.org/research/state-fact-sheets-trends-in-state-tanf-to-poverty-ratios.

9 "Welfare Rules Database," Urban Institute, http://wrd.urban.org.

10 Supplemental Security Income policies do not vary by state, so Supplemental Security Income is not included in this analysis.

11 Our percentage change measure estimates what material hardship would have been in the absence of the programs.

12 Indeed, Hoynes and Patel (2016) find that half of the EITC's antipoverty effect comes from increases in a person's own earnings; the other half is the credit amount net of reduced safety net benefits that occurred with increased work. Grogger (2003) suggests another important potential explanation for the zero net effect of the EITC on income: the Current Population Survey data that he uses for his analysis may not capture EITC income.

13 The annual, lump sum nature of the EITC may further explain why we find no decline in the likelihood of experiencing material hardship. Changes in how EITC recipients meet their needs (e.g., medical care) and pay their bills throughout the year could lead to unmet need during the year that gets resolved when the tax refund arrives.

14 The CBO analysis, for example, finds that a 10 percent increase in the minimum wage is associated with employment declines (for all adults) of roughly 0.33 percent. The analysis finds larger employment declines for some subgroups, such as teenagers.

[15] Over the years covered in this study, the minimum wage was substantially lower than some of the city ordinances that have more recently taken effect.

[16] "Compliance Assistance - Wages and the Fair Labor Standards Act (FLSA)," US Department of Labor, accessed July 2017, https://www.dol.gov/whd/flsa/index.htm.

[17] "Nine Charts about Wealth Inequality in America," Urban Institute, last modified October 24, 2017, http://apps.urban.org/features/wealth-inequality-charts/.

References

Abadie, Alberto, Susan Athey, Guido W. Imbens, and Jeffrey Wooldridge. 2017. "When Should You Adjust Standard Errors for Clustering?" NBER Working Paper 24003. Cambridge, MA: National Bureau of Economic Research.

Acs, Gregory, Laura Wheaton, Maria Enchautegui, and Austin Nichols. 2014. *Understanding the Implications of Raising the Minimum Wage in the District of Columbia*. Washington, DC: Urban Institute.

Addison, John T., McKinley L. Blackburn, and Chad D. Cotti. 2012. "The Effect of Minimum Wages on Labour Market Outcomes: County-Level Estimates from the Restaurant-and-Bar Sector." *British Journal of Industrial Relations* 50 (3): 412–35.

Ben-Shalom, Yonatan, Robert Moffitt, and John Karl Scholz. 2012. "An Assessment of the Effectiveness of Antiproverty Programs in the United Sates." In *Oxford Handbook of the Economics of Poverty,* edited by Philip N. Jefferson, 463–93. New York: Oxford University Press.

Bitler, Marianne, and Hilary Hoynes. 2015. "The More Things Change, the More They Stay the Same? The Safety Net and Poverty in the Great Recession." *Journal of Labor Economics* 34 (S1): S403–44.

———. 2016. *Strengthening Temporary Assistance for Needy Families*. Washington, DC: The Hamilton Project.

Blinder, Alan S. 2016. *Fiscal Policy Reconsidered*. Washington, DC: The Hamilton Project.

CBO (Congressional Budget Office). 2014. *The Effects of a Minimum-Wage Increase on Employment and Family Income*. Washington, DC: CBO.

Clemans-Cope, Lisa, John Holahan, and Rachel Garfield. 2016. "Medicaid Spending Growth Compared to Other Payers: A Look at the Evidence." Menlo Park, CA: The Henry J. Kaiser Family Foundation.

Coleman-Jensen, Alisha, Matthew P. Rabbitt, Christian A. Gregory, and Anita Singh. 2017. *Household Food Security in the United States in 2016*. Washington, DC: US Department of Agriculture.

Czajka, John L., and Gabrielle Denmead. 2008. *Income Data for Policy Analysis: A Comparative Assessment of Eight Surveys*. Washington, DC: US Department of Health and Human Services.

Dube, Arindrajit. 2013. "Minimum Wages and the Distribution of Family Incomes." Amherst: University of Massachusetts.

Dube, Arindrajit, T. William Lester, and Michael Reich. 2010. "Minimum Wage Effects across State Borders: Estimates Using Contiguous Counties." *Review of Economics and Statistics* 92 (4): 945–64.

Edelstein, Sara, Heather Hahn, Julia B. Isaacs, Ellen Steele, and C. Eugene Steuerle. 2016. *Kids' Share 2016: Federal Expenditures on Children through 2015 and Future Projections*. Washington, DC: Urban Institute.

Edin, Kathryn, and Laura Lein. 1997. *Making Ends Meet: How Single Mothers Survive Welfare and Low-Wage Work*. New York: Russell Sage Foundation.

Eissa, Nada, and Jeffrey B. Liebman. 1996. "Labor Supply Response to the Earned Income Tax Credit." *Quarterly Journal of Economics* 111 (2): 605-37.

Gray, Kelsey Farson, and Karen Cunnyngham. 2016. *Trends in Supplemental Nutrition Assistance Program Participation Rates: Fiscal Year 2010 to Fiscal Year 2014*. Washington, DC: US Department of Agriculture.

Grogger, Jeffrey. 2003. "The Effects of Time Limits, the EITC, and Other Policy Changes on Welfare Use, Work, and Income Among Female-Headed Families." *Review of Economics and Statistics* 85 (2): 394–408.

Gundersen, Craig, Brent Kreider, and John V. Pepper. 2017. "Partial Identification Methods for Evaluating Food Assistance Programs: A Case Study of the Causal Impact of SNAP on Food Insecurity." *American Journal of Agricultural Economics* 99 (4): 875–93.

Hahn, Heather, Laudan Aron, Cary Lou, Eleanor Pratt, and Adaeze Okoli. 2017. *Why Does Cash Welfare Depend on Where You Live?* Washington, DC: Urban Institute.

HHS (US Department of Health and Human Services). 2017. "TANF Financial Data – FY 2015." Washington, DC: US Department of Health and Human Services.

Hoynes, Hilary, and Ankur Patel. 2016. "Effective Policy for Reducing Inequality? The Earned Income Tax Credit and the Distribution of Income." Berkeley: University of California, Berkeley.

Hoynes, Hilary Williamson, and Diane Whitmore Schanzenbach. 2012. "Work Incentives in the Food Stamp Program." *Journal of Public Economics* 96: 51–62.

Iceland, John, and Kurt J. Bauman. 2007. "Income Poverty and Material Hardship." *Journal of Socio-Economics* 36 (3): 376–96.

Iglehart, John K., and Benjamin D. Sommers. 2015. "Medicaid at 50 – From Welfare Program to Nation's Largest Health Insurer." *New England Journal of Medicine* 372 (22): 2152–59.

Jardim, Ekaterina, Mark C. Long, Robert Plotnick, Emma van Inwegen, Jacob Vigdor, and Hilary Wething. 2017. "Minimum Wage Increases, Wages, and Low-Wage Employment: Evidence from Seattle." NBER Working Paper 23532. Cambridge, MA: National Bureau of Economic Research.

Kosar, Gizem, and Robert Moffitt. 2017. "Trends in Cumulative Marginal Tax Rates Facing Low-Income Families, 1997–2007." *Tax Policy and the Economy* 30:43–70.

Kreider, Brent, John V. Pepper, Craig Gundersen, and Dean Jolliffe. 2012. "Identifying the Effects of SNAP (Food Stamps) on Child Health Outcomes when Participation Is Endogenous and Misreported." *Journal of the American Statistical Association* 107 (499): 958–75.

Mayer, Susan E., and Christopher Jencks. 1989. "Poverty and the Distribution of Material Hardship." *Journal of Human Resources* 24 (1): 88–114.

McKernan, Signe-Mary, Caroline Ratcliffe, and John Iceland. 2018. "The Effect of the US Safety Net on Material Hardship over the Past Quarter Century." Washington, DC: Urban Institute.

Meer, Jonathan, and Jeremy West. 2016. "Effects of the Minimum Wage on Employment Dynamics." *Journal of Human Resources* 51 (2): 500–22.

Meyer, Bruce D., and Dan T. Rosenbaum. 2001. "Welfare, the Earned Income Tax Credit, and the Labor Supply of Single Mothers." *Quarterly Journal of Economics* 116 (August): 1063–114.

Meyer, Bruce D., and James X. Sullivan. 2003. "Measuring the Well-being of the Poor Using Income and Consumption." *Journal of Human Resources* 38 (Supplement): 1180–220.

Moffitt, Robert. 1992. "Incentive Effects of the US Welfare System: A Review." *Journal of Economic Literature* 30:1–61.

———. 2013. "The Great Recession and the Social Safety Net." *The ANNALS of the American Academy of Political and Social Science* 650 (1): 143–66.

———. 2015. "The Deserving Poor, the Family, and the U.S. Welfare System." *Demography* 52:729–49.

Murray, Charles. 1984. *Losing Ground: American Social Policy, 1950-1980*. New York: Basic Books.

Neumark, David. 2017. "The Employment Effects of Minimum Wages: Some Questions We Need to Answer." NBER Working Paper 23584. Cambridge, MA: National Bureau of Economic Research.

Neumark, David, and William Wascher. 2007. "Minimum Wage and Employment." *Microeconomics* 3 (1-2): 1–182.

Nichols, Austin, and Jesse Rothstein. 2015. "The Earned Income Tax Credit (EITC)," NBER Working Paper 21211. Cambridge, MA: National Bureau of Economic Research.

OECD (Organisation for Economic Co-operation and Development). 2016. *Society at a Glance 2016: OECD Social Indicators.* Paris: OECD.

Piketty, Thomas, and Emmanuel Saez. 2003. "Income Inequality in the United States." *Quarterly Journal of Economics* 118 (1): 1–39.

Pilkauskas, Natasha V., Janet M. Currie, and Irwin Garfinkel. 2012. "The Great Recession, Public Transfers, and Material Hardship." *Social Service Review* 86 (3): 401–27.

Ratcliffe, Caroline, Signe-Mary McKernan, and Sisi Zhang. 2011. "How Much Does the Supplemental Nutrition Assistance Program Reduce Food Insecurity?" *American Journal of Agricultural Economics* 93 (4): 1082–98.

Rector, Robert. 1993. "Welfare Reform, Dependency Reduction, and Labor Market Entry." *Journal of Labor Research* 14 (3): 283–97.

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): 753–79.

Rosenbaum, Dottie, and Brynne Keith-Jennings. 2016. "SNAP Costs and Caseloads Declining." Washington, DC: Center on Budget and Policy Priorities.

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.* Washington, DC: Brookings Institution.

Schmidt, Lucie, Lara Shore-Sheppard, and Tara Watson. 2016. "The Effect of Safety-Net Programs on Food Insecurity." *Journal of Human Resources* 51 (3): 589–614.

Sullivan, James X., Lesley Turner, and Sheldon Danziger. 2008. "The Relationship between Income and Material Hardship." *Journal of Policy Analysis and Management* 27 (1): 63–81.

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