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Judith Bartfeld

Institute for Research on Poverty
School of Human Ecology
University of Wisconsin - Madison

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Author correspondence

Judith Bartfeld, Institute for Research on Poverty, School of Human Ecology, 4218 Nancy Nicholas Hall, 1300 Linden Drive, University of Wisconsin, Madison, WA, 53706; Email: bartfeld@wisc.edu; Phone: 608-262-4765.

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Judith Bartfeld
Institute for Research on Poverty
School of Human Ecology
University of Wisconsin – Madison

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Introduction

The Great Recession and its immediate aftermath have brought increasing attention both to food insecurity among children and to the associated food safety net. After a decade of largely stable food insecurity rates, the share of children living in food insecure households jumped by one-third between 2007 and 2008, and has remained stubbornly high since then. As of 2012, 21.6% of all children lived in food insecure households (Coleman-Jensen et al. 2013). The scope and reach of the food safety net for children has likewise grown – a response to rising need, efforts to reduce administrative and logistical barriers to participation, and expansions in eligibility.

This chapter examines how SNAP functions as a component of the broader food assistance safety net for school-age children, focusing on connections between SNAP and the school meal programs at a policy level, as well patterns in children’s participation across programs. The chapter has two components: In Part I, I provide an overview of the programs, highlighting both geographic variability in each of the programs, as well as structural features that create explicit, as well as potentially unintended, linkages between them. My focus is on exploring the mechanisms by which variation in access to SNAP – whether from current cross-state variation, or from broader policy changes -- can have spillover effects on school meal programs. I argue that, while the food safety net for children is national in design, it in practice varies considerably across states, and furthermore that geographic and temporal variation in SNAP policy has important ramifications for children’s access to school meals due to policy linkages between the programs. In Part II, I use recent national data to formally explore the role of the combined food assistance safety net for school-age children during and immediately after the Great Recession – a period in which the demands placed on food assistance programs for children reached historic highs. I demonstrate that there is considerable variation in the way that children access and

package programs, both cross-sectionally and over time, and that food assistance programs constitute a substantial share of household resources for those families that receive them. I conclude by discussing implications of both the programmatic linkages and the empirical patterns of participation for policy and research.

Part I: The Food Assistance Safety Net for School-Age Children

The primary components of the federally-funded food safety net for school-age children include SNAP, the National School Lunch Program (NSLP), and the School Breakfast Program (SBP). These programs play a large and growing role in helping children meet their food needs: In a typical month in 2011, over 13 million school-age children – over 24% of all children age 5-17 – participated in SNAP (Strayer et al. 2012); likewise the USDA estimates that over 21 million children received a free or reduced price lunch from the NSLP each month, and over 10 million received a free or reduced price breakfast from the SBP – corresponding to 39% and 19%, respectively, of all school-age children.^{1,2}

Current participation rates reflect substantial growth, particularly over the past decade. Between 2000-2011, the share of children participating in SNAP more than doubled (Strayer et al. 2012); the share receiving a free or reduced-price lunch in a typical month increased by 35%, roughly tracking the growth in the child poverty rate over the same period; and the share eating free or reduced-price breakfast increased by 69% (USDA 2013).

Collectively, the programs present a substantial but far from perfect bulwark against childhood food insecurity: Indeed, the food insecurity rate among households with children, which jumped sharply

¹ USDA estimates the number of school meal participants by dividing the average daily participation by an attendance factor of approximately .93, an approach which assumes the same children are generally eating meals over the course of a given month (FNS 2013). If participation is more variable among children, the number of unique participants in a month would be higher.

² During July of the same year, about 2.8 million children—or 5.2% of school-age children-- ate free meals through one of the two federally-funded summer feeding programs. While those programs play a vital role, I do not discuss them in this paper due to their much more limited scope.

in 2008 in tandem with increases in unemployment and child poverty, stabilized (albeit at high levels) even as child poverty and food assistance caseloads continued to climb, with some evidence that SNAP benefit increases may have played a stabilizing role (Nord and Prell 2011). At the same time, food insecurity among children – including and especially among program participants-- remains high (Coleman-Jensen et al. 2013).

In the remainder of this section, I provide an overview of SNAP, the NSLP, and the SBP, with an eye towards understanding how policy decisions in SNAP—whether related to state flexibility or national policy – have the potential to influence school meals.

The Supplemental Nutrition Assistance Program (SNAP)

SNAP is the cornerstone of the nation’s food assistance safety net. The program provides monthly benefits, delivered via electronic benefit card, which can be used to purchase food at authorized food outlets. The core SNAP features are the same nationwide. Federal rules specify that most households are subject to two income tests: Gross income must be below 130% of the federal poverty line, and net income—in this case referring to income after subtracting allowable amounts in such areas as shelter costs and work expenses—must be below the poverty line.³ Alternatively, households may qualify by virtue of participating in TANF or SSI, both of which confer categorical eligibility. SNAP is almost universally available to those who meet the relevant income and asset tests, including to noncitizen children if they are qualified aliens, although not to undocumented noncitizens (USDA 2013).

³ For detailed information on SNAP eligibility, see http://www.fns.usda.gov/snap/applicant_recipients/eligibility.htm.

Benefit levels likewise depend on household size and income, and are intended, in combination with other income when available, to provide households with sufficient resources to meet their basic food needs. The maximum benefit levels – currently \$632 for a 4-person household -- are based on the federally-established minimum cost of a nutritionally adequate diet. Benefits are reduced as household income increases, in accordance with a formula that reflects the underlying assumption that households can devote 30 percent of their income to food.

Although there are overarching federal rules, states have some flexibility with regard to certain aspects of the program – flexibility that has become more available and more widely used in recent years – such that, in practice, the program operates differently from state to state (see Ziliak 2013 in this volume for detailed discussion of state policy options). State discretionary rules affect both the eligibility criteria for many households with children, as well as the nature and extent of logistical burdens associated with participation. This variation has implications not only for potential SNAP recipients but, as discussed in the next section, for the school meal programs as well due to explicit and implicit linkages between the programs.

The most important differences in eligibility stem from variation in the use of broad-based categorical eligibility, an option that allows states to effectively use more generous income limits and/or to remove liquid asset tests governing SNAP eligibility in conjunction with the provision of TANF-funded services. As of 2012, varying use of broad-based categorical eligibility resulted in households with children facing gross income limits that ranged between the standard limit of 130% of the poverty line to limits up to 200% of the poverty line, and liquid asset tests that ranged from the standard limit of \$2000 to removal of all asset limits. In particular: 41 states used some manner of broad-based categorical eligibility; 26 of these involved a gross income limit higher than 130%, including 13 at 200% of the poverty line; 5 involved an asset limit higher than the federal standard, and 36 effectively removed the liquid asset test (Leftin et al. 2013). Variation in eligibility across this range is not trivial in

terms of SNAP's ability to reach vulnerable children, as over 30 percent of households with children in the 130-185% of poverty range were food insecure in 2012 (Coleman-Jensen et al. 2013). Eligibility also varies across states due to differing treatment of how vehicles impact eligibility, although all states have opted for some form of liberalization over the federally established vehicle limit of \$4650, and the vast majority have waived such limits altogether (SNAP Policy Database 2013).

In addition to eligibility differences, states differ in a range of policy choices that affect the ease of access for potential participants. State decisions with regard to the frequency and manner of periodic recertification requirements, the nature of ongoing reporting requirements, and requirements for fingerprinting of applicants have all been found, with varying degrees of consistency across studies, to impact the likelihood of participation (see Ziliak 2013 in this volume, as well as, e.g., Klerman and Danielson 2011; Hanratty 2006; Mabli et al. 2009, Ratcliffe et al. 2008).

Finally, while absolute benefit levels are the same across states (with the exception of Alaska and Hawaii), the purchasing power of those benefits varies widely. This stems from geographic differences in food costs that affect not only the purchasing power of SNAP (Todd et al. 2011; Leibtag 2007; Nord and Hopwood 2007), but also the risk of child food insecurity (Gregory and Coleman-Jensen 2012).

In short, while SNAP is a national program, there are substantial differences in the extent to which it is available to at-risk children, the likelihood that eligible households participate, and the adequacy of benefits with regard to the cost of meeting food needs. While the implication of these differences for children are not entirely clear, we do know that the estimated share of eligibles who participate in SNAP varies dramatically among states; that the anti-poverty effectiveness of SNAP varies considerably across states; and that there is at least some evidence that state policy choices impact its antipoverty effectiveness (Tiehen, Jolliffe, and Smeeding 2013; Cunyningham et al. 2013; Tiehen et al.

2012). As I discuss in the next section, there are a number of ways in which variation could likewise have spillover effects on children via impacts on the school meal programs.

The National School Lunch Program and the School Breakfast Program

The NSLP and SBP provide financial assistance to participating schools to support the provision of subsidized meals to students. The amount of reimbursement to the school—and thus the amount of federal funds provided to run the program-- depends on the share of participants who have been certified to receive free meals, reduced price meals, or 'full price' meals.

The programs share common eligibility criteria that determine whether students qualify for either free or reduced-price meals. Students can qualify for such meals by having household income below 130% of the federal poverty line for free meals or between 131- 185% of the poverty line for reduced-price meals. The free meal threshold therefore coincides with the federal SNAP limit, whereas the reduced-price threshold is near the high end of the broad-based categorical eligibility limit – though is currently below that limit in 13 states. There are no other restrictions on eligibility, and noncitizens, regardless of status, may participate if they meet income criteria. Once eligible, students retain eligibility for the rest of the schoolyear and 30 days into the subsequent year (Hanson and Oliveira 2010). Incomes are self-reported and not routinely verified, although schools are required to verify eligibility for a random sample of applicants each year (Child Nutrition Programs 2013). Students can also be deemed categorically eligible by virtue of participation of the child or a household member in either SNAP, TANF, or the Food Distribution Program on Indian Reservations (FDPIR). The link to SNAP thus provides a formal linkage between policies and practices that impact SNAP eligibility and uptake and subsequent school meal eligibility and certification

Since 1989 districts have been encouraged to use direct certification—that is, automatic administrative data-matching procedures-- to identify children who qualify for free meals via categorical

eligibility, thus eliminating the need for such students to complete a paper application; since 2008-9, all districts have been required to have such procedures in place (Hanson & Oliveira 2012). Direct certification appears to increase the share of children certified for free meals relative to using only paper applications (Jackson et al 2000; Hanson & Oliveira 2012), and presumably increases the likelihood that changes in SNAP participation—whether due to changes in eligibility or uptake-- translate into concurrent changes in school meal certification and potentially participation. However, it also—at least in the earlier period of adaptation when it was not yet mandatory-- appeared to certify students who, as a group, had lower propensity to actually participate in school meals even when certified, relative to those who qualified through traditional paper applications (Jackson et al. 2000). As of 2003, one in four students who were certified for free meals and in districts that used direct certification, had been certified via direct certification rather than a paper application (Gleason et al. 2003)

Although the programs operate in accordance with federal rules, there are in practice geographic differences in low-income children's access to school meals. This is primarily true for the SBP: while both programs are optional for schools, almost all public schools offer the NSLP, whereas 91% offer the SBP, with substantial state-to-state variation – ranging from 65% to 100%, with availability most common in the south and least common in the Midwest and northeast (FRAC 2013; Bartfeld and Kim 2010). This variation has important ramifications for at-risk children, in that availability of school breakfast appears to reduce the risk of marginal food security as well as breakfast-skipping among low-income elementary school children (Bartfeld and Ahn 2011; Bartfeld and Ryu 2011). Advocacy groups and some policymakers have made the expansion of school breakfast a high priority, and while availability still falls well below school lunch, it has expanded considerably over the past decade (FRAC 2013). One factor in this growth has been state mandates obligating some or all schools to offer the program, typically based on the school exceeding a threshold of students who qualify for free or reduced-price meals. As of the 2011-12 school year, 27 states had such a mandate (FRAC 2013).

Linking the requirement that schools offer breakfast to the share of certified students represents yet another mechanism by which SNAP eligibility and participation have the potential to also influence children's access to school meals.

An important and evolving aspect of the school meal programs is the increasing availability and use of provisions that allow, in high-poverty schools and districts, all students to receive free meals through the school meal infrastructure, even as federal payments for free meals remain limited to the actual or estimated share of participants who qualify under prevailing regulations. These legal structures are geared towards schools with large shares of students who are certified for free or reduced-price meals, with the idea that the savings in administrative costs to the school from foregoing annual certification efforts, coupled with the larger number of certified students who are induced to participate under universal programs, can generate sufficient additional funds to cover the costs of providing free meals to more students—sometimes in conjunction with non-federal sources such as state and local contributions, private-sector partners, or profits from sale of competitive foods.

There are both established and newer frameworks that support the provision of universal free meals. Longstanding legal structures referred to as 'Provisions 2 and 3' allow schools that offer universal free meals to fix their federal reimbursement percentages for several years to the ratio of free, reduced, and fullpay meals certified in a base year. While it is difficult to ascertain how many additional students receive free meals by virtue of these provisions, the program is fairly substantial in scope: in the 2012-13 schoolyear, there were approximately 4500 institutions with aggregate enrollments of slightly over 2 million students that were serving free meals to all students under Provisions 2/3.⁴ A newer provision – the Community Eligibility Option (CEO), introduced into law in the Healthy, Hunger-Free Kids Act of 2010 and actively promoted by the anti-hunger community-- eliminates eligibility paperwork altogether

⁴ Personal communication, John Endahl, Senior Program Analyst, Office of Policy Support, FNS/USDA, August 2013; the true number is higher, because the numbers do not include schools operating in a base year, that is, the first year of the 4-year authorization period.

and ties a participating school's reimbursement ratio for four years to a multiplier of the share of students who are directly certified via program match in the initial year. Community Eligibility is available to schools or groups of schools with direct certification rates (that is, the share of students certified as eligible via data match) over 40%; it is in the process of being phased in, and is available to 11 states as of the 2013-14 year, with schools in all states eligible in 2014-15.⁵ Early studies show substantial increases in both breakfast and lunch participation in CEO schools (FRAC 2013). Because both the eligibility of a school to utilize the CEO, as well as the economic feasibility of doing so (it requires a sufficiently large share of certified students in the base year to be economically viable) is linked to the share of students directly certified – most commonly on the basis of SNAP – the potential impact of this option is closely linked to national as well as state policy and practice with regard to SNAP eligibility and enrollment.

Neither free and reduced-price school lunch nor breakfast are uniformly used by eligible children, with participation in breakfast trailing well behind lunch. Comparing estimates across studies is challenging as participation rates are not treated consistently in the research, and may variously describe the share of qualifying children who have been certified to receive free or reduced-price meals (regardless of participation); the share of all children who eat school meals without regard to certification status; or the share of qualifying children who report eating free or reduced price meals. The latter approach shows an increase in participation of eligible children in free or reduced-price lunch from 63.9% to 71.8% from 1993-4 to 2003-4, and an increase in the breakfast participation rate from 27.9% to 48.7% over the same period (Dahl and Scholz 2011), rates which are presumably higher now in the advent of fully implemented direct certification requirements. Participation in free and reduced-price breakfast continues to trail lunch considerably, with half as many students participating in breakfast as lunch on a typical day in 2012 (FRAC 2013). Community Eligibility is being viewed as a way

⁵ See <http://www.fns.usda.gov/cnd/governance/Policy-Memos/2013/SP15-2013os.pdf> for USDA guidance for schools on Community Eligibility.

to increase breakfast participation, because universal free meals allow schools to implement creative delivery models such as breakfast in the classroom, that have been linked to increased participation.

Summary

Two main conclusions emerge from this discussion. First, whereas the nutritional safety net targeting school-aged children is national in design and scope, flexibilities granted to states and local educational authorities have provided substantial opportunities for both formal and de facto differences in program access across locations – variation which is linked to real differences in the effectiveness of the safety net in reaching at-risk children and potentially reducing food hardships. More importantly, perhaps, SNAP and the school meal programs have become increasingly interconnected over the past decade, by virtue of formal linkages that tie SNAP eligibility rules and participation patterns to school meal access at both the individual and potentially the institutional level. The implication is that changes in SNAP policy, whether at the state or national level, have the potential for spillover effects onto school meals that may magnify the impact of SNAP changes in ways not fully intended or anticipated.

At the individual level, the potential impacts of SNAP changes on school meal access stem from categorical eligibility linked to SNAP, whereby access to free meals extends to students at higher income levels than the 130% of poverty for free meals and 185% of poverty for reduced-price meals established by traditional eligibility rules; potential impacts likewise stem from the increasing prominence of direct certification as the means of free meal certification. Policy changes that constrain SNAP eligibility may well lead to reductions in free meal certification even among those still eligible, by virtue of the loss of a routinized certification process – much as happened when food stamp enrollments declined in tandem with declines in TANF caseloads, at rates that exceeded what could be explained by changes in eligibility.

At the institutional level, the potential impacts that could arise from SNAP changes are twofold: first, they stem from the link between school-level free and reduced-price meal certification rates and

state mandates that obligate schools with certification rates above a specified threshold to offer the School Breakfast Program. Indeed, the growing number of children certified in recent years appears to have contributed to the number of schools offering breakfast as their certification rates crossed relevant state thresholds (FRAC 2013); to the extent SNAP changes result in lower certification rates, more schools will fall out of mandate range. There are also potentially far-ranging institutional impacts of SNAP policy due to the new Community Eligibility Option, which ties both a school's eligibility to offer universal free meals under the CEO as well as the economic viability of doing so to its direct certification rate. Because Community Eligibility is only now being phased in, the potential ramifications are unclear, but early indication is that CEO is a popular option for eligible schools and has led to significant increases in school meal participation rates (FRAC 2013). As such, the potential impact of either state-level variation or cross-cutting changes in SNAP policy on this option area is of considerable importance, and remains largely unknown.

Part II: Empirical Evidence on the Role of Food Assistance During and Immediately After the Great Recession

Introduction

I turn now from an examination of potential policy linkages between programs to an empirical examination of how children and their households used the various food assistance programs in the very recent economic and policy context. I provide a descriptive analysis of patterns of food assistance program participation during 2008 through early 2012, drawing on a nationally representative sample of children ages 5-17. My focus is on cross-sectional and longitudinal patterns of participation in SNAP,

the NSLP, and the SBP, as well as the contribution of these programs to children’s overall household resource packages.⁶

This work builds on earlier work by Todd et al. (2010) and Newman et al. (2011), which explored trends in patterns and determinants of multiple food assistance program participation among children since the early 1990’s, highlighting the substantial changes in program packaging and the determinants of multiple program receipt over this period. My analysis expands on past work by focusing on participation in the period during and immediately after the Great Recession; looking exclusively at school-age children; treating the NSLP and the SBP as distinct programs, in light of differences in availability and uptake; and looking at patterns of separate and combined program participation from both a cross sectional and longitudinal perspective.

Data and analytic issues

Data overview

Data are from the first 11 waves of the 2008 panel of the Survey of Income and Program Participation (SIPP), which collectively span the period of May 2008 through March 2012. I note here several analytic decisions central to the interpretation of the results: First, because my interest is in understanding the extent to which children benefit from each of the programs, rather than in the measurement of formal participation rates, I measure participation in a program based on whether anybody in the child’s household was a participant—under the assumption this would benefit the child either directly or indirectly, and consistent with how others have measured food assistance benefit

⁶ I do not consider summer feeding programs in these analyses, as information is not available in the Survey of Income and Program Participation (SIPP) data. As noted earlier (see footnote 2), those programs are substantially smaller in scope than SNAP or either of the school meal programs—although certainly a vital part of the food safety net.

packaging (e.g. Todd et al. 2010; Newman et al. 2011).⁷ Second, I measure participation in 4-month intervals corresponding to survey waves, where participation indicates at least one month of benefit receipt; concurrent participation thus refers to participation in multiple programs during the same 4-month interval. This approach reflects that school meal participation is only assessed at the wave level in the underlying data, unlike SNAP participation, which is measured monthly (though subject to seam bias in the reporting of transitions). Third, my measures of participation in school meal programs specifically pertain to receipt of free or reduced-price meals, and not meals purchased at full cost. My primary sample includes children age 5-17, and for most analyses I use a sample consisting of child-waves (that is, where each child contributes up to 11 records, limited to waves when the child's age is in range).

[A note on accuracy of reported program participation data](#)

The SIPP is subject to underreporting of SNAP participation, though at considerably lower rates than other national datasets (Meyer et al. 2009). Across fiscal years 2009-2011, my estimates yield a weighted monthly average number of child participants age 0-17 that is 81.5% of the administratively reported number of child recipients over the same period (Strayer et al. 2012), an underreporting rate in line with estimates for earlier SIPP panels (Meyer et al. 2009).⁸

Reporting accuracy for school meals is more difficult to assess. Official participant counts from administrative data are derived from monthly numbers of meals served, with the assumption that the same children are eating the meals on a near-daily basis over the course of a given month (FNS 2013). If this is not accurate – that is, if aggregate meal numbers actually reflect more children participating but with less day-to-day consistency – then absent any underreporting, we would expect more parents to

⁷ Defining participation at the individual versus household level has only minimal impact on the results, reducing SNAP participation by roughly 2 percentage points, breakfast participation by 1.6 percentage points, and lunch by 1 percentage point.

⁸ Whereas my primary analyses use a household-level measure of participation, I use individual SNAP participation to construct reporting ratios.

report that their child ‘usually’ eats the school meal than the official number of participants estimated in the administrative count (Dahl and Scholz 2011). Indeed, analyses of survey data in Wisconsin suggest that, particularly in the case of school breakfast, children who eat school meals the majority of days in a week do not necessarily do so on all days.⁹ A second issue is that an undetermined number of children receive free meals at school (more commonly breakfast than lunch) that are not included in the administrative counts, as the latter do not account for children who, while not themselves certified for free meals, nonetheless receive free meals through various universal free meal structures.¹⁰ In short, parents may accurately report receipt of a free meal, even as that meal is not counted as free by the federal funder. Linked survey and administrative data have also shown that parents overreport their children’s school meal participation—particularly breakfast and particularly for older children (Moore et al. 2009). Weighted counts of recipients of free and reduced price breakfast and lunch during the 2008-9, 2009-10, and 2010-11 school years are consistent with these potential confounders: My SIPP estimates of free and reduced price lunches are 89.6%, 100%, and 102% of the official counts, and for breakfast the estimates are 135%, 156%, and 158%, which are broadly consistent with reporting ratios reported elsewhere for the SIPP (Dahl and Scholz 2011).

In sum, the reported SNAP participation data are subject to a known and moderate amount of underreporting, whereas the reporting accuracy of the school meals data cannot be formally assessed – but there are a variety of plausible reasons why parents would, legitimately, report more free meals than are captured in the administrative records. I do not attempt to adjust for either under or over reporting in my analyses, as there is little guidance in the data for what adjustments would be appropriate in the case of school meals.

⁹ Author’s analysis of data from the Wisconsin Schools Food Security Survey. The WSFSS asks parents how many days in a typical 5-day school week that their child eats the breakfast and lunch served by the school.

¹⁰ Personal communication, John Endahl, Senior Program Analyst, Office of Policy Support, FNS/USDA, August 2013;

Results

How common is food assistance among school-aged children?

Food assistance programs were a mainstay of children's overall household resources during and immediately after the Great Recession. During a typical 4-month period, 44% of school-age children were in households that participated in at least one – and typically more than one – of the three primary programs (Table 1). This includes 22% of children who participated in SNAP, 41% who participated in free or reduced price school lunch, and 30% who benefited from free or reduced-price breakfast.

Of note is that the relative prevalence of program receipt differs from that suggested by the aggregate participation numbers cited earlier – by which the NSLP was the most common, followed by SNAP, with participation in the SBP the lowest. This discrepancy likely reflects to some degree the moderate underreporting of SNAP in the SIPP, but the largest factor is the substantially higher rates of school breakfast reported here than suggested by the estimates from the administrative data. As per the earlier discussion, my assumption is that this reflects some combination of actual participation patterns whereby more children eat breakfast some of the time, though on average less frequently than every day; that some parents accurately report free meals that were received via universal free breakfast programs, even as those meals were not part of the federally funded count; and that some parents unknowingly overestimate their child's breakfast participation such that the participation numbers may reflect a combination of parents' intentions for their children's meals and the children's actual eating patterns.

The separate programs function to a large degree as components of a food assistance package, with most children who benefited from any of the programs benefiting from more than one—albeit in various combinations. Table 1 shows that school-aged children who benefited from SNAP usually benefited from school meals as well (90% of SNAP recipients), most commonly both lunch and breakfast (72% of SNAP recipients). Children who benefited from school breakfast almost always benefited from

school lunch as well (97%), and slightly over half of breakfast participants were concurrent participants in all three programs. Lunch participants were the most variable in their benefits packaging, with close to half participating in SNAP, 72% participating in school breakfast, and 38% participating concurrently in all three programs.

Overall, these patterns are consistent with differences in eligibility among programs (in that SNAP participants almost always participate in lunch, whereas the converse is not true), but also with differences in relative preferences or differential program availability (in that a substantial minority of students who participate in lunch do not participate in breakfast, despite the programs having identical eligibility criteria). Students who participate in both lunch and SNAP are considerably less likely to forego school breakfast than are students who only participate in lunch – suggesting children who receive SNAP may have stronger relative preferences, needs, and/or access to school breakfast. Nonetheless, more than one-quarter of school-age SNAP participants did not participate in at least one and sometimes both of the school meal programs from which they could presumably benefit.

Beneficiary profiles

Amongst all school-age children who receive some form of food assistance, three forms of benefit packaging are by far the most common, and together comprise 85% of all participants : concurrent participation in all three programs (36% of participants), school lunch and school breakfast (31% of participants), and school lunch only (18% of participants). Less common packages are SNAP and school lunch (without breakfast) (8%), and SNAP only (5%).

Profiles differ substantially among beneficiary groups (Table 2). Consistent with the lower eligibility threshold, children in benefit groups that include SNAP (columns 1-3) are more disadvantaged on a number of dimensions than children who only participate in school meals (columns 4-5) ; and

children who participate in all three programs (column 3) are more disadvantaged than those who participate in fewer.

Children in the SNAP-only group (column 1) have substantially higher needs-adjusted incomes than either of the other SNAP subgroups (columns 2-3). They differ in other ways as well: They are more likely to live with a married household head than are the groups that combine SNAP with school meals; and they live in households with higher levels of education and higher rates of current employment, particularly compared to those who combine SNAP with both meal programs.¹¹ Among the two larger groups of SNAP recipients, those children who participate in SNAP and both school meals (column 3) are worse off economically than are those who only combine SNAP with school lunch (column 2). The sharpest distinctions between the groups are in race and education: the full-participation group includes substantially larger shares of both black and Hispanic children, and disproportionately are in households headed by persons with lower education levels than the children who forego school breakfast. Note that eligibility differences do not explain these different program profiles, in that breakfast and lunch share eligibility criteria, although differences in availability of breakfast could play a role.

Both of the remaining groups – the breakfast-lunch and lunch-only groups-- are better off economically than any of the SNAP beneficiary groups. They also have a much higher share of married households, and a much larger share of noncitizen children. Children in the lunch-only group have a substantially different profile and are in many respects better off than the other groups. They differ

¹¹Children in households receiving SNAP are categorically eligible for free school meals. As such, their lack of participation is not due to ineligibility. Potential explanations for non-participation range from lower perceived need (consistent with their relatively higher income-to-poverty ratios), perceived stigma associated with school meals, or lack of availability (although almost all schools do offer at least the NSLP, even if not the SBP). In analyses not shown, I also find that children spend fewer months in the SNAP-only category, relative to other categories, tending to either add programs or to exit from SNAP.

considerably from their counterparts who also participate in school breakfast, in terms of higher incomes, much higher household education levels, and a much smaller minority representation.¹²

Which children use food assistance programs?

The above profiles of recipient groups suggest that economic and demographic characteristics are differentially associated with participation in the various food assistance programs. Table 3 shows participation in the three programs limited to a sample of low-income children, with children included for each wave in which they have at least one month with household income below 185% of the poverty line. This criteria captures the vast majority of children whose households fall within the income ranges targeted by food assistance programs. Note that reference to participation rates here refers to the share of all low-income children who benefit from a program, where that may be influenced by eligibility, availability (in the case of school breakfast), and/or preferences – although the eligibility rules for school meals are straightforward enough that all children with any months of income below 185% of the poverty line would presumably qualify. I include demographic characteristics that may be broadly reflective of differences in needs, potential benefits, program knowledge, and perceived stigma or norms.

Participation patterns among low-income children vary in fairly predictable fashion across a variety of demographic characteristics. The ordering of program use is consistent across virtually all subgroups: participation in free and reduced price lunch is most common, followed by school breakfast, with SNAP the least common. Across programs, participation is higher among children in households that are traditionally more disadvantaged and presumably have greater need– those with lower income,

¹² The lunch-only participants have a mean per-wave income that exceeds the normal eligibility standard of 185% of the poverty line. While I do not attempt to formally assess the share who appear to be income-eligible, I note that the lunch-only children are substantially more likely to have one or more below-185%-poverty months over the past year than are nonparticipants; children are only required to become certified once per year, and may retain their status for the remainder of the school year. In a more formal assessment of overcertification using the SIPP, Dahl and Scholz (2011) likewise found that assessing eligibility just prior to the start of the school year substantially reduced the share of seeming higher-income lunch recipients.

less educated household heads, nonemployed household heads, more children, and unmarried household heads. There are sizable differences by race and ethnicity, with participation higher among black and Hispanic children as compared to white children, potentially reflecting differences in norms among groups. The differential pattern for citizen and noncitizen children is notable: Non-citizens have higher participation rates in both the school meal programs, though substantially lower participation in SNAP, compared to children who are U.S. citizens, consistent with school meal programs having fewer real or perceived participation barriers for noncitizens.

How do children use food assistance over time?

Food assistance use isn't static – and in particular, the ways in which children access and combine programs over time is not static. Cross-sectional benefit packages are informative with regards to understanding how children combine assistance across programs at a point in time—but programs can potentially be accessed either simultaneously or sequentially, reflecting changes in eligibility as well as changes in the relative perceived costs and benefits of participating. Table 5 shows an analysis of children's transitions into programs over the 2008-2012 period. Each transition can be viewed as either a 1st-tier, 2nd-tier, or 3rd-tier transition, depending on whether it represents the start of a new food assistance spell, the 2nd program added to an existing spell, or the third program added to an existing spell. The columns represent transitions into a particular program or programs; rows indicate what program(s) children were already receiving, if any, prior to transitioning on to a particular program.

The three food assistance programs play very different roles, in ways that are not apparent from a cross-sectional perspective. Free or reduced-price lunch is most commonly used as a first-tier program: almost three-quarters of children who start using school lunch do so at the beginning of a spell of food assistance. Most of the remainder use it as a second-tier program, with 17% adding it after already being on SNAP – a pattern that is consistent with direct certification, whereby SNAP participants are identified by schools and certified as eligible for free meals--and 6% begin participating in lunch after

only previously participating in breakfast; only 4% add it as a third-tier program after already receiving both SNAP and breakfast. School breakfast, on the other hand, is much less likely to be a first-tier program: only one-third of entrants are at the start of a food assistance spell – and almost all who start a food assistance spell with school breakfast begin participating in lunch at the same time (concurrent initial participation is not shown on table). More commonly, it is a 2nd-tier program – with 33% of breakfast entrants previously receiving only lunch, and 10% only SNAP; for one-quarter of entrants it serves as a third-tier program for children already receiving both SNAP and school lunch. Finally, SNAP is least likely to be a first-tier program and most likely to be a third-tier program. Fewer than one-quarter of new users are at the start of a food assistance spell, 21% use SNAP as a second-tier program (almost always following participation in school lunch), and the majority (56%) were already participating in both breakfast and lunch.

The last column shows transitions into full participation. This indicates any changes in food assistance receipt that resulted in full program participation, where children may have added one, two, or three programs in order to become full participants. Notably, almost all the full participants added programs sequentially rather than at once. Only 5% of them began using all three programs simultaneously, shown here as first-tier transitions, and only 21% started full-program use as a second-tier transition; the most common paths were to transition to full participation by adding SNAP to ongoing receipt of breakfast and lunch (36%) or to add breakfast to ongoing receipt of lunch and SNAP (34%). A relatively small share (14%) became full participants by adding both breakfast and lunch to ongoing SNAP receipt.

Food security and program transitions

With regard to program transitions, I also assess the extent to which low-income food insecure children are differentially likely to access the various food assistance programs, relative to their food secure counterparts. To address this, I focus on the subset of transitions that occur immediately

following the two waves in which food security is measured in the SIPP panel – waves 6 and 9.¹³ I compare the rate at which low-income food insecure and food secure children who are not participating in a given program when food security is measured, are observed to transition to the program in the next wave.

Non-participating low-income children in food insecure households are significantly and substantively more likely to transition onto each of the food assistance programs than are low-income children in food secure households (Table 5), with differences larger in percentage terms in the case of SNAP, though larger in absolute terms for the school meal programs. Among low-income children not participating in SNAP at the time of food security measurement, 10.9% of those who were in food insecure households transitioned onto the program in the next wave—twice the transition rate for children in food secure households. In the case of the NSLP, more than one-third of low-income nonparticipants in food insecure households transitioned onto the program in the next wave (37.5%), as compared to 20.7% of low-income food secure nonparticipants. Among those not initially participating in the SBP, the transition rates were 25.1% and 15.8% for the food insecure and food secure, respectively.

Note that this analysis does not attempt to control for differences among children other than limiting the analysis to those who are low income in the wave during which food insecurity is measured; it merely illustrates that, across programs, experiencing an episode of food insecurity is associated with a substantially increased likelihood of program engagement.

How does food assistance contribute to overall household resources?

The relative importance of food assistance across demographic groups depends not just on differential rates of receipt, but also the magnitude of its contribution to overall household resources.

¹³ The SIPP uses an abbreviated 5-item food security scale, which has been found to have reasonable reliability and validity (Nord 2006).

To assess the importance of food assistance as part of children’s overall resource packages, I impute dollar values to SNAP and school meals. I value SNAP benefits at face value and, consistent with past work in this area (Todd et al., 2010), I value school meals at the federal reimbursement rate paid to schools in the relevant year, and assume that recipients—identified in the data on the basis of ‘usually’ participating – do so on all school days.^{14, 15} To the extent that households receive WIC benefits on behalf of pregnant women and younger children also in the household, I also add in the face value of those benefits to the total food resource package, although such benefits are not a specific focus of this analysis. I add the value of food assistance to household’s total income to obtain a measure of total food and nonfood resources, and assess the role of food assistance and its components relative to households’ total monthly resource packages. This is basically a cash plus food assistance measure of household resources; I do not impute EITC, as that is not relevant to monthly income flows. Whereas school meals are not typically treated as income in measures of household resources, I do so here for purposes of illustrating the magnitude of food assistance as a cohesive package, both overall and relative to other available resources. Note that I likely underestimate the value of SNAP (the SIPP historically has captured roughly 90% of SNAP dollars – Meyer et al 2009), and overestimate the value of school meals (in that children who usually participate may not necessarily do so on all days, nor in all months of a wave). Finally, note that I do not capture the role of summer feeding programs, nor do I capture emergency or private forms of food assistance.

Across all low-income school-age children in a typical 4-month period, food assistance averages 17.8% of total household resources, with a slightly larger share from SNAP than from school meals (10.4% vs 6.9%) for an average child, and including 10% of children for whom food assistance comprises

¹⁴ I assume 22 school days per month during September through May, with half that number in June and August and no school days during July. It is necessary to adjust for summer months because school meal participation is reported on a per-wave versus a per-month basis.

¹⁵ Although I define participation at the household level, I construct benefit contributions based on the number of individual children in the household who are reported to have usually eaten school meals, among households in which one or more children received free or reduced price meals.

more than half of household resources (Table 4).¹⁶ The contribution of food assistance varies considerably across groups – from an average of 51.9% of household resources for children below 50% of the poverty line, to 7% for those between 130-185% of the poverty line. Other low-income groups for whom food assistance plays a particularly large role include households without an employed head (averaging 26.6% of resources), households with high school or less education (18.4-23.6% of resources), and households headed by a single parent (25.1% of resources).

The relative contribution of SNAP and school meals also varies among groups, consistent with the different participation patterns discussed earlier. Broadly speaking, SNAP tends to comprise a larger share of household resources than school meals, but in some groups the programs play roughly equivalent roles (households with a college-educated head, Hispanics), and in the case of noncitizens, school meals are a larger income component than SNAP. Not surprisingly, food assistance plays the greatest role among children who participate in all three programs: food assistance makes up an average of 35.4% of their household resources, with roughly two-thirds coming from SNAP and one-third from school meals; for almost one-quarter of these children, food assistance makes up more than half of their total household resources. In contrast, food assistance comprises an average of 23.4% of resources for children who only participate in SNAP, and a much smaller 7.3% for those who only participate in school lunch.

Conclusions

This chapter has addressed the connections between SNAP and school meal programs – both from a policy standpoint and from the standpoint of participation patterns. With regard to the former, I argue that SNAP and the school meal programs have become increasingly interconnected over the past

¹⁶¹⁶ Note that the income shares are averages calculated at the micro level, rather than aggregate income shares. The former are higher than the latter, because of food assistance being concentrated among lower-income households.

decade, such that changes in SNAP policy – whether due to state decisions about expanding or contracting their use of policy options, or to federal decisions that could have more far-reaching effects – may have ripple effects that expand to school meals. That a relatively small share of children certified for free meals could lose eligibility for those meals altogether in the absence of broad-based categorical eligibility has certainly been widely discussed. But the potential implications are much broader, both due to the likelihood of reduced certification among eligible children should fewer eligible children be identifiable through the direct certification process, and to the ramifications of lower direct certifications on the viability of implementing universal free meal programs – and such programs have been an important priority in the anti-hunger community.

In terms of separate and combined participation patterns, results confirm that food assistance programs are a mainstay of children’s overall household resources. Nearly half of children used at least one—often more—during any 4-month period; and for an average low-income child, food assistance comprised almost one-fifth of total household food and nonfood resources—a figure that rises to 35% of resources among children who participate in all three programs. While there is a substantial degree of overlap among programs, there is nonetheless considerable variation in the ways children access and package programs, both cross-sectionally and over time. In particular, the sequencing of programs is consistent with use of food assistance as part of a managed process for dealing with food needs – in that children are far likelier to add programs sequentially than all at once, in orders that are not always consistent simply with changes in eligibility over time. Across all programs, I find substantially greater likelihood that food insecure as compared to food secure nonparticipants will transition into program use concurrent with or shortly after I am able to observe their food security status.

The food assistance participation patterns documented here raise a number of questions, and point towards some potentially fruitful lines of research. While an extensive body of research has examined impacts of food assistance programs on a wide range of outcomes – from food security, to

nutrition, to health, to educational outcomes – there has been exceedingly little attention to how the programs might operate in tandem to affect outcomes of interest (a notable exception is Roy et al. 2012). Yet the findings discussed here – both in terms of policy synergies between programs, as well as considerable overlap in program participation – suggest that studying programs in isolation might not be the optimal strategy. Research examining how programs work together to impact food security or other outcomes would be of particular interest and value. One could imagine, for instance, that the impact of SNAP would be different when used as the sole form of food assistance than when used in combination with school breakfast and lunch, or that the magnitude of overall assistance could potentially matter more than the specifics of its components.¹⁷ Other questions of interest involve exploration of the extent to which programs serve as complements or substitutes, and more generally how participation in one program impacts participation in another, and how the sequencing of programs differs according to factors such as need, expected benefit, stigma and norms, and access to program information. Likewise, there are important questions about how cross-state and temporal variation in policies—such as discussed in Part I of this chapter—translate into different patterns of use.

¹⁷ Indeed, recent research on the non-food safety net found that the overall level of benefits—regardless of from which program(s)—is significantly linked to food insecurity (Schmidt, Shore-Sheppard, and Watson 2012).

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Table 1: Participation in SNAP, the National School Lunch Program, and the School Breakfast Program among School-Age Children, 2008-2012

	Percent of children participating in program(s) during average 4-month period						
	Program:				Number of programs:		
	SNAP	SBP	NSLP	Any	1 prog.	2 progs.	3 progs.
All children	21.6	30.1	40.8	43.8	10.6	17.4	15.7
Participants in:							
SNAP	100.0	73.0	88.5	100.0	9.9	17.3	72.1
School breakfast	52.6	100.0	97.3	100.0	2.0	46.0	52.0
School lunch	47.1	71.8	100.0	100.0	19.4	42.2	38.4
Any program	50	69	93	100.0	24.3	39.7	35.6
SNAP and lunch	100.0	81.4	100.0	100.0	0.0	18.6	81.4
SNAP and breakfast	100.0	100.0	98.7	100.0	0.0	1.3	98.7
Lunch and breakfast	46.6	100.0	100.0	100.0	0.0	53.4	46.6

Note: Weighted estimates from the 2008 panel of the Survey of Income and Program Participation. Sample includes children during each wave in which they are age 5-17 at the start of the wave. Participation is based on household participation in a program at any time during the wave. N=178,797 child waves.

Table 2: Characteristics of School-Age Children Participating in Various Food Assistance (FA) Programs, 2008-2012

	Beneficiary groups:						
	SNAP	NSLP/SNAP	All	NSLP/SBP	NSLP	Any FA	None
Percent of all FA participants in group	(5%)	(8%)	(36%)	(31%)	(18%)	(100%)	(0%)
Median income:pov ratio	1.20	0.93	0.80	1.52	1.89	1.22	3.52
Mean income:pov ratio	1.71	1.14	0.94	1.71	2.27	1.49	4.28
Employed household head (%):							
No	36.2	40.6	46.3	24.2	19.5	33.2	15.2
Yes	63.8	59.4	53.7	75.8	80.5	66.8	84.8
Education of household head (%):							
Less than high sch.	14.4	19.1	32.3	26.6	15.3	25.2	4.4
High school	29.7	33.1	30.4	28.7	28.1	29.6	16.6
Some college	42.0	40.0	34.0	35.4	40.5	36.6	36.9
College or higher	13.9	7.9	3.3	9.3	16.1	8.6	42.1
Race/ethnicity of child (%):							
White	47.3	43.5	27.4	29.3	45.7	33.7	73.1
Black	20.5	19.4	31.0	17.9	14.2	22.3	7.3
Hispanic	22.0	28.1	35.5	45.3	31.2	36.5	11.0
Household type (%):							
Family, married head	46.9	37.2	35.7	63.6	67.4	51.2	81.2
Family, single head	51.7	61.6	63.4	35.5	31.6	47.8	18.2
Child is U.S. citizen (%):							
No	3.1	2.9	3.3	7.5	5.4	5.0	1.9
Yes	96.9	97.1	96.7	92.5	94.6	95.0	98.1

Note: Weighted estimates from the 2008 panel of the Survey of Income and Program Participation. Sample includes children during each wave in which they are age 5-17 at the start of the wave. Participation group is based on household participation in a program at any time during the wave. N=178,797 child waves.

Table 3: Participation in Food Assistance Programs among Low-Income School-Age Children during Average 4-Month Period, 2008-2012

	Percent participating in program				
	SNAP	SBP	NSLP	All	Any
All low-income children	44.3	55.5	71.3	33.0	76.0
Lowest inc:pov in wave					
<.5	61.7	62.3	75.3	48.1	80.5
.5-1.3	49.3	60.3	75.6	36.6	80.7
1.3-185	20.1	41.6	60.4	13.3	64.0
Employed household head:					
No	58.3	62.9	77.5	45.0	82.7
Yes	36.7	51.6	67.9	26.6	72.3
Education:					
Less than high sch.	53.9	72.6	84.9	45.0	88.7
High school	47.4	57.5	74.9	34.8	79.8
Some college	42.9	51.9	69.0	30.5	74.2
College or higher	17.9	23.2	38.0	9.3	42.1
Race:					
White	34.3	37.3	55.1	22.1	59.9
Black	63.8	71.9	83.8	52.1	89.2
Hispanic	45.3	69.1	84.0	36.1	88.0
Household head:					
Married	29.8	48.6	64.1	21.9	68.0
Single	60.3	63.3	79.3	45.5	84.8
Number of children:					
1	34.5	39.8	58.4	19.5	65.4
2	38.6	49.0	66.2	27.1	71.0
3 or more	50.8	64.5	78.5	40.9	82.4
Citizenship					
No	30.2	62.2	79.1	22.6	83.5
Yes	45.0	55.2	70.9	33.5	75.6

Note: Weighted estimates from the 2008 panel of the Survey of Income and Program Participation. Sample includes children during each wave in which they are age 5-17 at the start of the wave and have at least one month in the wave with household income below 185% of the federal poverty line. Participation is based on household participation in a program at any time during the wave. N=80422 child waves.

Table 4: School-Age Children's Transitions onto Food Assistance Programs, 2008-2012

Transition type:	Program(s) before transition:	Program added:			Programs after trans.
		NSLP (% of column)	SBP	SNAP	ALL (% of column)
1 st tier (new food assistance spell)	No programs	73	33	23	5
2 nd tier (already on 1 program)	Any 1 program	23	43	21	21
	<i>Lunch only</i>	0	33	19	6
	<i>Breakfast only</i>	6	0	2	1
	<i>SNAP only</i>	17	10	0	14
3 rd tier (already on 2 programs)	Any 2 programs	4	24	56	74
	<i>Lunch & breakfast</i>	0	0	56	36
	<i>Lunch & SNAP</i>	0	24	0	34
	<i>Breakfast & SNAP</i>	4	0	0	4

Note: Weighted estimates from the 2008 panel of the Survey of Income and Program Participation. Sample includes children during each wave in which they are age 5-17 at the start of the wave and experience a transition onto a new program or programs. Values are the percent of all transfers *into* a given program(s) that have transitioned from a particular program status.

Table 5. Percent of Nonparticipants Transitioning onto Food Assistance Programs, by Food Security Status

Program	N	Percent transitioning onto program in wave following food security measurement	
		Food Insecure	Food secure
SNAP	7620	10.9**	5.4
NSLP	4214	37.5**	20.7
SBP	5103	25.1**	15.8

Note: Weighted estimates from the 2008 panel of the Survey of Income and Program Participation. Sample includes children age 5-17 with income-to-poverty ratio below 185%. N's are number of low-income nonparticipants in each program in wave of food security measurement. All differences in transition rates between food insecure and food secure households are statistically significant, $p < .01$.

Table 6: Role of Food Assistance (FA) Programs in Household Resource Packages among Low-Income School-Age Children during Average 4-Month Period, 2008-2012

	Average % of total household resources from program			Share of group with FA in stated range	
	All FA	SNAP	School meals	>25%	>50%
All low-income children	19.3	10.4	8.5	17.9	10.6
Income-to-poverty ratio:					
<50%	(55.9)	(33.8)	(20.7)	(86.9)	(57.9)
50-130%	(22.6)	(12.2)	(9.8)	(35.7)	(8.5)
130-185%	(7.6)	(3.1)	(4.3)	(8.6)	(4.3)
Employed household head:					
No	29.2	16.8	11.7	43.0	21.3
Yes	14.0	6.9	6.7	19.8	4.8
Education:					
Less than high sch.	24.8	13.0	10.9	37.7	14.8
High school	20.3	11.2	8.5	28.5	10.6
Some college	17.9	9.6	7.9	25.4	9.4
College or higher	8.7	4.1	4.4	11.6	4.5
Race:					
White	14.9	8.4	6.2	19.7	8.1
Black	27.5	16.2	10.7	43.0	16.7
Hispanic	20.4	9.6	10.0	28.5	10.6
Household head:					
Married	13.1	5.9	6.7	16.7	5.2
Single	26.1	15.2	10.4	40.4	16.5
Citizenship					
No	15.2	5.4	9.0	18.3	5.2
Yes	19.5	10.6	8.4	28.4	10.8

Note: Weighted estimates from the 2008 panel of the Survey of Income and Program Participation. Sample includes children during each wave in which they are age 5-17 at the start of the wave and have at least one month in the wave with household income below 185% of the federal poverty line. Participation is based on household participation in a program at any time during the wave. N=80422 child wave.