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Articles

Perspectives

Understanding the Social Security Family Maximum

by Kathleen Romig and Dave Shoffner*

Social Security's family maximum rules limit the total benefits payable to a beneficiary's family. Different family maximum rules apply to retirement and survivor benefits than to disability benefits. The rules for calculating family maximum benefits are complicated. In some particularly complex cases, it is difficult to properly implement the family maximum, which can result in over- or underpayments. This article explains how the family maximum rules work and describes their evolution. We use Modeling Income in the Near Term, Version 6 data to analyze who is affected by the family maximum and to what extent their benefits are changed.

Introduction

Workers receive Social Security retirement and disability benefits based on their covered earnings. Members of their families may also qualify for benefits based on those earnings—for example, their survivors, spouses, and children. Benefits for family members have always been limited by the family maximum rules. In 1980, Congress established more restrictive rules for the families of disabled workers, reflecting concerns that some disability beneficiaries were financially as well off, or better off, when receiving benefits than they were when working. The family maximum rules have evolved over time and have become more complicated for all beneficiaries, which in some cases make them difficult to implement. If not implemented correctly, the Social Security Administration (SSA) may pay beneficiaries improperly.

In this article, we describe the current family maximum rules using illustrations of different benefit types. We also describe the rules for beneficiaries entitled to benefits on multiple earnings records. We explain how the family maximum rules have evolved over time and then provide an analysis of the rules at different earnings levels, by comparing those for retirement and survivor families with those for disability families. Using Modeling Income in the Near Term, Version 6 (MINT6) data, we analyze who is affected by the family maximum and to what extent their benefits are changed.

Major Findings

SSA's family maximum rules are complex and affect beneficiaries in different ways, depending on their earnings levels and benefit types. In particular, the rules that apply to disability beneficiary families differ significantly from those that apply to retirement and survivor beneficiary families. Our findings include the following:

- The disabled family maximum affects many more families and a wider range of family sizes than the retirement and survivor family maximum because more restrictive rules apply to disability benefits.

Selected Abbreviations

AIME	average indexed monthly earnings
AWI	average wage index
DI	Disability Insurance
MINT	Modeling Income in the Near Term
OASI	Old-Age and Survivors Insurance
PIA	primary insurance amount
SSA	Social Security Administration

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- Retirement and survivor beneficiary families are not affected by the family maximum rules unless three or more family members receive benefits; when those beneficiary families are affected, auxiliary beneficiaries (or auxiliaries) always receive partial benefits.
- Disability beneficiary families, by contrast, sometimes lose all of their auxiliary benefits, even in cases where only one family member qualifies. All disability families with three or more beneficiaries are affected by the family maximum and more than half of families with two beneficiaries are affected.
- Among families affected by the family maximum, reductions can be substantial. For affected disabled-worker families, we estimate that the median reduction is about 33 percent; for survivor families, about 23 percent; for retired-worker families, about 14 percent. For some family members of disabled workers, the family maximum rules prevent a benefit from being paid at all.

Current-Law Family Maximum Rules

In this section, we provide the current basic family maximum rules for retirement and survivor benefits and for disability benefits. We also discuss current-law rules that are common to both types of benefits.

Rules for Retirement and Survivor Benefits

The family maximum formula for Old-Age and Survivors Insurance (OASI) benefits is based on a beneficiary's primary insurance amount (PIA). The PIA is a beneficiary's basic Social Security benefit amount before adjustments for retirement age, earnings, and other factors.[1] For a worker who reaches age 62 or dies in 2015 (before reaching age 62), SSA calculates the family maximum using the following formula:

> 150 percent of the first $1,056 of the worker's PIA *plus*
>
> 272 percent of the worker's PIA over $1,056 through $1,524 *plus*
>
> 134 percent of the worker's PIA over $1,524 through $1,987 *plus*
>
> 175 percent of the worker's PIA over $1,987.

Ultimately, this formula yields a maximum for each family that is between 150 percent and 188 percent of the worker's basic Social Security benefit, or PIA.[2] The final amount is rounded to the next lowest ten cents. The dollar amounts in the family maximum formula increase each year according to average wage growth.[3]

Rules for Disability Benefits

Disability Insurance (DI) beneficiaries are subject to a more restrictive set of family maximum rules than are OASI beneficiaries. As with OASI beneficiaries, people who became entitled to disability benefits before 1979 are subject to a different family maximum formula. The family maximum for a disabled worker is 85 percent of the worker's average indexed monthly earnings (AIME), a measure of lifetime earnings.[4] However, the family maximum for a disabled worker's family cannot be more than 150 percent or less than 100 percent of his or her PIA. The final amount is rounded to the next lowest ten cents.

Rules Common to Both OASI and DI

The family maximum rules are applied in the same way for both OASI and DI benefits. First, the family maximum amount is established based on the worker's PIA or AIME. Then, the worker's benefit is subtracted from the total benefit amount payable to the family. Next, the auxiliaries' benefits are reduced proportionately. The worker's own benefit is never reduced; only the benefits of his or her auxiliaries are reduced. The benefits for divorced spouses (including surviving divorced spouses) are never reduced.

Illustrations of the Family Maximum

The following exhibits show how the family maximum rules work, using simplified examples of beneficiary families. We compare benefit amounts before applying the family maximum rules with those after applying those rules. We assume that there are no reductions to full benefit amounts,[5] and we use the 2015 family maximum and PIA formulas.

Survivors of a deceased worker. Table 1 illustrates a case in which a worker dies and is survived by a working-age spouse and two children, all of whom qualify for survivor benefits.[6] We assume the worker has an AIME of $2,253 and in turn has a PIA of $1,200.[7] The rules that apply to survivor beneficiaries are the same as those that apply to families of retired workers.

Family of a disabled worker. Table 2 illustrates a case in which a worker becomes disabled and has a spouse and two children who qualify for auxiliary disability benefits. We assume, as we did in Table 1, that the worker has an AIME of $2,253 and a PIA of $1,200.

Special cases. Most family maximum cases follow the standard family maximum rules that apply to OASI and DI cases, as shown earlier. There are

Table 1.
Illustration of the family maximum rules for a surviving family, 2015

Assumptions:	*Worker's AIME = $2,253* *Worker's PIA = $1,200*
Family maximum:	*OASI family maximum (on the worker's PIA):* *150% × $1,056 + 272% × $144 = $1,976*

Characteristic	Monthly benefit amount ($)	Rule applied
		Before family maximum
Survivor benefits		
Spouse	900	75% of the worker's PIA
Child 1	900	75% of the worker's PIA
Child 2	900	75% of the worker's PIA
Total family benefit	2,700	Sum of the survivor benefits
		After family maximum
Survivor benefits		
Spouse	659	⅓ of the family maximum amount
Child 1	659	⅓ of the family maximum amount
Child 2	659	⅓ of the family maximum amount
Total family benefit	1,976	Sum of the survivor benefits, capped by the family maximum amount

SOURCE: Authors' calculations.

NOTE: Dollar values are rounded to the nearest dollar for presentation purposes, but would actually be rounded down to the nearest dime. AIME = average indexed monthly earnings; OASI = Old-Age and Survivors Insurance; PIA = primary insurance amount.

also additional rules that apply for more complicated situations. We briefly describe those rules below and include three detailed illustrations of them in Appendix Tables A-1 through A-3. It is in these complex cases that improper payments are most common, as indicated in a recent SSA Office of the Inspector General report.[8] The incorrect payments generally occur because they are calculated manually by SSA employees. The agency uses an automated system to check standard family maximum cases; for more complicated cases—such as dually entitled spouses (for example, individuals receiving both a worker benefit and a partial spouse benefit), "child-in-care" benefits, or combined family maximum cases—there is no such automated review.

Dually entitled beneficiaries. These beneficiaries are entitled to worker benefits based on their own earnings as well as auxiliary benefits based on someone else's earnings.[9] In dual entitlement cases where the auxiliary benefit is higher than the worker benefit, the dually entitled beneficiary receives his or her full worker benefit in addition to a partial auxiliary benefit. The total benefit is the same amount as the full auxiliary benefit. For these dually entitled beneficiaries, the family maximum only applies to the auxiliary portion of the benefit.

For cases in which a person is eligible for both a worker benefit and an auxiliary benefit, the auxiliary benefit is reduced or not paid at all. For those beneficiaries, the *Parisi* case established that any potential but unpaid auxiliary benefits are *not* included in the family maximum calculation.[10] Before the *Parisi* case, a spouse's potential but unpaid spousal benefits would be included in the family maximum and cause other family members' auxiliary benefits to be reduced. In the *Parisi* case, the courts determined that only auxiliary benefits actually paid would count toward the family maximum, allowing some beneficiaries to get higher auxiliary benefits than they would have received before the *Parisi* decision.[11]

Combined family maximum. The combined family maximum is used when a person qualifies for auxiliary benefits on more than one worker's record. The combined family maximum is the sum of the family

Table 2.
Illustration of the family maximum rules for a family of a disabled worker, 2015

Assumptions:	*Worker's AIME = $2,253* *Worker's PIA = $1,200*
Family maximum:	*DI family maximum (applied to the worker's AIME): 85% × $2,253 = $1,915, which is more than 150% of the worker's PIA, so the family maximum = 150% × $1,200 = $1,800*

Characteristic	Monthly benefit amount ($)	Rule applied
		Before family maximum
Worker's benefit	1,200	100% of the worker's PIA
Auxiliary benefits		
Spouse	600	50% of the worker's PIA
Child 1	600	50% of the worker's PIA
Child 2	600	50% of the worker's PIA
Total family benefit	3,000	Sum of the worker's and auxiliaries' benefits
		After family maximum
Worker's benefit	1,200	100% of the worker's PIA
Auxiliary benefits		
Spouse	200	⅓ of the family maximum amount minus the worker's PIA ($600)
Child 1	200	⅓ of the family maximum amount minus the worker's PIA ($600)
Child 2	200	⅓ of the family maximum amount minus the worker's PIA ($600)
Total family benefit	1,800	Sum of the worker's and auxiliaries' benefits, capped by the family maximum amount

SOURCE: Authors' calculations.

NOTES: Dollar values are rounded to the nearest dollar for presentation purposes, but would actually be rounded down to the nearest dime. In this case, 85 percent of the worker's AIME is $1,915, which is 160 percent of his or her PIA, greater than the cap of 150 percent of the PIA that applies to disability beneficiaries. As a result, the family maximum for this family is $1,800, or 150 percent of the worker's PIA.

AIME = average indexed monthly earnings; DI = Disability Insurance; PIA = primary insurance amount.

maximums established for each worker, but it does not exceed the statutory upper limits for combined family maximums.[12] For cases in which a beneficiary qualifies for benefits on multiple records, his or her *benefits* are determined based on the work record of the worker that will yield the highest benefit amount.[13] However, the *family maximum* is determined based on the sum of the family maximums established for each worker's record.

Legislative History

Congress amended the Social Security Act and established the family maximum in 1939, the same year it created auxiliary benefits. These amendments reflected the change in the emphasis of the original Social Security program, from protecting workers in old age to protecting those workers and their family members. Over the years, Congress gradually enacted the following changes:

- **The 1939 Amendments** set the family maximum at the lower of 80 percent of the average monthly wages, $85, or 200 percent of a worker's PIA. The family maximum could not fall below a floor of $20.[14]
- **The 1950 Amendments** eliminated the 200 percent of the PIA cap and changed the formula to 80 percent of the worker's average monthly wages, with a maximum of $150 and a minimum of $40.[15]
- **The 1954 Amendments** stated that the family maximum could not be less than 150 percent of the PIA.[16] The 1954 formula remained, with ad hoc changes to the thresholds, until 1971.[17]

- **The 1971 Amendments** established a two-tier family maximum formula.[18] For beneficiaries with PIAs above $628, the family maximum was 175 percent of the PIA. For those with PIAs below $628, the prior-law formula applied. For all beneficiaries, the family maximum could not fall below the floor of 150 percent of the PIA, as established in prior law.
- **The 1972 Amendments** established an automatic cost-of-living adjustment (COLA) for Social Security benefits and a COLA for the family maximum. The COLAs were applied in each year after a beneficiary first became entitled, starting in 1975.[19]
- **Legislation in 1972**[20] also liberalized the family maximum, requiring its computation to be based on the PIA rather than the average monthly wage.[21] This change allowed beneficiaries who became entitled after a benefit increase to get the same benefit amounts as did current beneficiaries.[22]

Congress established the current-law family maximum rules in the 1977 and 1980 Amendments. Today's OASI beneficiaries are subject to the rules established in 1977 (with wage-indexed adjustments); DI beneficiaries are subject to the rules established in 1980.

- **The 1977 Amendments** created a four-tier formula for all beneficiaries: 150 percent of the first $236 of the worker's PIA, plus 272 percent of the next $106 of his or her PIA, plus 134 percent of the next $107 of the PIA, plus 175 percent of the remainder.[23] The dollar amounts in the formula increase each year according to changes in the average wage index (AWI). This formula was designed to replicate the range of family maximum amounts established under prior law.
- **The 1980 Amendments** established a separate family maximum benefit formula for disability beneficiaries at 85 percent of a worker's AIME, with a floor of 100 percent of the worker's PIA and a ceiling of 150 percent of the PIA.[24] The rule for 85 percent of the AIME was designed so that a family's total benefits could not exceed the worker's average earnings. The cap of 150 percent of the PIA affects higher-earning workers; without it, the rule for 85 percent of the AIME would not have affected them.[25] The floor of 100 percent of the PIA ensures that a worker will always get the full benefit to which he or she is entitled, even if none of his or her dependents receives auxiliary benefits. In establishing the more restrictive disability family maximum rules in the 1980 Amendments, Congress intended to strengthen work incentives for disabled beneficiaries, reflecting concerns that some of those individuals were financially as well off, or better off, when receiving benefits than when working.[26]

Analysis of Family Maximum Rules

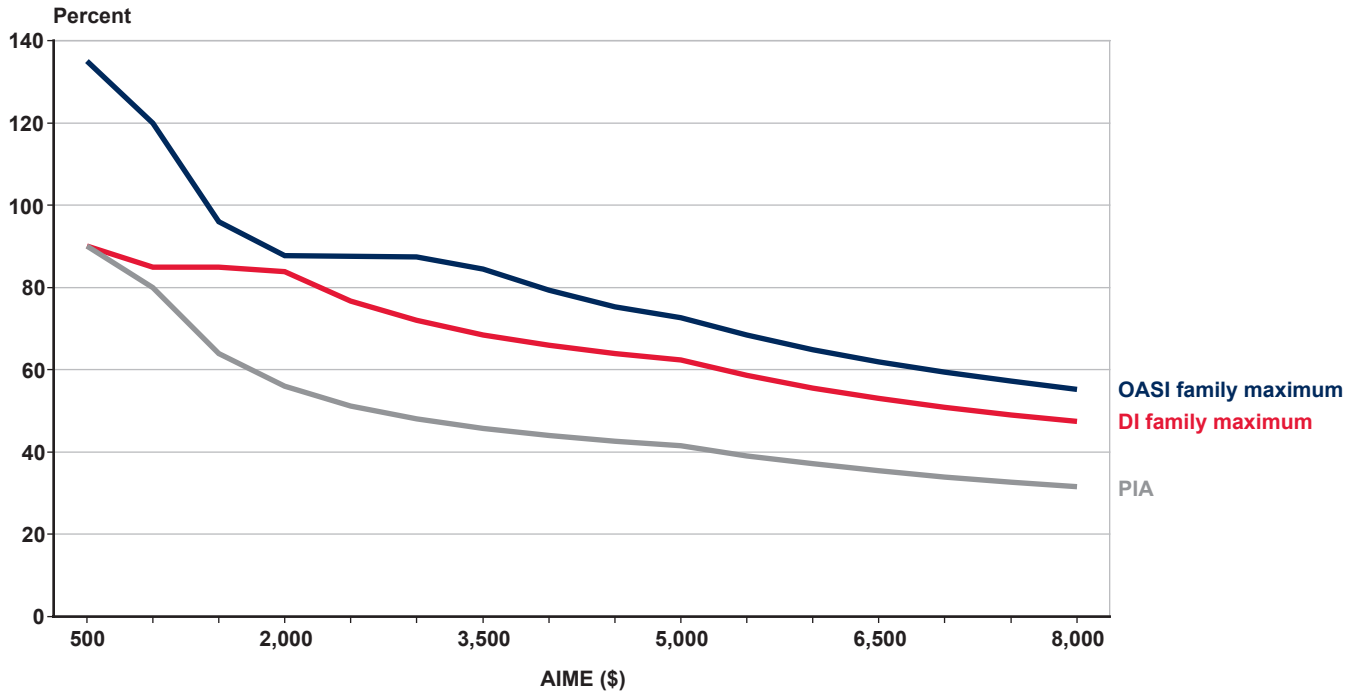
Because of the more restrictive DI family maximum rules, benefits payable to disability beneficiary families are significantly lower than those for retirement and survivor beneficiary families, particularly at the lower end of the earnings scale. In 2015, newly eligible disabled beneficiaries with AIMEs of $903 or less can have no auxiliary beneficiaries because the DI family maximum for such workers is 100 percent of their PIA. Newly eligible disabled beneficiaries with AIMEs between $904 and $1,942 have their family benefits reduced, even if they have only one auxiliary, because the family maximum caps their benefits at 85 percent of their AIME (rather than 150 percent of their PIA, which could allow for one unreduced auxiliary beneficiary).

Chart 1 shows OASI and DI family maximum amounts as well as the PIA formula (which establishes basic benefit amounts) as percentages of AIME and at each level of AIME—a measure of lifetime earnings. At all earnings levels, the OASI family maximum is more generous than the DI family maximum, replacing a greater proportion of earnings. At the low end of the earnings scale (specifically, for people whose AIMEs are $903 or less in 2015), the DI family maximum is equal to the worker's PIA, which means that no benefits will be paid to disabled-worker family members. The DI family maximum is notably less progressive than the OASI family maximum (or PIA), as shown by the slope of each line in Chart 1. The DI family maximum line slopes downward in a relatively straight line, while the OASI family maximum is kinked at the low end because it allows significantly more generous benefits for the families of lower earners.

To provide context, we have also estimated the distribution of DI and OASI beneficiary families by their AIME levels:[27]

- Over 400,000 (23 percent) DI beneficiary families with two or more beneficiaries have AIMEs of less than $1,000. This is approximately the level of lifetime earnings at which disabled workers can have no auxiliary beneficiaries.

Chart 1.
OASI and DI family maximum amounts and PIA as percentages of AIME, 2015



SOURCE: Authors' calculations.

NOTES: Formulas are based on 2015 rules, which apply to beneficiaries first eligible in 2015.

AIME = average indexed monthly earnings; DI = Disability Insurance; OASI = Old-Age and Survivors Insurance; PIA = primary insurance amount.

- Almost 600,000 (33 percent) of such families have AIMEs between $1,000 and $2,000. This is approximately the level of lifetime earnings at which disability beneficiary families with two or more members have their benefits reduced by the family maximum rules.
- The remaining approximately 800,000 (44 percent) DI beneficiary families have an AIME of more than $2,000. This is near the level of lifetime earnings at which disability beneficiary families with three or more members have their benefits reduced by the family maximum rules.

Thus, many DI beneficiaries are subject to the more restrictive family maximum rules that apply at the low end of the earnings scale, which in many cases mean no or very little auxiliary benefits are paid. OASI beneficiary families have relatively higher earnings. Still, many of them have AIMEs at the lower end of the earnings scale, where the family maximum rules are relatively more generous for OASI beneficiaries.

Methodology

Our analysis is based on information from SSA's *Annual Statistical Supplement to the Social Security Bulletin, 2013* and Modeling Income in the Near Term, Version 6. MINT6 is a microsimulation projection model based on the Census Bureau's Survey of Income and Program Participation (SIPP). The survey information from SIPP respondents is matched with SSA administrative records on earnings and benefits through 2009, and then the earnings, benefits, and other life events of those respondents are projected for 2010 and later years. The MINT6 results shown here are projections for 2015.

We reweighted the results for the MINT6 respondents to match the benchmark of the family benefit types shown in the *Supplement*. This reweighting is necessary because, although the overall population of beneficiary families is similar in the *Supplement* and MINT6, some subgroup populations differ noticeably. One limitation of a microsimulation model based on a survey, such as MINT, is the difficulty of precisely

estimating the population of a less common subgroup, such as beneficiary families with a larger number of children receiving benefits. Because larger beneficiary families are particularly important to the analysis here, reweighting is necessary so that we can align our data with the benchmark population composition shown in the *Supplement's* Table 5.H2,[28] which is based on all administrative records of beneficiaries in December 2012. Our reweighting method is able to more precisely capture narrower subgroups such as families with more children.

Effects of Family Maximum Rules on Beneficiary Families

In this section, we analyze the populations of OASI and DI beneficiaries that are affected by the family maximum and to what extent their benefits are changed. Chart 2 shows the estimated number of beneficiary families affected by the family maximum rules. This chart distinguishes families by size, separating those with two eligible beneficiaries from those with three or more eligible beneficiaries. For some families of disabled workers, a member may be eligible for auxiliary benefits, but not be paid those benefits because of the family maximum rules. Families with these potentially eligible beneficiaries are included in the chart.

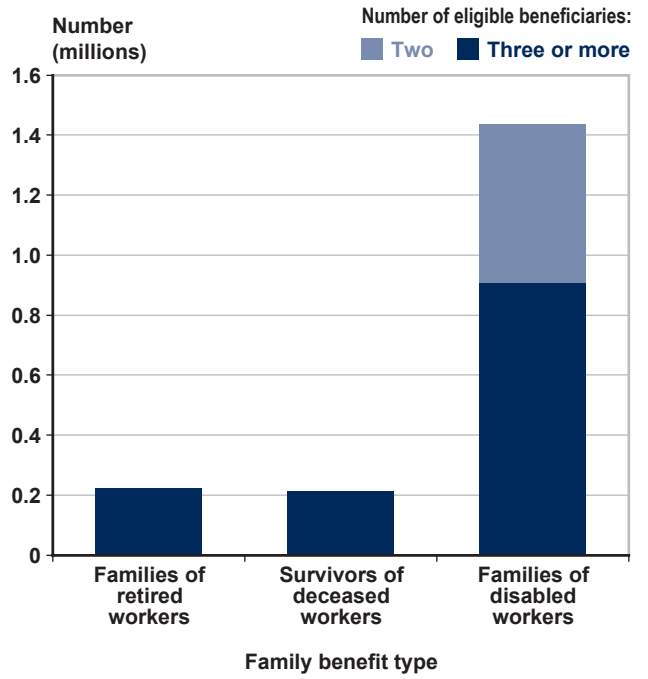
Families of Retired Workers and Survivors of Deceased Workers (OASI)

The family maximum affects all OASI families with three or more beneficiaries, but does not affect families with fewer than three beneficiaries. We estimate that about 200,000 families of retired workers and another 200,000 survivors of deceased workers have their benefits reduced by the family maximum.

Among affected families of retired workers, we estimate that median family benefits are $2,886 before applying the family maximum and $2,482 afterward, as shown in Chart 3. The median reduction among affected retired-worker families is $535 (14 percent, not shown). All auxiliaries of retired workers receive at least partial benefits.

Among affected survivor beneficiary families, we estimate that median family benefits are $3,584 before applying the family maximum and $2,401 afterward, also shown in the chart. The median reduction among affected survivor families is $748 (23 percent, not shown). All qualifying survivors receive at least partial benefits.

Chart 2.
Number of beneficiary families affected by family maximum rules, by number of eligible beneficiaries in the family, 2015



SOURCE: Authors' estimates using Modeling Income in the Near Term, Version 6.

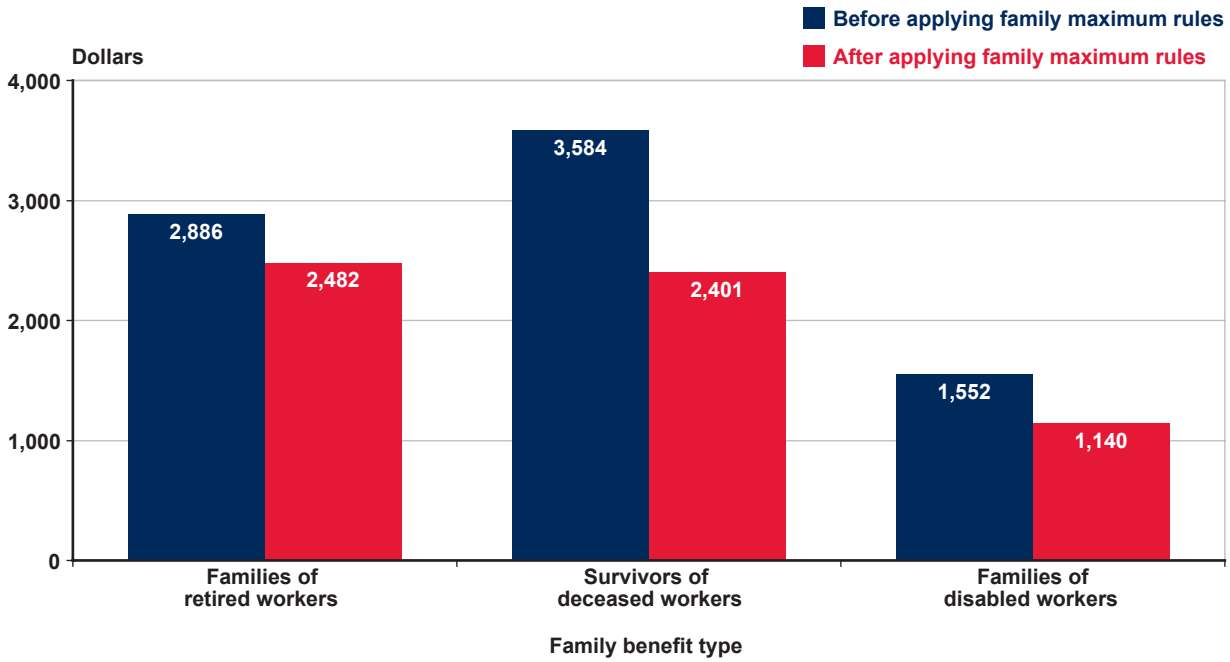
NOTE: We categorized beneficiary families by size before applying the family maximum rules; in some cases, the auxiliary of a disabled worker may be otherwise eligible for a benefit that is not paid because of the family maximum rules. Such families are included in this chart.

Families of Disabled Workers (DI)

In contrast with OASI beneficiary families, many DI beneficiary families are affected by the family maximum. About 1.4 million DI beneficiary families are affected, and about 400,000 of these disabled beneficiary families have their auxiliary benefits reduced to zero by the family maximum rules. In those cases, the family maximum for the disabled worker is 100 percent of the worker's PIA, which leaves nothing for auxiliary beneficiaries.

All families of disabled workers with three or more beneficiaries are affected by the family maximum. In addition, more than half (58 percent) of families of disabled workers with two beneficiaries (one worker and one auxiliary) are affected. Taken together, among disabled-worker families with at least one potentially eligible auxiliary, we estimate that nearly 80 percent are affected by the family maximum.

Chart 3.
Median family benefit amounts before and after applying the family maximum rules among affected families, 2015



SOURCE: Authors' estimates using Modeling Income in the Near Term, Version 6.

Chart 3 shows median family benefit amounts before and after applying the family maximum rules. Those values include the effects of benefit reduction factors and delayed retirement credits. They do not account for the effects of the windfall elimination provision, the government pension offset, or the retirement earnings test, which are calculated after applying the family maximum rules.

Among affected disability families, we estimate that the median family benefit is $1,552 before applying the family maximum and $1,140 after applying the maximum, as shown in the chart. The median reduction for affected disability families is $580 (33 percent, not shown).

The difference in both the percentage affected and the median benefits among disabled-worker families shows the impact of the stricter disabled family maximum rules. The DI family maximum affects many more families and a wider range of family sizes than the OASI family maximum. OASI beneficiary families are not affected by the family maximum rules unless three or more family members receive benefits; when those families are affected, members who qualify as auxiliaries always receive partial benefits. DI beneficiary families, by contrast, sometimes lose all of their auxiliary benefits, even in cases where only one family member qualifies.

Conclusion

As we have shown in this study, Social Security's family maximum rules are complex and affect beneficiaries in different ways, depending on their earnings levels and benefit types. In particular, the rules that apply to disability beneficiary families differ significantly from those that apply to retirement and survivor beneficiary families. The disabled family maximum affects many more families and a wider range of family sizes than the retirement and survivor family maximum. All disability families with three or more beneficiaries are affected by the family maximum and more than half of families with two beneficiaries are affected. Families of disabled workers, particularly those with low earnings, sometimes lose all of their auxiliary benefits. For all families affected by the family maximum rules, reductions can be substantial.

Appendix

The *Parisi* court decision interpreted the Social Security Act as limiting the total benefit amount actually payable on an individual's work record, but not

necessarily on the amount of entitlement available in principle. As a result, when determining family maximums, SSA considers only the amount of monthly benefits actually due or payable to that person.

How the Parisi Case Affects Benefits

Social Security's dual entitlement rule stipulates that if a person is eligible for both a worker benefit and an auxiliary benefit, the auxiliary benefit is reduced or not paid at all. In those cases, the *Parisi* case established that any potential but unpaid auxiliary benefit is *not* included in the family maximum calculation. The illustration in Table A-1 shows how the *Parisi* rules work for a person whose auxiliary benefit is not payable because his or her worker benefit is higher. The table uses the same hypothetical disabled-worker beneficiary family as that illustrated in Table 2, but assumes that the spouse's worker benefit is $1,000—greater than his or her potential auxiliary benefit of $600.

Table A-1.
Illustration of the family maximum for a family of a disabled worker under *Parisi* rules, 2015

Assumptions:	*Worker's AIME = $2,253* *Worker's PIA = $1,200* *Spouse's PIA = $1,000*
Family maximum:	*DI family maximum (applied to the worker's AIME): 85% × $2,253 = $1,915, which is more than 150% of the worker's PIA, so the family maximum = 150% × $1,200 = $1,800*

Characteristic	Monthly benefit amount ($)	Rule applied
		Before family maximum
Worker's benefit	1,200	100% of the worker's PIA
Spouse's worker benefit	1,000	100% of the spouse's PIA; dual entitlement rule—spouse receives his or her own PIA because the auxiliary benefit is less
Auxiliary benefits		
Spouse	~~600~~	50% of the worker's PIA (potentially), but not actually paid
Child 1	600	50% of the worker's PIA
Child 2	600	50% of the worker's PIA
Total family benefit	3,400	Sum of the worker's, spouse's, and auxiliaries' benefits
		After family maximum
Worker's benefit	1,200	100% of the worker's PIA
Spouse's worker benefit	1,000	100% of the spouse's PIA; dual entitlement rule—spouse receives his or her own PIA because the auxiliary benefit is less
Auxiliary benefits		
Spouse	~~600~~	*Parisi* rules: The spouse does not receive an auxiliary benefit, so potential auxiliary benefits do not count toward the total family maximum auxiliary benefits.
Child 1	300	½ of the family maximum amount minus the worker's PIA ($600)
Child 2	300	½ of the family maximum amount minus the worker's PIA ($600)
Total family benefit	2,800	Sum of the worker's and auxiliaries' benefits, capped by the family maximum amount, plus the spouse's worker benefit

SOURCE: Authors' calculations.

NOTES: Dollar values are rounded to the nearest dollar for presentation purposes, but would actually be rounded down to the nearest dime. In this case, 85 percent of the worker's AIME is $1,915, which is 160 percent of his or her PIA, greater than the cap of 150 percent of the PIA that applies to disability beneficiaries. As a result, the family maximum for this family is $1,800, or 150 percent of the worker's PIA.

AIME = average indexed monthly earnings; DI = Disability Insurance; PIA = primary insurance amount.

Dually Entitled Beneficiaries

Table A-2 shows calculations for a disabled-worker family similar to the one illustrated in Table A-1—a disabled worker with a spouse and two children, who has an AIME of $2,253 and a PIA of $1,200. In this particular exhibit, the spouse is dually entitled to a worker benefit of $100 in addition to his or her auxiliary benefit.[29] As in Table A-1, the *Parisi* rules apply. In this case, only the auxiliary portion of the spouse's benefit would be reduced by the family maximum. We assume that the children qualify for auxiliary benefits on the worker's record, but not on the spouse's.

Combined Family Maximum

The combined family maximum is used when a person qualifies for auxiliary benefits on more than one worker's record. It is the sum of the family maximums applicable to each worker's record, but not more than the statutory upper limits for combined family maximums.[30]

Table A-2.
Illustration of the family maximum rules for a family of a disabled worker with a dually entitled auxiliary, under *Parisi* rules, 2015

Assumptions:	*Worker's AIME = $2,253* *Worker's PIA = $1,200* *Spouse's PIA = $100*
Family maximum:	*DI family maximum (applied to the worker's AIME): 85% × $2,253 = $1,915, which is more than 150% of the worker's PIA, so the family maximum = 150% × $1,200 = $1,800*

Characteristic	Monthly benefit amount ($)	Rule applied
		Before family maximum
Worker's benefit	1,200	100% of the worker's PIA
Spouse's worker benefit	100	100% of the spouse's PIA
Auxiliary benefits		
Spouse	500	Dual entitlement rule—50% of the worker's PIA ($600) minus the spouse's PIA ($100)
Child 1	600	50% of the worker's PIA
Child 2	600	50% of the worker's PIA
Total family benefit	3,000	Sum of the worker's, spouse's, and auxiliaries' benefits
		After family maximum
Worker's benefit	1,200	100% of the worker's PIA
Spouse's worker benefit	100	100% of the spouse's PIA
Auxiliary benefits		
Spouse	100	⅓ of the family maximum amount minus the worker's PIA ($600) minus the spouse's worker PIA
Child 1	250	⅓ of the family maximum amount minus the worker's PIA ($600) plus ½ of the $100 withheld from the spouse's auxiliary benefit
Child 2	250	⅓ of the family maximum amount minus the worker's PIA ($600) plus ½ of the $100 withheld from the spouse's auxiliary benefit
Total family benefit	1,900	Sum of the worker's and auxiliaries' benefits, capped by the family maximum amount, plus the spouse's worker benefit

SOURCE: Authors' calculations.

NOTES: Dollar values are rounded to the nearest dollar for presentation purposes, but would actually be rounded down to the nearest dime. In this case, 85 percent of the worker's AIME is $1,915, which is 160 percent of his or her PIA, greater than the cap of 150 percent of the PIA that applies to disability beneficiaries. As a result, the family maximum for this family is $1,800, or 150 percent of the worker's PIA.

AIME = average indexed monthly earnings; DI = Disability Insurance; PIA = primary insurance amount.

In Table A-3, we assume that two workers die, leaving behind three children who qualify for survivor benefits on both of their parents' work records. We assume that the mother has a PIA of $1,200 and the father has a PIA of $1,000. This illustration shows how benefits are calculated in three stages: first, before applying the family maximum rules; second, using the ordinary family maximum rules (in this case, the family maximum that applies to the mother's earnings record—the record on which the children's benefits are based); third, using the combined family maximum rules that would determine this family's final benefit amounts.

Table A-3.
Illustration of the combined family maximum rules for a survivor family, 2015

Assumptions:	*Mother's AIME = $2,253* *Mother's PIA = $1,200* *Father's AIME = $1,628* *Father's PIA = $1,000*
Family maximum:	*OASI family maximum (on the mother's PIA only):* *150% × $1,056 + 272% × $144 = $1,976*
Combined family maximum:	*Family maximum based on the mother's PIA ($1,976) plus the family maximum based on the father's PIA (150% × $1,000) = $3,476*

Characteristic	Monthly benefit amount ($)	Rule applied
	Before family maximum	
Survivor benefits		
Child 1	900	75% of the higher-earning parent's PIA
Child 2	900	75% of the higher-earning parent's PIA
Child 3	900	75% of the higher-earning parent's PIA
Total family benefit	2,700	Sum of the survivor benefits
	After family maximum (higher-earning parent only)	
Survivor benefits		
Child 1	659	⅓ of the family maximum amount
Child 2	659	⅓ of the family maximum amount
Child 3	659	⅓ of the family maximum amount
Total family benefit	1,976	Family maximum amount
	After combined family maximum (both parents)	
Survivor benefits		
Child 1	900	75% of the higher-earning parent's PIA
Child 2	900	75% of the higher-earning parent's PIA
Child 3	900	75% of the higher-earning parent's PIA
Total family benefit	2,700	Sum of the survivor benefits, which is less than the combined family maximum

SOURCE: Authors' calculations.

NOTE: Dollar values are rounded to the nearest dollar for presentation purposes, but would actually be rounded down to the nearest dime.

AIME = average indexed monthly earnings; OASI = Old-Age and Survivors Insurance; PIA = primary insurance amount.

Notes

Acknowledgments: The authors thank Joni Lavery, Andrew Hanks, Eric Herbert, Karen Glenn, Mark Sarney, and Natalie Lu for their helpful comments and suggestions.

[1] For more information about the PIA and how it is calculated, refer to http://www.socialsecurity.gov/oact/cola/piaformula.html.

[2] People who became entitled to benefits before 1979 are subject to a different family maximum formula (see SSA's *Annual Statistical Supplement to the Social Security Bulletin, 2013* (Table 2.A17), http://www.socialsecurity.gov/policy/docs/statcomps/supplement/2013/2a8-2a19.html#table2.a17.

[3] For more information on the average wage index, which SSA uses to index the family maximum, refer to http://www.socialsecurity.gov/oact/cola/AWI.html.

[4] For more information about how SSA calculates the AIME, refer to http://www.socialsecurity.gov/oact/cola/Benefits.html.

[5] For example, early retirement reductions, retirement earnings test withholdings, the windfall elimination provision reductions, and government pension offsets.

[6] For more information about how beneficiaries qualify for survivor benefits, see SSA's "How Social Security Can Help You When A Family Member Dies," http://www.socialsecurity.gov/pubs/EN-05-10008.pdf.

[7] In 2015, the first bend point would be $826. Thus, the first $826 of the AIME would be multiplied by 90 percent for a value of $743.40. The remaining $1,427 of the AIME above the first bend point of $826 would be multiplied by 32 percent for a value of $456.64. Together, $743.40 + 456.64 = $1,200.04. For presentation purposes, the dollar values reported are rounded to the nearest dollar, but the actual PIA rules round down the value to the nearest dime. For additional information on PIA formula bend points and applicable computation methods, refer to http://www.socialsecurity.gov/oact/cola/piaformula.html.

[8] *Adjustment of Monthly Benefits Under the Family Maximum Provisions*. Audit Report No. A-09-13-13087 (March 11, 2014), http://oig.ssa.gov/sites/default/files/audit/full/pdf/A-09-13-13087.pdf.

[9] The total amount a dually entitled beneficiary receives is equal to the higher of the worker benefit and the auxiliary benefit.

[10] These rules are a result of the *Parisi* court decision; for a full description of the ruling, refer to http://www.socialsecurity.gov/OP_Home/rulings/ar/01/AR97-01-ar-01.html. To determine the ruling's applicability in all states, refer to https://secure.ssa.gov/poms.nsf/lnx/0202603045. Examples are given here, https://secure.ssa.gov/poms.nsf/lnx/0300615768.

[11] In the Appendix, see Tables A-1 and A-2 for illustrations of how the *Parisi* case affects benefits.

[12] For more information, see SSA's Program Operations Manual System RS 00615.770 (simultaneous entitlement of children on more than one worker's record), https://secure.ssa.gov/apps10/poms.NSF/lnx/0300615770; and RS 00615.772 (determination of the worker record upon which benefits will be based), https://secure.ssa.gov/poms.nsf/lnx/0300615772.

[13] The committee report for the 1972 Amendments states, "The bill would provide that a child who is entitled to benefits on the earnings record of more than one worker would get benefits based on the earnings record that results in paying him or her the highest amount, if the payment would not reduce the benefits of any other individual who is entitled to benefits based on that earnings record. (Entitlement of a child on the earnings record that will give him or her the highest benefit could otherwise result in a reduction of the benefits for other people entitled on the same earnings record because of the family maximum limitation.)" (Congressional Record on S. 18480, October 17, 1972)

[14] Public Law (P.L.) 379.

[15] P.L. 734; the thresholds were updated again in the 1952 Amendments, P.L. 82-590.

[16] P.L. 761.

[17] P.L. 85-840, P.L. 87-64, P.L. 89-97, and P.L. 90-248.

[18] P.L. 92-5.

[19] P.L. 92-336.

[20] Congress passed two major Social Security bills in 1972. For more information, refer to http://www.socialsecurity.gov/history/1972amend.html.

[21] P.L. 92-603.

[22] Committee report for P.L. 92-603.

[23] Congress intended the maximum family benefit to range from 150 percent to 188 percent of the worker's PIA, as it did under prior law (committee reports for P.L. 95-216). Congressional members considered setting a flat-rate maximum, but decided that it would either result in many families getting lower benefits or would have to cost more in order to provide similar benefit levels to what was provided with the range of family maximums from 150 percent to 188 percent. The law provided an exception for those who became entitled to benefits in 1979 or earlier.

[24] The DI family maximum rules were described by the chairman of the House Ways and Means Committee as "temporary and a transition," but the formula has been maintained since then (Congressional Record on H. 7410, September 6, 1979).

[25] Conference Report, H.R. 3236/P.L. 96-265, Disability Amendments of 1980, 26.

[26] Studies had shown that a median wage earner with qualifying dependents would have received family benefits that replaced 90 percent of earnings if he or she had become entitled to disability benefits in 1976 (House committee report, no. 96-100, 4). Secretary of Health, Education, and Welfare Joseph Califano (who oversaw the Social Security program) testified that approximately 6 percent of DI beneficiaries received family benefits that were greater than their previous net earnings (Congressional Record on H. 7410, September 6, 1979).

[27] Authors' calculations using MINT6. For more information on the authors' methodology and the MINT6 model, see the Methodology section.

[28] See the *Annual Statistical Supplement to the Social Security Bulletin, 2013* (Table 5.H2), http://www.socialsecurity.gov/policy/docs/statcomps/supplement/2013/5h.html#table5.h2.

[29] If a family includes both a dually entitled spouse and eligible children, the rules are more complex, as both the dually entitled spouse and combined family maximum rules may apply.

[30] Refer to note 12.

Education, Earnings Inequality, and Future Social Security Benefits: A Microsimulation Analysis

by Patrick J. Purcell, Howard M. Iams, and Dave Shoffner*

Over the last three decades, earnings have grown faster for college graduates than for workers without a 4-year college degree. Such wage-growth differentials could affect the Social Security benefits and other retirement income of future retirees. A Social Security Administration microsimulation model, Modeling Income in the Near Term (MINT), can estimate the distributional effects of Social Security reform proposals under alternative economic scenarios. We use MINT to estimate the effect of wage-growth differentials by educational attainment on the future earnings and Social Security benefits of individuals born during 1965–1979, sometimes referred to as "Generation X." For those individuals, we find that different rates of wage growth by educational attainment would substantially increase the gap in annual earnings between college graduates and nongraduates. Differences in Social Security benefits would increase by a smaller proportion because of Social Security's long-term averaging of earnings and its progressive benefit calculation formula.

Introduction

Social Security benefits are the most widely received source of income among Americans aged 65 or older, and they are the largest source of income for more than half of aged beneficiaries (Social Security Administration [SSA] 2014). In light of Social Security's importance to current and future retirees, economic trends that could affect workers' retirement benefits are of interest to SSA, Congress, and the public. One such trend is growing inequality in earnings.

In general, Social Security benefits increase with career-average earnings, and earnings increase with education and work experience.[1] Many personal, social, and economic variables affect lifetime earnings, but social scientists have long recognized the central role played by educational attainment. More than a half-century ago, economists Jacob Mincer (1958) and Gary Becker (1964) proposed theories of human capital in which the knowledge, skills, and abilities acquired through formal education strongly influence both employment and earnings. Those theories continue to inform much research in economics, sociology, and public policy today.

Economists and other social scientists typically are cautious about attributing causation to relationships that may be mere correlations. Nevertheless, the empirical evidence gathered over more than 50 years is so compelling that asserting a cause-and-effect relationship between education and earnings would likely encounter little disagreement among those who study labor markets (Card 1999, 2002; Heckman, Lochner, and Todd 2003).[2]

The rapidly rising cost of higher education might call into question whether attending college continues

Selected Abbreviations

AIME	average indexed monthly earnings
AWI	average wage index
FRA	full retirement age
MINT	Modeling Income in the Near Term
PIA	primary insurance amount

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Selected Abbreviations—*Continued*

SIPP	Survey of Income and Program Participation
SSA	Social Security Administration

to be worth the expense. However, recent research suggests that earning a 4-year college degree remains a good investment for the average student. Researchers at the Federal Reserve Bank of San Francisco found that college graduates fully recoup the costs of higher education by age 40, on average; and that in inflation-adjusted terms, "a college graduate can expect to earn $830,800 more than a high school graduate over the course of a lifetime" (Daly and Bengali 2014). The authors found that the lifetime earnings premium for college graduates resulted not just from higher annual salaries, but also from lower rates of unemployment, even during times of recession. A separate analysis by researchers at the Federal Reserve Bank of New York found that the financial return of a college education "has remained high in spite of rising tuition and falling earnings because the wages of those without a college degree have also been falling, keeping the college wage premium near an all-time high while reducing the opportunity cost of going to school" (Abel and Deitz 2014).

If the earnings of college graduates rise more rapidly (or fall more slowly) than the earnings of workers without a 4-year degree, earnings inequality will increase—all else being equal. However, earnings inequality in itself is not necessarily bad. Indeed, if earning a college degree did not produce higher lifetime earnings for the typical graduate, acquiring a college degree would not be a worthwhile investment of time and money. In some respects, earnings inequality is like the extra weight that many of us carry around: What matters is how much you have, where you have it, and how fast it is growing.

Abundant research indicates that the United States has more earnings inequality than other developed nations, that the inequality is evident throughout the earnings distribution (not just between the top 1 percent and everyone else), and that it has grown substantially in recent years (Bowlus and Robin 2004; Lemieux 2006; Goldin and Katz 2007; Autor, Katz, and Kearney 2008; Favreault 2009; Favreault and Haaga 2013; Autor 2014; Mitchell 2014). One dimension along which U.S. earnings inequality has grown is the difference in annual and lifetime earnings between workers with a 4-year college degree and those without (Abel and Deitz 2014; Daly and Bengali 2014; Pew Research Center 2014).

Increasing earnings inequality could have implications for Social Security benefits and income disparity in retirement. Higher rates of earnings growth for college graduates compared with nongraduates would presumably increase income inequality among future retirees.[3] If the earnings of college nongraduates continue to grow more slowly than economywide earnings, those workers will be less able to save for retirement in 401(k) plans and other retirement accounts. In such a scenario, the role played by Social Security in helping lower-earning workers achieve an adequate standard of living in retirement would be even greater than it is today.

The method established by Congress for calculating Social Security benefits indexes a worker's highest 35 years of annual earnings to the year the worker reaches age 60, with the index based on the growth in the national average wage. By design, the benefit formula replaces a higher percentage of career-average earnings for workers with low lifetime earnings than it does for workers with relatively high earnings. Together, these program characteristics distribute Social Security benefits more narrowly around the average benefit than annual earnings are distributed. In other words, there is less inequality in Social Security benefits than there is in earnings. Nevertheless, growing inequality in current earnings inevitably will result in greater inequality in future Social Security benefits. One of our goals is to illustrate the extent of that increase under two specific sets of economic assumptions.

In this article, we present estimates of the impact of earnings growth differentials between college graduates and nongraduates on projected annual earnings and Social Security benefits. We aim to estimate how the disparity in real earnings growth between college graduates and nongraduates affects future annual earnings and Social Security benefits for persons born from 1965 through 1979, sometimes referred to as "Generation X." Favreault (2009) estimated the retirement-income distributional effects of higher rates of earnings growth for high-wage workers than for low-wage workers. To the best of our knowledge, however, our analysis is the first attempt to estimate future Social Security benefits that accounts for the effects of earnings growth differentials between college graduates and nongraduates.

Data and Methodology

We developed our estimates using an SSA microsimulation model called Modeling Income in the Near Term (MINT). Microsimulation models are widely used by government agencies to analyze the distributional effects of public policy proposals. These models use information about a sample of "micro units" such as individuals, families, or households to estimate how changes in their circumstances, characteristics, or behavior will affect the entire population or a population subset such as workers or retirees. Smith and Favreault (2013a) observe that microlevel data "combined with detailed representations of program rules can inform policy by revealing interactions and trends that more aggregate analyses may fail to capture."

SSA began developing MINT in the 1990s to estimate the future retirement income of current workers and the distributional effects of proposed Social Security reforms. SSA directed the development of MINT with assistance from the Brookings Institution, the RAND Corporation, and the Urban Institute. MINT can simulate the effects of a wide range of policy alternatives and economic scenarios on individual and family income by linking longitudinal survey data from the Census Bureau's Survey of Income and Program Participation (SIPP) to Social Security earnings records. MINT combines the rich social and demographic data available from the SIPP with the accuracy of SSA's earnings records.

The simulation results we present were produced using MINT version 7 (MINT7). MINT7 simulations start with a representative sample of the population aged 31 or older in 2010. The model matches records from the 2004 and 2008 panels of the SIPP to Social Security earnings records through 2010.[4] We restricted our analysis to individuals born from 1965 through 1979 whose records from the 2004 and 2008 panels of the SIPP were successfully matched to Social Security earnings records, a sample consisting of 23,868 persons. The SIPP data include the demographic characteristics of survey respondents during the period 2004–2010, when most members of Generation X were in their 30s and 40s.

For each individual, MINT independently projects employment status, earnings, marital status, fertility, onset of disability, retirement status, and retirement income (Smith and Favreault 2013b). MINT projections account for the earnings distributions both within and between birth cohorts. In addition to earnings and Social Security benefits, MINT projects family income from sources such as interest, dividends, pensions, Supplemental Security Income payments, income from nonspouse coresident family members, noncash income, and imputed rental income.[5] The model projects the sources and amounts of retirement income from age 55 until the projected date of death, emigration, or nursing home entry.

To simulate future employment and earnings, MINT requires detailed information about workers' past earnings, their marital and fertility histories, and other characteristics such as education and disability status. In addition, the model requires assumptions about future inflation and interest rates, wage growth, and trends in mortality and disability rates. MINT7 uses Social Security records through 2010 as its source information about workers' past earnings. It incorporates assumptions about future demographic and economic trends from the intermediate-cost projections presented in the *2012 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds* (Board of Trustees 2012), hereafter called the *Trustees Report.* The SIPP provides data on the demographic traits of the U.S. population.[6]

SSA's Office of the Chief Actuary prepares annual estimates for the Board of Trustees of the revenues and expenditures of the Social Security trust funds over the next 75 years. MINT7 uses the projected interest rates, inflation rates, wage growth, and mortality and disability rates that appear in the *Trustees Report.* The Chief Actuary prepares these estimates under three sets of economic and demographic assumptions, referred to as the low-, intermediate-, and high-cost scenarios.[7] The *Trustees Report* describes the intermediate-cost assumptions as reflecting the Trustees' best estimate of future experience, with the low-cost and high-cost alternative demographic and economic assumptions included "to show a wide range of possible outcomes, because assumptions related to these factors are subject to uncertainty" (Board of Trustees 2012, 35).

Economic projections in the *Trustees Report* include the real (inflation-adjusted) rate of growth in the national average wage index (AWI).[8] For the period 2020–2050, the intermediate-cost projection in the *2012 Trustees Report* assumes an average annual inflation rate of 2.8 percent and average annual real wage growth of 1.2 percent. The low-cost scenario assumes 1.8 percent inflation and 1.8 percent real annual wage growth. The high-cost scenario assumes 3.8 percent inflation and 0.6 percent real annual wage

growth. MINT7 incorporates the intermediate-cost assumptions in its baseline simulation, and the low- and high-cost scenarios establish suitable boundaries for assumptions that could be used in alternative simulations.

MINT projects annual earnings in one of two ways, depending on the earner's age. For persons aged younger than 55, MINT matches the subject individual's earnings record with that of another individual who has similar characteristics but is 5 years older. The model splices the earnings from the older person's record onto that of the younger person, then wage-indexes annual earnings within each 5-year band to the 5-year period for which it has matched the person-records of the earnings "donor" and "recipient." For persons aged 55 or older, MINT uses a multivariate regression equation to project earnings. In the baseline simulation, the AWI grows at the rate assumed under the intermediate-cost assumptions in the *Trustees Report.* We report the results of that simulation as well as those of an alternative scenario in which we assume the earnings of college graduates grow faster than the AWI and the earnings of workers without a college degree grow more slowly than the AWI.[9]

Although MINT7 includes all participants in the 2004 and 2008 panels of the SIPP who were born in the period 1926–1979, we restrict our analysis to persons born 1965–1979, or Generation X.[10] Those individuals were 31–45 years old in 2010, and thus were still 17–31 years away from first eligibility for Social Security retired-worker benefits at age 62. With a projection period of that length, alternative rates of earnings growth could have a substantial impact on our simulations of future earnings and Social Security benefits.

In our baseline simulation, we project real earnings to grow at an annual rate of 1.2 percent. In our alternative simulation, we adjust future rates of earnings growth to reflect above-average growth rates for college graduates and below-average growth rates for workers without a 4-year college degree. We selected rates of growth for the two groups that maintain, when weighted by the 2010 distribution of earnings by educational attainment, the 1.2 percent overall average rate of real earnings growth that we assume in the baseline simulation. In both simulations, we assume a 2.8 percent annual rate of inflation, following the intermediate-cost projections in the *2012 Trustees Report.* In each simulation, we project earnings for members of the 1965–1979 birth cohorts in 2011 and later. We present results for 2020 (at ages 41–55), 2030 (at ages 51–65), 2040 (at ages 61–75), and in 2050 (when the youngest members of these birth cohorts will attain age 71).

For our analysis, we divide the population into two groups: those who have a 4-year college degree and those who do not. The first group includes individuals with advanced degrees as well as those with no more than a bachelor's degree. The second group comprises individuals who did not finish high school; high school graduates; and individuals with some college, including associate's degree holders. Using two broad education categories simplifies the presentation of our results without materially affecting the outcomes of our simulations.[11]

Although choosing alternative rates of earnings growth for college graduates and nongraduates is necessarily somewhat arbitrary, we establish several constraints to assure that the alternative rates we choose are reasonable. First, the rates must fall within the range of real earnings growth rates assumed in the *2012 Trustees Report* under the low-cost projection (0.6 percent) and the high-cost projection (1.8 percent). Second, we choose rates that, when weighted by the 2010 distribution of earnings between college graduates and nongraduates, would result in a weighted average annual growth rate of 1.2 percent for all workers in the 1965–1979 birth cohorts—the same rate that we assume for all workers in the baseline simulation.[12] Consequently, any differences in real annual earnings between the baseline and alternative simulations can be attributed to differences in the rates of earnings growth between the two educational-attainment groups, and not to differences in the overall national average rate of earnings growth in the two simulations. Finally, from the possible combinations of earnings growth rates for college graduates and nongraduates that satisfy the first two conditions, we choose the two rates that, when rounded to the nearest 0.1 percent, would produce the greatest difference between college graduates and nongraduates.

Because MINT7 includes actual earnings from Social Security records through 2010, the first year for which the model simulates earnings is 2011. Our alternative simulation differs from the baseline only in that for each year from 2011 forward, we apply annual rates of real wage growth of 1.6 percent and 0.7 percent, respectively, to the projected earnings of college graduates and nongraduates. We present projections of earnings covered by Social Security in 2020, 2030, 2040, and 2050—that is, after 10, 20, 30, and 40 years of different rates of wage growth for college graduates

and nongraduates.[13] The model projects that by 2050, when the youngest members of Generation X will be 71 years old, only 21 percent of the surviving members of these cohorts will be working. Therefore, we focus our discussion on earnings in 2020, 2030, and 2040, for which the model projects employment rates of 82 percent, 72 percent, and 43 percent, respectively, for Generation X.

Simulation Results

In this section, we present model results for three related measures. First, we examine earnings. Then, we look at two primary components of the Social Security benefit calculation. Finally, we address Social Security benefits themselves.

Effect on Annual Earnings

Table 1 shows projected median earnings of college graduates and nongraduates in the baseline and alternative simulations, expressed as ratios of the national average wage. The ratios can be converted to 2012 dollars by multiplying each ratio by the national AWI for the appropriate year.[14] For example, under the baseline simulation, MINT projects the median earnings of college graduates in 2020 to be 1.38 times the real national average wage of $52,817—or $72,887—in 2012 dollars.[15] We focus on median earnings because mean earnings values are skewed by a relatively small percentage of workers with very high earnings. For example, among all workers born from 1965 through 1979, the top 1 percent of earners received 10 percent of all earnings in Social Security–covered employment in 2010. Median earnings—which represent the worker in the middle of the earnings distribution—are more representative of the earnings of the typical worker because the median is not skewed by outliers.

In the baseline simulation, the ratio of the median earnings of college graduates to the median earnings of nongraduates is projected to be 2.00 in 2020, 2.14 in 2030, and 1.87 in 2040.[16] In the alternative simulation, MINT projects this ratio to be 2.17 in 2020, 2.55 in 2030, and 2.44 in 2040. The ratio of the median earnings of college graduates to the median earnings of nongraduates in the alternative simulation is higher than that in the baseline simulation by 8.5 percent for 2020, 19.2 percent for 2030, and 30.5 percent for 2040.

Chart 1 illustrates how the gap in median earnings between college graduates and nongraduates widens in the alternative simulation compared with that of the baseline. The two solid lines show median earnings in the baseline simulation for college graduates (blue) and nongraduates (red). MINT projects the median earnings of college graduates to be 1.38 times the national average wage in 2020, compared with 0.69 times the average wage for nongraduates. In the alternative simulation (broken lines), the model projects relatively higher median earnings for college graduates in 2020, at 1.43 times the national average wage (blue), and relatively lower median earnings (0.66 times the average wage) for nongraduates (red).

Table 1 also shows the projected median earnings ratios by educational attainment separately for men and women. The projected median earnings of male college graduates exceed those of female college graduates in both the baseline and alternative simulations. Likewise, median male college nongraduates' earnings are projected to exceed median female nongraduates' earnings in all years under both simulations. Chart 2 presents projected median earnings by educational attainment for men and women, respectively, in the baseline and alternative simulations. Both charts also illustrate the extent to which the gap in median earnings between college graduates and nongraduates in the alternative simulation exceeds that of the baseline projection.

Because the alternative simulation projects the same rates of earnings growth for college graduates and nongraduates regardless of sex, its gap in earnings between college graduates and nongraduates extends the baseline scenario's gap by roughly the same percentage for men and women; differences mainly reflect the effects of rounding. For example, Table 1 shows that for 2020, the ratio of the median earnings of male college graduates to nongraduates is 2.10 in the baseline simulation and 2.29 in the alternative simulation, a difference of 9.0 percent. Likewise, the ratio of the projected median earnings of female college graduates to nongraduates in 2020 is 1.95 in the baseline simulation and 2.11 in the alternative simulation, a difference of 8.2 percent. For 2030, the projected ratio of college graduate-to-nongraduate median earnings for men is 2.36 in the baseline simulation and 2.82 in the alternative simulation, a 19.5 percent difference. Among women, the corresponding ratios are 1.98 in the baseline and 2.41 in the alternative simulation, a 21.7 percent difference.

Faster earnings growth for college graduates would increase the difference in earnings not just for workers near the middle of the earnings distribution, but also for workers closer to the top or the bottom of the

Table 1.
Median earnings relative to the national AWI for college graduates and nongraduates born 1965–1979, by sex: Baseline and alternative projections, decennially 2020–2050

Educational attainment and sex	2020	2030	2040	2050
National AWI (in 2012 dollars)	52,817	58,674	65,778	73,438
Workers with earnings (%)	82	72	43	21
		Baseline simulation		
		Total		
Ratio of median earnings to national AWI for college—				
Graduates	1.38	1.37	0.84	0.80
Nongraduates	0.69	0.64	0.45	0.54
Ratio of college graduate-to-nongraduate median earnings	2.00	2.14	1.87	1.48
		Men		
Ratio of median earnings to national AWI for college—				
Graduates	1.74	1.72	0.96	0.88
Nongraduates	0.83	0.73	0.49	0.60
Ratio of college graduate-to-nongraduate median earnings	2.10	2.36	1.96	1.47
		Women		
Ratio of median earnings to national AWI for college—				
Graduates	1.07	1.09	0.75	0.74
Nongraduates	0.55	0.55	0.43	0.43
Ratio of college graduate-to-nongraduate median earnings	1.95	1.98	1.74	1.72
		Alternative simulation		
		Total		
Ratio of median earnings to national AWI for college—				
Graduates	1.43	1.48	0.95	0.93
Nongraduates	0.66	0.58	0.39	0.44
Ratio of college graduate-to-nongraduate median earnings	2.17	2.55	2.44	2.11
Difference from baseline projection of college graduate-to-nongraduate median-earnings ratio (%)	*8.5*	*19.2*	*30.5*	*42.6*
		Men		
Ratio of median earnings to national AWI for college—				
Graduates	1.81	1.86	1.08	1.03
Nongraduates	0.79	0.66	0.42	0.49
Ratio of college graduate-to-nongraduate median earnings	2.29	2.82	2.57	2.10
Difference from baseline projection of college graduate-to-nongraduate median-earnings ratio (%)	*9.0*	*19.5*	*31.1*	*42.9*
		Women		
Ratio of median earnings to national AWI for college—				
Graduates	1.12	1.18	0.84	0.86
Nongraduates	0.53	0.49	0.37	0.35
Ratio of college graduate-to-nongraduate median earnings	2.11	2.41	2.27	2.46
Difference from baseline projection of college graduate-to-nongraduate median-earnings ratio (%)	*8.2*	*21.7*	*30.5*	*43.0*

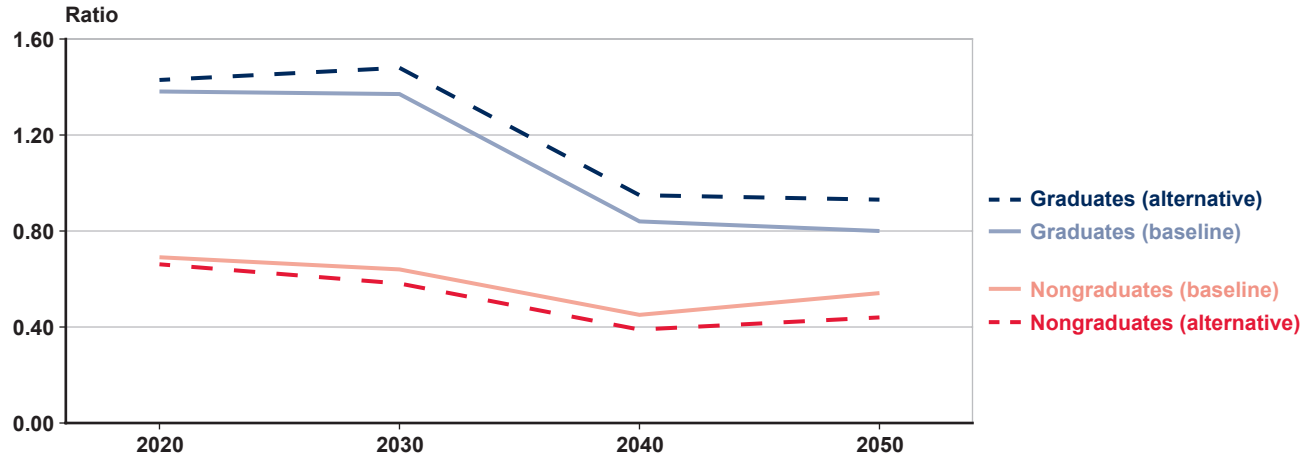
SOURCE: Authors' calculations using MINT7.

NOTES: "College" refers to 4-year institutions.

The baseline simulation assumes that the AWI grows at 1.2 percent per year for all workers. The alternative simulation assumes annual AWI growth rates of 1.6 percent for college graduates and 0.7 percent for nongraduates.

Projections are restricted to workers with covered earnings.

Chart 1.
Ratio of median earnings to the national AWI for college graduates and nongraduates born 1965–1979: Baseline and alternative projections, decennially 2020–2050



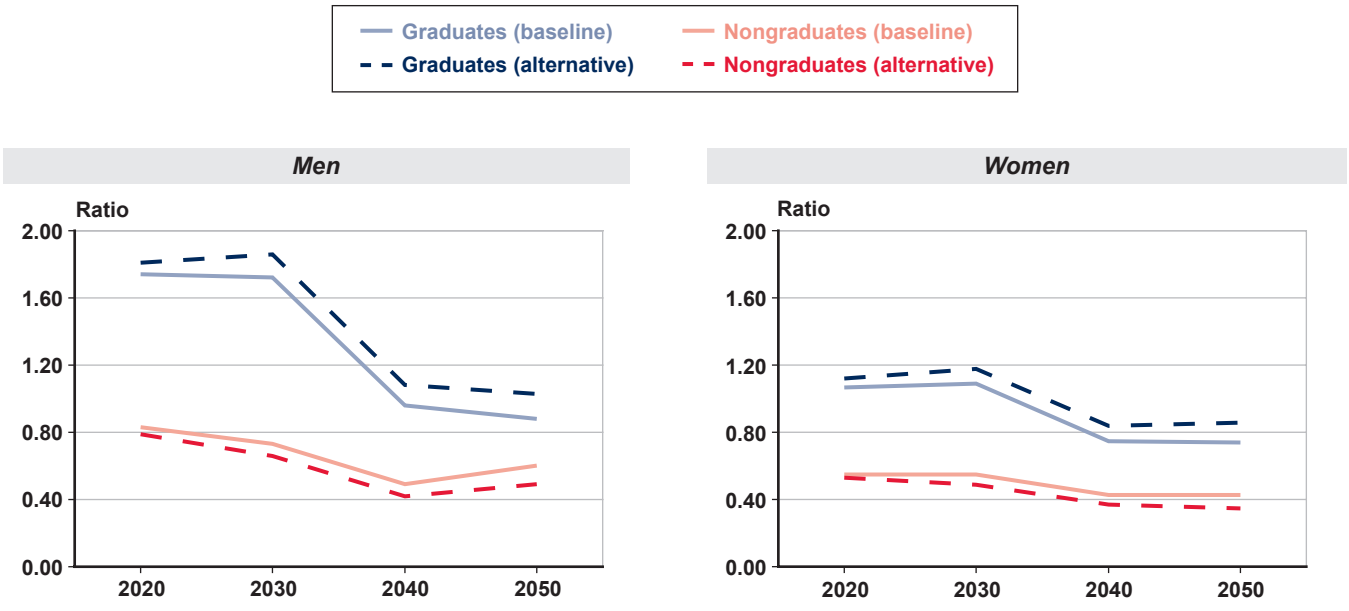
SOURCE: Authors' calculations using MINT7.

NOTES: "College" refers to 4-year institutions.

The baseline simulation assumes that the AWI grows at 1.2 percent per year for all workers. The alternative simulation assumes annual AWI growth rates of 1.6 percent for college graduates and 0.7 percent for nongraduates.

Projections are restricted to workers with covered earnings.

Chart 2.
Ratio of median earnings to the national AWI for college graduates and nongraduates born 1965–1979, by sex: Baseline and alternative projections, decennially 2020–2050



SOURCE: Authors' calculations using MINT7.

NOTES: "College" refers to 4-year institutions.

The baseline simulation assumes that the AWI grows at 1.2 percent per year for all workers. The alternative simulation assumes annual AWI growth rates of 1.6 percent for college graduates and 0.7 percent for nongraduates.

Projections are restricted to workers with covered earnings.

distribution. Table 2 shows earnings (relative to the national average wage) at the 75th percentile and the 25th percentile for college graduates and nongraduates under the baseline and alternative simulations. In the baseline simulation, MINT projects a college graduate with earnings at the 75th percentile (among college graduates) to have earnings equal to 2.26 times the national average wage in 2020. The model projects a college nongraduate with earnings at the 75th percentile (among workers without a college degree) to have earnings equal to 1.14 times the national average wage. Thus, at the 75th earnings percentiles of their respective educational-attainment groups, college graduates would earn almost twice as much as workers without a college degree. MINT projects this ratio to increase to 2.08 in 2030 and then fall to 1.95 in 2040. In the alternative simulation, the ratio of college graduate-to-nongraduate earnings at the 75th percentile is higher than the baseline ratio in all years of the simulation, increasing from 2.16 in 2020 to 2.47 in 2030 and 2.55 in 2040. These are differences from the baseline projection of 8.8 percent, 19.1 percent, and 30.7 percent, respectively. The first panel in Chart 3 illustrates the ratios of earnings to the national average wage for college graduates and nongraduates at their respective 75th earnings percentiles under the baseline and alternative simulations.

Table 2.
Earnings at the 75th and 25th percentiles relative to the national AWI for college graduates and nongraduates born 1965–1979: Baseline and alternative projections, decennially 2020–2050

Educational attainment and earnings percentile	2020	2030	2040	2050
National AWI (in 2012 dollars)	52,817	58,674	65,778	73,438
Workers with earnings (%)	82	72	43	21
		Baseline simulation		
		75th percentile		
Ratio of 75th-percentile earnings to national AWI for college—				
Graduates	2.26	2.18	1.49	1.38
Nongraduates	1.14	1.05	0.76	1.05
Ratio of college graduate-to-nongraduate 75th-percentile earnings	1.98	2.08	1.95	1.31
		25th percentile		
Ratio of 25th-percentile earnings to national AWI for college—				
Graduates	0.69	0.72	0.42	0.33
Nongraduates	0.34	0.32	0.20	0.12
Ratio of college graduate-to-nongraduate 25th-percentile earnings	2.03	2.25	2.10	2.75
		Alternative simulation		
		75th percentile		
Ratio of 75th-percentile earnings to national AWI for college—				
Graduates	2.35	2.35	1.68	1.59
Nongraduates	1.09	0.95	0.66	0.84
Ratio of college graduate-to-nongraduate 75th-percentile earnings	2.16	2.47	2.55	1.89
Difference from baseline projection of college graduate-to-nongraduate 75th-percentile earnings ratio (%)	*8.8*	*19.1*	*30.7*	*44.0*
		25th percentile		
Ratio of 25th-percentile earnings to national AWI for college—				
Graduates	0.72	0.78	0.48	0.39
Nongraduates	0.32	0.29	0.17	0.09
Ratio of college graduate-to-nongraduate 25th-percentile earnings	2.25	2.69	2.82	4.33
Difference from baseline projection of college graduate-to-nongraduate 25th-percentile earnings ratio (%)	*10.9*	*19.5*	*34.5*	*57.6*

SOURCE: Authors' calculations using MINT7.

NOTES: "College" refers to 4-year institutions.

The baseline simulation assumes that the AWI grows at 1.2 percent per year for all workers. The alternative simulation assumes annual AWI growth rates of 1.6 percent for college graduates and 0.7 percent for nongraduates.

Projections are restricted to workers with covered earnings.

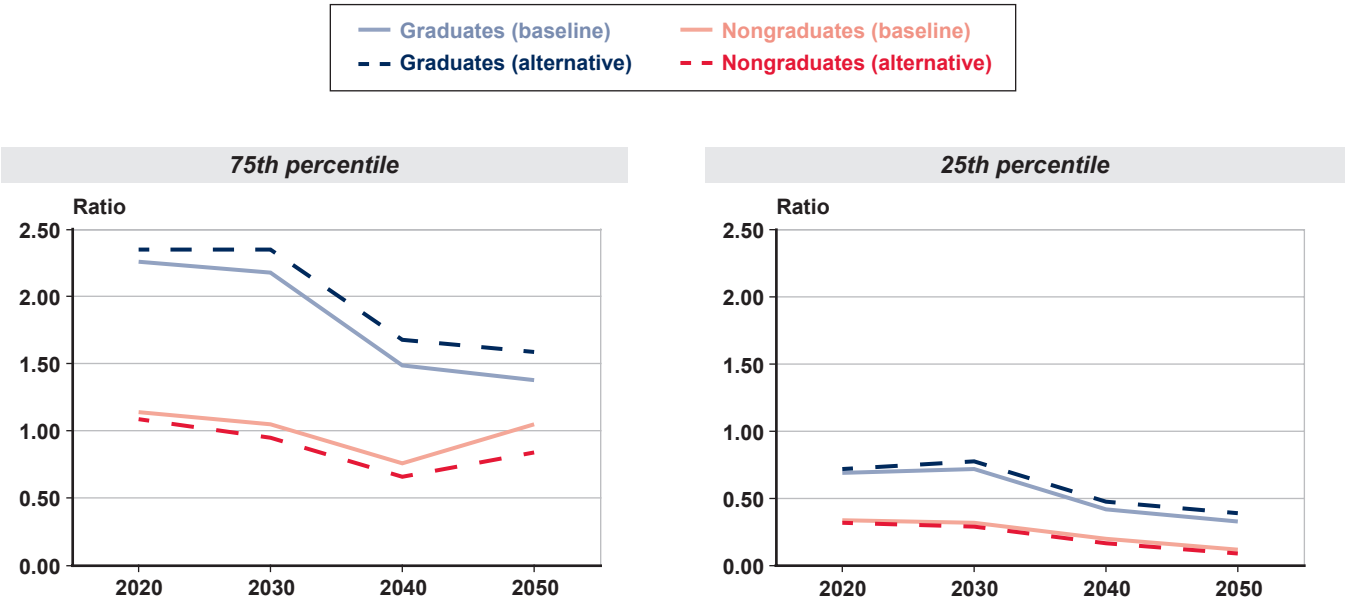
Similar trends are projected for the ratio of the earnings of college graduates to those of nongraduates at the 25th earnings percentile. In the baseline simulation, MINT projects that a college graduate with earnings at the 25th percentile among college graduates will have earnings equal to 0.69 times the national average wage in 2020. The model projects that a nongraduate with earnings at the 25th percentile among nongraduates will have earnings equal to just 0.34 times the national average wage. Thus, among workers earning at the 25th percentile of their respective educational-attainment groups, college graduates would earn twice as much as nongraduates. As shown in Table 2, MINT projects that ratio to increase to 2.25 in 2030 and then fall slightly to 2.10 in 2040. In the alternative simulation, the ratio of college graduate-to-nongraduate earnings at the 25th percentile is projected to be 2.25 in 2020, 2.69 in 2030, and 2.82 in 2040. These are differences of 10.9 percent, 19.5 percent, and 34.5 percent, respectively, from the baseline-projected ratios. The second panel in Chart 3 illustrates the ratios of earnings to the national average wage for college graduates and nongraduates at their respective 25th percentiles under the baseline and alternative simulations.

Effect on Components of the Social Security Benefit Calculation

Social Security retired-worker benefit amounts are calculated using average indexed monthly earnings (AIME). Only earnings up to the maximum amount subject to Social Security payroll taxes each year are included in the AIME computation.[17] Amounts earned in years before reaching age 60 are indexed to growth in the national average wage, and earnings at age 60 and later are entered into the computation at their nominal values. AIME is computed by dividing the sum of the worker's 35 highest indexed annual earnings amounts by 420, the number of months in 35 years. Some workers have fewer than 35 years with covered earnings; the AIME calculation simply treats years with no covered earnings as zero-earnings years.

The worker's AIME is used to calculate the benefit to which he or she would be entitled at the age of eligibility for full benefits, the full retirement age (FRA).[18] This benefit is called the primary insurance amount (PIA). The monthly benefit a retired worker actually receives will be less than the PIA if he or she claims benefits before reaching the FRA and more than the

Chart 3.
Ratio of 75th- and 25th-percentile earnings to the national AWI for college graduates and nongraduates born 1965–1979: Baseline and alternative projections, decennially 2020–2050



SOURCE: Authors' calculations using MINT7.

NOTES: "College" refers to 4-year institutions.

The baseline simulation assumes that the AWI grows at 1.2 percent per year for all workers. The alternative simulation assumes annual AWI growth rates of 1.6 percent for college graduates and 0.7 percent for nongraduates.

Projections are restricted to workers with covered earnings.

PIA if he or she claims after reaching the FRA. The method prescribed by law for calculating the PIA is designed to replace a higher percentage of AIME for workers with low career-average earnings than it does for workers with above-average career earnings.[19] For example: For 2015, the PIA formula multiplies the first $826 of AIME by 0.90; each dollar of AIME from $827 to $4,980 is multiplied by 0.32, and the result is added to the product of the first computation; each dollar of AIME above $4,980 is multiplied by 0.15, and that result is added to the sum of the first two products.

Because AIME is a 35-year average that is wage-indexed to age 60, and because the PIA formula produces higher earnings replacement rates for workers with below-average career earnings, the alternative simulation's projections of median AIME and PIA differ less from the baseline scenario than its median-earnings projections do. Table 3 shows the median AIME and PIA for college graduates and nongraduates in the baseline and alternative simulations. MINT computes AIME and PIA as of the age at which the model simulates an individual's first Social Security benefit receipt. Because the people in our sample will receive their initial benefit in different years, we have indexed all AIME and PIA values in Table 3 to 2012 dollars.[20]

In the baseline simulation, the median AIME of college graduates is $6,010, or 1.87 times the median AIME of workers without a college degree ($3,220). In the alternative simulation, the median AIME of college graduates is $6,250, or 4.0 percent higher than the baseline value, while the median AIME of less-educated workers ($3,100) is 3.7 percent lower than the baseline. Consequently, the ratio of the college graduate-to-nongraduate median AIME is 1.87 in the baseline simulation and 2.02 in the alternative simulation, a difference of 8.0 percent. Because of the progressive PIA formula, the baseline simulation projects a median PIA of college graduates ($2,530) that is only 1.54 times that of workers without a college degree ($1,640). In the alternative simulation, the median PIA of college graduates ($2,590) is 2.4 percent higher than the baseline amount, and that of nongraduates ($1,600) is 2.4 percent lower than the baseline. The ratio of the median college graduate-to-nongraduate PIA is 1.54 in the baseline and 1.62 in the alternative simulation, a difference of 4.9 percent.

The differences between the baseline and alternative projections of median AIME are mostly smaller, on a percentage basis, than those for the earnings projections shown in Table 1—whether for college graduates or nongraduates. The same is true for the differences between the baseline and alternative projections of median PIA. The long-term average that is used to compute AIME, the indexing of prior earnings to the national average wage at the time a worker reaches age 60, and the progressive PIA formula combine to reduce the effect of annual earnings growth differentials between college graduates and nongraduates on their AIME and PIA.

Table 3 also shows median AIME and PIA separately for men and women. Median AIME and PIA for male college graduates are higher than those for female college graduates in both the baseline and alternative simulations. Likewise, median AIME and PIA are higher in both the baseline and alternative simulations for men without a college degree than for women without a college degree. These results reflect higher annual average earnings and more years with earnings for men than for women. The baseline differences in AIME and PIA between college graduates and nongraduates are higher among men than among women, reflecting a greater disparity in earnings among men. For men, the ratio of college graduate-to-nongraduate AIME in the baseline simulation is 1.96, while for women the ratio is 1.81. Among men, the baseline PIA for college graduates is 1.53 times the PIA for workers without a college degree. Among women, the baseline PIA ratio is 1.46.

Under the alternative simulation, the ratios of college graduate-to-nongraduate median AIME and PIA differ from the baseline more for women than for men. The AIME ratio for men is 2.10, or 6.8 percent higher than the baseline AIME ratio. The PIA ratio among men is 1.59, or 3.8 percent higher than the baseline ratio. Among women, the ratio of college graduate-to-nongraduate AIME is 1.98 in the alternative simulation, a difference of 9.1 percent from the baseline. The PIA ratio for women is 1.55, or 5.6 percent higher than the baseline ratio. The main reason the baseline and alternative college graduate-to-nongraduate AIME and PIA ratios differ less for men than for women is that in each year, more men have earnings over the maximum annual amount subject to Social Security payroll taxes, and amounts above the annual taxable maximum are not included in the AIME and PIA calculations. Therefore, less of the simulated faster increase in earnings for college graduates is accounted for in the calculation of AIME for male college graduates than it is in that for female college graduates.

Table 3.
Median AIME and PIA at age of entitlement (62) for college graduates and nongraduates born 1965–1979, by sex: Baseline and alternative projections (in 2012 dollars)

Educational attainment and sex	AIME	PIA
	Baseline simulation	
	Total	
Median amount for college—		
Graduates	6,010	2,530
Nongraduates	3,220	1,640
Ratio of college graduate-to-nongraduate median amount	1.87	1.54
	Men	
Median amount for college—		
Graduates	7,830	2,880
Nongraduates	3,990	1,880
Ratio of college graduate-to-nongraduate median amount	1.96	1.53
	Women	
Median amount for college—		
Graduates	4,610	2,080
Nongraduates	2,540	1,420
Ratio of college graduate-to-nongraduate median amount	1.81	1.46
	Alternative simulation	
	Total	
Median amount for college—		
Graduates	6,250	2,590
Nongraduates	3,100	1,600
Ratio of college graduate-to-nongraduate median amount	2.02	1.62
Difference from baseline projection of college graduate-to-nongraduate ratio (%)	*8.0*	*4.9*
	Men	
Median amount for college—		
Graduates	8,070	2,910
Nongraduates	3,850	1,830
Ratio of college graduate-to-nongraduate median amount	2.10	1.59
Difference from baseline projection of college graduate-to-nongraduate ratio (%)	*6.8*	*3.8*
	Women	
Median amount for college—		
Graduates	4,830	2,150
Nongraduates	2,440	1,390
Ratio of college graduate-to-nongraduate median amount	1.98	1.55
Difference from baseline projection of college graduate-to-nongraduate ratio (%)	*9.1*	*5.6*

SOURCE: Authors' calculations using MINT7.

NOTES: "College" refers to 4-year institutions.

The baseline simulation assumes that the AWI grows at 1.2 percent per year for all workers. The alternative simulation assumes annual AWI growth rates of 1.6 percent for college graduates and 0.7 percent for nongraduates.

Projections are restricted to workers with covered earnings.

Effect on Social Security Benefits

Table 4 shows projected Social Security benefits relative to the national average wage in 2030, 2040, 2050, and 2060 under both simulations.[21] These projections include auxiliary (spouse and survivor) benefits as well as retired-worker benefits. (All auxiliary benefits are based on the earnings of an insured worker.) For 2030, MINT projects that only 11 percent of the members of Generation X—the youngest of whom will be in their early 50s—will receive benefits that year. By 2040, however, members of the youngest cohort will have reached age 61, and MINT projects that 64 percent of the members of Generation X will be receiving benefits.

In the baseline simulation, MINT projects the median Social Security benefit received in 2040, 2050, and 2060 by college graduates born 1965–1979 to be equal to 38–39 percent of the national average wage. The projected median benefit received by individuals without a college degree in those years is equal to 25–26 percent of the national average wage. The projected ratios of college graduate-to-nongraduate median benefits are 1.52 in 2040, 1.50 in 2050, and 1.46 in 2060. In the alternative simulation, projected median benefits as a percentage of the average wage are 1 percentage point higher than the baseline projection in each of those years for college graduates and 1 percentage point lower for nongraduates. These alternative projections represent a difference from the baseline of less than 3 percent for college graduates and about minus 4 percent for beneficiaries without a college degree. As was the case with AIME and PIA, the differences between the baseline and alternative projections of median benefits are smaller on a percentage basis than are the differences in the projected median earnings shown in Table 1, both for college graduates and for nongraduates. Chart 4 illustrates how modestly the median benefits of college graduates and nongraduates differ between the baseline and alternative simulations.

Table 4 also shows median-benefit ratios by college-graduate status separately for men and women. The median-benefit ratio of male college graduates exceeds that of female college graduates in both the baseline and alternative simulations, although the difference is projected to narrow from 2040 to 2060. Likewise, the median male college nongraduate's benefit ratio is projected to exceed the median female college nongraduate's benefit, with that difference also narrowing slightly over the projection period. The projected narrowing of the differences in benefits between men and women reflects long-term trends of rising employment rates and earnings among women. As a percentage of the average wage, the median benefit for both male and female college graduates is projected to be 1 percentage point higher in the alternative simulation than in the baseline for 2040–2060, and the median benefit for male and female nongraduates is projected to be no more than 2 percentage points lower.

In the alternative simulation, the ratio of the median college graduate-to-nongraduate benefit increases slightly less rapidly from 2030 to 2050 for women than for men, mainly because the projected median benefit of male college nongraduates is 1 to 2 percentage points lower than that of the baseline projection while the projected median benefit of female nongraduates remains unchanged. The benefits of female college nongraduates would be less affected by slower earnings growth than would those of male nongraduates because of women's relatively lower benefit level in the baseline simulation. Chart 5 illustrates the projected median benefits by college-graduate status for men and women under both simulations.

Table 5 shows projected benefits at the 75th and 25th percentiles relative to the national average wage for college graduates and nongraduates under the baseline and alternative simulations. As with median benefits, faster earnings growth for college graduates does not translate to an equivalent effect on benefits at the 75th and 25th percentiles. Compared with the baseline projection, benefits as a percentage of the average wage in the alternative simulation are about 1 percentage point higher for college graduates at both the 75th and 25th percentiles. The benefits projected in the alternative simulation are therefore about 2 percent higher than the baseline projection at the 75th percentile and 3 percent higher at the 25th percentile. Among beneficiaries without a college degree, projected benefits in the alternative simulation are 1–2 percentage points lower than the baseline projections at the 75th percentile and no more than 1 percentage point lower at the 25th percentile. The benefits projected in the alternative simulation are thus about 3 percent lower than the baseline projections for those at the 75th percentile and 0–5 percent lower for those at the 25th percentile. Chart 6 illustrates the benefit-to-average-wage ratios of college graduates and nongraduates at the 75th and 25th percentiles in the baseline and alternative simulations.

Table 4.
Median Social Security benefit amounts relative to the national AWI for college graduates and nongraduates born 1965–1979, by sex: Baseline and alternative projections, decennially 2030–2060

Educational attainment and sex	2030	2040	2050	2060
National AWI (in 2012 dollars)	58,674	65,778	73,438	81,703
Percentage receiving benefits [a]	11	64	87	94
		Baseline simulation		
		Total		
Ratio of median benefit to national AWI for college—				
Graduates	0.27	0.38	0.39	0.38
Nongraduates	0.21	0.25	0.26	0.26
Ratio of college graduate-to-nongraduate median benefit	1.29	1.52	1.50	1.46
		Men		
Ratio of median benefit to national AWI for college—				
Graduates	0.31	0.44	0.44	0.42
Nongraduates	0.24	0.28	0.29	0.27
Ratio of college graduate-to-nongraduate median benefit	1.29	1.57	1.52	1.56
		Women		
Ratio of median benefit to national AWI for college—				
Graduates	0.24	0.33	0.35	0.35
Nongraduates	0.18	0.22	0.23	0.24
Ratio of college graduate-to-nongraduate median benefit	1.33	1.50	1.52	1.46
		Alternative simulation		
		Total		
Ratio of median benefit to national AWI for college—				
Graduates	0.27	0.39	0.40	0.39
Nongraduates	0.21	0.24	0.25	0.25
Ratio of college graduate-to-nongraduate median benefit	1.29	1.63	1.60	1.56
Difference from baseline projection of college graduate-to-nongraduate median-benefit ratio (%)	*0.0*	*6.9*	*6.7*	*6.7*
		Men		
Ratio of median benefit to national AWI for college—				
Graduates	0.31	0.45	0.45	0.43
Nongraduates	0.24	0.27	0.27	0.26
Ratio of college graduate-to-nongraduate median benefit	1.29	1.67	1.67	1.65
Difference from baseline projection of college graduate-to-nongraduate median-benefit ratio (%)	*0.0*	*6.1*	*9.8*	*6.3*
		Women		
Ratio of median benefit to national AWI for college—				
Graduates	0.24	0.34	0.36	0.36
Nongraduates	0.18	0.22	0.23	0.23
Ratio of college graduate-to-nongraduate median benefit	1.33	1.55	1.57	1.57
Difference from baseline projection of college graduate-to-nongraduate median-benefit ratio (%)	*0.0*	*3.0*	*2.9*	*7.3*

SOURCE: Authors' calculations using MINT7.

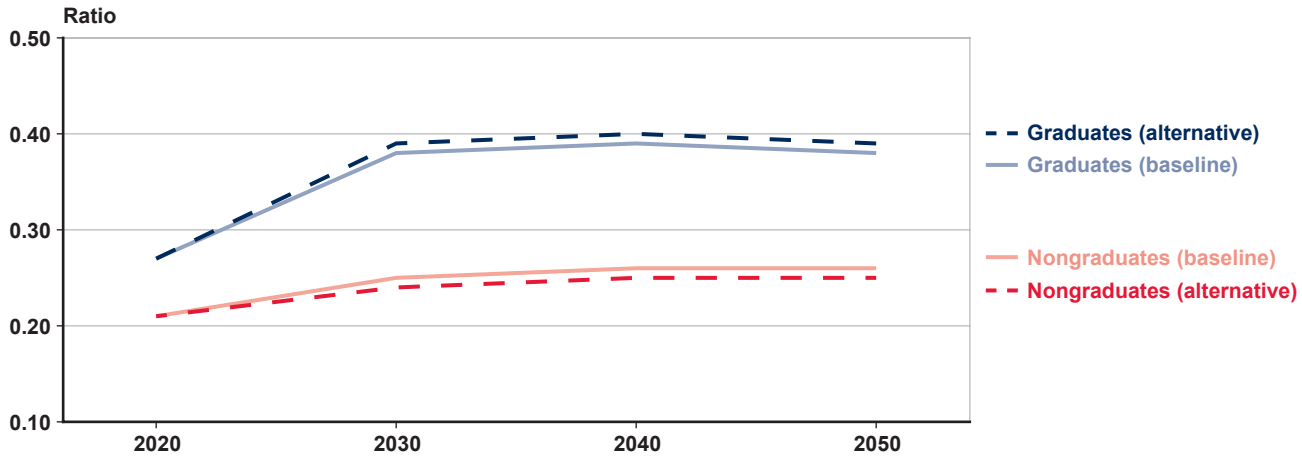
NOTES: "College" refers to 4-year institutions.

The baseline simulation assumes that the AWI grows at 1.2 percent per year for all workers. The alternative simulation assumes annual AWI growth rates of 1.6 percent for college graduates and 0.7 percent for nongraduates.

Projections are restricted to workers with covered earnings.

a. Includes workers, spouses, and widow(er)s.

Chart 4.
Ratio of median Social Security benefit amounts to the national AWI for college graduates and nongraduates born 1965–1979: Baseline and alternative projections, decennially 2030–2060



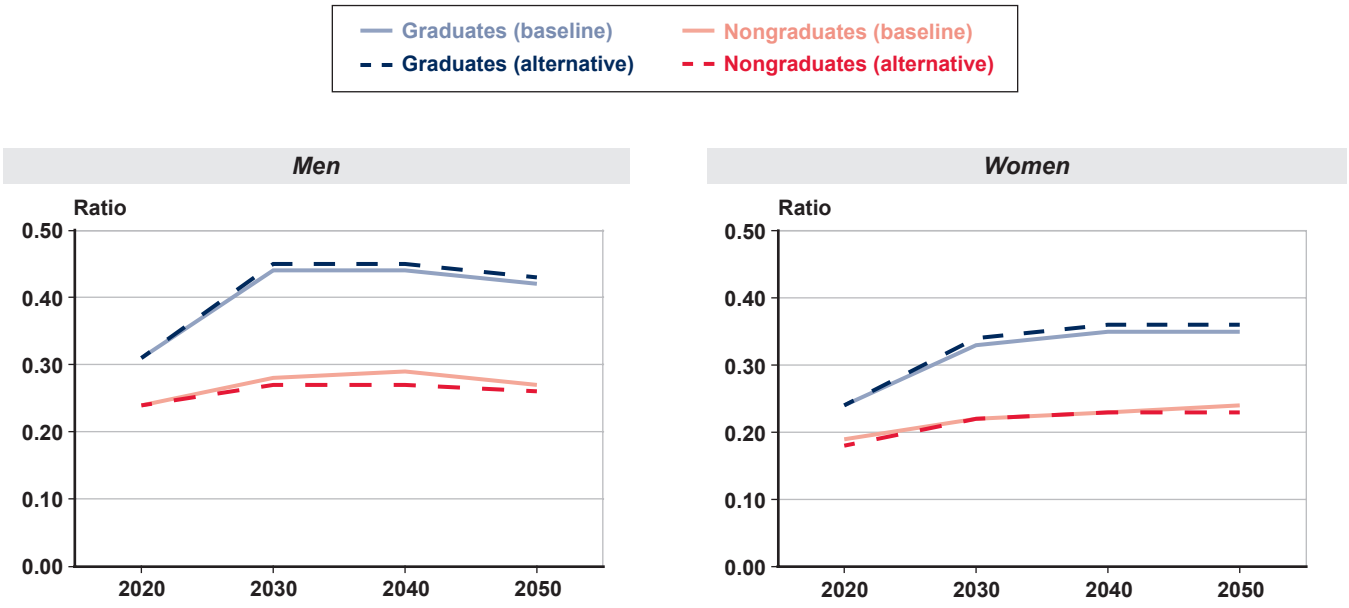
SOURCE: Authors' calculations using MINT7.

NOTES: "College" refers to 4-year institutions.

The baseline simulation assumes that the AWI grows at 1.2 percent per year for all workers. The alternative simulation assumes annual AWI growth rates of 1.6 percent for college graduates and 0.7 percent for nongraduates.

Projections are restricted to workers with covered earnings.

Chart 5.
Ratio of median Social Security benefit amounts to the national AWI for college graduates and nongraduates born 1965–1979, by sex: Baseline and alternative projections, decennially 2030–2060



SOURCE: Authors' calculations using MINT7.

NOTES: "College" refers to 4-year institutions.

The baseline simulation assumes that the AWI grows at 1.2 percent per year for all workers. The alternative simulation assumes annual AWI growth rates of 1.6 percent for college graduates and 0.7 percent for nongraduates.

Projections are restricted to workers with covered earnings.

Table 5.
Social Security benefit amounts at the 75th and 25th percentiles relative to the national AWI for college graduates and nongraduates born 1965–1979: Baseline and alternative projections, decennially 2030–2060

Educational attainment and sex	2030	2040	2050	2060
National AWI (in 2012 dollars)	58,674	65,778	73,438	81,703
Percentage receiving benefits [a]	11	64	87	94
		Baseline simulation		
		75th percentile		
Ratio of 75th-percentile benefit to national AWI for college—				
Graduates	0.38	0.49	0.48	0.46
Nongraduates	0.28	0.34	0.35	0.34
Ratio of college graduate-to-nongraduate 75th-percentile benefit	1.36	1.45	1.39	1.35
		25th percentile		
Ratio of 25th-percentile benefit to national AWI for college—				
Graduates	0.18	0.27	0.29	0.28
Nongraduates	0.15	0.18	0.19	0.19
Ratio of college graduate-to-nongraduate 25th-percentile benefit	1.20	1.50	1.50	1.47
		Alternative simulation		
		75th percentile		
Ratio of 75th-percentile benefit to national AWI for college—				
College degree	0.38	0.50	0.49	0.47
No college degree	0.28	0.33	0.33	0.32
Ratio of college graduate-to-nongraduate 75th-percentile benefit	1.36	1.51	1.47	1.45
Difference from baseline projection of college graduate-to-nongraduate 75th-percentile benefit ratio (%)	*0.0*	*4.1*	*5.9*	*7.1*
		25th percentile		
Ratio of 25th-percentile benefit to national AWI for college—				
College degree	0.18	0.27	0.30	0.29
No college degree	0.15	0.18	0.19	0.18
Ratio of college graduate-to-nongraduate 25th-percentile benefit	1.20	1.53	1.60	1.57
Difference from baseline projection of college graduate-to-nongraduate 25th-percentile benefit ratio (%)	*0.0*	*2.3*	*6.5*	*6.7*

SOURCE: Authors' calculations using MINT7.

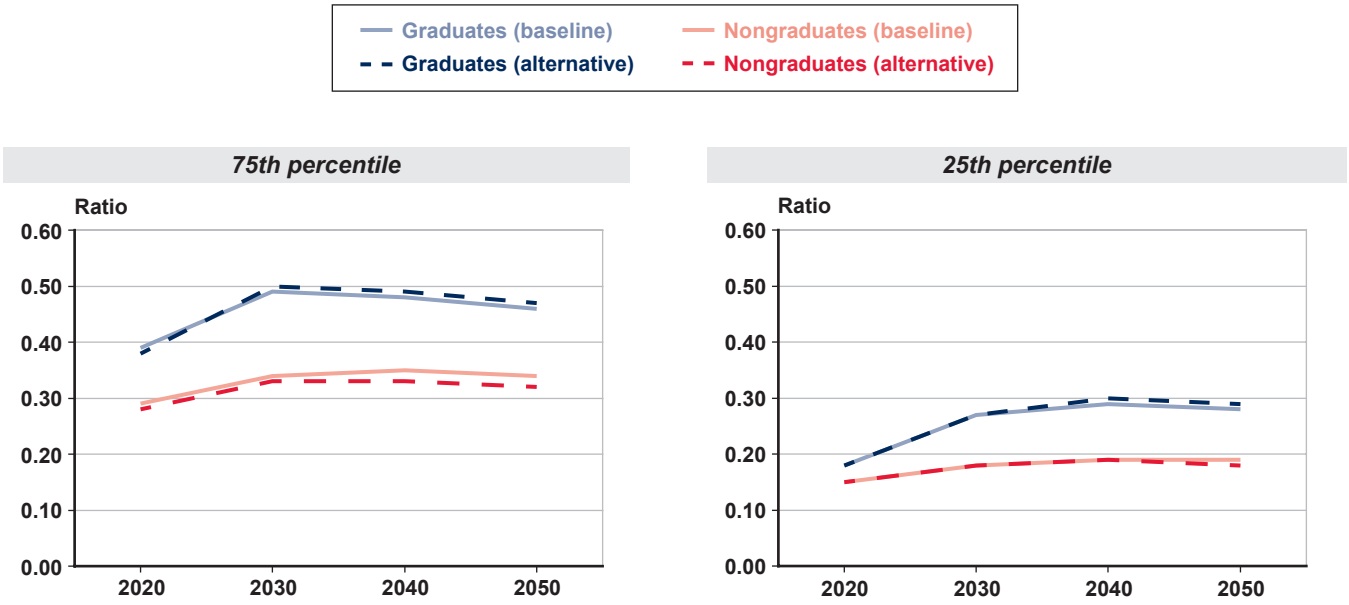
NOTES: "College" refers to 4-year institutions.

The baseline simulation assumes that the AWI grows at 1.2 percent per year for all workers. The alternative simulation assumes annual AWI growth rates of 1.6 percent for college graduates and 0.7 percent for nongraduates.

Projections are restricted to workers with covered earnings.

a. Includes workers, spouses, and widow(er)s.

Chart 6.
Ratio of 75th- and 25th-percentile Social Security benefit amounts to the national AWI for college graduates and nongraduates born 1965–1979: Baseline and alternative projections, decennially 2030–2060



SOURCE: Authors' calculations using MINT7.

NOTES: "College" refers to 4-year institutions.

The baseline simulation assumes that the AWI grows at 1.2 percent per year for all workers. The alternative simulation assumes annual AWI growth rates of 1.6 percent for college graduates and 0.7 percent for nongraduates.

Projections are restricted to workers with covered earnings.

Summary and Conclusion

In our simulations, we estimate the impact on projected earnings and Social Security benefits of different rates of earnings growth for college graduates and nongraduates born 1965–1979, the cohorts known as Generation X. We estimate the effect on future annual earnings, career-average earnings, and Social Security benefits if the real earnings of college graduates grow by 1.6 percent per year and the real earnings of college nongraduates grow by 0.7 percent per year through 2050. When weighted by the distribution of earnings across educational-attainment levels in 2010, those growth rates are consistent with the overall national average real wage growth rate of 1.2 percent, as assumed in the intermediate-cost projections of income and expenditures from the Social Security trust funds in the *2012 Trustees Report.*

Compared with the baseline simulation, a real rate of earnings growth for college graduates that continually exceeds the rate for nongraduates would obviously lead to substantially greater differences in annual earnings between the two groups. By 2030, the twentieth year of our simulation, the projected median annual earnings of college graduates would be about 8 percent higher than those projected in the baseline, while the earnings of nongraduates would be 9 percent lower. The ratio of the median earnings of college graduates to the median earnings of nongraduates in 2030 is 2.14 in the baseline scenario and 2.55 in the alternative simulation, a difference of 19 percent. In other words, a typical college nongraduate would earn about 47 percent as much as the typical college graduate under the baseline scenario (1/2.14), but only 39 percent as much under the alternative scenario (1/2.55).

The difference in projected Social Security benefits between college graduates and nongraduates in our alternative simulation is less pronounced than the difference in their projected annual earnings. From the baseline simulation to the alternative scenario, median AIME differs by 4.0 percent for college graduates and by minus 3.7 percent for workers without a college degree. The ratio of the median AIME of college graduates to the median AIME of nongraduates differs by 8.0 percent. Median PIA values differ even less

than median AIME values in the alternative simulation, by only 2.4 percent for college graduates and by minus 2.4 percent for nongraduates. The ratio of the median PIA of college graduates to the median PIA of nongraduates is 4.9 percent higher in the alternative simulation than in the baseline scenario.

Earnings growth differentials between college graduates and nongraduates produce comparatively smaller differences in Social Security benefits because of the methods prescribed under the Social Security Act to determine a worker's AIME and PIA. In particular, the indexing of past earnings to the wage levels in place when the worker attains age 60 and the progressive formula used to calculate the PIA moderate the effects of low career-average earnings on Social Security benefits. In the MINT simulations of slower earnings growth for workers without a college degree, that group's Social Security benefits fall both in absolute terms and relative to the benefits of college graduates; however, the gap in Social Security benefits does not increase as much as the gap in annual earnings. From these results, we can infer that even if earnings inequality continues to increase, inequality in Social Security benefits, and thus in total retirement income, will not increase at the same rate.

Over time, if the earnings of college nongraduates continue to grow more slowly than the national average wage, their relative standard of living will decline and they will be less able to save for retirement. A reduction in retirement saving would increase the importance of Social Security income in retirement. Of course, the preferred outcome would be robust earnings growth across the earnings distribution and improved employment opportunities for workers of all skill and education levels. Although a discussion of the public policies that could contribute to that outcome is beyond the scope of this article, such a discussion can benefit from estimates of the effect of earnings inequality on retirement income, which MINT and other microsimulation models are ideally suited to provide.

Notes

[1] Social Security benefits are a concave piecewise linear function of average indexed monthly earnings calculated using the highest 35 years of covered earnings, capped at the annual maximum taxable earnings amount. We summarize the benefit calculation procedure later; for complete information, see SSA (2015).

[2] Although we concede the central influence of education on lifetime earnings, we believe that few social scientists would minimize the importance of other personal characteristics such as innate ability, perseverance, and social skills. Nor would many, we believe, deny the critical importance of luck.

[3] Throughout the article, we assign all levels of educational attainment to one of two broad categories. We refer to all individuals who have earned a 4-year college degree, including those with graduate degrees of any level, as college graduates. We refer to all others, including high school graduates with no postsecondary education, those with some college but no degree, and those with 2-year degrees or technical certificates—as well as high school dropouts— collectively as college nongraduates. An analysis using four educational-attainment categories produced broadly similar results.

[4] For the 2004 SIPP panel, 88 percent of survey records were matched to their Social Security earnings records. The match rate for the 2008 panel was more than 90 percent.

[5] Imputed rental income is the return that homeowners receive from owning instead of renting, minus costs of homeownership. MINT7 estimates it as a 3.0 percent annual real return on home equity.

[6] The SIPP represents the civilian noninstitutionalized resident population of the 50 states and the District of Columbia. It does not include residents of nursing homes or prisons, military personnel living on base, or residents of U.S. territories. Because the Social Security area population includes those groups, it is about 3.0 percent to 3.5 percent larger than the SIPP population. For further information about the SIPP, see http://www.census.gov/sipp/.

[7] The low-, intermediate-, and high-cost scenarios are sometimes referred to as alternative I, alternative II, and alternative III, respectively.

[8] The national AWI is based on wages subject to federal income taxes and contributions to deferred compensation plans. It includes earnings in covered and noncovered employment, below and above the annual maximum amount subject to Social Security payroll taxes.

[9] In our alternative simulation, we do not adjust earnings by educational attainment until after any model-projected changes in marital status, onset of disability, retirement, and Social Security claiming. Therefore, the earnings adjustments do not affect the model's projections of those events, which are unchanged from the baseline simulation.

[10] MINT7 can project income through 2099 by simulating post-1979 birth cohorts and immigrants. Our simulations included only persons born before 1980 who participated in the SIPP in 2004 or 2008, representing the civilian noninstitutional resident U.S. population aged 31 or older in 2010.

[11] Historically, the earnings of workers with advanced degrees have grown more rapidly than the earnings of those who have only 4-year degrees, and the earnings of workers with some college have grown faster than the earnings

of workers who never attended college. Nevertheless, our objective is to estimate the effect of earnings growth differentials on future Social Security benefits, not to estimate the future rates of earnings growth by education. Therefore, assigning average rates of earnings growth to each of two educational groups is sufficient for our purpose.

[12] According to the SIPP, in 2010, 32 percent of people born 1965–1979 had earned a 4-year college degree and 68 percent had not; however, the college graduates received 52 percent of that population's earnings while the nongraduates received 48 percent.

[13] We focus on covered earnings because they are the earnings on which Social Security benefits are based.

[14] In this article, we use "average wage" and "AWI" interchangeably, although the two are not technically identical. Unlike an index that expresses the value for a given year as a ratio or percentage of the value for a reference year, the AWI expresses values as earnings levels. AWI values closely approximate, but do not precisely match, actual average wages. For further details, see http://www.socialsecurity.gov/OACT/COLA/AWI.html.

[15] All tables present data only for individuals projected to have positive earnings in the given year.

[16] Within each educational-attainment category, the trend in the ratio of median earnings to AWI over time reflects interactions between employment rates, hours of work, and hourly earnings at each age among workers in each annual birth cohort.

[17] See maximum taxable earnings amounts for 1937 to 2014 at http://www.socialsecurity.gov/planners/maxtax.htm.

[18] As legislated in 1983, an individual's FRA depends on his or her year of birth; for example, for individuals reaching FRA in 2015, it is 66. For a list of FRAs, see http://www.socialsecurity.gov/planners/retire/retirechart.html.

[19] The formulas for calculating both AIME and PIA are established in law by Congress at 42 U.S.C. §415. See http://www.law.cornell.edu/uscode/text/42/415.

[20] To isolate the effects of the simulations on retired workers, we included AIME and PIA projections in Table 3 only for individuals claiming Social Security benefits at age 62 or older. Because we adjusted earnings by educational attainment after the model-simulated retirement decision, mean and median claiming ages were the same in both simulations.

[21] Both the baseline and alternative simulations reflect *scheduled benefits* under current law. The *2012 Trustees Report* estimates that the Social Security trust funds will be depleted in 2033. Absent remedial action by Congress in the interim, Social Security tax revenue will be sufficient to pay about 75 percent of scheduled benefits after the trust funds are depleted. Favreault (2009) discusses how different rates of wage growth might affect the trust fund balances.

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Supplemental Security Income Program Entry at Age 18 and Entrants' Subsequent Earnings

by Jeffrey Hemmeter*

In determining Supplemental Security Income (SSI) eligibility and payment levels for child applicants and recipients, the Social Security Administration attributes part of parental income to the child using a process called deeming. Parental-income deeming ends at age 18, and many youths with severe disabilities who were income-ineligible for SSI as minors can become income-eligible as adults. This article provides evidence that substantial numbers of youths apply for SSI as soon as they turn 18. Additionally, the distribution by disability type of youths applying at or after age 18 differs from that of youths applying just before age 18. Further, applications filed at age 18 are more likely to be allowed than are those filed at age 17. Using denied applicants as a comparison group, I estimate a reduced likelihood of subsequent employment (through age 24) for allowed SSI applicants aged 17–19 with an expected upper bound of about 25 percentage points.

Introduction

The Supplemental Security Income (SSI) program provides means-tested cash payments to youths with severe disabilities. To determine program eligibility and payment amounts for children, the Social Security Administration (SSA) attributes part of parental income to the child using a process called deeming. Because parental deeming ends at age 18, many youths with severe disabilities who were not income-eligible for SSI as minors can become income-eligible as adults.

Several recent studies and news stories have raised concerns about the high percentage of child SSI recipients transitioning directly into adult SSI recipiency, with potential lifetime payment receipt (for example, Burkhauser and Daly 2011; Wen 2010a, 2010b, 2010c). Others have analyzed the experiences of children and youths to determine how best to support their eventual exit from SSI and ultimate self-sufficiency. Many studies document the challenges and experiences of child SSI recipients as they transition to adulthood (for example, Hemmeter, Kauff, and Wittenburg 2009; Wittenburg and Loprest 2007; Davies, Rupp, and Wittenburg 2009; Wittenburg and Maag 2002; Rupp, Hemmeter, and Davies 2015; Hemmeter and others 2015; Berry and Caplan 2010; Berry and Coffey 2008; and Weathers and others 2007). However, there is a paucity of research on those who enter SSI at the cusp of adulthood. Because there are more than twice as many SSI awards to youths aged 18–21 as there are to those aged 13–17 (SSA 2014d), studying older youths could provide key information that addresses both the potential lifetime receipt of SSI payments and the challenges of transitioning into adulthood.

Some researchers have claimed that SSA's adult disability programs (SSI and Social Security Disability Insurance) have contributed to a reduction in adult labor force participation (for example, Duggan

Selected Abbreviations

CDR	continuing disability review
FBR	federal benefit rate
PMV	presumed maximum value
SGA	substantial gainful activity
SSA	Social Security Administration
SSI	Supplemental Security Income
VTR	value of one-third reduction

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and Imberman 2009; Black, Daniel, and Sanders 2002; Autor and Duggan 2003). If those claims are true, then special attention should be paid to youths entering the programs at the point of transition to adulthood. Some studies include young adults in their populations (for example, Mamun and others 2011; O'Leary, Livermore, and Stapleton 2011), but do not differentiate between program-entry ages to a level of detail that would allow identification of transition-age youths in particular. One study that does differentiate that group of entrants (Ben-Shalom and others 2012) shows that adults who entered SSI at earlier ages (particularly 18–19) were more likely than older program entrants to have subsequent earnings and to have moved into SSI nonpayment status because of work within 10 years of program entry.

Although many of the studies cited thus far are particular to youths who receive SSI payments, the barriers to a successful transition are shared by many youths with disabilities, including those from families with higher incomes (National Council on Disability and SSA 2000; Osgood, Foster, and Courtney 2010; Carter, Austin, and Trainor 2012; Newman and others 2011; Test and others 2009). For example, all youths with disabilities face inconsistent policies and uncoordinated handoffs between federal, state, and local supports (Government Accountability Office 2012). Additionally, an increasing percentage of children in high-income and high-education households are reporting disabilities, particularly neurodevelopmental or mental health conditions (Houtrow and others 2014). Although challenges in transitioning to adulthood occur across the income distribution, one potentially important issue is the entry of youths to the SSI program at age 18, when family income becomes less of a constraint on SSI participation.

Understanding who enters SSI at age 18 helps complete the information available to SSA, state and federal agencies, and local service organizations about the adult outcomes of youths with disabilities. In this article, I demonstrate how the incentive to apply for SSI is affected by the differential treatment of parental income for child and adult SSI applicants and recipients. I then address the following questions:

- Who applies for SSI at age 18, when the financial restrictions to eligibility are greatly relaxed?
- How do age-18 applicants differ from those who apply shortly before turning 18?
- How much does SSI reduce the labor force participation of older youths?

Combined with the results from prior studies, the findings of this analysis can help identify the needs of a population at risk of long-term dependency on public assistance. This study can also shed some light on what SSA could expect if some existing financial barriers to SSI eligibility were lowered.

In the next section, I briefly describe how SSI rules treat income. I then present the hypotheses and data for this study. After discussing findings on the characteristics of youths who apply for SSI at various intervals before and after turning 18, I estimate the potential impact of SSI participation on youth earnings. The conclusion (with further discussion) follows, then an appendix presents a limited digression on the impact of the expiration of income-deeming on parents' earning behavior when their child reaches age 18. In this article, "child" refers to individuals younger than 18; "adult" refers to individuals aged 18 or older; and "youth" refers to a group that overlaps the other two, encompassing individuals aged 17–19.

SSI Income Rules

This section describes some general SSI rules, highlighting the change in the treatment of parental income before and after age 18. The descriptions that follow summarize complex rules that are detailed in SSA's Program Operations Manual System (POMS).

General SSI rules

SSI is a means-tested transfer program for adults and children with severe disabilities and for the elderly. To be eligible, an individual must have assets and resources valued less than $2,000 ($3,000 for a couple). Additionally, children and adults younger than age 65 must have a medically determinable physical or mental impairment that is expected to last (or has lasted) at least 12 continuous months or to result in death. For an adult aged 18–64, the impairment must prevent him or her from performing substantial gainful activity (SGA);[1] for a child, the impairment must result in marked and severe functional limitation. In addition, there are citizenship and residency requirements.

The asset and resource test exempts certain commonly held resources, such as an automobile or a home, which are generally considered necessary for community living. The SSI payment is equal to the federal benefit rate (FBR), which is $733 in 2015, less any countable earned and unearned income. For this calculation, countable earned income is defined as nonexcluded earnings exceeding $65 per month, divided by two. Earnings can be excluded when they

are used for certain purposes, such as work expenses for the blind, impairment-related work expenses, and expenditures under an approved plan to achieve self-support. Another example, particularly important for youths, is the student earned income exclusion, under which recipients aged 21 or younger who regularly attend school may exclude some earnings from the payment calculation. In 2015, a student may exclude up to $1,780 in earnings a month, with a yearly maximum of $7,180. Unearned income (for example, interest payments or gifts) is countable in amounts exceeding $20 per month; if unearned income is less than $20, the unused portion is added to the excludable earned-income amount. Most transfer payments, such as Supplemental Nutrition Assistance Program benefits or state or local assistance, are not countable.

An individual's federal living arrangement also factors into determining the SSI payment amount. Broadly defined, individuals may be classified as living in their own economic unit or "household" (code A); as receiving some food and shelter from within the household in which they reside, with no ownership stake or rental liability (code B); as dependent children residing with their parent(s) or guardian(s) (code C); or as residing in a medical institution (code D). These living arrangements determine whether and how SSI counts the income and resources of the individuals with whom a potential recipient lives, for SSI eligibility and payment-amount purposes.[2] The "child" living-arrangement code (C) cannot apply to individuals who have reached their 18th birthdays, and with the transition to a different living arrangement, the treatment of parental income changes. The next section describes that change.

Treatment of Parental Income

Most children do not have substantial earnings or unearned income. Because SSI is intended to be assistance of last resort, and because the program is intended to offset the additional costs of a child's disability to parents (such as lost income or disability-related expenses), parental income is deemed (that is, assumed to be available) to the child. In calculating the deemed amount, SSA does not include certain amounts of income assumed to be available to the parents (called the parental living allowance) or to other children who are not eligible for SSI (called allocations).[3]

For children who live with SSI-ineligible parents, deeming entails calculating parental countable unearned income by subtracting the sum of the parental living allowance (which is equal to the FBR), allocations (as applicable), and the $20 general-income exclusion from total parental unearned income; a negative result is treated as zero. Deemable parental earned income is then calculated by subtracting from gross earned income the combined amount of (a) any allocations not counted as unearned income, (b) the excludable first $65 of earned income, and (c) any portion of the $20 general-income exclusion not used to reduce unearned income, then dividing that result by two. Subtracting the parental living allowance (that is, the FBR) from the sum of countable parental earned and unearned income provides the amount deemed to the child.[4] Deemed income is counted as the child's unearned income when determining his or her SSI eligibility and payment amount.

Upon attaining age 18, a youth's living-arrangement code changes from C (child) either to A (living in his or her own household) or to B (living in the household of another and receiving support and maintenance), assuming he or she is not in a medical institution. Looking first at code B: When the 18-year-old receives food and shelter from others in the household (such as parents), his or her eligibility and payment amount for a given month are typically determined using a rule called the value of one-third reduction (VTR), under which the FBR is reduced by one-third, then any countable youth income is subtracted. (Effectively, the first step of the VTR rule multiplies the FBR by two-thirds.)

Parents can lower this reduction by providing neither food nor shelter; for example, by charging the youth for his or her share of expenses or by charging rent, establishing that the youth essentially lives on his or her own (code A). In fact, according to internal SSA calculations, most youths aged 18 or older on the SSI rolls are determined to constitute their own households,[5] even though they may continue to reside within their parents' home.[6] In that situation, a rule called presumed maximum value (PMV) applies. The PMV equals one-third of the FBR plus $20. Under the PMV rule, the FBR is reduced by the lesser of (a) the actual value of the in-kind support and maintenance or (b) the PMV. Under either code A or B, parental income is not deemed to the youth; effectively, there are no limits on parental income to maintain a youth's SSI eligibility.[7]

Exhibit 1 summarizes the different treatments of parental income for determining SSI eligibility and payment amounts before and after a youth attains age 18. It provides illustrative examples of eligibility and payment calculations and the parental income cutoffs required to maintain a youth's SSI eligibility

Exhibit 1.
Treatment of parental income in determining eligibility and payment amounts for SSI youth applicants and recipients before and after reaching age 18: Summary definitions and illustrative examples

Definitions	Younger than 18	18 or older
Applicant's living arrangement [a]	Code C: child residing in parent's household	Code A: youth residing in own household; or Code B: youth receiving food, shelter, or other support while residing in another's household.
Role of income in determining youth's SSI eligibility	• Parents' countable income deemed to child • Exclusions from parental income may include: – FBR allowance (individual or couple) – Allocations (costs of supporting ineligible children) • Exclusions from eligible child's income	• Parents' income not directly counted • Rules for counting youth's income depend on living arrangement: – If Code A, PMV rule applies – If Code B, VTR rule applies

Illustrative examples

ASSUMPTIONS: Parental earned income of $4,000, no parental unearned income, and no child/youth income.

Applicants aged younger than 18

Example 1:
Single parent with one eligible child/youth

Step 1: Calculate deemed parental income

Parent's earned income	$4,000.00
Monthly excludable earnings [b]	− 65.00
Monthly excludable unearned income [b]	− 20.00
	3,915.00
	÷ 2
	1,957.50
Individual FBR allowance [b]	− 733.00
Deemed parental income	**$1,224.50**

Step 2: Calculate applicant's payment

Individual FBR [b]	$ 733.00
Deemed parental income	− 1,224.50
Monthly excludable unearned income [b]	− 20.00
Applicant's payment	**−$ 471.50**

Result is less than zero; child is not eligible

Maximum parental earnings that will retain child's SSI eligibility:	$3,055 per month ($36,660 per year)

Example 2:
Two parents, one eligible child/youth, and one ineligible child (not receiving other public assistance)

Step 1: Calculate deemed parental income

Parents' earned income	$4,000.00
Allocations for ineligible child [b]	− 367.00
Monthly excludable earnings [b]	− 65.00
Monthly excludable unearned income [b]	− 20.00
	3,548.00
	÷ 2
	1,774.00
Couple FBR allowance [b]	− 1,100.00
Deemed parental income	**$ 674.00**

Step 2: Calculate applicant's payment

Individual FBR [b]	$ 733.00
Deemed parental income	− 674.00
Monthly excludable unearned income [b]	− 20.00
Applicant's payment	**$ 79.00**

Result exceeds zero; child is eligible

Maximum parental earnings that will retain child's SSI eligibility:	$4,156 per month ($49,872 per year)

Continued

Exhibit 1.
Treatment of parental income in determining eligibility and payment amounts for SSI youth applicants before and after reaching age 18: Summary definitions and illustrative examples—*Continued*

Illustrative examples (continued)

ASSUMPTIONS: Parental earned income of $4,000, no parental unearned income, and no child/youth income.

Applicants aged 18 or older

NOTE: Youth's federal living arrangement determines eligibility and payment amount (no parental income deeming; parents' income, family composition not applicable).

Example 3:
Code A living arrangement

Step 1: Calculate PMV

Individual federal benefit rate [b]	$	733.00
	÷	3
		244.33
Monthly excludable unearned income [b]	+	20.00
PMV	**$**	**264.33**

Step 2: Calculate applicant's payment

Individual FBR [b]	$	733.00
PMV	−	264.33
Applicant's payment	**$**	**468.67**

Result exceeds zero; youth is eligible

Example 4:
Code B living arrangement

Step 1: Calculate applicant's payment

Individual FBR [b]	$	733.00
Apply VTR rule	×	⅔
Applicant's payment calculation	**$**	**488.67**

Result exceeds zero; youth is eligible

SOURCE: SSA Program Operations Manual System (POMS).

a. Other living arrangements may apply, but they occur less frequently. For example, individuals younger or older than 18 may reside in medical institutions (code D) and children may live in their own household (code A) or in another person's household (code B).

b. Fixed dollar value applies to all SSI recipients or applicants in 2015.

for selected family situations. Note that Exhibit 1 and the preceding summary description are intended to highlight the main parts of the deeming process and how it changes for potential recipients at age 18; the exhibit and the description do not identify all of the possible ways income can be treated.

Hypotheses and Data

By law, the SSI program rules that limit the participation of children residing in relatively better-off (yet still poor) households are relaxed once those children reach age 18, as described in the previous section. Additionally, relatively simple methods of minimizing the reduction to a young adult's payment are widely known by parents, social workers, and community advocates. As a result, in the distribution of SSI applicants by age, one would expect a spike at age 18. I will examine that hypothesis first, before turning to possible economic and behavioral effects of the expiration of deeming rules at age 18.

The difference in labor force participation and earnings between denied and allowed applicants can be viewed as an upper bound on the reductive effect on potential earnings for newly awarded SSI recipients. This methodology, first used by Bound (1989) in his analysis of the Disability Insurance program, has been corroborated by other researchers (for example, Chen and van der Klaaw 2008; von Wachter, Song, and Manchester 2011). However, I am not aware of studies that use this methodology either to examine the SSI population or to focus on the 17–19 age group. Under Bound's hypothesis, denied applicants experience the counterfactual of what allowed applicants would have experienced had they not been allowed.

Of course, allowed applicants are determined to have a more severe disability that prevents SGA (for adults) or causes marked and severe functional limitations (for children), so the labor market experiences of denied applicants represent the upper bound, at best, of the experiences that allowed applicants could be expected to have in the counterfactual.

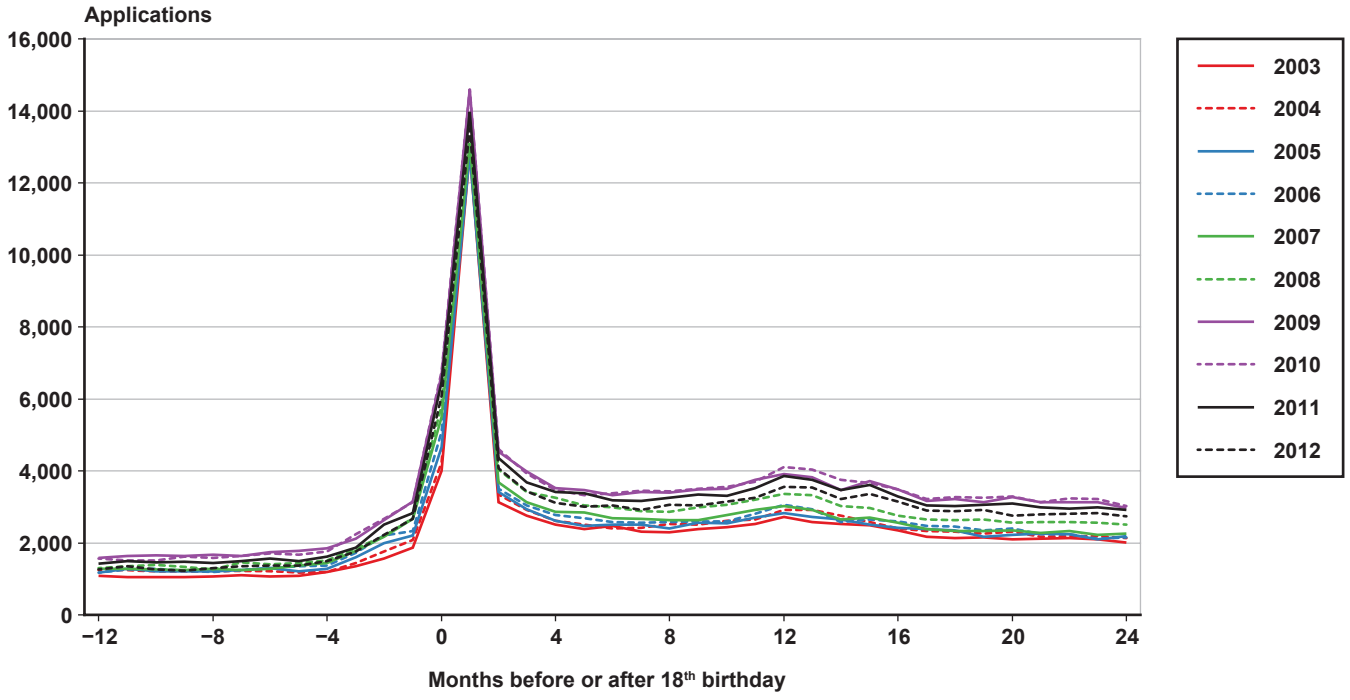
As additional measures of applicant well-being, I compare the earnings of youths to the federal minimum wage for 1 year of full-time work (defined as 40 hours per week for 52 weeks) and an annualized measure of SGA (defined as 12 times the monthly SGA amount). Both of these measures use nominal earnings and threshold values for each study year. It is important to note that none of these earnings-based measures and thresholds fully reflect the economic welfare of youths, who may have access to parental or other income sources that are not captured in the data.

I use SSA's abbreviated Title XVI Disability Research File (DRF) to identify all SSI applications filed from 2003 through 2012, the latter year being the most recent for which data are available as of this writing. The DRF includes information on the outcomes of all SSI applications along with various applicant characteristics such as primary diagnosis, whether the individual previously applied for SSI, and Social Security–covered earnings. I merge the DRF with data from SSA's continuing disability review (CDR) Waterfall File to identify individuals who had left the SSI rolls either because of medical improvement identified in a childhood CDR or because their disability was determined not to preclude work at the SGA level during an age-18 redetermination. After adjusting dollar amounts using the consumer price index for all urban consumers (CPI-U) to 2012 dollars, I use these data to compare the earnings of denied and allowed applicants at different ages.

Applications Filed Around Age 18

Given the substantial change in the treatment of parental earnings once an applicant reaches age 18, it is useful to understand how many youths apply before and after that threshold, how quickly they tend to apply afterward, and whether their characteristics differ according to age at application. As expected, the age distribution of SSI applicants clearly spikes in the month of turning 18 (Chart 1). In each of the years studied, SSI applications were filed in roughly equal numbers—generally about 1,350—by (or on behalf of) applicants in most of the 12 months preceding their 18th birthday. That number crept upward for applicants in the final months before their 18th

Chart 1.
SSI applications for youths aged 17–19, by applicant age in months relative to 18th birthday: 2003–2012



SOURCE: Author's calculations using Social Security administrative records.

birthday, likely reflecting individuals exiting foster care (who can submit an application before turning 18) or other special circumstances. The number spiked to about 13,500 applications filed for individuals within a month of turning 18. Applications numbered roughly 3,000 for individuals in each of their remaining months at age 18. The number blipped slightly upward to about 3,300 for youths applying in the month they turned 19 and then declined until leveling off at around 2,800 for those applying as they approached age 20. Some of the increase in applications after age 18 may result from return to the program after the age-18 redetermination.

Characteristics of Youth Applicants

Among the notable differences between SSI applicants of different ages is an unsurprising decrease after age 17 in primary diagnoses of "childhood and adolescent mental disorders not elsewhere classified." Table 1 shows that the frequency of that diagnosis dropped from 2.4 percent among 17-year-olds to 0.3 percent among older applicants. The percentages of applicants with an intellectual disability also varied by age, from 9.8 percent at age 17 to 17.1 percent at age 18 and to 9.1 percent at age 19. Notably, almost one-quarter of youths applying in the first 2 months of age 18 had an intellectual disability. A similar pattern emerged for

Table 1.
Characteristics of transition-age SSI applicants during 2003–2012, by age at application

	Age 17		Age 18				Age 19	
			Overall		First 2 months			
Characteristic	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	186,739	100.0	495,465	100.0	190,380	100.0	336,428	100.0
Primary impairment								
Mental disorders								
Attention deficit disorder/attention deficit hyperactivity disorder	12,418	6.7	13,116	2.7	4,265	2.2	8,869	2.6
Autism spectrum disorders	5,523	3.0	36,822	7.4	20,794	10.9	8,849	2.6
Developmental disorders	10,259	5.5	12,848	2.6	3,828	2.0	10,382	3.1
Childhood and adolescent mental disorders not elsewhere classified	4,565	2.4	1,677	0.3	580	0.3	832	0.3
Intellectual disability	18,274	9.8	84,743	17.1	45,237	23.8	30,509	9.1
Mood disorders	28,626	15.3	65,624	13.2	17,400	9.1	60,505	18.0
Organic mental disorders	5,827	3.1	33,121	6.7	11,178	5.9	23,190	6.9
Schizophrenic and other psychotic disorders	4,754	2.6	14,213	2.9	3,714	2.0	14,933	4.4
Speech and language delays	1,032	0.6	870	0.2	475	0.3	286	0.1
Other mental disorders	13,951	7.5	33,047	6.7	9,287	4.9	29,496	8.8
Nonmental disorders								
Congenital anomalies	2,120	1.1	13,775	2.8	8,902	4.7	2,976	0.9
Endocrine, nutritional, and metabolic disorders	3,095	1.7	8,157	1.7	2,271	1.2	7,985	2.4
Infectious and parasitic diseases	380	0.2	1,189	0.2	297	0.2	1,448	0.4
Injuries	3,651	2.0	11,918	2.4	3,008	1.6	13,036	3.9
Neoplasms	1,892	1.0	4,703	1.0	1,489	0.8	3,637	1.1
Diseases of the—								
Blood and blood-forming organs	900	0.5	3,018	0.6	1,012	0.5	2,383	0.7
Circulatory system	1,453	0.8	4,676	0.9	1,485	0.8	4,187	1.2
Digestive system	1,316	0.7	3,499	0.7	941	0.5	3,542	1.1
Genitourinary system	902	0.5	2,673	0.5	856	0.5	2,456	0.7
Musculoskeletal system and connective tissue	5,424	2.9	17,871	3.6	4,540	2.4	18,446	5.5
Nervous system and sense organs	12,785	6.9	60,411	12.2	29,801	15.7	28,658	8.5
Respiratory system	3,754	2.0	6,689	1.4	1,661	0.9	6,733	2.0
Skin and subcutaneous tissue	264	0.1	739	0.2	220	0.1	739	0.2
Other	531	0.3	1,943	0.4	1,089	0.6	647	0.2
Unknown	43,043	23.1	58,123	11.7	16,050	8.4	51,704	15.4

(Continued)

Table 1.
Characteristics of transition-age SSI applicants during 2003–2012, by age at application—*Continued*

Characteristic	Age 17		Age 18				Age 19	
			Overall		First 2 months			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Programmatic history								
Application history								
First-time applicant	100,468	53.8	261,223	52.7	90,636	47.6	178,917	53.2
Applied more than 10 years prior	22,733	12.2	82,830	16.7	39,877	21.0	43,440	12.9
Applied within last 10 years	63,538	34.0	151,412	30.6	59,867	31.5	114,071	33.9
Age-18 redetermination cessation								
No	. . .	. . .	491,248	99.2	a	a	317,739	94.4
Yes	. . .	. . .	4,217	0.9	a	a	18,689	5.6
Childhood CDR cessation								
No	181,886	97.4	486,500	98.2	187,997	98.8	328,614	97.7
Yes	4,853	2.6	8,965	1.8	2,383	1.3	7,814	2.3
Year of current application								
2003	14,472	7.8	41,978	8.5	16,833	8.8	27,502	8.2
2004	16,153	8.7	43,927	8.9	17,462	9.2	29,279	8.7
2005	16,845	9.0	44,060	8.9	17,472	9.2	28,763	8.6
2006	17,580	9.4	45,699	9.2	18,028	9.5	30,017	8.9
2007	18,216	9.8	47,386	9.6	18,589	9.8	29,993	8.9
2008	19,094	10.2	51,231	10.3	19,596	10.3	33,564	10.0
2009	22,998	12.3	57,539	11.6	21,241	11.2	40,481	12.0
2010	22,499	12.1	57,603	11.6	21,329	11.2	41,595	12.4
2011	20,569	11.0	54,962	11.1	20,431	10.7	39,061	11.6
2012	18,313	9.8	51,080	10.3	19,399	10.2	36,173	10.8

SOURCE: Author's calculations using Social Security administrative records.

NOTES: Rounded components of percentage distributions do not necessarily sum to 100.0.

. . . = not applicable.

a. Suppressed to avoid disclosing information about particular individuals.

applicants with autism spectrum disorders: The percentage more than doubled from 3.0 percent to 7.4 percent between ages 17 and 18, and reached almost 11 percent among applicants in the first 2 months of age 18, but dropped sharply to 2.6 percent for applicants aged 19. The percentages of applicants with congenital anomalies and with diseases of the nervous system and sense organs also increased noticeably at age 18. The diagnostic groups with the greatest percentage increases among applicants aged 18 typically were long-term conditions. Although it cannot be determined from the available data, it is likely that many of these youths were ineligible for SSI during childhood because parental income was too high.

More youths were first-time applicants than were not; however, a large minority of 46.9 percent had previously applied, with many of them having applied more than 10 years prior to the current filing. Less than half of those applying within the first 2 months of age 18 were first-time applicants. It may be that youths and their families with prior experience applying for SSI were more aware of the program rules and the chances of being allowed at age 18. A small number of applicants had previously been removed from SSI by a CDR or an age-18 redetermination. Only 2.6 percent of 17-year-olds had been removed by a CDR, which is unsurprising given the low number of CDRs historically conducted for SSI children (SSA 2014a). Additionally, relatively few 18-year-old applicants had been removed during an age-18 redetermination (less than 1 percent) or childhood CDR (less than 2 percent). Payments had been ceased for 5.6 percent of applicants aged 19 during an age-18 redetermination and for 2.3 percent during a childhood CDR. The jump from ages 18 to 19 in the percentage of applicants with payments ceased because of an age-18 redetermination most likely reflects the fact that many such redeterminations do not occur until more than a year after the youth turns 18, and can take several months to complete (SSA 2011a). Additionally, many youths appeal

negative redeterminations, and the appeal process can be long (SSA 2014b; Hemmeter and Gilby 2009).

SSI application volume has generally increased over time, with a peak in 2007–2010, the early years of the Great Recession. In addition to general population growth (which would result in more applications as time passes), the poor state of the economy in the later part of the study period could have raised the proportion of the population with severe disabilities who were financially eligible for SSI, although I do not directly test that hypothesis. Additionally, this study excludes pending applications, which lowers the number of applications reported for later years in Table 1.

Application Outcomes

SSA denies the majority of SSI applications for transition-age youths. Table 2 shows that two-thirds of applications filed at ages 17 and 19 were denied. However, slightly more than one-half of applications for youths at age 18, and two-thirds of applications in the first 2 months of attaining 18, were allowed. More than 20 percent of applications filed at age 17 were denied for technical reasons—typically, because the applicant did not meet the asset or income test. For older youths, the technical denial rates were much lower: just 8.2 percent at age 18 and 8.7 percent at age 19. Less than 7 percent of applicants in the first 2 months of age 18 were denied for technical reasons. The percentages of applications denied for medical reasons were 45.5 percent at age 17, 41.5 percent at age 18 (but only 26.6 percent in the first 2 months), and 61.1 percent at age 19. Most individuals did not appeal their decisions. Among applications filed at age 17, only 12 percent of those that were ultimately allowed and 15 percent of those that were ultimately denied had been appealed after an initial denial (not shown). For applications filed at age 18, the corresponding figures are 11 percent of those that were ultimately allowed

Table 2.
Outcomes for transition-age SSI applicants during 2003–2012, by age at application

	Age 17		Age 18				Age 19	
			Overall		First 2 months			
Outcome	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	186,739	100.0	495,465	100.0	190,380	100.0	336,428	100.0
Determination								
Allowance	61,980	33.2	249,029	50.3	126,589	66.5	101,550	30.2
Standard allowance	60,174	32.2	239,767	48.4	122,360	64.3	95,898	28.5
Closed period	179	0.1	47	(L)	33	(L)	8	(L)
Favorable medical finding from prior claim	270	0.1	1,813	0.4	1,136	0.6	656	0.2
Other eligible person	26	(L)	61	(L)	28	(L)	38	(L)
Presumed collateral estoppel	29	(L)	3,915	0.8	1,564	0.8	2,669	0.8
Paid on earlier claim	30	(L)	172	(L)	30	(L)	212	0.1
Presumed allowed at higher level	1,272	0.7	3,254	0.7	1,438	0.8	2,069	0.6
Denial	124,759	66.8	246,436	49.7	63,791	33.5	234,878	69.8
Medical denial	84,873	45.5	205,739	41.5	50,684	26.6	205,464	61.1
Technical denial	39,759	21.3	40,379	8.2	13,007	6.8	29,103	8.7
Technical and medical denial	64	(L)	170	(L)	50	(L)	188	0.1
Denied, reopened, later claim allowed	63	(L)	148	(L)	50	(L)	123	(L)
Highest adjudication level								
Initial claim	160,609	86.0	421,943	85.2	168,261	88.4	272,089	80.9
Reconsideration	12,392	6.6	32,065	6.5	9,568	5.0	26,927	8.0
ALJ	11,167	6.0	34,707	7.0	10,463	5.5	31,175	9.3
Appeals council	1,838	1.0	4,873	1.0	1,384	0.7	4,741	1.4
Court	92	0.1	356	0.1	105	0.1	367	0.1
Reopening	610	0.3	1,422	0.3	565	0.3	1,039	0.3
Appeals council substantive decision	31	(L)	99	(L)	34	(L)	90	(L)

SOURCE: Author's calculations using Social Security administrative records.

NOTES: Rounded components of percentage distributions do not necessarily sum to 100.0.

(L) = less than 0.05 percent.

and 19 percent of those that were ultimately denied; for applications filed at age 19, the figure is 19 percent regardless of ultimate outcome.

Applicants with certain primary impairments had consistently higher-than-average allowance rates, which were fairly similar across age categories (Table 3). Those impairments include autism spectrum disorders, intellectual disability, schizophrenic and other psychotic disorders, congenital anomalies, neoplasms, diseases of the genitourinary system and of the nervous system and sense organs, and "other" disabilities. However, some noteworthy exceptions appear. For example, among applicants diagnosed with congenital anomalies, 63.7 percent of 17-year-olds were allowed an SSI award, compared with 85.9 percent of those aged 18 (92.4 percent for those who applied in the first 2 months) and 50.5 percent of 19-year-olds. Similarly, among applicants with a primary impairment of autism spectrum disorders, applicant allowance rates were 78.8 percent at age 17, 88.3 percent at age 18 (91.9 percent in the first 2 months), and 77.0 percent at age 19.

Youths whose SSI payments had ceased after an age-18 redetermination and who reapplied before reaching age 20 had an allowance rate of more than 20 percent. Interestingly, youths whose payments were ceased during a childhood CDR and who reapplied as a minor (at age 17) had a somewhat higher allowance rate than did those who reapplied at age 19, 26.6 percent versus 21.4 percent. (Differences in the childhood and adult definitions of disability may account for that divergence, but the available data cannot identify that cause.) Among recipients whose payments had been ceased while they were minors, more than 37 percent of those who reapplied in the first 2 months of attaining age 18 were allowed.

The overall allowance rate declined over time for all age categories. For example, allowances for 17-year-old applicants dropped from 38.2 percent in 2003 to 30.2 percent in 2012 and, for 18-year-olds, they dropped from 54.9 percent in 2003 to 45.5 percent in 2012. The generally poor economy in more recent years may have induced applicants with more marginal claims to apply in greater numbers, leading to an increase in denial rates. Some evidence of that might be found in the general (but not consistent) increase in technical denials during the period (not shown). However, allowance rates declined fairly steadily through 2006, when the economy was still booming (also, data for those years are not distorted by pending cases), which may indicate that other factors are at play.

Youth Applicant Employment and Earnings

Because many youths will potentially receive SSI payments over substantial periods, an important question is how many youth applicants eventually work, specifically at levels that will allow them to achieve economic independence to the extent of their ability. Table 4 compares the earnings outcomes for allowed and denied applicants. It presents information on average and median earnings, as well as the percentages of applicants with any earnings and with earnings above the full-time federal minimum wage and the SGA level. The table refers to the year of application as year *t,* and it tracks the earnings measures annually from 2 years prior to application ($t - 2$) through 5 years after application ($t + 5$). Earnings are reported in 2012 dollars. Because the earnings data are complete only through 2012, calculations for some individuals who applied in later years are omitted when the appropriate number of postapplication years had not elapsed. For example, individuals who applied in 2009 are included in the earnings measures for years through $t + 3$ (that is, through 2012), but not in those for years $t + 4$ or $t + 5$ (2013 or 2014).[8]

The majority of denied applicants had some earnings as adults—for those who applied at ages 17, 18, or 19, about 56 percent had earnings 5 years after the year of application (panel A). Comparatively, only 30–33 percent of allowed applicants at those ages had earnings 5 years after applying. Hence, the upper bound on the presence of additional earnings appears to be around 23–26 percentage points. That is, the employment of SSI-receiving youths aged 17–19 would be, at most, 23–26 percentage points higher in the absence of SSI.[9] This range for the upper bound is consistent across the applicant age categories, which might be surprising given the differences in their characteristics shown earlier; however, it may also suggest systemic consistency in the determination process. (Note that 5 years typically is sufficient for an applicant to exhaust all levels of appeal.)

More than one-half of denied 19-year-old applicants and more than one-third of denied 18-year-old applicants had earnings in the year before they applied. Those earnings were typically low, though; in the year of application, average earnings for 19-year-old applicants were $984 for allowed youths and $2,034 for denied youths (panel B). Median earnings for denied applicants in any age category did not exceed $944 in any interval, and all allowed applicants had zero median earnings (panel C). Only small fractions of youths met the thresholds for two measures of labor

Table 3.
Characteristics of transition-age SSI applicants during 2003–2012, by age at application and outcome

Characteristic	Age 17			Age 18						Age 19		
				Overall			First 2 months					
		Percent			Percent			Percent			Percent	
	Number	Allowed	Denied	Number	Allowed	Denied	Number	Allowed	Denied	Number	Allowed	Denied
Total	186,739	33.2	66.8	495,465	50.3	49.7	190,380	66.5	33.5	336,428	30.2	69.8
Primary impairment												
Mental disorders												
Attention deficit disorder/attention deficit	12,418	23.0	77.1	13,116	18.7	81.4	4,265	24.5	75.5	8,869	12.8	87.2
Autism spectrum disorders	5,523	78.8	21.2	36,822	88.3	11.7	20,794	91.9	8.1	8,849	77.0	23.0
Developmental disorders	10,259	16.6	83.4	12,848	16.9	83.1	3,828	23.3	76.8	10,382	11.4	88.6
Childhood and adolescent mental disorders not elsewhere classified	4,565	31.9	68.1	1,677	24.8	75.2	580	32.8	67.2	832	15.9	84.1
Intellectual disability	18,274	82.4	17.7	84,743	90.3	9.7	45,237	94.4	5.6	30,509	78.1	21.9
Mood disorders	28,626	38.6	61.4	65,624	34.4	65.6	17,400	41.6	58.4	60,505	27.0	73.1
Organic mental disorders	5,827	46.0	54.0	33,121	45.8	54.2	11,178	57.3	42.7	23,190	33.6	66.4
Schizophrenic and other psychotic disorders	4,754	76.3	23.7	14,213	75.2	24.8	3,714	81.2	18.9	14,933	69.4	30.6
Speech and language delays	1,032	60.1	39.9	870	70.5	29.5	475	82.5	17.5	286	39.5	60.5
Other mental disorders	13,951	31.4	68.6	33,047	32.8	67.3	9,287	41.3	58.7	29,496	24.7	75.3
Nonmental disorders												
Congenital anomalies	2,120	63.7	36.3	13,775	85.9	14.1	8,902	92.4	7.6	2,976	50.5	49.5
Endocrine, nutritional, and metabolic disorders	3,095	15.7	84.3	8,157	22.5	77.5	2,271	30.9	69.1	7,985	15.5	84.5
Infectious and parasitic diseases	380	22.6	77.4	1,189	24.5	75.5	297	29.0	71.0	1,448	18.5	81.5
Injuries	3,651	41.3	58.8	11,918	39.0	61.0	3,008	55.3	44.7	13,036	25.2	74.8
Neoplasms	1,892	68.6	31.5	4,703	65.4	34.6	1,489	70.7	29.3	3,637	59.6	40.4
Diseases of the—												
Blood and blood-forming organs	900	45.4	54.6	3,018	47.6	52.4	1,012	56.8	43.2	2,383	37.2	62.8
Circulatory system	1,453	25.3	74.7	4,676	34.6	65.4	1,485	46.4	53.6	4,187	23.4	76.6
Digestive system	1,316	24.2	75.8	3,499	23.1	76.9	941	31.7	68.3	3,542	19.7	80.3
Genitourinary system	902	54.1	45.9	2,673	53.9	46.1	856	59.2	40.8	2,456	46.9	53.1
Musculoskeletal system and connective tissue	5,424	16.7	83.3	17,871	20.6	79.4	4,540	32.9	67.1	18,446	13.0	87.1
Nervous system and sense organs	12,785	46.5	53.5	60,411	65.8	34.2	29,801	80.9	19.1	28,658	33.8	66.2
Respiratory system	3,754	8.3	91.7	6,689	11.4	88.7	1,661	17.6	82.4	6,733	8.6	91.4
Skin and subcutaneous tissue	264	28.0	72.0	739	29.8	70.2	220	43.6	56.4	739	24.8	75.2
Other	531	61.6	38.4	1,943	78.3	21.7	1,089	90.1	9.9	647	47.1	52.9
Unknown	43,043	0.8	99.2	58,123	3.7	96.3	16,050	6.4	93.6	51,704	2.4	97.6

(Continued)

Table 3.
Characteristics of transition-age SSI applicants during 2003–2012, by age at application and outcome—*Continued*

Characteristic	Age 17			Age 18						Age 19		
				Overall			First 2 months					
		Percent			Percent			Percent			Percent	
	Number	Allowed	Denied	Number	Allowed	Denied	Number	Allowed	Denied	Number	Allowed	Denied
Programmatic history												
Application history												
First-time applicant	100,468	30.1	70.0	261,223	47.3	52.7	90,636	62.5	37.5	178,917	30.7	69.3
Applied more than 10 years earlier	22,733	44.2	55.8	82,830	64.4	35.6	39,877	79.1	20.9	43,440	34.8	65.2
Applied within last 10 years	63,538	34.2	65.8	151,412	47.6	52.4	59,867	64.2	35.8	114,071	27.7	72.3
Age-18 redetermination cessation												
No	. . .	. . .	. . .	491,248	50.5	49.5	a	a	a	317,739	30.7	69.3
Yes	. . .	. . .	. . .	4,217	22.5	77.5	a	a	a	18,689	21.1	78.9
Childhood CDR cessation												
No	181,886	33.4	66.6	486,500	50.7	49.3	187,997	66.9	33.1	328,614	30.4	69.6
Yes	4,853	26.6	73.4	8,965	27.9	72.1	2,383	37.2	62.8	7,814	21.4	78.7
Year of current application												
2003	14,472	38.2	61.8	41,978	54.9	45.1	16,833	71.3	28.7	27,502	34.7	65.3
2004	16,153	35.6	64.4	43,927	53.3	46.7	17,462	69.8	30.2	29,279	33.4	66.6
2005	16,845	33.8	66.2	44,060	52.2	47.8	17,472	68.2	31.9	28,763	32.2	67.8
2006	17,580	32.3	67.7	45,699	51.1	48.9	18,028	66.0	34.0	30,017	31.5	68.5
2007	18,216	32.6	67.4	47,386	51.7	48.3	18,589	67.6	32.4	29,993	31.7	68.3
2008	19,094	34.2	65.8	51,231	51.8	48.2	19,596	67.7	32.3	33,564	32.2	67.8
2009	22,998	33.7	66.3	57,539	49.6	50.4	21,241	65.7	34.3	40,481	30.8	69.2
2010	22,499	32.1	67.9	57,603	48.1	51.9	21,329	64.7	35.3	41,595	28.1	71.9
2011	20,569	31.0	69.1	54,962	46.7	53.3	20,431	63.3	36.7	39,061	26.2	73.8
2012	18,313	30.2	69.8	51,080	45.5	54.6	19,399	62.2	37.8	36,173	24.3	75.7

SOURCE: Author's calculations using Social Security administrative records.

NOTES: Rounded components of percentage distributions do not necessarily sum to 100.0.

. . . = not applicable.

a. Suppressed to avoid disclosing information about particular individuals.

Table 4.
Selected earnings characteristics of transition-age SSI applicants during 2003–2012, by age at application, outcome, and interval (in years) before and after application

Interval (relative to application year *t*)	Age 17		Age 18				Age 19	
			Overall		First 2 months			
	Allowed	Denied	Allowed	Denied	Allowed	Denied	Allowed	Denied
	Panel A: Percentage with any positive earnings							
2nd year prior (*t* − 2)	8.8	11.5	14.3	27.0	9.7	20.0	33.0	41.7
1st year prior (*t* − 1)	17.2	23.7	20.8	37.5	15.4	31.3	41.5	52.3
Year of application (*t*)	21.1	33.1	24.9	47.7	19.7	42.3	38.4	54.9
1st year after (*t* + 1)	23.7	47.6	25.4	56.6	23.0	54.4	29.1	58.4
2nd year after (*t* + 2)	27.3	54.4	28.2	59.4	26.4	58.0	29.8	60.0
3rd year after (*t* + 3)	29.5	56.1	31.3	59.6	30.4	58.9	30.1	59.3
4th year after (*t* + 4)	30.8	55.9	33.1	58.4	33.3	58.2	29.8	57.7
5th year after (*t* + 5)	30.0	55.1	33.0	56.8	33.6	57.0	29.5	55.8
	Panel B: Mean earnings overall ($)							
2nd year prior (*t* − 2)	94	150	212	499	108	302	811	1,092
1st year prior (*t* − 1)	249	428	374	911	216	671	1,274	1,792
Year of application (*t*)	309	757	431	1,424	285	1,169	984	2,034
1st year after (*t* + 1)	498	1,854	599	2,836	464	2,590	904	3,318
2nd year after (*t* + 2)	888	3,083	915	3,992	740	3,807	1,275	4,373
3rd year after (*t* + 3)	1,269	4,000	1,236	4,784	1,038	4,661	1,607	5,066
4th year after (*t* + 4)	1,620	4,663	1,546	5,387	1,339	5,327	1,897	5,587
5th year after (*t* + 5)	1,827	5,173	1,825	5,880	1,609	5,938	2,124	5,925
	Panel C: Median earnings overall ($)							
2nd year prior (*t* − 2)	0	0	0	0	0	0	0	0
1st year prior (*t* − 1)	0	0	0	0	0	0	0	104
Year of application (*t*)	0	0	0	0	0	0	0	203
1st year after (*t* + 1)	0	0	0	366	0	236	0	530
2nd year after (*t* + 2)	0	246	0	724	0	572	0	851
3rd year after (*t* + 3)	0	441	0	904	0	801	0	944
4th year after (*t* + 4)	0	501	0	897	0	860	0	852
5th year after (*t* + 5)	0	440	0	794	0	820	0	641
	Panel D: Percentage with earnings at or above full-time minimum wage							
2nd year prior (*t* − 2)	(L)	(L)	(L)	0.1	(L)	(L)	0.3	0.4
1st year prior (*t* − 1)	(L)	(L)	0.1	0.2	(L)	0.1	1.0	1.4
Year of application (*t*)	0.1	0.2	0.1	0.7	(L)	0.4	0.4	1.7
1st year after (*t* + 1)	0.3	1.9	0.4	4.1	0.2	3.6	0.8	5.6
2nd year after (*t* + 2)	1.1	5.3	1.1	8.1	0.7	7.7	1.9	9.5
3rd year after (*t* + 3)	2.1	8.3	1.8	11.0	1.4	10.9	2.9	12.1
4th year after (*t* + 4)	3.0	10.4	2.5	13.1	1.9	13.0	3.5	13.8
5th year after (*t* + 5)	3.4	11.8	3.0	14.2	2.4	14.7	4.0	14.4

(Continued)

Table 4.
Selected earnings characteristics of transition-age SSI applicants during 2003–2012, by age at application, outcome, and interval (in years) before and after application—*Continued*

Interval (relative to application year *t*)	Age 17		Age 18				Age 19	
			Overall		First 2 months			
	Allowed	Denied	Allowed	Denied	Allowed	Denied	Allowed	Denied
	Panel E: Percentage with earnings at or above the SGA level							
2nd year prior (*t* − 2)	(L)	(L)	(L)	0.1	(L)	(L)	0.4	0.6
1st year prior (*t* − 1)	0.1	0.1	0.1	0.4	(L)	0.1	1.4	2.1
Year of application (*t*)	0.1	0.4	0.1	1.2	0.1	0.7	0.7	2.7
1st year after (*t* + 1)	0.4	2.8	0.5	5.8	0.3	5.1	1.1	7.9
2nd year after (*t* + 2)	1.5	7.3	1.4	10.9	1.0	10.3	2.5	12.7
3rd year after (*t* + 3)	2.8	11.3	2.4	14.6	1.8	14.2	3.7	15.8
4th year after (*t* + 4)	4.0	14.2	3.3	17.2	2.6	17.1	4.7	18.0
5th year after (*t* + 5)	4.7	16.5	4.2	19.1	3.3	19.4	5.4	19.3
	Panel F: Mean earnings among applicants with positive earnings ($)							
2nd year prior (*t* − 2)	1,070	1,304	1,486	1,850	1,117	1,509	2,460	2,622
1st year prior (*t* − 1)	1,446	1,803	1,800	2,429	1,407	2,141	3,070	3,428
Year of application (*t*)	1,464	2,289	1,728	2,984	1,445	2,762	2,563	3,702
1st year after (*t* + 1)	2,104	3,890	2,357	5,013	2,014	4,764	3,111	5,683
2nd year after (*t* + 2)	3,249	5,670	3,248	6,721	2,799	6,559	4,271	7,286
3rd year after (*t* + 3)	4,306	7,124	3,953	8,027	3,411	7,909	5,331	8,537
4th year after (*t* + 4)	5,259	8,345	4,676	9,230	4,023	9,153	6,355	9,688
5th year after (*t* + 5)	6,088	9,395	5,528	10,357	4,793	10,423	7,209	10,613
	Panel G: Median earnings among applicants with positive earnings ($)							
2nd year prior (*t* − 2)	668	825	834	1,135	630	981	1,392	1,573
1st year prior (*t* − 1)	830	1,067	957	1,447	756	1,307	1,672	2,039
Year of application (*t*)	801	1,283	907	1,754	745	1,648	1,376	2,201
1st year after (*t* + 1)	965	2,255	1,081	3,148	920	2,955	1,551	3,722
2nd year after (*t* + 2)	1,401	3,580	1,458	4,621	1,199	4,464	2,197	5,148
3rd year after (*t* + 3)	1,937	4,905	1,795	5,815	1,457	5,578	2,836	6,405
4th year after (*t* + 4)	2,491	6,169	2,207	6,950	1,767	6,794	3,472	7,454
5th year after (*t* + 5)	3,069	7,231	2,682	8,077	2,221	8,039	3,956	8,331

SOURCE: Author's calculations using Social Security administrative records.

NOTES: Earnings amounts are shown in 2012 dollars (adjusted with CPI-U).

(L) = Less than 0.05 percent.

market success: Less than 15 percent of denied applicants in any age category earned more than the annualized federal minimum wage 5 years after application (panel D), and no more than 19.4 percent earned above the annualized SGA level (panel E). Even with the pool of applicants restricted to those who had positive earnings, annual earnings levels were still low. Five years after application, denied applicants had mean earnings ranging from $9,395 to $10,613 (panel F) and median earnings ranging from $7,231 to $8,331 (panel G); for allowed applicants, mean earnings ranged from $4,793 to $7,209 and median earnings ranged from $2,221 to $3,956.

Conclusion and Discussion

This article set out to identify whether the relaxation of financial restrictions on SSI eligibility leads to an increase in applications filed at age 18, how applicant characteristics differ by age, and whether subsequent earnings differ measurably for youth applicants of different ages. As expected, there is a noticeable spike in applications at age 18. Youths applying at age 18 are more likely to have autism spectrum disorders or diseases of the nervous system and sense organs than are those applying at age 17 or 19. More than one-half of applications filed for youths at age 18

are allowed, compared with about one-third of those for youths at ages 17 or 19. Applications filed after age 18 are also less likely to have a technical denial than are those filed for minors. Finally, applicants denied at age 18 have higher subsequent earnings than applicants allowed at age 18—more than one-half of denied applicants go on to have earnings 5 years after application, compared with about one-third of allowed applicants.

The results suggest that the financial barriers to receiving SSI as a child can be significant and may result in pent-up demand for SSI payments and accompanying services, especially among individuals with certain disabilities (notably intellectual disability, autism spectrum disorders, and diseases of the nervous system and sense organs). In some sense, this may presage the impact of policy changes that, in general, would reduce the financial barriers (both income- and resource-based) to childhood SSI participation. For example, the recently passed Achieving a Better Life Experience (ABLE) Act provides a mechanism for individuals with disabilities to establish savings that will not be counted for SSI means-testing purposes. Such a program will likely have larger impacts on families capable of having savings, such as those whose children do not qualify for the program under current rules, but would qualify if those resources were saved in ABLE accounts. Although such families are likely to be marginally wealthier than are families currently eligible for SSI (all else equal), they are still likely to have unmet service needs, and such policies can help those families plan for the future. To some degree, such policies could smooth SSI application flows, reducing the spike in applications at age 18. However, it should be emphasized that ABLE will affect resources, not the deeming of current income that this article explores.

Additionally, to the extent that access to SSI provides eligibility to services available at the state or local level, policy changes that reduce financial barriers may also enable better transitions to adult services for youths with disabilities who currently are shut out of childhood services. Many youths applying for SSI may be doing so to receive the automatic Medicaid coverage that accompanies SSI eligibility in most states. The effect of the Affordable Care Act or other recent policies on the perceived need for SSI receipt may change SSI application patterns. Regardless, entering the SSI rolls may have substantial economic and personal costs if it results in long-term dependency on public assistance.

The impact of SSI receipt on youth earnings may be substantial—as many as 25 percent of allowed 18-year-old applicants might have had earnings if they were not on the SSI rolls. However, that figure would likely be, at best, the upper bound; by definition, allowed applicants have more severe, work-limiting disabilities and would be expected to fare somewhat worse in the labor market than their peers who were denied eligibility, all else equal. Additionally, the earnings of denied youths are low; mean earnings 5 years after application are less than $6,000. Conditional on having earnings, mean earnings 5 years after application are still only about $10,000. These earnings compare poorly with the national average. The Department of Health and Human Services estimated that as of 2005, median earnings for youths with earnings who come from low-income families were about $21,600 at age 23 (Kent 2009)—nearly triple the amount for denied SSI applicants 5 years after applying at age 18. The same study found that 71 percent of low-income youths were employed on their 24th birthday, compared with around 56 percent of denied applicants studied here. It thus appears that SSI applicants would not necessarily otherwise be in the labor force and that those who entered the labor force would have relatively low earnings, although the extent to which results for low-income families in general are comparable with the outcomes of youths with disabilities is unclear.

Regardless of their subsequent earnings, youths who enter SSI face a potentially long tenure in either SSI or the Disability Insurance program. Whether interventions to dissuade youths from entering SSI at this transition point would help is uncertain. SSA recently tested a diversionary program for youth in one of its Youth Transition Demonstration projects (Fraker and Rangarajan 2009; Fraker and others 2014). Although that project did not have a significant impact on SSI entry in early adulthood, its study population may have included few youths who were truly at risk of entering SSI—the project served youths with severe emotional disturbances in a relatively wealthy county with substantial rehabilitation and other support services. Whether better targeting of specific potential recipients would yield different results is unclear and suggests a useful area of future research.

Appendix: Digression on Parental Earnings Before and After Age 18

SSI's parental-income deeming rules cease to apply when a potential recipient reaches age 18. At that milestone, the different treatment of parental income removes any incentives for parents to limit earnings. As a result, policy-aware parents may increase their earnings after a child turns 18. Although incentives to limit their income are eliminated, parents still may not be able to find a job while also providing or finding care that their children may need. In fact, mixed evidence suggests that parents with children receiving SSI payments have lower earnings and income than parents whose children do not receive SSI payments. For example, Kubik (1999) found that households with a likely child SSI recipient have lower parental labor force participation, yet Duggan and Kearney (2007) found no impact of SSI participation on household earnings. Deshpande (2014), on the other hand, found that the loss of SSI eligibility increases parental earnings. For the change in income rules to affect earning behavior, it is also necessary for parents to understand those rules. Some parents surely do, but given the complexity of the SSI program, many others probably do not.

To determine if parental earnings respond to the change in deeming rules at age 18, I examine the earnings records of the parents of children receiving SSI at age 17 in December of 2003 and 2009 and compare their earnings before and after the child turns 18. Note that this examination is necessarily limited to parents who are listed on the SSI record (not all children have parents on their record). I use two different periods because differing economic conditions may contribute to the likelihood of parents having earnings (or control over their earnings). Although the child's attainment of age 18 could generate a parental earnings response by itself, that response is more likely in the case of the parents of youths whose SSI eligibility ceased during the mandatory age-18 redetermination. I use a simple difference-in-difference strategy to identify the potential impact. Specifically, I estimate the following equation:

$$Y_{it} = Ceased_i + Post_t + \delta(Ceased \times Post)_{it} + \varepsilon_{it},$$

where Y_{it} is the outcome of interest—representing either the probability of having any earnings, the amount of earnings, or the amount of earnings conditional on having any earnings—for individual i in year t. $Ceased_i$ is a dummy variable for individuals whose eligibility ceased as the result of an age-18 redetermination, $Post_t$ is a dummy variable for years after reaching age 18, $(Ceased \times Post)_{it}$ is a dummy variable identifying ceased-eligibility individuals in years after reaching age 18, and ε_{it} is an error term. The variable δ is the effect of turning 18 on parental earnings, all else equal. Linear probability model estimates for the presence of any earnings are included for simplicity and consistency; the results are consistent with those produced when logistic regressions are used.

Table A-1 shows the δ estimates separately for mothers and fathers as well as for parents overall using three alternative observation intervals: 1 year before and 1 year after the child turns 18, 2 years before and 2 years after the child turns 18, and 2 years before and 4 years after the child turns 18, all for both the 2003 and 2009 cohorts. None of the estimates are statistically significant. The absence of a significant result does not mean an effect does not exist; only that one cannot be detected. However, the absence of a measurable result, coupled with several negative point estimates, can serve as a reminder to policymakers that the parents of SSI recipients (or applicants) do not uniformly or immediately respond to the program's financial incentives.

Table A-1.
Difference-in-difference estimates of the earnings of the parents of SSI recipients before and after the recipient turns 18

Observation interval	Probability that parents have any earnings			Dollar amount of parental—					
				Earnings			Earnings conditional on having earnings		
	Mothers	Fathers	Overall	Mothers	Fathers	Overall	Mothers	Fathers	Overall
				2003 cohort					
1 year before and 1 year after child turns 18	0.00	0.00	0.00	103	-278	-228	83	-482	-415
	(0.03)	(0.01)	(0.01)	(888)	(275)	(271)	(1,003)	(368)	(354)
2 years before and 2 years after child turns 18	-0.01	0.00	0.00	148	75	99	299	14	54
	(0.03)	(0.01)	(0.01)	(903)	(278)	(274)	(1,016)	(362)	(351)
2 years before and 4 years after child turns 18	0.00	0.00	0.00	245	439	410	295	371	341
	(0.03)	(0.01)	(0.01)	(941)	(291)	(287)	(1,053)	(377)	(364)
				2009 cohort					
1 year before and 1 year after child turns 18	0.01	0.02	0.01	121	554	533	-775	316	165
	(0.11)	(0.05)	(0.04)	(3,932)	(1,206)	(1,192)	(4,801)	(1,701)	(1,644)
2 years before and 2 years after child turns 18	0.02	-0.05	-0.03	-3,075	839	341	-6,241	2,768	1,339
	(0.11)	(0.05)	(0.04)	(4,233)	(1,212)	(1,224)	(5,280)	(1,745)	(1,732)
2 years before and 4 years after child turns 18	-0.06	0.03	0.02	-1,894	1,111	836	-2,061	790	327
	(0.11)	(0.05)	(0.04)	(4,076)	(1,224)	(1,217)	(5,492)	(1,768)	(1,736)

SOURCE: Author's calculations using Social Security administrative records.

NOTES: Table reports the estimates from a regression of the earnings variables on whether the youth's eligibility was ceased at the age-18 redetermination, whether the observation occurred before or after the youth turned 18, and the cross product of those two variables.

Standard errors are shown in parentheses

Notes

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[1] SGA is a monthly threshold amount above which a person cannot earn and still be found initially eligible for SSI. The SGA amount is indexed by the consumer price index for urban wage earners and clerical workers (CPI-W); in 2015, it is $1,090. SGA does not apply to initial SSI applicants who are blind.

[2] For more information on SSI living arrangements, see SSA (2014c).

[3] Allocations—the amounts assumed to be necessary to support SSI-ineligible children in the household—are equal to $367 a month in 2015; that is, the difference between the FBR for a couple ($1,100) and the individual FBR ($733). Allocations are not allowed for SSI-ineligible children receiving Temporary Assistance for Needy Families or certain other public assistance payments. Note that public income-maintenance payments and the income used to compute those payments are not deemable (see SSA 2012).

[4] For additional information on parent-to-child deeming, see SSA (2011b).

[5] Information provided by Clark Pickett.

[6] SSA, state agencies, nonprofit organizations, law firms, and other entities provide online information on parental-income deeming. Many of these sources also provide guidance on establishing the living arrangement that maximizes SSI payments for recipients who have turned 18.

[7] For additional information on living arrangements and the VTR and PMV rules, see SSA (2014c) and Nicholas (2014).

[8] Many youths are likely to continue with an Individualized Education Plan at the secondary-education level, to attend college, or to participate in vocational or other training. Although lower earnings could be an opportunity

cost of participating in educational activities, it is not clear that the earnings reduction for applicants aged 17–19 would differ between those allowed and those denied. Whether any difference would persist into ages after the period of typical formal education receipt is also unclear.

[9] Recall that this is an estimate of the upper bound. Differences in disability severity and other factors would presumably shrink the actual impact.

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The Supplemental Poverty Measure (SPM) and Children: How and Why the SPM and Official Poverty Estimates Differ

by Benjamin Bridges and Robert V. Gesumaria*

In 2011, the Census Bureau released its first report on the Supplemental Poverty Measure (SPM). The SPM addresses many criticisms of the official poverty measure, and its intent is to provide an improved statistical picture of poverty. This article examines the extent of poverty identified by the two measures. First, we look at how the SPM and official-measure poverty estimates differ for various demographic and socioeconomic groups. One finding is that the SPM poverty rate is lower than the official poverty rate for each age subgroup of children (0–5, 6–11, and 12–17) by 5.2, 5.3, and 2.2 percentage points, respectively. Then, we look at why the SPM poverty rates for children are lower than the official poverty rates. An important factor here is the difference in treatment of the earned income tax credit and other refundable tax credits.

Introduction

The Census Bureau has recently begun the annual publication of alternative estimates of poverty for the U.S. population based on new methods intended to address shortcomings in the official measure of poverty. The new Supplemental Poverty Measure (SPM) produces a different overall estimate of the number of poor people in the United States and substantially alters the composition of the population in poverty—much less child poverty, much more aged poverty, and more nonaged adult poverty.

In this article, we present a detailed examination of poverty among children (aged 0–17). This age group accounts for more than a fourth of the persons who are poor under the SPM. For comparison purposes and a more comprehensive view of poverty, some findings are presented for older segments of the U.S. population.[1] Using public-use microdata files recently released by the Census Bureau, we compare and contrast the poverty estimates for 2012 produced under the official poverty measure and new measure. We also attempt to discern why the SPM and official estimates for children differ.

The choice of poverty measure affects the poverty status of participants in the Social Security Administration's (SSA's) Old-Age, Survivors, and Disability Insurance (OASDI) program and the Supplemental Security Income (SSI) program administered by SSA. Moreover, these programs have substantial effects on the poverty status of children. About 70 percent of SPM-poor children are in family units that pay payroll taxes. About a sixth of SPM-poor children are in units receiving Social Security (OASDI) benefits and/or SSI payments.

The official poverty measure consists of a set of thresholds for families of different sizes and

Selected Abbreviations

CPS/ASEC	Current Population Survey's Annual Social and Economic Supplement
FCSU	food, clothing, shelter, and utilities
LIHEAP	Low-Income Home Energy Assistance Program
MOOP	medical out-of-pocket [expenses]

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Selected Abbreviations—*Continued*

MSA	metropolitan statistical area
NSLP	National School Lunch Program
SNAP	Supplemental Nutrition Assistance Program
SPM	supplemental poverty measure
SSA	Social Security Administration
SSI	Supplemental Security Income
WIC	Special Supplemental Nutrition Program for Women, Infants, and Children

compositions that are compared with before-tax cash income to determine a family's poverty status.[2] That measure was developed in the early 1960s by SSA's Mollie Orshansky. The poverty thresholds associated with the official measure are the minimum amounts of such income that families of particular sizes and compositions need in order to be considered not poor.[3] When they were developed, the official thresholds represented the cost of a minimum food diet multiplied by 3 (to allow for expenditures on other goods and services). The thresholds have been kept constant in purchasing power over time by increasing their money values to keep pace with increases in the general price level.

Critics of the official measure point out that the official income or resource measure fails to account for noncash government benefits, taxes, medical out-of-pocket (MOOP) expenses, and work expenses. Those critics also point out that the official thresholds are a very narrow measure of necessary expenditures—that is, food—and are based on very old data.[4] They argue that the official thresholds also fail to adjust for geographic differences in the cost of living, and that the official measure's unit of analysis (the Census-defined family) is too narrow.[5]

In November 2011, the Census Bureau released its first report on the new SPM (Short 2011).[6] The SPM addresses numerous concerns of official-measure critics, and its intent is to provide an improved statistical picture of poverty. The SPM income or resource measure is cash income *plus* in-kind government benefits (such as food stamps and housing subsidies) *minus* nondiscretionary expenses (taxes, MOOP expenses, and work expenses). The SPM thresholds are based on a broad measure of necessary expenditures—food, clothing, shelter, and utilities (FCSU)—and are based on recent, annually updated expenditure data. The SPM thresholds are adjusted for geographic differences in the cost of living. The SPM uses a broader unit of analysis that treats cohabiters and their relatives in a more satisfactory way.[7]

The official poverty measure and the SPM produce rather different estimates of the composition of poverty among demographic and socioeconomic groups (by age, race, Social Security beneficiary status, and so forth). Moreover, the impact of taxes (payroll taxes, refundable tax credits, and income taxes) and in-kind government benefits (food stamps, housing subsidies, and so forth) are directly reflected in SPM estimates, but not in official poverty estimates.

In the next section, we describe in more detail the various features of the SPM (unit, resource, and threshold measures) and contrast them with the corresponding features of the official poverty measure. In the following two sections, we present for 2012 an empirical examination of the two poverty measures. First, for various groups, we compare the SPM estimates with official estimates. We present some estimates for all age groups, but focus on children (aged 0–17). Then, we estimate the effects of various features of the SPM on poverty levels among children. In effect, we attempt to discern why the SPM estimates for children differ from the official estimates.

We find that for the total population, the SPM poverty rate (16.0 percent) exceeds the official poverty rate (15.1 percent).[8] For broad age groups, the SPM and official poverty measure give quite different results. The SPM shows substantially less poverty for persons younger than age 18 (a decrease in the poverty rate from 22.3 percent to 18.1 percent) and much more poverty for persons aged 65 or older (an increase from 9.1 percent to 14.8 percent). For nonaged adults (18–64), the SPM poverty rate (15.5 percent) exceeds the official rate (13.7 percent). We find that lower SPM poverty rates hold for all of the age subgroups in the 0–17 age range.

Many children are classified as poor by only one of the two measures. Approximately 3.4 percent of the children in our sample are counted as nonpoor under the official measure, but as poor under the SPM; on the other hand, 7.6 percent of children are counted as poor under the official measure, but as nonpoor under the SPM. About 14.7 percent of children are considered poor under both poverty measures.

We examine the poverty of children for various demographic and socioeconomic groups. Most groups of children have a decrease in poverty. Among the groups of children with the largest percentage decreases in poverty are those residing outside metropolitan statistical areas (MSAs), those in units that

have an owner without a mortgage, and those living in the Midwest.[9] A few groups (including children living in the West, those in units that have an owner with a mortgage, and those in units headed by a person with a bachelor's degree) have very small changes in poverty. Two groups of children (Asians and those with private health insurance) have substantial increases in poverty.

As we show later, the net effect of all changes (from the official poverty measure to the SPM) in the *resource measure* decreases the poverty rate of children by 3.4 percentage points;[10] the net effect of the change in the *unit of analysis* decreases the poverty rate of children by 2.2 percentage points; and the net effect of all changes in the *threshold measure* increases the poverty rate by 2.3 percentage points.

Key Features of the Two Poverty Measures: Descriptions and Comparisons

Measurement of poverty within the population has three critical elements:

1. *Unit* measures. Which individuals in a household can reasonably be expected to share resources?
2. *Resource* measures. What should be counted as resources?
3. *Threshold* measures. What minimum resources are required to be considered nonpoor?

In this section, we consider each of those elements in turn.[11] For the SPM and official poverty estimates examined in this article, we use the public-use version of the March 2013 Current Population Survey's Annual Social and Economic Supplement (CPS/ASEC), which gives income information for calendar year 2012.[12] We describe the SPM and official elements as they were implemented for the 2013 CPS/ASEC. Box 1 summarizes the conceptual differences between the two poverty measures.

Unit Measures

The official measure uses as its unit of analysis the Census-defined family, which includes all persons residing together who are related by birth, marriage, or adoption; it treats all unrelated individuals aged 15 or older independently. Proponents of the SPM unit criticize the failure of the official unit to include

Box 1.
Poverty measure concepts: Official and SPM

Concept	Official poverty measure	Supplemental Poverty Measure (SPM)
Unit definition	Conventional definition: Families and unrelated individuals	Broadened definition: All related individuals who live at the same address, including any cohabiters and their relatives and foster children
Resource measure	Before-tax cash income	Cash income *plus* noncash transfers (such as food stamps and housing subsidies) and refundable tax credits *minus* income and payroll taxes, medical out-of-pocket expenses, and work expenses (includes childcare expenses)
Threshold level for base two-adult/two-child unit	Three times the cost of a minimum food diet (from the Department of Agriculture), updated by the U.S. Consumer Price Index	33rd percentile of expenditures on food, clothing, shelter, and utilities (from recent Bureau of Labor Statistics surveys) multiplied by 1.2
Threshold adjustments	Implicit equivalence scale that varies by family size, composition, and age of the family head	Explicit equivalence scale that varies by unit size and composition, but not by age of unit head; also, adjustments for differences in housing costs by (1) housing status (owner with a mortgage and so forth) and (2) geographic area

SOURCES: Short (2013), http://www.census.gov/prod/2013pubs/p60-247.pdf; and DeNavas-Walt, Proctor, and Smith (2013), http://www.census.gov/prod/2013pubs/p60-245.pdf.

all persons at an address who are likely to share resources. In particular, those proponents believe that the official-unit concept does not treat cohabiters and their relatives properly.

Proponents of the SPM believe that the SPM unit better represents the unit that shares economic resources. The SPM unit includes all related persons at the same address, as well as any cohabiters and their relatives, and any coresident unrelated children who are cared for by the family (such as foster children).[13] Most children in SPM units that differ from their official units are in SPM units that are larger than their official units; in larger units, there is more resource sharing that tends to reduce the number of people in poverty.

Resource Measures

The official resource measure is family before-tax money income.[14] Persons in families whose before-tax money income is less than the family's threshold are classified as poor. Proponents of the SPM believe that the official resource measure has the following major weaknesses:[15]

1. The official resources measure does not reflect the effects of government benefit and tax programs that alter the resources available to families and, thus, their poverty status. Those programs are in-kind public benefits, refundable tax credits, and payroll and income taxes.[16]
2. The official resource measure does not account for expenses that are necessary to hold a job and to earn income. Those expenses include transportation costs for getting to and from work and the costs of childcare for working families.[17]
3. The official resource measure also does not account for MOOP expenses.[18]

The SPM resource measure attempts to overcome the weaknesses of the official resource measure. The SPM resource measure is the sum of cash income *plus* refundable tax credits and any government in-kind benefits that families can use to meet their basic needs, which are represented in the thresholds, *minus* taxes and other nondiscretionary expenses for critical goods not included in the thresholds. The importance of these various additions to and subtractions from cash income varies greatly across age groups.

Box 2 summarizes the derivation of the SPM resource concept. The SPM resource measure includes the following government in-kind benefit programs: (1) Housing subsidies, (2) the Low-Income Home Energy Assistance Program (LIHEAP), (3) the National School Lunch Program (NSLP), (4) the Supplemental Nutrition Assistance Program or SNAP (formerly known as the Food Stamp Program), and (5) the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).[19]

Housing subsidies, LIHEAP benefits, and SNAP benefits are intended to help both nonaged and aged persons. By contrast, NSLP and WIC benefits are intended to help nonaged persons. All of these programs are targeted to low-income individuals.

The SPM resource measure also includes the following refundable tax credits: (1) the earned income tax credit and (2) the additional federal childcare tax credit. These credits are intended to help low-income working families, especially those with children.

The following expenses are deducted in deriving SPM unit resources: (1) federal individual income tax (after nonrefundable credits), (2) state individual income tax, (3) Social Security tax payments by employees and the self-employed *plus* federal employee retirement payroll deductions, (4) child support paid, (5) MOOP expenses, and (6) work expenses (including childcare expenses).[20]

Box 2.
Deriving SPM unit resources

SPM resources = money income from all sources—

Plus:

- Housing subsidies
- Low-Income Home Energy Assistance Program (LIHEAP)
- National School Lunch Program (NSLP)
- Supplemental Nutrition Assistance Program (SNAP)
- Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)
- Refundable tax credits (such as earned income tax credits (EITC))

Minus:

- Federal individual income taxes
- State individual income taxes
- Payroll taxes
- Child support paid
- Medical out-of-pocket (MOOP) expenses
- Work expenses (includes childcare expenses)

SOURCE: Short (2013), http://www.census.gov/prod/2013pubs/p60-247.pdf.

NOTE: SPM = Supplemental Poverty Measure.

It should be clear that the relative impact of various types of expenses on household resources tends to vary by age. For instance, payroll taxes and work expenses affect working families. Child support payments come mostly from nonaged persons. Low-income aged units typically have no or low income-tax liabilities.

MOOP expenses are very important for aged persons, but are also important for those who are nonaged. MOOP expenses include health insurance premiums *plus* out-of-pocket expenses for one's own medical care (hospital visits, medical providers, dental services, prescription medicine, vision aids, and medical supplies) and over-the-counter, health-related products.[21] Subtracting MOOP expenses from income, as with taxes and work expenses, better identifies the amount of income that the unit has available to purchase the basic bundle of goods included in the threshold.

Threshold Measures

The official measure uses a set of thresholds for families of different sizes and compositions. The threshold values depend on unit size, number of children, and age of the unit head (younger than 65 *or* 65 or older). At the time they were developed, the official thresholds represented the cost of a minimum food diet multiplied by 3 (to allow for expenditures on other goods and services).[22] The thresholds are updated each year using the U.S. Consumer Price Index for all items.

Proponents of the SPM believe that the official threshold measure has the following major weaknesses:

1. The official thresholds are based on only one category of necessary expenditures; that is, food.[23] The expenditure information used is more than 50 years old. The share of food in expenditures is much lower now than it was 50 years ago. The threshold levels are fixed in real or inflation-adjusted dollars and do not reflect increases over time in real spending on basic needs.
2. The official threshold measure does not adjust for differences in expenditure needs resulting from differences in unit housing-tenure status. For example, homeowners with mortgages, on average, need to make sizable mortgage payments.[24]
3. The official threshold measure does not adjust for geographic differences in the cost of living, which are often large.[25]
4. The official thresholds use family size and composition adjustments that in some cases produce questionable results. For example, some single-parent families have higher thresholds than married-couple families of the same size, implying that children require more resources than adults in certain size families. Critics of the official measure believe that the evidence used in setting thresholds for aged units and for one-person nonaged units is quite weak. In addition, the fact that the equivalence scales are implicit and not transparent is a substantial weakness.

The SPM threshold measure attempts to overcome the disadvantages of the official threshold measure and has the following properties:

1. SPM thresholds represent the amount needed for a basic set of goods that consists of FCSU and an additional amount allowed for other basic needs (household supplies, personal care, nonwork-related transportation). The basic FCSU needs reflect expenditures on this basic bundle of goods around the 33rd percentile of the expenditure distribution, as reported in the Bureau of Labor Statistics' Consumer Expenditure Survey (CE).[26] The SPM thresholds for 2012 are based on 2008–2012 data from the CE. To include other basic needs in the threshold, the basic FCSU needs are multiplied by 1.2. Over time, the thresholds are not fixed in real or inflation-adjusted dollars. Each year, the thresholds are updated using the most recent CE data.
2. SPM thresholds are adjusted for differences in shelter and utility expenditure needs. The thresholds depend on unit housing-tenure status. The groups within that category consist of units that have owners with mortgages, owners without mortgages, and renters. The adjustments are based on CE data.
3. The thresholds are adjusted for geographic differences in housing costs. The adjustment factors are for more than 300 areas and are based on American Community Survey estimates.
4. The threshold for units with two children (the base threshold) is derived from CE data as described in item 1 above. The thresholds for other unit types (differing in size and number of children) are then derived by applying an explicit equivalence scale to that base threshold.[27] Equivalence scales are measures of the relative cost of living for units of different sizes and compositions that are otherwise

similar. For example, if a unit of two adults can live as well as a unit of two adults and two children while spending only three-fourths as much, then relative to the reference unit of two adults and two children, the equivalence-scale value for a two-adult unit is three-fourths. For the purpose of poverty measurement, an equivalence scale is used to adjust the threshold value for the reference unit to provide corresponding thresholds for other unit types. We use a three-parameter equivalence scale, which is described later.

Official Poverty Measure and SPM Estimates: A Comparison

In this section, we begin our empirical examination of the two poverty measures. For the various age groups, we compare the SPM estimates with the official poverty measure estimates. In the following section, for our focus group (persons younger than age 18), we estimate the effects of various features of the SPM on poverty levels, noting why SPM estimates for children differ from the official estimates.

We begin this section by looking at poverty for the total population and for various groups of nonaged and aged persons. Next, we examine deep poverty and the distribution of people by welfare-ratio intervals. Then, we examine movements into and out of poverty. Finally, we look at the poverty of children for various demographic and socioeconomic groups.

Poverty by Age Groups

Table 1 gives numbers and percentages of people in poverty for the total population and for various age groups and age subgroups. For the total population, the SPM poverty rate (16.0 percent) exceeds the official rate (15.1 percent).[28] The number of people poor under the SPM (49.8 million) exceeds the number poor under the official measure (47.0 million) by 2.8 million or 6 percent.[29] MOOP expenses are important in causing SPM poverty to exceed official poverty.[30] The average ratio of resources to threshold is higher for the SPM-poor population (.565) than for the official-poor population (.502). We refer to the ratio of unit resources to the unit threshold as a welfare ratio.

Both Table 1 and the accompanying chart show that for broad age groups, the SPM and official poverty measure give quite different results. Compared with the official measure, the SPM shows much *less* poverty for children (younger than age 18) and much *more* poverty for the aged (65 or older). For children, the SPM poverty rate (18.1 percent) is lower than the official rate (22.3 percent) by 4.2 percentage points or 19 percent.[31] Refundable tax credits are very important for children. For the aged population (65 or older), the SPM poverty rate (14.8 percent) exceeds the official rate (9.1 percent) by about 5.8 percentage points or 63 percent. MOOP expenses are very important for the aged.[32] Note that the official poverty rate is much higher for children than that for the aged population; however, the SPM poverty rate for children is only modestly higher than that for the aged. For the nonaged adult population (18–64), the SPM rate (15.5 percent) exceeds the official rate (13.7 percent) by 1.8 percentage points or 13 percent. For nonaged adults, MOOP expenses are important in causing SPM poverty to be greater than official poverty.[33] Compared with the official measure, the SPM shows much smaller age-group differences in poverty rates (refer to the chart).

For children, the average welfare ratio is much higher for those poor under the SPM (.630) than for those poor under the official measure (.497). However, for the aged population, the average welfare ratio is markedly lower for those poor under the SPM (.535) than for those poor under the official measure (.622).[34]

For children, we also look at poverty rates for detailed age subgroups (Table 1). For all three age subgroups (0–5, 6–11, and 12–17), the SPM rates fall short of the official rates. For the youngest two subgroups, the shortfalls are about 5 percentage points; for the oldest subgroup, the shortfall is about 2 percentage points.

Deep Poverty by Age Groups

People in units with unit resources that amount to less than 50 percent of the unit threshold are said to be in deep SPM or deep official poverty.[35] Table 2 gives numbers and percentages of people in deep poverty for the same age groups and age subgroups shown in Table 1.

For the total population, the SPM deep poverty rate (5.2 percent) is lower than the official-measure deep poverty rate (6.7 percent). By contrast, as discussed earlier, the SPM poverty rate (16.0 percent) exceeds the official poverty rate (15.1 percent). Although the SPM counts 4.8 million fewer people in deep poverty, the number of SPM nondeep poor exceeds the official-measure count of nondeep poor by 7.6 million people. SNAP benefits and refundable tax credits are important determinants in causing SPM deep poverty to be

Table 1.
Number and percentage of people in poverty under the two poverty measures, by selected age groups, 2012

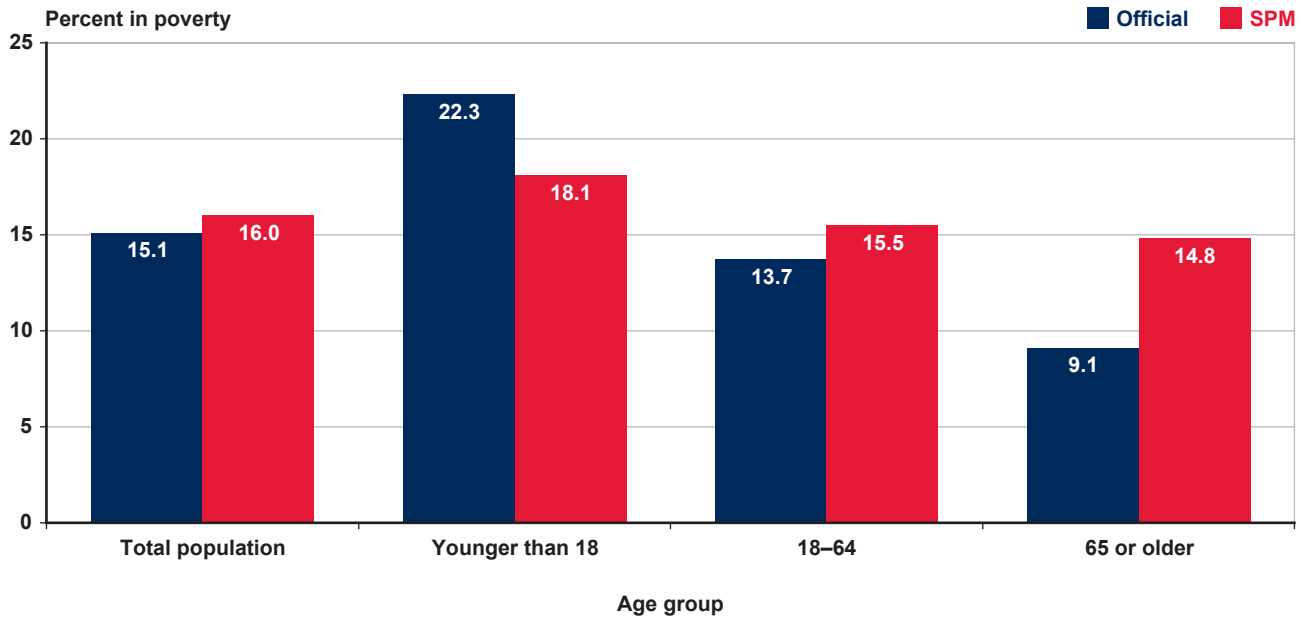
Age group	Total number	Official poverty		SPM poverty		Percentage point difference between SPM and official poverty rates
		Number	Percent	Number	Percent	
Total population	311,116	46,962	15.1	49,785	16.0	0.9
Younger than 18	74,187	16,541	22.3	13,433	18.1	-4.2
0–5	24,053	6,108	25.4	4,857	20.2	-5.2
6–11	24,538	5,680	23.1	4,389	17.9	-5.3
12–17	25,596	4,752	18.6	4,187	16.4	-2.2
18–64	193,642	26,496	13.7	29,934	15.5	1.8
65 or older	43,287	3,926	9.1	6,418	14.8	5.8

SOURCE: The public-use version of the 2013 Current Population Survey's Annual Social and Economic Supplement.

NOTES: Numbers are in thousands. The values in the last column do not necessarily equal the difference between the SPM and official-measure poverty rates because of rounding.

SPM = Supplemental Poverty Measure.

Chart.
Official and SPM poverty rates, by broad age groups, 2012



SOURCE: The public-use version of the 2013 Current Population Survey's Annual Social and Economic Supplement.

NOTE: SPM = Supplemental Poverty Measure.

Table 2.

Number and percentage of people in deep poverty[a] under the two poverty measures, by selected age groups, 2012

Age group	Total number	Official deep poverty		SPM deep poverty		Percentage point difference between SPM and official deep poverty rates
		Number	Percent	Number	Percent	
Total population	311,116	20,868	6.7	16,067	5.2	-1.5
Younger than 18	74,187	7,612	10.3	3,532	4.8	-5.5
0–5	24,053	3,050	12.7	1,242	5.2	-7.5
6–11	24,538	2,499	10.2	1,104	4.5	-5.7
12–17	25,596	2,062	8.1	1,185	4.6	-3.4
18–64	193,642	12,082	6.2	10,493	5.4	-0.8
65 or older	43,287	1,175	2.7	2,042	4.7	2.0

SOURCE: The public-use version of the 2013 Current Population Survey's Annual Social and Economic Supplement.

NOTES: Numbers are in thousands. The values in the last column do not necessarily equal the difference between the SPM and official-measure deep poverty rates because of rounding.

SPM = Supplemental Poverty Measure.

a. People in units with resources that amount to less than 50 percent of threshold.

lower than official-measure deep poverty. The average welfare ratio is lower for the SPM deep poor (.095) than for the official-measure deep poor (.178).

For broad age groups of the aged and nonaged, the SPM and official poverty measure give quite different results for deep poverty. Compared with the official measure, for deep poverty (and for overall poverty), the SPM shows a much lower rate for children (younger than age 18) and a much higher rate for the aged (65 or older). For children, the SPM deep poverty rate (4.8 percent) is less than half the official poverty rate (10.3 percent). For children, SNAP benefits and refundable tax credits are important determinants in causing SPM deep poverty to be lower than official-measure deep poverty. For the aged population (65 or older), the SPM deep poverty rate (4.7 percent) exceeds the official poverty rate by 2.0 percentage points or 74 percent. For that group, MOOP expenses are very important in causing SPM deep poverty to be higher than official-measure deep poverty. Note that under the official measure, the deep poverty rate for children is much higher than that for the aged population; however, under the SPM, the deep poverty rate of children is about the same as that for the aged. For nonaged adults (18–64), the SPM deep poverty rate (5.4 percent) is lower than the official deep poverty rate (6.2 percent) by 0.8 percentage points or 13 percent. For that group, SNAP benefits and refundable tax credits are important determinants in causing SPM deep poverty to be lower than official-measure deep poverty.

For children, the average welfare ratio for the SPM deep poor (.168) is a bit lower than that for the official-measure deep poor (.202). For the aged, the average welfare ratio for the SPM deep poor (-.013) is substantially lower than that for the official-measure deep poor (.171).[36,37]

We also look at deep poverty rates for detailed age subgroups of children (Table 2). For all three age subgroups (0–5, 6–11, and 12–17), the SPM rates fall short of the official-measure deep poverty rates, with differences decreasing with age, from 7.5 percentage points to 3.4 points.

Distributions of People by Welfare-Ratio Classes and Age Groups

We next compare distributions of economic welfare measured using SPM concepts with those measured using official poverty measure concepts. Table 3 shows the percentage distributions of people in the various age groups and age subgroups by welfare-ratio intervals. As we stated earlier, the welfare ratio is defined as the ratio of unit resources to the unit poverty threshold.[38] People in poverty and in deep poverty are those in units with welfare ratios less than 1.0 and less than 0.5.

Table 3.

Percentage distribution of people under the two poverty measures, by welfare-ratio[a] intervals and selected age groups, 2012

Age group	Welfare-ratio intervals						
	Less than 0.50	0.50–0.99 [b]	1.00–1.24 [b]	1.25–1.49 [b]	1.50–1.99 [b]	2.00–3.99 [b]	4.00 or more
				Official			
Total population	6.7	8.4	4.7	4.9	9.6	30.0	35.7
Younger than 18	10.3	12.0	5.7	5.8	10.4	29.0	26.9
0–5	12.7	12.7	5.9	5.7	10.6	27.6	24.9
6–11	10.2	13.0	6.0	5.7	10.0	28.9	26.2
12–17	8.1	10.5	5.3	5.9	10.5	30.4	29.4
18–64	6.2	7.4	4.2	4.3	8.6	29.5	39.7
65 or older	2.7	6.4	5.5	6.3	12.8	33.7	32.6
				SPM			
Total population	5.2	10.8	8.5	8.5	14.2	34.6	18.2
Younger than 18	4.8	13.3	10.6	10.7	16.3	32.7	11.7
0–5	5.2	15.0	12.0	11.3	16.0	31.0	9.5
6–11	4.5	13.4	10.7	10.7	16.4	32.6	11.8
12–17	4.6	11.7	9.1	10.2	16.3	34.4	13.6
18–64	5.4	10.0	7.5	7.6	13.5	35.7	20.3
65 or older	4.7	10.1	9.3	8.8	14.3	33.1	19.7

SOURCE: The public-use version of the 2013 Current Population Survey's Annual Social and Economic Supplement.

NOTES: Row percentages sum to approximately 100.0.

SPM = Supplemental Poverty Measure.

a. The ratio of unit resources to the unit poverty threshold.

b. Less than the lower bound of next interval.

Compared with the official poverty measure, for the total population, the SPM shows a higher share of people in each of the five middle welfare-ratio classes (with welfare ratios equal to or greater than 0.50 and less than 4.00) and a much lower share in the top welfare-ratio class (with ratios of 4.00 or more). This pattern also holds for all of the age subgroups of the nonaged population shown in Table 3. For children, the official poverty measure assigns 63 percent to the five middle welfare-ratio classes compared with 84 percent under the SPM. The lower shares in the top welfare-ratio class result in large part from the subtraction of tax payments in computing the SPM resource measure.

"Movements" Into and Out of Poverty by Age Groups

When the basis for poverty measurement changes, the composition of the population designated as poor also changes. We refer to such redesignations in poverty status as *movements* into and out of poverty that are solely attributable to the switch to a different method for determining who is poor.[39] We now discuss the effects on poverty status (movements into and out of poverty) of changing the way that poverty is measured—from the official poverty measure to the SPM.

Table 4 gives percentages of people exiting poverty, staying in poverty, and entering poverty for the various age groups and age subgroups. We know that for the total population, the SPM poverty rate (16.0 percent) exceeds the official rate (15.1 percent). Switching to the SPM moves some people into poverty (official nonpoor who become SPM poor) and others out of poverty (official poor who become SPM nonpoor). That switch to the SPM moves about 4.9 percent of the population into poverty and about 4.0 percent out of poverty, which accounts for the 0.9 percentage point net increase in the measured poverty rate. Payroll taxes, work expenses, and especially MOOP expenses are important determinants in moving people into poverty. Refundable tax credits and SNAP benefits

Table 4.
Percentage of people defined as poor under the official poverty measure and poverty-status effects of a shift to the SPM, by selected age groups, 2012

Age group	Official poor [a]	Exit poverty [b]	Stay in poverty [c]	Enter poverty [d]	SPM poor [e]
Total population	15.1	4.0	11.1	4.9	16.0
Younger than 18	22.3	7.6	14.7	3.4	18.1
0–5	25.4	8.9	16.5	3.7	20.2
6–11	23.1	8.4	14.8	3.1	17.9
12–17	18.6	5.8	12.8	3.6	16.4
18–64	13.7	3.2	10.5	5.0	15.5
65 or older	9.1	1.4	7.7	7.2	14.8

SOURCE: The public-use version of the 2013 Current Population Survey's Annual Social and Economic Supplement.

NOTE: SPM = Supplemental Poverty Measure.

a. "Exit poverty" column *plus* "Stay in poverty" column.

b. Official poor, but SPM nonpoor.

c. Official poor and SPM poor.

d. Official nonpoor, but SPM poor.

e. "Stay in poverty" column *plus* "Enter poverty" column.

are important determinants in moving people out of poverty. About 11.1 percent of the population is considered poor under both poverty measures.

For children (younger than age 18), the SPM poverty rate (18.1 percent) is lower than the official rate (22.3 percent). A switch to the SPM moves about 3.4 percent of children into poverty and about 7.6 percent out of poverty. Payroll taxes, work expenses, and especially MOOP expenses are important determinants in moving children into poverty. Refundable tax credits and SNAP benefits are important in moving children out of poverty. About 14.7 percent of children are considered poor under both poverty measures.[40]

For the aged (65 or older), the SPM poverty rate (14.8 percent) exceeds the official rate (9.1 percent). Switching to the SPM moves about 7.2 percent of the aged population into poverty and only about 1.4 percent out of poverty, which accounts for the large increase in that group's poverty rate. MOOP expenses are especially important in moving aged persons into poverty. Housing subsidies are important in moving aged persons out of poverty. About 7.7 percent of the aged population is considered poor under both poverty measures.

For nonaged adults (18–64), the SPM poverty rate (15.5 percent) exceeds the official rate (13.7 percent). Switching to the SPM moves about 5.0 percent of the nonaged adult population into poverty and about 3.2 percent out of poverty. MOOP expenses, work expenses, and payroll taxes are important determinants in moving nonaged adults into poverty. Refundable tax credits and SNAP benefits are important determinants in moving nonaged adults out of poverty. About 10.5 percent of nonaged adults are considered poor under both poverty measures.

Table 5 gives joint percentage distributions of children, by their official poverty measure and SPM welfare-ratio classes, for those exiting poverty, entering poverty, poor under both measures, and not poor under both measures. Much of the movement into and out of poverty among children occurs near the poverty line. Thus, of the 2.6 million children entering poverty, about 63 percent move from the 1.00–1.49 welfare-ratio class to the 0.50–0.99 class.[41] Similarly, of the 5.7 million children exiting poverty, 64 percent move from the 0.50–0.99 welfare-ratio class to the 1.00–1.49 class. Of those poor under both poverty measures, 4 percent move into deep poverty, and 30 percent move out of deep poverty.

Poverty of Children by Various Demographic and Socioeconomic Characteristics

We now turn to more detailed comparisons of the SPM and official poverty measure for children and examine results for various demographic and socioeconomic groups.

Table 5.

Changes in the poverty status of children, by welfare-ratio[a] interval, 2012: Joint percentage distributions by change category

Official measure welfare-ratio interval	SPM welfare-ratio interval					
	Less than 0.50	0.50–0.99 [b]	1.00–1.49 [b]	1.50–1.99 [b]	2.00–3.99 [b]	4.00 or more
			Exiting poverty [c]			
Less than 0.50	0.0	0.0	16.7	4.1	4.4	0.5
0.50–0.99 [b]	0.0	0.0	64.3	7.4	2.5	0.0
			Entering poverty [d]			
1.00–1.49 [b]	4.3	62.5	0.0	0.0	0.0	0.0
1.50–1.99 [b]	2.1	20.3	0.0	0.0	0.0	0.0
2.00–3.99 [b]	1.5	8.2	0.0	0.0	0.0	0.0
4.00 or more	1.0	0.1	0.0	0.0	0.0	0.0
			Poor under both measures			
Less than 0.50	26.1	30.5	0.0	0.0	0.0	0.0
0.50–0.99 [b]	4.3	39.1	0.0	0.0	0.0	0.0
			Not poor under both measures			
1.00–1.49 [b]	0.0	0.0	9.2	2.7	0.4	0.0
1.50–1.99 [b]	0.0	0.0	6.9	4.9	1.0	0.0
2.00–3.99 [b]	0.0	0.0	4.2	12.7	21.6	0.2
4.00 or more	0.0	0.0	0.0	0.4	20.3	15.4

SOURCE: The public-use version of the 2013 Current Population Survey's Annual Social and Economic Supplement.

NOTES: For each change category (children who exit poverty, those who enter poverty, those poor under both poverty measures, and those not poor under both poverty measures), the percentages sum to approximately 100.0.

SPM = Supplemental Poverty Measure.

a. The ratio of unit resources to the unit poverty threshold.

b. Less than the lower bound of the next higher interval.

c. Official poor, but SPM nonpoor.

d. Official nonpoor, but SPM poor.

Table 6 shows population counts, poverty rates, and differences in poverty for a sizable number of groups, by selected characteristics. Note that the population counts range from quite large (69 million) to quite small (less than 4 million). Most groups of children have a decrease in poverty. Among the groups of children with the largest percentage decreases in poverty are those residing outside of MSAs, those in units that have an owner without a mortgage, and those living in the Midwest (column 5). Among the groups with the largest percentage point decreases in poverty are children with only public health insurance, those in units with a nonmarried head, and those living outside of MSAs (column 4). A few groups (including children living in the West, those in units that have an owner with a mortgage, and those in units headed by a person with a bachelor's degree) have very small changes in poverty. Two groups of children (Asians and those with private health insurance) have substantial increases in poverty.

Among unit housing-tenure status groups, children in units that have owners without mortgages have a quite large relative decrease in poverty (-33 percent); that is, their SPM poverty rate is substantially lower than their official-measure poverty rate. Children in units that have owners with mortgages show very little change in poverty (an increase of 5 percent). Children in units that have a renter show a decrease in poverty of 22 percent. This pattern of percentage differences reflects in considerable part the fact that the SPM thresholds take housing-tenure status into account. SPM thresholds for units without mortgages are considerably lower than those for other units. In addition, MOOP expenses and taxes are more important

Table 6.
Percentage of children aged 0–17 in poverty under the two poverty measures, by selected characteristics, 2012

Characteristic	Number	Percent		Difference between SPM and official poverty rates	
		Official poor	SPM poor	Percentage point	Percent
Total population	74,187	22.3	18.1	-4.2	-19
Sex and marital status of head [a]					
Male	34,431	14.1	12.6	-1.5	-11
Married [b]	28,597	10.9	10.5	-0.5	-4
Not married [c]	5,835	29.6	23.1	-6.5	-22
Female	39,756	29.4	22.9	-6.5	-22
Married	20,845	12.7	11.3	-1.4	-11
Not married	18,911	47.8	35.6	-12.2	-25
Marital status of head [a]					
Married	49,441	11.7	10.8	-0.9	-7
Not married	24,746	43.5	32.7	-10.9	-25
Race[d] and Hispanic origin					
White	54,388	18.9	15.5	-3.5	-18
White, not Hispanic	38,978	12.8	9.6	-3.2	-25
Black	11,161	38.4	29.2	-9.1	-24
Asian	3,611	14.2	17.6	3.4	24
Hispanic (any race)	17,789	34.3	30.3	-4.0	-12
Nativity of head [a]					
Native born	58,451	20.0	15.2	-4.8	-24
Foreign born	15,736	30.8	29.0	-1.8	-6
Naturalized citizen	6,599	19.3	18.7	-0.6	-3
Not a citizen	9,137	39.1	36.4	-2.7	-7
Unit housing-tenure status					
Owner with a mortgage	35,787	7.8	8.2	0.4	5
Owner without a mortgage/rent free[e]	9,973	22.3	15.0	-7.2	-33
Renter	28,426	40.6	31.7	-8.9	-22
Residence[f]					
Inside MSAs	62,826	21.4	18.5	-2.8	-13
Outside MSAs	10,763	26.9	15.5	-11.5	-43
Region					
Northeast	12,150	20.1	17.4	-2.7	-14
Midwest	15,881	20.3	14.0	-6.3	-31
South	28,115	24.7	18.6	-6.1	-25
West	18,041	21.7	21.4	-0.4	-2
Health insurance coverage					
Private insurance	44,586	6.0	7.3	1.2	20
Public insurance only	23,015	50.8	36.0	-14.9	-29
No insurance	6,586	32.6	29.2	-3.4	-11
SPM unit's beneficiary status					
With Social Security and/or SSI	8,063	33.7	26.1	-7.6	-23
Without Social Security or SSI	66,124	20.9	17.1	-3.8	-18

Continued

Table 6.
Percentage of children aged 0–17 in poverty under the two poverty measures, by selected characteristics, 2012—*Continued*

Characteristic	Number	Percent		Difference between SPM and official poverty rates	
		Official poor	SPM poor	Percentage point	Percent
Work experience of head [a]					
All workers	58,319	15.4	11.9	-3.5	-23
Worked full time, year round	41,409	8.7	7.4	-1.3	-15
Worked less than full time, year round	16,910	31.8	22.8	-9.0	-28
Did not work during year	15,868	47.7	41.0	-6.7	-14
SPM unit's payroll tax status					
With payroll tax	68,925	17.5	13.6	-3.9	-22
Without payroll tax	5,262	84.5	76.7	-7.8	-9
Disability status					
With a disability	3,874	41.6	34.1	-7.5	-18
Without a disability	69,734	21.4	17.3	-4.0	-19
Education of head [a]					
Less than a high school diploma	10,399	51.3	40.8	-10.5	-20
High school diploma or more	63,788	17.6	14.4	-3.2	-18
High school diploma	18,839	30.1	23.7	-6.5	-21
Some college	21,812	19.6	15.5	-4.1	-21
Bachelor's degree or more	23,137	5.4	5.8	0.4	8
Bachelor's degree	14,909	6.3	6.6	0.3	5
More than a bachelor's degree	8,228	3.8	4.4	0.6	15
Less than bachelor's degree	51,050	29.9	23.7	-6.3	-21

SOURCE: The public-use version of the 2013 Current Population Survey's Annual Social and Economic Supplement.

NOTES: Numbers are in thousands.

MSA = metropolitan statistical area; SPM = Supplemental Poverty Measure; SSI = Supplemental Security Income.

a. The term "head" always refers to the head of the SPM unit.

b. Married, spouse present in the household.

c. In addition to people widowed, divorced, or never married, this category also includes those who are married with the spouse absent from the household.

d. Excludes people who report more than one race.

e. Includes nonowners who live rent free.

f. Excludes a small number of persons where confidentiality rules prevent identification of MSA status on the public-use data file. Such identification is available on the Census Bureau's internal data file.

in increasing poverty for children in units that have owners with mortgages than for those in units that have renters. SNAP benefits and housing subsidies are more important in reducing poverty for children in units that have renters than for children in units that have owners with mortgages.

Children residing inside MSAs have a modest decrease in poverty (-13 percent), but children who live outside MSAs have a very sizable decrease in poverty (-43 percent). This pattern of percentage differences reflects the fact that the SPM threshold incorporates adjustments for geographic differences in housing costs, which are, on average, considerably higher inside MSAs than they are outside MSAs.

Among regions, children residing in the West and Northeast have the smallest percentage decreases in poverty (-2 and -14 percent). Children living in the Midwest and South have large percentage decreases in poverty (31 percent and 25 percent). Again, these patterns reflect the fact that the SPM threshold incorporates adjustments for geographic differences in housing costs. In addition, refundable tax credits are

more important in reducing poverty for children residing in the Midwest and South than for those residing in the West and Northeast.

Hispanics have a smaller relative decrease in poverty (-12 percent) than do non-Hispanic whites (-25 percent).[42] Children in SPM units with foreign-born heads have a much smaller relative decrease in poverty (-6 percent) than do children in units with native-born heads (-24 percent).[43] These patterns in large part reflect the fact that the SPM threshold incorporates adjustments for geographic differences in housing costs.[44] In addition, SNAP benefits are more important in reducing poverty for native-born children than for those who are foreign born.[45]

Asian children have a large relative increase in poverty (24 percent). White and black children have similar decreases in poverty (-18 percent and -24 percent). The geographic adjustment for cost-of-living differences sharply increases the poverty of Asian children, but causes little relative change in the numbers of poor white and black children.[46] In addition, refundable tax credits, SNAP benefits, and other noncash transfers are more important in reducing the poverty of white and black children than of Asian children.[47]

For each of the six previously discussed categories (unit housing-tenure status, residence, region, Hispanic origin, nativity of head, and race), differences between the SPM and official poverty measure thresholds play a key role in determining the patterns of percentage differences in poverty changes.

The relative decrease in poverty is considerably smaller for children in units with married heads (-7 percent) than for those in units with nonmarried heads (-25 percent) and considerably smaller for those in units with male heads (-11 percent) than for those in units with female heads (-22 percent). These patterns reflect the net effects of a number of offsetting effects that are due to differences in threshold, resource, and unit measures.

Children in units with a working head have a somewhat larger relative decrease in poverty (-23 percent) than do those in units with a nonworking head (-14 percent).[48] This pattern reflects the net effects of a number of sizable offsetting effects. Payroll taxes, work expenses, and MOOP expenses are more important in increasing the poverty of children in units with working heads. By contrast, refundable tax credits and other noncash transfers are more important in reducing the poverty of children in units with working heads.

Children in SPM units with payroll tax liability have a sizable relative decrease in poverty (-22 percent).[49] Children in units without payroll tax liability have very high poverty rates, but the shift from the official poverty measure to the SPM produces a modest relative decrease in their poverty rate (-9 percent). This pattern again reflects the net effects of a number of sizable offsetting effects. Payroll taxes, work expenses, and MOOP expenses are more important in increasing the poverty of children in units with payroll taxes. Refundable tax credits, other noncash transfers, and the SPM unit definition are more important in reducing the poverty of children in units with payroll taxes.

The percentage decrease in poverty among children in units with disabled heads is about the same as that for those in units with nondisabled heads (-18 percent and -19 percent).[50,51] This similarity of percentage decreases again reflects the net effects of a number of sizable offsetting effects. Refundable tax credits are much more important in reducing the poverty of children in units with nondisabled heads; the refundable earned income tax credit is received by working families.[52] SNAP benefits and housing subsidies are a bit more important in reducing the poverty of children in units with disabled heads. In addition, work expenses and payroll taxes are somewhat more important in increasing the poverty of children in units with nondisabled heads.[53]

Children in units receiving Social Security benefits and/or SSI payments have a slightly larger relative decrease in poverty (-23 percent) than do children in units without Social Security or SSI (-18 percent).[54] This similarity of percentage decreases again reflects the net effects of a number of sizable offsetting effects. SNAP benefits and housing subsidies are somewhat more important in reducing the poverty of children in beneficiary units. In addition, the geographic adjustments for cost-of-living differences somewhat reduces the poverty of children in beneficiary units and increases the poverty of those in nonbeneficiary units. Also, payroll taxes and work expenses are somewhat more important in increasing the poverty of children in nonbeneficiary units.[55] Refundable tax credits are much more important in reducing the poverty of children in nonbeneficiary units.

Children in units with private health insurance have a sizable increase in poverty (20 percent).[56] On the other hand, children in units with only public health insurance and those in units with no health insurance

have decreases in poverty (-29 and -11 percent).[57] This pattern reflects the fact that MOOP expenses, taxes, and work expenses are more important in increasing the poverty of children in units with private insurance than for those in units with only public insurance or no insurance.[58] SNAP benefits and housing subsidies are more important in reducing the poverty of children in units with only public insurance than for those in units with no insurance.

For children in units headed by a person without a bachelor's degree, poverty *decreases* by about 20 percent for each of the three listed levels of education. For children in units headed by a person with a bachelor's degree or more, poverty *increases* by 8 percent. (The increases in poverty are 5 percent for children in units headed by a person with only a bachelor's degree and 15 percent for children in units headed by a person with more than a bachelor's degree.) This pattern in part reflects the fact that SNAP benefits and other noncash transfers are more important in reducing the poverty of children in units headed by a person with less than a bachelor's degree. In addition, MOOP expenses are more important in increasing the poverty of children in units headed by a person with a bachelor's degree or more.

For each of these eight previously discussed categories (marital status of head, sex of head, work experience of head, SPM unit's payroll tax status, disability status, SPM unit's beneficiary status, health insurance coverage, and education of head), differences between the SPM and official resource measures play a key role in determining the patterns of percentage differences in poverty changes. For a number of those categories, the patterns of percentage differences in poverty changes are the net result of sizable offsetting resource-measure effects.

Effects of Various Features of the SPM on the Poverty of Children

The 4.2 percentage point decrease in measured poverty among children can be attributed to specific features of the SPM. A number of those features decrease poverty, but others increase it. We now consider the effects of the SPM's resource, threshold, and unit measures.

Effects of Elements of the Resource Measure

In the following three subsections, we (1) consider the effects of noncash transfers and refundable tax credits, (2) examine the effects of taxes and other nondiscretionary expenses, and (3) analyze the combined effect of all the resource-measure elements.

Noncash transfers and refundable tax credits. For each of these programs, we compare SPM poverty with the poverty that results when the benefits of the program are subtracted from the resource measure, but the SPM thresholds and SPM units are unchanged.[59] We view the change in poverty as the result of a specified change in the way it is measured.

There is another way to interpret the change in poverty. We could view the change in poverty as the effect of a change in program policy for a given measure of poverty, namely, the effect on SPM poverty of introducing the program. Our estimate of the increase in resources that is the result of the introduction of the program equals the amount of program benefits.[60] It does not include any changes in other resource components that are due to the program's behavioral (work effort and so forth) and interprogram effects.[61]

The six in-kind benefit and tax programs considered here are refundable tax credits,[62] housing subsidies, LIHEAP, NSLP, SNAP, and WIC. Table 7 (top panel, column 1) gives the percentage point decreases in the SPM poverty rate for the total population of children; those decreases are attributed to each of the six programs. Four of the programs—refundable tax credits, SNAP, housing subsidies, and NSLP—have quite discernible effects on SPM poverty of children. Refundable tax credits have by far the largest impact—a reduction in the poverty rate of 6.7 percentage points. Including SNAP benefits, housing subsidies, NSLP subsidies in the resource measure reduces the measured poverty rate by 2.9, 1.4, and 0.9 percentage points, respectively. Refundable tax credits are primarily intended to help low-income working families with children.[63] SNAP benefits and housing subsidies target low-income nonaged and aged persons. The NSLP targets low-income families with school-age children. The other two programs (LIHEAP and WIC) are not large enough to have sizable effects on the poverty rates among children aged 0–17. The sum of the six individual effects is very large (12.3 percentage points).

Government cash transfers such as Social Security benefits and SSI payments are included as resources by both the SPM and the official poverty measure.[64] Including Social Security and SSI benefit amounts in SPM resources reduces the SPM poverty rate of children by 2.0 and 0.8 percentage points (not shown). Including Social Security and SSI benefit amounts in the official resource measure reduces the official

Table 7.
Percentage point changes in the SPM poverty rate attributed to individual additions to and subtractions from SPM resources for children aged 0–17, by selected age groups, 2012

SPM resource addition or subtraction	Total (younger than 18)	0–5	6–11	12–17
		Poverty-reducing components		
Additions (refundable tax credits and noncash transfers)				
Refundable tax credits	-6.7	-7.4	-7.3	-5.5
Housing subsidies	-1.4	-1.5	-1.4	-1.2
LIHEAP (energy assistance)	-0.1	-0.1	-0.1	-0.1
NSLP (school lunches)	-0.9	-0.6	-1.3	-0.9
SNAP (formerly the Food Stamp Program)	-2.9	-3.4	-3.3	-2.2
WIC	-0.3	-0.7	-0.2	-0.1
		Poverty-increasing components		
Subtractions (taxes and other nondiscretionary expenses)				
Federal income taxes	0.3	0.4	0.2	0.3
Payroll taxes	1.6	1.7	1.7	1.4
State income taxes	0.2	0.1	0.1	0.2
Child support paid	0.2	0.3	0.2	0.1
MOOP expenses	3.1	3.0	3.0	3.4
Work expenses	2.6	3.2	2.7	2.1
Combined effect of all SPM additions and subtractions[a]	-3.4	-3.8	-4.5	-2.1

SOURCE: The public-use version of the 2013 Current Population Survey's Annual Social and Economic Supplement.

NOTES: LIHEAP = Low-Income Home and Energy Assistance Program; MOOP = medical out-of-pocket; SNAP = Supplemental Nutrition Assistance Program; SPM = Supplemental Poverty Measure; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

a. Because of the interaction effects and rounding, the combined-effect values do not equal the sum of the individual changes.

poverty rate by smaller numbers of percentage points (1.4 and 0.4, also not shown).

Table 7 (top panel, columns 2–4) gives the percentage point decreases in the SPM poverty rates of children, by three age subgroups (0–5, 6–11, and 12–17), attributed to each of the noncash transfers and refundable tax credits. For refundable tax credits and SNAP, the poverty-rate effects are smallest for the oldest age subgroup. The poverty-rate effect of the NSLP is largest for the subgroup aged 6–11. As expected, the poverty-rate effect of WIC is largest for the youngest age subgroup.

Taxes and other nondiscretionary expenses. For each expense element, we compare SPM poverty with the poverty that results when we use SPM resources *plus* the expense-element amount as our resource measure, but continue to use the SPM thresholds and SPM units. The six expense items considered here are federal income taxes,[65] payroll taxes,[66] state income taxes,[67] child support paid, MOOP expenses, and work expenses. The bottom panel of Table 7 (column 1) gives the percentage point increases in the SPM poverty rate of the total population of children; those increases are attributed to each of the six expense items—three of which have substantial effects on the SPM poverty of children. MOOP expenses and work expenses have the largest effects. Subtracting MOOP expenses in calculating the resource measure increases the measured poverty rate by 3.1 percentage points.[68] The poverty-rate increases attributed to work expenses and payroll taxes are 2.6 and 1.6 percentage points.[69]

About 90 percent of SPM-poor children are members of SPM units with MOOP expenses. For those units, MOOP expenses can be quite high; for children in those units, their unit's MOOP expenses on average amount to 17 percent of their unit's SPM poverty threshold. About 70 percent of SPM-poor children are members of SPM units with work expenses, and another 70 percent are members of units with payroll tax liabilities; the comparable figure for federal income taxes is 14 percent. Recall that work expenses include childcare expenses. The sum of the six individual expense effects is 8.0 percentage points.

All resource elements. Here we compare SPM poverty with the poverty that results when we replace the SPM resource measure with the official resource measure, but use the SPM thresholds and SPM units. We find that the SPM poverty rate (18.1 percent) is less than the modified poverty rate by 3.4 percentage points (Table 7). In other words, using the SPM resource measure decreases the poverty rate by 3.4 points.

The combined effect on poverty of all the differences between the SPM resource measure and the official resource measure need not equal the sum of the effects of the 12 individual differences. There can be substantial interaction effects. For example, although including either SNAP benefits or a housing subsidy in the resource measure may not move a unit out of poverty, including both benefits may do so.[70]

The sum of the six poverty-reducing resource measure components (12.3 percentage points) exceeds the sum of the six poverty-increasing resource measure components (8.0 percentage points) by 4.3 points. Thus, the net interaction effect is 0.9 percentage points [-3.4 – (-4.3)].

The combined effect of resource-measure differences on poverty is largest for the subgroup aged 6–11 (a decrease of 4.5 percentage points) and smallest for the subgroup aged 12–17 (a decrease of 2.1 points).

Effects of Elements of the Threshold Measure

We now examine the effects of various elements of the SPM threshold measure; that is, housing-status adjustments, geographic adjustments, threshold level, and equivalence scales. In addition, we consider the combined effect of the various elements of the SPM threshold measure. Those effects on the SPM poverty rate among children are given in Table 8 (in percentage points).

Housing-status adjustments. The SPM thresholds depend on a unit's housing-tenure status. The groups in that category are owners with mortgages, owners without mortgages, and renters. All thresholds for units that have owners without mortgages are 14 percent lower than they would be if the thresholds did not depend on housing status. Correspondingly, thresholds for units that have owners with mortgages and renters are 3 percent and 1 percent higher than they would be if the thresholds did not depend on housing status.[71]

To estimate the effect of housing-status adjustments, we remove them from the SPM thresholds and compare SPM poverty with the poverty that results when we use the modified thresholds. We find that the housing-status adjustment *decreases* the poverty rate by 0.2 percentage points (Table 8).[72] About 15 percent of children who are poor in the absence of this adjustment reside in units that have owners without mortgages; the adjustment markedly lowers their thresholds and moves many of those children out of poverty. The adjustment decreases the poverty rate among children in units that have owners without mortgages by 5.3 percentage points.[73] For children in units that have owners with mortgages and those in units that have renters, there are small increases (0.6 percentage points and 0.7 points) in poverty rates. Among the age subgroups of children, the decreases in poverty rates that are due to the housing-status adjustments range from 0.1 to 0.2 percentage points.

Geographic adjustments. The SPM thresholds are adjusted to reflect geographic differences in living costs. The adjustment factors depend on housing-status group and area rent levels. Rent data for more

Table 8.
Percentage point changes in the SPM poverty rate attributed to individual features of the SPM threshold for children aged 0–17, by selected age groups, 2012

Threshold feature	Total (younger than 18)	0–5	6–11	12–17
Housing-status adjustment	-0.2	-0.2	-0.2	-0.1
Geographic adjustment	0.7	0.5	0.7	1.0
Threshold level	2.6	2.8	2.7	2.2
Equivalence scale	-0.7	-0.6	-1.1	-0.4
Combined effect of all SPM threshold features [a]	2.3	2.5	2.0	2.3

SOURCE: The public-use version of the 2013 Current Population Survey's Annual Social and Economic Supplement.

NOTE: SPM = Supplemental Poverty Measure.

a. Because of the interaction effects and rounding, the combined-effect values do not equal the sum of the individual changes.

than 300 areas are from the American Community Survey. For a given housing-status group, the geographic-adjustment factor is derived by multiplying an area's rent-index value by the group's share of housing expenditures (shelter *plus* utilities) in its threshold and adding that product to the group's nonhousing share. The rent index is the ratio of the area's rent to the national average rent.[74]

The rent-index values range from about 0.61 to 2.10. For units that have owners with mortgages, owners without mortgages, and renters, the shares of expenses for housing in the thresholds are .504, .402, and .514, respectively (Bureau of Labor Statistics 2013). For children, the geographic-adjustment factors average about 1.02 and range from 0.80 to 1.56.

We remove the geographic adjustments from the SPM thresholds and compare SPM poverty with the poverty that results when we use the modified thresholds.[75] The geographic adjustment *increases* the overall poverty rate of children by 0.7 percentage points (Table 8). The adjustment raises thresholds for children in higher-cost areas and thus moves 1.7 million of them into poverty; on the other hand, the adjustment lowers thresholds for children in lower-cost areas and thus moves 1.2 million of them out of poverty. It markedly increases poverty in two regions (the Northeast and West) and decreases poverty in the other two regions (the Midwest and South).[76] The adjustment decreases poverty substantially for children living outside of MSAs and increases it for children living inside MSAs.

Among the age subgroups of children, the increases in poverty rates that are due to the geographic adjustments increase with age, from 0.5 to 1.0 percentage points. The percentage of poor children living inside MSAs also increases with age.

Threshold level. With no housing-status adjustment and no geographic adjustment, the SPM threshold for the two-adult/two-child unit for 2012 would have been $24,959.[77] The two-adult/two-child official threshold for 2012 was $23,283. Thus, for this base unit, the official threshold is only 93.28 percent of the SPM threshold.

To estimate the effect of the threshold-level difference, we remove that difference by multiplying each unit's SPM threshold by .9328. We then compare SPM poverty with the poverty that results when we use the modified thresholds. This change *increases* the poverty rate for children by 2.6 percentage points (Table 8).

Equivalence scales. There are important differences between the official poverty measure and SPM equivalence scales. Both scales depend on unit size and number of unit children, but depend on those two factors in somewhat different ways, as we will show. The official scale also depends on the age of the unit head; one-person and two-person units with aged heads have lower scale values than corresponding units with nonaged heads.

The SPM three-parameter equivalence scale has the following properties:

- a child always costs less than an adult;
- the scale always exhibits economies of scale in consumption;
- the scale does not depend on the age of the unit head; and
- for one-person nonaged units, the SPM-scale value is rather different from the official-measure scale value.[78]

In estimating the total effect of using the SPM equivalence scale on poverty of children, we incorporate the official-measure equivalence scale into the SPM thresholds as follows. For each poverty measure, the equivalence-scale value is set equal to 1.00 for a nonaged two-adult/two-child unit. For each unit type, we compute the ratio of the official-measure scale value to the SPM-scale value, where unit type is defined by unit size, number of children, and whether the unit head is at least age 65. We next multiply each unit's SPM threshold by the ratio of scale values to obtain modified thresholds. We find that using the SPM equivalence scale *decreases* the poverty rate of children by 0.7 percentage points, a decrease of 0.5 million persons (Table 8).

For units for which the SPM-scale value is greater than the official-scale value, using the SPM scale increases thresholds and thus increases poverty. Correspondingly, using the SPM scale decreases poverty for units for which the SPM-scale value is less than the official-scale value. Table 9 shows the ratios of SPM-scale value to official-scale value for the various unit types. The ratio of the SPM-scale value to the official-scale value exceeds 1.00 for all units with three to eight persons and zero to two children, excluding units with four persons and two children; for those units, using the SPM scale increases the number of children in poverty by 0.4 million. The ratio of these scale values is less than 1.00 for all units with three to eight persons and three to seven children; for those units,

Table 9.
Ratio of the SPM equivalence-scale value to the official poverty measure equivalence-scale value, by unit size, age of the unit head, and number of children

Unit size and age of unit head [a]	Number of children						
	1	2	3	4	5	6	7
Two people							
Younger than age 65	1.03	. . .	. . .	. . .	. . .	. . .	. . .
Aged 65 or older	1.03	. . .	. . .	. . .	. . .	. . .	. . .
Three people	1.11	1.05	. . .	. . .	. . .	. . .	. . .
Four people	1.08	1.00	0.95	. . .	. . .	. . .	. . .
Five people	1.07	1.01	0.95	0.92	. . .	. . .	. . .
Six people	1.08	1.03	0.98	0.93	0.91	. . .	. . .
Seven people	1.05	1.02	0.97	0.94	0.90	0.91	. . .
Eight people	1.04	1.01	0.97	0.94	0.91	0.88	0.86

SOURCE: Authors' calculations.

NOTES: SPM = Supplemental Poverty Measure; . . . = not applicable.

a. Ratios for units with three or more people do not depend on the age of the unit head.

using the SPM scale reduces the number of children in poverty by 0.9 million.

Among the age subgroups of children, there are decreases in poverty rates that result from using the SPM equivalence scale for all three of the subgroups (Table 8). The largest decrease (1.1 percentage points) is for the subgroup aged 6–11. This subgroup has the lowest proportion of poor children in units with three to eight persons and zero to two children and the highest proportion of poor children in units with three to eight persons and three to seven children.

All threshold elements. We now examine the combined effect of adjustments for housing and geographic area, threshold level, and equivalence scale on the poverty of children. For each SPM unit, we replace the SPM threshold with the official-measure threshold. The official thresholds depend on SPM unit size, number of unit children, and whether the unit head is at least age 65. We then compare SPM poverty with the poverty that results when we use the modified thresholds, but continue to use the SPM resource measure and SPM units.

We find that using the SPM thresholds increases the poverty rate of children by 2.3 percentage points (Table 8). The sum of the four individual threshold-element effects—housing adjustment (decreases the poverty rate by 0.2 percentage points), geographic adjustment (increases the rate by 0.7 points), threshold level (increases the rate by of 2.6 points), and equivalence scale (decreases the rate by 0.7 points)—yields a poverty-rate increase of 2.4 percentage points. Thus, the interaction effect is a poverty rate decrease of 0.1 percentage points (2.3 – 2.4).

Among the age subgroups of children, the increase in the poverty rate that results from the combination of all the threshold changes is smallest for the age 6–11 subgroup, at 2.0 percentage points.

Effects of Unit Definition

We now compare the official-measure poverty of children (younger than age 18) with the poverty that results when we use the SPM unit, but use the official resource and thresholds concepts.[79] We find that replacing the official unit with the SPM unit *reduces* the poverty rate of children by 2.2 percentage points (Table 10).

The majority of children stay in the same unit; that is, their SPM unit is the same as their official-measure unit. However, about 10 percent of them end up in a new unit; that is, in a SPM unit that differs from their official unit. Approximately 95 percent of these new-unit children end up in larger SPM units.[80] Replacing the official unit with the SPM unit moves about a fourth of these new-unit children out of poverty; a small proportion moves into poverty. In larger units, there is more resource sharing and more economies of scale that tend to reduce the number of people in poverty.

Among the age subgroups of children, the decrease in poverty rates that are due to the change in unit declines with age, from 3.0 percentage points for the subgroup aged 0–5 to 1.5 percentage points for the subgroup aged 12–17 (Table 10). The percentage

Table 10.
Percentage point changes in the SPM poverty rate attributed to features of the SPM for children aged 0–17, by selected age groups, 2012

SPM element	Total (younger than 18)	0–5	6–11	12–17
All resource features	-3.4	-3.8	-4.5	-2.1
All threshold features	2.3	2.5	2.0	2.3
Unit	-2.2	-3.0	-2.2	-1.5
Combined effect of all features[a]	-4.2	-5.2	-5.3	-2.2

SOURCE: The public-use version of the 2013 Current Population Survey's Annual Social and Economic Supplement.

NOTE: SPM = Supplemental Poverty Measure.

a. Because of the interaction effects and rounding, the combined-effect values do not equal the sum of the individual changes.

of children ending up in new units decreases with age, from 13 percent for the subgroup aged 0–5 to 7 percent for the subgroup aged 12–17 (not shown).

Effect of All Elements of the SPM

For children, the SPM poverty rate is lower than the official-measure rate by 4.2 percentage points. The combined effect of all changes (from the official measure to the SPM) in the resource measure reduces the poverty rate by 3.4 percentage points. The combined effect of all changes in the threshold measure increases the poverty rate by 2.3 points. Replacing the official unit with the SPM unit reduces the poverty rate by 2.2 points. The sum of the resource, threshold, and unit effects (-3.4, 2.3, and -2.2) is -3.4 points. Thus, the interaction effect in this case is -0.8 percentage points [-4.2 – (-3.4)].

Summary of Empirical Findings

First, we provide an overview of our comparisons of official poverty measure and SPM estimates. Then, we summarize our analysis of the effects of the various features of the SPM on the poverty of children.

Comparison of Official Poverty Measure and SPM Estimates

For the total population, the SPM poverty rate (16.0 percent) exceeds the official rate (15.1 percent). For broad age groups, the SPM and official measures give quite different results. Compared with the official measure, the SPM shows substantially less poverty for children (a decrease from 22.3 percent to 18.1 percent) and much more poverty for aged adults (65 or older)—an increase from 9.1 percent to 14.8 percent. For nonaged adults (18–64), the SPM poverty rate (15.5 percent) exceeds the official rate (13.7 percent). Compared with the official measure, the SPM shows much smaller age-group differences in poverty rates. Among children, we also observe that for all three of the detailed age subgroups (0–5, 6–11, and 12–17), the SPM rates are lower than the official-measure rates.

For the total population, the SPM deep poverty rate (5.2 percent) is lower than the official-measure deep poverty rate (6.7 percent). For broad age groups, the SPM and official measure give quite different results for deep poverty. Compared with the official measure, the SPM shows a much lower rate for deep poverty among children (a decrease from 10.3 percent to 4.8 percent) and a much higher rate for aged adults (an increase from 2.7 percent to 4.7 percent). For nonaged adults, the SPM deep poverty rate (5.4 percent) is a bit lower than the official deep poverty rate (6.2 percent).

Switching to the SPM moves about 3.4 percent of children into poverty and about 7.6 percent out of poverty. Much of this movement into and out of poverty occurs near the poverty line.

We examine the poverty of children for various demographic and socioeconomic groups. Most groups of children have a decrease in poverty. Among the groups with the largest percentage decreases in poverty are children residing outside MSAs, those in units that have a homeowner without a mortgage, and those living in the Midwest. A few groups (including children living in the West, those in units that have an owner with a mortgage, and those in units headed by a person with a bachelor's degree) have very small changes in poverty. Two groups of children (Asians and those with private health insurance) have substantial increases in poverty.

Effects of SPM Features on the Poverty of Children

For children, the SPM poverty rate (18.1 percent) is lower than the official rate (22.3 percent) by 4.2 percentage points. The combined effect of all changes (from the official measure to the SPM) in the resource measure is to *decrease* the poverty rate by 3.4 percentage points. Among the six poverty-reducing resource elements (that is, refundable tax credits and noncash transfers), refundable tax credits and SNAP benefits produce the largest decreases in the poverty rate—by 6.7 and 2.9 percentage points. Among the six poverty-increasing resource elements (that is, taxes and other nondiscretionary expenses), MOOP expenses, work expenses, and payroll taxes produce the largest increases in the poverty rate—by 3.1, 2.6 , and 1.6 percentage points, respectively.

The combined effect of all the changes in the threshold measure is to *raise* the poverty rate by 2.3 percentage points. Raising the threshold level increases the poverty rate by 2.6 percentage points and is by far the largest of the individual threshold-element effects. Replacing the official-measure unit with the SPM unit *reduces* the poverty rate by 2.2 percentage points.

Concluding Comments

The impact of taxes (payroll taxes, refundable tax credits, and income taxes) and government noncash benefit programs (food stamps, housing subsidies, and so forth) are directly reflected in SPM estimates, but not in official-measure poverty estimates.

We could benefit from research evaluating the SPM and testing alternative methods of improving it. Additional research is needed on elements of both the resource and threshold measures. Further investigation of the valuation of work expenses, adjustments for underreporting of income and expenses, and geographic adjustments of thresholds should be of high priority. Finally, more in-depth research on how and why the SPM and official poverty measure estimates differ should prove worthwhile.

Appendix A: Evolution of the SPM

What ultimately became the official poverty measure was developed in the 1963–1964 period by Mollie Orshansky (1963, 1965a, 1965b) of SSA. In May 1965, the Office of Economic Opportunity—newly established as part of the Johnson administration's War on Poverty—adopted the Orshansky measure as a working or quasi-official definition of poverty.[81] In August 1969, the Orshansky measure was designated as the federal government's official statistical definition of poverty (Fisher 1992). Only a few minor changes in the measure have been made since 1969.

Over time, concerns about the adequacy of the official poverty measure increased. As a result, in the early 1990s at the request of Congress, the National Academy of Sciences (NAS) undertook an independent scientific study of the concepts, measurement methods, and information needs for a poverty measure. For that purpose, NAS established the Panel on Poverty and Family Assistance, which released its 1995 report, *Measuring Poverty: a New Approach* (Citro and Michael 1995). Based on its assessment of the weaknesses of the official poverty measure, the NAS panel recommended a considerably different poverty measure that it believed would much better reflect contemporary government policy and economic and social realities.

Over the next 15 years or so, numerous government and nongovernment studies examined alternative poverty measures. For example, the Census Bureau released studies that presented a set of experimental poverty measures based on the recommendations of the NAS panel (Short and others 1999; Short 2001). Those studies suggested that the new measures would identify as poor a rather different population than that identified by the official poverty measure.

In 2009, the Office of Management and Budget formed a working group of representatives from a number of government agencies to consider improving the measurement of poverty. That working group was asked to develop a set of initial starting points to permit the Census Bureau, in cooperation with the Bureau of Labor Statistics, to produce a supplemental poverty measure. The Interagency Technical Working Group on Developing a Supplemental Poverty Measure (ITWG) issued its report in 2010.[82]

The Census Bureau released its first report on the SPM in 2011 (Short 2011). That report described the new measure in some detail and presented estimates of SPM-based poverty for 2009 and 2010. The second, third, and fourth annual SPM reports presented estimates for 2011, 2012, and 2013, respectively (Short 2012, 2013, 2014). The recently released SPM is largely based on the recommendations of the NAS panel; deviations from the panel's recommendations reflect suggestions from the ITWG and more current research.

Appendix B: CPS Data for Components of the SPM Resource Measure

In this section, we provide information on the sources of the dollar values for the various in-kind benefits, taxes and refundable tax credits, and other nondiscretionary expense items given in the CPS/ASEC data file. We begin by discussing in-kind benefits and taxes and refundable tax credits.

Housing subsidies. The CPS/ASEC collects information on recipiency, but not on amounts received. To estimate amounts of such assistance, the Department of Housing and Urban Development program rules are applied to CPS households.

Low-Income Home Energy Assistance Program (LIHEAP). The CPS/ASEC collects information on amounts received.

National School Lunch Program (NSLP). The CPS/ASEC collects information on recipiency, but not on amounts received. To value benefits, the Census Bureau uses the amount of the cost per lunch from the Department of Agriculture's Food and Nutrition Service.

Supplemental Nutrition Assistance Program (SNAP). The CPS/ASEC collects information on amounts received.

Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). The CPS/ASEC collects information on recipiency, but not on amounts received. To value the benefits, the Census Bureau uses program information from the Department of Agriculture.

Taxes and refundable tax credits. The CPS/ASEC does not collect information on taxes and refundable tax credits, but relies on a tax-calculating computer program that incorporates the main features of federal and state tax laws. These simulations also use a statistical match of the CPS/ASEC to the Internal Revenue Service's Statistics of Income microdata file of tax returns.

We conclude by discussing other necessary expenses that are subtracted from resources.

Child support paid. The CPS/ASEC collects information on amounts paid.

Medical out-of-pocket (MOOP) expenses. The CPS/ASEC collects information on amounts paid for (1) health insurance premiums; (2) over-the-counter, health-related products; and (3) medical care (hospital visits, medical providers, dental services, prescription medicine, vision aids, and medical supplies). Caswell and O'Hara (2010) conclude that CPS/ASEC estimates of MOOP expenditures compare favorably to estimates from the Medical Expenditure Panel Survey (MEPS) and the Survey of Income and Program Participation (SIPP). The MEPS, in particular, devotes considerably more effort to collecting MOOP expenditures than does the CPS/ASEC.

Work-related expenses (excludes childcare expenses). The CPS/ASEC does not collect information on work-related expenses (travel to work, tools, uniforms, and so forth). Information on amounts of work expenses from the most recent SIPP is used to estimate those expenses for workers in the CPS/ASEC.

Childcare expenses. The CPS/ASEC collects information on amounts of such expenses (any type of childcare while parents are at work).

Notes

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[1] In previously published articles (Bridges and Gesumaria 2013, 2015), we focused on the measurement of poverty among the aged population (65 or older) and the nonaged adult population (18–64).

[2] There are two slightly different versions of the official poverty measure: (1) poverty thresholds, which are more detailed and primarily used for statistical purposes; and (2) poverty guidelines, which are a simplified version of the thresholds, primarily used for administrative purposes. In this article, we use the term "official poverty measure" to denote the poverty threshold measure. For a discussion of the two measures, see the Institute for Research on Poverty (2013).

[3] All members of a family unit are assigned the same poverty status; that is, poor or not poor.

[4] The share of food in expenditures has decreased markedly over time.

[5] An extensive discussion of such criticisms appears in Citro and Michael (1995).

[6] Subsequently, the Census Bureau released SPM reports in November 2012, November 2013, and October 2014 (Short 2012, 2013, 2014).

[7] For a discussion of the evolution of the SPM, see Appendix A.

[8] The poverty rate is the percentage of people in a group who are classified as poor.

[9] Throughout the article, changes in poverty that are due to changes in the poverty measure used are the changes in poverty that result from switching from the official poverty measure to the SPM.

[10] Including refundable tax credits and Supplemental Nutrition Assistance Program (SNAP) benefits in the SPM resource measure decrease the poverty rate by 6.7 and 2.9 percentage points.

[11] This section draws heavily on Short (2013).

[12] The March 2013 CPS/ASEC is a household sample survey of the U.S. civilian noninstitutionalized population; it also includes military personnel who live in a household with at least one civilian adult. The number of interviewed households was about 75,000. Approximately 8,000 households were not interviewed because there were no available participants.

[13] For a detailed discussion of the SPM and official unit measures, see Provencher (2011).

[14] Money income in the CPS/ASEC consists of (1) earnings; (2) unemployment compensation; (3) workers' compensation; (4) Social Security (OASDI) benefits; (5) Supplemental Security Income (SSI) payments; (6) public assistance (Temporary Assistance for Needy Families (TANF) and general assistance); (7) veterans' payments; (8) survivor benefits; (9) disability benefits; (10) pension or retirement income; (11) interest; (12) dividends; (13) rents, royalties, and estates and trusts; (14) educational assistance; (15) alimony; (16) child support; (17) financial assistance from outside of the household; and (18) other income.

[15] For a critique of the resource-based SPM, see Meyer and Sullivan (2012). Those authors favor a consumption-based poverty measure.

[16] Some of these are large. For example, fiscal year 2011 federal outlays for the Supplemental Nutrition Assistance Program or SNAP (formerly known as the Food Stamp Program) amounted to about $80 billion or 2.1 percent of all federal outlays. Federal expenditures for refundable tax credits and for housing subsidies were about $80 billion and $40 billion (Falk 2012). All three of these programs are designed to assist the low-income population. Federal outlays for Supplemental Security Income (SSI) and Temporary Assistance for Needy Families (TANF) were about $56 billion and $17 billion; both of these *cash* benefit programs are also designed to assist the low-income population.

[17] More than 80 percent of people are members of SPM units with work expenses. For those units, such expenses can be substantial; unit work expenses on average amount to 15 percent of SPM poverty thresholds.

[18] More than 95 percent of people are members of SPM units with MOOP expenses. For those units, MOOP expenses can be large; unit MOOP expenses on average amount to 21 percent of SPM poverty thresholds. In addition, there is great dispersion around this average; a minority of units have very high MOOP expenses relative to their poverty thresholds.

[19] For programs 1, 3, and 5, the CPS/ASEC collects information on recipiency, but not on amounts received. In estimating the amounts of those benefits, the Census Bureau uses information from other government agencies. The sources of the dollar values for the various in-kind benefits, taxes, and other nondiscretionary expense items given on the CPS/ASEC data file are discussed in Appendix B. For more details, see Short (2013) and references cited therein.

[20] The CPS/ASEC does not collect information on taxes, refundable tax credits, or work expenses. The Census Bureau applies a tax-calculating computer program to the CPS/ASEC to simulate taxes and tax credits. The Census Bureau uses information from another household survey to estimate work expenses. Refer to note 19.

[21] Respondents reported amounts of premium and nonpremium MOOP expenses in the March 2013 CPS/ASEC.

[22] For families of three or more persons, the multiplier is 3. However, for families of two persons, the multiplier is 3.7. Without using a food plan and a multiplier, the thresholds for unrelated individuals were set at 80 percent of the corresponding thresholds for two-person families.

[23] In 2012, food expenditures accounted for about 30 percent of the bundle of necessary expenditures that form the basis of the SPM thresholds.

[24] In determining SPM thresholds for 2012, the expenditure needs of units that have owners with mortgages are estimated to be 20 percent larger than those of units that have owners without mortgages.

[25] For 2012, the geographic-adjustment factors used in the SPM ranged from 0.80 for the lowest-cost area to 1.56 for the highest-cost area.

[26] To be more precise, "expenditures around the 33rd percentile" is the average of expenditures within the 30th to 36th percentile portion of the expenditure distribution.

[27] In this article, the terms "adults" and "children" are used in two slightly different ways.

In calculating equivalence-scale values and thresholds values, all persons younger than age 15 and dependent persons aged 15–17 are counted as children; all persons aged 18 or older and nondependent persons aged 15–17 are counted as adults.

In all other parts of the article, the term "children" signifies persons younger than age 18 and the term "adults" denotes persons aged 18 or older. The term "nonaged adults" denotes persons aged 18–64.

[28] The Census Bureau's report on official poverty shows a poverty rate of 15.0 percent for 2012 (DeNavas-Walt, Proctor, and Smith 2013). That report excludes all unrelated individuals younger than age 15 from the universe of official poverty calculations.

In the Census Bureau's report on SPM poverty (Short 2013) and in this article, these unrelated individuals are included in the universe for official poverty measure and SPM calculations. In the official poverty calculations, all of these unrelated individuals are counted as poor. In the SPM

poverty calculations, unrelated individuals are assumed to share the resources of their SPM unit.

[29] The SPM thresholds incorporate adjustments for geographic differences in housing costs. Because of confidentiality restrictions, the geographic information available for use in calculating the SPM thresholds on the public-use data file is slightly more limited than that available for use in calculating the SPM thresholds on the Census Bureau's internal data file. Thus, this article's SPM poverty estimates differ slightly from those in Short (2013).

For confidentiality reasons, the public-use data file uses a method of top-coding income amounts that swaps values between sample members having income amounts from specific sources above predetermined top-code amounts. This top-coding has very small effects on SPM and official poverty measure estimates.

[30] See Short (2013).

[31] For children, the percentage distribution among the three age classes (0–5, 6–11, and 12–17) of the poor under the SPM is similar to that for the poor under the official measure.

[32] Bridges and Gesumaria (2013) explore in depth the extent to which various features of the SPM affect the poverty of the aged population.

[33] Bridges and Gesumaria (2015) explore in depth the extent to which various features of the SPM affect the poverty of the nonaged adult population.

[34] For nonaged adults, the average welfare ratio is higher for those poor under the SPM (.542) than for those poor under the official measure (.488).

[35] For official-measure deep poverty, before-tax cash income is the resource measure.

[36] Nondiscretionary expenses of the aged population cause the average welfare ratio of the SPM poor to be negative.

[37] For nonaged adults, the average welfare ratio is lower for those in deep poverty under the SPM (.091) than for those in deep poverty under the official measure (.163).

[38] For the official poverty measure, before-tax cash income is the resource measure.

[39] This terminology is somewhat different from that ordinarily used in the poverty literature, in which movements into and out of poverty are attributable to changes in a unit's financial resources.

[40] Wimer (2013) focuses on the differences in resources and expenses of these three groups of children (those who exit poverty, those who stay in poverty, and those who enter poverty). The author's estimates are for 2010.

[41] To be more precise, "1.00–1.49" means equal to or greater than 1.00, but less than 1.50. Correspondingly, "0.50–0.99" means equal to or greater than 0.50, but less than 1.00.

[42] About 60 percent of poor Hispanic children are in units with a foreign-born head.

[43] About 80 percent of poor children in units with a foreign-born head are Hispanic.

[44] For SPM-poor Hispanic and non-Hispanic children, the average geographic-adjustment factors for cost-of-living differences are 1.09 and 1.01. The average geographic-adjustment factors for foreign-born and native-born children poor under the SPM are 1.11 and 1.00.

[45] Fifty-six percent of native-born, SPM-poor children are in units that receive SNAP benefits; for those units, the average ratio of the SNAP payment to the SPM threshold is 0.20. For foreign-born, SPM-poor children, the corresponding figures are 41 percent and 0.14.

[46] For SPM-poor Asian, white, and black children, the respective average geographic-adjustment factors for cost-of-living differences are 1.13, 1.04, and 1.02.

[47] Thirty-one percent of Asian SPM-poor children are in units that receive SNAP benefits; for those units, the average ratio of the SNAP benefit to the SPM threshold is 0.15. For white SPM-poor children, the corresponding figures are 46 percent and 0.17. For black SPM-poor children, the corresponding figures are 67 percent and 0.20.

[48] About 40 percent of poor children in units with nonworking heads are in units with payroll tax liability.

[49] About 20 percent of poor children in units with payroll tax liability are in units with nonworking heads.

[50] To identify persons with a disability, we use the variable "*prdisflg*." A person with a disability must have one or more of the following conditions: (1) deafness or serious difficulty hearing; (2) blindness or serious difficulty seeing; (3) serious difficulty concentrating, remembering, or making decisions; (4) serious difficulty walking or climbing stairs; (5) difficulty dressing or bathing; (6) difficulty doing errands, such as visiting a doctor's office or shopping. This definition of disability differs from the statutory definition of disability used by SSA to administer the Social Security Disability Insurance and SSI programs. In addition, the definition of disability used in this article does not indicate whether the disability limits or prevents work.

[51] About half of poor children in units with a disabled head are in units that receive Social Security benefits and/or SSI payments.

[52] Sixty-five percent of SPM-poor children in units with nondisabled heads are in units that receive refundable tax credits; for those units, the average ratio of the refundable credit to the SPM threshold is 0.17. For SPM-poor children in units with disabled heads, the corresponding figures are 36 percent and 0.11.

[53] About 55 percent of poor children in units with a nondisabled head have a working head. By contrast, only about 25 percent of poor children in units with a disabled head have a working head.

[54] About 30 percent of poor children in units that receive Social Security benefits and/or SSI payments are in units with a disabled head.

[55] About 60 percent of poor children in units with neither Social Security benefits nor SSI payments have a working head. By contrast, less than 25 percent of poor children in units that receive Social Security and/or SSI have a working head.

[56] About 30 percent of poor children with private health insurance also have public health insurance coverage.

[57] Among poor children with only public health insurance coverage, about 95 percent have Medicaid coverage.

[58] Ninety-seven percent of SPM-poor children with private health insurance are in units that have MOOP expenses; for those units, the average ratio of the MOOP expense to the SPM threshold is 0.33. For SPM-poor children with only public health insurance, the corresponding figures are 87 percent and 0.07. For SPM-poor children with no health insurance, the corresponding figures are 89 percent and 0.14.

[59] For example, we compute the effect on the SPM poverty rate of adding refundable tax credits to the SPM resource measure in the following way:

1. We subtract the value of each SPM unit's refundable tax credits from its SPM resource measure.
2. For each unit, we then compare that modified resource measure to the unit's SPM threshold to determine the modified poverty status of its members.
3. We then calculate the percentage of children whose modified poverty status is poor; that is, we calculate the modified poverty rate. For this case, the modified poverty rate is 24.8 percent.
4. Finally, we compare the modified poverty rate with the SPM poverty rate. For children, the SPM poverty rate is 18.1 percent.

The inclusion of refundable tax credits in the resource measure reduces the poverty rate by 6.7 percentage points (18.1 – 24.8).

[60] These program benefit amounts usually incorporate behavioral and interprogram effects.

[61] An interprogram effect exists when program rules specify that the benefit amount of one program affects the benefit amount of another program.

[62] The federal earned income tax credit *plus* the refundable portion of the federal child tax credit *plus* other refundable federal credits.

[63] Over 60 percent of SPM-poor children are in SPM units that receive refundable federal tax credits.

[64] Other government cash transfers included as resources by both the SPM and official poverty measure are (1) unemployment insurance, (2) workers' compensation, and (3) Temporary Assistance for Needy Families (TANF) and general assistance.

[65] Federal individual income tax after subtracting nonrefundable tax credits.

[66] Contributions by employees and the self-employed to the Old-Age, Survivors, Disability, and Health Insurance program *plus* retirement contributions by federal employees.

[67] These amounts represent state income taxes after credits. Some amounts are negative.

[68] For persons with only public health insurance, this MOOP subtraction increases the poverty rate by 3.2 percentage points. For persons with private health insurance and no health insurance, the corresponding figures are 3.1 percentage points and 3.0 points.

[69] Subtracting payroll taxes from the official resource measure increases the official-measure poverty rate by 1.2 percentage points.

[70] The interaction effect is not the same as the interprogram effect discussed earlier (refer to note 61).

[71] With no geographic adjustment, basic thresholds for two-adult/two-child units are $25,784 for owners with mortgages; $21,400 for owners without mortgages; and $25,105 for renters. With no geographic adjustment and no housing-status adjustment, the threshold for the two-adult/two-child unit would be 1.2($20,799) or $24,959: $25,784, $21,400, and $25,105 are 103 percent, 86 percent, and 101 percent, respectively, of $24,959. See the Bureau of Labor Statistics (2013).

[72] Preliminary thresholds are multiplied by geographic-adjustment factors to obtain final thresholds. Those factors depend on housing-status group and on area rent. The inclusion of housing-status group in the calculation of geographic-adjustment factors increases the poverty rate for children by 0.1 percentage points. We include this effect as part of the effects of the geographic-adjustment factors and not as part of the effects of the housing-status adjustment.

[73] Not shown in the article's tables.

[74] The adjustment factors are calculated using the following formula:

$\text{Factor}_{ah} = \text{HousingShare}_h \times (\text{Rent}_a / \text{Rent}_n) + (1 - \text{HousingShare}_h)$, where a denotes geographic area, h denotes housing-status group, and n denotes national. See Renwick (2011).

[75] Renwick (2011) made those comparisons for an earlier year.

[76] Not shown in the article's tables.

[77] Derived from the Bureau of Labor Statistics (2013).

[78] The three-parameter scale values are calculated as follows:

1. SPM unit with one or two adults and no children—unadjusted-scale value = $[\text{number of adults}]^{0.5}$

2. SPM unit with one adult and one or more children (mostly single-parent units)—
   unadjusted-scale value = [1 + 0.8 + 0.5(number of children – 1)]$^{0.7}$
3. All other SPM units—
   unadjusted-scale value = [number of adults + 0.5(number of children)]$^{0.7}$

In calculating equivalence-scale values, all persons aged 18 or older and nondependent persons aged 15–17 are counted as adults; all persons younger than age 15 and dependent persons aged 15–17 are counted as children.

In equation 2, the first child is treated as 80 percent of an adult; each additional child is treated as 50 percent of an adult. In equation 3, each child is treated as 50 percent of an adult. The numbers of adult equivalents are given by the expressions inside the brackets. For example, for a two-adult/two-child unit, equation 3 shows that the number of adult equivalents is three.

Economies of scale require that whenever an additional equivalent adult is added to an SPM unit, the unit's equivalence-scale value divided by the number of adult equivalents decreases. The exponents outside the brackets are the economy-of-scale factors. The smaller exponent (0.5) exhibits greater economies of scale than does the larger exponent (0.7).

The Census Bureau then adjusts all unadjusted-scale values proportionally so that the adjusted-scale value for the two-adult/two-child unit equals 1. The base threshold level for the two-adult/two-child unit is then multiplied by the adjusted-scale values in deriving threshold values for the other unit types.

[79] Note that here, we compare official-measure poverty with the poverty that results when we change a specified feature of the official measure. In all of our previous estimates of poverty effects, we compare SPM poverty with the poverty that results when we change a specified feature of the SPM. For the case of unit definition, the approach used here is considerably easier to implement than our usual approach.

[80] For the remaining children whose SPM unit changes, their SPM unit and their official unit are of the same size, but differ in membership.

[81] In its 1964 report, the president's Council of Economic Advisors (CEA) set forth a poverty threshold of $3,000 (in 1962 dollars) for all families of two or more persons and a threshold of $1,500 for unrelated individuals. The Orshansky set of thresholds, in which the thresholds increase with family size, was clearly superior to the CEA alternative.

[82] See ITWG (2010).

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Young Social Security Disability Awardees: Who They Are and What They Do After Award

by Yonatan Ben-Shalom and David C. Stapleton*

Using Social Security administrative data, we compare the cross-cohort characteristics and 5-year employment outcomes of young adults (aged 18–39) who were first awarded Social Security disability benefits from 1996 through 2007. We examine two beneficiary types—disabled workers and the disabled adult children (DACs) of living or deceased disabled- or retired-worker beneficiaries—as well as preaward Supplemental Security Income (SSI) program participation status. In comparing 2007 with 1996, we find growth in the proportions of awardees who (1) were DACs, (2) had received SSI payments (especially as children), and (3) had psychiatric disorders. We also find that disabled workers who received SSI payments as children were more likely than those who did not to reach certain postaward earnings thresholds and that DACs were less likely than disabled workers to reach those thresholds. We also discuss potential contributing factors.

Introduction

A significant share of new Social Security Disability Insurance (DI) disabled-worker beneficiaries is younger than 40. Many of these young awardees will live in poverty throughout their lives despite receiving Social Security benefits and other public support (She and Livermore 2009). Because most young awardees receive DI benefits for long periods, their lifetime benefit amounts often exceed those of older awardees, even though their monthly benefit amount is typically lower. Young awardees are also likely to receive Medicare benefits for many years, and they are more likely than older workers to qualify for Supplemental Security Income (SSI) and Medicaid (Riley and Rupp 2014). Social Security Administration (SSA) actuaries have documented that from 1980 through 2010, the DI award incidence rate for young workers grew substantially relative to the rate for older workers (Goss 2013).[1]

Young DI awardees have received relatively little attention in public discussions about the pending exhaustion of the DI Trust Fund, which the Social Security Board of Trustees (2014) projects will occur in late 2016 and the Congressional Budget Office (2013) projects in fiscal year 2017. The debate about strategies to restrain the growth of the beneficiary population has focused on policies that would encourage employers to retain experienced (and presumably older) workers after disability onset. When DI was implemented in 1956, it was designed to be an early retirement program for workers aged 50 or older who were unable to continue to work because of a long-lasting medical condition (Berkowitz 2000). Although amendments enacted as early as 1965 allow workers

Selected Abbreviations

DAC	disabled adult child
DAF	Disability Analysis File
DI	Disability Insurance
MEF	Master Earnings File
NSTW	nonpayment status following suspension or termination for work

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Selected Abbreviations—*Continued*

OASDI	Old-Age, Survivors, and Disability Insurance
QC	quarter of coverage
SDW	special disability workload
SGA	substantial gainful activity
SSA	Social Security Administration
SSD	Social Security disability
SSI	Supplemental Security Income
STW	suspension or termination for work
TANF	Temporary Assistance for Needy Families

with qualifying conditions of any age to be eligible for benefits if they also meet a work history requirement, DI is still commonly characterized as a program for older workers with medical conditions that require them to retire early. However, that characterization overlooks the substantial shares of new DI awardees who are younger than 40.

Young DI awardees are now among the target populations for broader policy efforts to help youths and young adults with disabilities to lead more productive, fulfilling lives and rely less on government support. Those efforts include SSA's Youth Transition Demonstration (Fraker and Rangarajan 2009) and a multiagency initiative called the Promoting Readiness of Minors in SSI Evaluation (Fraker and Honeycutt 2012). Those demonstrations test the delivery of innovative services to youths with disabilities, with the common objective of increasing their economic success as adults and reducing their lifetime reliance on benefits from disability programs such as DI. In addition, many states are implementing "Employment First" policies designed to encourage and promote employment for youths with developmental disabilities; those states are reconfiguring the employment supports they provide in order to help capable youths to become productive adults (Department of Labor n.d.). Many private initiatives have similar objectives.

The statistics provided in this article should help inform those initiatives as well as efforts to address the pending exhaustion of the DI Trust Fund. We present statistics on the number of new DI disabled-worker awardees aged younger than 40 and the changes in the composition of their award cohorts from 1996 through 2007. We also provide statistics for another group of adults that often qualifies for Social Security benefits because they experience disability onset before reaching age 40: the disabled adult children (DACs) of individuals whose earnings records qualify them for Social Security benefits.[2] In this article, we refer to DI disabled-worker beneficiaries and DAC beneficiaries collectively as Social Security disability (SSD) beneficiaries.[3]

In 1990, awardees aged 18–39 accounted for about one-third of new SSD beneficiaries. Although the total number of SSD awardees would more than double by 2010, the proportion that was aged 18–39 would fall to about one-quarter by then (SSA 2014a, Tables 35 and 39). The proportional decline likely reflects the baby boom generation's aging out of the young-awardee classification, as it passed from ages 26–44 in 1990 to 46–64 in 2010.

Young SSD awardees differ from older ones along dimensions other than age. For example, they are more likely to have developmental disabilities, most notably intellectual disability (SSA 2014a, Table 44). They are also more likely than older awardees to report having work goals or expectations (Livermore, Stapleton, and Roche 2009), to have higher employment rates (Mamun and others 2011), and to use work incentives and earn enough to have their benefits suspended or terminated because of work (Liu and Stapleton 2011).

Young awardees may enter SSD via several paths. Before being awarded either disabled-worker or DAC benefits, some may have received SSI payments as children and, if so, were likely to have been disadvantaged in many respects. Others may have first entered SSI as adults and later accumulated an earnings history sufficient to qualify for DI. Still other SSD awardees may have had their careers interrupted by a major injury or the onset of chronic illness, or they may be recently disabled veterans. Some DAC beneficiaries from relatively affluent families may have become eligible for benefits only after reaching age 18 or after a parent retired or died.

In this study, we use administrative data on young SSD awardees first awarded benefits during the period 1996–2007. Given that awardees who took different paths to SSD award likely differ in personal characteristics and outcomes, we pay particular attention to trends among and differences between disabled-worker and DAC beneficiaries, focusing specifically on (1) whether they had previously received SSI payments, either as a child or (only) as an adult; (2) their distributions by sex, selected primary impairment, and benefit amount at award; and (3) their 5-year employment and mortality outcomes.

We find substantial compositional changes among cohorts of young SSD awardees during the study period, with important implications for policies intended to serve that population in the years ahead. In 2007, compared with 1996, relatively more SSD awards for individuals aged younger than 40 went to DAC beneficiaries; to disabled workers and DACs who had previously received SSI payments, especially as children; and to disabled workers and DACs with psychiatric disorders.

We examine employment outcomes using two thresholds for earnings from work: $1,000 (in 2007 dollars) in a given calendar year and an annualized equivalent of the monthly amount that SSA defines as substantial gainful activity (SGA) for nonblind beneficiaries. We find that disabled workers who had received SSI payments as children were far more likely to earn more than $1,000 in any of the first 4 postaward calendar years than were those who had not, and that DAC beneficiaries were considerably less likely than disabled workers to attain either earnings threshold.

Several factors may have contributed to the trends we observe. For example, child participation in SSI grew rapidly after the Supreme Court's 1990 *Sullivan v. Zebley* decision, which relaxed eligibility criteria for children with psychiatric disorders. Other significant factors include the welfare reform measures of 1996, which increased incentives to apply for federal disability benefits; the special disability workload (SDW), which involved the retroactive award of DI benefits to thousands of individuals who previously received only SSI payments, beginning in 2001; the aging of the baby boomers, which likely increased the number of young adults eligible for DAC benefits; and the 1999 SGA increase from $500 to $700 and the recession of 2001, both of which likely induced individuals to apply for DI. These factors are discussed in further detail later. Although any of them are likely to have influenced SSD application and award trends, distinguishing between their various effects is difficult because of their overlapping timing.

The article is organized as follows: In the next section, we briefly describe the eligibility and benefit rules for disabled-worker and DAC benefits. In the succeeding section, we describe the data and methods used in the study. Subsequent sections present the results and discuss the potential factors contributing to the observed trends. A concluding section summarizes key findings and their implications. The Appendix contains tables providing the detailed statistics underlying the charts we present to illustrate our findings.

Disabled Worker and DAC Eligibility and Benefits

To qualify for benefits as either a disabled worker or a DAC, an individual must meet SSA's definition of disability, under which he or she is not able to engage in SGA because of a disability that has lasted (or is expected to last) for at least 1 year or is expected to result in death. The agency adjusts the SGA amount yearly. In 2015, SGA for nonblind workers is the equivalent of paid, unsubsidized employment that would generate $1,090 in earnings in a month. For blind workers, the SGA amount is higher, at $1,820.

In addition to meeting SSA's definition of disability, qualifying disabled-worker applicants must be "disability insured," a status attained after earning a required number of Social Security quarters of coverage (QCs) by working and paying Social Security payroll taxes. Disability-insured status requires one to be both fully insured (having 1 QC per year after age 21) and to have at least 20 QCs during the last 10 years or, if younger than 31, one-half of the number of quarters that have elapsed since attainment of age 21, with a minimum of 6 QCs. In 2015, workers earn 1 QC for every $1,220 of earnings—the monthly equivalent of which is about $407, or 37 percent of the nonblind SGA amount. The number of QCs needed to make a young adult eligible for disabled-worker benefits is remarkably low, especially before age 31. To qualify requires as few as 6 QCs before age 24, 6–18 QCs at ages 24 through 30, 20 QCs at ages 31 through 42, and 21–40 QCs at age 43 or older.[4] In contrast with disabled workers, DACs are not required to accrue QCs. Instead, they qualify for SSD benefits through a parent who is an eligible disabled, retired, or deceased worker. To qualify for benefits, however, a DAC's disability onset must occur before age 22, and the DAC must be unmarried.

Disabled-worker benefit amounts are a function of average lifetime earnings before disability onset.[5] After a disabled worker qualifies for benefits, a 5-month waiting period must elapse before any benefit is paid. Twenty-four months after the month of benefit entitlement—which can be earlier than the first payment month if the disability onset date is earlier than the application date—a disabled worker can also become eligible for Medicare. In December 2013, 8.9 million disabled workers of all ages received an average monthly benefit of $1,146; the 921,426 disabled workers aged younger than 40 received an average amount of $845. DAC benefit amounts can be up to 50 percent of the parent's primary insurance

amount (PIA) if the parent is living and up to 75 percent of the PIA if the parent is deceased. DACs also become eligible for Medicare after a 24-month waiting period, but are not subject to a 5-month waiting period before SSD benefits begin. In December 2013, more than 1 million DACs of all ages received an average monthly benefit of $735, and 437,000 DACs aged younger than 40 received an average amount of $680 (SSA 2014a).

Qualified individuals may receive concurrent SSD and SSI benefits, whether they receive SSD benefits as a disabled worker or as a DAC. However, the SSI payment is offset by the SSD benefit because the latter is counted as unearned income. Further, an individual may qualify for both disabled-worker and DAC benefits, but may not receive a total benefit that exceeds the higher of the two. Many individuals who qualify for either SSI or disabled-worker benefits have an incentive to apply for DAC benefits if they are eligible and if the latter amount is greater than the individual's own DI or SSI benefit amount. Because DAC benefits are based on a parent's lifetime earnings, they often account for the higher benefit.[6] Eligibility for Medicare adds another SSD application incentive for those who initially receive only SSI payments.

Data and Methods

Most of the data used in this study come from the 2009 version of the Disability Analysis File (DAF), a data file originally constructed to support analysis of the effects of the Ticket To Work program.[7] The 2009 DAF contains current and historical information from administrative records on more than 22 million Social Security beneficiaries aged 18–64 who participated in either the DI or SSI disability program at any time between January 1996 and December 2009. For this research, we supplement the DAF records with matched data from the SSI Longitudinal File and the Master Earnings File (MEF). We classify beneficiaries into 11 award-year cohorts, from 1996 through 2007, and restrict our study population to individuals who were aged 18–39 when first awarded SSD benefits. The long time frame allows us to examine changes in cohort composition and to use a reasonably long 5-year follow-up period to track outcomes.[8]

To examine how awardee characteristics and postaward outcomes interrelate, we classify SSD awardees by type of benefit (disabled worker versus DAC) and prior SSI participation history (none, received SSI payments before reaching age 18, or received SSI payments only as an adult). This classification scheme leads to six analytic subgroups: (1) disabled workers with no SSI history, (2) disabled workers with SSI history as children, (3) disabled workers with SSI history only as adults, (4) DACs with no SSI history, (5) DACs with SSI history as children, and (6) DACs with SSI history only as adults.

DAF data include variables that indicate the type of beneficiary and the type of claim. We classify an awardee as a disabled worker if he or she was coded as the primary claimant in a disability case. We classify an awardee as a DAC if he or she was coded as an adult child of a primary claimant who was a disabled, retired, or deceased worker. In our study population, about 1 percent of SSD awardees were not coded into one of those categories; the Appendix tables include some summary statistics for that "unclassified" group.[9]

We use information from the SSI Longitudinal File to determine whether the SSD awardees in our study population had received SSI payments before they received disabled-worker or DAC benefits and whether they first received such payments as a child or as an adult. We classify SSD awardees who received SSI payments only during the 5-month waiting period for SSD benefits as not having received SSI payments before SSD award. For each of the SSD award cohorts, we calculate summary statistics, by analytic subgroup, for the average benefit amount, the percentage of awardees who were women, and the percentages diagnosed with either a psychiatric disorder or intellectual disability at the time of award. We also calculate the percentage of disabled-worker awardees who had a family member serving as representative payee and the percentage of DACs who were aged 20–39 at the time of award.[10]

For each SSD award cohort, we also calculate the cumulative percentage of awardees that experienced certain outcomes within 5 years of the award year: mortality; suspension or termination of the SSD benefit because of work (STW) in at least 1 month; earnings of more than $1,000 (in 2007 dollars) in 1 or more of the 4 postaward calendar years; and current-dollar earnings that exceeded the annual equivalent of the SGA level for nonblind beneficiaries in at least 1 of the 4 postaward calendar years. We also calculate the percentage of awardees who received SSI payments in at least 1 month of the fifth postaward year and the cumulative number of months awardees spent in nonpayment status following the suspension or termination of benefits for work (NSTW). Appendix

Table A-1 presents detailed descriptions of the 5-year outcomes we measure.

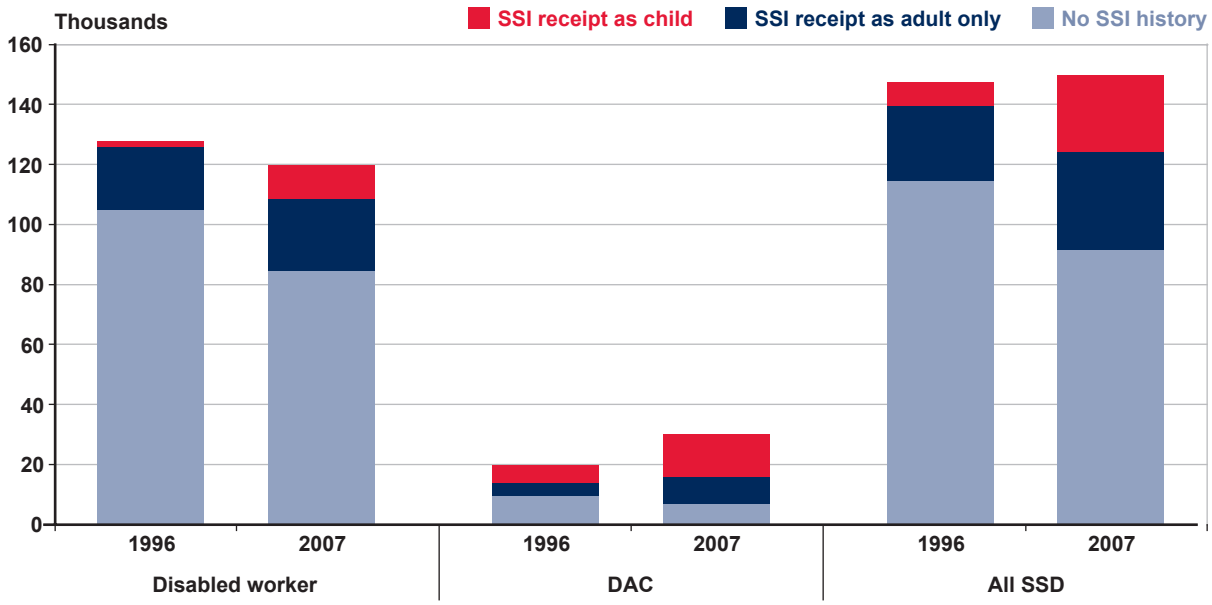
These outcome variables provide useful information about awardees, but must be interpreted carefully. Mortality is of interest primarily as a rough measure of the well-being of SSD awardees; however, it is important to note that changes in unadjusted mortality may reflect shifts in both health status at award (because of cohort compositional changes) and changes over time in the risk of death, with all else equal. Tracking the extent to which SSD awardees begin or continue to receive SSI payments provides a more complete picture of benefit use by SSD awardees. Such information fosters a better understanding of recent shifts in the composition of SSD award cohorts and the implications for policies associated with SSD beneficiaries. We selected the other measures to provide a comprehensive picture of the employment outcomes of SSD awardees. STW and NSTW status are useful indicators of work at a sufficiently high level, but the MEF-based earnings-threshold measures provide a more complete picture of work efforts of awardees by including many who worked at a level that did not lead to the suspension or termination of benefits.

SSD Awardee Characteristics: 1996–2007

Chart 1 shows the distribution of young SSD awardees in the 1996 and 2007 cohorts among the analytic subgroups (Appendix Table A-2 presents the underlying statistics). Of the 148,242 beneficiaries first awarded SSD benefits in 1996, we identify 127,669 (86.1 percent) as disabled workers and 19,626 (13.2 percent) as DACs. In 2007, the total number of SSD awardees was 153,020, an increase of 3.2 percent over 1996, with 119,635 disabled workers representing 78.2 percent of those awardees and 30,003 DACs representing 19.6 percent of them. Compared with the 1996 figures, the number of awards to disabled workers fell by about 8,000 while the number of DAC awards more than offset that decline, increasing by about 10,400.

The percentages of disabled workers and DACs who had previously received SSI payments increased considerably between 1996 and 2007. In 1996, only 1.4 percent of disabled workers had received SSI payments as children, and 16.5 percent had received SSI payments only as adults; in 2007, those two SSI-history subgroups respectively accounted for 9.2 percent and 20.0 percent of disabled workers. The percentage point increase was even greater among DACs: In 1996, 29.5 percent had received SSI

Chart 1.
Number of SSD awardees aged 18–39, by benefit type and SSI history: 1996 and 2007 award cohorts



SOURCE: Authors' calculations based on the 2009 DAF and the SSI Longitudinal File.

NOTE: Excludes unclassified SSD awardees.

payments as children, and 21.4 percent had received them only as adults; in 2007, those two subgroups respectively accounted for 47.8 percent and 29.9 percent of DACs.

Chart 1 illustrates significant changes in the composition of cohorts of young SSD awardees between 1996 and 2007, but does not indicate whether the changes progressed gradually or occurred within specific periods. Charts 2–4 reveal the timing of those changes (Appendix Table A-2 again provides the underlying numbers). The overall number of awardees rose by just 3 percent from 1996 to 2007, with considerable fluctuation along the way (Chart 2). Almost all of the fluctuation was attributable to variation in the number of awards to young disabled workers. Notably, the total number of awards relative to the previous year fell in 1997 and 2006 and increased from 2000 through 2002.[11] Unlike the fluctuating number of disabled workers, the number of young DAC awardees increased modestly but steadily from 1996 through 2007.

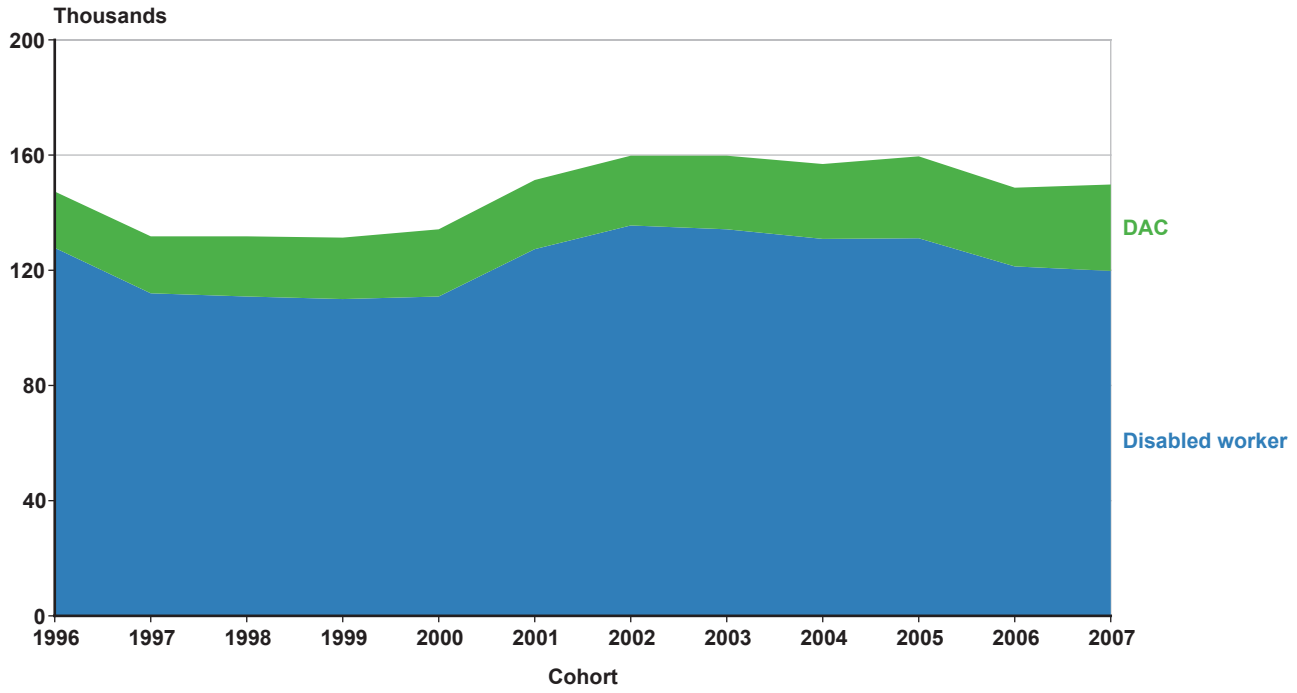
Chart 3 shows that most of the increase in the number of young disabled-worker awardees who had received SSI payments as children occurred between 1999 and 2002, and most of the increase among those who had received SSI payments only as adults occurred between 2000 and 2002. Chart 4 shows that the number of young DAC awardees who had received SSI payments as children increased steadily from 1996 to 2003 and then increased more slowly between 2003 and 2007. Most of the increase in the number of DAC awardees who had received SSI payments only as adults occurred between 2001 and 2003.

Potential Causes

Several factors may have contributed to the changes in the annual number of awards to young disabled workers and DACs, the distribution of those awards between disabled workers and DACs, and the increase in awards to individuals with an SSI history. Distinguishing between the effects of the various factors is complicated by the overlap in their timing. Further, although some of the factors likely had a one-time impact that has already leveled off (or will do so eventually), others will have a continued impact moving forward. We consider six factors below.

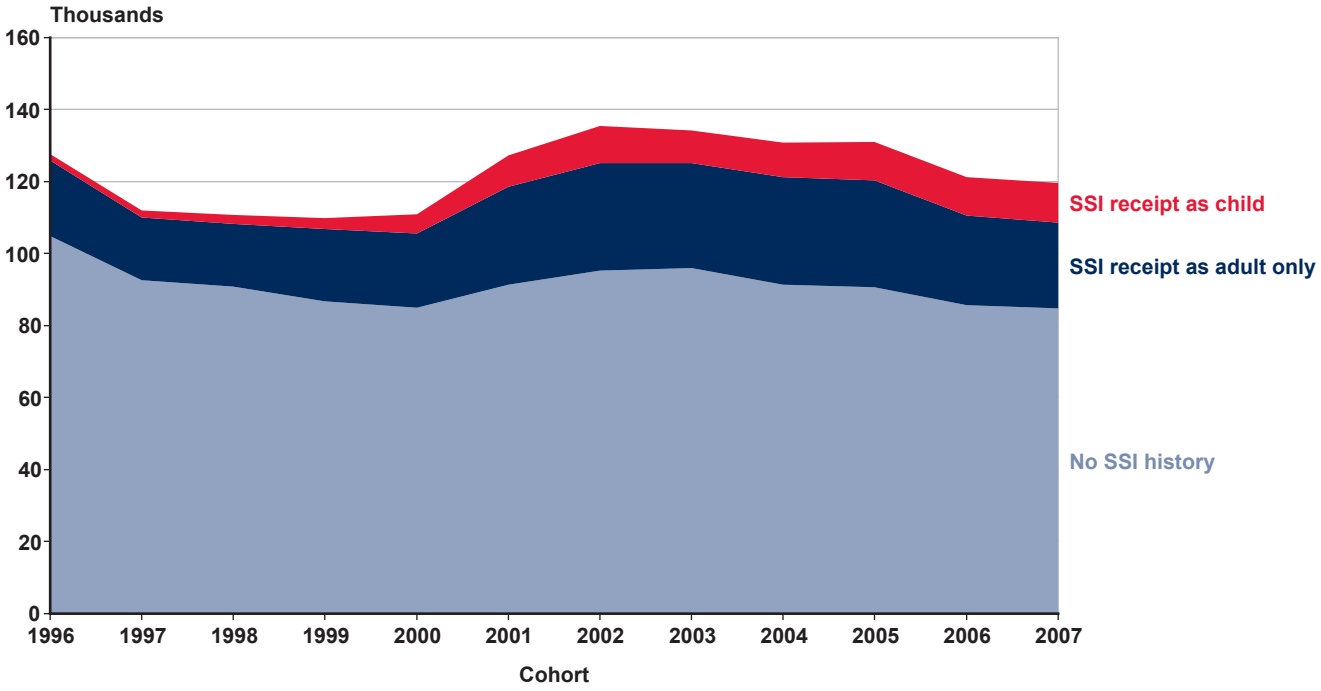
First, the increase in awards between 2000 and 2002 may reflect the 2001 recession, which likely induced some individuals to apply for disabled-worker benefits whether or not they had an SSI history. By

Chart 2.
Number of SSD awardees aged 18–39, by benefit type, 1996–2007 award cohorts



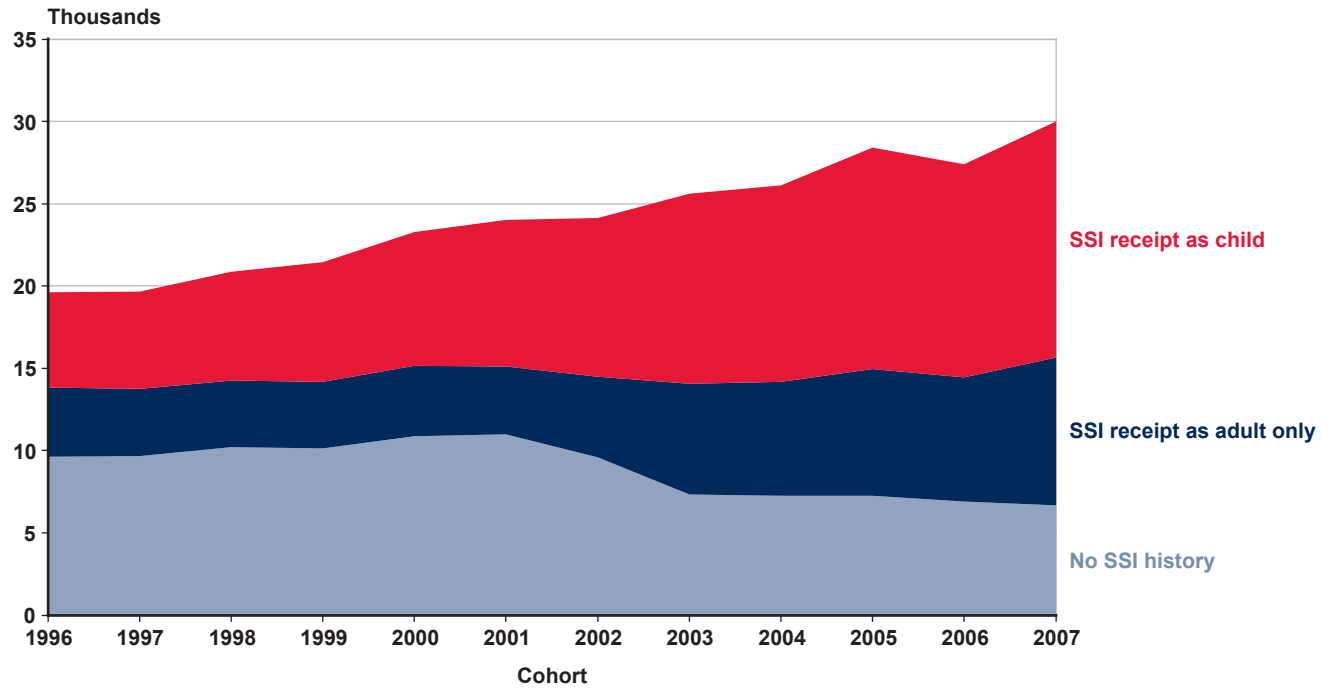
SOURCE: Authors' calculations based on the 2009 DAF and the SSI Longitudinal File.

Chart 3.
Number of disabled-worker awardees aged 18–39, by SSI history: 1996–2007 award cohorts



SOURCE: Authors' calculations based on the 2009 DAF and the SSI Longitudinal File.

Chart 4.
Number of DAC awardees aged 18–39, by SSI history: 1996–2007 award cohorts



SOURCE: Authors' calculations based on the 2009 DAF and the SSI Longitudinal File.

inducing both early retirement and disabled-worker benefit application among primary Old-Age, Survivors, and Disability Insurance (OASDI) beneficiaries, the recession may also have increased the number of DAC awards. Business cycles have affected—and most certainly will continue to affect—program entry by both disabled workers and DACs.

Second, growth in child participation in the SSI program in the last couple of decades is likely the main contributor to the increase among both disabled workers and DACs in the share of new awardees who first received SSI payments as children. The number of children receiving SSI payments more than tripled from 1989 through 1995; from 2000 through 2009, the number expanded further, by 40 percent (Wittenburg 2011). Following the Supreme Court's 1990 *Zebley* decision, SSI eligibility determinations for children became less restrictive and included assessments of the child's ability to function in a manner appropriate to his or her age (Coe and Rutledge 2013). The *Zebley* decision led to a significant increase in the number of children aged 5–12 who received SSI payments (SSA 2006b). The oldest of those children would have reached age 18 by the end of the 1990s and would have needed as few as 6 QCs to qualify for disabled-worker benefits and no QCs to qualify for DAC benefits if an OASDI-eligible parent began receiving DI benefits, retired, or died. However, it is possible that most of those individuals would have entered SSD as young adults even if they had not entered SSI as children. Qualitative evidence suggests that the *Zebley* decision might have had a spillover effect on SSI entry among adults because the advocates and state agencies that helped children to obtain SSI payments recognized that some of the children's parents might also be eligible for SSI (Rupp and Stapleton 1998). Although the *Zebley* decision likely had a substantial impact on the composition of award cohorts, that effect had probably leveled off by 2003. By then, children who had reached age 5 in 1990 or later would have been affected by *Zebley* throughout their childhood (that is, from ages 5 through 18).

Third, following the 1996 reforms of welfare programs for low-income families with children, states had a stronger incentive to help parents with disabilities in low-income families to obtain either SSI or DI benefits (Stapleton and others 2002). There was always an incentive for states to help SSI recipients to obtain DI because doing so would shift health-care costs from Medicaid—a federal-state program—to Medicare, an all-federal program. Rapidly escalating health-care costs in recent decades have amplified that incentive. In addition, given that SSI payments are generally more generous than Temporary Assistance for Needy Families (TANF) benefits and do not impose work requirements or time limits, low-income mothers of children with a disability have a financial incentive to apply for SSI rather than for TANF (Wittenburg 2011), and that incentive has increased over time (Wiseman 2011). Although welfare reform likely played a major role in the general increase in the number of SSD awardees with an SSI history, part of that reform also required redeterminations of eligibility for child SSI recipients under the adult eligibility criteria once they reached age 18. However, we expect that the introduction of redeterminations would affect all cohorts from 1997 onward, and so would not significantly affect any cross-cohort trends.

Fourth, the steady increase in DAC awards throughout the study period is likely related to the aging of the baby boomers. The oldest baby boomers turned 50 in 1996; at that age, it would be easier for applicants to qualify for disabled-worker benefits and, consequently, for their children to qualify for DAC benefits. Indeed, Liu and Stapleton (2011) documented an increase in DI awards to beneficiaries aged 50 or older throughout the period. Because the youngest baby boomers turned 50 in 2014 (and postbaby-boom cohorts are less populous), we expect to see declines in the numbers of DI awards both to beneficiaries aged 50 or older and to children of those workers starting in 2014. We should also see an increase in the number of DAC awards to the children of retired workers.

Fifth, studies conducted by SSA in 1999, 2002, and 2004 identified over 460,000 cases of SSI recipients who were potentially insured for DI based on their earnings (SSA 2006a). Many of those individuals, known as SDW cases, were awarded DI benefits retroactively. Some of the observed trends for new SSD awardees with SSI histories may therefore reflect SSA's efforts to process the SDW cases. We have no reason to think that the SDW caseload affected the trends after 2004, however.

Finally, in July 1999, the SGA threshold increased from $500 to $700 per month. In theory, that increase should have induced an increase in SSD applications from individuals at the earnings margin (Schimmel, Stapleton, and Song 2011; Maestas, Mullen, and Zamarro 2012). Maestas and colleagues estimated that the higher SGA threshold induced a 4.7 percent increase in applications. It is safe to assume that some of the newly induced applications were rejected;

however, some of the individuals who were awarded SSD probably had relatively less severe impairments and came from more advantaged backgrounds, on average, than those who had entered SSD before the increase in the SGA threshold. In addition, the SGA-threshold increase could have induced adult SSI entry among future DAC awardees who previously would not have applied for SSI; such an effect would be consistent with the observed increase, starting in 2001, in the number of DAC awardees who had previously received SSI payments only as adults. We expect any effect of the 1999 SGA-threshold increase to be restricted to the early 2000s.

In the next two sections, we consider how these factors may have played a role in the observed trends in characteristics at award for the 1996–2007 award cohorts and in outcomes, as of the end of the fifth postaward year, for the 1996–2004 award cohorts.

Cross-Cohort Characteristics: 1996–2007 Award Cohorts

Although new DAC awards represent a minority of new SSD awards to individuals aged younger than 40, the DAC share of awards has been steadily increasing and is expected to continue increasing as the baby boom generation ages and more parents of potential DAC awardees qualify for disability or retirement benefits. We therefore show data on awardee characteristics separately for disabled-worker and DAC beneficiaries.

Trends for Disabled Workers

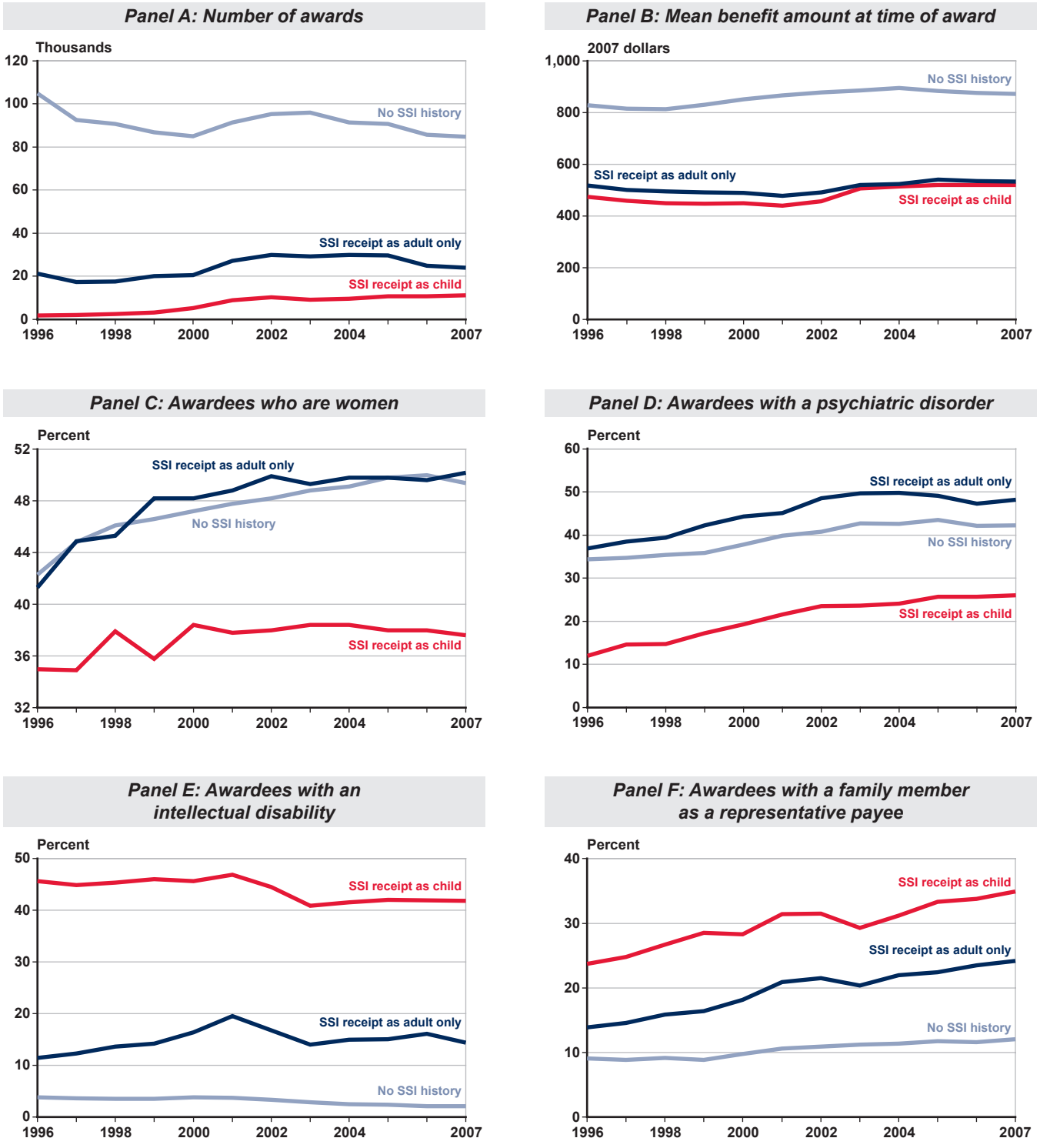
In Chart 5, panel A tracks the number of young disabled-worker awardees, and panels B–F show trends for selected awardee characteristics across all cohorts, by SSI-history subgroup (no SSI, SSI receipt as child, and SSI receipt as adult only). Underlying data are shown in Appendix Table A-2 (awardee counts), Table A-3 (mean benefit amount at award), and Tables A-4 and A-5 (counts and percentages, respectively, for all other characteristics).

The mean benefit at award (panel B) is considerably higher for disabled workers with no SSI history (for whom it ranges between $813 and $894 in 2007 dollars) than for those who received SSI payments either as children or only as adults; for the latter two groups, the mean benefits at award are remarkably similar in both level and trend, ranging between $440 and $541. The gradual upward trends in mean benefit awards indicate that disabled workers in later cohorts had somewhat higher average lifetime earnings prior to DI award than did those in earlier cohorts. A potential contributing factor is the recession of 2001, which likely led to increased DI entry among persons with relatively less severe disabilities and higher historical earnings (Ben-Shalom and Mamun, forthcoming). The July 1999 SGA-threshold increase from $500 to $700 also might have contributed to this trend by inducing DI applications among those at the earnings margin who had relatively less severe impairments and came from more advantaged backgrounds, on average, than those who entered DI before the increase in the SGA threshold.

The women's share of disabled-worker awardees increased notably during the period, especially among those who did not receive SSI payments as children (panel C); in both of those subgroups, women comprised just over 40 percent of 1996 awardees and about 50 percent of 2007 awardees, with almost all of the increase occurring prior to 2005. Presumably, that trend reflects the growth in the percentage of women who met DI earnings-history requirements and, potentially, the shift in participation from TANF to SSI (and subsequently to DI) among low-income single mothers following the welfare reforms of 1996. Among disabled-worker awardees who received SSI payments as children, women represented a much lower percentage, presumably because a larger share of male SSI children would eventually accumulate enough work history to qualify for disabled-worker benefits. As we note later, that difference is not found among DACs, whose benefits do not depend on their own work histories.

The percentage of disabled-worker awardees that had a psychiatric disorder was substantially higher among the two subgroups that did not receive SSI payments as children than it was among the subgroup that did (panel D). For all SSI-history subgroups, however, that percentage rose steadily in successive cohorts from 1996 to 2003; and for awardees who had been SSI child recipients, it continued to rise through 2007. Conversely, the percentage of disabled-worker awardees that had an intellectual disability was the highest, by far, among those who received SSI payments as children and was very low for those with no SSI history (panel E); we observe no significant trend in those percentages. The percentage of disabled-worker awardees with a family member serving as representative payee, which is likely related to the share of awardees with psychiatric and intellectual disorders, was highest among awardees who were SSI recipients as children, and rose consistently for

Chart 5.
Disabled-worker awardees aged 18–39, by SSI history: Cross-cohort trends in selected beneficiary characteristics, 1996–2007 award cohorts



SOURCE: Authors' calculations based on the 2009 DAF and the SSI Longitudinal File.

NOTES: Panels C–F indicate the share of awardees *within the given SSI-history subgroup* that exhibits the featured characteristic.

Because the vertical scales in these panels differ from those in Chart 6, care must be exercised in comparing disabled-worker and DAC awardee characteristics.

all three subgroups (panel F). The *Zebley* decision likely contributed to the increase in the percentage of disabled-worker awardees with psychiatric disorders. As mentioned earlier, the oldest potential SSI recipients affected by *Zebley* would have reached age 18 by the end of the 1990s and would have needed as few as 6 QCs to qualify for disabled-worker benefits (and no QCs to qualify for DAC benefits if an OASDI-eligible parent began receiving DI benefits, retired, or died). The *Zebley* decision may also have had a spillover effect on poor young adults—perhaps unmarried mothers in particular.

Trends for DAC Awardees

Chart 6 mirrors Chart 5's structure to show the number and selected characteristics of young DAC awardees, by SSI-history subgroup.[12] Chart 6's underlying data are likewise shown in Appendix Tables A-2 through A-5. Notably, the number of DAC awardees who had received SSI payments as children increased over the period (panel A). In addition, beginning with the 2001 award cohort, we observe what appears to be a significant crossover between the number of awardees with no SSI history and the number with SSI history as adults only. The shift suggests that substantial shares of DAC awardees that would have had no SSI history at the time of award in 2001 or earlier did have such a history in 2002 or later award cohorts.

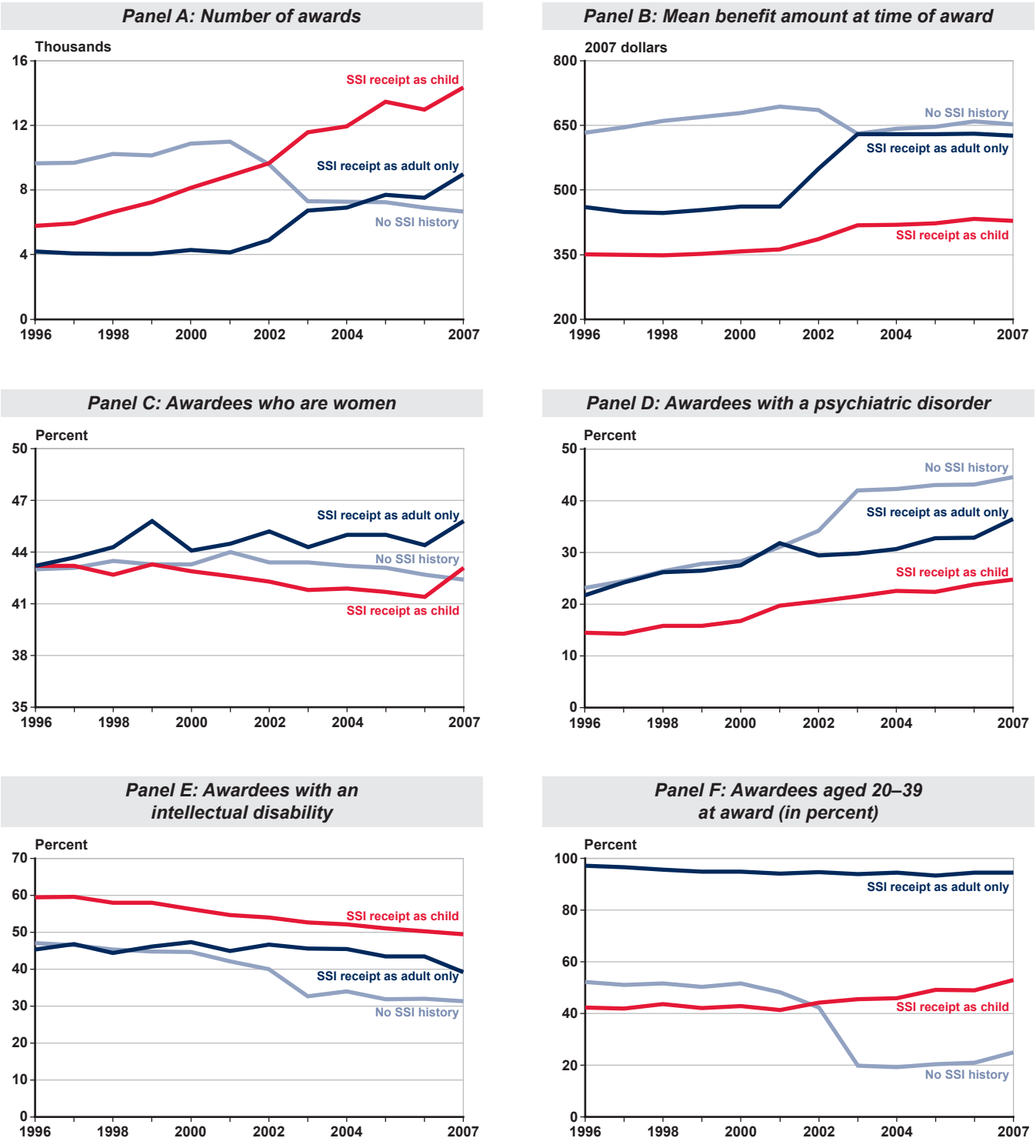
The mean benefit at award (panel B) was lowest for DACs who received SSI payments as children (for whom it increased from $351 in 1996 to $428 in 2007) and, from 1996 through 2002, it was lower for DACs who received SSI payments only as adults than it was for DACs with no SSI history. The means for the two subgroups with no SSI history as children began to converge after 2001; by 2003, they were both around $630. These trends suggest that in later cohorts, DAC awardees who had received SSI payments were less disadvantaged than those who had been awarded DAC benefits earlier in the study period, especially among those with SSI history as adults only. Given that DAC benefits are a function of the beneficiary's parent's benefit amount, the trend suggests that after 2001, within SSI-history subgroups and especially among persons with SSI history as adults only, DAC awardees came from families that were, on average, financially better off than those of earlier awardees. As with disabled workers, potential contributing factors include the July 1999 SGA-threshold increase and the 2001 recession, both of which are likely associated with increases in DI entry among parents of DACs with somewhat higher pre-DI earnings (and therefore relatively high DAC benefits). The recession also likely induced early retirement among parents of DACs with relatively high earnings. In contrast with the trend for disabled-worker awardees, the percentage of DAC awardees who were women was similar for all three subgroups and remained fairly steady, at about 43 percent for all cohorts (panel C).

The percentage of DAC awardees with psychiatric disorders (which rose for all three SSI-history subgroups during the study period) was substantially higher for those with no SSI history as children than it was for those who received SSI payments as children (panel D). By contrast, the percentage of DACs with intellectual disability (which fell for all three subgroups) was substantially higher for awardees who received SSI payments as children (panel E). Both patterns broadly resemble those seen for disabled-worker beneficiaries in Chart 5 (panels D and E), and underscore that the *Zebley* decision of 1990 may have contributed to the increase in the percentage of SSD beneficiaries with psychiatric disorders.

Almost all young DAC awardees with SSI history as adults only were aged 20–39 at award, as were roughly 50 percent of young DAC awardees who had received SSI payments as children (Chart 6, panel F). There was little cross-cohort change for those two groups. However, among awardees with no SSI history, the percentage who were aged 20–39 at award fell precipitously, from about 50 percent in 2001 to 20 percent in 2003. Appendix Table A-4 shows the sharp drop in the number of DACs aged 20–39 at award with no SSI history; an increase of similar magnitude occurred in the number of DACs in that age group who had received SSI payments as adults only. Chart 6, panel F shows that the drop in the number of DAC awardees aged 20–39 with no SSI history strongly affected the age distribution of that subgroup; but the 20–39 age group's already-predominant share of DAC awardees with SSI receipt only as adults was not similarly affected by its numerical growth.

The July 1999 SGA-threshold increase might have contributed to the decrease in the number of DAC awardees with no SSI history and the nearly offsetting increase in the number with SSI history as adults only. Individuals who would not have applied for SSI under the lower SGA level may have been induced by the higher SGA level to enter the SSI rolls as adults prior to DAC award. Such a change would have increased the percentage of DAC awardees with an SSI history and decreased the percentage with no SSI history.

Chart 6.
DAC awardees aged 18–39, by SSI history: Cross-cohort trends in selected beneficiary characteristics, 1996–2007 award cohorts



SOURCE: Authors' calculations based on the 2009 DAF and the SSI Longitudinal File.

NOTES: Panels C–F indicate the share of awardees *within the given SSI-history subgroup* that exhibits the featured characteristic.

Because the vertical scales in these panels differ from those in Chart 5, care must be exercised in comparing disabled-worker and DAC awardee characteristics.

Trends in 5-Year Outcomes: 1996–2004 Award Cohorts

To assess how later cohorts fared relative to earlier ones, we compare statistics for key outcomes by the end of the fifth postaward year. Once more, even though new DAC awards represent a minority of new SSD awards to adults aged younger than 40, we show DAC outcome trends because their share of awards has been steadily increasing and outcomes for that group have not been widely studied. To accommodate the 5-year follow-up periods, we compare outcomes for only nine award cohorts, beginning with 1996 and ending with 2004.

Trends for Disabled Workers

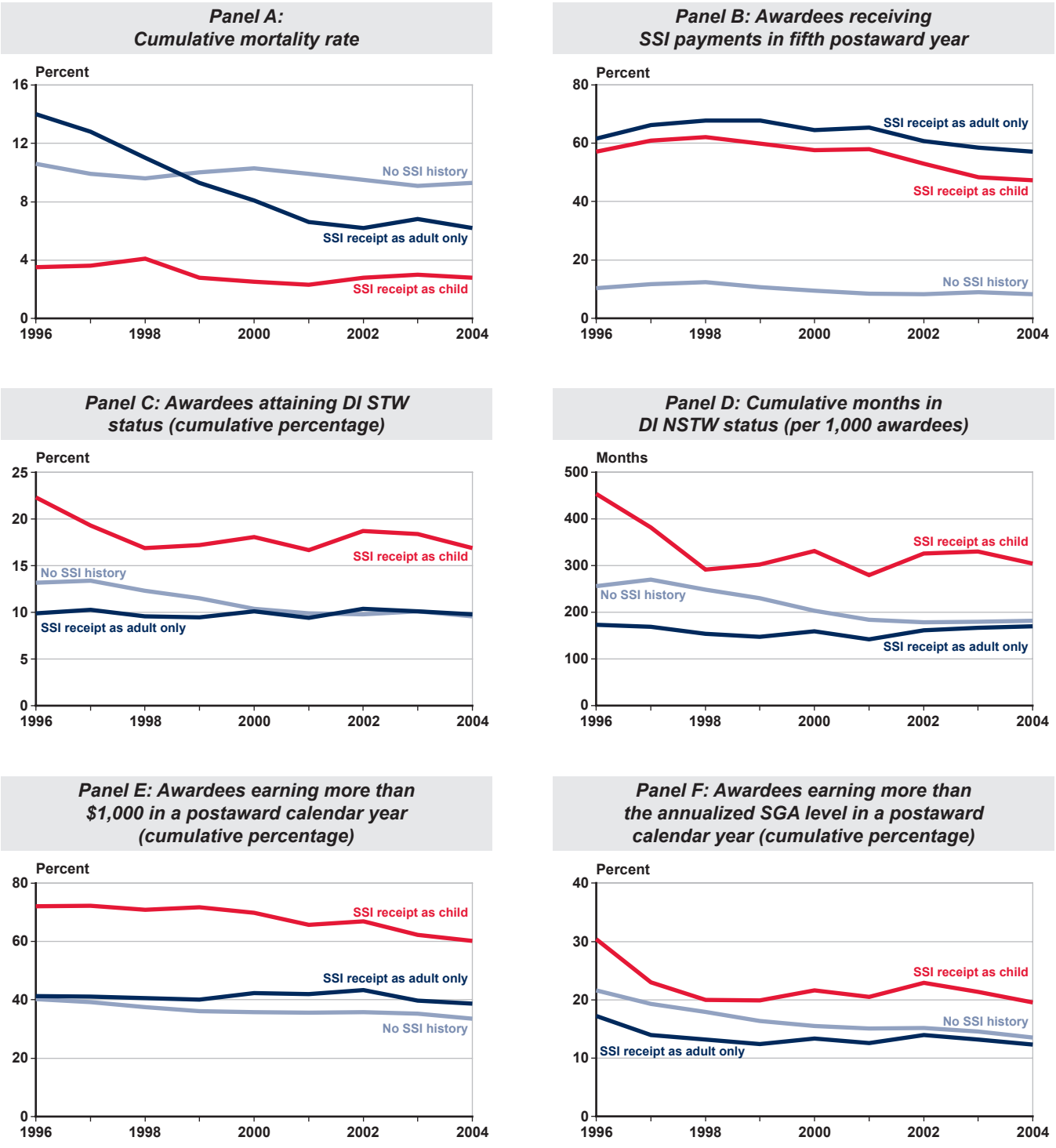
Chart 7 shows cross-cohort trends in 5-year outcomes for young disabled-worker awardees (Appendix Table A-6 provides the underlying values). Cumulative mortality is lowest for those who received SSI payments as children (panel A), presumably in large part because they are younger on average than members of the two other subgroups. Mortality declined in successive cohorts for all SSI-history subgroups—especially for 1996–2002 awardees who received SSI payments only as adults. The decrease in mortality rates among young disabled-worker awardees might be attributable to increases in longevity as well as to compositional changes among more recent award cohorts. For example, women and individuals with psychiatric disorders comprised increasing percentages of awardees over time, which might have contributed to declining mortality.[13] Tellingly, the shares of awardees who were women and who had psychiatric disorders increased the most among those who received SSI payments only as adults, and that increase stalled somewhat beginning with the 2002 cohort (Chart 5, panels C–E)—the same cohort with which the decline in mortality begins to level out for that SSI-history subgroup (Chart 7, panel A).

As expected, the percentage of awardees receiving SSI payments in the fifth postaward year was higher for individuals who had received SSI payments before they were awarded disabled-worker benefits (Chart 7, panel B). Nevertheless, substantial shares of those who had received SSI payments left the program rolls within 5 years of DI award: Among 2004 awardees, less than 50 percent of those who received SSI payments as children and less than 60 percent of those who received SSI payments first as adults received an SSI payment in 2009. Although some awardees had died, perhaps others left the SSI rolls because they no longer needed (or qualified for) SSI and Medicaid because of their DI benefits and (after the waiting period) their qualification for Medicare benefits. Notably, the fifth-year SSI receipt percentages rose from the 1996 cohort through the 1998 cohort for all three subgroups; but through later cohorts, they mostly fell. The upward trend across the early cohorts might indicate the effects of the 2001 recession, which likely inhibited those earlier awardees from working their way off the SSI rolls in the 5 years following award. To the extent that the 2001 recession was associated with increased DI entry of persons with relatively less severe disabilities, higher historical earnings, or a higher propensity to work, the recession might have also played a role in the observed decrease in the fifth-year SSI-receipt percentage among later cohorts.

Panels C and D respectively show the cumulative percentage of awardees who achieved DI STW status in at least 1 month and the cumulative number of months in DI NSTW status per 1,000 awardees as of the end of the fifth postaward year. The DI STW status percentages were substantially higher for disabled workers who received SSI payments as children than they were for those with no SSI history or those who received SSI payments only as adults. The cross-cohort trends for months in DI NSTW status largely track the trends for the DI STW status percentages. By contrast, much higher percentages of disabled-worker awardees had worked enough to earn more than $1,000 (in 2007 dollars) in at least 1 of the 4 postaward calendar years according to MEF data (panel E). As with DI STW status, the percentages of awardees earning more than $1,000 in a calendar year are highest for disabled workers who received SSI payments as children; by the end of 2001, 72 percent of former SSI child recipients in the 1996 cohort had earned more than $1,000 in at least 1 year, compared with roughly 40 percent for the two groups that did not receive SSI payments as children. Once more, the percentages decline across successive cohorts for disabled workers with no SSI history and remain fairly steady for those who received SSI payments as adults only; they also decline for former SSI child recipients—especially after the 1999 cohort. Finally, former SSI child recipients comprised the SSI-history subgroup with the highest percentages of awardees with annual earnings exceeding the annualized SGA level in at least 1 year (panel F).

In general, trends in the four employment-related outcomes are consistent with the expectation that the recession of 2001 made it more difficult for disabled-worker awardees to achieve positive employment outcomes in the first 5 years after award, although other factors certainly played roles too.

Chart 7.
Disabled-worker awardees aged 18–39, by SSI history: Cross-cohort trends in selected 5-year outcomes, 1996–2004 award cohorts



SOURCE: Authors' calculations based on the 2009 DAF and the SSI Longitudinal File matched with MEF data.

NOTES: "Cumulative percentages" are those accrued by all members of an SSI-history subgroup in the award cohort as of the end of the fifth postaward year.

Because the vertical scales in these panels differ from those in Chart 8, care must be exercised in comparing disabled-worker and DAC awardee 5-year outcomes.

Trends for DACs

Chart 8 shows cross-cohort trends in 5-year outcomes for young DAC awardees (Appendix Table A-6 presents the underlying percentages).[14] Cumulative mortality rates for young DAC awardees (panel A) are lower than those for disabled-worker awardees (Chart 7, panel A; note the differing vertical scales), at least in part because DACs are, on average, younger at award. Chart 8, panel A shows that, in all cohorts, DAC awardees with no SSI history had the lowest mortality rates; those who had received SSI payments only as adults had the highest mortality rates. Notably, cumulative mortality generally rose for successive cohorts after 1996 among DACs with no SSI history and fell for those who received SSI payments as adults only. That trend suggests that, for later cohorts, DACs with relatively less severe impairments and more advantaged backgrounds were more likely to enter the SSI rolls as adults than were those in earlier cohorts.

The percentage of DAC awardees receiving SSI payments in the fifth postaward year is higher for those who received SSI payments before they were awarded DAC benefits (panel B). For DAC awardees with prior SSI receipt, the percentages receiving SSI payments in the fifth postaward year generally fell in the cohorts after 1998, especially for the 2001 through 2003 cohorts. Around 13 percent of DACs with no SSI history in the 1996 cohort received an SSI payment in the fifth year after the award of DAC benefits. That percentage more than doubled to 29 percent for the 2003 cohort, with most of that increase occurring in the 2000 through 2003 cohorts. It is notable that a substantial share of DACs who had received SSI payments before DAC award left the SSI rolls in the first 5 years after award. For example, among 2004 DAC awardees, 65 percent of those who first received SSI payments as children and less than 40 percent of those who first received SSI payments as adults still received an SSI payment in 2009. As with disabled workers, the death of some DAC awardees accounts for their departure from the SSI rolls, and other awardees no longer needed (or qualified for) SSI and Medicaid because of their DI benefits and (after the waiting period) their qualification for Medicare benefits. To the extent that the 2001 recession influenced increased program entry among DACs from relatively more advantaged backgrounds, it might also have played a role in the observed decrease in the percentage of awardees receiving SSI payments in the fifth postaward year among later DAC cohorts.

The percentage of DAC awardees achieving DI STW status was very low (3.5 percent or less in all cohorts) for all three SSI-history subgroups (panel C). Consequently, cumulative time in DI NSTW status was also low (panel D). According to MEF data, many more young DACs had been employed and earned more than $1,000 (in 2007 dollars) in at least 1 postaward calendar year (panel E) than had achieved DI STW status. The cumulative percentages of awardees earning more than $1,000 in a postaward calendar year are highest for DACs with no SSI history; by 2001, 31 percent of that subgroup's 1996 cohort had earned more than $1,000 in at least 1 year, compared with about 24 percent of DAC awardees who received SSI payments as children and 18 percent of those who received payments as adults only. Earnings exceeding the annualized SGA level in at least 1 postaward calendar year were also more prevalent among DACs with no SSI history than in the other SSI-history subgroups, although the cumulative percentages were low for all subgroups and cohorts (panel F).

Conclusion

We have examined the characteristics and 5-year outcomes of young SSD awardees. Many of those awardees will stay on the rolls for decades, receive Medicare benefits during most of that time, and participate in the labor force sporadically if at all. Policies designed to help young adults with disabilities to lead more productive, fulfilling lives and to reduce their dependence on government support are therefore of great interest, but many of the impacts of current policies on programmatic and employment outcomes remain unknown.

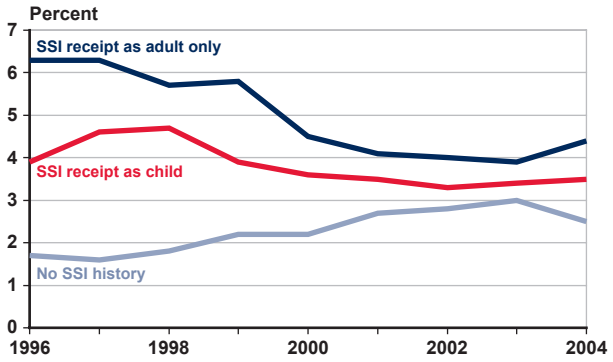
We find substantial compositional changes among cohorts of young SSD awardees during the study period, with important implications for policies intended to serve that population in the years ahead. In 2007, compared with 1996, relatively more SSD awards for individuals aged 18–39 went to DACs; to individuals who had previously received SSI payments, especially as children; and to individuals with psychiatric disorders.

Most of the annual fluctuation in the number of young SSD awardees reflects changes in the numbers of awards to disabled workers—numbers that peaked in 2002 and 2003 after the recession of 2001 (but were subsequently surpassed following the Great Recession of 2007–2009). By contrast, the number of awards to young DACs climbed steadily over the study period, driven largely by the increase in the number of DAC awardees who had received SSI payments as children.

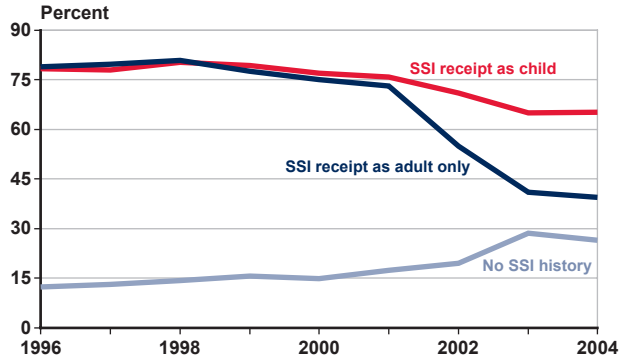
Our findings also suggest that members of DAC award cohorts in 2002 and later were more likely than

Chart 8.
DAC awardees aged 18–39, by SSI history: Cross-cohort trends in selected 5-year outcomes, 1996–2004 award cohorts

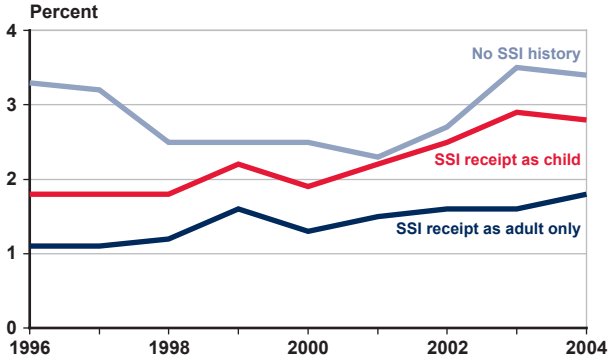
Panel A: Cumulative mortality rate



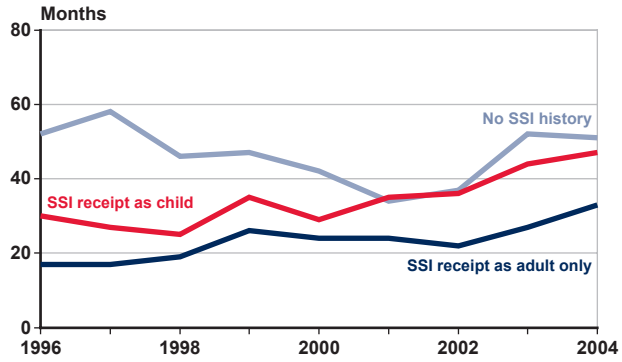
Panel B: Awardees receiving SSI payments in fifth postaward year



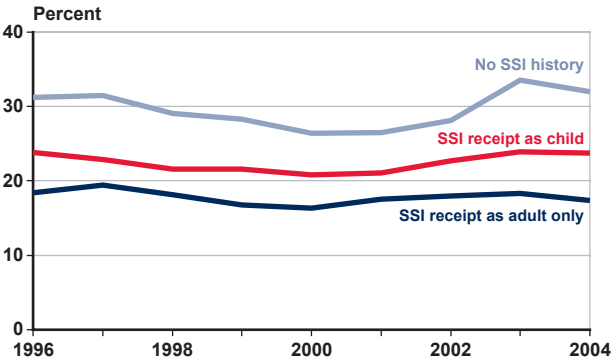
Panel C: Awardees attaining DI STW status (cumulative percentage)



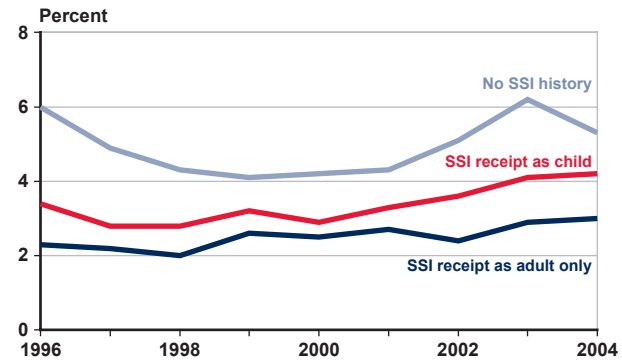
Panel D: Cumulative months in DI NSTW status (per 1,000 awardees)



Panel E: Awardees earning more than $1,000 in a postaward calendar year (cumulative percentage)



Panel F: Awardees earning more than the annualized SGA level in a postaward calendar year (cumulative percentage)



SOURCE: Authors' calculations based on the 2009 DAF and the SSI Longitudinal File matched with MEF data.

NOTES: "Cumulative percentages" are those accrued by all members of an SSI-history subgroup in the award cohort as of the end of the fifth postaward year.

Because the vertical scales in these panels differ from those in Chart 7, care must be exercised in comparing disabled-worker and DAC awardee 5-year outcomes.

their counterparts in earlier cohorts to have begun receiving SSI payments as adults prior to DAC award. In a trend that is likely related, the mean benefit at award among DACs whose prior SSI payments had begun only in adulthood increased substantially from 2001 to 2003. Because DAC benefits are tied to the beneficiary's parent's lifetime earnings, this latter finding indicates that after 2001, DAC awardees with prior SSI receipt only as adults had parents who were financially better off, on average, than did DACs in the same subgroup in earlier cohorts.

Finally, our analysis of outcomes as of the fifth postaward year reveals some interesting trends and important differences across SSI-history subgroups. Among SSD beneficiaries who had previously received SSI payments either as children or adults, substantial shares left the SSI rolls within 5 years of SSD award, especially if they were in the 2002 or later award cohorts. We also find that disabled workers who received SSI payments as children were far more likely than those who did not to earn more than $1,000 (in 2007 dollars) in 1 or more of the 4 postaward calendar years. Compared with disabled workers, DACs were considerably less likely to work and earn more than $1,000 or the annualized SGA level for nonblind beneficiaries in any year. Further, disabled workers in later cohorts were less likely than their predecessors to achieve those milestones. Several factors can be identified as potential contributors to the observed trends, but it is difficult to distinguish the effects of one from another because of their overlapping timing.

Additional Research

We have documented trends in the number, characteristics, and outcomes of young adults first awarded SSD benefits in each year from 1996 to 2007 and have considered factors that might account for those trends. Our findings raise many more questions than they answer, however. Questions for future research include the following: To what extent did the *Zebley* decision and welfare reform contribute to growth in the number of young adult SSD awardees? How much, if at all, has growth in longevity contributed to growth in the number of SSD beneficiaries? Looking ahead, what should we expect for DAC awards as the baby boomers increasingly receive OASDI benefits? Research focused on these and related questions will improve our understanding of how and why the composition of SSD award cohorts changes, and the implications for disability policy.

Policy Issues

Policymakers should consider options that support youths and young adults with disabilities but do not discourage work and thereby promote dependence. Ample evidence shows that employment supports can help young adults with disabilities achieve some employment success. Recent examples of such employment-support initiatives are the Mental Health Treatment Study (Frey and others 2011) and the Youth Transition Demonstration (Fraker 2013). Any consideration of policies that affect the work options and self-sufficiency prospects for youths and young adults with disabilities should carefully account for observed changes in the young adult SSD population, which increasingly includes more women, DACs, beneficiaries with a history of SSI receipt, and beneficiaries with psychiatric disorders. These compositional changes also have implications for Medicare because the mix of health-care services used today by young SSD awardees—most of whom qualify for Medicare after a 24-month waiting period—is likely to differ from that used by awardees a decade ago (and will differ even more over the long term). Another policy question is whether states will continue to face increasingly strong financial incentives to help people receiving SSI payments to obtain benefits from DI—and eventually Medicare—as the cost of health care continues to escalate and places growing pressure on state Medicaid budgets.

Furthermore, policymakers might want to consider whether tying support for DACs to the disability, retirement, or death of a parent continues to make sense. Under current policy, two young adults who experienced onset of the same disabling condition before age 22 could face vastly different prospects in terms of lifetime cash and medical benefits if one of them qualifies for DAC benefits tied to a parent's earnings record and the other qualifies only for SSI payments. In addition, a young adult disabled before age 22 whose parent qualified for DI benefits, retired, or died will qualify for DAC and Medicare benefits, but another young adult with the same disability whose parents are alive and not receiving Social Security retirement or disability benefits will not qualify for DAC or Medicare benefits, and those parents will not necessarily provide him or her with income support or, especially, health insurance. For those individuals, such differences in cash and medical benefits received during a lifetime of disability will most likely result in vastly different outcomes across a range of domains.

Appendix

Table A-1.
Long-term outcomes: Measures observed as of the fifth postaward year

Measure	Description
Cumulative mortality rate	Percentage of SSD awardees who had died as of the end of the fifth postaward year.
Awardees receiving SSI payments	Percentage of SSD awardees who received SSI payments in at least 1 month of the fifth postaward year.
Awardees attaining DI STW status	Cumulative percentage of SSD awardees whose earnings exceeded the SGA level in at least 1 month during or after the extended period of eligibility and before the end of the fifth postaward year.
Cumulative months in DI NSTW status (per 1,000 awardees)	The number of months in which an SSD awardee received no SSD payments following benefit suspension or termination because of work and before he or she died or reached the end of the fifth postaward year, per 1,000 awardees.
Awardees with calendar-year earnings exceeding—	
$1,000 (in 2007 dollars)	Cumulative percentage of SSD awardees with annual earnings (based on MEF data) of more than $1,000 in 2007 dollars in 1 or more of the 4 full calendar years after award.[a]
The annualized SGA level	Cumulative percentage of SSD awardees with annual earnings (based on MEF data) of more than 12 times the monthly SGA level for nonblind beneficiaries in 1 or more of the 4 full calendar years after award.[a] (The SGA level is adjusted annually.)

SOURCE: Authors' definitions.

a. We omit award-year data to avoid "false positives" for awardees who had earnings carried over from preaward jobs.

Table A-2.
SSD awardees aged 18–39, by benefit type and SSI history: 1996–2007 award cohorts

Benefit type and SSI history	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
						Number						
Total	148,242	132,513	132,484	132,045	134,906	152,038	160,523	160,737	157,880	160,619	150,350	153,020
Disabled worker	127,669	112,009	110,809	109,842	110,840	127,209	135,477	134,132	130,778	131,009	121,228	119,635
No SSI history	104,783	92,577	90,755	86,755	85,020	91,367	95,255	95,894	91,361	90,673	85,707	84,733
SSI receipt as child	1,810	2,056	2,527	3,080	5,269	8,718	10,284	8,996	9,572	10,669	10,658	11,031
SSI receipt as adult only	21,076	17,376	17,527	20,007	20,551	27,124	29,938	29,242	29,845	29,667	24,863	23,871
DAC	19,626	19,670	20,874	21,449	23,275	24,001	24,137	25,613	26,111	28,409	27,394	30,003
No SSI history	9,642	9,674	10,222	10,140	10,858	10,997	9,600	7,316	7,262	7,257	6,920	6,677
SSI receipt as child	5,785	5,928	6,625	7,256	8,137	8,881	9,646	11,566	11,936	13,448	12,959	14,347
SSI receipt as adult only	4,199	4,068	4,027	4,053	4,280	4,123	4,891	6,731	6,913	7,704	7,515	8,979
Unclassified	947	834	801	754	791	828	909	992	991	1,201	1,728	3,382
						Percentage distribution by benefit type						
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Disabled worker	86.1	84.5	83.6	83.2	82.2	83.7	84.4	83.4	82.8	81.6	80.6	78.2
DAC	13.2	14.8	15.8	16.2	17.3	15.8	15.0	15.9	16.5	17.7	18.2	19.6
Unclassified	0.6	0.6	0.6	0.6	0.6	0.5	0.6	0.6	0.6	0.7	1.1	2.2
						Percentage distribution by SSI history within benefit types						
Disabled worker	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No SSI history	82.1	82.7	81.9	79.0	76.7	71.8	70.3	71.5	69.9	69.2	70.7	70.8
SSI receipt as child	1.4	1.8	2.3	2.8	4.8	6.9	7.6	6.7	7.3	8.1	8.8	9.2
SSI receipt as adult only	16.5	15.5	15.8	18.2	18.5	21.3	22.1	21.8	22.8	22.6	20.5	20.0
DAC	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No SSI history	49.1	49.2	49.0	47.3	46.7	45.8	39.8	28.6	27.8	25.5	25.3	22.3
SSI receipt as child	29.5	30.1	31.7	33.8	35.0	37.0	40.0	45.2	45.7	47.3	47.3	47.8
SSI receipt as adult only	21.4	20.7	19.3	18.9	18.4	17.2	20.3	26.3	26.5	27.1	27.4	29.9

SOURCE: Authors' calculations based on the 2009 DAF and the SSI Longitudinal File.

NOTE: Rounded components of percentage distributions do not necessarily sum to 100.0.

Table A-3.
Mean monthly benefit at time of award for SSD awardees aged 18–39, by benefit type and SSI history: 1996–2007 award cohorts (in 2007 dollars)

Benefit type and SSI history	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Total	736	722	716	719	724	718	726	741	741	733	732	725
Disabled worker												
No SSI history	828	815	813	831	851	866	878	886	894	884	876	872
SSI receipt as child	473	459	450	448	450	440	457	506	514	519	520	520
SSI receipt as adult only	518	501	495	492	490	477	491	519	524	541	535	533
DAC												
No SSI history	633	646	660	669	679	693	686	631	642	647	659	652
SSI receipt as child	351	349	348	352	358	362	386	418	419	423	433	428
SSI receipt as adult only	460	449	447	454	462	461	549	629	629	629	631	626

SOURCE: Authors' calculations based on the 2009 DAF and the SSI Longitudinal File.

Table A-4.
Number of SSD awardees aged 18–39 with selected characteristics, by benefit type and SSI history: 1996–2007 award cohorts

Benefit type and SSI history	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
						Women						
Total	62,593	58,910	60,149	60,870	62,457	71,004	75,544	76,082	75,074	76,589	71,570	72,503
Disabled worker												
No SSI history	44,293	41,507	41,831	40,400	40,134	43,661	45,876	46,793	44,869	45,111	42,820	41,891
SSI receipt as child	634	718	958	1,104	2,025	3,293	3,907	3,458	3,671	4,053	4,049	4,150
SSI receipt as adult only	8,709	7,794	7,941	9,636	9,913	13,244	14,942	14,424	14,861	14,760	12,337	11,974
DAC												
No SSI history	4,144	4,173	4,448	4,394	4,699	4,838	4,162	3,173	3,140	3,128	2,953	2,831
SSI receipt as child	2,499	2,561	2,826	3,145	3,491	3,784	4,078	4,836	4,997	5,603	5,366	6,177
SSI receipt as adult only	1,816	1,777	1,782	1,858	1,888	1,833	2,212	2,984	3,112	3,468	3,333	4,108
Unclassified	498	380	363	333	307	351	367	414	424	466	712	1,372
						Diagnosed with a psychiatric disorder						
Total	48,188	43,602	44,449	45,350	48,095	57,222	62,762	65,582	64,324	65,888	59,798	61,237
Disabled worker												
No SSI history	35,918	32,159	32,131	31,058	32,107	36,370	38,836	40,981	38,914	39,452	36,054	35,718
SSI receipt as child	216	301	372	529	1,017	1,883	2,414	2,127	2,304	2,738	2,743	2,873
SSI receipt as adult only	7,778	6,697	6,911	8,449	9,097	12,226	14,522	14,547	14,862	14,567	11,771	11,511
DAC												
No SSI history	2,230	2,361	2,693	2,814	3,064	3,409	3,274	3,072	3,067	3,124	2,985	2,974
SSI receipt as child	833	840	1,048	1,150	1,355	1,747	1,975	2,482	2,681	2,996	3,080	3,549
SSI receipt as adult only	910	979	1,053	1,070	1,175	1,310	1,438	2,006	2,118	2,517	2,463	3,270
Unclassified	303	265	241	280	280	277	303	367	378	494	702	1,342
						Diagnosed with an intellectual disability						
Total	17,354	16,618	17,284	18,179	20,681	24,363	24,356	22,345	22,952	24,049	22,922	23,872
Disabled worker												
No SSI history	3,934	3,350	3,221	3,028	3,190	3,355	3,180	2,709	2,318	2,133	1,826	1,755
SSI receipt as child	825	922	1,144	1,418	2,401	4,078	4,579	3,670	3,975	4,485	4,469	4,616
SSI receipt as adult only	2,407	2,133	2,379	2,847	3,366	5,285	4,987	4,080	4,458	4,437	3,992	3,434
DAC												
No SSI history	4,533	4,498	4,634	4,539	4,840	4,633	3,839	2,394	2,468	2,315	2,215	2,088
SSI receipt as child	3,441	3,534	3,843	4,206	4,574	4,855	5,212	6,098	6,215	6,877	6,505	7,099
SSI receipt as adult only	1,901	1,903	1,789	1,869	2,026	1,852	2,283	3,072	3,136	3,346	3,264	3,518
Unclassified	313	278	274	272	284	305	276	322	382	456	651	1,362

(Continued)

Table A-4.
Number of SSD awardees aged 18–39 with selected characteristics, by benefit type and SSI history: 1996–2007 award cohorts—*Continued*

Benefit type and SSI history	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
A family member serves as awardee's representative payee												
Total	22,845	21,442	22,691	23,263	26,150	31,169	33,445	33,759	35,223	37,742	36,504	39,380
Disabled worker												
No SSI history	9,578	8,257	8,305	7,747	8,365	9,715	10,383	10,753	10,432	10,729	9,975	10,214
SSI receipt as child	429	509	675	877	1,493	2,736	3,235	2,640	2,984	3,553	3,600	3,847
SSI receipt as adult only	2,922	2,536	2,779	3,279	3,747	5,679	6,440	5,966	6,570	6,652	5,834	5,786
DAC												
No SSI history	4,809	4,910	5,285	5,242	5,765	5,842	5,287	3,958	4,165	4,154	4,174	4,104
SSI receipt as child	2,763	2,943	3,369	3,805	4,225	4,809	5,256	6,515	6,902	7,974	7,909	8,958
SSI receipt as adult only	2,074	2,020	1,989	2,010	2,226	2,067	2,521	3,543	3,716	4,128	4,199	4,780
Unclassified	270	267	289	303	329	321	323	384	454	552	813	1,691
Aged 18–19 at award												
Total	9,441	9,730	10,411	11,106	12,085	13,500	13,911	15,052	14,729	14,994	14,341	14,518
Disabled worker												
No SSI history	619	658	661	673	733	793	716	654	561	462	437	444
SSI receipt as child	126	152	205	245	433	597	794	629	571	490	413	438
SSI receipt as adult only	393	376	399	502	574	740	885	843	655	558	443	474
DAC												
No SSI history	4,606	4,718	4,939	5,042	5,254	5,683	5,537	5,857	5,854	5,768	5,458	5,002
SSI receipt as child	3,331	3,444	3,734	4,199	4,638	5,201	5,369	6,296	6,446	6,828	6,602	6,725
SSI receipt as adult only	113	134	179	201	216	241	260	411	370	506	416	488
Unclassified	253	248	294	244	237	245	350	362	272	382	572	947
Aged 20–39 at award												
Total	138,801	122,783	122,073	120,939	122,821	138,538	146,612	145,685	143,151	145,625	136,009	138,502
Disabled worker												
No SSI history	104,164	91,919	90,094	86,082	84,287	90,574	94,539	95,240	90,800	90,211	85,270	84,289
SSI receipt as child	1,684	1,904	2,322	2,835	4,836	8,121	9,490	8,367	9,001	10,179	10,245	10,593
SSI receipt as adult only	20,683	17,000	17,128	19,505	19,977	26,384	29,053	28,399	29,190	29,109	24,420	23,397
DAC												
No SSI history	5,036	4,956	5,283	5,098	5,604	5,314	4,063	1,459	1,408	1,489	1,462	1,675
SSI receipt as child	2,454	2,484	2,891	3,057	3,499	3,680	4,277	5,270	5,490	6,620	6,357	7,622
SSI receipt as adult only	4,086	3,934	3,848	3,852	4,064	3,882	4,631	6,320	6,543	7,198	7,099	8,491
Unclassified	694	586	507	510	554	583	559	630	719	819	1,156	2,435

SOURCE: Authors' calculations based on the 2009 DAF and the SSI Longitudinal File.

NOTE: This table includes data on some characteristics that are not discussed in the article.

Table A-5.
Percentage of SSD awardees aged 18–39 with selected characteristics, by benefit type and SSI history: 1996–2007 award cohorts

Benefit type and SSI history	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Women												
Total	42.2	44.5	45.4	46.1	46.3	46.7	47.1	47.3	47.6	47.7	47.6	47.4
Disabled worker												
No SSI history	42.3	44.8	46.1	46.6	47.2	47.8	48.2	48.8	49.1	49.8	50.0	49.4
SSI receipt as child	35.0	34.9	37.9	35.8	38.4	37.8	38.0	38.4	38.4	38.0	38.0	37.6
SSI receipt as adult only	41.3	44.9	45.3	48.2	48.2	48.8	49.9	49.3	49.8	49.8	49.6	50.2
DAC												
No SSI history	43.0	43.1	43.5	43.3	43.3	44.0	43.4	43.4	43.2	43.1	42.7	42.4
SSI receipt as child	43.2	43.2	42.7	43.3	42.9	42.6	42.3	41.8	41.9	41.7	41.4	43.1
SSI receipt as adult only	43.2	43.7	44.3	45.8	44.1	44.5	45.2	44.3	45.0	45.0	44.4	45.8
Diagnosed with a psychiatric disorder												
Total	32.5	32.9	33.6	34.3	35.7	37.6	39.1	40.8	40.7	41.0	39.8	40.0
Disabled worker												
No SSI history	34.3	34.7	35.4	35.8	37.8	39.8	40.8	42.7	42.6	43.5	42.1	42.2
SSI receipt as child	11.9	14.6	14.7	17.2	19.3	21.6	23.5	23.6	24.1	25.7	25.7	26.0
SSI receipt as adult only	36.9	38.5	39.4	42.2	44.3	45.1	48.5	49.7	49.8	49.1	47.3	48.2
DAC												
No SSI history	23.1	24.4	26.3	27.8	28.2	31.0	34.1	42.0	42.2	43.0	43.1	44.5
SSI receipt as child	14.4	14.2	15.8	15.8	16.7	19.7	20.5	21.5	22.5	22.3	23.8	24.7
SSI receipt as adult only	21.7	24.1	26.1	26.4	27.5	31.8	29.4	29.8	30.6	32.7	32.8	36.4
Diagnosed with an intellectual disability												
Total	11.7	12.5	13.0	13.8	15.3	16.0	15.2	13.9	14.5	15.0	15.2	15.6
Disabled worker												
No SSI history	3.8	3.6	3.5	3.5	3.8	3.7	3.3	2.8	2.5	2.4	2.1	2.1
SSI receipt as child	45.6	44.8	45.3	46.0	45.6	46.8	44.5	40.8	41.5	42.0	41.9	41.8
SSI receipt as adult only	11.4	12.3	13.6	14.2	16.4	19.5	16.7	14.0	14.9	15.0	16.1	14.4
DAC												
No SSI history	47.0	46.5	45.3	44.8	44.6	42.1	40.0	32.7	34.0	31.9	32.0	31.3
SSI receipt as child	59.5	59.6	58.0	58.0	56.2	54.7	54.0	52.7	52.1	51.1	50.2	49.5
SSI receipt as adult only	45.3	46.8	44.4	46.1	47.3	44.9	46.7	45.6	45.4	43.4	43.4	39.2

(Continued)

Table A-5.
Percentage of SSD awardees aged 18–39 with selected characteristics, by benefit type and SSI history: 1996–2007 award cohorts—*Continued*

Benefit type and SSI history	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
A family member serves as awardee's representative payee												
Total	15.4	16.2	17.1	17.6	19.4	20.5	20.8	21.0	22.3	23.5	24.3	25.7
Disabled worker												
No SSI history	9.1	8.9	9.2	8.9	9.8	10.6	10.9	11.2	11.4	11.8	11.6	12.1
SSI receipt as child	23.7	24.8	26.7	28.5	28.3	31.4	31.5	29.3	31.2	33.3	33.8	34.9
SSI receipt as adult only	13.9	14.6	15.9	16.4	18.2	20.9	21.5	20.4	22.0	22.4	23.5	24.2
DAC												
No SSI history	49.9	50.8	51.7	51.7	53.1	53.1	55.1	54.1	57.4	57.2	60.3	61.5
SSI receipt as child	47.8	49.6	50.9	52.4	51.9	54.1	54.5	56.3	57.8	59.3	61.0	62.4
SSI receipt as adult only	49.4	49.7	49.4	49.6	52.0	50.1	51.5	52.6	53.8	53.6	55.9	53.2
Aged 18–19 at award												
Total	6.4	7.3	7.9	8.4	9.0	8.9	8.7	9.4	9.3	9.3	9.5	9.5
Disabled worker												
No SSI history	0.6	0.7	0.7	0.8	0.9	0.9	0.8	0.7	0.6	0.5	0.5	0.5
SSI receipt as child	7.0	7.4	8.1	8.0	8.2	6.8	7.7	7.0	6.0	4.6	3.9	4.0
SSI receipt as adult only	1.9	2.2	2.3	2.5	2.8	2.7	3.0	2.9	2.2	1.9	1.8	2.0
DAC												
No SSI history	47.8	48.8	48.3	49.7	48.4	51.7	57.7	80.1	80.6	79.5	78.9	74.9
SSI receipt as child	57.6	58.1	56.4	57.9	57.0	58.6	55.7	54.4	54.0	50.8	50.9	46.9
SSI receipt as adult only	2.7	3.3	4.4	5.0	5.0	5.8	5.3	6.1	5.4	6.6	5.5	5.4
Aged 20–39 at award												
Total	93.6	92.7	92.1	91.6	91.0	91.1	91.3	90.6	90.7	90.7	90.5	90.5
Disabled worker												
No SSI history	99.4	99.3	99.3	99.2	99.1	99.1	99.2	99.3	99.4	99.5	99.5	99.5
SSI receipt as child	93.0	92.6	91.9	92.0	91.8	93.2	92.3	93.0	94.0	95.4	96.1	96.0
SSI receipt as adult only	98.1	97.8	97.7	97.5	97.2	97.3	97.0	97.1	97.8	98.1	98.2	98.0
DAC												
No SSI history	52.2	51.2	51.7	50.3	51.6	48.3	42.3	19.9	19.4	20.5	21.1	25.1
SSI receipt as child	42.4	41.9	43.6	42.1	43.0	41.4	44.3	45.6	46.0	49.2	49.1	53.1
SSI receipt as adult only	97.3	96.7	95.6	95.0	95.0	94.2	94.7	93.9	94.6	93.4	94.5	94.6

SOURCE: Authors' calculations based on the 2009 DAF and the SSI Longitudinal File.

NOTE: This table includes data on some characteristics that are not discussed in the article.

Table A-6.
Prevalence of selected 5-year outcomes for SSD awardees aged 18–39, by benefit type and SSI history: 1996–2004 award cohorts

Benefit type and SSI history	1996	1997	1998	1999	2000	2001	2002	2003	2004
					Cumulative mortality rate (percent)				
Total	10.0	9.1	8.6	8.6	8.4	7.8	7.5	7.4	7.3
Disabled worker									
No SSI history	10.6	9.9	9.6	10.0	10.3	9.9	9.5	9.1	9.3
SSI receipt as child	3.5	3.6	4.1	2.8	2.5	2.3	2.8	3.0	2.8
SSI receipt as adult only	14.0	12.8	11.0	9.3	8.1	6.6	6.2	6.8	6.2
DAC									
No SSI history	1.7	1.6	1.8	2.2	2.2	2.7	2.8	3.0	2.5
SSI receipt as child	3.9	4.6	4.7	3.9	3.6	3.5	3.3	3.4	3.5
SSI receipt as adult only	6.3	6.3	5.7	5.8	4.5	4.1	4.0	3.9	4.4
					Awardees receiving SSI payments in fifth postaward year (percent)				
Total	23.0	24.8	26.3	26.8	26.4	27.9	26.9	26.5	26.5
Disabled worker									
No SSI history	10.3	11.6	12.3	10.7	9.4	8.4	8.2	8.9	8.2
SSI receipt as child	57.1	60.8	62.0	59.9	57.6	58.0	53.0	48.3	47.3
SSI receipt as adult only	61.5	66.2	67.7	67.8	64.5	65.3	60.7	58.4	57.0
DAC									
No SSI history	12.3	13.2	14.3	15.6	14.9	17.3	19.5	28.6	26.5
SSI receipt as child	78.3	77.9	80.2	79.3	76.9	75.8	70.9	64.9	65.1
SSI receipt as adult only	78.9	79.8	80.9	77.6	75.0	73.2	55.0	40.9	39.5
					Awardees attaining DI STW status (cumulative percentage)				
Total	11.4	11.4	10.4	9.8	9.2	8.9	9.4	9.3	8.9
Disabled worker									
No SSI history	13.2	13.4	12.3	11.5	10.4	9.9	9.8	10.1	9.6
SSI receipt as child	22.3	19.3	16.9	17.2	18.1	16.7	18.7	18.4	16.9
SSI receipt as adult only	9.9	10.3	9.6	9.5	10.1	9.4	10.4	10.1	9.8
DAC									
No SSI history	3.3	3.2	2.5	2.5	2.5	2.3	2.7	3.5	3.4
SSI receipt as child	1.8	1.8	1.8	2.2	1.9	2.2	2.5	2.9	2.8
SSI receipt as adult only	1.1	1.1	1.2	1.6	1.3	1.5	1.6	1.6	1.8
					Cumulative number of months in DI NSTW status (per 1,000 awardees)				
Total	216	223	203	188	172	157	162	162	163
Disabled worker									
No SSI history	255	269	248	230	203	183	178	179	181
SSI receipt as child	453	381	291	302	331	279	325	330	304
SSI receipt as adult only	173	168	153	147	159	142	161	166	169
DAC									
No SSI history	52	58	46	47	42	34	37	52	51
SSI receipt as child	30	27	25	35	29	35	36	44	47
SSI receipt as adult only	17	17	19	26	24	24	22	27	33

(Continued)

Table A-6.
Prevalence of selected 5-year outcomes for SSD awardees aged 18–39, by benefit type and SSI history: 1996–2004 award cohorts—*Continued*

Benefit type and SSI history	1996	1997	1998	1999	2000	2001	2002	2003	2004
	Awardees earning more than $1,000 in a postaward calendar year (cumulative percentage)								
Total	39.1	38.2	36.6	35.7	35.9	36.5	37.5	36.0	34.7
Disabled worker									
No SSI history	40.3	39.2	37.5	36.1	35.7	35.6	35.8	35.2	33.5
SSI receipt as child	72.0	72.2	70.8	71.7	69.8	65.6	66.9	62.3	60.2
SSI receipt as adult only	41.3	41.1	40.5	40.0	42.3	42.0	43.3	39.7	38.6
DAC									
No SSI history	31.2	31.5	29.1	28.3	26.4	26.5	28.1	33.5	32.0
SSI receipt as child	23.8	22.9	21.6	21.6	20.8	21.1	22.7	23.9	23.7
SSI receipt as adult only	18.4	19.4	18.1	16.8	16.3	17.5	18.0	18.3	17.4
	Awardees earning more than the annualized SGA amount in a postaward calendar year (cumulative percentage)								
Total	18.8	16.3	15.1	13.8	13.3	13.1	13.7	13.1	12.1
Disabled worker									
No SSI history	21.6	19.3	17.9	16.4	15.5	15.1	15.2	14.6	13.5
SSI receipt as child	30.4	23.0	20.0	19.9	21.6	20.5	22.9	21.4	19.6
SSI receipt as adult only	17.2	14.0	13.2	12.4	13.4	12.6	14.0	13.2	12.3
DAC									
No SSI history	6.0	4.9	4.3	4.1	4.2	4.3	5.1	6.2	5.3
SSI receipt as child	3.4	2.8	2.8	3.2	2.9	3.3	3.6	4.1	4.2
SSI receipt as adult only	2.3	2.2	2.0	2.6	2.5	2.7	2.4	2.9	3.0

SOURCE: Authors' calculations based on the 2009 DAF and the SSI Longitudinal File matched with MEF data.

Notes

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[1] Goss defines young workers as those aged 25–44.

[2] If the parent qualifies for disabled-worker benefits, the DAC's benefits are paid from the DI Trust Fund; if the parent has claimed retirement benefits or is deceased, the DAC benefits are paid from the Old-Age and Survivors Insurance Trust Fund. When the DI program began in 1956, disability onset had to occur before age 18 for a DAC claimant to be eligible for benefits. The 1972 Amendments to the Social Security Act extended eligibility to those with disability onset before age 22 (SSA 2014b, Table 2.A21).

[3] Disabled widow(er)s comprise another category of disability-program beneficiaries, but we exclude them from our analysis because they must reach age 50 to qualify for survivor benefits.

[4] See Burkhauser and Daly (2010) for a thorough discussion of the relatively low earnings levels needed to qualify for life-long disabled-worker benefits before age 31. The authors also show that young adults may achieve eligibility for disabled-worker benefits that exceed the value of existing (or potential) SSI payments with a relatively low level of wage earnings and that the break-even earnings level has fallen considerably since 1980.

[5] The month of disability onset, determined by SSA, is the first month in which the awardee was not able to engage in SGA because of disability.

[6] Anecdotal evidence suggests that disability lawyers are indeed aware of the potentially higher DAC benefits and actively encourage potential beneficiaries to apply for them:

> The monthly benefit is likely to be higher, and disability comes with Medicare. Further, disability recipients are not penalized if they are able to earn a little money each month to supplement their disability check (keep it under SGA), unlike SSI recipients... These claims can reward the disability lawyer who digs a little deeper. With younger adults pursuing an SSI or disability claim, be sure to inquire about the status of both parents, and whether the alleged onset date should be amended to allow a DAC claim. (Gates 2012)

[7] The DAF was previously called the Ticket Research File.

[8] We define date of award as the first month in which a payment was actually made, which in many cases comes later than the month of benefit entitlement. The time lag depends, among other things, on processing times for disability determinations, which often include appeals of denials to higher levels of adjudication. Trends documented in this article may also be influenced by external factors that affect the period between benefit entitlement and actual first payment.

[9] Because the beneficiary-type code is entered into a "write-over" field in SSA's Master Beneficiary Record (which is one source for DAF data fields), our classification scheme identifies as disabled-worker awardees some beneficiaries who first qualified as DACs then also became entitled as disabled workers by December 2009. (The opposite does not occur because all dually entitled beneficiaries are coded as primary claimants and are thus identified as disabled workers.) In 2007, roughly 12 percent of DAC beneficiaries aged younger than 65 were dually eligible for disabled-worker benefits, but we do not know how many of those were first awarded DAC benefits and how many were first awarded disabled-worker benefits. However, we performed a preliminary analysis that suggests that instances in which a DAC awardee is subsequently awarded disabled-worker benefits are extremely rare.

[10] Although we do not present the results here, we also calculated statistics for additional age groups (18–19, 20–25, 26– 30, 31– 35, and 36–39), impairment groups (sensory impairments, back disorders, other musculoskeletal disorders, and other physical disorders), and types of payee (beneficiary direct, private or public institution, or other/unknown). All of the impairment groups we analyzed are based on the primary disabling condition as recorded in Social Security administrative data. Information on several additional characteristics is also available in the administrative data; however, we expect that the characteristics we present here adequately illustrate shifts in the composition of SSD award cohorts.

[11] In contrast with our data for 2006 and 2007, SSA (2014a) indicates that the number of awards to disabled workers increased substantially after 2006. The discrepancy very likely stems from a change in how SSA calculates beneficiary age in that publication. Before 2007, the age calculation was based on year of award; from 2007 onward, it is based on year of entitlement. As a result, a substantial number of awardees who would have been classified as aged 40 or older at award before 2007 were classified as younger than 40 in 2007, leading to the appearance of an increase from 2006 to 2007 in the number of awardees aged 18–39.

[12] Because the vertical scales differ—even between corresponding panels—care must be exercised in comparing Charts 5 and 6.

[13] In the general population, women and individuals with psychiatric disorders typically have greater respective life expectancies than men and individuals with nonpsychiatric impairments.

[14] As with Charts 5 and 6, the vertical scales in Charts 7 and 8 differ, even between corresponding panels.

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