



Social Security

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by Anya Olsen and Samantha O'Leary

More than 1 out of 5 adult Social Security beneficiaries has served in the military, and veterans and their families comprise 35 percent of the beneficiary population. Using data from the March 2010 Current Population Survey (CPS), this article presents the sociodemographic characteristics of the veteran beneficiary and the total veteran populations. The article draws comparisons with findings from the March 2000 CPS and the March 2004 CPS, and describes trends in the size and demographic makeup of the veteran population using data from the Department of Veterans Affairs' VetPop2007 projection model.

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MILITARY VETERANS AND SOCIAL SECURITY: 2010 UPDATE

by Anya Olsen and Samantha O'Leary*

More than 1 out of 5 adult Social Security beneficiaries has served in the military, and veterans and their families comprise 35 percent of the beneficiary population. Policymakers are particularly concerned with the economic well-being of veterans and their family members, who may receive benefits through several government programs. Using data from the March 2010 Current Population Survey (CPS), this article presents the sociodemographic characteristics of the veteran beneficiary and the total veteran populations. Relative to all Social Security beneficiaries, veteran beneficiaries are older; greater proportions are men, are married, and have higher educational attainment; and fewer are poor or near poor. Veteran beneficiary demographic trends are examined by drawing comparisons with findings from the March 2000 CPS and the March 2004 CPS. Using data from the Department of Veterans Affairs VetPop2007 projection model, this article also describes the growing proportions of women and minorities in the veteran population.

Introduction

Although the number of United States military veterans has decreased slightly over the last several years, the number of veterans receiving Social Security benefits still approaches 9.3 million, according to the March 2010 Current Population Survey (CPS). Of almost 44 million adults receiving Social Security benefits, more than 1 out of 5 has served in the military. Family members of veterans also receive benefits under the Old-Age, Survivors, and Disability Insurance (OASDI) program (Social Security). Veterans and their families together make up 35 percent of the adult Social Security beneficiary population. Policymakers are particularly concerned with the economic well-being of veterans and their family members, who may receive benefits through several government programs including special wage credits through Social Security, education assistance through the GI Bill, and compensation and pension payments through the Department of Veterans Affairs (VA).

This article updates two previous studies: Gesumaria and Weaver (2001), which used data from the March 2000 CPS; and Olsen (2005/2006), which used data from the March 2004 CPS. Findings from

these earlier studies are cited throughout this article. For the sake of simplicity, we omit individual source citations. Readers are alerted that all findings herein based on the March 2000 CPS are from Gesumaria and Weaver (2001), and all findings based on the March 2004 CPS are from Olsen (2005/2006).

The CPS is a large, nationally representative monthly survey of US households conducted by the Census Bureau, primarily to collect employment data on the noninstitutionalized population.¹ This article uses weighted March 2010 CPS data to report the sociodemographic characteristics of all veterans and of veteran Social Security beneficiaries, including their 2009 income and benefit amounts. It also uses data from VetPop2007, the most recent version of the VA's model for projecting the veteran population. The model provides official estimates and projections of

Selected Abbreviations

CPS	Current Population Survey
SSA	Social Security Administration
VA	Department of Veterans Affairs

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the veteran population from April 2000 to September 2036 by age, sex, period of service, race/ethnicity, rank, and service branch.²

The article also examines the characteristics of veterans who may be eligible to receive disability benefits if they meet the Social Security definition of disabled. This group receives special consideration when applying for disability benefits through the Social Security Administration's (SSA's) Wounded Warriors program.

Lastly, the article examines trends in the military veteran population, including the growing number of women and minorities serving in the armed forces. Although the number of veterans is projected to decrease over time, VetPop2007 projects that women and minorities will comprise growing proportions of the veteran population in the future. Understanding the veteran population is important to ensure that programs meet veterans' needs and adapt to the changing demographics of military personnel.

Characteristics of the Veteran and Social Security Beneficiary Populations

About 9.3 million military veterans receive old-age, disability, or survivor benefits from Social Security, accounting for just over one-fifth of the adult Social Security beneficiary population in the March 2010 CPS (Table 1).³ Compared with all beneficiaries, veteran beneficiaries are older; greater proportions are men, are married, and have higher educational attainment; and fewer are poor or near poor. Compared with veteran beneficiaries, veterans overall are younger and more diverse.

According to the March 2010 CPS, 93.0 percent of veteran beneficiaries were aged 62 or older (individuals can first apply for reduced retirement benefits at age 62). Veteran beneficiaries are slightly older than all adult beneficiaries: 46.0 percent of veteran beneficiaries are aged 75 or older, compared with 36.5 percent in the overall beneficiary population.⁴ Veteran beneficiaries largely served during the Vietnam War and from February 1955 to July 1964 (the period between the Korean War and the Vietnam War).⁵ Veterans who served in the Korean War and earlier account for over 39 percent of veteran beneficiaries, and they are among the oldest-old Social Security beneficiaries.

Most veteran beneficiaries (96.4 percent) are men, compared with all adult beneficiaries, of whom 43.7 percent are men. These percentages are consistent

with those from the March 2004 CPS. A notable difference is the increase in the share of all veterans who are women, from 5.5 percent in the March 2004 CPS to 7.2 percent in the March 2010 CPS. As the percentage of all veterans who are women increases over time, the percentage of female veteran beneficiaries will also increase (the growing proportion of female veterans is further discussed in the trends section). In addition, 70.8 percent of veteran beneficiaries are married, compared with 53.6 percent of all adult beneficiaries.⁶

Veteran beneficiaries have higher educational attainment than the overall beneficiary population: 88.3 percent of veteran beneficiaries have received a high school diploma and 27.6 percent have at least a bachelor's degree. By contrast, 79.2 percent of all adult beneficiaries have a high school diploma and 20.0 percent have at least a bachelor's degree. The difference in high school completion rates may be because most branches of the military require a high school diploma (or equivalent) to enlist,⁷ and the difference in bachelor's degree receipt may be due in part to veterans' education benefits. The original GI bill was signed into law on June 22, 1944, providing veterans with access to education benefits through the VA. These benefits were for a minimum of 1 year and up to 4 years, depending on age and length of service (Bound and Turner 2002). By the time the original GI Bill expired on July 25, 1956, 7.8 million of the 16 million World War II veterans had participated in an education or training program. In 1984, the GI Bill was revamped to provide up to 36 months of education assistance, which is generally payable for 10 years following release from active duty. This updated "Montgomery" GI Bill is available to individuals who, in general, entered active duty or served in 1985 or later.⁸ The GI Bill was last updated in 2008 for veterans with active-duty service on or after September 11, 2001. It provides enhanced educational benefits for veterans and their families, including tuition and fees, a monthly housing allowance, and an annual stipend for books and supplies (VA 2009).⁹

According to the March 2010 CPS, 7.2 percent of veteran beneficiaries are black and 3.4 percent are Hispanic. Table 1 shows there is greater diversity among the overall beneficiary population (10.5 percent black and 7.1 percent Hispanic) and among all veterans (10.5 percent black and 5.4 percent Hispanic). The increasing diversity of the veteran population is discussed in the trends section.

Table 1.
Characteristics of military veterans and Social Security beneficiaries, 2010

Characteristic	All veterans		Veterans who are Social Security beneficiaries		All adult Social Security beneficiaries	
	Number (thousands)	Percent	Number (thousands)	Percent	Number (thousands)	Percent
Total	20,634	100.0	9,263	100.0	43,624	100.0
Military service ^a						
November 1941 or earlier	21	0.1	21	0.2	21	0.0
World War II	1,702	8.2	1,599	17.3	1,599	3.7
January 1947–June 1950	333	1.6	297	3.2	297	0.7
Korean War	1,854	9.0	1,718	18.5	1,718	3.9
February 1955–July 1964	2,652	12.9	2,387	25.8	2,387	5.5
Vietnam War	6,048	29.3	2,500	27.0	2,500	5.7
May 1975–July 1990	3,844	18.6	553	6.0	553	1.3
August 1990–August 2001	2,485	12.0	154	1.7	154	0.4
September 2001 or later	1,696	8.2	34	0.4	34	0.1
Age						
49 or younger	5,062	24.5	148	1.6	3,609	8.3
50–61	4,853	23.5	501	5.4	3,552	8.1
62–74	6,121	29.7	4,351	47.0	20,541	47.1
75 or older	4,599	22.3	4,264	46.0	15,922	36.5
Sex						
Male	19,141	92.8	8,928	96.4	19,076	43.7
Female	1,493	7.2	336	3.6	24,548	56.3
Married	14,048	68.1	6,559	70.8	23,374	53.6
Education						
At least a high school diploma	19,135	92.7	8,176	88.3	34,540	79.2
At least a bachelor's degree	5,613	27.2	2,552	27.6	8,722	20.0
Race and ethnicity						
Black ^b	2,172	10.5	666	7.2	4,570	10.5
Hispanic	1,107	5.4	313	3.4	3,106	7.1
Receives disability benefits ^c	771	3.7	771	8.3	6,171	14.1
No Medicare	11,469	55.6	815	8.8	5,617	12.9
Income below—						
Poverty threshold	1,330	6.4	348	3.8	4,086	9.4
150% of poverty threshold	2,707	13.1	1,132	12.2	9,646	22.1

SOURCE: March 2010 CPS.

NOTE: Weighted estimates are based on the public-use March 2010 CPS (income year 2009), and are subject to nonsampling error (such as respondent error in reporting characteristics and amount and type of income).

- a. Defined as the last period in which the veteran served.
- b. More than one race can be reported in the CPS. Data include people who identify themselves as black alone or in combination with one or more races.
- c. An individual is classified as receiving disability benefits if he or she is younger than age 66 and reports receiving Social Security because of a disability.

As noted earlier, veteran beneficiaries tend to be older than all adult beneficiaries, which may account for the higher rate of Medicare receipt among them.¹⁰ Only 8.8 percent of veteran beneficiaries do not receive Medicare, compared with 12.9 percent of all adult beneficiaries.¹¹

By contrast, the total veteran population tends to be younger than veteran beneficiaries, with almost one-half aged 61 or younger. Among all veterans, 55.6 percent do not receive Medicare and 55.1 percent do not receive Social Security benefits, mostly because they are still too young to qualify for either program. Fifty-seven percent of all veterans in the March 2010 CPS are younger than age 65, but as these individuals age, more will be eligible for both programs. These numbers indicate that the all-veteran population is slightly older than in previous years. In the March 2004 CPS, 61 percent of all veterans were younger than age 65 and over 59 percent did not receive Medicare.

Only 3.8 percent of veteran beneficiaries have incomes below the poverty threshold, while 9.4 percent of all adult beneficiaries have incomes below the poverty threshold. In addition, 12.2 percent of veteran beneficiaries have incomes below 150 percent of the poverty threshold, while 22.1 percent of all beneficiaries have incomes below this level.¹² Poverty is measured by comparing cash income from all sources (such as wages and salary, income from self-employment, unemployment compensation, Social Security, public assistance, interest, dividends, and veterans' benefits) with official poverty thresholds.¹³

Economic Status

The economic status of veterans is of particular importance to policymakers, who are responsible for changes to federal programs that serve these populations. In addition to Social Security retirement, survivors', spousal, children's, and disability benefits, veterans and their families can receive compensation and pensions, home loan guarantees, education and training, and other benefits from the VA.¹⁴ The income and benefits that veteran beneficiaries receive may explain their relatively higher economic status compared with nonveterans. Because veterans are overwhelmingly male, we compare their characteristics with those of male nonveteran beneficiaries.¹⁵

Veteran beneficiaries tend to have lower poverty rates than male nonveteran beneficiaries, especially at older ages. For example, only 3.4 percent of veteran beneficiaries aged 75 or older were in poverty, while 7.6 percent of male nonveteran beneficiaries were in poverty (Table 2). At younger ages, veteran beneficiaries also have lower poverty rates than their nonveteran counterparts. Although 36.2 percent of male nonveteran beneficiaries aged 61 or younger had incomes below 150 percent of the poverty threshold, 26.5 percent of veteran beneficiaries in this age range had incomes below 150 percent of the poverty level.

Compared with previous years, veteran beneficiaries are slightly better off. For example, in the March 2004 CPS, 25.6 percent of veteran beneficiaries aged 61 or younger had incomes below 125 percent of poverty level, but only 18.3 percent had incomes

Table 2.
Economic status of veteran and male nonveteran Social Security beneficiaries, by age in 2010

Beneficiary and age	Below poverty threshold		Below 125 percent of poverty threshold		Below 150 percent of poverty threshold	
	Number (thousands)	Percent	Number (thousands)	Percent	Number (thousands)	Percent
Veteran beneficiaries						
61 or younger	77	11.9	119	18.3	172	26.5
62–74	127	2.9	266	6.1	432	9.9
75 or older	143	3.4	292	6.8	528	12.4
Male nonveteran beneficiaries						
61 or younger	493	17.8	761	27.5	1,003	36.2
62–74	351	6.8	557	10.8	843	16.4
75 or older	170	7.6	307	13.8	463	20.8

SOURCE: March 2010 CPS.

NOTE: Weighted estimates are based on the public-use March 2010 CPS (income year 2009), and are subject to nonsampling error (such as respondent error in reporting characteristics and amount and type of income).

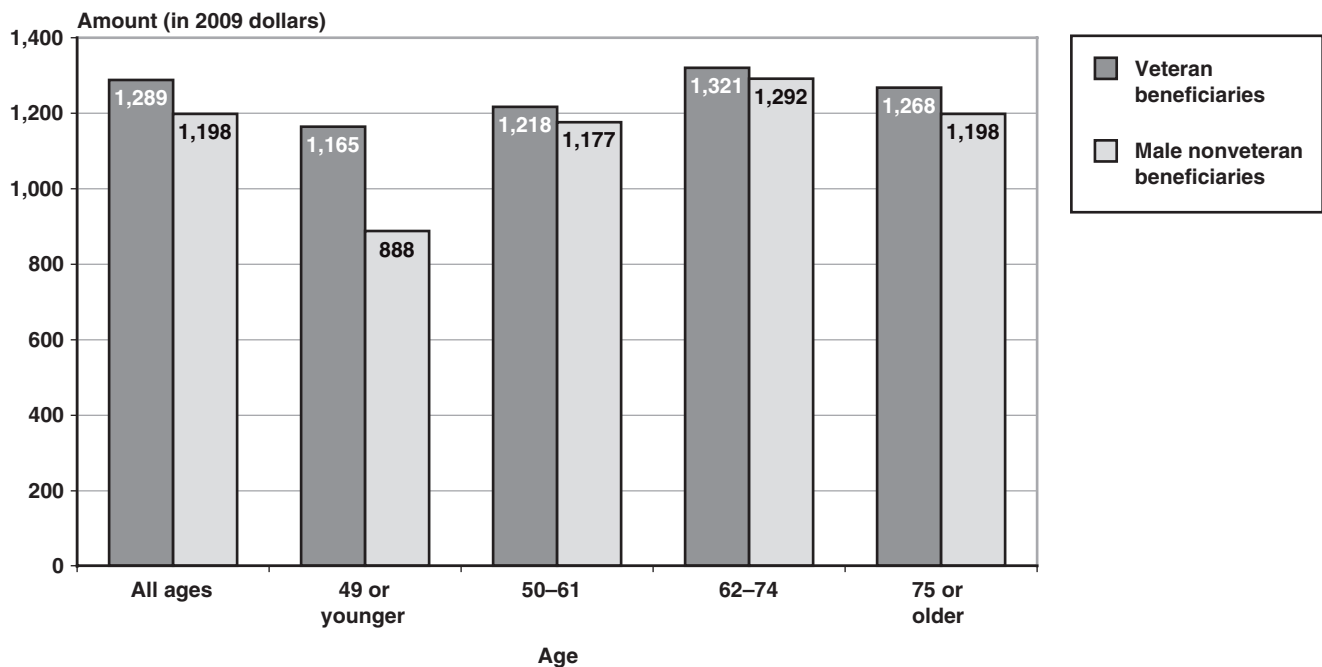
below this level in the March 2010 CPS. These results also hold for the oldest age group. Just over 8 percent of veteran beneficiaries aged 75 or older had incomes below 125 percent of the poverty threshold in the March 2004 CPS, compared with 6.8 percent in the March 2010 CPS. In addition, although in the March 2004 CPS almost 15 percent of those aged 75 or older had income below 150 percent of poverty level, only 12.4 percent did so in the March 2010 CPS. These results are also consistent for male nonveteran beneficiaries. For example, in the March 2004 CPS, 13.5 percent of male nonveteran beneficiaries aged 62 to 74 had incomes below 125 percent of the poverty threshold, yet only 10.8 percent in this age group had incomes below this level in the March 2010 CPS.

The economic status of those receiving Social Security benefits is determined in large part by their monthly Social Security benefit payment. According to SSA's *Income of the Aged Chartbook, 2008*, Social Security provided at least one-half of total income for

51.6 percent of beneficiary couples and for 72.6 percent of nonmarried beneficiaries aged 65 or older. In addition, Social Security accounted for 90 percent or more of income for 21.3 percent of beneficiary couples and for 43.4 percent of nonmarried beneficiaries aged 65 or older (SSA 2010).

Chart 1 shows average monthly Social Security benefit amounts for veteran beneficiaries compared with male nonveteran beneficiaries. Overall, veteran beneficiaries receive slightly larger Social Security benefits than male nonveteran beneficiaries, and they have higher benefits at each age range.¹⁶ The differences are largest at the younger ages, with veteran beneficiaries aged 49 or younger reporting average monthly benefits equal to \$1,165, compared with \$888 for male nonveteran beneficiaries. The differences are much smaller at the oldest ages, with veteran beneficiaries aged 75 or older receiving an average of \$1,268 a month, compared with \$1,198 for male nonveteran beneficiaries. The benefit amounts in Chart 1 do not

Chart 1.
Average monthly Social Security benefit amounts,^a by age in 2010



SOURCE: March 2010 CPS.

NOTE: Weighted estimates are based on public-use March 2010 CPS (income year 2009), and are subject to nonsampling error (such as respondent error in reporting characteristics and amount and type of income).

a. Monthly benefits were computed by dividing the annual Social Security amounts by 12 (part-year beneficiaries may slightly lower the annual average). Benefit amounts do not include compensation or pension payments from the VA, but veterans' benefits may be higher because of special military wage credits.

include compensation or pension payments from the VA, but veterans' benefits may be higher because of special military wage credits.

Individuals with active-duty military service or active-duty training have been covered under the Social Security program since January 1, 1957.¹⁷ Those who served between 1957 and 2001 receive special credits that augment the earnings used in computing their Social Security benefits. Veterans who served between 1957 and 1977 are credited with \$300 in additional earnings for each calendar quarter in which they received active-duty basic pay. Those who served from 1978 to 2001 are credited with an additional \$100 in earnings for every \$300 in active-duty basic pay, up to a maximum of \$1,200 a year. Though they were not covered under Social Security and did not pay Social Security taxes, veterans who served between September 16, 1940 and December 31, 1956, may also be credited with \$160 a month in earnings.¹⁸ These credits, which were funded by the Department of Defense, were originally enacted because some military compensation, such as the value of food, shelter, and medical care, was not used in determining average earnings for computing Social Security benefits.

However, the Department of Defense Appropriations Act of 2002 eliminated military wage credits for those who served in 2002 and later. Congress believed that eliminating these credits would allow funds to be reapplied to other essential military pay and retirement initiatives with minimal impact on future Social Security benefit amounts for veterans.¹⁹ Although the military wage credits supplemented earnings in active-duty pay years, they would only increase Social Security benefits if those active-duty years were among the highest 35 years of wage-indexed earnings—those used to calculate benefit amounts. Therefore, military wage credits applied in active-duty pay years may not necessarily improve a veteran's, or his or her spouse's and dependents', Social Security benefits.²⁰

Disabled Veterans

According to the March 2010 CPS, there were 771,000 disabled veterans receiving Social Security benefits (Table 3). We classify an individual as receiving disability benefits if he or she is younger than age 66 and reports receiving Social Security because of a disability.²¹ Of the disabled veteran Social Security beneficiaries, 2.9 percent are younger than age 40 and 15.4 percent are younger than age 50. Almost

61 percent of disabled veterans younger than age 66 served during the Vietnam War, and another 27.7 percent served during the period of May 1975 through July 1990 (Chart 2). Disabled veterans who served in September 2001 or later only account for 3.0 percent of the Social Security disabled veteran population.

To receive benefits through the Social Security Disability Insurance (DI) program, individuals must be unable to work because they have a medical condition that is expected to last at least a year or result in death.²² To qualify for these benefits, individuals younger than age 24 would need to earn 6 quarters of covered work during the 3-year period ending with the calendar quarter their disability began.²³ Individuals between ages 24 and 31 need to earn credits equaling at least half the number of quarters elapsed after reaching age 21 and until disability onset. Individuals aged 31 and older need to have worked during 5 of the 10 years ending with the calendar quarter their disability began.²⁴

In the aftermath of the terrorist attacks of September 11, 2001, SSA created a program called Disability Benefits for Wounded Warriors. This initiative provides military servicemembers with expedited processing of Social Security disability claims if they become disabled while in active military service on or after October 1, 2001, regardless of where the disability occurs. If the initial claim is denied, wounded warriors will also receive expedited service if they appeal their denied claim.²⁵ For this group, expedited service may be especially beneficial. As Table 3 shows, 11.5 percent of disabled veterans receiving Social Security have income below the poverty threshold and 26.1 percent have income below 150 percent of the threshold. In addition, 30.8 percent of disabled veterans are not receiving Medicare. To qualify for Medicare, an individual must be aged 65 or older, as noted previously, or have received Social Security disability benefits for 24 months.²⁶

Trends in the Growth of the Veteran and Social Security Beneficiary Populations

The total veteran population has been decreasing over the last several years, to 20.6 million in 2010 (Table 1). The VA expects the decline to continue.^{27, 28} Despite the recent decline in the total veteran population, the number of veteran Social Security beneficiaries has increased substantially over the last several decades. Between 1968 and 2010, the number of veteran

Table 3.
Characteristics of veterans under age 66 who report receiving Social Security disability benefits, 2010^a

Characteristic	Veterans under age 66 who report receiving Social Security disability benefits	
	Number (thousands)	Percent
Total	771	100
Age		
39 or younger	22	2.9
40–49	96	12.5
50–59	262	34.0
60–66	390	50.6
Sex		
Male	707	91.6
Female	65	8.4
Married	437	56.7
Education		
At least a high school diploma	707	91.7
At least a bachelor's degree	109	14.1
Race and ethnicity		
Black ^b	133	17.3
Hispanic	37	4.8
No Medicare	238	30.8
Income below—		
Poverty threshold	88	11.5
150% of poverty threshold	201	26.1

SOURCE: March 2010 CPS.

NOTE: Weighted estimates are based on the public-use March 2010 CPS (income year 2009), and are subject to nonsampling error (such as respondent error in reporting characteristics and amount and type of income).

- a. Social Security disability benefits are converted to retirement benefits when the beneficiary reaches full retirement age.
- b. More than one race can be reported in the CPS. Data include people who identify themselves as black alone or in combination with one or more races.

beneficiaries more than quadrupled, from 2.1 million to 9.3 million (Chart 3). In recent years, however, that upward trend has fluctuated. In 2005, an estimated 9.6 million veterans received Social Security benefits. Historically, this is the largest number of veterans to receive Social Security benefits in a single year. Following this peak, the number of veteran beneficiaries decreased to 9.1 million by 2008. In 2010, the number increased somewhat to 9.3 million, with veteran beneficiaries comprising approximately 45 percent of the total veteran population, a 7 percentage point increase from 2000.

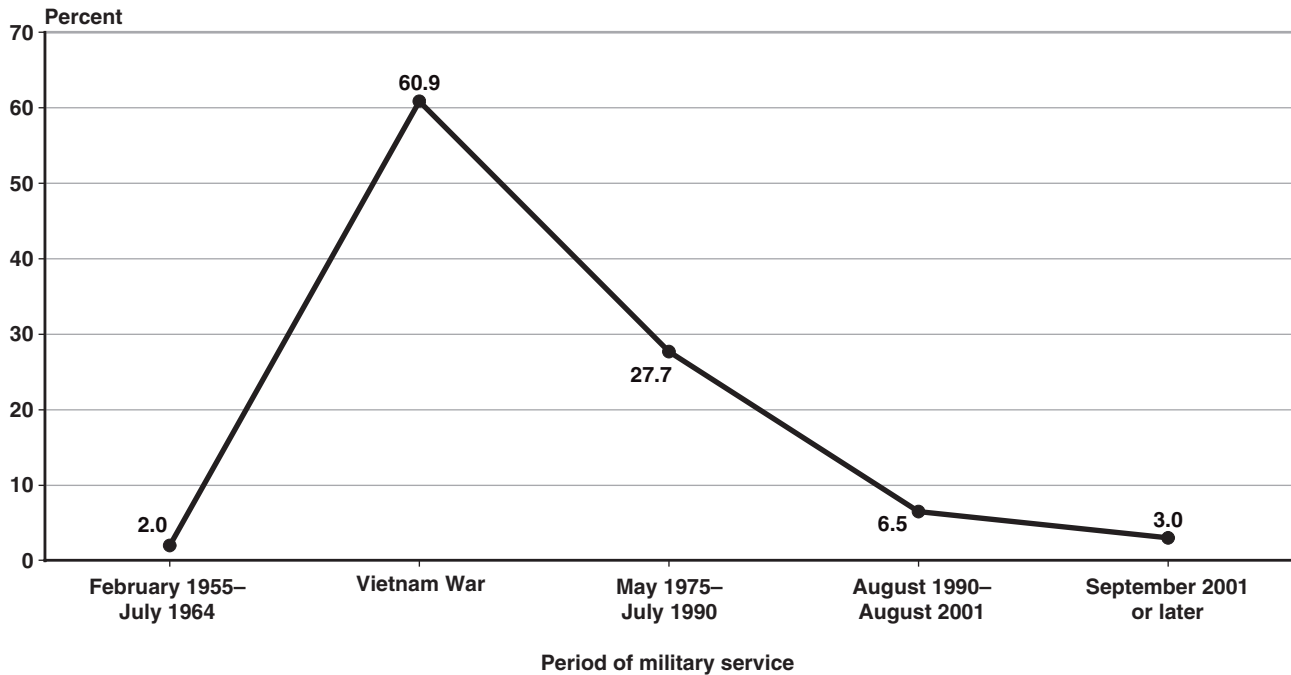
The proportion of veterans among the overall adult Social Security beneficiary population has also decreased slightly over the past decade, after increasing substantially from 1968 through the mid-1990s.

The highest all-time percentage of Social Security beneficiaries who were veterans was 25 percent in 1996 (Chart 4). This percentage has been declining since the March 2000 CPS, and in the March 2010 CPS, it is 21.2 percent.

These overall trends are partially due to the decline in the number of veterans who served in earlier wars. In the March 2000 CPS, World War II and Korean War veterans respectively accounted for 12.5 percent and 7.7 percent of the adult beneficiary population, but in the March 2010 CPS they respectively represented 3.7 percent and 3.9 percent of adult beneficiaries (Table 1). By contrast, Vietnam War veterans more than tripled as a percentage of the overall beneficiary population, from 1.6 percent in the March 2000 CPS to 5.7 percent in the March 2010

Chart 2.

Veterans younger than age 66 who report receiving Social Security disability benefits in 2010, by period of military service



SOURCE: March 2010 CPS.

NOTES: Period of military service is defined as the last period in which the veteran served.

Distribution does not add to 100.0 because of rounding.

CPS. Overall, those who served more recently account for a larger portion of the total veteran population in the March 2010 CPS than those who served in earlier periods. Veterans who served from May 1975 onward comprise 38.8 percent of all veterans. Veterans who served in September 2001 or later account for 8.2 percent of the total veteran population, up from 5.5 percent in 2007, which was the first year the CPS included a more specific breakdown of military service period.

Despite the decline in the total number of veterans, certain subsets of the veteran population have grown. The percentages of female and minority veterans have been steadily increasing. The VA projects that in the future, women and minorities will constitute larger proportions of the total veteran population. The changing demographics of the veteran population may affect the composition of future veteran beneficiary populations. As discussed earlier, veteran beneficiaries are mostly white men. Because of demographic differences in earning patterns and mortality rates, white male Social Security beneficiaries tend to have higher benefits, and correspondingly higher economic

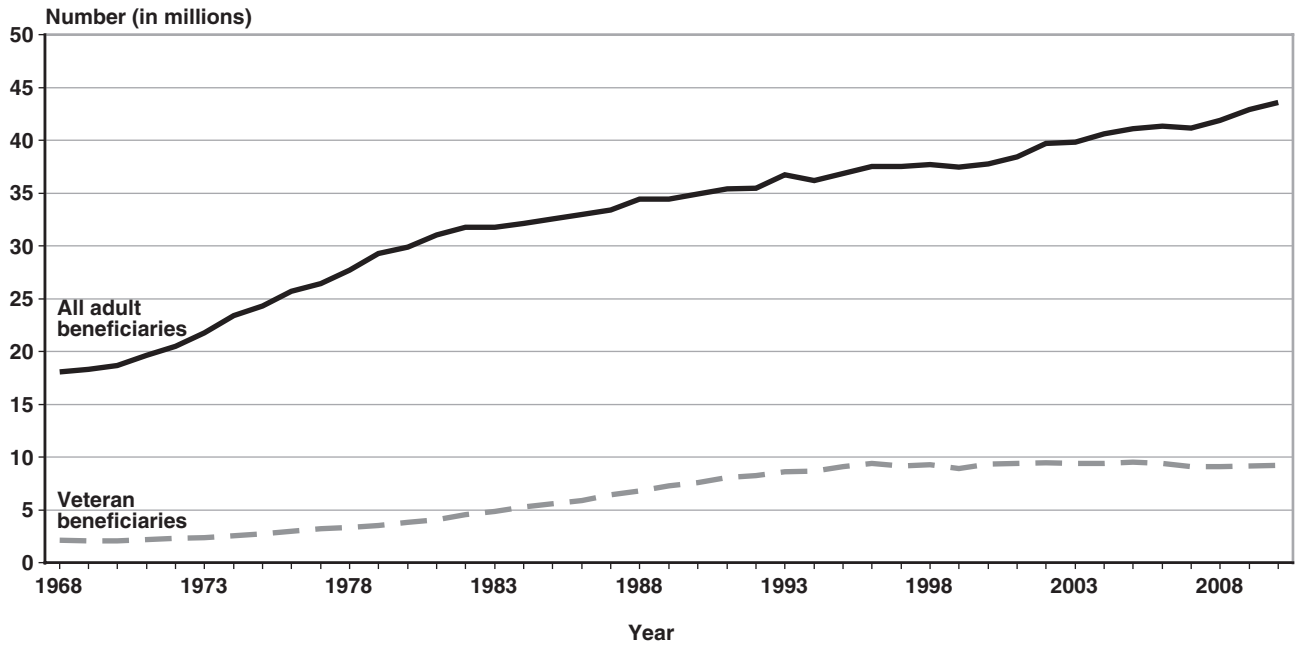
status, than both women and minority beneficiaries (Favreault 2005; Hendley and Bilimoria 1999). As the veteran population continues to include more women and becomes more racially and ethnically diverse, the current higher economic status of veteran beneficiaries compared with male nonveteran beneficiaries may not necessarily hold into the future.

Female Veterans

According to VetPop2007, women comprised only 6.1 percent of all veterans in 2000 and 6.8 percent in 2004, but their share has grown to 8.1 percent in 2010 (Chart 5). The VA projects that the proportion of female veterans will more than double between 2000 and 2036, from 6.1 percent to 15.1 percent. The increase in women serving in the military may be attributable to recruitment efforts targeted specifically toward women and to laws that have increased the number of opportunities available to them.

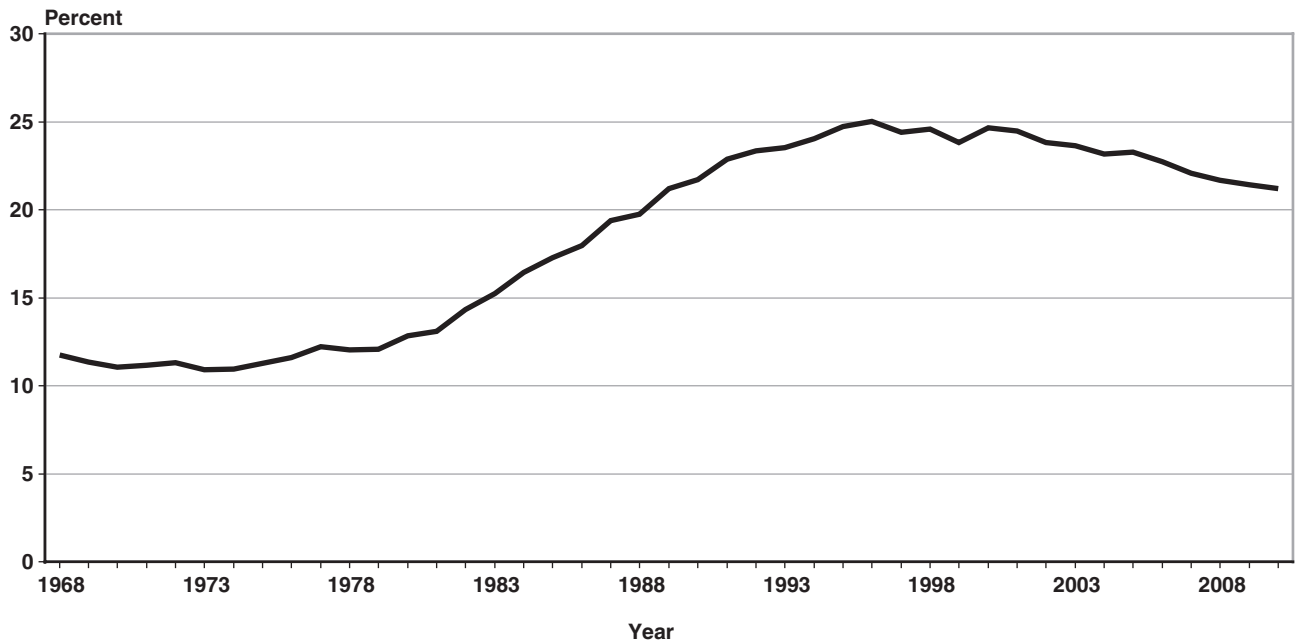
Beginning with the Women's Armed Services Integration Act of 1948, the military, particularly the army, began to expand the opportunities for women beyond clerical and nursing positions. Efforts to

Chart 3.
Number of veterans and of all adults who are Social Security beneficiaries, 1968–2010



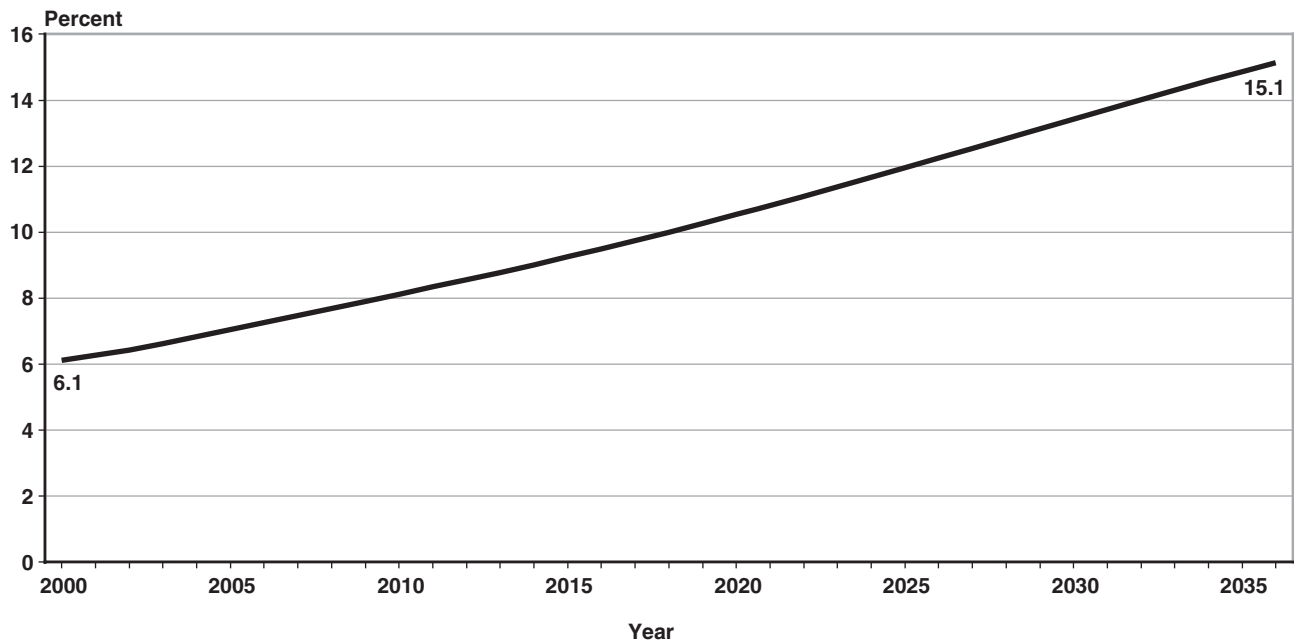
SOURCE: March CPS, 1968–2010.

Chart 4.
Percentage of Social Security beneficiaries who are veterans, 1968–2010



SOURCE: March CPS, 1968–2010.

Chart 5.
Percentage of veterans who are women, 2000–2036



SOURCE: VetPop2007.

recruit women into the service have also increased. Over time, advertisements for the various military branches began to depict female soldiers receiving the same skills training and educational benefits as male soldiers. These recruitment efforts intensified after the expiration of the Selective Service Act in 1973, when the military began adding more female recruits to supplement ranks thinned by the end of the draft (Brown 2006).

In 1988, the Department of Defense established the “Risk Rule,” which revised the criteria that barred women from certain posts, opening up an additional 30,000 positions for women in the armed services (WREI 2007). Recruitment campaigns in various media outlets began to depict female soldiers in roles that reflected these new opportunities in all of the military branches, and the army in particular, to attract women to the armed services (Brown 2006). These developments underlie the VA’s expectation that the percentage of veterans who are women will continue to trend upward, which in turn will increase the number of female veteran Social Security beneficiaries.

Minority Veterans

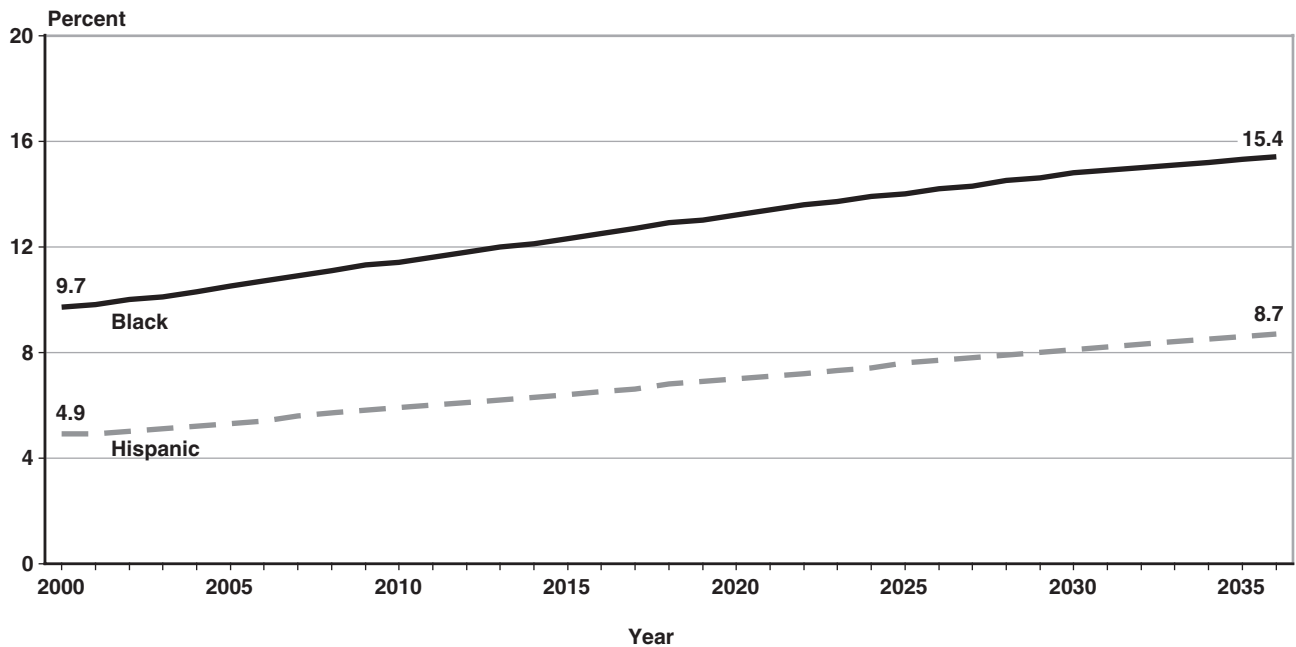
The percentage of the veteran population that identifies itself as a minority has also grown steadily.

However, over the last decade, growth rates have differed across racial and ethnic lines. From 2000 to 2010, the percentage of all veterans who identify themselves as black has grown faster than the percentage who identify as Hispanic. Between 2011 and 2036, the Hispanic veteran population will begin to grow at a faster rate than the black veteran population. However, the black veteran population will remain the larger of the two.²⁹

According to the March 2000 CPS, 10.3 percent of all veterans were black and 3.6 percent were Hispanic. In the March 2010 CPS, 10.5 percent of all veterans identified as black, a 0.2 percentage point increase from the March 2000 CPS. The proportion of Hispanic veterans has grown to 5.4 percent in the March 2010 CPS (Table 1), an increase of 1.8 percentage points since the March 2000 CPS. These percentages represent an increase from the March 2004 CPS as well. Blacks accounted for 9.7 percent and Hispanics accounted for 4.3 percent of the overall veteran population in the March 2004 CPS.

The percentages of black and Hispanic veterans in VetPop2007 are projected to increase, but the percentage of black veterans is projected to grow at a slower rate than that of Hispanic veterans (Chart 6). VetPop2007 projects that by 2036, blacks will comprise

Chart 6.
Percentages of veterans who are black or Hispanic, 2000–2036



SOURCE: VetPop2007.

15.4 percent of the overall veteran population; compared with 2000, this represents an increase of over 59 percent in the proportion of veterans who are black. In 2036, VetPop2007 estimates that Hispanics will account for 8.7 percent of the overall veteran population, an increase of almost 80 percent over the proportion in 2000. Despite the anticipated growth in the percentages of both black and Hispanic veterans, the difference between the two groups is expected to grow as well. In 2000, there was a 4.8 percentage point difference between the proportions of the black and Hispanic veteran populations. By 2036, VetPop2007 estimates that the difference will grow to 6.7 percentage points.

Although the percentage of veterans who are black has increased, the number of black veterans has decreased from 2.5 million in the March 2000 CPS to less than 2.2 million in the March 2010 CPS (Table 1). The VA projects that although the number will continue to decline, it will not drop as rapidly as the overall veteran population, resulting in the increasing proportion of black veterans in the future. The VA expects the number of black veterans to decline from 2.6 million in 2010 to 2.2 million in 2036, according to VetPop2007. By contrast, the Hispanic veteran population has grown by over 230,000 since 2000,

according to the CPS. Although VetPop2007 projects that the number of Hispanic veterans will decline from 1.3 million in 2010 to 1.2 million in 2036, they also are expected to represent a continually larger percentage of the total veteran population.

The percentage of minority veteran Social Security beneficiaries has grown in a similar pattern to that of the total minority veteran population. The percentage of black veteran beneficiaries increased from 6.5 percent in the March 2000 CPS to 7.2 percent in the March 2010 CPS (Table 1). The percentage of Hispanic veteran beneficiaries increased from 2.3 percent to 3.4 percent during the same decade. As the total veteran population becomes more racially and ethnically diverse, so will the Social Security veteran beneficiary population.

Conclusion

Although the number of veterans has decreased over the last decade, veterans and their families still account for 35 percent of the Social Security beneficiary population. The majority of veteran beneficiaries served from February 1955 to the end of the Vietnam War. Veteran beneficiaries tend to be older, are more likely to be married, and are more likely to have finished high school and attained a bachelor's degree

than the overall Social Security beneficiary population. They also tend to receive higher Social Security benefits than male nonveteran beneficiaries and have lower poverty rates than the overall beneficiary population.

The general veteran population is younger and more diverse than the veteran population that receives Social Security benefits. Nearly half of all veterans are younger than age 62, and as the number of veterans who served in older conflicts decreases, veterans of more recent conflicts will replace them. The proportions of female and minority veterans have increased over the last several decades and these groups are projected to represent larger portions of the general veteran population in the future. The changing face of the military veteran population will be reflected in the Social Security veteran population in the future. As the composition of the veteran beneficiary population changes, it will be important for policymakers to note how the needs of the population changes.

Appendix: Social Security Widow Beneficiaries

The CPS does not specifically measure the economic status of widows who were married to veterans, but it does contain information on the status of widows in general. Because the vast majority of veterans are male and over two-thirds are married, widowed beneficiaries are an important group to consider in the context of veteran beneficiaries. A large number of women will become widows of veterans in the coming decade: Among all beneficiaries in the March 2010 CPS, 2.9 million married veterans are aged 75 or older.

A large percentage of widow beneficiaries have incomes below or near poverty level. For example, 35.1 percent of widow beneficiaries aged 61 or younger have incomes below 125 percent of the poverty line in the March 2010 CPS (Table A1). Older widows tend to be slightly better off: 20.5 percent of those aged 62 to 74 and 21.3 percent of those aged 75 or older have incomes below 125 percent of the poverty threshold. Widows in these older age groups are also faring better than they were in the March 2004 CPS. For example, over 24 percent of widows aged 62 to 74 in 2004 had incomes below 125 percent of the poverty level, compared with 20.5 percent in 2010. However, the youngest widows are faring worse in 2010. In the March 2004 CPS, 40.3 percent of widows aged 61 or younger had incomes below 150 percent of the poverty threshold; this number has increased to 46.2 percent in the March 2010 CPS.

For ages 50 or older, widows have lower average Social Security monthly benefit amounts than both veterans and male nonveterans. For example, among beneficiaries aged 62 to 74, average monthly benefits for widows are more than \$100 lower than those for veterans and male nonveterans (Chart 1 and Chart A1). However, Social Security is especially important for widows, accounting for 90 percent or more of total income for 28.9 percent of women aged 65 or older (SSA 2010). Although the benefit amounts for widows in Chart A1 may not seem significantly lower than those of veterans and male nonveterans, the higher poverty rates for widows shown in Table A1 indicate that these benefits are particularly important for this group.

Table A1.
Economic status of widow Social Security beneficiaries, by age in 2010

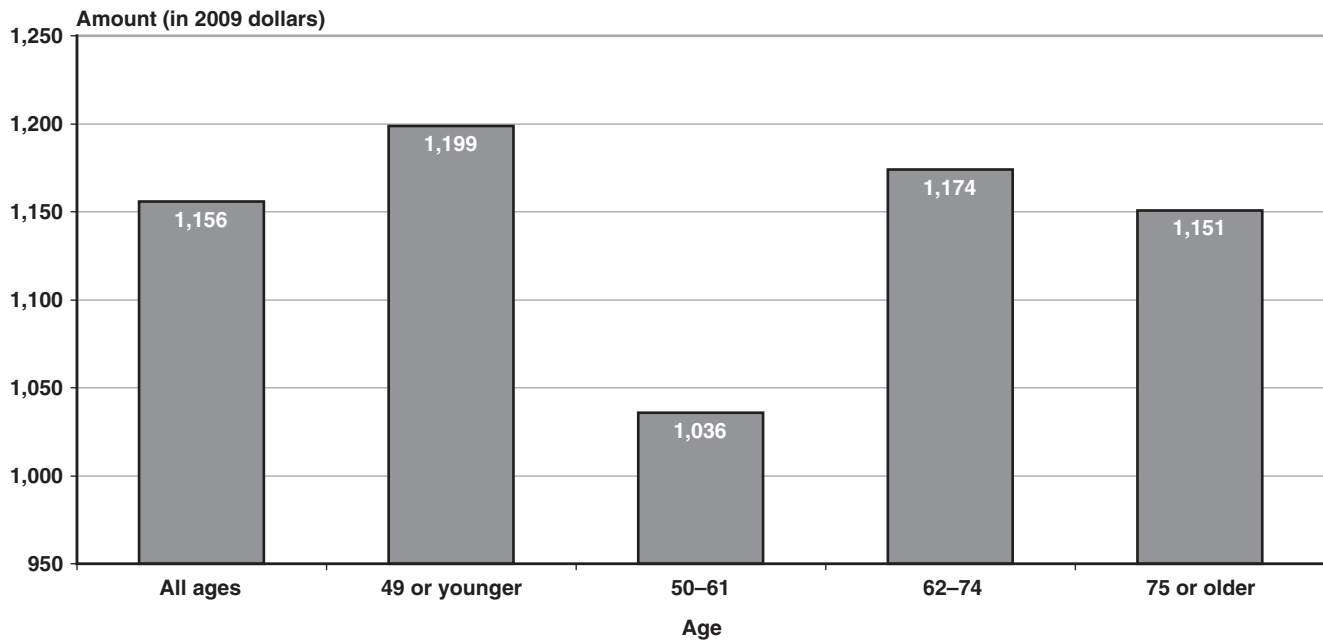
Age group	Below poverty threshold		Below 125 percent of poverty threshold		Below 150 percent of poverty threshold	
	Number (thousands)	Percent	Number (thousands)	Percent	Number (thousands)	Percent
61 or younger	121	24.1	176	35.1	232	46.2
62–74	297	11.2	543	20.5	748	28.3
75 or older	618	11.2	1,178	21.3	1,781	32.2

SOURCE: March 2010 CPS.

NOTE: Weighted estimates are based on the public-use March 2010 CPS (income year 2009), and are subject to nonsampling error (such as respondent error in reporting characteristics and amount and type of income).

Chart A1.

Average monthly Social Security benefit amounts^a for widows, by age in 2010



SOURCE: March 2010 CPS.

NOTES: Weighted estimates are based on the public-use March 2010 CPS (income year 2009), and are subject to nonsampling error (such as respondent error in reporting characteristics and amount and type of income).

a. Monthly benefits were computed by dividing annual Social Security benefits amounts by 12 (part-year beneficiaries may slightly lower the annual average).

Notes

Acknowledgments: The authors thank Lynn Fisher, Joni Lavery, Mark Sarney, David Weaver, Karen Glenn, and Tim Kelley for their helpful comments and suggestions.

¹ For more information on the CPS, see <http://www.census.gov/cps/>.

² For more information on VetPop2007, see VA (2008).

³ CPS respondents may indicate up to two reasons for receiving Social Security benefits, so some beneficiaries may be dually entitled. For example, individuals could be receiving disability benefits on their own earnings record and receiving spousal retirement benefits from their spouse's earnings record; or, individuals could be receiving retirement benefits on their own record and survivor benefits from their spouse's record. For more information on Social Security benefits, see <http://www.socialsecurity.gov/pubs/10024.pdf>.

⁴ CPS data are subject to age perturbation, or the adjustment of ages for selected household members depending on the demographic characteristics of all members of the household, to increase confidentiality protection. Therefore, we do not separate individuals aged 75 or older into smaller subgroups as was done in Gesumaria and Weaver

(2001) and Olsen (2005/2006). For more information on age perturbation and its effect on the CPS data, see http://www.census.gov/cps/user_note_age_estimates.html and Fisher (2010).

⁵ The CPS allows veteran respondents to indicate up to four periods in which they served; however, for the purpose of this article, military service period is defined as the most recent date of service.

⁶ This discrepancy may relate to the fact that the majority of veteran beneficiaries are men, while the majority of all adult beneficiaries are women. Women tend to outlive men and are thus more likely to be unmarried at older ages (CDC 2010, Table A).

⁷ For more information on military enlistment requirements, see <http://www.bls.gov/oco/ocos249.htm>.

⁸ For more information on the Montgomery GI Bill, see <http://www.gibill.va.gov/post-911/montgomery-gi-bill/active-duty.html>.

⁹ For more information on the Post-9/11 GI Bill, see <http://www.gibill.va.gov/post-911/post-911-gi-bill-summary/>.

¹⁰ Veterans must enroll in Medicare Part B (Supplementary Medical Insurance) to remain eligible for TRI-CARE, the Department of Defense's health care plan for

active-duty and retired uniformed servicemembers and their families. For more information on the interaction between Medicare and TRICARE, see <http://www.socialsecurity.gov/pubs/10020.html>.

¹¹ Medicare is the federal health insurance program for individuals aged 65 or older, certain disabled persons younger than age 65, and those who have permanent kidney failure or Lou Gehrig's disease. For more information on Medicare, see <http://www.socialsecurity.gov/pubs/10043.html>.

¹² Although Supplemental Security Income (SSI) receipt was included in both Gesumaria and Weaver (2001) and Olsen (2005/2006), it is not included in this article because of underreporting issues (see Koenig 2003 for more information). Instead, we use poverty rate to measure economic status.

¹³ For more information on how poverty is measured, see <http://www.census.gov/hhes/www/poverty/about/overview/measure.html>.

¹⁴ SSA offers a Benefit Eligibility Screening Tool (BEST) to help individuals determine if they are eligible for Social Security benefits. BEST is available at <http://www.benefits.gov/ssa>. For a full list of VA benefits available to veterans and their family members, see http://www1.va.gov/opa/publications/benefits_book.asp.

¹⁵ Both Gesumaria and Weaver (2001) and Olsen (2005/2006) include information on widows. However, because CPS data on widows are not specifically for widows of veterans, we discuss this information separately in the appendix.

¹⁶ Because Social Security benefits are based on earnings, the differences in benefit amounts between veterans and male nonveterans may be attributable to higher earnings among veterans (Holder 2007). The higher earnings of veterans may in turn be related to education and other benefits veterans receive (Angrist 1990; Little and Fredland 1979).

¹⁷ Social Security has covered inactive-duty service in the armed forces reserves (such as weekend drills) since 1988.

¹⁸ This credit applies if the veteran was honorably discharged after 90 or more days of service, was released because of a disability or injury received in the line of duty, or is still on active duty. If a veteran died while on active duty, the credit also applies for computing survivors benefits. For more information on military wage credits, see <http://www.socialsecurity.gov/pubs/10017.pdf>.

¹⁹ The maximum annual wage credit of \$1,200 had not changed since it was established in 1978 (it was not indexed to wages or prices), while military wages increased significantly to reflect, in part, increases in the national average wage. Therefore, the wage credit as a percentage of actual wages was declining and by 2002, no longer had

any relationship to the original intent of representing the case value of in-kind military pay such as food, shelter, and medical care. For congressional intent with regard to eliminating the credits, see House Ways and Means Committee (2000) and House Appropriations Committee (2002).

²⁰ For more information on how benefits are calculated, see <http://www.socialsecurity.gov/OACT/COLA/Benefits.html>.

²¹ Social Security disability benefits are converted to retired-worker benefits when the beneficiary reaches full retirement age (<http://www.socialsecurity.gov/pubs/retirechart.htm>).

²² It is important to note that Social Security disability requirements differ from those of the VA. For information on the VA benefits for service-connected disabilities, see http://www1.va.gov/opa/publications/benefits_book/benefits_chap02.asp.

²³ A quarter of coverage (QC) is credited for a given dollar amount of earnings, rather than for a number of months worked. When a worker reaches the earnings threshold, the credited QC is considered equivalent to a calendar quarter worked. Accordingly, no more than four QCs can be credited in any year. For more information, see <http://www.socialsecurity.gov/oact/cola/QC.html>.

²⁴ For more information on eligibility for Social Security disability benefits, see http://ssa-custhelp.ssa.gov/app/answers/detail/a_id/379.

²⁵ For more information on the Wounded Warriors program, see <http://www.socialsecurity.gov/woundedwarriors/>.

²⁶ For more information on Medicare eligibility, see <http://www.socialsecurity.gov/pubs/10043.html#part3>.

²⁷ Because the CPS and VetPop2007 collect information for different purposes using different sources and methodologies, their estimates of the veteran population are not identical; however, the estimates reflect similar trends.

²⁸ VetPop2007 projects a veteran population of 14.1 million in 2036 (VA 2010).

²⁹ The CPS includes one question regarding race and a separate question addressing whether the individual is Hispanic. Therefore, there is possible overlap between the black and Hispanic groups.

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WHO NEVER RECEIVES SOCIAL SECURITY BENEFITS?

by Kevin Whitman, Gayle L. Reznik, and Dave Shoffner*

We estimate that about 4 percent of individuals aged 62–84 in 2010 will never receive Social Security benefits. This article describes the prevalence, demographic characteristics, and economic well-being of this group. The never-beneficiary population generally has lower education levels and higher proportions of women, Hispanics, immigrants, the never-married, and widows than the beneficiary population. Never-beneficiaries have a far higher poverty rate (about 44 percent) than current and future beneficiaries (about 4 percent). Ninety-five percent of never-beneficiaries are individuals whose earnings histories are insufficient to qualify for benefits. Late-arriving immigrants and infrequent workers comprise the vast majority of these insufficient earners. Late-arriving immigrants have a poverty rate of about 43 percent, and are particularly reliant on income from household coresidents. Infrequent workers have a poverty rate of about 57 percent, and are particularly reliant on Supplemental Security Income.

Summary

Social Security is often perceived as a universal program for the aged because of its wide reach. As of 2010, 85.6 percent of persons aged 65 or older were receiving income from Social Security, far surpassing the percentage receiving income from any other source.¹ However, some aged individuals never receive Social Security Old-Age, Survivors, and Disability Insurance (OASDI) benefits. This article examines the prevalence, demographic characteristics, and economic well-being of these never-beneficiaries.

Few studies have specifically addressed never-beneficiaries, but the characteristics of this group are worth examining, particularly for policymakers and theorists concerned with the overall well-being of the aged. Proposals to reduce elderly poverty through a Social Security minimum benefit or other options targeting low-earning Social Security beneficiaries may be less effective than anticipated if never-beneficiaries remain ineligible for Social Security and beyond the reach of these initiatives.

We analyze never-beneficiaries using projections from the Modeling Income in the Near Term (MINT) microsimulation model, focusing on individuals

aged 62 to 84 in 2010.² One advantage of the MINT model is that it includes projections of beneficiary status after 2010, and allows us to project whether individuals aged 62 to 84 in 2010 will remain nonbeneficiaries for the rest of their lives. The major findings, briefly summarized here, are discussed in detail below:

- About 4 percent of the aged population never receives Social Security benefits. These never-beneficiaries include higher proportions of women, Hispanics, immigrants, the never-married, and the widowed than the beneficiary population; never-beneficiaries are also comparatively less educated.
- The never-beneficiary poverty rate is 44.3 percent, far higher than the 3.7 percent poverty rate among beneficiaries.
- Almost 95 percent of never-beneficiaries have insufficient work histories to gain Social Security

Selected Abbreviations

MINT	Modeling Income in the Near Term
QC	Quarter of coverage
SSI	Supplemental Security Income

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coverage. Within this group we identify three mutually exclusive categories: late-arriving immigrants (55.1 percent), infrequent workers (34.7 percent), and noncovered workers, of whom most are state and local government employees (4.7 percent).

- The high poverty rate among never-beneficiaries is driven by late-arriving immigrants and infrequent workers, who have poverty rates of 43.2 percent and 57.2 percent, respectively. Noncovered workers have a poverty rate of 8.6 percent.
- As indicated by their high poverty rate, late-arriving immigrants and infrequent workers have little income from non-Social Security sources. Infrequent workers are more likely to receive Supplemental Security Income (SSI) than other groups, while late-arriving immigrants are more reliant on coresident income.

Never-Beneficiary Demographic and Poverty Characteristics

Nearly 4 percent of the population aged 62–84 in 2010—about 1.6 million people—is projected to never receive Social Security benefits, as shown in Table 1.³ The rest of the aged population is projected either to receive Social Security benefits in 2010 (current beneficiaries) or at some later point (future beneficiaries). Aged future beneficiaries do not receive Social Security benefits in 2010 because they either are not yet eligible for benefits, are eligible but have not yet claimed benefits, or have had their claimed benefits withheld because their earnings exceed the earnings-test exempt amount.

Table 2 shows the sex, race, marital status, immigration status, and education level of never-beneficiaries compared with all others aged 62–84 in 2010.

Table 1.
Number and percentage distribution of individuals aged 62–84 in 2010, by beneficiary category

Beneficiary category	Number	Percentage distribution
Current beneficiaries	36,451,241	85.9
Future beneficiaries	4,405,826	10.4
Never-beneficiaries	1,581,556	3.7
Total	42,438,623	100.0

SOURCE: Authors' calculations using Social Security Administration's MINT model.

Never-beneficiaries are more likely to be women, Hispanic, never-married, widowed, immigrants, and less educated than other aged persons in 2010. It is particularly notable that two-thirds of never-beneficiaries are women, two-thirds are immigrants, and nearly half have less than a high-school education.

Given that Social Security benefits are a critical factor in reducing elderly poverty, it is worth examining the implications of never receiving benefits on aged economic well-being.⁴ Over half of never-beneficiaries are either poor or “near poor” (that is, with income between 100 percent and 200 percent of the poverty threshold), compared with about one-sixth of current and future beneficiaries (Chart 1). However, the incidence of poverty varies among categories of never-beneficiaries.⁵

Table 2.
Percentage distributions of never-beneficiaries and of current and future beneficiaries combined, by selected demographic characteristics

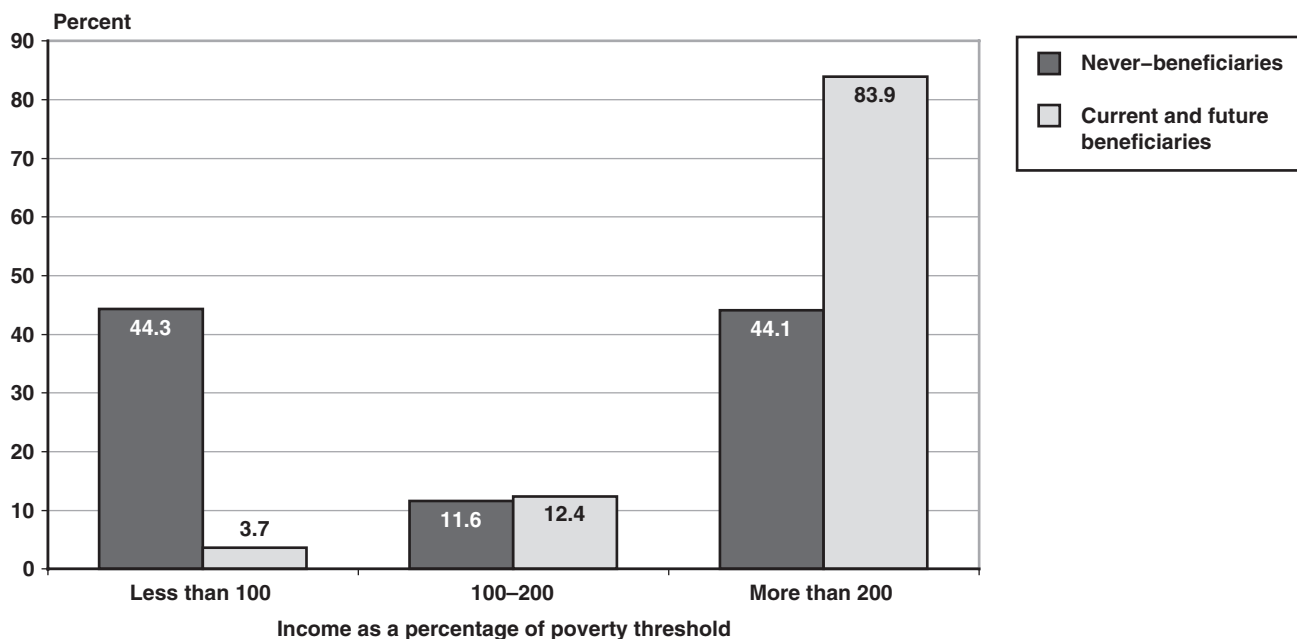
Characteristic	Never-beneficiaries	Current and future beneficiaries
Sex		
Men	32.8	46.1
Women	67.2	53.9
Race		
White	59.2	87.5
Black	10.0	8.6
Hispanic	30.0	3.3
Other	0.8	0.6
Marital Status		
Never married	15.4	3.7
Married	42.9	63.3
Widowed	31.0	18.6
Divorced	10.7	14.4
Immigrant		
Yes	67.3	10.7
No	32.7	89.4
Education		
Less than high school	47.6	15.3
High school	33.5	45.6
Some college	5.9	13.9
College degree	6.5	11.9
Graduate degree	6.5	13.3

SOURCE: Authors' calculations for individuals aged 62–84 in 2010 using Social Security Administration's MINT model.

NOTE: Distributions do not necessarily sum to 100 because of rounding.

Chart 1.

Percentage distribution of individuals aged 62–84 by income relative to poverty threshold, by beneficiary status



SOURCE: Authors' calculations for individuals aged 62–84 in 2010 using Social Security Administration's MINT model.

Categories of Never-Beneficiaries

To qualify for Social Security retirement benefits, a worker must accumulate 40 quarters of coverage (QCs). A QC is credited for a given dollar amount of earnings in covered occupations, rather than for a number of months worked. Nevertheless, accumulating 40 QCs requires at least 10 years because no more than 4 QCs can be credited in any year. The number of QCs required for disability benefits is prorated according to age at disability onset.⁶ Almost all (94.5 percent) of the never-beneficiaries aged 62–84 in 2010, for one reason or another, have not satisfied these requirements and thus do not receive benefits in 2010 (Chart 2).⁷ The remaining proportion of aged never-beneficiaries comprises individuals who are projected to be eligible for Social Security benefits, but die before receiving them.⁸

We divide never-beneficiaries who lack the required work credits into three mutually exclusive categories: late-arriving immigrants, infrequent workers, and noncovered workers.

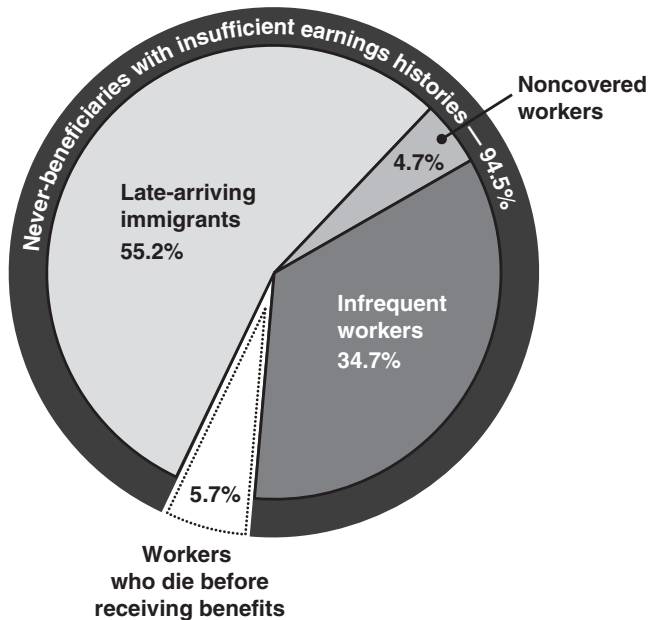
The majority (55.2 percent) of never-beneficiaries are late-arriving immigrants, or those who arrive in the United States at age 50 or older. Because they enter the United States at older ages, late-arriving immigrants

are less able than nonimmigrants and early-arriving immigrants to accumulate the required QCs.⁹

As shown in Chart 3, nearly 83 percent of never-beneficiaries who are immigrants with insufficient earnings histories entered the country at age 50 or older. A possible explanation for this pattern is that many late-arriving immigrants are parents entering the United States to live with their adult children under US immigration family reunification guidelines. Among persons acquiring legal permanent resident status in fiscal year 2008, nearly 11 percent were parents of US citizens (DHS 2009, Table 6).

Chart 2 shows that about one-third (34.7 percent) of never-beneficiaries are infrequent workers: individuals who lack sufficient work credits and do not have substantial noncovered employment, but are not late-arriving immigrants.¹⁰ Almost all are far from having sufficient covered earnings; 99 percent have fewer than half of the QCs required for Social Security benefits. They also do not have enough noncovered earnings to be included in the noncovered workers category. Also, because of their insubstantial work history, infrequent workers do not qualify for Disability Insurance benefits. Although it is difficult to analyze using MINT projections, some of the potential

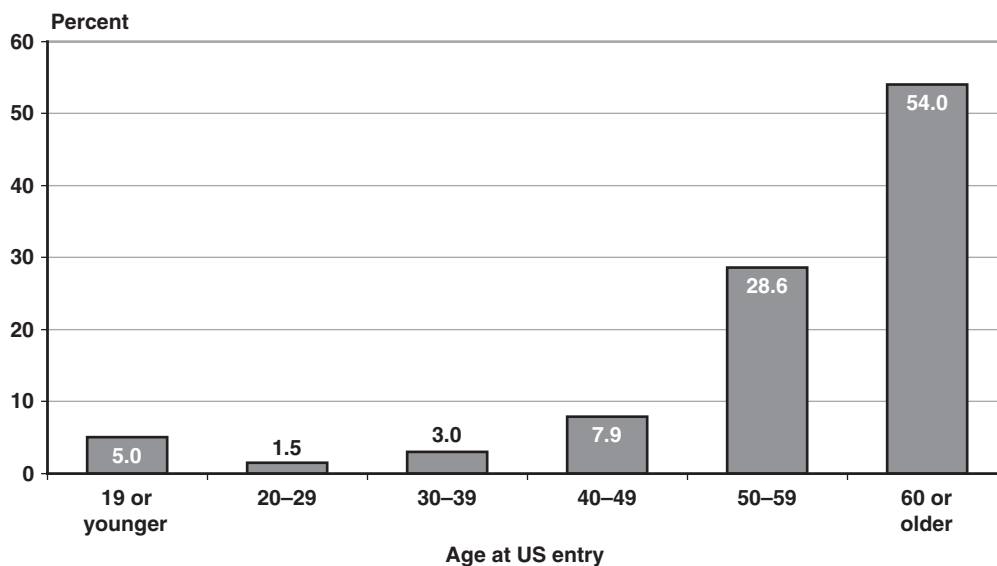
Chart 2.
Percentage distribution of never-beneficiaries, by reason for nonreceipt



SOURCE: Authors' calculations for individuals aged 62–84 in 2010 using Social Security Administration's MINT model.

NOTE: Distribution does not sum to 100 because of rounding, and subtotal of individuals with insufficient earnings histories does not equal the sum of rounded component categories.

Chart 3.
Percentage distribution of immigrant never-beneficiaries with insufficient earnings histories to qualify for benefits, by age at US entry



SOURCE: Authors' calculations for individuals aged 62–84 in 2010 using Social Security Administration's MINT model.

life experiences that could lead individuals to be included in the infrequent worker category are consistent employment in the informal economy, repeated marriages lasting fewer than 10 years and ending in divorce, and partnership in a single-earner couple in which the employed spouse works in a noncovered position. These factors could cause an individual not to have enough work history to qualify for his or her own benefit, or not to have the right marital situation to qualify for spousal benefits.

The small remaining group (4.7 percent) of never-beneficiaries is noncovered workers, many of whom are employed by state and local governments.¹¹ It is impossible to identify individuals with long-term state and local government employment precisely in MINT; however, we approximate this characteristic by identifying individuals who have at least 10 years of noncovered annual earnings that meet or exceed the level needed to earn four Social Security QCs in that year. Our method is described in the appendix.

Poverty and Income among Late-Arriving Immigrants and Infrequent Workers

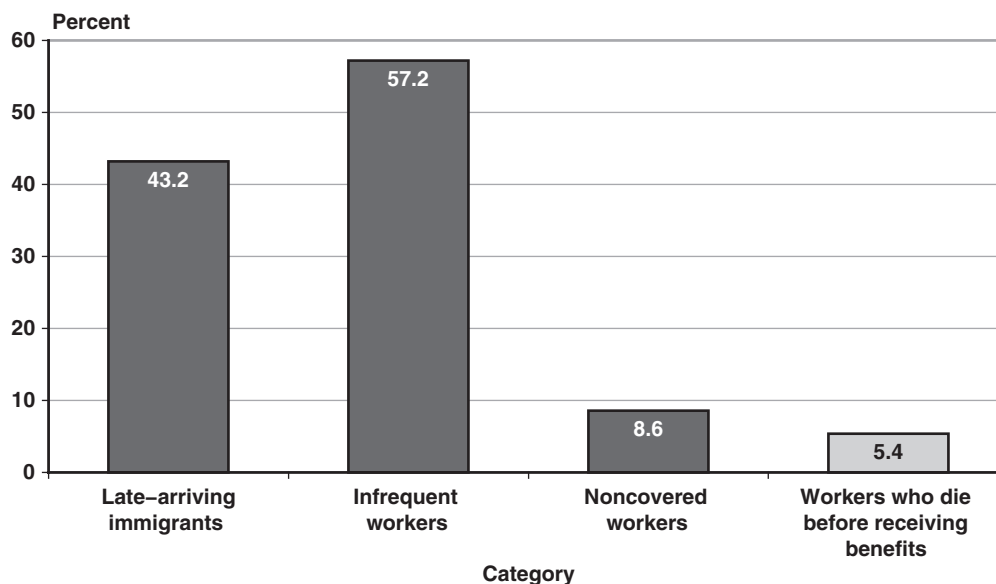
Although the overall poverty rate for never-beneficiaries is 44.3 percent, poverty rates among the never-beneficiary categories vary considerably. Whereas 43.2 percent of late-arriving immigrants and

57.2 percent of infrequent workers are in poverty in 2010, noncovered workers and those who die before receiving benefits have poverty rates much closer to the 3.7 percent poverty rate of current and future beneficiaries (Chart 4). The high poverty rates for late-arriving immigrants and infrequent workers drive the overall never-beneficiary poverty rate shown in Chart 1 because these groups together constitute roughly 90 percent of the never-beneficiary population.

As indicated by the high poverty rate for late-arriving immigrants and infrequent workers, these groups have few other income sources (Table 3). For both late-arriving immigrants and infrequent workers, assets are the most common source of income. Around 65 percent of late-arriving immigrants and 71 percent of infrequent workers have asset income, although this is still far below the rate for current and future beneficiaries (95 percent) and the median dollar value of this income is substantially less for never-beneficiaries.

Table 3 also shows the relative reliance on different income sources among individuals in the different beneficiary categories. For many infrequent workers, SSI is a substantial source of additional income.¹² Approximately 31 percent of infrequent workers have income from SSI. SSI represents 29.1 percent of all household income among infrequent workers. Infrequent workers who do not receive SSI may be

Chart 4.
Poverty rates of never-beneficiaries aged 62–84, by category



SOURCE: Authors' calculations for individuals aged 62–84 in 2010 using Social Security Administration's MINT model.

Table 3.
Percentage of aged individuals with income from selected sources, median income amounts, and distribution of income, by source: Selected beneficiary categories

Household income source	Current and future beneficiaries			Never-beneficiaries					
	Individuals with income (%)	Median amount (\$) ^a	Share of household income (%) ^b	Late-arriving immigrants			Infrequent workers		
				Individuals with income (%)	Median amount (\$) ^a	Share of household income (%) ^b	Individuals with income (%)	Median amount (\$) ^a	Share of household income (%) ^b
Social Security benefits	91.7	19,058	38.7	...	...	...	...	...	...
Earnings	41.7	33,703	17.3	18.0	14,434	10.4	6.9	20,167	4.7
Defined-benefit (DB) pension	52.5	11,870	11.1	24.4	11,466	12.6	19.5	19,074	10.0
Asset income	94.8	12,140	27.2	65.2	1,174	29.8	70.5	1,154	35.9
SSI	1.0	1,292	0.2	14.5	7,644	10.6	31.2	7,644	29.1
Coresident income	12.9	22,373	5.5	37.1	81,542	36.5	22.1	33,693	20.2
Total	100.0	60,148	100.0	92.2	34,754	100.0	95.1	11,553	100.0

SOURCE: Authors' calculations for individuals aged 62–84 in 2010 using Social Security Administration's MINT model.

NOTES: ... = not applicable.

Distributions do not necessarily sum to 100 because of rounding.

a. Calculations reflect only those individuals with positive household income from that source.

b. Reflects all individuals within the category, including those with zero dollars from that source.

ineligible because they have income or assets over the allowed limits, or they may be eligible nonparticipants.

Among late-arriving immigrants, the proportion receiving SSI is 14.5 percent and the share of household income it represents is 10.6 percent, far lower than for infrequent workers. The limited SSI receipt among this group is largely a result of rules that limit the circumstances under which immigrants can receive SSI (SSA 2010b). Immigrants entering the United States after August 22, 1996, are generally not eligible for SSI unless they become citizens or gain 40 QCs (Friedland and Pankaj 1997). Even though the proportion of late-arriving immigrants receiving SSI is smaller than that of infrequent workers, larger proportions of both groups receive SSI than do the 1 percent of current and future Social Security beneficiaries.

Table 3 indicates that one critical source of economic support among late-arriving immigrants is coresident income, or income from household members other than the spouse. Among late-arriving immigrants, 37.1 percent live in households that have coresident income, the median value of which is \$81,542. Coresident income is the largest single source of household income among late-arriving immigrants, accounting for 36.5 percent of all household income.

In comparison, 12.9 percent of current and future beneficiaries live in households that have coresident income, the median amount is \$22,373, and it accounts for less than 6 percent of overall household income. Coresident income is also more prevalent among infrequent workers than current and future beneficiaries, but not to the same extent as for late-arriving immigrants. The high share of late-arriving immigrants who are in households with coresident income is consistent with the supposition that many enter the United States to live with adult children.

Conclusion

Few studies have focused on aged individuals who never receive OASDI benefits. Our analysis using the MINT microsimulation model indicates that never-beneficiaries are a small share of the aged population, projected to be roughly 4 percent of the population aged 62–84 in 2010, with late-arriving immigrants and infrequent workers composing the vast majority (around 90 percent) of the group. However, despite representing only a modest percentage of the aged population, never-beneficiaries are notable from a social welfare standpoint because of their high poverty rates. Late-arriving immigrants and infrequent workers

drive this result, with poverty rates of around 43 and 57 percent, respectively. These poverty rates coincide with the finding that these two groups not only receive no Social Security income, they also have little income from non-Social Security sources. Among the income sources that are available, coresident income plays a large role for late-arriving immigrants, while infrequent workers are particularly reliant on SSI. Future research could better delineate the life experiences that lead to never receiving Social Security benefits as well as the resulting economic implications. Such analysis would improve our understanding of the aged population as a whole and the policies that affect their well-being.

Appendix

To illustrate how we classify certain sporadic earners as noncovered workers, consider an individual with noncovered earnings from 1990 to 1999 as shown in Table A-1. We compare these earnings figures to the Social Security QC earnings threshold, multiplied by four to provide an annual approximation (SSA 2010a). Then we compare the two values in each year and record the number of times an individual's noncovered earnings exceed the annualized QC value. In this example, between 1990 and 1999 the hypothetical worker has noncovered earnings that exceed our annualized QC limit five times. If an individual's noncovered earnings exceed this threshold at least ten times over a lifetime, we classify the individual as a noncovered worker, because he or she has consistent noncovered employment.

Table A-1.
Hypothetical example of a never-beneficiary classified as a noncovered worker

Year	Noncovered earnings (\$)	QC threshold x 4 (\$)	Noncovered earnings exceed 4 QCs?
1990	15,000	2,080	Yes
1991	7,000	2,160	Yes
1992	0	2,280	No
1993	0	2,360	No
1994	0	2,480	No
1995	25,000	2,520	Yes
1996	37,000	2,560	Yes
1997	8,000	2,680	Yes
1998	0	2,800	No
1999	0	2,960	No

SOURCES: Authors' calculations; SSA (2010a).

A small percentage of those who have covered earnings sufficient to receive Social Security benefits, but who die before receiving them, are also projected to have substantial noncovered earnings. Because our constructed categories are mutually exclusive, these individuals are classified as workers who die before receiving benefits rather than noncovered workers.

Notes

Acknowledgments: The authors thank Lynn Fisher, Joyce Nicholas, Anya Olsen, Kathleen Romig, Mark Sarney, Alexander Strand, and David Weaver for their assistance, comments, and suggestions.

¹ According to authors' calculations using the 2010 Current Population Survey.

² The projections used in the analysis are from MINT 5, which includes people born from 1926 to 2018 (Smith and others 2007). Therefore, in 2010 the available elderly population includes people aged 62–84. The Census Bureau (2008) projects that approximately 90 percent of people aged 62 or older in 2010 will be aged 62–84.

³ The percentage of the aged population that never receives Social Security benefits is projected to decline from 3.7 percent in 2010 to 3.6 percent in 2015, 3.3 percent in 2020, 3.2 percent in 2025, and 3.1 percent in 2030.

⁴ For more information on elderly poverty, see Engelhardt and Gruber (2004).

⁵ Official poverty in the United States is measured using the Current Population Survey (CPS), a household survey that directly asks respondents about several different types of income. Although MINT model simulations are rooted in household survey data (1990–1996 Surveys of Income and Program Participation), they differ from direct household survey data in that they project future income amounts, simulate outcomes for individuals in future populations (including immigrants), and focus on five major sources of income. We note that the most recent CPS confirms an elevated poverty rate for individuals likely to be never-beneficiaries, but these rates are below comparable MINT estimates. For example, using the March 2010 CPS, the poverty rates of beneficiaries and nonbeneficiaries aged 70–84 are 6.4 percent and 28.3 percent, respectively.

⁶ In 2010, an individual earned a QC for every \$1,120 in earnings (SSA 2010a). This threshold is indexed to wages. Individuals who possess fewer than 40 QCs and rely on a spouse's earnings would generally not be included in the never-beneficiary category because they would be entitled to spousal benefits if currently married or if a former marriage lasted at least 10 years.

⁷ Most never-beneficiaries with insufficient earnings histories have substantially fewer years of coverage than would be needed to qualify. One-quarter of

never-beneficiaries have no years of coverage, half have only 1 year or less, and 90 percent are still at least 3 years short of the 10-year coverage threshold.

⁸ This percentage includes individuals who claim benefits but will never actually receive them prior to death because of the retirement earnings test or other program rules, and excludes individuals who have the required 40 quarters in Social Security–covered employment but die prior to reaching age 62. From a lifetime perspective this approach understates the percentage of individuals who die before receiving benefits because it includes only the aged population in 2010.

⁹ However, late-arriving immigrants could receive benefits based on prior work through totalization agreements, or could receive benefits through another country’s public retirement system. The benefit rules for immigrants as well as for noncitizens are complex. See Nuschler and Siskin (2005).

¹⁰ We define this group by identifying never-beneficiaries who (1) do not have a positive average indexed monthly earnings (AIME) amount and (2) do not have noncovered earnings that meet the consistent state and local government employment threshold. For a full description of the AIME see <http://www.socialsecurity.gov/glossary.htm>.

¹¹ Social Security did not originally cover any state or local government employees, but the program has gradually expanded through the 1983 Amendments, the Section 218 Agreements, and the Omnibus Reconciliation Act of 1990 to include many of these workers. Social Security now covers nearly 96 percent of the US workforce; those not covered by the program are still generally employed by state or local governments. The Social Security Administration estimates that nearly one-fourth of state and local government employees, or roughly 5.25 million people (excluding students and election workers), are not covered by Social Security. However, approximately 95 percent of individuals in this group are entitled to some type of Social Security benefit through previous work, the record of a spouse, or dependent status (GAO 2003).

¹² The SSI program pays benefits to disabled adults and children who have limited income and resources. SSI benefits are also payable to nondisabled people aged 65 or older who meet certain financial limits (SSA 2010b).

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LONGITUDINAL PATTERNS OF PARTICIPATION IN THE SOCIAL SECURITY DISABILITY INSURANCE AND SUPPLEMENTAL SECURITY INCOME PROGRAMS FOR PEOPLE WITH DISABILITIES

by Kalman Rupp and Gerald F. Riley*

Longitudinal access to disability benefits is affected by interactions in benefit eligibility between the Disability Insurance (DI) and Supplemental Security Income (SSI) programs and lags arising from processing time in receiving the first payment. Administrative records show that a quarter of the calendar year-2000 cohort of first-ever working-age disability awardees were involved with both programs over a 60-month period, indicating a higher degree of program interaction than apparent from cross-sectional data. Nonbeneficiary status is three times more prevalent 60 months after entry among those who entered SSI first compared with DI entrants, as a result of exits that are due to the SSI means test. Over half of new awardees qualifying for both DI and SSI benefits are eligible for SSI during 4 or 5 months of the 5-month DI waiting period, but many do not receive their first SSI payment until later because of lags in final award decisions.

Background and Research Questions

The purpose of this article is to provide a better understanding of longitudinal patterns of participation among working-age adults in the Social Security Disability Insurance (DI) and Supplemental Security Income (SSI) disability programs. We follow up a cohort of new awardees to assess two longitudinal aspects of access to cash benefits. The first is the effect of DI and SSI program rules, which determine benefit eligibility (also referred to as “payment eligibility”), on longitudinal patterns of access. The second is the effect of the timing of actual payments on access. Benefit eligibility and actual payments reflect two facets of the Social Security Administration’s (SSA’s) disability programs. Benefit eligibility for a given month reflects legislative intent. Actual payments are also affected by program implementation, which invariably results in lags between the first month of benefit eligibility and the first month of actual payment. Both DI and SSI provide benefits for people aged 18–64 with qualifying disabilities and share identical criteria for determining

disability status. The two programs focus on different, but partially overlapping populations. DI covers people with substantial earnings histories; SSI covers people with subpoverty level income and few resources. The interactions between the two programs are substantial and complex, but not fully understood. Our analysis is designed to contribute to a better understanding of how interactions of benefit eligibility rules and the timing of actual benefit payments affect the dynamics of access to disability cash benefits.

We intend to build on and contribute to previous research in three areas: (1) overall access to disability benefits in the working-age population; (2) the dynamics of benefit eligibility for SSA’s two disability

Selected Abbreviations

DI	Disability Insurance
SSI	Supplemental Security Income
TRF	Ticket Research File, version 8

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programs, which enhance access as a result of legislative design; and (3) delays in the start of actual benefit payments, which may create de facto temporal gaps in access.

The first area of previous research addresses disability benefit coverage, a fundamental aspect of overall access. It is well known that the vast majority of the working-age population is insured against the risk of disability through the DI program. Yet DI coverage is not universal, with the DI coverage gap being most noticeable among younger adults¹ and women close to retirement age (Mitchell and Phillips 2001). But the substantial role of SSI in supplementing this DI safety net has not been well understood until recently. Rupp, Davies, and Strand (2008) found that SSI covered a substantial minority of the working-age population. More than one-third would satisfy the SSI means test in the event of a severe disability. According to that study, SSI coverage played an important role in the safety net in three complementary ways: (1) it increased the overall coverage of the working-age population, (2) the program enhanced the bundle of cash benefits available to disabled individuals, and (3) it provided a path toward Medicaid coverage. This article complements that line of analysis by providing information on longitudinal patterns of participation in SSI and DI.²

The second area of previous research (primarily through a series of papers by Hennessey and Dykacz and by Rupp and Scott)³ focuses on caseload dynamics of awardee cohorts based on administrative records. Hennessey and Dykacz found that exits that were due to reasons other than death and reaching age 62 were very rare among DI awardees. Rupp and Scott found a higher proportion of adults exiting the SSI program rolls, but when multiple spells of SSI participation were considered, they found that total duration was fairly similar to the average reported by Hennessey and Dykacz for DI. Importantly, Rupp and Scott found that exits from SSI during the first year were very high because of failure to meet the SSI income screen. They attributed these exits to serial transitions to the DI program as a result of the 5-month DI waiting period. However, both sets of previous studies use data that are now obsolete and that are based on separate data sets for DI and SSI, and therefore those studies could not explicitly account for longitudinal patterns of interactions between the two programs. The present study fills a clear gap by focusing on longitudinal patterns of participation among awardees of *both* programs, using a single data set matched at the

individual level.⁴ A related line of research (Daly 1998; Livermore, Stapleton, and Claypool 2010) focuses on changes in a broader array of indicators of financial well-being before and after the SSI and/or DI award decision.

The third area of previous research addresses the administrative process of disability determination in creating de facto delays in the availability of cash benefits. A now seminal paper by Donald Parsons (1991a) on self-screening in the DI program (self-selection among potential DI applicants) noted that the self-screening properties of the DI program depend on benefit structure (which is specified by the legislation) and the screening policy of the agency. Screening policy has two key parameters: (1) “screening rigor” or stringency, and (2) the duration of the disability determination process.⁵ Much of the subsequent research focuses on the first of these two factors (stringency), which is outside the scope of our study.⁶ Less explicit attention has been paid to the role of time lags arising from the disability determination process. Research conducted by Benitez-Silva and others (1999) is an exception. Those authors addressed the importance of duration in affecting the relative attractiveness of appealing an initial denial decision. Also, in the absence of access to high-quality record data, they developed a second-best measure of duration using self-reported data from the Health and Retirement Study. This article contributes to that body of literature by providing descriptive information on duration from benefit eligibility to actual payments among awardees. However, our substantive focus here is not on incentive effects, but on implications for the temporal dimension of access to benefits.

In this study, we address the following research questions:

- What are the characteristics of people who entered SSI, DI, or both programs during calendar year (CY) 2000?
- Can we use differences between SSI and DI program rules to develop a meaningful classification of longitudinal patterns of benefit eligibility?
- What is the distribution of first entrants to the disability program by major longitudinal patterns?
- What are the outcomes observed during the 60-month period after first disability entry in terms of disability benefit eligibility and transitions to nonbeneficiary status?
- What is the distribution of the time elapsing between the first month of benefit eligibility and the first month of actual payment receipt? What

is the effect on access to actual payments among various subgroups?

- What do longitudinal patterns of disability participation say about the overall role of SSA's disability programs in providing access to cash benefits?

The rest of the article is organized as follows: The next section describes DI and SSI program rules and deduces a classification of longitudinal patterns of interactions, which is followed by the data and methodology section. The results of our empirical analysis are given prior to the conclusions and issues for future research.

Program Rules and Longitudinal Interactions between DI and SSI Benefit Eligibility

Although DI and SSI share the same disability criteria, they have differences in other benefit eligibility requirements that affect a beneficiary's entitlement to DI, SSI, or both. In this section, we highlight key program rules with implications for longitudinal interactions of benefit eligibility.⁷ We then deduce a classification scheme of major longitudinal patterns of benefit eligibility that will be empirically tested in the analysis. The following major factors are highlighted:

- *DI requires sufficient recent work experience as a precondition of benefit eligibility.* Only those categorically disabled beneficiaries who meet the criteria of "DI-insured" status may be eligible to receive DI benefits. Once initially qualified for DI, the benefits can be suspended or terminated for work-related reasons or because of medical improvement, but typically, DI-insured status continues until the beneficiary reaches the full retirement age or dies. DI benefits are essentially a function of the beneficiary's prior work history and in most cases change only because of annual cost-of-living adjustments common to both the DI and SSI programs.
- *SSI requires meeting a means test to qualify for benefit eligibility.* SSI provides benefits only to those categorically disabled working-age persons who also meet an income and resource test. SSI is a categorical negative income-tax program where benefits can fluctuate or cease because of changes in earned and unearned income from other sources (Rupp and others 2007). Thus, a person can lose SSI benefits because of changes leading to income and/or resource ineligibility regardless of meeting SSA's disability criteria.

- *DI benefits reduce or completely offset SSI cash benefits.* DI benefits are treated as unearned income in the SSI benefit formula. All but \$20 of unearned income reduces SSI benefits \$1 for \$1. This offset may result in ineligibility for SSI benefits.
- *Some may be eligible for SSI benefits during the 5-month waiting period for DI benefit eligibility.* The DI program has a 5-month waiting period after the onset of categorical eligibility as disabled. SSI benefits can start right after the month of application. Thus, a categorically disabled person may be eligible for SSI benefits during the DI waiting period.
- *Retroactive determination of date of disability onset in the DI program may reduce the potential SSI role during the 5-month DI waiting period.* Some complexities arise because of different program rules concerning the relationship between the date of disability onset and the date of application for disability benefits. In the DI program, onset may be established retroactively for a period of 12 months. In the SSI program, there is no retroactivity in the establishment of categorical disability. Thus, if part or the entire DI waiting period occurred prior to application, SSI benefit eligibility cannot be granted for those months.

All of these major factors have direct implications for longitudinal interactions between DI and SSI benefit eligibility.⁸ We deduce the following major longitudinal patterns of benefit eligibility from program rules:

- *DI-only benefit eligibility*—DI-only first entrants who never entered the SSI program during our 60-month observation period;
- *DI-only to "joint" DI/SSI benefit eligibility*—DI-only first entrants who transitioned to joint DI/SSI benefit eligibility at some point during our 60-month observation period;
- *SSI-only benefit eligibility*—SSI-only first entrants who never entered the DI program during our 60-month observation period;
- *SSI-only to DI-only "serial" benefit eligibility*—SSI-only first entrants who serially transitioned to DI-only status at the end of the 5-month DI waiting period because of the loss of SSI benefit eligibility as a result of the new DI benefit;⁹ and
- *SSI-only to "joint" DI/SSI benefit eligibility*—SSI-only first entrants who entered the DI program at the end of the 5-month DI waiting period, but also retained SSI benefit eligibility. These SSI entrants

get reduced SSI benefits after DI begins, but do not lose those payments altogether.

We believe that this classification covers the most important longitudinal patterns with two caveats. First, our classification is somewhat tentative because our 60-month follow-up period is not sufficiently long to follow up all participants until they reach age 65 or die. In technical terms, this is the problem of right censoring. For example, people who participate in only DI for the full 60-month observation period may enter SSI sometime between month 61 and death or reaching age 65, but such transitions are unobserved in our data set. Second, the categories defined earlier are mutually exclusive, but not exhaustive. There may be other patterns of interest, such as SSI-only to DI transitions that occur later in the observation period (subsequent to DI benefit eligibility kicking in after the 5-month waiting period, but before month 60) because of gaining DI-insured status—the result of work activities while in SSI-only benefit eligibility status.

Data and Methodology

The source of data is Social Security administrative records. More specifically, we start from a 10 percent random sample of the Ticket Research File (TRF, version 8). The TRF is an analytical file containing longitudinal and one-time data on disabled beneficiaries who participated in the SSI or DI programs from March 1996 through December 2008. Longitudinal data for all disability program participants from March 1996 through December 2008 is included in this file, which contains monthly data from 1994 through 2008. The TRF is compiled from various Social Security administrative record systems and is maintained by Mathematica Policy Research. The system currently contains over 20 million observations. For details on the TRF, see Hildebrand and others (2010).

To create a file of first disability entrants in CY 2000, we exclude people who had any DI or SSI benefit eligibility spell prior to January 2000, who reached age 65, or who died. Although SSI may include state supplements, we consider eligibility for federal SSI benefits in creating the sample frame for the study and to establish longitudinal patterns of SSI benefit eligibility. Benefit eligibility is established on the basis of eligibility to receive benefits during a given month as reflected in “current-pay” status in the records data. Benefit eligibility reflects a person’s entitlement to benefits during a given month according to legislative design, although it may not correspond to

the actual payment of benefits during the given month, which is a function of implementation. In some cases, benefit eligibility is retroactively established and actual payments are received later. There is typically a lag between the first month of benefit eligibility and the first month of actual payments. We limit the analysis to people eligible for benefits as “primary beneficiaries,” who are receiving benefits because of their own disabilities; secondary beneficiaries, receiving benefits as family members or survivors, are excluded. Finally, we scan data for each month of CY 2000 for the remaining records and retain only those observations with a positive benefit eligibility indicator for either DI or federal SSI involvement while the person was aged 18–64 for at least one month during CY 2000. This process yields a sample of 68,798 first-ever disability program entrants (defined by first entry to the DI, SSI, or both programs during CY 2000), corresponding to a universe of roughly 690,000 first disability spell entrants in the 12-month period.¹⁰

Note that we key our sample selection to the first month of benefit eligibility, rather than to the month of disability onset, the month of application, or the month of the actual receipt of first disability payments. Those other concepts are also relevant for the dynamics of disability program participation, although for the purpose of this study we choose the benefit eligibility concept to define our sample because it is the clearest indication of the legislative intent concerning access to cash benefits from either program. Note also that our definition is different from other commonly used concepts identifying cohorts of disability program entrants, such as new awardees (that may include repeat awards), CY 2000 DI entrants, or CY 2000 SSI entrants.

We present descriptive tables and charts to assess the practical importance of longitudinal aspects of access to disability benefits over a 60-month follow-up period. In the analysis, we also use reduced-form models, estimating the relationship between a dependent variable and a set of independent variables such as age, sex, race, and diagnosis. The choice of the specific technique depends on the nature of the dependent variable of interest. For a binary dependent variable (such as being or not being benefit eligible), we use logistic regression. For a nominal dependent variable with more than two unordered outcomes (longitudinal pattern of benefit eligibility), we use multinomial logit. For a continuous dependent variable (natural logarithm of duration of time from month of benefit eligibility and month of actual payment), we use ordinary least squares. Standard error estimates are included in the tables.

The use of administrative records for this study is a source of substantial strengths arising from the availability of highly accurate monthly data series for a long period of time and the relatively large sample size. However, a limitation is the lack of detail on socioeconomic characteristics. On balance, our data is clearly superior to potential survey data sources for this analysis.

Empirical Results

First, we describe the characteristics of our sample of awardees. This is followed by findings concerning the relative frequency of various longitudinal patterns of DI and SSI benefit eligibility. Next, we address trends in DI and SSI benefit eligibility over time. Finally, we present information on the role of the timing of first actual payments as a distinct facet of access to disability benefits.

Characteristics of Cohort of Awardees First Entitled to Disability Benefits in CY 2000

Table 1 provides demographic and diagnostic characteristics overall and for subgroups defined by first entitlement in CY 2000 to DI, SSI, or both. Chart 1 provides the more detailed distribution by age. Not surprisingly, DI-only first entrants are heavily skewed toward the 46–64 age group, while SSI-only first entrants are more prominent in the 18–30 age group. However, almost half of those entering only SSI or both programs are aged 46 or older. Looking at the more detailed age distribution shown in Chart 1, the most interesting finding is the age distribution of SSI-only first entrants. There is a clear peak at age 18 followed by a sharp drop reaching a low at age 24.¹¹ This seems to reflect primarily the effect of entry by disabled young adults who may have been previously ineligible because of parental “deeming.”¹² The vast

Table 1.
Percentage distribution of demographic and diagnostic characteristics of new awardees first entitled to disability benefits (DI and/or SSI), by program of entry, CY 2000

Characteristic	First entitlement to disability benefits			Total
	DI-only	SSI-only	Both	
All awardees	45,773	13,732	9,293	68,798
Age group				
18–30	4.9 (0.1)	22.1 (0.4)	14.5 (0.4)	9.6 (0.1)
31–45	24.9 (0.2)	29.4 (0.4)	36.4 (0.5)	27.4 (0.2)
46–64	70.2 (0.2)	48.5 (0.4)	49.0 (0.5)	63.0 (0.2)
Total	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
Sex				
Women	47.3 (0.2)	53.3 (0.4)	44.7 (0.5)	48.1 (0.2)
Men	52.3 (0.2)	45.5 (0.4)	55.0 (0.5)	51.3 (0.2)
Missing	0.4 (0.0)	1.2 (0.1)	0.3 (0.1)	0.5 (0.0)
Total	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
Race/ethnicity				
White	76.8 (0.2)	56.0 (0.4)	63.1 (0.5)	70.8 (0.2)
Nonwhite	21.9 (0.2)	42.0 (0.4)	36.2 (0.5)	27.8 (0.2)
Missing	1.4 (0.1)	2.0 (0.1)	0.8 (0.1)	1.4 (0.0)
Total	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)

(Continued)

Table 1.
Percentage distribution of demographic and diagnostic characteristics of new awardees first entitled to disability benefits (DI and/or SSI), by program of entry, CY 2000—Continued

Characteristic	First entitlement to disability benefits			Total
	DI-only	SSI-only	Both	
SSA primary diagnosis				
Congenital	0.1 (0.0)	0.3 (0.0)	0.2 (0.0)	0.1 (0.0)
Endocrine	2.9 (0.1)	3.1 (0.1)	3.4 (0.2)	3.0 (0.1)
Infectious and parasitic	1.2 (0.1)	2.9 (0.1)	3.1 (0.2)	1.8 (0.1)
Injuries	3.7 (0.1)	3.6 (0.2)	4.4 (0.2)	3.8 (0.1)
Intellectual disability ^a	1.0 (0.0)	7.9 (0.2)	2.4 (0.2)	2.5 (0.1)
Mental ^b	19.4 (0.2)	30.1 (0.4)	27.2 (0.5)	22.6 (0.2)
Neoplasms	9.6 (0.1)	8.7 (0.2)	8.1 (0.3)	9.2 (0.1)
Circulatory	12.5 (0.2)	10.2 (0.3)	13.7 (0.4)	12.2 (0.1)
Digestive	2.1 (0.1)	2.1 (0.1)	2.8 (0.2)	2.2 (0.1)
Genitourinary	2.0 (0.1)	2.2 (0.1)	3.4 (0.2)	2.2 (0.1)
Musculoskeletal	30.5 (0.2)	13.6 (0.3)	18.1 (0.4)	25.5 (0.2)
Nervous	8.6 (0.1)	6.4 (0.2)	6.5 (0.3)	7.9 (0.1)
Respiratory	4.4 (0.1)	3.8 (0.2)	4.7 (0.2)	4.3 (0.1)
Other	0.7 (0.0)	0.6 (0.1)	0.8 (0.1)	0.7 (0.0)
Missing	1.4 (0.1)	4.5 (0.2)	1.3 (0.1)	2.0 (0.1)
Total	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)

SOURCE: Authors' calculations from Social Security administrative record data extracted from the TRF, version 8.

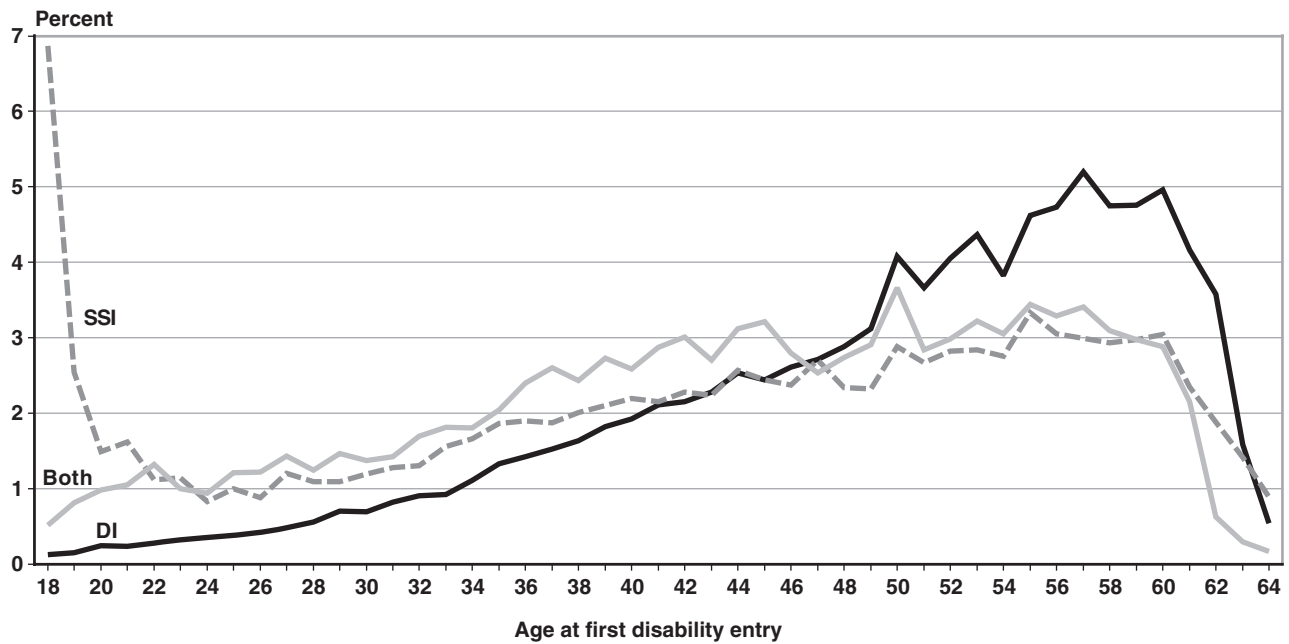
NOTES: Standard errors are in parentheses. The sample excludes 126 state-only SSI new awardees. Totals may not sum to 100 because of rounding.

- a. Intellectual disability was formerly known as mental retardation.
- b. Not including intellectual disability.

majority of them have a primary diagnosis of intellectual disability.¹³ As Table 1 shows, DI-only entrants are slightly more likely to be men, substantially more likely to be white, and more likely to have diseases of the musculoskeletal system as primary impairments than SSI-only entrants. Women, nonwhites, and people with mental disorders (other than intellectual disability) are more prominently represented among SSI-only entrants.¹⁴ Further detail about the relationship between diagnosis and age at first award is provided

in Table A-1, which shows that almost half of persons with intellectual disability or congenital anomalies are aged 18–30. A relatively high proportion of those with mental disorders are young, but actually, about 80 percent of those with a mental disorder primary diagnosis belong to the two older age groups (31–45 and 46–64). The proportion of new awardees aged 46–64 at first entry is highest—above 70 percent—among those with a respiratory, circulatory, musculoskeletal, neoplasms, or endocrine primary impairment.

Chart 1.
Age distribution among subgroups representing first disability program of entry, CY 2000



SOURCE: Authors' calculations from Social Security administrative record data extracted from the TRF, version 8.

Longitudinal Patterns of Benefit Eligibility among Awardees in 2000

In this section we first explore longitudinal patterns of benefit eligibility deduced from program rules to determine their success in classifying the bulk of awardees; then we estimate the relative size of those groups; and finally analyze the relationship between demographic and diagnostic characteristics and the relative odds of various longitudinal patterns of benefit eligibility. Table 2 shows the percentage distribution overall and by age group. The table includes the five patterns of major interest identified previously in addition to two smaller categories. The results show that the longitudinal patterns deduced from program rules are successful tools for classifying our cohort of awardees. Overall, the five patterns cover over 98 percent of our CY 2000 cohort of first entrants. An additional 1.2 percent entered the SSI and DI programs during the same month, while 0.7 percent followed some other pattern following first SSI entry.¹⁵

A key finding is that a fairly sizeable minority (24 percent) had involvement with both programs during the 60-month observation period. This figure is much higher than what can be gleaned from cross-sectional program data. Consistent with published results on the characteristic of beneficiaries, we find that only about 9 percent of disabled beneficiaries

aged 18–64 had concurrent involvement with DI and SSI during December 2000. This constellation of differences between the two proportions (relatively low cross-section estimate) should be expected by analysts familiar with the difference between cross-section (“stock”) and cohort-based (“flow”) measures of participation. But the differences are sizable enough to highlight the importance of avoiding a common mistake in policy discussions that use cross-sectional data as if they are interchangeable with longitudinal measures of participation. The results also confirm the importance of the DI waiting period as a source of interaction between the two programs.

There are clear differences in longitudinal pattern by age and to some extent sex.¹⁶ Although the requirements needed to achieve DI-insured status are more relaxed for younger people than others, the fact remains that many younger people do not have sufficient work experience to qualify, and DI-only involvement is substantially lower compared with the older age groups. The opposite is true for SSI-only and concurrent involvement. These results are consistent with previous findings demonstrating the importance of concurrent DI and SSI coverage for a sizable portion of the working-age population (Rupp, Davies, and Strand 2008).¹⁷ The combined effect of low DI coverage rates, relatively low expected DI benefits, and very

Table 2.
Comparison of percentage distribution of longitudinal patterns of disability program benefit eligibility, by age group, for the cohort of first-ever CY 2000 disability awardees

Longitudinal pattern (first 60 months of potential first benefit eligibility)	Age group			Total
	18–30	31–45	46–64	
All awardees	6,630	18,823	43,345	68,798
DI-only entrants	22.7 (0.5)	51.7 (0.4)	70.1 (0.2)	60.5 (0.2)
DI-only to joint DI/SSI	16.5 (0.5)	13.4 (0.2)	6.5 (0.1)	9.3 (0.1)
SSI-only entrants	37.3 (0.6)	16.6 (0.3)	12.0 (0.2)	15.7 (0.1)
SSI/DI serial entrants	5.5 (0.3)	5.2 (0.2)	3.9 (0.1)	4.4 (0.1)
SSI-only to joint SSI/DI	12.7 (0.4)	11.0 (0.2)	6.2 (0.1)	8.1 (0.1)
SSI/DI simultaneous entrants	2.0 (0.2)	1.6 (0.1)	0.9 (0.0)	1.2 (0.0)
Any other pattern following first SSI entry	3.4 (0.2)	0.5 (0.1)	0.4 (0.0)	0.7 (0.0)
Total	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
Of which entrants have—				
Some DI involvement	62.7 (0.6)	83.4 (0.3)	88.0 (0.2)	84.3 (0.1)
Some SSI involvement	77.3 (0.5)	48.3 (0.4)	29.9 (0.2)	39.5 (0.2)
Some involvement with both programs	40.0 (0.6)	31.7 (0.3)	17.8 (0.2)	23.8 (0.2)

SOURCE: Authors' calculations from Social Security administrative record data extracted from the TRF, version 8.

NOTES: Standard errors are in parentheses. The sample excludes 126 state-only SSI new awardees. Totals may not sum to 100 because of rounding.

limited financial resources available for those in the 18–30 age group helps to explain the relatively high fraction of new disability program entrants with SSI involvement (77 percent) in this age group.

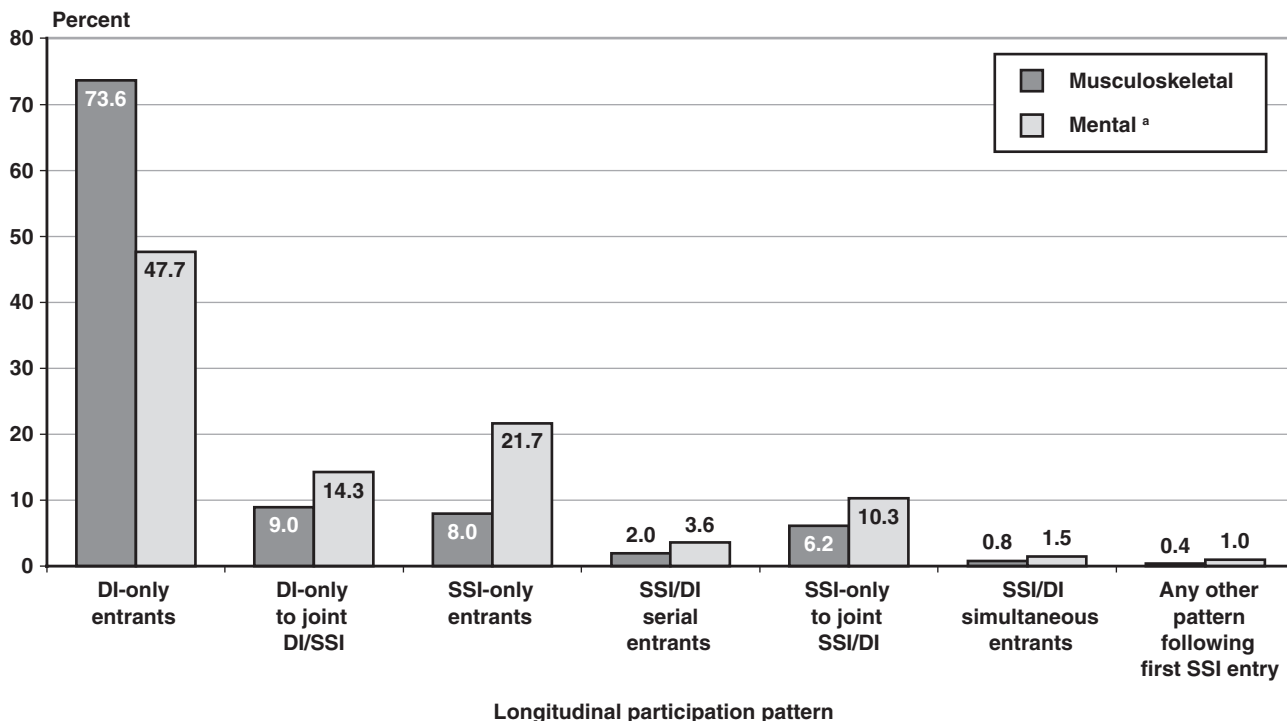
Next we look at the longitudinal patterns of benefit eligibility for DI and SSI by diagnostic category, focusing on the top two diagnostic groups—“musculoskeletal” and “mental” (Chart 2). The contrast is sharp. First awardees in the musculoskeletal category are much more likely to have access to DI benefits only than awardees with mental disorders. In turn, those in the latter category are much more likely to have longitudinal access to SSI-only compared with the musculoskeletal group. Table A-2 provides more detail by primary diagnosis group and shows substantial variation in the proportion of various longitudinal patterns. In sum, the data reveal strong overall associations of age and diagnosis with the longitudinal pattern of benefit eligibility among awardees. In

addition, women are represented relatively highly in the SSI-only group.

The relationship between beneficiary characteristics and longitudinal patterns of benefit eligibility is further explored with multivariate analysis. Table 3 shows the association of various demographic and diagnostic factors with the major longitudinal patterns of benefit eligibility based on multinomial logit estimates. Multinomial logit is a straightforward extension of logistic regression for unordered nominal dependent variables. In this case, the outcome of interest is longitudinal pattern. The independent variables include age, sex, and diagnosis. In the table, we present odds ratios for age, sex, race, and diagnosis. The interpretation of those odds ratios is similar to the interpretation of odds ratios in simple binary logit regression, except that in multinomial logit one category of the dependent variable is the comparison category, which is arbitrary.¹⁸ Although we conduct this analysis on the

Chart 2.

Comparison of distribution of CY 2000 awardees first entitled to disability benefits on the basis of “musculoskeletal” and “mental” as primary impairment, by longitudinal patterns of disability benefit eligibility



SOURCE: Authors' calculations from Social Security administrative record data extracted from the TRF, version 8.

a. Not including intellectual disability (formerly known as mental retardation).

full sample, our table focuses on the major patterns only. *DI-only* is the reference group, and the results are presented for the four additional major groups.¹⁹

The results show a clear relationship between age and longitudinal pattern of benefit eligibility. The regression-adjusted relative odds of access to the categories with SSI involvement are negatively—and very strongly—related to age. The contrast is sharpest between the SSI-only and DI-only reference groups. The adjusted odds ratios associated with the various diagnostic patterns suggest that generally the odds of SSI-only or SSI/DI serial patterns of benefit eligibility are relatively high, compared with DI-only for diagnostic categories other than musculoskeletal impairments. The relative odds of access to SSI-only status over time (compared with DI-only access) are especially high for intellectual disability, congenital anomalies, infectious diseases, and the mental disorders category. In sum, our regression analysis confirms the relevance of age, diagnosis, and sex as factors associated with the availability of different longitudinal patterns of benefit eligibility for the DI and SSI programs. These patterns of benefit

eligibility directly affect the value of the cash benefit streams available for various subgroups of awardees, as well as the availability of Medicaid and Medicare. Although these latter topics are beyond the scope of this study, our results provide clear motivation for future research on access to combined benefit streams from all four of these major public benefit programs.

Trends in Benefit Eligibility Patterns

While our classification of longitudinal patterns of benefit eligibility is helpful in understanding caseload dynamics, it does not tell the whole story. To develop a better understanding of the dynamics of benefit eligibility, we look at trends in monthly benefit eligibility status over time. First we look at short-term dynamics, focusing on SSI involvement during the 5-month DI waiting period. This is followed by the analysis of longer-term dynamics over our 60-month longitudinal window, which addresses a broader range of outcomes, including trends in benefit eligibility pattern (DI, SSI, concurrent, or neither) and exits that are due to death or reaching age 65.

Table 3.
Results of multinomial logistic regression on factors affecting the pattern of disability benefit eligibility

Independent variable	Longitudinal pattern											
	DI-only to joint DI/SSI			SSI-only entrants			SSI/DI serial entrants			SSI-only to joint DI/SSI		
	Odds ratio	Standard error	P > z	Odds ratio	Standard error	P > z	Odds ratio	Standard error	P > z	Odds ratio	Standard error	P > z
Age group												
18–30	6.2	0.3	0.000	6.5	0.3	0.000	4.3	0.3	0.000	5.7	0.3	0.000
31–45	2.5	0.1	0.000	1.5	0.0	0.000	1.8	0.1	0.000	2.3	0.1	0.000
46–64												
(reference category)	...	...	...	...	...	...	...	...	...	...	...	...
Sex												
Women	1.1	0.0	0.004	1.5	0.0	0.000	0.7	0.0	0.000	1.0	0.0	0.758
Men (reference category)	...	...	...	...	...	...	...	...	...	...	...	...
Missing	0.1	0.1	0.002	5.0	0.6	0.000	0.9	0.2	0.558	0.4	0.2	0.024
Race/ethnicity												
White												
(reference category)	...	...	...	...	...	...	...	...	...	...	...	...
Nonwhite	1.9	0.1	0.000	3.0	0.1	0.000	2.0	0.1	0.000	2.4	0.1	0.000
Missing	0.6	0.1	0.001	0.9	0.1	0.108	0.6	0.1	0.002	0.3	0.1	0.000
SSA primary diagnosis												
Congenital	1.2	0.5	0.662	6.5	1.6	0.000	4.6	1.9	0.000	0.8	0.4	0.722
Endocrine	1.6	0.1	0.000	2.3	0.2	0.000	2.0	0.3	0.000	2.3	0.2	0.000
Infectious and parasitic	1.5	0.2	0.000	4.3	0.4	0.000	8.0	0.9	0.000	2.1	0.2	0.000
Injuries	1.0	0.1	0.815	1.8	0.1	0.000	2.7	0.3	0.000	1.7	0.1	0.000
Intellectual disability ^a	3.5	0.3	0.000	16.7	1.3	0.000	4.7	0.7	0.000	3.0	0.3	0.000
Mental ^b	1.7	0.1	0.000	3.0	0.1	0.000	2.1	0.2	0.000	1.8	0.1	0.000
Neoplasms	0.6	0.0	0.000	2.1	0.1	0.000	4.0	0.3	0.000	0.8	0.1	0.001
Circulatory	1.0	0.1	0.584	1.9	0.1	0.000	3.4	0.2	0.000	2.0	0.1	0.000
Digestive	1.5	0.1	0.000	2.5	0.2	0.000	2.4	0.3	0.000	2.0	0.2	0.000
Genitourinary	0.6	0.1	0.000	1.5	0.1	0.000	6.0	0.6	0.000	1.1	0.1	0.415
Musculoskeletal												
(reference category)	...	...	...	...	...	...	...	...	...	...	...	...
Nervous	0.7	0.0	0.000	1.4	0.1	0.000	2.2	0.2	0.000	0.9	0.1	0.247
Respiratory	1.2	0.1	0.036	2.3	0.1	0.000	4.2	0.4	0.000	2.1	0.2	0.000
Other	1.1	0.2	0.700	1.4	0.2	0.027	1.3	0.4	0.441	1.5	0.2	0.020
Missing	0.9	0.1	0.431	7.1	0.5	0.000	2.1	0.4	0.000	2.0	0.2	0.000

Number of observations = 68,798

Likelihood ratio $\chi^2(120) = 14,589.40$

Probability > $\chi^2 = 0.0000$

Pseudo $R^2 = 0.0852$

Log likelihood = -78,339.124

SOURCE: Authors' calculations from Social Security administrative record data extracted from the TRF, version 8.

NOTES: DI-only is the reference group. "SSI/DI simultaneous" entrants and "Other" entrants are included in the multinomial logit model, but results are not presented here.

... = not applicable.

a. Intellectual disability was formerly known as mental retardation.

b. Not including intellectual disability.

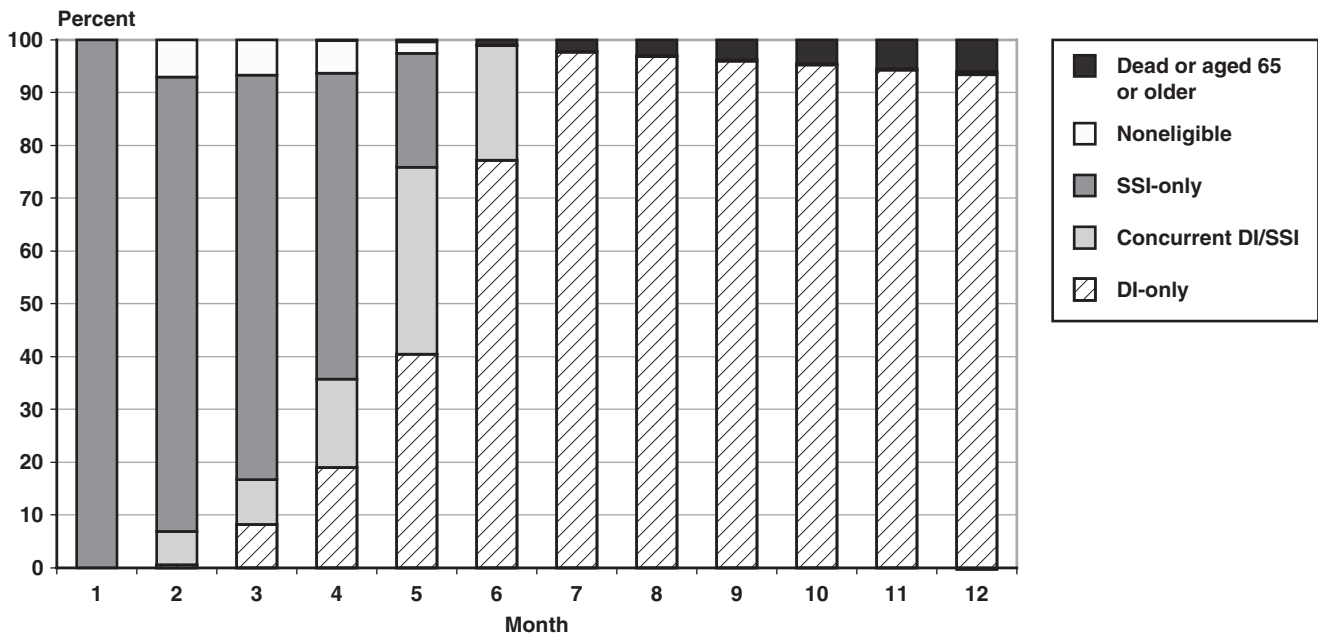
Short-term trends: SSI benefit eligibility during the 5-month DI waiting period. Two program design factors are relevant here. The first is the contrast between the immediate benefit eligibility of SSI awardees and the 5-month waiting period between onset and the first month of DI benefit eligibility. This creates an upper limit, a 5-month window of potential SSI benefit eligibility to complement the DI program prior to DI benefit eligibility kicking in. The second design factor is that the DI program allows for a 12-month window of retrospective consideration of disability onset (relative to the time of application). The SSI program does not allow retroactive crediting of categorical eligibility as disabled. Therefore, depending on the date of application, the awardee may be eligible for SSI benefits from anywhere between 0 and 5 months prior to the DI benefit eligibility kicking in among awardees who otherwise would satisfy the SSI means test during the 5-month DI waiting period.²⁰ In our classification scheme, “serial” and “joint” cases may display between 1 and 5 months of SSI benefit eligibility during the 5-month DI waiting period, and therefore these are the two longitudinal pattern subgroups we will focus on now.

The distribution of benefit eligibility status during the first 12 months among serial awardees is shown in Chart 3, which uses the month of first-ever SSI entry

as the anchoring point (month 1 in the chart). Several conclusions emerge. First, DI kicks in by month 6 for virtually all serial awardees. Some are still eligible for SSI benefits during the first month of DI benefit eligibility because SSI benefits are established on the basis of income during the immediately preceding month. Those who were not eligible for DI benefits during month 5 may be concurrently eligible for both SSI and DI benefits during month 6. Second, for some applicants DI kicks in earlier (months 2 to 5) because the retroactive establishment of the date of onset in the DI program reduces the portion of the DI waiting period that overlaps with the period starting with the first month of SSI benefit eligibility. Third, SSI plays a substantial role in providing benefit eligibility during the months prior to DI benefit eligibility kicking in. Shifting our anchoring point to the onset of DI categorical eligibility as disabled, we estimate that the number of months of SSI benefit eligibility among serial awardees during the 5-month DI waiting period averages 3.6 (authors’ calculation). In addition and as noted earlier, some awardees are still concurrently eligible for SSI benefits during the first month of DI benefit eligibility.

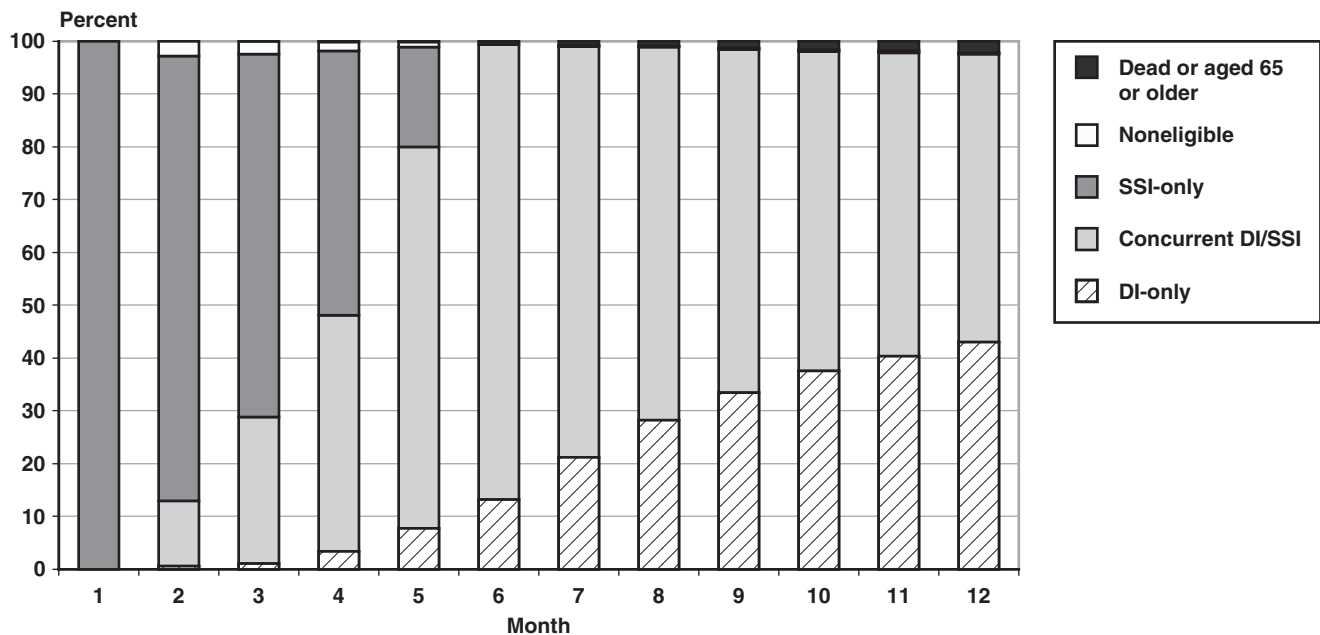
The corresponding distribution for joint awardees is shown in Chart 4. In contrast to serial awardees, a substantial portion of joint awardees are concurrently

Chart 3.
Percentage distribution of benefit eligibility status during the first 12 months among SSI/DI serial entrants, CY 2000



SOURCE: Authors’ calculations from Social Security administrative record data extracted from the TRF, version 8.

Chart 4.
Percentage distribution of benefit eligibility status during the first 12 months among SSI-only to joint SSI/DI entrants, CY 2000



SOURCE: Authors' calculations from Social Security administrative record data extracted from the TRF, version 8.

eligible for SSI benefits during month 7 and beyond. Concurrent benefit eligibility is more common after month 1 compared with the experience of serial awardees. From the somewhat different perspective of the anchoring point of DI disability onset, we find that on average the number of months of SSI benefit eligibility among joint awardees during the 5-month DI waiting period is 3.3 (authors' calculation), and those awardees continue to be eligible to receive SSI benefits during subsequent months.²¹

Longer-term trends of DI and SSI benefit eligibility over time. Next we take a longer view and look at outcomes over a 60-month observation period. For any given month, a CY 2000 awardee can be in one of the following six states: (1) DI-only; (2) SSI-only; (3) both DI and SSI; (4) not eligible for either benefit and aged 65 or younger; (5) exited before reaching age 65 because of death; and (6) exited because of reaching age 65. This last category includes people who died after reaching age 65, but before the end of the 60-month observation period. The information presented here represents “snapshots” of the sample at specific times over the 60-month follow-up observation period. Except for the absorbing states of death and reaching age 65, people can move in and out of all of the other states over time. We are particularly

interested in the role of SSI and DI involvement in shaping those trends and in factors affecting exits for reasons other than death and reaching 65 years of age. This analysis begins with an overview of trends for the whole cohort of first-ever awardees. Next, we disaggregate those trends by program of first entry. Finally, we assess factors affecting transitions to noneligible status.

Overall trends for all awardees. The overall trends for the whole awardee cohort are summarized in Table 4, which presents the status of the entire cohort of CY 2000 first-ever disability program entrants during selected months of the 60-month observation period. The data are presented in two panels. The top panel provides status for the whole awardee cohort, including status as a result of exits from the sample that are due to death or reaching age 65. The bottom panel is limited to survivors younger than age 65 during the various monthly snapshots. Three major conclusions emerge. First, much of the program interaction occurs between month 1 and month 12, and the changes for the remaining 48 months are fairly gradual. Second, there is a monotonic decrease in the proportion of the entry cohort in program status (from 100 percent to around 70 percent)²²—largely because of exits that are due to death and reaching age 65. Third, the

Table 4.**Percentage distribution of benefit eligibility status at selected time points for CY 2000 disability program entrants first entitled to DI and/or SSI benefits**

Month	Benefit eligibility status during month							Total	N
	DI-only	SSI-only	Concurrent DI/SSI	Noneligible and younger than age 65	Died before age 65	Reached age 65 and alive	Died after age 65		
Entry cohort									
1 (month of entry)	69.9 (0.2)	29.0 (0.2)	1.2 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	100.0 (0.0)	68,798
12	71.7 (0.2)	13.4 (0.1)	8.3 (0.1)	1.8 (0.1)	4.4 (0.1)	0.4 (0.0)	0.0 (0.0)	100.0 (0.0)	68,798
60	57.2 (0.2)	9.2 (0.1)	4.0 (0.1)	4.8 (0.1)	14.5 (0.1)	9.5 (0.1)	0.8 (0.0)	100.0 (0.0)	68,798
Survivors younger than age 65									
1 (month of entry)	69.9 (0.2)	29.0 (0.2)	1.2 (0.0)	0.0 (0.0)	...	...	...	100.0 (0.0)	68,798
12	75.3 (0.2)	14.1 (0.1)	8.8 (0.1)	1.9 (0.1)	...	...	...	100.0 (0.0)	65,497
60	76.1 (0.2)	12.2 (0.1)	5.3 (0.1)	6.4 (0.1)	...	...	...	100.0 (0.0)	51,752

SOURCE: Authors' calculations from Social Security administrative record data extracted from the TRF, version 8.

NOTES: Standard errors are in parentheses. The sample excludes 126 state-only SSI new awardees.

Totals may not sum to 100 because of rounding.

... = not applicable.

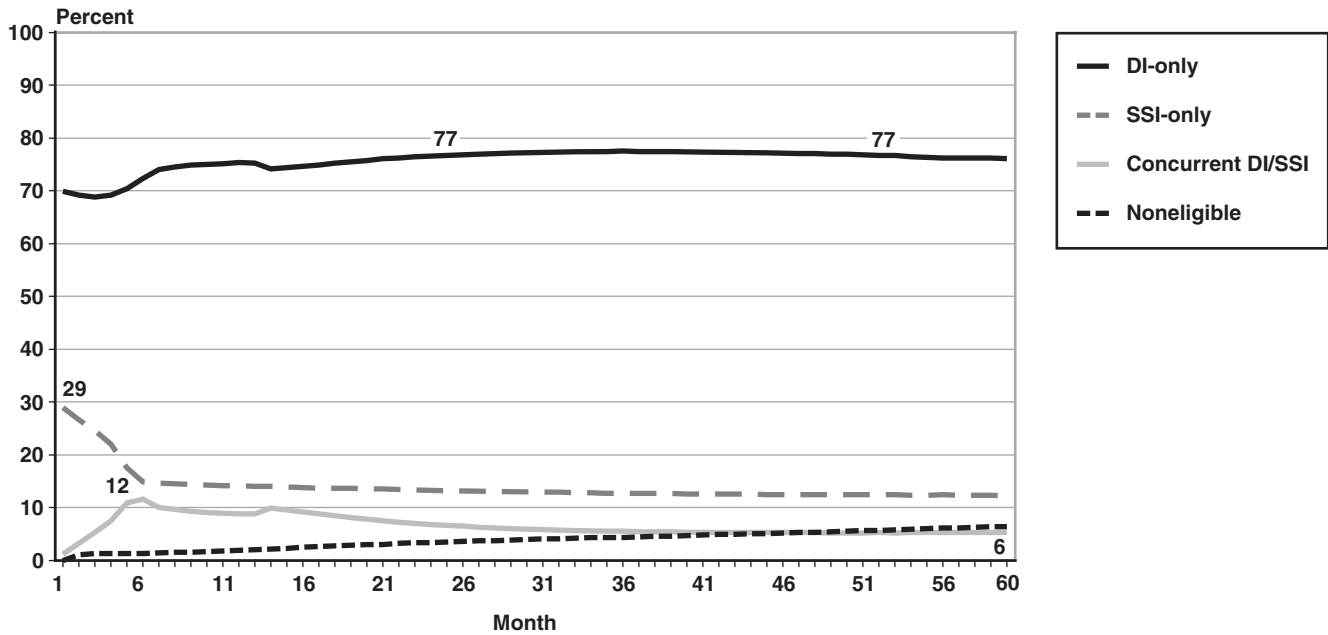
proportion of the awardee cohort that is not eligible for either benefit but alive and younger than age 65, while gradually increasing, is still under 5 percent at the end of the 60-month observation period. Although we cannot directly observe the subgroup not eligible for work-related reasons in this data set, the 5 percent figure is an upper bound for the proportion of the entry cohort not eligible for work-related reasons at any point in time because there are some who are in noneligibility status because of other factors, such as “excess income or resources” (SSI) or “medical improvement” (both programs), neither necessarily implying work.

The bottom panel of Table 4 shows the distribution among survivors younger than age 65 at each of the three selected time points. Chart 5 provides the monthly detail. The peak percentage in the SSI-only group (29 percent) is reached during the very first month of benefit eligibility with a sharp decline up to month 6 and with a very gradual, but still monotonic decline afterward. The peak percentage in the concurrent group (12 percent) is reached during month 6. The figure for the DI-only group is around 77 percent throughout the period from month 24 to month 53. The chart clearly shows the contrast between DI and SSI

involvement over the 60-month observation period: There is a clear increase in DI involvement and a sharp decline in SSI involvement over time. Thus, the role of SSI as a source of “supplemental” income security—at least as reflected by benefit eligibility according to legislative design—is most important during the first 12 months after entry and less important in the longer run.²³ The proportion not eligible for either DI or SSI gradually increases over time, but it still peaks at a low rate (6 percent during the last month of our observation period).

Trends of awardees with DI as the program of first entry. Important trend differences emerge when we look at two subgroups defined by the program of first entry. Table 5 suggests that there is only fairly limited programmatic dynamics for those people who entered DI first. Not surprisingly, the DI-only group dominates the picture. The top panel of the table shows that the proportion in DI-only status is reduced to 69 percent over the 60-month observation period. This is almost exclusively the result of an increase in the proportion that died or exited because of reaching age 65. The proportion of noneligibles reaches only 2.8 percent by the end of the 60-month observation period. These

Chart 5.
Trends in the proportion of survivors younger than age 65 in each program eligibility status category, by month



SOURCE: Authors' calculations from Social Security administrative record data extracted from the TRF, version 8.

Table 5.
Percentage distribution of benefit eligibility status at selected time points for disability program entrants first entitled to DI benefits, CY 2000

Month	Benefit eligibility status during month							Total	N
	DI-only	SSI-only	Concurrent DI/SSI	Noneligible and younger than age 65	Died before age 65	Reached age 65 and alive	Died after age 65		
Entry cohort									
1 (month of entry)	100.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	100.0 (0.0)	48,056
12	90.5 (0.1)	0.0 (0.0)	4.8 (0.1)	0.5 (0.0)	3.8 (0.1)	0.4 (0.0)	0.0 (0.0)	100.0 (0.0)	48,056
60	68.7 (0.2)	0.0 (0.0)	3.2 (0.1)	2.8 (0.1)	13.6 (0.2)	10.8 (0.1)	0.9 (0.0)	100.0 (0.0)	48,056
Survivors younger than age 65									
1 (month of entry)	100.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	...	...	...	100.0 (0.0)	48,056
12	94.5 (0.1)	0.0 (0.0)	5.0 (0.1)	0.5 (0.0)	...	...	...	100.0 (0.0)	46,033
60	92.0 (0.1)	0.0 (0.0)	4.2 (0.1)	3.7 (0.1)	...	...	...	100.0 (0.0)	35,885

SOURCE: Authors' calculations from Social Security administrative record data extracted from the TRF, version 8.

NOTES: Standard errors are in parentheses. The sample excludes 126 state-only SSI new awardees. Totals may not sum to 100 because of rounding.

... = not applicable.

changes are gradual and monotonic. SSI-only status is extremely rare (no more than 0.03 percent) and appears as zero in the table as a result of rounding. Because DI-insured status can never be lost as long as the person stays categorically disabled, there are only very few situations when DI benefit eligibility status is suspended while SSI eligibility status is retained. The programmatic dynamics largely relate to concurrent DI/SSI benefit eligibility status. The monthly underlying data series (not shown) reveals that concurrent eligibility peaks at around 7 percent at month 14 and declines to about 3 percent (3.2 percent of all award-ees) by month 60. After limiting the subsample to those alive and younger than age 65 at month 60 (bottom panel of the table), the corresponding percentage is still very low—4.2 percent. Overall, SSI is not very important for most people whose first award is DI.

Trends for awardees with SSI as the program of first entry. Table 6 focuses on people who entered the SSI program first and reveals salient changes. First, the relevance of the two SSA programs dramatically changes over time. The top panel of the table shows that the proportion in SSI-only status substantially decreases in contrast to the increases in the proportion

in DI-only status. The proportion in concurrent status peaks at 28 percent during month 6, and it gradually declines afterward (detailed data not shown). Thus, a cohort that started as SSI-only dramatically changes its programmatic profile, reaching a roughly even representation of SSI and DI among those who are on the disability rolls during month 60. Second, when participation in both of SSA's disability programs is considered, the overall level during month 60 (67 percent of combined participation) is very close to the 72 percent level for the subgroup that entered the DI program first, as presented in Table 5. Finally, by month 60 the percentage not eligible among those who entered the SSI program first reaches 9.8 percent of all awardees (Table 6, top panel) and 12.8 percent of the subgroup still alive and younger than age 65 during month 60 (bottom panel of the table). These percentages are over three times as large as the corresponding percentages among those who entered the DI program first. Because of the importance of this empirical finding, we are examining the reasons for this difference next.

Transition to nonbeneficiary status and the SSI means test. The SSI means test is the most plausible reason for the large month-60 difference between the

Table 6.
Percentage distribution of benefit eligibility status at selected time points for disability program entrants first entitled to SSI benefits, CY 2000

Month	Benefit eligibility status during month							Total	N	
	DI-only	SSI-only	Concurrent DI/SSI	Noneligible and younger than age 65	Died before age 65	Reached age 65 and alive	Died after age 65			
Entry cohort										
1 (month of entry)	0.0 (0.0)	100.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	100.0 (0.0)	19,930	
12	26.7 (0.3)	46.3 (0.4)	15.8 (0.3)	5.1 (0.2)	5.7 (0.2)	0.6 (0.1)	0.0 (0.0)	100.0 (0.0)	19,930	
60	29.3 (0.3)	31.7 (0.3)	5.7 (0.2)	9.8 (0.2)	16.5 (0.3)	6.5 (0.2)	0.5 (0.1)	100.0 (0.0)	19,930	
Survivors younger than age 65										
1 (month of entry)	0.0 (0.0)	100.0 (0.0)	0.0 (0.0)	0.0 (0.0)	...	...	...	100.0 (0.0)	19,930
12	28.4 (0.3)	49.3 (0.4)	16.8 (0.3)	5.4 (0.2)	...	...	...	100.0 (0.0)	18,686
60	38.3 (0.4)	41.4 (0.4)	7.5 (0.2)	12.8 (0.3)	...	...	...	100.0 (0.0)	15,237

SOURCE: Authors' calculations from Social Security administrative record data extracted from the TRF, version 8.

NOTES: Standard errors are in parentheses. The sample excludes 126 state-only SSI new awardees.

Totals may not sum to 100 because of rounding.

... = not applicable.

percentage in nonbeneficiary status among people who entered awardee status through the SSI as opposed to the DI program. We test this hypothesis in two ways: (1) by looking for confirmatory evidence, and (2) by testing for evidence with the potential for rejecting the hypothesis. The first approach is based on accounting for SSI suspensions, using spreadsheet calculations. The second approach is based on logistic regression, assessing factors associated with nonbeneficiary status at the end of our observation period.

Insofar as confirmatory evidence is concerned, our hypothesis suggests that SSI suspensions should explain the difference. The results of our spreadsheet calculations (details not shown) are consistent with this hypothesis.²⁴ While the raw percentage among survivors of the group that entered the SSI program first was much higher than the percentage for those who entered the DI program first (12.8 percent versus 3.7 percent), *net* of suspensions related to the SSI means test, the respective percentages are 3.4 percent and 3.2 percent, a virtual tie.²⁵ The 3.4 percent and 3.2 percent for the two entry groups that are not explained by suspensions include “medical recoveries” and miscellaneous factors.

The second strategy is to assess whether observed factors other than the SSI means test can account for the observed subgroup differences in the probability of being in nonbeneficiary status during month 60. For this test, we use logistic regression to adjust differences in the relative odds associated with the various entry patterns for demographic and diagnostic factors (Table 7). The dependent variable is status among survivors younger than age 65 during month 60. Those with a 0 value are eligible for DI, SSI, or both during month 60. Those with a value of 1 are not eligible for either program during month 60. (This can be seen as a positive outcome in terms of independence from reliance on disability benefits.) Stepwise regression is a suitable analytic strategy here.²⁶ Model 1 includes only the longitudinal entry pattern indicators as independent variables; no adjustments are made for other factors. In contrast, model 2 adds age, sex, race, and diagnosis as predictor variables. The results show that the unadjusted and adjusted relative odds ratios for the SSI-only group are fairly similar in magnitude (6.5 and 5.5, respectively). Thus, consistent with our hypothesis, the variables adjusting for case mix do not explain away the substantial difference in the relative odds between the SSI-only and the DI-only groups. Overall, the results of two different tests are consistent with the

hypothesis that differences in program rules—suspensions that are the result of the SSI means test, which do not apply to the DI program—provide a credible explanation of the bulk of observed differences in the odds of transitioning to nonbeneficiary status over time between SSI and DI awardees. The determination of whether SSI work incentives (the more favorable treatment of earned income) play a role here would be a worthwhile topic for future research. Another potential area of further research is family dynamics that may affect SSI, but not DI benefit eligibility in our sample.

Timing of First Cash Payment as a Facet of Access to Disability Benefits

The longitudinal interactions affecting access to benefits analyzed so far primarily arise from program *design* features such as the DI waiting period and the SSI means test. However, the receipt of benefits also depends on program *implementation*. The instantaneous payment of public benefits is never feasible. Some time must elapse before benefits can be paid because of the need to establish benefit eligibility and the processing of payments. Thus, there must be a lag between the first month of benefit eligibility (which is established retroactively) and the first month of actual payments, but its length is consequential. In the case of SSA’s disability programs, this is a particularly challenging problem because the establishment of categorical eligibility as disabled involves multiple steps to assure that qualified applicants who may be initially denied eventually receive the benefits to which they are entitled.

Looking from another perspective, the SSA disability determination process has been perceived as cumbersome and lengthy in many instances. Social Security’s administrative process innovations address this temporal dimension of access to cash payments. Two examples are “Compassionate Allowances” rules and the “Single Decision Maker” model. Compassionate Allowances rules allow Social Security to quickly target the most obviously disabled individuals for allowances based on objective medical information.²⁷ The Single Decision Maker model is designed to expedite the initial disability determination process by increasing operational flexibility at the Disability Determination Service (DDS) level. Specifically, it allows the DDS administrator to grant disability examiners discretionary authority to make initial decisions without consulting a medical doctor or psychologist under some circumstances.²⁸

Table 7.
Results of logistic regression on factors affecting the probability of program status as “not eligible for disability benefits” during month 60 among survivors younger than age 65

Independent variable	Model 1			Model 2		
	Unadjusted odds ratio	Standard error	P > z	Adjusted odds ratio	Standard error	P > z
Pattern						
DI-only entrants (reference category)	...	...	...	...	...	...
DI-only to joint DI/SSI	1.1	0.1	0.393	0.9	0.1	0.130
SSI-only entrants	6.5	0.3	0.000	5.5	0.3	0.000
SSI/DI serial entrants	2.1	0.2	0.000	1.6	0.1	0.000
SSI-only to joint SSI/DI	1.2	0.1	0.027	1.0	0.1	0.681
SSI/DI simultaneous entrants	1.7	0.3	0.001	1.4	0.2	0.035
Any other pattern following first SSI entry	1.6	0.3	0.021	1.1	0.2	0.607
Age group						
18–30	---	---	---	3.1	0.2	0.000
31–45	---	---	---	1.6	0.1	0.000
46–64 (reference category)	...	...	...	...	...	...
Sex						
Women (reference category)	...	...	...	...	...	...
Men	---	---	---	0.9	0.0	0.000
Missing	---	---	---	0.0	0.0	0.003
Race/ethnicity						
White (reference category)	...	...	...	...	...	...
Nonwhite	---	---	---	1.0	0.0	0.302
Missing	---	---	---	1.2	0.2	0.249
SSA primary diagnosis						
Congenital	---	---	---	0.6	0.2	0.212
Endocrine	---	---	---	0.9	0.1	0.271
Infectious and parasitic	---	---	---	1.2	0.2	0.163
Injuries	---	---	---	1.9	0.2	0.000
Intellectual disability ^a	---	---	---	0.6	0.1	0.000
Mental ^b	---	---	---	1.1	0.1	0.397
Neoplasms	---	---	---	5.6	0.5	0.000
Circulatory	---	---	---	1.1	0.1	0.232
Digestive	---	---	---	1.8	0.2	0.000
Genitourinary	---	---	---	2.5	0.3	0.000
Musculoskeletal (reference category)	...	...	...	...	...	...
Nervous	---	---	---	0.9	0.1	0.243
Respiratory	---	---	---	1.1	0.1	0.693
Other	---	---	---	1.6	0.3	0.013
Missing	---	---	---	2.1	0.2	0.000
Log likelihood	-11,273.416			-10,735.951		
Likelihood ratio Chi ²	2,128.30			3,203.23		
Probability > Chi ²	0.0000			0.0000		
Pseudo R ²	0.0863			0.1298		
Number of observations	51,752			51,752		

SOURCE: Authors' calculations from Social Security administrative record data extracted from the TRF, version 8.

NOTES: The study sample is limited to people alive and younger than age 65 during month 60 of the observation period.

... = not applicable; --- = variable not included.

a. Intellectual disability was formerly known as mental retardation.

b. Not including intellectual disability.

Because we have data both on the first month of benefit eligibility and on actual payments, we can calculate the time elapsing between the two events. The distribution is highly skewed, so we present several summary indicators for our disability program (DI and/or SSI) awardee cohort in the following tabulation:

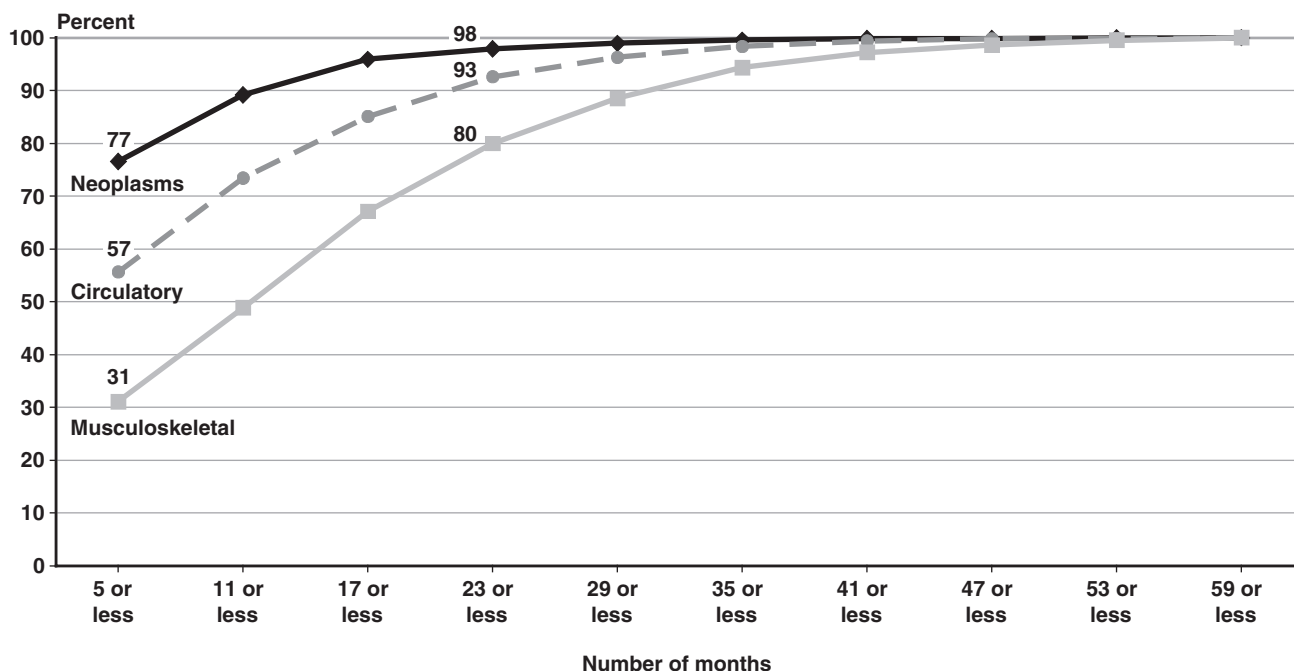
Average number of months elapsing between the first month of benefit eligibility and the first month of payments received	10.2 months
Standard deviation in months	10.6 months
Median	6 months
First payment received within 1 year of the first month of benefit eligibility	67.1 percent
First payment received 1–2 years after the first month of benefit eligibility	22.3 percent
First payment received more than 2 years after the first month of benefit eligibility	10.7 percent

These summary measures indicate substantial variation in the lag of receiving the first actual payment. Such delays reduce the cash available to support current consumption among people with severe disabilities during a period of financial vulnerability. We do note that there is no loss of benefits in a narrow

accounting sense because of the retrospective payment of delayed benefits. Table A-3 provides more detail by various characteristics and displays substantial subgroup differences. Chart 6 illustrates differences by diagnostic category and presents the cumulative distribution for three selected diagnostic categories: neoplasms, circulatory, and musculoskeletal. The cumulative distribution is consistently different for these three diagnoses across different points in time, with neoplasms on a fast track, musculoskeletal impairments on a slow track, and circulatory impairments in between. For example, a payment was received by 77 percent of neoplasms awardees within 5 months or less; the corresponding figure is only 31 percent for musculoskeletal awardees. While almost all neoplasms awardees (98 percent) receive their first payment within 23 months or less, the corresponding figure is lower (80 percent) for musculoskeletal awardees.

The reasons for such differences may be quite complex. As a first step of exploring the ways in which various factors interact, we estimate a regression model allowing us to assess the marginal relationship between duration and various subgroup characteristics. Table 8 summarizes the results of a linear regression model of the natural logarithm of time from the

Chart 6.
Cumulative distribution of duration of time between first month of benefit eligibility and first month of actual payment among disability program entrants, by selected diagnostic categories



SOURCE: Authors' calculations from Social Security administrative record data extracted from the TRF, version 8.

Table 8.

Estimated regression coefficients from a linear regression model predicting the natural logarithm of time from the first month of disability benefit eligibility to the first month of actual benefit payment

Independent variable	Coefficient	Standard error	P > t	Estimated marginal effect (%) ^a
Pattern				
DI-only entrants (reference category)	...	...	...	...
DI-only to joint DI/SSI	0.65	0.01	0.000	90.9
SSI-only entrants	-0.43	0.01	0.000	-35.1
SSI/DI serial entrants	-0.76	0.02	0.000	-53.4
SSI-only to joint SSI/DI	0.25	0.02	0.000	28.7
SSI/DI simultaneous entrants	-0.24	0.04	0.000	-21.7
Any other pattern following first SSI entry	-0.22	0.05	0.000	-19.6
Age group				
18–30	0.11	0.02	0.000	11.5
31–45	0.38	0.01	0.000	46.3
46–64 (reference category)	...	...	...	...
Sex				
Women	0.12	0.01	0.000	12.6
Men (reference category)	...	...	...	...
Missing	-0.40	0.06	0.000	-33.2
Race/ethnicity				
White (reference category)	...	...	...	...
Nonwhite	0.03	0.01	0.003	2.9
Missing	-0.04	0.04	0.296	-3.8
SSA primary diagnosis				
Congenital	-0.67	0.11	0.000	-49.0
Endocrine	-0.11	0.03	0.000	-10.7
Infectious and parasitic	-0.91	0.03	0.000	-59.7
Injuries	-0.37	0.02	0.000	-30.8
Intellectual disability ^b	-0.61	0.03	0.000	-45.4
Mental ^c	-0.28	0.01	0.000	-24.6
Neoplasms	-1.14	0.02	0.000	-68.2
Circulatory	-0.54	0.01	0.000	-41.8
Digestive	-0.34	0.03	0.000	-29.0
Genitourinary	-1.26	0.03	0.000	-71.6
Musculoskeletal (reference category)	...	...	...	...
Nervous	-0.57	0.02	0.000	-43.7
Respiratory	-0.62	0.02	0.000	-46.0
Other	-0.27	0.05	0.000	-23.6
Missing	-0.05	0.03	0.071	-5.3
Constant	1.95	0.01	0.000	0.0
Adjusted R ² = 0.2041				
Number of observations = 68,423				
F(26, 68396) = 675.92				
Probability > F = 0.0000				

SOURCE: Authors' calculations from Social Security administrative record data extracted from the TRF, version 8.

NOTES: ... = not applicable.

a. Calculated from the first column as $100*(e^{\beta} - 1)$.

b. Intellectual disability was formerly known as mental retardation.

c. Not including intellectual disability.

first month of eligibility to the first payment. A logged dependent variable was used to improve model fit given its skewed distribution. Generally, the results suggest substantial variation in the duration between benefit eligibility and actual payments. These differences warrant future research.

Conclusions and Issues for Future Research

In this analysis, we did the following:

- Demonstrated that longitudinal access to DI and SSI benefits is affected by interactions in benefit eligibility, reflecting legislative design and lags in receiving the first payment.
- Followed up a cohort of new disability awardees aged 18–64 who were first receiving DI or SSI benefits during CY 2000.
- Identified five major longitudinal patterns of benefit eligibility based on interactions between SSI and DI program rules: (1) DI-only; (2) SSI-only; (3) DI-only transitioning to joint DI/SSI benefit eligibility; (4) SSI-only transitioning to DI-only serial benefit eligibility; and (5) SSI-only transitioning to joint DI/SSI benefit eligibility. These five patterns cover about 98 percent of all new first awards for federal disability benefits.
- Performed empirical analysis of factors affecting benefit eligibility and lags in receiving the first payment.

Several conclusions arise from the empirical analysis. The results of multinomial logit analysis show substantial differences in the relative odds of various longitudinal patterns of benefit eligibility, primarily as a function of age and diagnostic category. We show that about 40 percent of awardees are involved with SSI or both disability programs over a 60-month follow-up period. The results indicate a substantially higher degree of program interaction than apparent from cross-sectional data. Among those people participating in both programs, the role of SSI is most likely to be front-loaded, especially among younger

awardees. In the majority of cases, SSI benefit eligibility fills 4 or 5 months of the gap arising from the 5-month DI waiting period among awardees eligible for both types of benefits. More than half of those who entered SSI first and were still in disability participant status at month 60 transitioned to the DI program or were in concurrent program status at that time. Less than 4 percent of survivors younger than age 65 among those who first entered the DI program were in nonpayment status 5 years after entry. In contrast, about 13 percent of those who first entered the SSI program were in nonpayment status 5 years later, the difference reflecting exits that were due to the SSI means test. We also find substantial variation in the months elapsing between the first month of benefit eligibility and the first month of actual payments.

There are a number of promising future research directions. The authors plan to conduct a follow-up study that focuses on the ways in which longitudinal patterns of benefit eligibility affect public health insurance coverage among disabled people, with a particular focus on the role of SSI in providing a path toward Medicaid coverage. Another area for follow-up analysis is the effect of program implementation factors—such as lags in receiving the first benefit payments, relatively restrictive Medicaid eligibility rules, and auto-enrollment—on Medicaid coverage and utilization. Further studies may explore the longitudinal stream of cash and health insurance benefits arising from these interactions. All of these lines of inquiry will contribute to a better understanding of how interactions among these four important public programs affect the public safety net.

Appendix

The relationship between diagnosis and age at first award is provided in Table A-1. Table A-2 shows longitudinal patterns of benefit eligibility by primary diagnosis. Table A-3 gives summary measures of the distribution of duration of time from the first month of initial benefit eligibility to the first month of actual payment, by various characteristics.

Table A-1.
Percentage distribution of new awardees first entitled to disability benefits (DI and/or SSI), by SSA primary diagnosis and age group, CY 2000

Subgroup	Age group			Total	N
	18-30	31-45	46-64		
All awardees	9.6 (0.1)	27.4 (0.2)	63.0 (0.2)	100.0 (0.0)	68,798
SSA primary diagnosis					
Congenital	48.0 (5.0)	21.0 (4.1)	31.0 (4.7)	100.0 (0.0)	100
Endocrine	4.7 (0.5)	23.6 (0.9)	71.8 (1.0)	100.0 (0.0)	2,089
Infectious and parasitic	9.0 (0.8)	54.8 (1.4)	36.3 (1.4)	100.0 (0.0)	1,229
Injuries	13.9 (0.7)	30.8 (0.9)	55.3 (1.0)	100.0 (0.0)	2,582
Intellectual disability ^a	48.0 (1.2)	31.9 (1.1)	20.1 (1.0)	100.0 (0.0)	1,751
Mental ^b	20.5 (0.3)	39.2 (0.4)	40.4 (0.4)	100.0 (0.0)	15,535
Neoplasms	4.2 (0.3)	21.6 (0.5)	74.3 (0.6)	100.0 (0.0)	6,334
Circulatory	1.6 (0.1)	13.0 (0.4)	85.3 (0.4)	100.0 (0.0)	8,384
Digestive	5.3 (0.6)	35.3 (1.2)	59.4 (1.3)	100.0 (0.0)	1,498
Genitourinary	9.9 (0.8)	30.8 (1.2)	59.2 (1.3)	100.0 (0.0)	1,541
Musculoskeletal	2.7 (0.1)	24.4 (0.3)	72.9 (0.3)	100.0 (0.0)	17,530
Nervous	11.6 (0.4)	27.4 (0.6)	61.0 (0.7)	100.0 (0.0)	5,418
Respiratory	1.7 (0.2)	11.9 (0.6)	86.4 (0.6)	100.0 (0.0)	2,949
Other	16.2 (1.7)	34.1 (2.2)	49.7 (2.3)	100.0 (0.0)	463
Missing	9.7 (0.8)	33.8 (1.3)	56.6 (1.3)	100.0 (0.0)	1,395

SOURCE: Authors' calculations from Social Security administrative record data extracted from the TRF, version 8.

NOTES: Standard errors are in parentheses. The sample excludes 126 state-only SSI new awardees. Totals may not sum to 100 because of rounding.

- a. Intellectual disability was formerly known as mental retardation.
- b. Not including intellectual disability.

Table A-2.
Percentage distribution of longitudinal patterns of disability benefit eligibility among first-ever disability benefit (DI and/or SSI) awardees, by primary diagnosis, CY 2000

SSA primary diagnosis	Longitudinal pattern of benefit eligibility								Percent involved with—			
	DI-only entrants	DI-only to joint DI/SSI	SSI-only entrants	SSI/DI serial entrants	SSI-only to joint SSI/DI	SSI/DI simultaneous entrants	SSI entrants following other pattern	Total	N	DI	SSI	DI/SSI
Endocrine	56.6 (1.1)	11.4 (0.7)	15.2 (0.8)	3.2 (0.4)	11.4 (0.7)	1.4 (0.3)	0.8 (0.2)	100.0 (0.0)	2,089	84.8 (0.8)	43.4 (1.1)	28.2 (1.0)
Infectious and parasitic	37.4 (1.4)	10.8 (0.9)	25.2 (1.2)	13.1 (1.0)	11.1 (0.9)	1.3 (0.3)	1.1 (0.3)	100.0 (0.0)	1,229	74.8 (1.2)	62.7 (1.4)	37.4 (1.4)
Injuries	59.4 (1.0)	9.0 (0.6)	13.7 (0.7)	5.5 (0.5)	10.8 (0.6)	1.2 (0.2)	0.4 (0.1)	100.0 (0.0)	2,582	86.3 (0.7)	40.6 (1.0)	26.9 (0.9)
Intellectual disability ^a	16.0 (0.9)	12.9 (0.8)	53.6 (1.2)	3.5 (0.4)	7.5 (0.6)	1.4 (0.3)	5.1 (0.5)	100.0 (0.0)	1,751	46.4 (1.2)	84.0 (0.9)	30.4 (1.1)
Mental ^b	47.7 (0.4)	14.3 (0.3)	21.7 (0.3)	3.6 (0.2)	10.3 (0.2)	1.5 (0.1)	1.0 (0.1)	100.0 (0.0)	15,535	78.3 (0.3)	52.3 (0.4)	30.6 (0.4)
Neoplasms	67.1 (0.6)	4.4 (0.3)	15.7 (0.5)	7.3 (0.3)	4.2 (0.3)	1.2 (0.1)	0.2 (0.1)	100.0 (0.0)	6,334	84.3 (0.5)	32.9 (0.6)	17.2 (0.5)
Circulatory	64.5 (0.5)	6.6 (0.3)	11.7 (0.4)	6.0 (0.3)	9.8 (0.3)	1.2 (0.1)	0.3 (0.1)	100.0 (0.0)	8,384	88.3 (0.4)	35.5 (0.5)	23.8 (0.5)
Digestive	56.3 (1.3)	11.4 (0.8)	15.7 (0.9)	4.1 (0.5)	10.4 (0.8)	1.3 (0.3)	0.8 (0.2)	100.0 (0.0)	1,498	84.3 (0.9)	43.7 (1.3)	28.0 (1.2)
Genitourinary	56.9 (1.3)	6.2 (0.6)	14.2 (0.9)	13.2 (0.9)	7.7 (0.7)	1.5 (0.3)	0.4 (0.2)	100.0 (0.0)	1,541	85.9 (0.9)	43.1 (1.3)	28.9 (1.2)
Musculoskeletal	73.6 (0.3)	9.0 (0.2)	8.0 (0.2)	2.0 (0.1)	6.2 (0.2)	0.8 (0.1)	0.4 (0.1)	100.0 (0.0)	17,530	92.0 (0.2)	26.4 (0.3)	18.4 (0.3)
Nervous	68.3 (0.6)	6.6 (0.3)	12.6 (0.5)	4.7 (0.3)	6.2 (0.3)	0.9 (0.1)	0.7 (0.1)	100.0 (0.0)	5,418	87.4 (0.5)	31.7 (0.6)	19.1 (0.5)
Respiratory	63.1 (0.9)	7.2 (0.5)	13.1 (0.6)	6.2 (0.4)	9.0 (0.5)	1.2 (0.2)	0.3 (0.1)	100.0 (0.0)	2,949	86.9 (0.6)	36.9 (0.9)	23.9 (0.8)
Minimum percent	16.0	4.4	8.0	2.0	4.2	0.8	0.2	...	...	46.4	26.4	17.2
Maximum percent	73.6	14.3	53.6	13.2	11.4	1.5	5.1	...	...	92.0	84.0	37.4

SOURCE: Authors' calculations from Social Security administrative record data extracted from the TRF, version 8.

NOTES: Standard errors are in parentheses. The sample excludes 126 state-only SSI new awardees. The "Congenital," "Other," and "Missing" SSA primary diagnosis categories (comprising 2.8 percent of the study universe) are not presented in the table. Totals may not sum to 100 because of rounding.

... = not applicable.

a. Intellectual disability was formerly known as mental retardation.

b. Not including intellectual disability.

Table A-3.
Percentage distribution and summary measures of the duration of time from the first month of initial benefit eligibility to the first month of actual payment, by various characteristics, CY 2000

Characteristic	Duration of time from first month of benefit eligibility to first payment			Total	N	Mean number of months	Standard deviation	Median number of months
	1 year or less	1–2 years	More than 2 years					
All awardees	67.1 (0.2)	22.3 (0.2)	10.7 (0.1)	100.0 (0.0)	68,423	10.2 (0.0)	10.6	6
Pattern								
DI-only entrants	64.5 (0.2)	23.9 (0.2)	11.7 (0.2)	100.0 (0.0)	41,392	10.6 (0.1)	10.8	7
DI-only to joint DI/SSI	42.6 (0.6)	35.7 (0.6)	21.7 (0.5)	100.0 (0.0)	6,357	16.6 (0.2)	11.7	15
SSI-only entrants	83.1 (0.4)	11.6 (0.3)	5.4 (0.2)	100.0 (0.0)	10,762	6.5 (0.1)	8.5	3
SSI/DI serial entrants	98.0 (0.3)	1.7 (0.2)	0.4 (0.1)	100.0 (0.0)	3,054	2.8 (0.1)	3.2	2
SSI-only to joint SSI/DI	64.5 (0.6)	27.8 (0.6)	7.7 (0.4)	100.0 (0.0)	5,585	11.0 (0.1)	8.7	8
SSI/DI simultaneous entrants	76.4 (1.5)	18.4 (1.4)	5.3 (0.8)	100.0 (0.0)	812	7.9 (0.3)	9.0	4
Any other pattern following first SSI entry	77.2 (2.0)	15.6 (1.7)	7.2 (1.2)	100.0 (0.0)	461	8.2 (0.5)	9.6	5
Age group								
18–30	71.7 (0.6)	19.4 (0.5)	8.9 (0.4)	100.0 (0.0)	6,577	9.3 (0.1)	10.4	5
31–45	57.1 (0.4)	26.1 (0.3)	16.9 (0.3)	100.0 (0.0)	18,644	13.0 (0.1)	11.9	10
46–64	70.7 (0.2)	21.0 (0.2)	8.3 (0.1)	100.0 (0.0)	43,202	9.1 (0.1)	9.8	5
Sex								
Women	64.1 (0.3)	23.7 (0.2)	12.3 (0.2)	100.0 (0.0)	32,906	11.0 (0.1)	11.0	7
Men	69.6 (0.3)	21.1 (0.2)	9.3 (0.2)	100.0 (0.0)	35,147	9.5 (0.1)	10.2	6
Missing	95.1 (1.1)	3.8 (1.0)	1.1 (0.5)	100.0 (0.0)	370	3.0 (0.3)	5.1	1
Race/ethnicity								
White	66.2 (0.2)	22.9 (0.2)	10.9 (0.1)	100.0 (0.0)	48,452	10.3 (0.1)	10.6	7
Nonwhite	69.1 (0.3)	20.6 (0.3)	10.3 (0.2)	100.0 (0.0)	19,012	9.9 (0.1)	10.6	6
Missing	70.4 (1.5)	21.1 (1.3)	8.6 (0.9)	100.0 (0.0)	959	9.1 (0.3)	10.0	5

(Continued)

Table A-3.**Percentage distribution and summary measures of the duration of time from the first month of initial benefit eligibility to the first month of actual payment, by various characteristics, CY 2000—Continued**

Characteristic	Duration of time from first month of benefit eligibility to first payment			Total	N	Mean number of months	Standard deviation	Median number of months
	1 year or less	1–2 years	More than 2 years					
SSA primary diagnosis								
Congenital	71.4 (4.6)	22.5 (4.2)	6.1 (2.4)	100.0 (0.0)	98	7.4 (0.9)	8.9	3
Endocrine	55.4 (1.1)	28.5 (1.0)	16.2 (0.8)	100.0 (0.0)	2,066	12.9 (0.3)	11.6	10
Infectious and parasitic	79.8 (1.2)	14.9 (1.0)	5.3 (0.6)	100.0 (0.0)	1,226	6.6 (0.3)	8.8	3
Injuries	66.6 (0.9)	22.6 (0.8)	10.8 (0.6)	100.0 (0.0)	2,575	10.3 (0.2)	10.3	7
Intellectual disability ^a	78.8 (1.0)	16.1 (0.9)	5.1 (0.5)	100.0 (0.0)	1,740	7.3 (0.2)	9.0	4
Mental ^b	66.0 (0.4)	24.4 (0.4)	9.7 (0.2)	100.0 (0.0)	15,464	10.8 (0.1)	10.1	8
Neoplasms	90.4 (0.4)	7.6 (0.3)	2.1 (0.2)	100.0 (0.0)	6,312	4.3 (0.1)	6.2	1
Circulatory system	75.1 (0.5)	18.3 (0.4)	6.6 (0.3)	100.0 (0.0)	8,353	8.1 (0.1)	9.1	5
Digestive	63.8 (1.3)	23.6 (1.1)	12.7 (0.9)	100.0 (0.0)	1,490	11.0 (0.3)	10.9	7
Genitourinary	90.3 (0.8)	7.7 (0.7)	2.0 (0.4)	100.0 (0.0)	1,540	4.0 (0.2)	6.2	1
Musculoskeletal system	51.6 (0.4)	30.0 (0.4)	18.3 (0.3)	100.0 (0.0)	17,376	14.0 (0.1)	11.8	12
Nervous	71.6 (0.6)	20.4 (0.6)	8.0 (0.4)	100.0 (0.0)	5,395	8.8 (0.1)	9.8	5
Respiratory	76.9 (0.8)	16.8 (0.7)	6.3 (0.5)	100.0 (0.0)	2,945	7.7 (0.2)	9.0	4
Other	62.0 (2.3)	23.9 (2.0)	14.1 (1.6)	100.0 (0.0)	461	11.5 (0.5)	10.7	8
Missing	51.1 (1.4)	29.1 (1.2)	19.8 (1.1)	100.0 (0.0)	1,382	13.7 (0.3)	12.5	12

SOURCE: Authors' calculations from Social Security administrative record data extracted from the TRF, version 8.

NOTES: Standard errors are in parentheses. The sample excludes 126 state-only SSI new awardees. An additional 375 observations are excluded because of missing information on the actual payment date. Totals may not sum to 100 because of rounding.

a. Intellectual disability was formerly known as mental retardation.

b. Not including intellectual disability.

Notes

Acknowledgments: Paul O’Leary provided invaluable assistance by creating extract files for purposes of this analysis from the Ticket Research File administrative records data system. We appreciate the expert assistance of Francoise Becker in the creation and analysis of the data files used in this article. The authors are also thankful to Nancy Early and Thuy Ho for helpful data processing assistance during exploratory phases of this project. We would also like to thank Richard Burkhauser, Paul Davies, Jeff Hemmeter, Howard Iams, and Joyce Nicholas for thoughtful comments and suggestions reflecting on earlier versions of this article.

¹ According to the *Annual Supplement to the Social Security Bulletin*, in 2009 the proportion of the US population aged 20–64 that was DI-insured was 77.4 percent. The corresponding figure among those aged 15–19 and 20–24 was 16.1 percent and 65.6 percent, respectively. In contrast, among those aged 55–59, the proportion DI-insured was 78.9 percent (authors’ calculations based on Tables 4.C2 and 4.C5).

² Note the distinction between “coverage” and “participation” in SSA’s two disability programs. The DI-insured concept is a coverage concept akin to that of health insurance coverage. Rupp, Davies, and Strand (2008) generalized this concept of coverage to the SSI program, defining working-age adults “covered” by the program as those who would pass the SSI means test if they applied for benefits and were found categorically disabled. This article focuses on patterns of participation, which is conditional on coverage.

³ See Dykacz and Hennessey (1989), Hennessey and Dykacz (1989), Hennessey and Dykacz (1993), Rupp and Scott (1995), Rupp and Scott (1996), and Rupp and Scott (1998).

⁴ Rupp and Davies (2004) also used record data for both programs, but followed up a cross-sectional population sample, not an awardee cohort.

⁵ Parsons’ fundamental insight was that potential applicants self-select into the applicant pool considering a number of factors, including administrative procedures affecting the probability and timing of disability awards. In this framework, anticipated delays reduce the attractiveness of application.

⁶ The now classical debate between Parsons (1980, 1991a, 1991b) and Bound (1989, 1991) focused on the appropriateness of relying on denied applicants as a counterfactual in assessing effects on labor supply. Delays in the disability determination process play an important, but primarily methodological, role in this strain of the literature. The key issue was whether initially denied applicants strategically keep their labor supply low in order to increase their chances of being approved for disability benefits during

subsequent steps in the reconsideration and appeals process. The potential importance of this issue clearly depends on the time elapsing between the various steps.

⁷ For a more detailed discussion, see Rupp, Davies, and Strand (2008).

⁸ In the preceding list, we did not include differences in rules concerning public health insurance because they do not affect cash benefit eligibility, which is the focus of this study. Yet because of the major importance of public health insurance coverage, these differences are worth mentioning here. The DI program has a 24-month waiting period for Medicare eligibility after the start of DI benefits (which can be up to 29 months from onset considering the 5-month DI waiting period). In contrast, in most cases, SSI reciprocity status results in immediate categorical eligibility for Medicaid. One of the implications is that SSI may provide a path toward public health insurance coverage for DI awardees during the Medicare waiting period. This is an issue of great interest to policymakers and researchers (Riley 2004; Riley 2006; Livermore, Stapleton, and Claypool 2010).

⁹ The SSI benefit formula for each month considers unearned income during the preceding month. As a result, for the first month of DI benefit eligibility, the SSI benefit formula considers the zero DI benefit amount for the previous month rather than the positive DI benefit for the current month. Among *serial* beneficiaries, this could result in a single month of concurrent DI and SSI benefit eligibility right after the 5-month DI waiting period.

¹⁰ In our analysis of time elapsing between the first month of disability benefit eligibility and the first month of the actual receipt of cash benefits, we had to make some further exclusions because of the lack of evidence concerning any positive payment during the 60-month observation period. The excluded cases amounted to 0.8 percent of the main analytic sample, resulting in a subsample size of 68,423 for the analysis related to actual receipt of cash benefits.

¹¹ Note that the age-18 redetermination is not a factor here because we focus on the very first positive adult entitlement episode; age-18 redetermination cases entered as children, and thus are outside of our sample frame.

¹² Deeming is a technical term referring to the rules relevant to the consideration of parental income and resources in establishing the financial eligibility of a child who is categorically disabled according to SSI rules.

¹³ In accordance with Public Law 111-256 (enacted October 2010), the terms “retardation” and “mental retardation” have been replaced with “intellectual disability.”

¹⁴ Because of the distinctness of the intellectual disability group, references to “mental” disorders in the rest of this study is shorthand for “mental disorders other than intellectual disability.”

¹⁵ These people first entered SSI with simultaneous or subsequent DI entry, but did not qualify under our SSI/DI serial or joint entrant category because the DI entry occurred at a point in time beyond the DI-waiting period. This would be the case of an SSI entrant who was not DI-insured at the time of SSI entry, but subsequently accumulated sufficient work experience to qualify as DI-insured. Our finding concerning the very small fraction falling into this category is consistent with the results of demonstration evaluations suggesting that return to work on a substantial scale among disability beneficiaries is rare, even among those who received demonstration services or waivers.

¹⁶ The results of tabulations by sex are available from the authors by request. The most obvious difference is the relatively high proportion of women who are SSI-only for the whole 60-month observation period. An estimated 18.3 percent of women are in the SSI-only group compared with 13.0 percent of men.

¹⁷ Using data from Table 2 and Chart 1 of Rupp, Davies, and Strand (2008, 11–13), we estimate that the proportion DI-insured among the US population aged 18–30 was only 69 percent in November 1996, in contrast to the 82 percent DI coverage rate for the 31–45 age group, and the 78 percent rate for those aged 46–64. The proportion covered by SSI has shown a sharp negative gradient across the three age groups, from 63 percent for those aged 18–30 to 18 percent for those aged 46–64.

¹⁸ Note that the anchoring point for relative odds ratios is the value of “1” as opposed to the value of “0,” which would be the case on a linear interval scale. Both are associated with “no difference.” We can assess the “relative magnitude” of odds ratios by treating odds ratios smaller than 1 as equivalent (in relative terms) to their inverse, which is always greater than 1. This is equivalent to the use of absolute value as a measure of relative magnitude on a linear scale where 0 corresponds to no difference.

¹⁹ The results are robust to the inclusion or exclusion of the smallest two groups, comprising 2 percent of the total sample. The full results are available from the authors.

²⁰ For example, if the date of disability onset is 12 months before application, a DI-insured person may become eligible to receive DI benefits immediately, and SSI plays no role during the 5-month DI waiting period. In contrast, if onset is established for the month immediately prior to the month of application, SSI may fill in the full 5-month gap in DI benefit eligibility.

²¹ About 63 percent of *serial* and 51 percent of *joint* awardees are eligible for SSI for 4 or 5 months of the DI waiting period.

²² In technical terms, a trend is monotonic if the first derivative does not change sign. For example, this means that a decreasing trend is monotonic if it is not interrupted by subperiods of increase.

²³ We note, however that this may not be reflected in actual payments during the first 12 months as a result of lags arising from the disability determination process—an issue that will be addressed later in the article.

²⁴ First, we calculate the percentage in SSI suspension status because of excess income or excess resources for month 60 among survivors younger than age 65 in the cell representing “noneligible” status for two groups: (1) the group that entered the DI program first (Table 5), and (2) the group that entered the SSI program first (Table 6). Second, we back out these cases from the *noneligible* group, in effect producing a subgroup of *noneligibles* for reasons not involving the SSI means test.

²⁵ Thus, roughly 74 percent [$100 \times (12.8 - 3.4) / 12.8$] of those among the SSI-first program group who were in nonpayment status at month 60 had either excess income or excess resources listed as the reason for suspension.

²⁶ Stepwise regression is a common procedure in regression analysis where groups of variables are sequentially added to the list of independent variables in the model.

²⁷ For details, see <http://www.socialsecurity.gov/compassionateallowances/>.

²⁸ For more information, see http://www.socialsecurity.gov/OP_Home/cfr20/404/404-0906.htm.

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ASSESSMENT OF RETIREMENT PLAN COVERAGE BY FIRM SIZE, USING W-2 TAX RECORDS

by Irena Dushi, Howard M. Iams, and Jules Lichtenstein*

We use data from a Census survey merged with W-2 tax records to examine the extent of respondents' reporting error regarding retirement plans among private-sector workers by firm size. We find substantial reporting error with respect to both offer and participation rates in a retirement plan. About 14 percent of workers who self-reported nonparticipation in a defined contribution (DC) plan had contributed as indicated by W-2 records, whereas 9 percent of workers self-reported participation in a DC plan when W-2 records indicated no contributions. There is little difference in reporting error by firm size, however. Interestingly, although substantial differences exist in pension coverage and participation by firm size, employees in small firms are not that different with respect to take-up of pension plans than their counterparts in large firms. Finally, after correcting for reporting error, a substantially larger proportion of workers in small firms have access to some type of pension than commonly believed based on survey reports.

Introduction

The primary challenge of both researchers and policymakers interested in retirement security is to better understand how to expand pension coverage so that more workers have enough income in retirement to avoid sharp drops in their living standards. Kobe (2010), using data from the Census Bureau's 2006 Survey of Income and Program Participation (SIPP), found that about 58 million private-sector workers (47 percent) do not have access to any type of retirement plan through their workplace. Moreover, an additional 20 million workers (16 percent) do not participate in the plans their employers offer. Almost three-quarters of private-sector workers in small firms with fewer than 100 employees have no retirement plans available compared with about a quarter of workers in larger firms with 100 or more employees. In contrast, conditional on the employer offering a retirement plan, the take-up rate of workers in small and large firms is essentially the same—about 70 percent (Kobe 2010). These substantial differences

by firm size suggest that probably the most significant step that can be taken is to make it easier for small firms to provide some sort of retirement plan to their employees.

Policymakers have implemented many options to help small businesses overcome some of the obstacles of sponsoring retirement plans. Unfortunately, despite their availability for many years, these simplified options (for example, Simplified Employee Pension (SEP) plans and Savings Incentive Match Plans for Employees (SIMPLE)) have produced only minor

Selected Abbreviations

DB	defined benefit
DC	defined contribution
IRA	individual retirement account
SIPP	Survey of Income and Program Participation
SSA	Social Security Administration

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gains in plan sponsorship (Kobe 2010). The Obama administration has proposed new policies to expand retirement savings. It is estimated that through a program of automatic individual retirement accounts (IRAs), approximately 75 million workers not currently offered a plan at work would be able to save through automatic IRAs (Iwry and John 2007). Under the proposal, employers with more than 10 employees and who are in business for at least 2 years, not currently offering a pension plan, would be obligated to allow their employees the use of the payroll system to direct their earnings to an IRA and would also be obligated to automatically enroll their employees.

A second issue of great importance is plan participation because any policy would not be effective if employees do not participate in the offered plan. In other words, even if all eligible employees under the new automatic IRA were offered such a plan, it is of interest to know what percentage of workers would take up the offer. Although we cannot predict this with certainty, evidence from existing defined contribution (DC) plans may at least be suggestive of what the take-up of such plans would be. Thus, from a policy perspective it is important to understand not only the factors affecting retirement plan participation, but also to analyze the relationship between pension coverage and participation and firm size by controlling for selected socioeconomic, demographic, and job characteristics. However, because such relationships are sensitive to the accuracy of survey-reported information regarding pension offer and participation, for policy purposes it is also important that these relationships are measured as accurately as possible.

In general, to estimate pension coverage and wealth, researchers rely heavily on survey reports about pension plan characteristics. However, survey respondents may incorrectly report their pension plan information. Previous research has documented the widespread inconsistencies between survey-reported characteristics of defined benefit (DB) pensions and the plan characteristics described in the employer's plan summary (Mitchell 1988; Gustman and Steinmeier 2004, 2005; Gustman, Steinmeier, and Tabatabai 2009). Respondent reporting error is also found regarding DC plans (Dushi and Iams 2010; Dushi and Honig 2008). Using SIPP data matched to the Social Security Administration's (SSA's) W-2 records, Dushi and Iams (2010) found that the DC pension participation rate was about 11 percentage points higher when using W-2 tax records compared with respondent survey reports,

suggesting that respondents either do not understand the survey questions about participation or they do not recall making a decision to participate in a DC plan. The authors also found inconsistencies between the survey report and the W-2 record regarding contribution amounts to DC plans. Dushi and Honig (2008), using data for older workers in the Health and Retirement Study, found that while respondents interviewed in 2004 were more likely to report correctly whether they were included in DC plans, they were no more accurate in reporting whether they contributed to their plans than respondents interviewed in 1992. The authors also found that respondents in both cohorts significantly overestimated their annual contributions.

Given the presence of respondent reporting errors, some researchers have used different approaches to increase the validity of the survey reports. They (Mitchell 1988; Gustman and Steinmeier 2004, 2005; Gustman, Steinmeier, and Tabatabai 2009) have used information from employers' Summary Plan Descriptions to assess the extent of and correct for reporting error from survey respondents. Another approach was to rely on pension reports from workers who were about to retire or had recently retired because pension information is more current and particularly important for those respondents (Chan and Huff Stevens 2004; Hurd and Rohwedder 2007). A third approach was to supplement survey reports of participation in DC plans with data on tax-deferred contributions taken from W-2 tax records of the Internal Revenue Service (IRS). Turner, Muller, and Verma (2003) combined tax-deferred contribution information reported in the SIPP with information in the W-2 tax records to identify the presence of positive deferred contributions to retirement plans. The authors reported finding errors and adjusted the survey data to be consistent with the W-2 record of tax-deferred contributions.¹ Dushi and Iams (2010), using data from the 1996 and 2004 SIPP Panels matched to W-2 records, found substantial underestimation of reported offer and participation in DC retirement plans, by comparing respondents' reported information regarding DC plans with information in the W-2 tax records.

Given that the self-reported rates of offer, participation, and take-up² identified by workers are prone to reporting error either because of misunderstanding of survey questions or other reporting procedures, such as Census imputation of missing data, in this analysis we supplement SIPP data with information about tax-deferred contributions to DC plans from the

respondent's W-2 tax records. We find that when tax record data are used, both pension offer and participation rates are higher than those obtained when using only the worker's self-reported information. Even after correcting for errors in reporting DC participation, firm size is positively related to the offer and participation rates of retirement plans, whereas there is little difference in the pension take-up rates by workers in firms with more than 10 employees. Based on our findings, we estimate that if automatic IRAs were introduced, the participation rate of workers not offered a pension plan would increase by at least 18 percent.

The following sections comprise the remainder of the article. A discussion of the data and methodology is presented next. We then give our findings, which are followed by the conclusion.

Data and Methodology

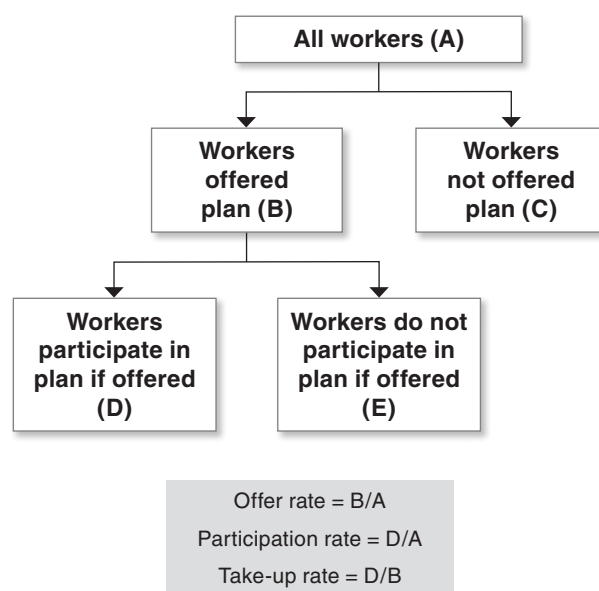
The data for this study come from the Census Bureau's SIPP—the principal household survey for monitoring pension coverage and participation as well as the shift from DB to DC plans, for the entire labor force. More specifically, we use the 2004 Panel of the SIPP in which information about employer pension coverage is collected in the topical module to Wave 7, with respondents' interviews conducted over the 4-month period from February to May 2006. The sample for this analysis consists of private-sector wage and salary workers aged 21 to 64.³

In the topical module, SIPP respondents are asked if the employer offers a plan and whether the employee is included in the plan.⁴ If respondents were included in a plan, then they are asked about the type of plan they are included in (whether a formula-type plan (DB), an individual account-type plan (DC), or a cash balance plan). Then, SIPP collects information about whether the respondents contributed to a retirement plan or an individual account plan during the survey year, whether the contributions were tax-deferred, the amount and frequency of contributions, as well as whether their employers contributed to the plan and the amount of employer contributions.⁵

In the analysis, we first use self-reported SIPP data to assess the employer offer, employee participation, and take-up rate (that is, the rate of participation if offered) of *any* pension plan. Then, we use information on tax-deferred contributions to DC retirement plans from W-2 tax records as a supplement to the SIPP data in order to correct for the presence of

measurement error in self-reports of DC plans and also to obtain a more accurate picture of the pension offer, participation, and take-up rates.⁶ Next, we follow the same approach to examine separately the offer, participation, and take-up rate of DC plans. Using the self-reported information, a respondent is classified as being offered any pension plan if he or she reports that the employer offered either a DB pension plan or a tax-deferred retirement plan. We define the rate of participation in a retirement plan as the percentage of workers who participated in a formula-based DB plan or a cash balance DB plan,⁷ or who actively contributed to a DC plan, among all workers whether offered a plan or not. We then define take-up rate as the percentage of respondents who reported participating in a retirement plan (DB or DC), conditional on workers being offered a plan. In a similar way, a respondent is defined as being offered a DC plan if he or she reported that the employer offered an investment account plan or a tax-deferred retirement savings plan. We define participation in a DC plan among all workers if respondents reported making contributions to the DC plan, whereas the take-up of a DC plan is defined as respondents making tax-deferred contributions to the plan among those who reported being offered a DC plan (see Chart 1).⁸

Chart 1.
Definition of offer, participation, and take-up of retirement plans



SOURCE: Authors' illustration.

As noted earlier, given the possibility of reporting error, we match survey pension information reported from respondents in the 2004 SIPP Panel with Social Security W-2 tax records.⁹ About 85 percent of respondents in the Wave 7 interviews of the 2004 Panel have their survey reports matched to their own SSA records.¹⁰ We use information in the W-2 records to supplement the self-reported DC information and thus create a new measure of offer and participation. The main field of interest from the W-2 records is whether in a given year there were tax-deferred contributions to a retirement plan.¹¹ The presence of positive tax-deferred contributions in the W-2 record is an indication that the respondent not only is offered but also participates in a DC plan. Thus, for respondents who self-reported not being offered a plan or not participating in a plan but whose W-2 record indicates a positive tax-deferred contribution (to a 401(k), 403 (b), 408, 457, or 501 account), we classify them as being offered and participating in a DC plan.¹² Note that the lack of a tax-deferred contribution in the W-2 record does not necessarily indicate that the employee was not offered a DC plan or any pension plan; there is no way of telling from the W-2 records whether the self-reported information is valid or not because the employee may have been offered a plan, but chose not to participate in it. Thus, our measure of the offer rate only partially corrects for the reporting error and may still be subject to measurement errors because in cases where the W-2 record is zero but respondents' reported being offered a plan, we classify them as being offered. We correct participation in any pension in the same way as the offer. However, regarding participation in a DC plan, we correct for both types of error (discussed in note 12) and report participation rates based solely on W-2 record information.

Given the SIPP pension topical module of the 2004 Panel was administered in early 2006, it is not clear whether respondents reported their contributions for the current survey year or the previous year. Therefore, we use information from W-2 records regarding tax-deferred contributions to retirement accounts made by respondents either in 2005 or in 2006. Furthermore, we use the two adjacent years to identify contributions in W-2 records to account for the possibility that respondents may have reported participating in a DC plan even if they had chosen to not contribute to the account in the current year, but made contributions to the plan in the previous year.

We first present the unadjusted and the corrected offer, participation, and take-up rates for *any* type of

pension plan (DB, DC, or cash balance) and separately for a DC plan, by firm size.¹³ Then, we estimate multivariate probit models of offer, participation, and take-up—controlling for workers' demographic and job characteristics, including firm size. In these models, the dependent variable for being offered *any* pension plan (or for participating in any plan) is defined among all workers as equal to 1 if the worker is offered any plan (or participates in any plan) and 0 otherwise. Take-up is defined only for workers who are offered a plan; it is equal to 1 if the respondent participates in the offered plan and 0 otherwise. The dependent variables for being offered, participation in, and take-up of a DC plan are defined similarly.

Findings: Pension Plan Coverage and Participation

We first look at the offer of and participation in any pension plan by firm size.¹⁴ Approximately two-thirds (65 percent) of workers at the time of survey in 2006 self-reported that their employer offered a pension plan (either a DB, DC, or both); see Table 1, column 1. About three-quarters (77 percent) of workers in large firms were offered a pension plan, compared with less than half (42 percent) of workers in small firms with fewer than 100 employees. The percentage of workers that self-reported being offered a retirement plan increases with firm size, from 27 percent in firms with fewer than 10 employees to about 77 percent in large firms with 100 or more employees. When the self-reported data is supplemented with information on tax-deferred contributions in the W-2 records, we find that the overall offer rate of retirement plans by employers increases by 7 percentage points to 72 percent (column 2).¹⁵ Similarly, within each firm size the offer rate increases by approximately 7 percentage points after the W-2 adjustment.

About 45 percent of all workers self-reported participating in a pension plan (that is, self-reported either that they were included in a DB plan or made a contribution to a DC plan); see Table 1, column 3. The reported participation rate dramatically increased with firm size from a rate of about 18 percent of workers in firms with fewer than 10 employees to a rate of 54 percent of workers in firms with 100 or more employees. Self-reported participation rates appear to be underestimated, by about 13 percentage points, compared with those that are adjusted using W-2 records (column 4).¹⁶ Thus, after the W-2 adjustment, a higher percentage of workers—about 58 percent overall—participate in any pension plan. Similarly, after the W-2

Table 1.
Offer, participation, and take-up rates of any retirement plan among all private-sector workers in 2006, by firm size (in percent)

Firm size (number of employees)	Offered a retirement plan		Participate in a retirement plan		Take-up of a retirement plan	
	SIPP ^a (1)	W-2 adjusted ^b (2)	SIPP ^a (3)	W-2 adjusted ^b (4)	SIPP ^a (5)	W-2 adjusted ^b (6)
All	65	72	45	58	69	80
100 or more	77	84	54	68	70	81
Fewer than 100	42	50	28	39	65	79
Fewer than 10	27	34	18	28	65	83
10–24	39	46	24	36	63	77
25–49	51	60	34	46	67	77
50–99	63	70	41	54	66	78
10 or more	70	77	49	62	69	80
Number of observations	23,753		23,753		15,631	

SOURCE: Data are from the 2006 topical module of the 2004 SIPP Panel matched to Social Security W-2 records.

NOTES: Estimates are weighted using survey weights. Offer is defined as equal to 1 if the employer offers any retirement plan (either a DB, DC, or cash balance plan) and 0 otherwise. Participation is defined as equal to 1 if the respondent reports either inclusion in a DB plan or active participation (that is, making tax-deferred contributions) in a DC plan and 0 otherwise. Take-up is defined, among respondents who are offered any retirement plan, as equal to 1 if respondents participate in a plan and 0 otherwise.

- This definition takes into account only a respondent's self-reported information in the SIPP.
- This definition takes into account a respondent's self-reported information in the SIPP and/or whether the W-2 record indicates a positive tax-deferred contribution either in 2005 or 2006. In other words, if a SIPP respondent reports not being offered (or participating in) a pension plan and the W-2 record indicates that he or she made a tax-deferred contribution to a DC account in 2005 or 2006, then the respondent is classified as being offered and participating in a retirement plan.

adjustment, participation rates of workers across firm sizes increase monotonically from about three-tenths (28 percent) in firms with fewer than 10 employees to about two-thirds (68 percent) in firms with 100 or more employees.

Among all workers offered a pension plan, about 69 percent of them take-up the offered pension (Table 1, column 5). The take-up rate is higher in large firms than that in small firms with fewer than 100 employees (70 percent compared with 65 percent, respectively). The take-up rate varies relatively little across small firms. After adjusting the self-reported SIPP data with W-2 records, the overall take-up rate increases, by 11 percentage points, to 80 percent (column 6). The adjustment increases the pension take-up rate for all firm sizes, but the largest increase is in firms with fewer than 10 employees (an 18 percentage-point increase versus an approximate 10 to 14 percentage-point increase in other firm sizes). After adjustment, the take-up rate for workers in firms with fewer than 100 employees is about 79 percent, only 2 percentage points lower than the 81 percent for workers in the larger firms.

Defined Contribution Plan Coverage, Participation, and Take-Up

As DB plans are being frozen or eliminated, DC plans are becoming the dominant type of pension plan available to employees (National Compensation Survey 2010, Table 2; Pension Benefit Guaranty Corporation 2010). Using the 2006 SIPP-reported data, we find that almost three-fifths (57 percent) of all workers reported being offered a DC pension plan in their current job (Table 2, column 1) and about two-fifths (39 percent) of all workers reported making tax-deferred contributions to a DC plan (column 3). Both DC participation and take-up rates of workers dramatically increase with firm size. Thus, only 24 percent of respondents in small firms (with fewer than 100 employees) self-reported participation in a DC plan, compared with 47 percent of those employed in large firms (with more than 100 employees). In contrast, there is a smaller difference in the take-up rate between workers in small firms compared with workers in large firms (67 percent versus 69 percent, respectively), suggesting that a majority of workers in small firms are likely to participate if offered a DC plan. Within

Table 2.
Offer, participation, and take-up rates of DC plans among all private-sector workers in 2006, by firm size (in percent)

Firm size (number of employees)	Offered a DC plan		Participate in a DC plan		Take-up of a DC plan	
	SIPP ^a (1)	W-2 adjusted ^b (2)	SIPP ^a (3)	W-2 ^c (4)	SIPP ^a (5)	W-2 ^c (6)
All	57	60	39	44	69	73
100 or more	68	71	47	53	69	74
Fewer than 100	36	39	24	27	67	70
Fewer than 10	21	24	15	17	73	71
10–24	32	36	21	24	65	68
25–49	45	48	30	34	67	70
50–99	57	59	37	41	65	70
10 or more	62	65	42	48	69	73
Number of observations	23,753		23,753		13,778	14,403

SOURCE: Data are from the 2006 topical module of the 2004 SIPP Panel matched to Social Security W-2 records.

NOTES: Estimates are weighted using survey weights. Offer is defined as equal to 1 if the employer offers a DC retirement plan and 0 otherwise. Participation is defined as equal to 1 if the respondent reports active participation (that is, making tax-deferred contributions) in a DC plan and 0 otherwise. Take-up is defined, among respondents who are offered a DC plan, as equal to 1 if respondents participate in a DC plan and 0 otherwise.

- a. This definition takes into account only a respondent's self-reported information in the SIPP.
- b. This definition takes into account a respondent's self-reported information in the SIPP and/or whether the W-2 record indicates a positive tax-deferred contribution either in 2005 or 2006. In other words, if a SIPP respondent reported not being offered a DC plan and the W-2 record indicates that he or she made a tax-deferred contribution to a DC account in 2005 or 2006, then the respondent is classified as being offered a DC plan. In contrast, if a SIPP respondent reported being offered a DC plan but the W-2 record indicates that no contributions were made, we consider him or her as being offered because there is no way we can tell from the W-2 record whether the offer was made or not.
- c. This definition takes into account only information in the W-2 record.

small firms, the DC participation rate increases from about 15 percent of workers in firms with fewer than 10 employees to 37 percent of workers in firms with 50–99 employees. The DC take-up rate is relatively constant across the small firm sizes, with around two-thirds (67 percent) in firms with 10–99 employees and almost three-quarters (73 percent) in those with fewer than 10 employees. These findings suggest that the main factor in low participation rates among workers is the lack of offer of a DC plan. Thus, we infer that even if all uncovered workers were offered a DC or an IRA plan, all else equal, only about two-thirds of them would participate if it was left to their choice.¹⁷

When we replace the self-reported information about DC participation with information in the 2005 and 2006 W-2 records, the DC offer rate increases only by 3 percentage points and the participation and take-up rates increase by 5 and 4 percentage points, respectively (Table 2, columns 2, 4, and 6). Using the W-2 record information does not change the overall pattern by firm size. While the offer and participation

rates increase with firm size, the take-up rate remains relatively constant (about 70 percent) in small firms.

Next, we examine the mismatch in participation between self-reported data and W-2 records. The joint distribution of participation in a DC plan, as self-reported by respondents and as indicated in the 2005 and 2006 W-2 records by firm size, is shown in Table 3.¹⁸ Overall, about 30 percent of all workers actively participated in DC pensions *and* correctly reported their participation as confirmed by the information in the W-2 records (column 4). Fourteen percent of workers self-reported that they did not participate in a DC plan when in fact W-2 records indicate that they contributed to the plan. In contrast, 9 percent of workers self-reported participation in a DC plan when in fact W-2 records indicate that they did not contribute to the plan. These two types of reporting errors lead to a net gain of only about 4 percentage points in DC pension participation and take-up when using W-2 records (Table 2).¹⁹ The percentage of workers with a false-negative report of

Table 3.
Percentage distribution of participation in a DC plan as self-reported in the SIPP and as indicated in the W-2 records among private-sector workers in 2006, by firm size

Firm size (number of employees)	Self-reported no participation in a DC plan; W-2 record contribution is—		Self-reported participation in a DC plan; W-2 record contribution is—		Total
	Zero (1)	Positive (2)	Zero (3)	Positive (4)	
All	46	14	9	30	100
100 or more	37	16	10	37	100
Fewer than 100	58	13	9	21	100
Fewer than 10	75	9	8	8	100
10–24	68	11	8	13	100
25–49	57	13	9	21	100
50–99	50	14	9	28	100
10 or more	43	15	10	33	100
Number of observations	11,335	2,896	2,529	6,993	23,753

SOURCE: Data are from the 2006 topical module of the 2004 SIPP Panel matched to Social Security W-2 records.

NOTES: Estimates are weighted using survey weights. Totals may not sum to 100 because of rounding.

participation in a DC plan (that is, the respondent self-reports not participating in a DC plan when in fact the W-2 record indicates positive contributions) increases from 9 percent of workers in firms with fewer than 10 employees to 16 percent of workers in firms with 100 or more employees.

These findings have some implications for the proposed automatic IRA plan. According to Iwry and John (2007), the automatic IRA would apply to employers with 10 or more employees, who do not sponsor a pension plan of any type and have been in business for at least 2 years. The authors of this proposal assert that half of US workers are not offered a pension of any type.²⁰ Disregarding the 2-year requirement, our adjusted data provide an estimate for private-sector workers in 2006 and suggest that overall 72 percent of private-sector workers are in firms that offer some type of pension plan (Table 1, column 2); thus, 28 percent are not offered any pension plan. Under the automatic IRA, employees without a pension offer would be enrolled into an IRA plan, but the employee has the option of opting out of the plan. Our estimates indicate that almost three-quarters (73 percent) of workers in firms with 10 or more employees take up a DC plan when it is offered (Table 2, column 6). However, this is lower than the take-up rate in DC plans with automatic enrollment, which previous research has shown to be higher than three-quarters (Choi and others 2002, 2004a, 2004b;

Madrian 2005). If the automatic IRAs were introduced to private-sector workers in firms with 10 or more employees not offered *any* pension plan by their employer, then based on our findings, at least 18 percent of the employees would participate (an 80 percent take-up rate multiplied by the 23 percent of all workers not offered any type of pension plan (Table 1, columns 2 and 6)).²¹ Note that our estimates are not a lower bound because they assume the same take-up rate as that of plans without automatic enrollment.²² Some employers in 2006 had plans with the automatic enrollment provision, which consequently elevates the participation and take-up rates in our 2006 data.

Multivariate Analysis

We now turn to the multivariate analysis of offer, participation, and take-up by estimating separate probit models using as a dependent variable (for offer, participation, and take-up)—either a measure based on self-reports or a measure based on the self-report adjusted for information available in the W-2 records. Both offer and participation models are estimated among all private-sector wage and salary workers, whereas the take-up model is estimated among the sample of all workers who are offered a plan. In our models, we control for several socioeconomic and job characteristics such as age, sex, education, marital status, race/ethnicity, annual W-2 earnings, major industry categories, tenure, and firm size. For ease of

exposition, we report only firm-size marginal effects, that is, measuring the effect of firm size holding all other characteristics constant.

Table 4 shows the marginal effects of firm size on the probability of being offered any type of pension plan, the probability of participating in a plan, and the probability of taking up the offered plan. Probit results indicate that the probability of being offered a pension plan increases with firm size (column 1). In other words, workers in small firms have a lower probability of being offered a plan (by 46 percentage points, for example, in firms with fewer than 10 employees) than those in large firms (with 100 or

more employees). A similar pattern is evident when the dependent variable is constructed based on SIPP-reported data adjusted for information in the W-2 records (column 2). Moreover, the marginal effects by firm size between the two measures are not that different, suggesting that estimates of offer rates of any pension plan by firm size are not likely to be biased when using just the self-reported information.

The probability of participation in a pension plan increases with firm size, and the effect of firm size is larger when using the W-2 adjusted measure compared with the survey-reported measure. Thus, workers in firms with fewer than 10 employees are about

Table 4.
Estimated marginal effects of firm size on the probability of being offered, of participating in, and of take-up of any retirement plan among all private-sector workers in 2006

Independent variable	Offered a retirement plan ^a		Participate in a retirement plan ^a		Take-up of the retirement plan ^d	
	SIPP ^b (1)	W-2 ^c (2)	SIPP ^b (3)	W-2 ^c (4)	SIPP ^b (5)	W-2 ^c (6)
Firm size (number of employees)						
Fewer than 10	-0.458**	-0.471**	-0.295**	-0.344**	-0.032	0.044**
10–24	-0.365**	-0.379**	-0.245**	-0.299**	-0.050*	-0.013
25–49	-0.253**	-0.250**	-0.162**	-0.205**	-0.012	-0.026
50–99	-0.136**	-0.141**	-0.105**	-0.125**	-0.042*	-0.025
100 or more (omitted)	---	---	---	---	---	---
Number of observations ^e	23,141	23,141	23,141	23,141	15,250	16,860
Pseudo R ²	0.190	0.254	0.241	0.280	0.209	0.218
Observed probability	0.654	0.725	0.453	0.582	0.692	0.803
Predicted probability (at x-bar)	0.678	0.778	0.425	0.603	0.731	0.856

SOURCE: Data are from the 2006 topical module of the 2004 SIPP Panel matched to Social Security W-2 records.

NOTES: Estimates are weighted using survey weights. The reported statistics are marginal effects of firm size relative to the omitted category (100 or more employees) from the probit model of offer, participation, and take-up, after controlling for demographic and job characteristics and earnings. The marginal effect indicates the discrete change in the probability (for example, of being offered) of a dummy variable (in this case firm size) from 0 to 1. Offer is defined as equal to 1 if the employer offers a retirement plan (either a DB, DC, or cash balance plan) and 0 otherwise. Participation is defined as equal to 1 if the respondent reports either inclusion in a DB plan or active participation (that is, making tax-deferred contributions) in a DC plan and 0 otherwise. Take-up is defined, among respondents who are offered a plan, as equal to 1 if the respondents participate in a plan and 0 otherwise.

* denotes significance at the 5 percent level; ** denotes significance at the 1 percent level; --- denotes variable omitted.

- The sample consists of all private-sector wage and salary workers.
- This definition takes into account only a respondent's self-reported information in the SIPP.
- This definition takes into account a respondent's self-reported information in the SIPP and/or whether the W-2 record indicates a positive tax-deferred contribution either in 2005 or 2006. In other words, if a SIPP respondent reports not being offered (or participating in) a pension plan and the W-2 record indicates that he or she made a tax-deferred contribution to a DC account in 2005 or 2006, then the respondent is classified as being offered and participating in a retirement plan.
- The sample consists of all workers offered a retirement plan.
- A small number of observations were excluded from the multivariate analysis because of missing data in the control variables.

34 percentage points (Table 4, column 4) less likely to participate in a pension plan than those in firms with 100 or more employees. This difference decreases to about 13 percentage points for workers in firms with 50–99 employees.

The significance of the marginal effects of firm size on take-up rates of pensions differ between self-reported and W-2 adjusted data (Table 4, columns 5 and 6). Interestingly, when using self-reported information, workers in firms with 10–24 employees and 50–99 employees are significantly less likely (by 4 to 5 percentage points) to take-up an offered plan than workers in large firms, but the difference is

not statistically significant when using adjusted W-2 record information. The opposite is true for workers in firms with fewer than 10 employees. This finding suggests that estimates of the take-up probability among workers in small firms will be biased when using self-reported information.

In contrast to Table 4 (which relates to *any* pension plan), Table 5 shows the marginal effects of firm size on the probability of being offered a DC plan, the probability of participating in that plan, and the probability of taking up the offered DC plan among all private-sector workers. The marginal effects of firm size on the probability of being offered a DC plan are

Table 5.
Estimated marginal effects of firm size on the probability of being offered, of participating in, and take-up of DC plans among private-sector workers in 2006

Independent variable	Offered a DC plan ^a		Participate in a DC plan ^a		Take-up of a DC plan ^e	
	SIPP ^b (1)	W-2 ^c (2)	SIPP ^b (3)	W-2 ^d (4)	SIPP ^b (5)	W-2 ^d (6)
Firm size (number of employees)						
Fewer than 10	-0.427**	-0.440**	-0.242**	-0.294**	-0.089**	-0.008
10–24	-0.330**	-0.340**	-0.202**	-0.238**	-0.005	-0.027
25–49	-0.222**	-0.228**	-0.131**	-0.166**	-0.001	-0.040*
50–99	-0.102**	-0.111**	-0.075**	-0.094**	-0.034	-0.034
100 or more (omitted)	---	---	---	---	---	---
Number of observations ^f	23,141	23,141	23,141	23,141	13,434	14,069
Pseudo R ²	0.149	0.187	0.203	0.231	0.209	0.191
Observed probability	0.574	0.605	0.394	0.444	0.687	0.734
Predicted probability (at x-bar)	0.578	0.621	0.356	0.417	0.725	0.775

SOURCE: Data are from the 2006 topical module of the 2004 SIPP Panel matched to Social Security W-2 records.

NOTES: Estimates are weighted using survey weights. The reported statistics are marginal effects of firm size relative to the omitted category (100 or more employees) from the probit model of offer, participation, and take-up, after controlling for demographic and job characteristics and earnings. The marginal effect indicates the discrete change in the probability (for example, of being offered) of a dummy variable (in this case firm size) from 0 to 1. Offer is defined as equal to 1 if the employer offers a DC plan and 0 otherwise. Participation is defined as equal to 1 if the respondent reports active participation (that is, making tax-deferred contributions) in a DC plan and 0 otherwise. Take-up is defined, among respondents who are offered a DC plan, as equal to 1 if the respondents participate in a DC plan and 0 otherwise.

* denotes significance at the 5 percent level; ** denotes significance at the 1 percent level; --- denotes variable omitted.

- The sample consists of all private-sector wage and salary workers.
- This definition takes into account only a respondent's self-reported information in the SIPP.
- This definition takes into account a respondent's self-reported information in the SIPP and/or whether the W-2 record indicates a positive tax-deferred contribution either in 2005 or 2006. In other words, if a SIPP respondent reported not being offered a DC plan and the W-2 record indicates that he or she made a tax-deferred contribution to a DC account in 2005 or 2006, then the respondent is classified as being offered a DC plan. In contrast, if a SIPP respondent reported being offered a DC plan but the W-2 record indicates no contributions were made, we consider him or her as being offered because there is no way we can tell from the W-2 record whether the offer was made or not.
- This definition takes into account only information in the W-2 record.
- The estimation sample consists of all workers offered a DC plan.
- A small number of observations were excluded from the multivariate analysis because of missing data in the control variables.

only slightly larger when using the W-2 adjusted measure as the dependent variable compared with the self-reported measure (columns 1 and 2), suggesting that estimates of the probability of being offered a DC plan will not be biased when using self-reported information. Thus, for example, workers in the smallest firms are 43 percentage points less likely to be offered a DC plan than those in large firms when using self-reported data, compared with 44 percentage points when using W-2 records (columns 1 and 2). Depending on firm size, estimates from participation equations are 2 to 5 percentage points higher with the W-2 measure than with the self-report measure (columns 3 and 4). Using the W-2 adjusted measure, workers in the smallest firms are about 29 percentage points less likely to participate in a DC plan than workers in large firms. This gap seems to narrow as firm size increases, reaching to a lower probability of participation—9 percentage points—in firms with 50–99 workers, compared with larger firms.

Finally, regarding take-up of offered DC plans, there again is inconsistency in the significance of take-up rates between the self-reported and W-2 data, which could bias interpretations. The self-report estimation indicates that only workers in firms with fewer than 10 employees are significantly less likely to take-up an offered plan than workers in large firms with 100 or more employees. In contrast, the W-2 data suggest that only workers in firms with 25–49 employees are significantly less likely to take-up offered DC plans than are workers in large firms.

Conclusion

Both researchers and policymakers are interested in whether employers offer a retirement plan to their employees and whether workers participate in the plan. This analysis focuses on the relationship between firm size and an employer's offer, as well as a worker's participation in *any* pension plan and in a DC plan, among private-sector wage and salary workers. It also assesses the extent of changes in pension participation rates when information about tax-deferred contributions to pension accounts from the W-2 tax records are used to supplement the information provided by respondents in the SIPP survey. Several differences are observed. First, among private-sector wage and salary workers, both employer offer rates and employee participation rates in *any* type of pension plan considerably increase when W-2 records are used, an indication of substantial reporting error. Second,

there is little difference in reporting error by firm size. Third, when using W-2 data, DC pension participation rates increase by a constant percentage across firm sizes.

Within each firm-size category, after adjusting self-reported data with W-2 records, the offer and participation rate of workers in any pension increases approximately by 7 and 14 percentage points, respectively. Those corrected (adjusted) rates, given the offer and participation rate increase with firm size, suggest that some type of pension plan is available to a substantially larger proportion of workers and that a larger proportion of workers in small firms are likely to take advantage of them than commonly believed based solely on survey reports. This means that there is less reason to assert that small businesses are not being “good” employers because a significant number (primarily in the smallest firms) do not sponsor a retirement plan.

As noted earlier, the Obama administration's proposal for an automatic IRA is aimed at the workforce employed by companies that do not offer any sort of pension plan or 401(k)-type retirement saving plan, specifically those with more than 10 employees. Our findings indicate that the offer rate of any type of pension plan for workers in firms with 10 or more employees is 77 percent. Thus, the proportion of private-sector workers who are not offered an employer-sponsored pension (23 percent after adjusting for W-2 records) is much smaller than the 30 percent of all workers who self-reported not being offered (Table 1). Findings also indicate that 50 percent of private-sector workers in small firms (with fewer than 100 employees) are offered some type of pension plan, a significantly higher figure than the 42 percent originally calculated using only self-reported SIPP data. Our estimates indicate that if the automatic IRAs were introduced to private-sector workers in firms with 10 or more employees who were not offered *any* pension plan, then at least 18 percent of those employees would participate. If instead automatic IRAs were introduced to private-sector workers in firms with 10 or more employees who were not offered a DC plan, then at least 26 percent of those employees would participate. The main implication of these findings is that the proportion of private-sector workers with pension offers and participation is larger than evidence from previous research, suggesting that future retirees may be better off regarding access to pension plans than widely believed. Yet, workers in smaller firms

(those with fewer than 10 employees) are less likely to have an offer of any pension plan and are less likely to participate than workers in large firms (those with at least 100 employees). Finally, unless researchers use information on tax-deferred contributions in the W-2 tax records, estimates using only survey data are likely to underestimate the participation rate in DC plans.

Notes

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¹ Based on respondents' reports of their own contributions in the 1993 and 1996 SIPP Panels, the authors found that when only SIPP reports were used the participation rate was about 7 percentage points lower than the rate measured when the SIPP report was supplemented with W-2 tax records (Turner, Muller, and Verma 2003, Table 1).

² The offer rate is the percentage of employees who have access to a retirement plan through their employer. The participation rate is the percentage of employees who participate in the plan and accrue entitlement to benefits from the plan. The take-up rate is the percentage of eligible employees who participate in the plan. See Chart 1 for an illustration of the definitions of these terms.

³ The estimated statistics presented in this article are weighted using the Census Bureau's person-sample weights in Wave 7 and account for SIPP complex sampling.

⁴ The Employee Retirement Income Security Act (ERISA) permits certain restrictions regarding employees who are eligible to participate when an employer offers a retirement plan. The SIPP question assumes that the employer offers a retirement plan to the respondent and he or she is eligible to participate in the plan. However, there could be a case in which an employee may be in a firm that offers a plan but he or she is not eligible to participate in that plan. Thus, to the extent that such employees report being offered when not eligible, the offer rate will be biased upward. In addition, when asked whether the respondent is included in the plan, the wording of "being included" might be interpreted differently by different workers. For example, one can report being included in a plan just because contributions can be made to the plan if the worker chooses, even though he or she is not currently contributing to the plan.

⁵ See Dushi and Iams (2010) for a more detailed discussion of the SIPP question structure regarding pensions.

⁶ The Social Security W-2 records provide information about the amount of tax-deferred contributions to DC

accounts, but do not contain information about employers' contributions to such accounts or whether other types of pensions (such as DB or cash balance plans) are available to the employee. Thus, we cannot correct for potential reporting errors regarding DB plans.

⁷ In the following discussion, a DB plan refers to both a traditional DB pension plan and a cash balance plan, which is defined as a DB plan by the Pension Benefit Guaranty Corporation.

⁸ We do not classify as participants those respondents who are in plans that do not require the employee to contribute to the plan and for whom only the employer is making contributions to the account. Our previous analysis indicates that less than 3 percent of SIPP respondents fall in this group.

⁹ Social Security administrative records are linked to SIPP panels, based on agreements between the Census Bureau and the Social Security Administration. See Pattison and Waldron (2008) for a discussion of W-2 tax record data.

¹⁰ Given this relatively high match rate, we expect that the sample with matched records is not a select sample and thus representative of the total population. Furthermore, we expect little impact from attrition between Waves 1 and 7 and consequently make no formal adjustments. Previous analysis by Czajka, Mabli, and Cody (2008) found little selectivity bias from nonmatched data in the 1996 and 2001 SIPP Panels. The authors also assessed the impact of sample loss in those panels and concluded that there were no substantive impacts from attrition.

¹¹ Starting in 1990, the W-2 tax records contain a separate field for the amounts of tax-deferred contributions to retirement accounts. Starting in 2005, for each job a worker held in a given year, the W-2 record contains information (in addition to total compensation, taxable earnings, and so forth) on the amount of earnings that were tax deferred either to retirement plans (401(k), 403(b), 408, 457, and 501 accounts) or to health savings accounts (HSAs). Furthermore, tax-deferred earnings to retirement accounts are recorded separately from tax-deferred earnings to HSAs.

¹² We consider this a false-negative type of error, that is, respondents actually were offered and participated in a plan when they said they were not offered and did not participate. There is another type of error—a false-positive error—that occurs when the respondent self-reports being offered and participating in a DC plan when in fact the W-2 records indicate that no contributions were made. For further discussion about the type and extent of respondents' reporting errors, see Dushi and Iams (2010).

¹³ Based on SIPP's firm-size categories, we refer to those with 100 or more employees as large firms and those with fewer than 100 employees as small firms.

¹⁴ The following tabulation shows the distribution of respondents in our sample by the size of the firm in which they were employed in 2006. About a third of private-sector wage and salary workers (33 percent) are employed in firms with fewer than 100 employees. The majority of those (20 percent) are employed in firms with fewer than 25 employees, whereas less than half (14 percent) are employed in firms with 25–99 employees.

Firm size (number of employees)	Number	Percent
Fewer than 100	7,896	33
Fewer than 10	2,537	11
10–24	2,123	9
25–49	1,753	8
50–99	1,483	6
100 or more	15,857	67
All	23,753	100

SOURCE: Data are from the 2006 topical module of the 2004 SIPP Panel.

NOTE: The reported percentages are weighted using survey weights.

¹⁵ As mentioned earlier, because SSA’s W-2 records do not contain information about DB plans, all of the increase in the participation rate after the adjustment is from DC plans. We adjust the reported offer rates by adding respondents whose W-2 records indicate positive tax-deferred contributions, even though they reported not being offered. Those types of errors could be the result of either respondents forgetting that they were offered a DC plan or the possibility that they were automatically included in a plan and therefore did not recall making a decision to be in the plan.

¹⁶ The IRS W-2 form has a box to check if there is any retirement plan in the firm. SSA’s W-2 records only contain the worker’s tax-deferred earnings and does not identify whether the worker is in a job with a DB plan or in a job with a DC plan where the worker is not making contributions, but his or her employer is contributing.

¹⁷ The two-thirds is an upper limit on employee choice because some employees in 2006 may have been automatically enrolled. In 2006, about a quarter of all 401(k) plans had automatic enrollment provision according to the Profit Sharing/401(k) Council of America’s 2007 annual survey of plans. About 41 percent of plans with 5,000 or more employees had automatic enrollment provision, compared with 7 percent of plans with fewer than 50 employees. The council’s membership does underrepresent small firms. In addition, the data do not indicate whether such provision when enacted applied to only new employees or to all employees.

¹⁸ Here, self-reported participation is defined as a respondent’s report of making tax-deferred contributions, whereas W-2 record participation is defined as a respondent having a positive tax-deferred contribution in the W-2 record either in 2005 or in 2006.

¹⁹ Offer rate of *any* pension increases dramatically when we add observations with positive contributions in the W-2 record to the SIPP self-reported offer because we correct only for the false-negative type of error.

²⁰ This estimate is not necessarily accurate, as findings in this article indicate.

²¹ If automatic IRAs were introduced to only workers in firms with 10 or more employees who were not offered a DC plan, then at least 26 percent of those employees would participate (a 73 percent take-up rate applied to the 35 percent of private-sector workers not offered a DC pension plan; see Table 2, columns 2 and 6).

²² According to Karamcheva and Sanzenbacher (2010), the characteristics of workers choosing jobs that offer pensions may differ from those choosing jobs without pension offers. Thus, selective characteristics may affect the participation rate and therefore would not apply to workers in jobs without pensions. Using full-time workers in three SIPP panels, the authors estimated that the participation rate observed among workers who were in jobs that offered pensions would decrease by 23 percent when applied to workers in jobs without pensions.

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DEFINED CONTRIBUTION PENSION PARTICIPATION AND CONTRIBUTIONS BY EARNINGS LEVELS USING ADMINISTRATIVE DATA

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Many observers question how the shift from defined benefit (DB) to defined contribution (DC) retirement plans affects workers with different compensation levels. To advance the empirical basis for understanding pension outcomes, this article estimates DC plan participation and contribution rates in 2006 both by the worker's current earnings and by the annual average of real earnings over the 10-year period 1997–2006. Using earnings data from W-2 tax records linked to data from the Census Bureau's Survey of Income and Program Participation, we find that workers in the lower part of the earnings distribution are less likely to participate in a DC plan, and the contribution rates for those who do participate are lower than those for workers with higher earnings.

Introduction

The shift from defined benefit (DB) pension plans to defined contribution (DC) retirement savings plans over the past three decades is well documented (Munnell and Sundén 2004; Wiatrowski 2004; Purcell 2005; Dushi and Iams 2008). In essence, this change shifts the investment decisions and risks from the employer to the employee and exposes employees to longevity risk; that is, the possibility of running out of money in retirement (Munnell and Sundén 2004). Although employers commonly enroll all eligible employees in DB plans, most DC plans require employees to choose to participate. One reason why employees usually must opt into a DC plan is that two-thirds of private employers require employees to contribute part of their own earnings into the plan (BLS 2010, Table 8). This development has led to important changes in the distribution of workers participating in a pension plan. Observers question how the shift from DB to DC retirement savings plans affects workers across different economic and sociodemographic subgroups (Huberman, Iyengar, and Jiang 2007; Ghilarducci 2008). Previous research provides evidence that

low-income workers are less likely to be eligible for a DC plan and less likely to participate when eligible (Bassett, Fleming, and Rodrigues 1998; BLS 2010; Papke 2004; Munnell and Sundén 2004, 2006). As DC plans supplanted DB plans over the past three decades, the participation rates among low-income workers decreased by one-third (Karamcheva and Sanzenbacher 2010, 2). Such unequal distribution of pension participation would imply greater inequality in retirement resources of future retirees.

Despite growing research and policy attention, studies using nationally representative data to examine variations in DC plan participation and contribution rates by earnings level are relatively limited. One

Selected Abbreviations

DB	defined benefit
DC	defined contribution
SSA	Social Security Administration
SIPP	Survey of Income and Program Participation

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important issue not previously addressed is whether using a longer period, such as a decade, to measure earnings provides a better representation of pension outcomes for low earners than a short-term measure does. One year of earnings may not be representative of a worker's lifetime earnings. For example, during an economic downturn, a job loss or a job change may produce a relatively anomalous earnings level in 1 year of cross-sectional data and may consequently affect participation in and contributions to DC plans.

Previous research that examined determinants of DC plan participation and contributions primarily used survey-reported cross-sectional data (Bassett, Fleming, and Rodrigues 1998; Papke 2004; Munnell and Sundén 2004, 2006; Purcell 2009). Consequently, the literature relies on self-reported information on participation and contributions. One exception, a study by Joulfaian and Richardson (2001), uses federal income tax data from 1 year (1996) and finds that low earners are not only less likely to participate, they also have lower contribution rates than high earners. Although useful, self-reported information about DC plan participation and contributions is subject to substantial measurement errors (Dushi and Iams 2010).¹

This article analyzes the relationship between earnings levels and DC pension participation and contribution rates. We take advantage of a unique and restricted-use dataset that links a nationally representative sample of workers from the Survey of Income and Program Participation (SIPP) with detailed longitudinal earnings data from their Internal Revenue Service (IRS) W-2 tax records. Such administrative data permit us to estimate the relationship between DC participation and contribution rates and an individual's earnings levels for the current (survey) year and over the 10-year period ending with the current year. Moreover, because information on both the DC contributions and annual earnings come from workers' own tax records, they are not subject to bias from respondent self-reports.

Our analysis examines the extent of DC participation and contributions among workers categorized both by their annual earnings in 2006 and by their average annual earnings for the 10-year period 1997–2006. Results indicate that earners at the lower end of the earnings distribution, whether measured by their single-year or 10-year average earnings, are much less likely to participate in DC pensions and that participants contribute a lower share of their earnings than do their counterparts at the higher end of the earnings

distribution. Although findings on overall participation and contribution rates are not considerably different between the single-year and 10-year earnings measures, there are distributional differences in participation rates between the two. For example, using current-year earnings, which is most common in the literature, is likely to either overestimate or underestimate the DC plan participation rate if workers' current earnings are lower or higher than their historical earnings. Specifically, participation rates by earnings deciles seem to be distorted downward among workers whose current earnings are substantively higher than their 10-year average. By contrast, participation rates seem to be distorted upward among workers whose current earnings are substantively lower than their 10-year average.

Data

We use a nationally representative sample of workers aged 35–61 from SIPP's 2004 panel. Workers were interviewed in 2006 during wave 7, the Retirement Expectations and Pension Plan Coverage Topical Module. The sample's demographic characteristics, such as age, education, marital status, and race/ethnicity, are also from the Topical Module. Because self-reported information about participation in and contributions to DC plans suffers from substantial measurement error, we link survey information for SIPP respondents with the earnings data from their W-2 tax records.² The W-2 records contain high-quality information about DC plan participation and contributions in 2006, as well as annual earnings over the 10 years prior to the survey.

The Detailed Earnings Record, which is an extract of the Social Security Administration's (SSA's) Master Earnings File, contains the earnings information collected from the W-2 forms that employers submit to the IRS.³ These data include information on a worker's total wage and salary earnings for a given year that are subject to federal income tax (box 1 in the W-2 form) and tax-deferred contributions to employer-sponsored retirement accounts (box 12 in the W-2 form). It is important to note that our measure of total earnings is the sum of the tax-deferred contributions in box 12 and the total taxable earnings in box 1.

We use 2006 tax-deferred contributions from respondents' matched W-2 records to identify two main outcome variables: participation in and contributions to DC plans. In 2006, the W-2 records separately identified contributions to different types of retirement accounts (such as 401(k), 403(b), 408, 457, and

501) and to Health Saving Accounts; our measure of tax-deferred contributions in 2006 includes only those made to retirement accounts. Using this information, we define the participation rate in 2006 as the percentage of wage-and-salary workers for whom the W-2 record indicates a positive contribution was made to a retirement plan during that year (those for whom the tax-deferred contribution amount is zero are defined as nonparticipants).⁴ We define the contribution rate as the percentage of total earnings that is tax-deferred to a retirement plan in 2006, among those with positive contributions in 2006. Note that the contribution rate is calculated separately for the single-year and 10-year average earnings measures.

Earnings deciles are defined separately for the single-year and the 10-year average earnings measures. Our analysis sample is all workers aged 35–61 in 2006.⁵ All earnings for 1997–2006 are price-indexed to 2006 dollars using the Consumer Price Index (CPI-W) from the 2009 Social Security Trustees Report.

We first assess the extent to which a worker’s earnings in a single year are a good proxy for average annual earnings over the prior 10 years. Then the 2006 DC participation rate by earnings decile is examined for both the 2006 and the 10-year earnings measures. We disaggregate the participation rate by “current-earnings trend,” a measure of the percentage change between 1-year and 10-year earnings; specifically, whether 2006 earnings are more than 20 percent lower or higher than, or within 20 percent of, the 10-year average of annual earnings. The same method is followed for contribution rates.

Although mainly descriptive, our analysis includes multivariate regression estimates that allow us to examine how DC plan participation and contributions vary by level of earnings (for both the 1-year and 10-year measures) while controlling for key demographic characteristics such as age, sex, education, marital status, and race/ethnicity. We estimate the probability of participation in a DC plan among all workers using a probit model and the contribution rate among participants using an ordinary least squares model. All analysis applies SIPP’s sample weights for wave 7. Our regressions also account for both stratification and clustering within SIPP’s survey design.

Results

Before assessing the association between DC plan participation and earnings, we examine how well workers’ annual earnings in 2006 approximate their

average annual earnings for 1997–2006. Table 1 shows that 2006 mean earnings are 12 percent higher than the 10-year earnings average, a difference of \$5,650. Median earnings reveal a similar pattern, but the differences are smaller (the 2006 median is \$2,428, or 7 percent, higher than the 10-year average median).

Table 2 highlights the current-earnings trend for our sample of workers. Earnings in 2006 were within 20 percent of 10-year average earnings for roughly half of the workers, and were more than 20 percent higher than the 10-year average for about one-third of the sample. The 2006 earnings of the remaining workers—almost one-sixth of the sample—were lower than their 10-year average earnings by more than 20 percent.

Table 1.
Mean and median current-year (2006) and 10-year (1997–2006) average annual earnings

Earnings measure	Mean	Median
Current-year earnings (\$)	54,041	39,721
Ten-year average annual earnings (\$)	48,391	37,293
Difference (\$)	5,650	2,428
Ratio (current-year to 10-year average)	1.12	1.07
Number of observations	21,235	21,235

SOURCE: Authors’ calculations using SSA administrative earnings records matched to the 2004 SIPP (wave 7).

NOTES: Estimates are for workers aged 35–61 with earnings in 2006, weighted using survey weights. Ten-year average reflects real earnings from 1997 to 2006. All earnings are expressed in inflation-adjusted 2006 dollars.

Table 2.
Distribution of the sample by current-earnings trend

Current-earnings trend	Number	Percentage distribution
Compared with 10-year average annual earnings, 2006 annual earnings are—		
Lower by more than 20%	3,325	15.6
Within 20%	10,676	50.2
Higher by more than 20%	7,234	34.2

SOURCE: Authors’ calculations using SSA administrative earnings records matched to the 2004 SIPP (wave 7).

NOTES: Estimates are for workers aged 35–61 with earnings in 2006, weighted using survey weights. Ten-year average reflects real earnings from 1997 to 2006. All earnings are expressed in inflation-adjusted 2006 dollars.

Table 3 shows the distribution of workers by current-earnings trend, disaggregated by 2006 earnings decile. The median of individual ratios of 2006 earnings to 10-year average earnings is also shown by earnings decile.⁶ Findings indicate that the majority (67 percent) of workers in the lowest earnings decile experienced a decrease of more than 20 percent in their earnings in 2006 relative to their 10-year average earnings. The proportion of those with lower earnings in 2006 relative to their 10-year average decreases substantially in higher deciles. Except for the lowest three deciles, annual earnings for 2006 were within 20 percent of the 10-year average earnings for nearly or more than half of the workers. Except for the 1st and 10th deciles, earnings in 2006 were more than 20 percent higher than the 10-year average for about one-third of workers. The median ratio of 2006 earnings to 10-year average earnings increases from 100.3 percent for the 2nd earnings decile to 117.9 percent in the 10th decile. Thus, workers in the highest decile earned 18 percent more in 2006 than their 10-year average, a much higher median ratio than that of workers in lower deciles. The median ratio was very similar in the 3rd through the 7th deciles of earners, at about 109 percent

of the 10-year average. In contrast to all other deciles, the 2006 earnings of workers in the 1st decile were only 42.5 percent of their 10-year average earnings. Overall, at the median, single-year earnings modestly overestimate an individual's average annual earnings over the past 10 years.

We now turn to the distribution of participation and contribution rates among deciles of both 2006 earnings and 10-year average earnings, and also by current-earnings trend. Table 4 shows that overall DC participation rates in 2006 were dramatically higher for workers in upper earnings deciles, regardless of whether these deciles are based on 2006 earnings or on the 10-year average of annual earnings. Only about 4–6 percent of workers in the lowest earnings decile and about 12–16 percent of those in the 2nd earnings decile participated in (that is, made contributions to) a DC retirement account. By contrast, about a quarter of workers in the 3rd earnings decile contributed, and in the 6th earnings decile, about half participated. The participation rate at the highest earnings decile reaches about 80 percent. These findings suggest that, regardless of the earnings measure used, DC retirement

Table 3.
Percentage distribution of workers by current-earnings trend, and the median ratio of current earnings to 10-year average earnings, total and by 2006 earnings decile

Decile	Percentage of workers whose 2006 earnings, compared with their 10-year average earnings, are—			Total	Median ratio ^a (%)
	Lower by more than 20%	Within 20%	Higher by more than 20%		
Total	15.6	50.2	34.2	100.0	109.0
2006 earnings deciles					
1st (lowest)	67.0	9.7	23.3	100.0	42.5
2nd	33.9	28.5	37.6	100.0	100.3
3rd	18.4	43.9	37.7	100.0	108.3
4th	10.4	56.3	33.3	100.0	107.9
5th	7.5	58.1	34.4	100.0	109.3
6th	6.2	63.4	30.4	100.0	109.3
7th	3.8	65.4	30.8	100.0	109.6
8th	2.9	63.9	33.3	100.0	111.4
9th	2.3	62.9	34.8	100.0	112.5
10th (highest)	3.8	49.7	46.5	100.0	117.9
Number of observations	3,325	10,676	7,234	21,235	21,235

SOURCE: Authors' calculations using SSA administrative earnings records matched to the 2004 SIPP (wave 7).

NOTES: Estimates are for workers aged 35–61 with earnings in 2006, weighted using survey weights. Ten-year average reflects real earnings from 1997 to 2006. All earnings are expressed in inflation-adjusted 2006 dollars.

Totals do not necessarily equal the sum of rounded components.

a. Derived by calculating for each individual the ratio of 2006 earnings to 10-year average earnings, then determining the median of these calculated ratios for all individuals in each earnings decile.

Table 4.
Participation rate in DC plans in 2006, by earnings deciles and current-earnings trend

Decile	Participation rate (in percent) among workers whose 2006 earnings, compared with their 10-year average earnings, are—			Overall (%)
	Lower by more than 20%	Within 20%	Higher by more than 20%	
Total	19.1	54.2	40.2	43.9
Panel A: 2006 earnings deciles				
1st (lowest)	4.8	3.3	2.1	4.0
2nd	16.9	11.8	8.8	12.4
3rd	23.4	32.8	20.5	26.5
4th	37.0	41.3	28.9	36.7
5th	35.1	48.5	36.8	43.4
6th	40.0	53.4	40.7	48.7
7th	52.6	56.2	49.1	53.9
8th	59.7	68.1	52.5	62.7
9th	48.7	75.4	66.1	71.6
10th (highest)	71.9	82.6	76.6	79.4
Panel B: 10-year average annual earnings deciles				
1st (lowest)	0.7	3.7	7.5	5.5
2nd	7.3	13.0	21.2	15.8
3rd	12.8	29.8	30.7	26.6
4th	14.6	39.2	40.5	35.6
5th	17.1	48.3	44.8	42.7
6th	30.1	53.7	53.3	50.6
7th	26.7	55.0	61.0	53.2
8th	31.3	65.7	65.2	62.0
9th	37.2	73.6	72.7	69.6
10th (highest)	52.0	80.6	82.3	77.7
Number of observations	3,325	10,676	7,234	21,235

SOURCE: Authors' calculations using SSA administrative earnings records matched to the 2004 SIPP (wave 7).

NOTES: Estimates are for workers aged 35–61 with earnings in 2006, weighted using survey weights. Ten-year average reflects real earnings from 1997 to 2006. All earnings are inflation-adjusted to 2006 dollars. The rates in each cell are calculated for that cell subsample.

account participation is more prevalent among workers in the upper half of the earnings distribution. A similar pattern emerges if we look at the participation rate within each current-earnings trend group.

However, an interesting pattern emerges when comparing participation rates between panel A and B within each column. Among workers whose 2006 earnings were more than 20 percent lower than their 10-year average earnings, the participation rate throughout all deciles is higher when measured with 2006 earnings than that measured with 10-year average earnings. By contrast, among those whose 2006 earnings were higher than their 10-year average earnings by more than 20 percent, the participation rate is much lower when measured with 2006 earnings than that measured with 10-year average earnings. Among

those with 2006 earnings within 20 percent of their 10-year average earnings, participation rates are similar under both measures. These findings suggest that although our estimate of participation rate, on average, is not substantially different between the two earnings measures, using single-year earnings may underestimate the participation rate for about one-third of the sample, namely those whose current earnings are more than 20 percent higher than their 10-year average. By contrast, using current-year earnings may substantially overestimate the participation rate for almost one-sixth of the sample (those whose current earnings are more than 20 percent lower than their 10-year average).

In Table 5, we examine the DC plan contribution rates, defined as the percentage of a participant's earnings contributed to retirement accounts, by each

Table 5.
DC plan median contribution rate in 2006, by earnings deciles and current-year earnings trend

Decile	Median contribution rate (%)				Overall	Median contribution amount (\$)
	Among workers whose 2006 earnings, compared with their 10-year average earnings, are—					
	Lower by more than 20%	Within 20%	Higher by more than 20%			
Total	4.8	5.9	5.1	5.5	3,180	
Panel A: 2006 earnings deciles						
1st (lowest)	3.9	a	a	4.1	164	
2nd	3.9	5.3	4.2	4.4	649	
3rd	3.7	4.0	4.0	3.9	850	
4th	4.2	4.6	4.1	4.4	1,308	
5th	4.7	4.4	3.9	4.2	1,532	
6th	6.2	5.1	4.9	5.1	2,227	
7th	7.2	5.8	4.9	5.4	2,891	
8th	6.1	6.2	5.1	6.0	3,786	
9th	a	7.9	6.2	7.2	6,135	
10th (highest)	7.9	7.9	6.3	7.1	12,304	
Panel B: 10-year average annual earnings deciles						
1st (lowest)	a	a	3.3	3.4	581	
2nd	2.8	5.2	4.0	4.0	830	
3rd	2.9	4.1	4.1	4.0	990	
4th	3.7	4.3	4.3	4.3	1,326	
5th	4.0	4.3	5.0	4.6	1,615	
6th	5.2	5.1	5.1	5.1	2,251	
7th	4.6	5.4	5.2	5.3	2,783	
8th	4.9	6.1	6.1	6.1	4,007	
9th	6.2	7.8	6.9	7.4	6,115	
10th (highest)	6.3	7.9	6.1	7.1	11,947	
Number of observations	623	5,784	2,943	9,350	9,350	

SOURCE: Authors' calculations using SSA administrative earnings records matched to the 2004 SIPP (wave 7).

NOTES: Estimates are for workers aged 35–61 with earnings in 2006, weighted using survey weights. Ten-year average reflects real earnings from 1997 to 2006. All earnings are inflation-adjusted to 2006 dollars. Contribution rate is defined as the amount of the tax-deferred contribution as a percentage of total earnings for 2006. Samples consist of workers with tax-deferred contributions in 2006.

a. Fewer than 30 observations.

earnings measure. The overall median contribution rate to retirement accounts in 2006 was 5.5 percent of earnings. Regardless of whether it is measured with 2006 earnings or 10-year average earnings, the median DC plan contribution rate increases with earnings, from about 4 percent in the lowest four deciles to about 7 percent in the highest two deciles.

Among workers whose 2006 earnings were more than 20 percent lower than their 10-year average earnings, we observe that median contribution rates of those in the 3rd–8th and the 10th deciles of current earnings (panel A) are higher than the median contribution

rates of those of similar deciles of 10-year average earnings (panel B). This suggests that contribution rates are overestimated for respondents with lower current earnings relative to their 10-year average. For panel A, in all but the 3rd decile, the median contribution rate for those with 2006 earnings within 20 percent of their 10-year average earnings was slightly higher than for those with current earnings more than 20 percent higher than 10-year average earnings. In panel B, however, contribution rates of those with 2006 earnings within 20 percent of their 10-year average annual earnings do not exceed those of workers with current earnings more than 20 percent higher

than 10-year average earnings in half of the deciles (3rd, 4th, 5th, 6th, and 8th). Using the current (2006) earnings measure suggests that stable earners have higher contributions than those with increased earnings, but this tendency is not as clearly indicated when 10-year average earnings are used. Thus, the relationship between earnings changes (whether decreasing, stable, or increasing) and DC plan contribution rates as measured with current earnings may differ from that measured with 10-year average earnings.

The observed differences by current-earnings trend may result from participants choosing to contribute a flat dollar amount to their DC account, which they tend not to change over time, instead of contributing a fixed percentage of their earnings.⁷ Evidence suggests that about half of contributors do in fact choose to contribute a fixed dollar amount instead of a percentage of their salary (Dushi and Iams 2010). In terms of dollars, the median contribution amount is \$3,180, ranging from \$164 in the lowest earnings decile to \$12,304 in the highest earnings decile. Median contribution amounts seem to be relatively low (below the overall median of \$3,180) for workers in the lowest seven earnings deciles.

The final portion of our analysis employs multivariate regressions to examine how the level of a worker's earnings associates with DC plan participation and contribution rates, when important covariates are held constant. The regression analysis permits us to test whether the patterns found in our descriptive analysis hold while controlling for key sociodemographic characteristics. Table 6 reports the probit estimates of the probability of participation in a DC plan and the ordinary least square regression estimates of the contribution rate. Estimates are shown for only the lowest seven earnings deciles, and reflect the given decile's value relative to that of the three highest deciles combined. Our models follow two different specifications either using workers' 10-year average earnings or their current earnings while controlling for the commonly used demographic characteristics.

Probit results confirm a significantly lower participation probability for workers in the lower earnings deciles relative to those in the upper three deciles. Thus, for example, workers falling in the lowest 2006 earning decile are 49.1 percentage points less likely to participate in a plan than those in the highest three deciles, whereas those in the 7th decile are

Table 6.
Probit estimates of the probability of participation in a DC plan in 2006 and ordinary least square estimates of the DC plan contribution rate among workers aged 35–61 with earnings in 2006

Decile	Participate in a DC plan (marginal effects) ^a		Contribution rate ^b (coefficient)	
	2006 earnings deciles	10-year average earnings deciles	2006 earnings deciles	10-year average earnings deciles
1st (lowest)	-0.491**	-0.487**	1.547	-1.306
2nd	-0.441**	-0.426**	-0.283	-1.357*
3rd	-0.361**	-0.360**	-1.897**	-2.178**
4th	-0.293**	-0.300**	-1.507**	-1.847**
5th	-0.245**	-0.247**	-1.546**	-1.501**
6th	-0.207**	-0.185**	-1.334**	-1.248**
7th	-0.168**	-0.164**	-0.610**	-0.873**
8th–10th (omitted)	---	---	---	---
Number of observations	21,235	21,235	9,350	9,350

SOURCE: Authors' calculations using SSA administrative earnings records matched to the 2004 SIPP (wave 7).

NOTES: Reported estimates are weighted to account for SIPP's complex survey design using Stata's svy procedure. Ten-year average earnings refer to real earnings from 1997 to 2006. All earnings are inflation-adjusted to 2006 dollars. All estimated models control for commonly used demographic characteristics such as age, sex, marital status, education, and race/ethnicity. We report here only the estimates for earnings deciles used in each model.

* denotes significance at the 5 percent level; ** denotes significance at the 1 percent level; --- denotes category omitted.

- Participation is defined as equal to 1 if respondent made contributions to a DC plan in 2006 (according to W-2 records) and 0 otherwise; the marginal effects are calculated at the sample means and indicate the change in the probability of participation (in percentage points) for a discrete change in a dummy explanatory variable from 0 to 1.
- Contribution rate is defined as the ratio of 2006 tax-deferred contribution amount to 2006 total earnings among those with positive contributions in 2006.

16.8 percentage points less likely to participate than their counterparts in the highest three deciles. Furthermore, the marginal effects measured with 10-year average annual earnings are almost the same as those measured with 2006 earnings. Results from the ordinary least square regression indicate that, whatever measure of earnings we use, the contribution rate is significantly lower among those in the 3rd through the 7th earnings deciles than among those in the highest three earnings deciles. The contribution rate in the lowest earnings decile fails to be significant because of the small sample size of contributors compared with the omitted category of high earners.

Conclusion

Previous research provides evidence that low-income workers are less likely to be eligible for a DC plan, and less likely to participate when eligible. As DC plans supplanted DB plans over the past three decades, the pension participation rates among low-income workers substantially decreased. In this context, it is important to estimate the extent to which variation in earnings levels affects participation and contribution rates. From the policy perspective, increasingly sharp variation in the distribution of pension participation by earnings levels would imply greater inequality in retirement resources of future retirees.

Using W-2 tax record data matched to the SIPP, this article explores the relationship between earnings and DC plan participation and contributions. The analysis provides insight into differences between measuring a worker's current-year earnings and using a broader measure—that is, the average of the worker's last 10 years of annual earnings. Our data suggest that a single cross-section (2006) slightly overestimates the 10-year average of workers earnings. About one-third of workers earned substantially higher amounts in 2006 (more than 20 percent above their 10-year average earnings) and fewer than one-sixth earned substantially lower amounts in 2006 (more than 20 percent below their 10-year average earnings).

Results also provide evidence that participation in, and tax-deferred contributions to, retirement accounts are concentrated among higher earners. This pattern is observed whether workers' earnings are measured with their current annual earnings or with the annual average of their prior 10 years of earnings. However, using 2006 earnings versus 10 years of earnings seems to overestimate the participation rate for those with lower current earnings relative to the 10-year average, but underestimates the participation rate among

those with higher current earnings relative to the 10-year average. The contribution rate (the percentage of earnings contributed to DC retirement accounts) among participants is less than 5 percent for those in the lower 60 percent of the earnings distribution and about 6–7 percent among those in the upper three earnings deciles. When measured with 2006 earnings rather than with 10-year average earnings, the contribution rates seem to be overestimated among workers with 2006 earnings more than 20 percent lower than their 10-year average earnings. It is important to note that the contribution rates observed herein underestimate the actual dollars contributed to retirement accounts for some employees because they reflect only employee contributions and omit the amount contributed on their behalf by employers. Some employers match contributions to encourage participation, particularly among low earners (Madrian 2005). However, Vanguard (2010, 25) data show that “in a typical DC plan, employees are the main source of funding, while the employer contributions play a secondary role. Thus, the level of participant deferrals is a critical determinant of whether the DC plan will generate an adequate level of savings in retirement.” In terms of dollars, our findings indicate that for DC participants in the lowest seven earnings deciles, the median annual contribution amounts in 2006 were less than \$3,000. It is unlikely that an account with such amounts contributed over a lifetime would generate, by itself, adequate resources for economic well-being in retirement.

This stylized relationship between earnings and DC plan outcomes at the population level has policy implications. The fact that low earners are less likely to be eligible and less likely to participate in a DC retirement plan when given the choice has been a concern among both policymakers and analysts and has led to several policy proposals. For example, in an effort to promote DC plan participation, the 2006 Pension Protection Act permits employers to enroll their employees automatically in retirement plans designed to create retirement savings over a lifetime (Purcell 2009). However, the universal enrollment that is common among DB plans is not characteristic of DC retirement plans even with the changes initiated by the act. A December 2009–February 2010 survey sponsored by AARP suggested that the majority of large employers still had not adopted automatic enrollment for their plan (Brown 2010).

Other proposals include a universal individual retirement account (IRA) under which employees not

offered a retirement plan from their employer would be automatically enrolled in an IRA (Iwry and John 2007). A third proposal is a universal retirement plan shared by workers at all earnings levels. In this vein, Ghilarducci (2008, 2010) proposes eliminating the \$193 billion per year in tax breaks for DC retirement accounts and using some of the tax savings to provide support to all workers to participate in a universal retirement plan. The empirical results from this study suggest that, indeed, there is cause for concern that low earners are less likely to participate in DC pensions and, when they do, their contribution levels are quite low. These patterns, if continued, could lead to a substantial portion of workers with inadequate savings to support themselves in retirement.

Notes

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¹ Survey-reported earnings are also subject to measurement errors. See Bricker and Engelhardt (2007) for a discussion of previous research about measurement errors in earnings.

² The estimated statistics presented in the results section are weighted using Census Bureau's person sample weights in wave 7 and account for SIPP complex sampling. The match rate for our total survey sample in wave 7 with the W-2 records is 85 percent and thus we expect that the sample with matched records is not a select sample, and so should be representative of the total population. Previous analysis by Czajka, Mabli, and Cody (2008) assessed the impact of sample loss in the 1996 and 2001 SIPP panels and concluded there were no substantive impacts due to nonmatches.

³ See Olsen and Hudson (2009) and Pattison and Waldron (2008) for a discussion of W-2 tax-record data available in the Master Earnings File.

⁴ Although it is uncommon, in some DC plans the employer contributes to an employee's account even when the employee does not. In such cases, the W-2 record will indicate that the employee has not made tax-deferred contributions to a retirement account in a given year. Furthermore, the W-2 record does not indicate whether the employer made any contributions on behalf of the employee. We classify such an employee as a nonparticipant. To the extent that this occurs, we would underestimate DC participation rate. To address this possibility, we looked at self-reported SIPP information and found that only 3 percent of respondents in 2006 reported making zero tax-deferred contributions on their own while their employer contributed to their account. As Vanguard (2010, 12) observes, employer contributions are typically "a secondary source of plan funding."

⁵ The sample consists of respondents with wage and salary earnings according to their SSA W-2 earnings record. Our analysis focuses on all workers, rather than only those who report being offered a DC plan, for two reasons. First, from the W-2 record we cannot tell whether a worker is offered a DC plan. Second, as with participation and contributions, self-reported information on offerings is subject to reporting error (Dushi and Iams 2010).

⁶ We first calculate for each individual the ratio of his or her 2006 earnings to his or her 10-year average earnings. Then we calculate the median of these calculated ratios for all individuals in each earnings decile. Note that this median of 21,235 individual ratios (1.09, expressed in Table 3 as 109.0) is slightly higher than the ratio of the median of workers' earnings in 2006 to the median of workers' 10-year average annual earnings (1.07) shown in Table 1.

⁷ Research shows that inertia typifies individual behavior with respect to enrollment, asset allocation, and contributions to DC pensions (Madrian and Shea 2001; Madrian 2005; Vanguard 2010).

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MANAGING INDEPENDENCE: THE GOVERNANCE COMPONENTS OF THE NATIONAL RAILROAD RETIREMENT INVESTMENT TRUST

by Kevin Whitman*

Congress created the National Railroad Retirement Investment Trust (NRRIT) in 2001 to invest assets from the federal Railroad Retirement program in equities, expecting to improve returns and help fund expanded benefits. In designing the NRRIT, Congress tried to address concerns raised by policymakers and theorists about potential political influence on investment decisions that could create conflicts, lower the program's performance, and interfere with private markets. Proposals to use centralized investment to improve Social Security's financing have recently raised similar concerns. This article reviews management and governance aspects of the NRRIT as they relate to its political independence by focusing on the Trust's legal status, mandate, governing board characteristics, investment policy, and oversight. If Social Security were to adopt such an investment policy, examining the NRRIT's design and experience in these areas could provide useful guidance.

Introduction

With the Social Security system facing a projected funding shortfall within the next several decades, policymakers have offered a variety of proposals to improve the program's long-term financial outlook. One option is to increase the yield on trust fund assets through centrally managed investments in equities that offer potentially higher returns, but pose greater risks, than federal government bonds.¹

Insulating investment decisions from political influences would be a core consideration of such a policy. Critics argue that regardless of any potential financial benefits, trust fund investment would be problematic because of the probability of political interference (White 1996; Ostaszewski 1997; Ferrara 1980; Greenspan 1999).² Public opinion polls reflect a similar skepticism about the feasibility of apolitical trust fund investment (NPR 1999).³ However, other researchers have suggested that with proper design and management features, a centralized Social Security investment component could maintain its independence (Munnell and Weaver 2001; Angelis 1998; Aaron and Reischauer 1998; Templin 2007; Munnell and Sundén

1999). A common thread among these analyses is the suggestion that principles of governance found in comparable public pension plans and other models can offer guidance on avoiding political interference.

One agency relevant to Social Security in this context is the Railroad Retirement Board (RRB), which administers a separate federal program providing retirement, disability, and survivor benefits for railroad employees. The Railroad Retirement system provides two tiers of benefits: the first is designed to provide the same benefit the worker would have received if he or she were covered under Social Security, and the second is intended to replicate a private-sector defined-benefit pension. The Railroad Retirement system's funding structure currently includes money invested

Selected Abbreviations

CPP	Canada Pension Plan
NRRIT	National Railroad Retirement Investment Trust
OIG	Office of the Inspector General

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Selected Abbreviations—Continued

RRB	Railroad Retirement Board
RRSIA	Railroad Retirement and Survivors' Improvement Act

in equities by the National Railroad Retirement Investment Trust (NRRIT) (RRB 2006). Funds controlled by the NRRIT are used for tier II benefits, supplemental RRB annuities, and in some cases, components of tier I benefits exceeding the benefits Social Security would provide (NRRIT 2010a).

This article describes the management and governance aspects of the NRRIT as they apply to each of five common characteristics of public pension programs. These governance aspects shape program investment operations, define their level of independence, and determine the manner in which they engage with political actors.

The five pension program characteristics are:

1. Legal status
2. Mandate
3. Governing board characteristics
4. Investment policy
5. Oversight

The article begins with a summary of the NRRIT's formation. A description of the NRRIT governance aspects of each of the five program characteristics follows, along with commentary on its relevance to political independence.⁴ This article does not argue for or against centralized investment; rather, it provides information about some of the governance issues that are unique to this policy option.

Background

The NRRIT was intended to fund expanded benefits. In 2001, Congress passed the Railroad Retirement and Survivors' Improvement Act (RRSIA). The RRSIA expanded benefits under the Railroad Retirement system in a variety of ways and lowered tier II payroll tax rates. To help finance these programmatic changes, the legislation also established the NRRIT,⁵ which was authorized to receive assets from the Railroad Retirement account and invest them in a diversified market portfolio rather than in Treasury bonds (NRRIT 2010a).

The proposal's designers expected that nominal annual equity returns would be 2 percentage points

higher than the existing bond investments—that is, 8 percent versus 6 percent (House Transportation and Infrastructure Committee 2001; Romig 2008).⁶ The NRRIT became operational on February 1, 2002, and began making investments in September of that year.

Prior to the passage of this legislation, critics raised concerns about the potential dangers of centralized equity investment. Writing about the proposed creation of the NRRIT, David John (2000) of the Heritage Foundation wrote:

Though the board managing this investment would be nominally independent, the assets in the trust would be under the control of political appointees and government bureaucrats. Giving bureaucrats the power to invest huge amounts of money in the stock market would create a fundamental conflict of interest between the long-term needs of future retirees and short-term political goals.

As the bill was under consideration, the executive branch also voiced its dissatisfaction. Lawrence Lindsey, director of the president's National Economic Council, wrote a letter to Congress stating the administration's strong opposition to having a federal retirement program invest in the stock market. In Congress, Senator Phil Gramm (R-TX) expressed similar concerns, arguing "I do not per se object to investing the money. I think there have to be protections for the railroad worker to be sure the Government doesn't direct the investments to benefit some interests other than the worker. There needs to be some firewall between the investment committee and the Government" (RPC 2001).

Governance Aspects of Pension Program Characteristics

In establishing the NRRIT, legislators created a variety of organizational mechanisms designed to mitigate the types of problems that critics expected. As Romig (2008) notes in her analysis of the NRRIT's investment practices, Congress explicitly structured the Trust to try to ensure that the program's operations and investments would be free of political interference. The rest of this article explores these management and governance components.

Legal Status

The NRRIT is legally independent from the RRB and the federal government. The RRSIA created the NRRIT as an organization entirely separate from the

RRB, with no role in the administration of benefits or any other operational aspects of the Railroad Retirement program. The act states that the NRRIT “is not a department, agency, or instrumentality of the Government of the United States” and establishes the organization as subject to the rules governing trusts that apply in the District of Columbia, not those at the federal level (NRRIT 2007b).⁷

When given the opportunity to bring the NRRIT within the purview of government entities, Congress has explicitly demonstrated its desire to maintain the existing separation. For example, in 2007, Congress rejected a proposal from the RRB Office of the Inspector General (OIG) to combine the auditing of the NRRIT with the RRB⁸ by stating that “the Railroad Retirement and Survivors’ Improvement Act of 2001 mandates that the Trust functions independently from the Railroad Retirement Board” and citing the requirement for a nongovernmental audit of the program (House Appropriations Committee 2007).^{9, 10} The NRRIT’s existing audit procedures and the OIG’s concerns are discussed in more detail in the section on oversight.

Mandate

Because Congress established the NRRIT to fund expanded benefits, legislators charged the program with maximizing returns to achieve this goal (House Transportation and Infrastructure Committee 2001). The law provides the NRRIT and its Board of Trustees with a clear mandate, holding that their actions should be “solely in the interest of the Railroad Retirement Board and through it, the participants and beneficiaries of the programs funded under this Act” (NRRIT 2007b).

The trustees are directed to carry out this mandate by investing with “care, skill, prudence, and diligence” according to requirements like those of the Employee Retirement Income Security Act of 1974 (ERISA) (NRRIT 2007b; DOL 2008). Importantly, the fiduciary responsibilities of ERISA have been interpreted as categorizing social investment objectives—one of the core reflections of political influence—as “collateral benefits,” to be considered only when a proposed investment’s risk-and-return profile is at least equivalent to the best available alternative (Doyle 1998).

The performance of other public pension funds demonstrates the role mandates can play in setting real-world investment practices. For example, the California Public Employees Retirement System (Cal-

PERS) mandate allows consideration of noneconomic factors in its investment decisions, which influences its investments in environmental initiatives and emerging markets (CalPERS 2007a, 2007b). By contrast, the Canada Pension Plan (CPP), like the NRRIT, is directed to invest only to maximize returns and the CPP has used this mandate as an explicit source of pushback when the program has been pressed to consider social goals.¹¹

Governing Board Characteristics

The NRRIT is led by a professional board representing both labor and management interests. Each of the seven members of the Board of Trustees serves a 3-year term.¹² Three of the members are selected by labor organizations to represent employee interests, three are selected by railroad carriers to represent management interests, and one is an “independent member” chosen by a majority of the other six members. Beyond the representation requirements, the legislation also establishes professional requirements for the trustees, mandating that they have “experience and expertise in the management of financial investments and pension plans” (NRRIT 2007b).¹³

Congressional records demonstrate that the diverse structure of the NRRIT’s Board of Trustees was considered an important protection against political interference. As the bill was being debated in the House of Representatives, its sponsor, Don Young (R-AK), singled out the Board of Trustees’ diversified membership structure as critical to preventing political interference. This point was echoed by Representative Jerry Weller (R-IL), who argued that the seven-member board would make certain that “any possible implication of a government role in investing is eliminated” (US Congress 2001).

Investment Policy

The NRRIT’s Board of Trustees, in consultation with investment experts, establishes the guidelines used to direct the fund’s investment decisions. The NRRIT’s first set of investment guidelines echoed their mandate to focus exclusively on returns, outlining their foremost objectives as being “(i) to ensure the timely and certain payments of benefits of eligible railroad retirement plan participants and beneficiaries, and (ii) to achieve a long term rate-of-return on assets sufficient to enhance the financial strength of the Railroad Retirement System” (NRRIT 2002).¹⁴

Upon the creation of the NRRIT, the Trust’s cash assets were initially transferred into equities through

index funds, using the Wilshire 5000 for US equities and the MSCI World Ex-US Index for global equities (NRRIT 2007a). Fixed-income assets were later added through the Lehman Brothers Aggregate index. The Trustees suggested that passive management was required during the early stages of the program because of the lower oversight requirement and lower administrative costs (NRRIT 2002). As the program has matured, the NRRIT has introduced specific, separately managed, nonindexed equity holdings. At the close of fiscal year 2010, 74 percent of the US equities held by the NRRIT were actively managed (NRRIT 2010b).

Outside investment firms handle the management of the NRRIT's assets in accordance with the Board of Trustees' responsibility set forth in the RRSIA to "retain independent investment managers to invest the assets of the Trust in a manner consistent with such investment guidelines" (NRRIT 2007b). The asset management firm Northern Trust now handles the primary administration of the NRRIT's investments.

The NRRIT's investment targets, which cover a broad array of asset classes, are:

US equities.....	26 percent
Non-US equities.....	22 percent
US fixed income.....	17 percent
Non-US fixed income.....	10 percent
Private equities.....	10 percent
Real estate.....	10 percent
Commodities.....	5 percent

US equities constitute the plurality of the asset class targets, with non-US equities and US fixed-income investments representing the second and third largest allocations, respectively (NRRIT 2010c).

The Trust's investment policies also address the issue of corporate control to help mitigate concerns about the influence the NRRIT could have as a single large investor. The RRSIA compels the Board of Trustees, under normal circumstances, to diversify their holdings to limit the extent to which the NRRIT can influence the corporate operations of a single company, as well as to minimize losses (NRRIT 2007b). Adding to this general guidance, the NRRIT's investment guidelines mandate that none of the private investment managers employed by the Trust can control more than 10 percent of the program's assets (Romig 2008).¹⁵

Oversight

Although independent, the NRRIT is overseen by various government entities. It is subject to oversight primarily through its Board of Trustees' obligation to submit an annual management report to Congress, which it also provides to the president, the RRB, and the Director of the Office of Management and Budget (OMB). The RRSIA requires that the report contain statements of financial position, operations, and cash flows; a statement on internal accounting and administrative control systems; an independent auditor's report on the Trust's financial statements; and any other comments and information necessary to inform Congress about the operations and financial condition of the Trust (NRRIT 2007b). The NRRIT submits the management report to the aforementioned entities and posts the report online for public viewing.¹⁶

The NRRIT is also party to a memorandum of understanding with the RRB, OMB, and the Treasury Department that requires the NRRIT to provide a monthly report of its basic financial operations, specifically "receipt and disbursement of funds, purchases and sales of assets, earnings and losses on investments, value of investments held, and administrative expenses incurred" (NRRIT 2002). These methods of oversight provide another role for government entities in monitoring the NRRIT, without offering any direct mode of control.

Beyond reviewing financial and management reports, the act gives the RRB additional oversight authority by allowing it to bring lawsuits against the NRRIT for two reasons:

- (i) to enjoin any act or practice by the Trust, its Board of Trustees, or its employees or agents that violates any provision of this Act; or
- (ii) to obtain other appropriate relief to redress such violations, or to enforce any provisions of this Act (NRRIT 2007b).

To date, the RRB has not invoked this authority; however, the RRB's OIG suggests that the current audit process may be inadequate for identifying the full range of potential problems that would necessitate legal action (RRB 2008). The OIG argues that in addition to the existing financial auditing, the NRRIT should be subject to performance audits, which Szymendera (2010) notes would be used to analyze "program effectiveness, economy and efficiency, internal control, and compliance with the law."¹⁷ In its

published Statement of Concern on the issue, the OIG contrasts the oversight of assets administered by the NRRIT with those of the Federal Retirement Thrift Investment Board, which is subject to performance audits from the Department of Labor under the rules of the Federal Employees' Retirement System Act of 1986 (RRB 2008).

Conclusion

Thus far, the NRRIT appears to have achieved the political independence Congress desired. However, the role played by any single governance component in keeping the NRRIT independent and apolitical is difficult to quantify based on existing records. Although program performance can be seen as showing that the management constructs established by Congress to guard against political interference have succeeded, it may also be that their ability to withstand such challenges has not yet been sufficiently tested. As the program matures, continued study and analysis will be necessary.

The NRRIT is an appealing case study for any policymaker or theorist examining trust fund investment because of the programmatic similarities between the Railroad Retirement system and Social Security. Foremost is that both are federal-level defined-benefit retirement programs (which alleviates concerns about the limited applicability of assessing political risk by analyzing a defined-contribution pension model such as the Thrift Savings Plan). However, one should be careful not to overstate the likeness between the programs in this regard. Although the Railroad Retirement system is primarily a defined-benefit program, the portion of its assets placed in diversified investments through the NRRIT largely funds tier II benefits. Because tier II benefits are designed to replicate a private pension rather than Social Security, there may be greater willingness—and a more compelling precedent—to invest them in nongovernment equities.

Another difference that could limit the NRRIT's applicability to Social Security is the relative size of the investments. Critics of investing the Social Security trust funds in equities often suggest that the magnitude of the Old-Age, Survivors, and Disability Insurance (OASDI) Trust Funds makes political interference more likely.¹⁸ Were Social Security to invest in equities, there is little chance Congress would authorize investing all trust fund assets, but even a modest percentage of these holdings would surpass the NRRIT's assets.¹⁹

No program will ever serve as a perfect analog for Social Security; but as policymakers continue to analyze potential solutions for Social Security's projected funding shortfall, program comparisons can provide useful information. Examining the five governance components of the NRRIT (legal status, mandate, governing board characteristics, investment policy, and oversight) provides valuable insight into the management structures that would need to be considered if Social Security were to adopt centralized investment in the private market.

Notes

Acknowledgments: The author thanks Dale Kintzel, Kathleen Romig Krepps, Siona Robin Listokin, Patrick Purcell, David Rajnes, Mark Sarney, Dave Shoffner, and David Weaver for their helpful comments and suggestions.

¹ In the most high-profile effort to introduce this type of reform, President Clinton proposed investing the government's surplus funds to help improve Social Security's financing in his 1999 State of the Union Address (CNN 1999). Although Clinton's proposal was never adopted, theorists and policymakers have continued to discuss the option.

² Some view private accounts as a way to capture the higher returns of the market without the political problems that would accompany centralized trust fund investment. Proponents also posit greater individual control and ownership as reasons for individual rather than collective investment.

³ A 1999 survey conducted by National Public Radio, the Henry J. Kaiser Family Foundation, and Harvard University's Kennedy School of Government analyzed respondents' perceptions of a proposal to centrally invest Social Security's assets and found that 71 percent believed that financial decisions would be inherently politicized under such a policy.

The question's exact wording is:

Some people have suggested that the federal government set up an independent commission to decide how to invest a portion of Social Security funds in the stock market. If such a commission were formed...

Do you think the commission would remain independent and try to make the best investments for retirees, or

Do you think the investment decisions by the commission would increasingly be made for political reasons rather than in the best interests of retirees?

⁴ This article is primarily concerned with the effectiveness of management components and political risk. However, in addition to avoiding politicization, the question of whether the NRRIT has succeeded in its stated goals depends on the program's financial returns. Since beginning operations in 2002, the NRRIT has experienced

periods of both gain and loss coinciding with general market performance, but given the relatively short period that the NRRIT has existed, a definitive statement about the financial success or failure of the program would likely be premature.

⁵ For a legislative history of the NRRIT's creation, see <http://www.rrb.gov/pdf/nrrit/2covrpt.pdf>.

⁶ However, the Congressional Budget Office (CBO) estimated no increase in expected returns by switching from investing in government bonds to private securities, reasoning that "although private securities may well yield higher gains, over the long term, than government securities, such investments carry much greater risk than government bonds, which are essentially risk-free. The difference between projected returns on government bonds and private securities can be seen as the cost investors are willing to pay in order to bear the additional risk of holding private securities instead of government bonds. Thus, adjusted for the additional risk associated with private securities, the expected returns on private securities are the same as those on government securities. Therefore, CBO projects returns to NRRIT's investments using a risk-free rate, equivalent to the government's borrowing rate, and thus shows no net budgetary changes as a result of those investments" (CBO 2002).

⁷ Despite its independence, the NRRIT does have certain responsibilities to the federal government. For example, the NRRIT must submit an annual management report to Congress (NRRIT 2010c). This requirement is discussed in further detail in the section on oversight.

⁸ Although none of the annual reports and audits have indicated any type of political interference, the RRB OIG asserts that the current oversight arrangement is too limited. OIG argues that "an annual financial statement audit is not adequate to support the RRB's enforcement responsibility because such audits are not intended to provide information about all areas of risk that could indicate the need for enforcement action" (RRB 2008, i).

⁹ The separation between the NRRIT and the government matches the framework used by many other public pension programs. For example, Canada's government created the Canada Pension Plan Investment Board as a Crown Corporation. The Canada Pension Investment Board Act declares that the Board is "not an agent of Her Majesty" and that "directors, officers, employees and agents of the Board are not part of the federal public administration" (Department of Justice Canada 2011).

¹⁰ This article takes no position on the desirability or suitability of combined NRRIT and RRB auditing, and cites this example only to illustrate continued Congressional dedication to the legal independence created in the RRSIA.

¹¹ Responding to the suggestion that the CPP cease investing in tobacco companies, the president and chief executive officer of the CPP Investment Board argued that

the change would run counter to the organization's clear mandate, declaring "defined benefit pension plans, like the CPP, have a single purpose. Their reason for being is to pay the pensions promised to their retirees. Pension funds are not vehicles for advocacy groups to advance their objectives, however worthy" (MacNaughton 2004).

¹² The initial Board of Trustees was a planned exception to the 3-year rule. Some members served 1- or 2-year terms to stagger the future replacement process (NRRIT 2007b).

¹³ Not all public pension programs require trustees to have investment expertise. Hess and Impavido (2004) find that just 62 percent of the public pension plans they surveyed had at least one governing board member identified as an investment expert.

¹⁴ Investment policy is both a governance concern and a factor in market performance. However, this article examines only the governance component.

¹⁵ However, the NRRIT exempts the investment manager "retained to invest in index accounts" from this requirement (NRRIT 2007b).

¹⁶ Annual management reports are available at <http://www.rrb.gov/nrrit/ReportsTOC.asp>.

¹⁷ The Government Accountability Office's auditing standards describe performance audits as providing "objective analysis so that management and those charged with governance and oversight can use the information to improve program performance and operations, reduce costs, facilitate decision making by parties with responsibility to oversee or initiate corrective action, and contribute to public accountability" (GAO 2007).

¹⁸ For example, speaking about the creation of the NRRIT, John (2000) wrote "if this model were extended to Social Security's trust funds, the door would open for government ownership of a significant portion of the economy."

¹⁹ It is also possible that Social Security's size would decrease the probability of political interference because Social Security is subject to more scrutiny from the press and the public. Angelis (1998, 297–298) suggests that the effects of trust fund size are difficult to predict and it is conceivable that "Social Security's vital importance in millions of Americans' lives might deter attempts to use its investments to meet other goals."

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OASDI AND SSI SNAPSHOT AND SSI MONTHLY STATISTICS

Each month, the Social Security Administration's Office of Retirement and Disability Policy posts key statistics about various aspects of the Supplemental Security Income (SSI) program at <http://www.socialsecurity.gov/policy>. The statistics include the number of people who receive benefits, eligibility category, and average monthly payment. This issue presents SSI data for March 2010–March 2011.

The Monthly Statistical Snapshot summarizes information about the Social Security and SSI programs and provides a summary table on the trust funds. Data for March 2011 are given on pages 86–87. Trust fund data for February 2011 are given on page 87. The more detailed SSI tables begin on page 88. Persons wanting detailed monthly OASDI information should visit the Office of the Chief Actuary's website at <http://www.socialsecurity.gov/OACT/ProgData/beniesQuery.html>.

Monthly Statistical Snapshot

Table 1. Number of people receiving Social Security, Supplemental Security Income, or both

Table 2. Social Security benefits

Table 3. Supplemental Security Income recipients

Table 4. Operations of the Old-Age and Survivors Insurance and Disability Insurance Trust Funds

The most current edition of Tables 1–3 will always be available at http://www.socialsecurity.gov/policy/docs/quickfacts/stat_snapshot. The most current data for the trust funds (Table 4) are available at <http://www.socialsecurity.gov/OACT/ProgData/funds.html>.

Monthly Statistical Snapshot, March 2011

Table 1
Number of people receiving Social Security, Supplemental Security Income, or both, March 2011
(in thousands)

Type of beneficiary	Total	Social Security only	SSI only	Both Social Security and SSI
All beneficiaries	59,764	51,763	5,258	2,743
Aged 65 or older	38,385	36,336	892	1,157
Disabled, under age 65 ^a	13,446	7,493	4,366	1,586
Other ^b	7,933	7,933	...	...

SOURCE: Social Security Administration, Master Beneficiary Record, 100 percent data. Social Security Administration, Supplemental Security Record, 100 percent data.

NOTES: Data are for the end of the specified month. Only Social Security beneficiaries in current-payment status are included.

... = not applicable.

a. Includes children receiving SSI on the basis of their own disability.

b. Social Security beneficiaries who are neither aged nor disabled (for example, early retirees, young survivors).

CONTACT: Art Kahn (410) 965-0186 or ssi.monthly@ssa.gov for further information.

Table 2.
Social Security benefits, March 2011

Type of beneficiary	Beneficiaries		Total monthly benefits (millions of dollars)	Average monthly benefit (dollars)
	Number (thousands)	Percent		
All beneficiaries	54,506	100.0	58,688	1,076.70
Old-Age Insurance				
Retired workers	34,930	64.1	41,174	1,178.80
Spouses	2,310	4.2	1,344	581.60
Children	596	1.1	346	579.60
Survivors Insurance				
Widow(er)s and parents ^a	4,260	7.8	4,730	1,110.40
Widowed mothers and fathers ^b	151	0.3	127	840.20
Children	1,941	3.6	1,464	754.50
Disability Insurance				
Disabled workers	8,296	15.2	8,863	1,068.40
Spouses	161	0.3	46	287.00
Children	1,861	3.4	594	319.20

SOURCE: Social Security Administration, Master Beneficiary Record, 100 percent data.

NOTES: Data are for the end of the specified month. Only beneficiaries in current-payment status are included.

Some Social Security beneficiaries are entitled to more than one type of benefit. In most cases, they are dually entitled to a worker benefit and a higher spouse or widow(er) benefit. If both benefits are financed from the same trust fund, the beneficiary is usually counted only once in the statistics, as a retired-worker or a disabled-worker beneficiary, and the benefit amount recorded is the larger amount associated with the auxiliary benefit. If the benefits are paid from different trust funds the beneficiary is counted twice, and the respective benefit amounts are recorded for each type of benefit.

a. Includes nondisabled widow(er)s aged 60 or older, disabled widow(er)s aged 50 or older, and dependent parents of deceased workers aged 62 or older.

b. A widow(er) or surviving divorced parent caring for the entitled child of a deceased worker who is under age 16 or is disabled.

CONTACT: Hazel P. Jenkins (410) 965-0164 or oasdi.monthly@ssa.gov for further information.

Table 3.
Supplemental Security Income recipients, March 2011

Age	Recipients		Total payments ^a (millions of dollars)	Average monthly payment ^b (dollars)
	Number (thousands)	Percent		
All recipients	8,001	100.0	4,320	500.30
Under 18	1,257	15.7	794	599.80
18–64	4,696	58.7	2,695	515.70
65 or older	2,049	25.6	831	403.90

SOURCE: Social Security Administration, Supplemental Security Record, 100 percent data.

NOTE: Data are for the end of the specified month.

a. Includes retroactive payments.

b. Excludes retroactive payments.

CONTACT: Art Kahn (410) 965-0186 or ssi.monthly@ssa.gov for further information.

Trust Fund Data, February 2011

Table 4.
**Operations of the Old-Age and Survivors Insurance and Disability Insurance Trust Funds,
February 2011 (in millions of dollars)**

Component	OASI	DI	Combined OASI and DI
Receipts			
Total	44,878	7,619	52,497
Net contributions	44,724	7,595	52,319
Income from taxation of benefits	13	0	13
Net interest	141	23	165
Payments from the general fund	0	0	0
Expenditures			
Total	49,345	10,671	60,016
Benefit payments	49,041	10,422	59,464
Administrative expenses	303	249	552
Transfers to Railroad Retirement	0	0	0
Assets			
At start of month	2,439,749	178,764	2,618,513
Net increase during month	-4,466	-3,052	-7,519
At end of month	2,435,282	175,712	2,610,994

SOURCE: Data on the trust funds were accessed on May 5, 2011, on the Social Security Administration's Office of the Chief Actuary's website: <http://www.socialsecurity.gov/OACT/ProgData/funds.html>.

NOTE: Totals may not equal the sum of the components because of rounding.

Supplemental Security Income, March 2010–March 2011

The SSI Monthly Statistics are also available at http://www.socialsecurity.gov/policy/docs/statcomps/ssi_monthly/index.html.

SSI Federally Administered Payments

Table 1. Recipients (by type of payment), total payments, and average monthly payment

Table 2. Recipients, by eligibility category and age

Table 3. Recipients of federal payment only, by eligibility category and age

Table 4. Recipients of federal payment and state supplementation, by eligibility category and age

Table 5. Recipients of state supplementation only, by eligibility category and age

Table 6. Total payments, by eligibility category, age, and source of payment

Table 7. Average monthly payment, by eligibility category, age, and source of payment

Awards of SSI Federally Administered Payments

Table 8. All awards, by eligibility category and age of awardee

Table 1.
Recipients (by type of payment), total payments, and average monthly payment,
March 2010–March 2011

Month	Number of recipients				Total payments ^a (thousands of dollars)	Average monthly payment ^b (dollars)
	Total	Federal payment only	Federal payment and state supplementation	State supplementation only		
2010						
March	7,776,667	5,417,319	2,105,179	254,169	4,274,831	498.30
April	7,774,363	5,415,628	2,104,004	254,731	4,184,114	499.50
May	7,800,015	5,435,751	2,109,071	255,193	4,205,003	498.60
June	7,837,400	5,464,724	2,116,937	255,739	4,269,596	497.50
July	7,831,046	5,460,051	2,114,890	256,105	4,190,076	499.20
August	7,892,141	5,507,862	2,127,986	256,293	4,311,454	498.90
September	7,898,515	5,513,288	2,128,504	256,723	4,256,062	498.30
October	7,905,492	5,518,761	2,129,769	256,962	4,237,780	499.70
November	7,947,752	5,551,970	2,138,811	256,971	4,296,554	499.30
December	7,912,266	5,526,333	2,129,334	256,599	4,273,680	500.70
2011						
January	7,956,362	5,592,029	2,109,226	255,107	4,235,824	499.70
February	8,002,032	5,627,081	2,119,585	255,366	4,342,633	497.60
March	8,001,423	5,628,567	2,118,256	254,600	4,319,855	500.30

SOURCE: Social Security Administration, Supplemental Security Record, 100 percent data.

NOTE: Data are for the end of the specified month.

a. Includes retroactive payments.

b. Excludes retroactive payments.

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SSI Federally Administered Payments

Table 2.
Recipients, by eligibility category and age, March 2010–March 2011

Month	Total	Eligibility category		Age		
		Aged	Blind and disabled	Under 18	18–64	65 or older
2010						
March	7,776,667	1,188,361	6,588,306	1,215,280	4,527,056	2,034,331
April	7,774,363	1,187,763	6,586,600	1,212,272	4,527,929	2,034,162
May	7,800,015	1,188,088	6,611,927	1,221,863	4,542,049	2,036,103
June	7,837,400	1,189,172	6,648,228	1,227,732	4,570,209	2,039,459
July	7,831,046	1,188,489	6,642,557	1,222,497	4,568,938	2,039,611
August	7,892,141	1,191,591	6,700,550	1,236,644	4,609,849	2,045,648
September	7,898,515	1,191,611	6,706,904	1,235,499	4,616,558	2,046,458
October	7,905,492	1,190,909	6,714,583	1,233,911	4,624,389	2,047,192
November	7,947,752	1,192,920	6,754,832	1,245,812	4,650,603	2,051,337
December	7,912,266	1,183,853	6,728,413	1,239,269	4,631,507	2,041,490
2011						
January	7,956,362	1,188,872	6,767,490	1,249,294	4,657,382	2,049,686
February	8,002,032	1,189,858	6,812,174	1,258,533	4,691,651	2,051,848
March	8,001,423	1,186,985	6,814,438	1,257,045	4,695,846	2,048,532

SOURCE: Social Security Administration, Supplemental Security Record, 100 percent data.

NOTE: Data are for the end of the specified month.

CONTACT: Art Kahn (410) 965-0186 or ssi.monthly@ssa.gov for further information.

Table 3.
Recipients of federal payment only, by eligibility category and age, March 2010–March 2011

Month	Total	Eligibility category		Age		
		Aged	Blind and disabled	Under 18	18–64	65 or older
2010						
March	5,417,319	599,878	4,817,441	971,340	3,313,675	1,132,304
April	5,415,628	599,330	4,816,298	968,783	3,315,068	1,131,777
May	5,435,751	599,282	4,836,469	976,745	3,326,507	1,132,499
June	5,464,724	599,370	4,865,354	981,762	3,349,104	1,133,858
July	5,460,051	598,923	4,861,128	977,452	3,348,671	1,133,928
August	5,507,862	600,387	4,907,475	988,805	3,381,935	1,137,122
September	5,513,288	600,397	4,912,891	987,846	3,387,950	1,137,492
October	5,518,761	599,866	4,918,895	986,399	3,394,511	1,137,851
November	5,551,970	600,942	4,951,028	996,244	3,415,567	1,140,159
December	5,526,333	595,546	4,930,787	990,701	3,401,733	1,133,899
2011						
January	5,592,029	602,169	4,989,860	1,003,631	3,442,049	1,146,349
February	5,627,081	602,354	5,024,727	1,011,085	3,468,989	1,147,007
March	5,628,567	600,628	5,027,939	1,009,961	3,473,468	1,145,138

SOURCE: Social Security Administration, Supplemental Security Record, 100 percent data.

NOTE: Data are for the end of the specified month.

CONTACT: Art Kahn (410) 965-0186 or ssi.monthly@ssa.gov for further information.

SSI Federally Administered Payments

Table 4.
Recipients of federal payment and state supplementation, by eligibility category and age,
March 2010–March 2011

Month	Total	Eligibility category		Age		
		Aged	Blind and disabled	Under 18	18–64	65 or older
2010						
March	2,105,179	503,752	1,601,427	242,466	1,084,747	777,966
April	2,104,004	503,713	1,600,291	241,939	1,083,803	778,262
May	2,109,071	503,992	1,605,079	243,614	1,086,242	779,215
June	2,116,937	504,818	1,612,119	244,450	1,091,621	780,866
July	2,114,890	504,667	1,610,223	243,521	1,090,373	780,996
August	2,127,986	506,063	1,621,923	246,376	1,098,125	783,485
September	2,128,504	506,017	1,622,487	246,130	1,098,554	783,820
October	2,129,769	505,882	1,623,887	245,967	1,099,625	784,177
November	2,138,811	507,046	1,631,765	248,043	1,104,651	786,117
December	2,129,334	503,206	1,626,128	246,936	1,100,080	782,318
2011						
January	2,109,226	502,505	1,606,721	244,118	1,085,752	779,356
February	2,119,585	503,286	1,616,299	245,874	1,092,963	780,748
March	2,118,256	502,614	1,615,642	245,595	1,092,856	779,805

SOURCE: Social Security Administration, Supplemental Security Record, 100 percent data.

NOTE: Data are for the end of the specified month.

CONTACT: Art Kahn (410) 965-0186 or ssi.monthly@ssa.gov for further information.

Table 5.
Recipients of state supplementation only, by eligibility category and age,
March 2010–March 2011

Month	Total	Eligibility category		Age		
		Aged	Blind and disabled	Under 18	18–64	65 or older
2010						
March	254,169	84,731	169,438	1,474	128,634	124,061
April	254,731	84,720	170,011	1,550	129,058	124,123
May	255,193	84,814	170,379	1,504	129,300	124,389
June	255,739	84,984	170,755	1,520	129,484	124,735
July	256,105	84,899	171,206	1,524	129,894	124,687
August	256,293	85,141	171,152	1,463	129,789	125,041
September	256,723	85,197	171,526	1,523	130,054	125,146
October	256,962	85,161	171,801	1,545	130,253	125,164
November	256,971	84,932	172,039	1,525	130,385	125,061
December	256,599	85,101	171,498	1,632	129,694	125,273
2011						
January	255,107	84,198	170,909	1,545	129,581	123,981
February	255,366	84,218	171,148	1,574	129,699	124,093
March	254,600	83,743	170,857	1,489	129,522	123,589

SOURCE: Social Security Administration, Supplemental Security Record, 100 percent data.

NOTE: Data are for the end of the specified month.

CONTACT: Art Kahn (410) 965-0186 or ssi.monthly@ssa.gov for further information.

SSI Federally Administered Payments

Table 6.
Total payments, by eligibility category, age, and source of payment, March 2010–March 2011
(in thousands of dollars)

Month	Total	Eligibility category		Age		
		Aged	Blind and disabled	Under 18	18–64	65 or older
All sources						
2010						
March	4,274,831	476,647	3,798,184	778,186	2,670,430	826,215
April	4,184,114	475,045	3,709,068	765,706	2,594,324	824,084
May	4,205,003	475,367	3,729,637	769,404	2,610,191	825,408
June	4,269,596	476,085	3,793,511	777,075	2,665,250	827,272
July	4,190,076	475,028	3,715,047	768,633	2,595,399	826,044
August	4,311,454	477,380	3,834,075	789,090	2,691,868	830,496
September	4,256,062	476,375	3,779,687	774,470	2,652,224	829,369
October	4,237,780	475,525	3,762,255	775,508	2,633,294	828,978
November	4,296,554	477,366	3,819,188	788,199	2,676,221	832,135
December	4,273,680	474,932	3,798,748	780,109	2,663,101	830,470
2011						
January	4,235,824	474,261	3,761,563	778,155	2,628,084	829,584
February	4,342,633	474,776	3,867,857	792,430	2,718,994	831,209
March	4,319,855	474,564	3,845,290	794,225	2,694,737	830,892
Federal payments						
2010						
March	3,960,039	396,317	3,563,722	764,484	2,493,708	701,847
April	3,874,717	395,074	3,479,644	752,347	2,422,234	700,136
May	3,894,414	395,283	3,499,131	755,935	2,437,215	701,264
June	3,955,592	395,870	3,559,722	763,468	2,489,337	702,787
July	3,880,991	394,995	3,485,995	755,300	2,423,830	701,861
August	3,996,408	396,847	3,599,561	775,338	2,515,592	705,477
September	3,943,345	396,051	3,547,294	760,966	2,477,787	704,592
October	3,926,458	395,225	3,531,233	762,067	2,460,186	704,205
November	3,982,863	396,728	3,586,135	774,563	2,501,419	706,882
December	3,960,438	394,865	3,565,573	766,520	2,488,151	705,767
2011						
January	3,927,074	394,809	3,532,265	764,861	2,456,382	705,830
February	4,028,230	395,072	3,633,159	778,788	2,542,525	706,918
March	4,007,692	395,013	3,612,678	780,683	2,520,109	706,900

(Continued)

SSI Federally Administered Payments

Table 6.
Total payments, by eligibility category, age, and source of payment, March 2010–March 2011
(in thousands of dollars)—Continued

Month	Total	Eligibility category		Age		
		Aged	Blind and disabled	Under 18	18–64	65 or older
State supplementation						
2010						
March	314,792	80,330	234,462	13,703	176,722	124,368
April	309,396	79,972	229,424	13,358	172,090	123,948
May	310,589	80,084	230,505	13,470	172,976	124,143
June	314,004	80,215	233,789	13,607	175,913	124,485
July	309,085	80,033	229,052	13,333	171,569	124,183
August	315,046	80,533	234,513	13,752	176,276	125,019
September	312,717	80,324	232,393	13,503	174,437	124,777
October	311,323	80,301	231,022	13,441	173,109	124,773
November	313,691	80,638	233,053	13,636	174,802	125,253
December	313,242	80,067	233,175	13,588	174,950	124,703
2011						
January	308,749	79,451	229,298	13,294	171,701	123,754
February	314,403	79,704	234,699	13,642	176,469	124,292
March	312,163	79,551	232,612	13,541	174,629	123,993

SOURCE: Social Security Administration, Supplemental Security Record, 100 percent data.

NOTE: Data are for the end of the specified month and include retroactive payments.

CONTACT: Art Kahn (410) 965-0186 or ssi.monthly@ssa.gov for further information.

SSI Federally Administered Payments

Table 7.
Average monthly payment, by eligibility category, age, and source of payment,
March 2010–March 2011 (in dollars)

Month	Total	Eligibility category		Age		
		Aged	Blind and disabled	Under 18	18–64	65 or older
All sources						
2010						
March	498.30	398.20	516.40	596.60	514.70	403.20
April	499.50	398.50	517.70	601.60	515.30	403.60
May	498.60	398.50	516.60	596.90	514.80	403.60
June	497.50	398.30	515.30	592.40	514.10	403.60
July	499.20	398.50	517.20	600.50	514.80	403.70
August	498.90	398.60	516.80	598.20	514.60	403.80
September	498.30	398.60	516.00	594.20	514.60	403.90
October	499.70	398.40	517.70	600.20	515.50	403.80
November	499.30	398.40	517.10	596.90	515.30	403.90
December	500.70	399.80	518.50	596.70	517.20	405.10
2011						
January	499.70	398.00	517.60	598.30	515.50	403.70
February	497.60	396.80	515.20	590.80	514.10	402.80
March	500.30	398.30	518.10	599.80	515.70	403.90
Federal payments						
2010						
March	476.10	356.70	496.60	587.20	493.70	365.00
April	477.20	357.00	497.90	592.20	494.30	365.40
May	476.40	357.00	496.90	587.40	493.90	365.50
June	475.40	356.90	495.60	583.00	493.20	365.40
July	477.10	357.00	497.60	591.10	494.00	365.50
August	476.80	357.10	497.20	588.70	493.80	365.60
September	476.20	357.00	496.40	584.80	493.80	365.70
October	477.70	356.80	498.20	590.80	494.80	365.60
November	477.30	356.80	497.60	587.50	494.60	365.70
December	478.70	358.30	498.90	587.30	496.50	367.00
2011						
January	477.90	356.80	498.30	589.00	495.10	365.80
February	475.90	355.50	495.90	581.60	493.60	364.90
March	478.50	356.90	498.80	590.60	495.30	365.90

(Continued)

SSI Federally Administered Payments

Table 7.
Average monthly payment, by eligibility category, age, and source of payment,
March 2010–March 2011 (in dollars)—Continued

Month	Total	Eligibility category		Age		
		Aged	Blind and disabled	Under 18	18–64	65 or older
State supplementation						
2010						
March	124.70	134.70	121.30	51.10	130.90	136.10
April	124.70	134.70	121.30	51.10	130.90	136.10
May	124.50	134.70	121.20	51.00	130.80	136.10
June	124.40	134.70	121.00	50.90	130.60	136.00
July	124.40	134.70	121.00	51.00	130.60	136.00
August	124.30	134.70	120.90	50.90	130.50	136.00
September	124.30	134.70	120.90	50.80	130.40	136.10
October	124.30	134.80	120.90	50.80	130.40	136.10
November	124.20	134.70	120.70	50.70	130.30	136.00
December	124.30	134.90	120.80	50.80	130.40	136.20
2011						
January	124.70	134.30	121.60	50.90	131.40	135.90
February	124.50	134.20	121.40	50.80	131.10	135.80
March	124.70	134.30	121.50	50.90	131.30	135.90

SOURCE: Social Security Administration, Supplemental Security Record, 100 percent data.

NOTE: Data are for the end of the specified month and exclude retroactive payments.

CONTACT: Art Kahn (410) 965-0186 or ssi.monthly@ssa.gov for further information.

Awards of SSI Federally Administered Payments

Table 8.
All awards, by eligibility category and age of awardee, March 2010–March 2011

Month	Total	Eligibility category		Age		
		Aged	Blind and disabled	Under 18	18–64	65 or older
2010						
March	101,179	8,381	92,798	20,342	72,294	8,543
April	84,899	9,216	75,683	16,356	59,184	9,359
May	84,101	8,872	75,229	16,089	59,007	9,005
June	96,902	8,568	88,334	19,345	68,835	8,722
July	82,460	9,021	73,439	16,520	56,798	9,142
August	101,303	9,525	91,778	19,726	71,896	9,681
September	85,258	9,288	75,970	16,220	59,626	9,412
October	81,317	8,727	72,590	15,697	56,771	8,849
November	91,006	8,958	82,048	18,426	63,450	9,130
December	84,592	8,446	76,146	16,851	59,146	8,595
2011						
January	73,722	8,141	65,581	14,320	51,139	8,263
February ^a	95,784	9,073	86,711	18,927	67,630	9,227
March ^a	85,514	8,367	77,147	16,877	60,119	8,518

SOURCE: Social Security Administration, Supplemental Security Record, 100 percent data.

NOTE: Data are for all awards made during the specified month.

a. Preliminary data. In the first 2 months after their release, numbers may be adjusted to reflect returned checks.

CONTACT: Art Kahn (410) 965-0186 or ssi.monthly@ssa.gov for further information.

PERSPECTIVES—PAPER SUBMISSION GUIDELINES

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OASDI and SSI Program Rates and Limits, 2011

Old-Age, Survivors, and Disability Insurance

Tax Rates (percent)	
Social Security (Old-Age, Survivors, and Disability Insurance)	
Employers	6.20
Employees ^a	4.20
Medicare (Hospital Insurance)	
Employers and Employees, each ^a	1.45
Maximum Taxable Earnings (dollars)	
Social Security	106,800
Medicare (Hospital Insurance)	No limit
Earnings Required for Work Credits (dollars)	
One Work Credit (One Quarter of Coverage)	1,120
Maximum of Four Credits a Year	4,480
Earnings Test Annual Exempt Amount (dollars)	
Under Full Retirement Age for Entire Year	14,160
For Months Before Reaching Full Retirement Age in Given Year	37,680
Beginning with Month Reaching Full Retirement Age	No limit
Maximum Monthly Social Security Benefit for Workers Retiring at Full Retirement Age (dollars)	
	2,366
Full Retirement Age	66
Cost-of-Living Adjustment (percent)	0.0

a. Self-employed persons pay a total of 13.3 percent—10.4 percent for OASDI and 2.9 percent for Medicare.

Supplemental Security Income

Monthly Federal Payment Standard (dollars)	
Individual	674
Couple	1,011
Cost-of-Living Adjustment (percent)	0.0
Resource Limits (dollars)	
Individual	2,000
Couple	3,000
Monthly Income Exclusions (dollars)	
Earned Income ^a	65
Unearned Income	20
Substantial Gainful Activity (SGA) Level for the Nonblind Disabled (dollars)	
	1,000

a. The earned income exclusion consists of the first \$65 of monthly earnings, plus one-half of remaining earnings.

Social Security Administration
Office of Retirement and Disability Policy
Office of Research, Evaluation, and Statistics
500 E Street, SW, 8th Floor
Washington, DC 20254

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