Figure 9. Prevalence of SSDI Receipt: Worker Beneficiaries per 1000 Insured, 1975–2014

Source: Data provided by the Office of the Chief Actuary, based on 2015 *Trustees Report.*

The 2011 Technical Panel recommended an entirely different approach to projecting U.S. net total immigration—that net total immigration in the future be projected simply as a constant percentage of the overall U.S. population. Its recommended "intermediate" assumption for this approach was 3.2 per 1000, a number estimated from long time-series data—a 110-year series (1900–2010), and a 190-year series (1820–2010). While such a number may be a reasonable average for the past centuries, the basis for assuming that it would continue for 75 years into the future was not very compelling.

Over the past two centuries, U.S. net immigration has fluctuated greatly, peaking in the decades around the turn of the 20th Century, followed by deep nadirs during the 1930s and 1940s, followed by generally rising but erratic trends in subsequent decades. The unsatisfactory outcomes of the Census Bureau's assumptions in its 2008 projections, discussed above, were based on the 31-year historical record, and suggest a need for caution in assuming that long-run past trends in immigration can be used as a basis for long-range projections.

In short, this Technical Panel does not see any easy solutions emerging from other agencies or from past Technical Panels.

1.4 Disability

Assumption Recommendation 1. The Technical Panel accepts the Trustees' current assumptions regarding DI incidence, specifically, an intermediate age-sex-adjusted incidence rate of 5.4 awards per 1,000 exposed, with low-cost and high-cost values of 4.3 and 6.5 awards per 1,000 exposed. Because the incidence rate appears to be undergoing rapid and, perhaps, unexpected changes, it will be important to closely monitor its evolution as experience accumulates.

Assumption Recommendation 2. The Technical Panel recommends lowering the intermediate, high-cost, and low-cost assumptions for the DI recovery rate from 10.4 to 10.1 recoveries per 1,000. We recommend symmetric reductions to the low-cost and high-cost rates: from 12.6 and 8.3 recoveries per 1,000 respectively to 12.3 and 8.0 per 1,000.

Assumption Recommendation 3. Accounting for the stabilization of the disability composition of the SSDI population and the adjustments to mortality estimates incorporated by the Trustees since the prior Technical Panel's report, this Technical Panel is comfortable with the Trustees' current mortality assumptions for DI beneficiaries.

Method Recommendation 1. Given the complex and rapid changes in labor force participation rates among both sexes, and the difficulty of fully distinguishing the short- and medium-run effects of the Great Recession from the long-run effects of shifting labor demand and evolving social norms and preferences (as discussed in the Labor Force section), the Technical Panel recommends continued close study of the evolution of insured rates for both sexes. Given this uncertainty, and its consequences for program evolution, the Technical Panel further recommends maintaining a fairly wide confidence band around these estimates.

Method Recommendation 2. The Technical Panel recommends exploring in greater depth the recent changes in DI allowance rates to better understand whether recent declines are due entirely to cyclical factors (as per OCACT Actuarial Note #153), or whether other programmatic factors may be at work.

The Drivers of the DI Program

OCACT estimates the number of individuals receiving DI benefits in future years in four steps. First, it projects the number of males and females in each age group. Second, it projects the share of males and females in each age group insured for DI benefits. A person must have worked in at least 5 of the 10 most recent years to be eligible for DI benefits. Third, it projects the incidence rate—the fraction of individuals in each age group insured for DI who are awarded benefits during the year. Fourth, it projects the termination rate for men and women in each age group who receive DI. Individuals exit the DI program for three main reasons: conversion to retired worker benefits at full retirement age; death; and recovery. The projections of the 1) population size; 2) fraction of the population that is DI-insured; 3) incidence rate; and 4) termination rate in each age group drive the projections of DI enrollment among men and women. Changes in any one factor translate directly into changes in the projected size of the program.

Historical Background

Some background is necessary to understand why the fraction of non-elderly adults receiving SSDI benefits has increased substantially over the past thirty years, and why this increase is likely to be considerably slower in the years ahead.

Following its inception in 1956, SSDI prevalence rose steadily over the next twenty years, reaching a high water mark in 1977. It then fell sharply between 1977 and 1984, rose modestly from 1984 through 1989, and then experienced a steep and continuous rise for the next 24 years, leveling off in 2013 (see Figure 9). The prevalence rate for women used to be much lower than the rate for men. But, during this 24-year period, the two rates rapidly converged. In 1984, approximately one and a half non-elderly males were receiving SSDI for every non-elderly female; by 2008, this ratio was close to parity.

Several forces account for these marked changes in the relative size and sex composition of the SSDI beneficiary population.[37] During the late 1970s, concern over swelling disability rolls spurred the Social Security Administration (SSA) to tighten medical eligibility criteria and exercise greater control over the state Disability Determination Service (DDS) offices.[38] The fraction of applicants awarded benefits (the "award rate") fell from 45 percent in 1976 to 32 percent in 1980. Augmenting this administrative action, Congress passed legislation in 1980 mandating that SSA conduct more frequent beneficiary health reassessments (Continuing Disability Reviews or CDRs). In the subsequent three years, SSA determined that 40 percent of cases reviewed no longer met medical standards and terminated their benefits.[39] Congress also required SSA to further tighten medical criteria, accelerating the decline in award rates. This large-scale curtailment of benefits, occurring during the deepest postwar U.S. recession, was met with intense public criticism. Citing violations of due process, seventeen states refused to comply with the DI review effort during 1983 and 1984.

37 These forces have been detailed recently in Liebman (2015) and in earlier work by Autor and Duggan (2003, 2006) and Kearney (2005/2006).

38 The discussion of the SSDI program clampdown and subsequent reforms is drawn from Autor and Duggan (2003, pp. 161–162).

39 Rupp and Scott (1998).

Responding to the backlash, Congress passed legislation in 1984 that altered the disability determination system, yielding a broader definition of disability and providing applicants and medical providers with greater opportunity to influence the decision process.[40] Contemporaneously, CDRs came to a near halt. In the five years from 1985 through 1989, SSA terminated fewer individuals than it had in the first five months of 1982.

The 1985 Congressional reforms set the stage for subsequent growth of the SSDI program—although it was hardly the only factor, as discussed below. After adjusting for the impact of both age composition and the U.S. unemployment rate, the incidence of disability enrollments rose substantially between 1982 and 1992.[41] After 1992, the adjusted incidence rate stabilized among men, but continued to rise among women throughout the 1990s and 2000s, albeit at a much more modest clip than in the 1980s.

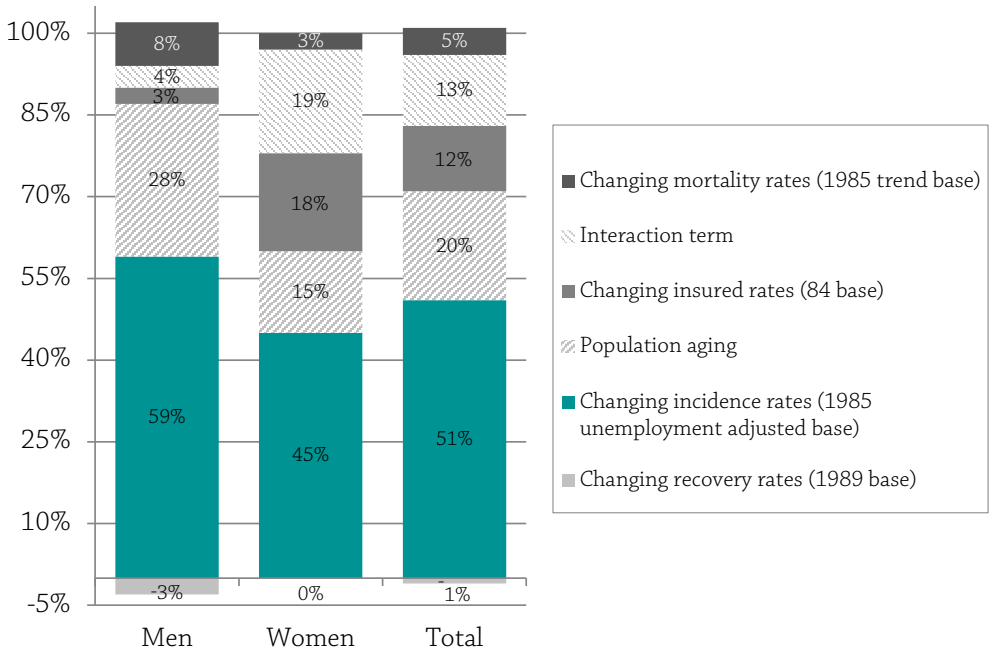
Although the rise in SSDI *incidence* slowed for females and reached a plateau for males in the early 1990s, the *prevalence* continued to rise steeply over the subsequent two decades for three reasons. First, SSDI *incidence* is a measure of *inflows* into the SSDI program; by contrast prevalence—the number of current beneficiaries—is a stock. The stock of beneficiaries is said to be in "steady-state" when inflows equal outflows. When inflows exceed outflows, the stock of beneficiaries rises. If starting from an initial steady state, incidence rises—as it did between 1982 and 1992—the stock of beneficiaries does *not* immediately reach a new steady state. Instead, this stock will typically grow for multiple years until the program reaches a new size where outflows again equal inflows. Thus, a discrete rise in SSDI incidence will generate many years of program growth *after* incidence has stopped rising.[42] Liebman (2015) estimates that the post-1985 rise in SSDI incidence accounted for half (51 percent) of the rise in SSDI prevalence from 1985 to 2007 (see Figure 10).

40 SSA was required to 1) relax its strict screening of mental illness by placing less weight on diagnostic and medical factors and relatively more on functional factors, such as ability to function in a work or work-like setting; 2) consider source evidence provided by the applicant's own health care provider prior to the results of SSA consultative examination; 3) give additional weight to pain and related factors; 4) consider multiple non-severe impairments as constituting a disability during the initial determination (whereas prior to 1984, applicants were automatically denied awards during the initial determination if all impairments were judged to be non-severe); 5) desist from terminating benefits for any individual for whom SSA could not demonstrate substantial evidence of medical improvement; 6) provide benefits for those former recipients whose terminations were under appeal; and 7) suspend Continuing Disability Reviews (CDRs) for mental impairments and pain until appropriate guidelines could be developed. In 1991, due to successful court challenges to SSA's treatment of source evidence, regulations were adopted placing further weight on the information provided by an SSI or DI applicant's own medical provider.

41 Liebman (2015).

42 Outflows from the program are the product of the current stock and the exit rate. Assuming the exit rate is roughly constant (which is roughly true for the past several decades), outflows from the program rise as the stock of current beneficiaries grows. When inflows rise due to an increase in the incidence rate, the stock of beneficiaries rises as well. But it does not rise indefinitely. As the stock grows, the number of beneficiaries exiting annually rises along with it. When the stock is sufficiently large that exits are again equal to inflows, the program is back in steady state—but now with a larger stock of beneficiaries. The number of years required to reach a new steady state depends on the magnitude of the incidence change relative to the program's exit rate. A steep rise in incidence can take a decade or longer to work through.

Figure 10. Decomposition of Various Factors' Impact on the Percent of the Working-Age Population Receiving Disability Insurance, 1985–2007



Source: Liebman (2015).

The next largest factor was population aging. When the Baby Boom began aging into their peak disability years in the mid-1990s, population aging became a central force driving rising SSDI prevalence. Liebman (2015) estimates that population aging accounted for 20 percent of the rise in prevalence between 1985 and 2007, and 46 percent of the rise in prevalence over the shorter 1993–2007 interval. Furthermore, the earlier rise in SSDI incidence magnified the subsequent impact of population aging. In effect, the baby boom generation 'aged into' higher incidence rates than had prevailed ten years earlier. Liebman (2015) estimates that the interaction between rising incidence and population aging explains an additional 13 percent of the rise in prevalence between 1985 and 2007.

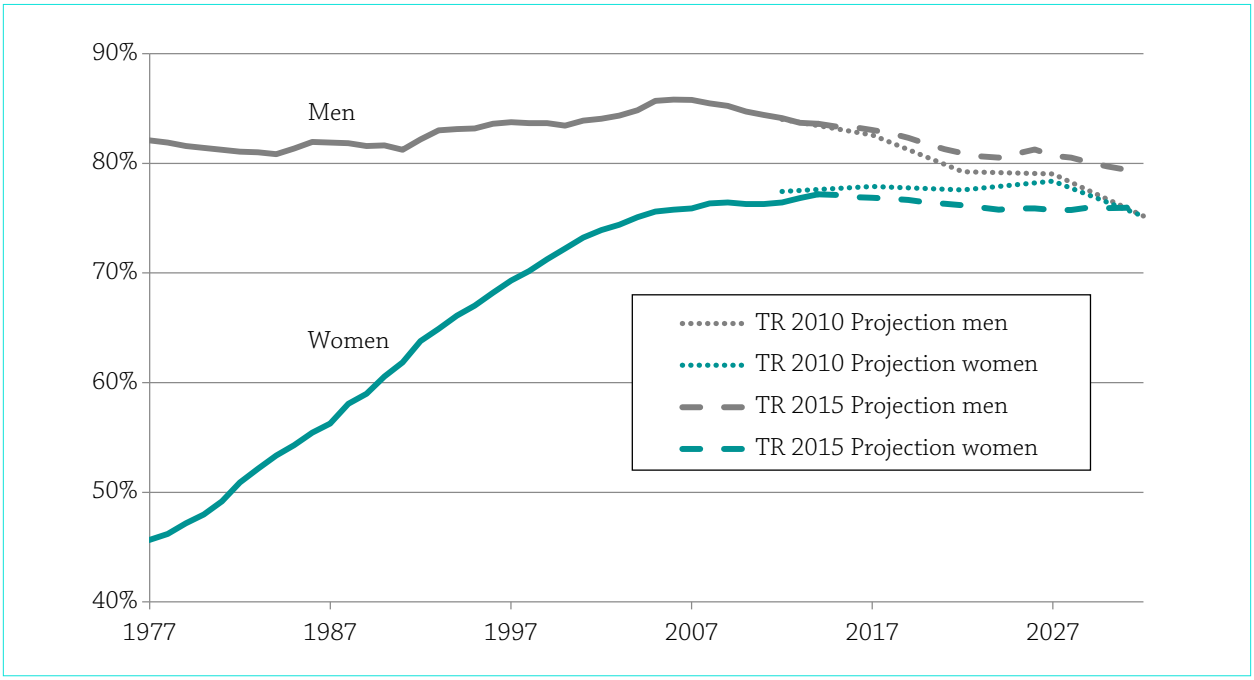
The third key factor in the growing SSDI rolls is the rapid convergence of female SSDI prevalence towards that of men. One contributor to this convergence is the secular rise in female labor force participation, which increases the fraction of women eligible by their work history to receive disability benefits. Liebman (2015) reports that the fraction of women ages 50 to 64 covered by SSDI rose from 46 percent to 72 percent between 1980 and 2007, which explains 18 percent of the increase in SSDI prevalence among women between 1985 and 2007. Surprisingly, rising insured rates played a considerably smaller role for women than did rising incidence; incidence explains 45 percent of the rise in female SSDI prevalence in the same interval, two-and-a-half times as large as the contribution of insured rates.[43]

Thus, SSDI growth over the last three decades was driven by three central factors: rising incidence (e.g., following the 1984 Congressional reforms), population aging, and female 'catch-up' in SSDI incidence. The interaction between rising SSDI incidence and subsequent population aging also plays an important role. Perhaps surprisingly, changing mortality and recovery rates make only a trivial contribution.[44]

43 As noted above, female SSDI incidence continued to inch upward throughout the 1990s and 2000s, distinct from the pattern of leveling off observed for males. One reason why this may have occurred is that rising female employment and earnings increased *both* the fraction of women insured for disability and the size of the cash benefit for which they were eligible in the event of disability (since benefit payments are an increasing function of prior earnings). All else equal, higher cash benefit levels would be expected to increase the fraction of insured women claiming benefits.

44 This point is also underscored by Autor and Duggan (2006) and Duggan and Imberman (2009).

Figure 11. Percentage Insured for DI, Men and Women, Ages 50–54: 1977–2032, by Year of Projection, 2010 vs. 2015



Source: Data provided by the Office of the Chief Actuary, based on 2015 *Trustees Report*.

The factors that led to the secular rise in SSDI prevalence over the past three decades are not likely to occur again, meaning that a further rise in SSDI prevalence is not inevitable. Indeed, two recent developments strongly hint that the trajectory of the program is already shifting rapidly. First, in 2015 the SSDI program appears poised to notch its first year-over-year decline in the stock of beneficiaries in more than 30 years.[45] Second, SSA data document an unusually steep and prolonged decline in SSDI allowance rates since 2000, particularly allowances granted at the appeal level. While this decline may in part reflect the impact of the Great Recession (since SSDI application rates typically rise and allowance rates typically fall during an economic downturn), the Technical Panel suspects that a regime shift in the SSDI adjudication process may be underway.[46] If this inference is correct, the SSDI rolls will decline further than current projections would suggest.

DI Assumptions and Technical Panel Recommendations

The following section assesses each of the Trustees' assumptions that drive the DI projections and offers the Panel's recommendations.

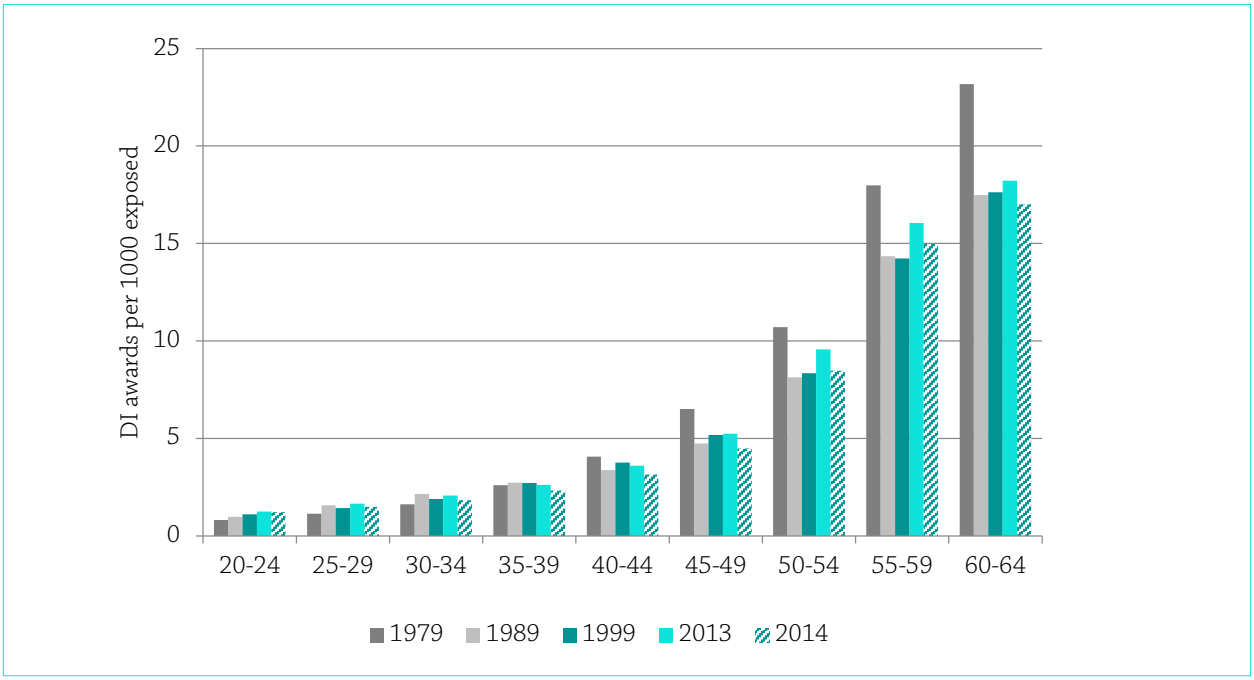
Percent Insured

The percent of individuals insured has changed over time. Most notably, the increase in female labor force participation in recent decades has led to a steady rise in the fraction of women insured for DI (see Figure 11). The share of women who are DI-insured is projected to decline by 1.4 percentage points between 2014 and 2027, and then to rebound modestly to 76.2 percent between 2027 and 2032. The projection partly reflects the Trustees' assumptions that female labor force participation will not change much in the years ahead, but it may also reflect an increase in the projected share of other-than-legal immigrants in this group, who are much less likely to be insured.

45 The number of SSDI beneficiaries in current payment status fell very slightly in 2014 Q4 and 2015 Q1 and rose very slightly in 2015 Q2, the last period for which data are available. (http://www.ssa.gov/OCACT/STATS/dibStat.html, accessed 6/7/2015).

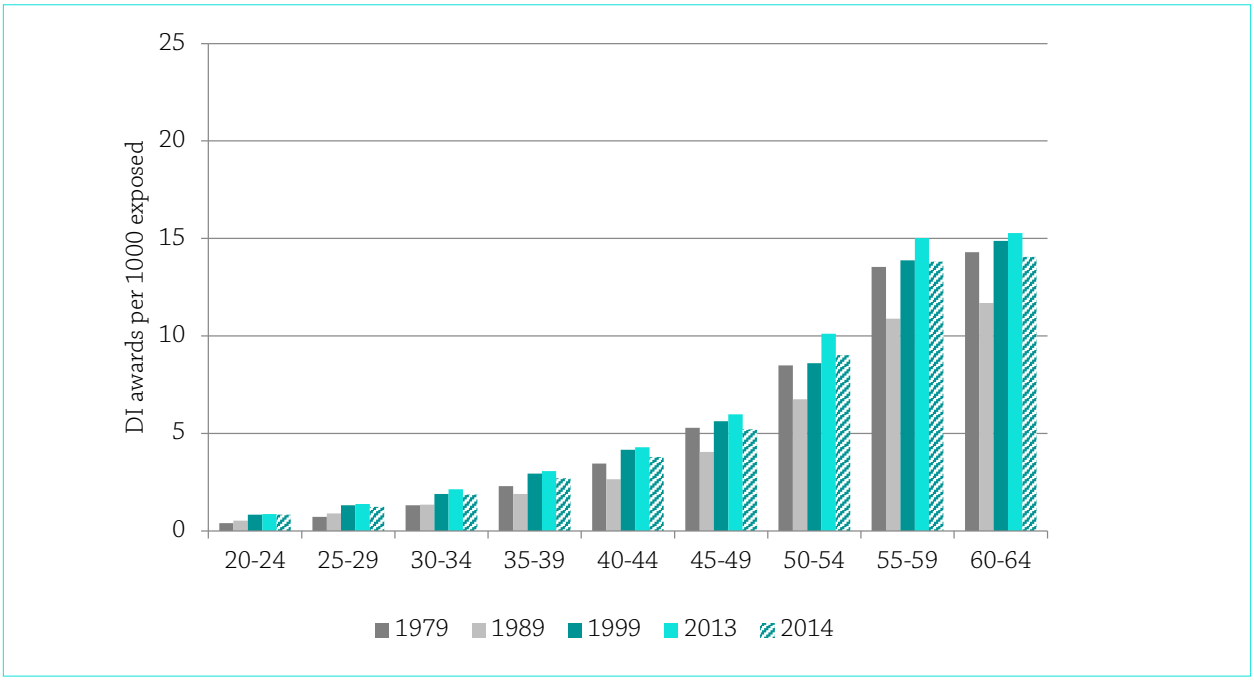
46 SSA OCACT Note #153 (August 2013) ascribes this decline entirely to the counter-cyclicality of SSDI application rates and pro-cyclicality of allowance rates. The Technical Panel is not entirely persuaded by this evidence.

Figure 12A. SSDI Incidence per 1,000 Exposed, Men Ages 20–64



Source: Data provided by the Office of the Chief Actuary, based on 2015 *Trustees Report*.

Figure 12B. SSDI Incidence per 1,000 Exposed, Women Ages 20–64



Source: Data provided by the Office of the Chief Actuary, based on 2015 *Trustees Report*.

The share of men aged 50–54 insured for DI, which has gradually increased since the early 1980s, only to fall modestly between 2007 and 2014 (likely due to the Great Recession), is projected to fall another 4 percentage points in the coming decades (see Figure 11). The *Trustees Report* does not discuss this substantial change. The projections for other age groups among both men and women are qualitatively similar, with a leveling off projected for women and substantial declines projected for men (before a rebounding to gradually increasing rates after 2030).

Given OCACT's methodology, the assumed declines in the share of DI-insured reduce the number of individuals projected to receive DI benefits. The 2011 Technical Panel recommended (Method Recommendation M-9) that the Trustees expand the discussion of the factors leading to the projected decline and carefully monitor developments to see if the recent declines among younger men carry forward to men at older ages. OCACT accepted this recommendation, and the 2014 and 2015 *Trustees Reports* made a modest upward revision to projected male insurance rates. The Reports also included a modest downward revision to projected female insurance rates, partly to accord with the fact that realized female insurance rates in 2012 fell below the level projected by the 2010 *Trustees Report*.

Given the complex and rapid changes in labor force participation rates among both sexes, and the difficulty of fully distinguishing the short- and medium-run effects of the Great Recession from the long-run effects of shifting labor demand and evolving social norms and preferences (as discussed in Chapter 3), the Technical Panel recommends continued close study of the evolution of insured rates for both sexes. Given this uncertainty, and its consequences for program evolution, the Technical Panel further recommends maintaining a wide confidence band around these estimates.

Incidence Rates

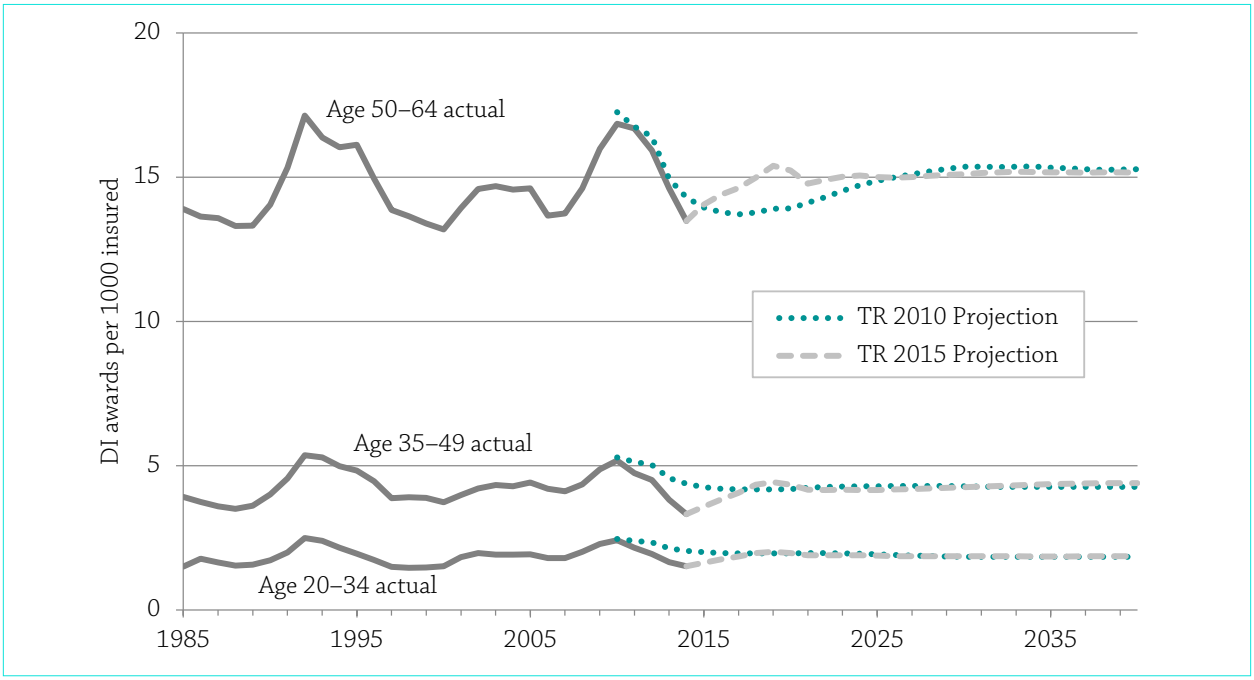
Incidence rates are a critical determinant of projected DI enrollment. Although the administration of the SSDI program and the state of the economy both affect incidence rates, the most important determinant is the age structure of the population. Holding constant both the size of the working-age population and the SSDI incidence rate at each age, an increase in the fraction of working-age adults who are ages 50 and above has a dramatic effect on aggregate SSDI incidence because age-specific incidence rates rise steeply with age. Figure 12A shows the pattern for men; Figure 12B shows a similar pattern for women.[47]

Incidence rates are also highly cyclical (see Figures 13A and 13B).[48] The incidence rate for both men and women rose substantially from 1989 to 1992, a period encompassing the 1991 recession, in the early 2000s, and again from 2007 to 2009 during the Great Recession. As the recession abated between 2010 and 2013, incidence rates for men and women returned to the levels seen in 2000 (35–49 year old men fell to a level lower than at any time since 1985).

47 1979, 1989, and 1999 are all business cycle peaks, which generally correspond to low incidence rates. We use 2013 and 2014 (the latest year available) rather than 2009 to avoid the lingering effects of the Great Recession on SSDI incidence.

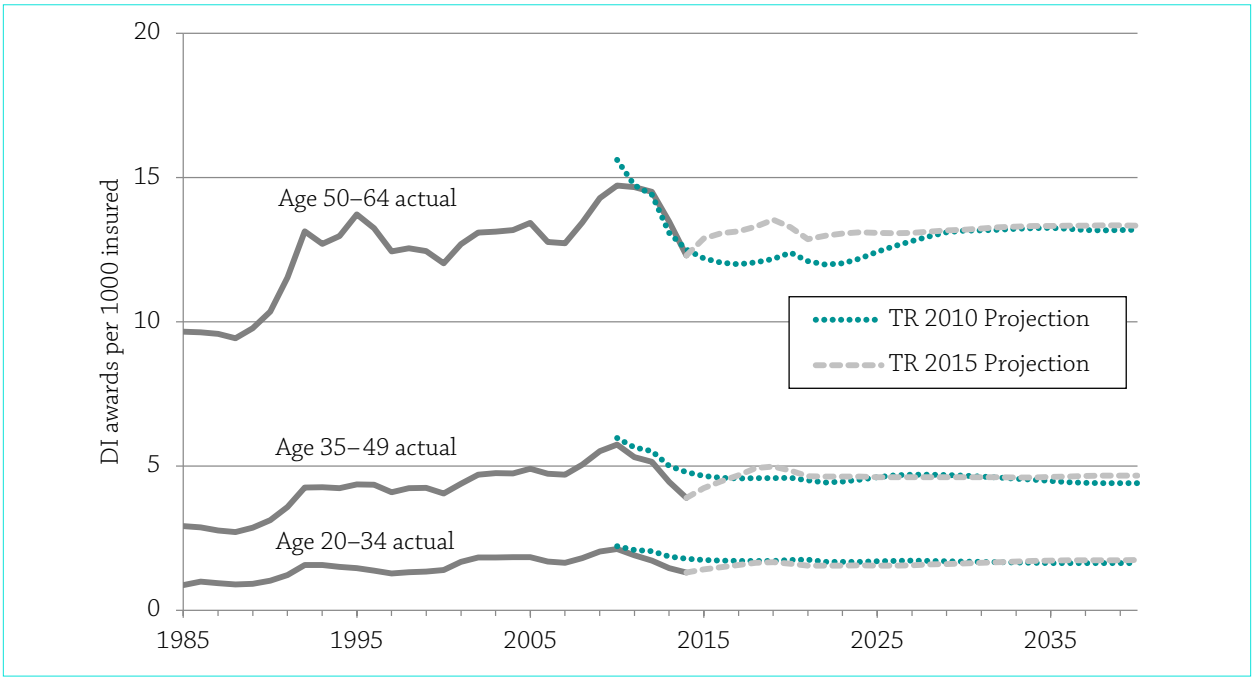
48 A number of researchers have identified this cyclical pattern; see Black, Daniel, and Sanders (2002); Autor and Duggan (2003); Duggan and Imberman (2009); and Liebman (2015).

Figure 13A. DI Incidence (per 1000 insured) among Men, by Age Category, 1985–2040 Projected in 2010 vs. Projected in 2015



Source: Data provided by Office of the Chief Actuary, based on *Trustees Reports* 2010 and 2015.

Figure 13B. DI Incidence (per 1000 insured) among Women, by Age Category, 1985–2040 Projected in 2010 vs. Projected in 2015



Source: Data provided by Office of the Chief Actuary, based on *Trustees Reports* 2010 and 2015.

In reviewing the incidence data through 2009, the 2011 Technical Panel recommended increasing the age-sex-adjusted disability incidence rate (the incidence rate if the population proportions by age and sex were the same as in the base year) from 5.2, which was assumed in the 2011 *Trustees Report*, to 5.8 per 1,000 insured workers, with somewhat larger increases for women and smaller increases for men. Responding to this input, the Trustees in 2013 raised the age-sex-adjusted disability incidence rate to 5.4 per 1,000 insured workers, a projection that was maintained in the 2014 and 2015 *Trustees Reports*.

Notably, realized incidence rates between 2010 and 2014 declined slightly *faster* from their Great Recession levels than the Trustees had projected for all groups except women ages 50–64 for whom experience tracked the 2010 projections closely. The projections from the 2015 *Trustees Report* anticipate a slight *increase* in incidence among both sexes and all three broad age brackets during the years 2014–2019. As explained in the Report, the Trustees assume that the Great Recession accelerated some DI enrollments that would otherwise have occurred a few years later, yielding the *opposite* of a backlog in the recession's wake. If so, this temporary depression of DI incidence is likely to be both modest and brief. Given the evolution of DI incidence since the prior Technical Panel reviewed DI program data—and particular the sharp decline in allowances discussed immediately below—this Technical Panel accepts the Trustees' current assumptions regarding DI incidence, specifically, an intermediate age-sex-adjusted incidence rate of 5.4 awards per 1,000 exposed, with low- and high-cost values of 4.3 and 6.5 awards per 1,000 exposed. Because the incidence rate appears to be undergoing rapid and, perhaps, unexpected changes, it is important to closely monitor the evolution of incidence as experience accumulates.

Allowance Rates

Changes in the total allowance rate of SSDI applicants, which is equal to the fraction of all initial DI claimants who are ultimately allowed benefits (excluding applicants disqualified for non-medical reasons, such as not being DI-insured), may substantially impact DI incidence in the years ahead.[49] The total allowance rate is generally countercyclical: DI applications increase when the unemployment rate rises but the allowance rate generally falls after a one- to two-year lag, likely because a larger share of applications filed during a recession is spurred by financial hardship rather than medical disability.[50]

Since 2001, however, the allowance rate has declined steadily (see Figure 14). A sustained reduction in allowance rates has the potential to dampen long-term DI incidence and prevalence. In addition, a decline creates a subtle but potentially important feedback between the allowance rate and the application rate: when DDS offices tighten eligibility criteria, both allowances *and*, ultimately, applications fall as potential applicants are discouraged from seeking benefits.[51] This interaction was particularly evident during the major retrenchment of DI determinations during the late 1970s and early 1980s.[52]

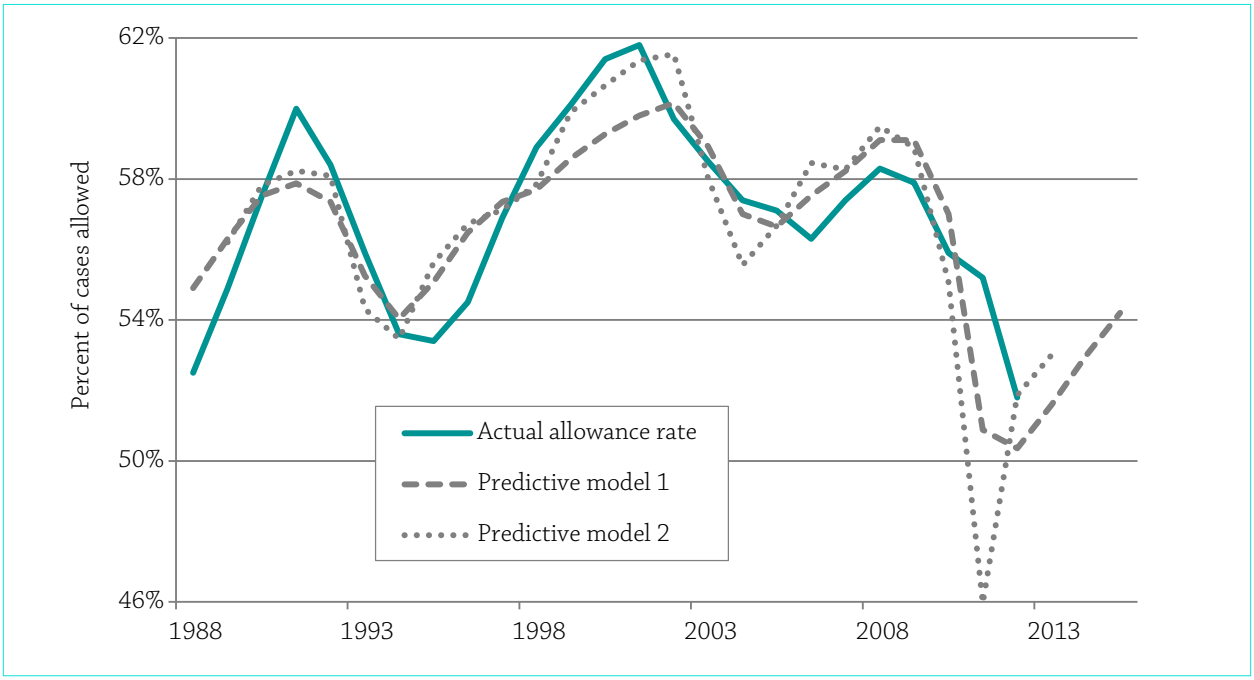
49 OCACT Actuarial Note #153 defined the total allowance rate as "all allowances made for claims filed in each year at the Disability Determination Services (DDS), both initial and reconsideration determinations, as well as allowances made for those claims on subsequent appeals. Rates are expressed as a percent of initial claims received at the DDS after screening for disability insured status and other non-medical criteria, generally at the time of receipt of claim at Social Security field offices."

50 Although the allowance rate normally falls during an economic downturn, this pattern does not fully offset the rise in applications: as Figure 13 underscores, the net effect of economic downturns on DI incidence is generally strongly positive.

51 See Autor and Duggan 2003.

52 Between 1977 and 1983, the fraction of DI applicants awarded benefits fell from 46.1 percent to 30.6 percent. (These statistics, from Table 26 of the 2000 *Annual Statistical Report on the Social Security Disability Insurance Program*, include both medical *and* non-medical determinations and hence are not directly comparable to the total allowance rate reported in OCACT Actuarial Note #153). One might speculate that the falling allowance rate was spurred by a surge in economically-motivated DI applications stemming from the deep early 1980s U.S. recession. But no such surge occurred: applications per 1,000 insured fell from 14.1 to 9.8 in the same six-year period. It appears instead that the tightening of disability determination criteria during these years reduced the allowance rate and deterred applications.

Figure 14. Total Allowance Rate for Disabled-Worker DDS Claims by Filing Year, Actual Vs. Modeled



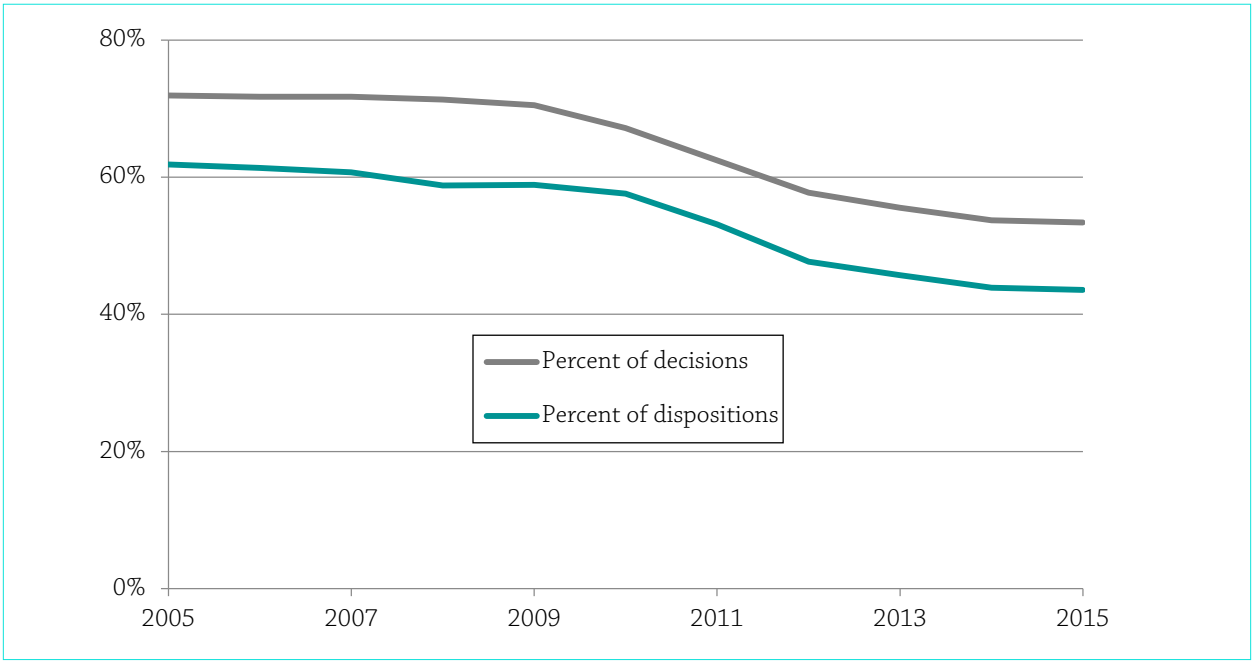
Source: OCACT Actuarial Note No. 153, August 2013.

The relevant question for the Technical Panel, and for SSDI projections, is whether the substantial decline in final allowance rates since 2001 indicates a regime shift or merely a particularly steep and prolonged, but ultimately cyclical, fall in allowances. OCACT Actuarial Note #153 offers one answer to this question. Fitting a pair of time-series regression models that relate total allowance rates to lagged values of the U.S. unemployment rate and, potentially, lagged values of the allowance rate itself, OCACT draws the conclusion that the general decline in allowance rates seen since 2000, and particularly after 2009, is attributable to fluctuations in the unemployment rate rather than changes in the DI determination process.

The Technical Panel is not entirely convinced by this conclusion. The good fit of OCACT's model is in part a reflection of the fact that it makes an *in-sample* prediction—that is, it does not extrapolate to outcome years that were not used to produce the original regression line. Even given this fact, shortcomings are apparent. First, this model generally *under-predicts* the cyclical fluctuations of the total allowance rate in the 1988 through 2002 period, and then *over-predicts* this relationship after 2002. This pattern suggests that the downward trend in total allowance rates may in part be explained by secular declines in allowance rates rather than cyclical fluctuations. Second, the predictive model implies a very sharp rebound in total allowances over 2012–2015, reflecting the lagged effect of the falling unemployment rate. Whether this prediction will prove accurate is unknown at present, but it highlights that the program is currently operating in a realm of very low total allowance rates that, if maintained for a couple of additional years, would almost certainly indicate a regime shift.

A final piece of evidence hinting that a regime shift may be underway in DI adjudications is given by Figures 15A and 15B. Figure 15A shows that since 2009 the percent of cases approved by Administrative Law Judge has fallen steeply with some evidence of a leveling off in the first half of 2015. Figure 15B plots mean Administrative Law Judge (ALJ) allowance rates by ALJ cohort, that is, the year in which the ALJs began their service. For example, the 2009 cohort includes those judges who were hired (or first began deciding cases) in 2009 and remain in service through 2014, and similarly for subsequent years. The data indicate that for all cohorts of ALJs, approval rates have declined year over year ever since 2009. Although allowance rates generally fall as ALJs gain experience, Figure 15B shows that more recent cohorts of ALJs have lower allowance rates than did earlier cohorts *with the same level of experience*.

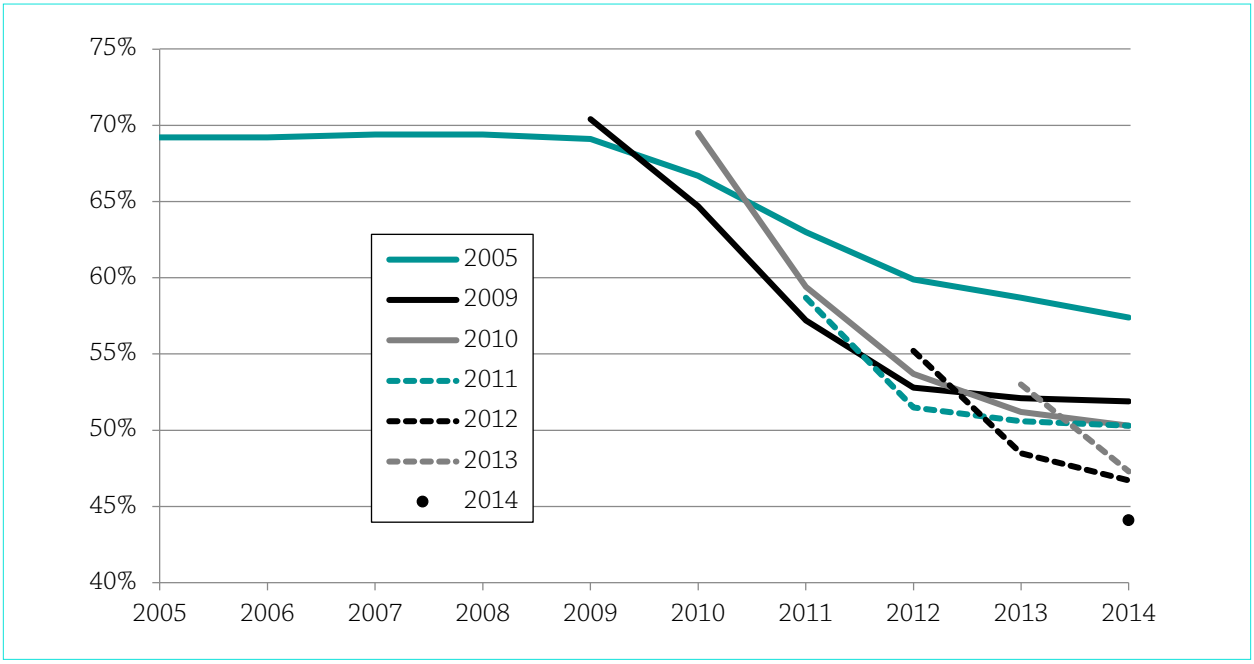
Figure 15A. Allowance Rate for Cases Decided by Administrative Law Judges, 2005–2015 (July)



Note: Case dispositions include decisions (allowances or denials) and dismissals.

Source: ALJ disposition data, fiscal years 2005–2014, and fiscal year 2015 through July 31 and Social Security Administration, Office of Disability Adjudication and Review.

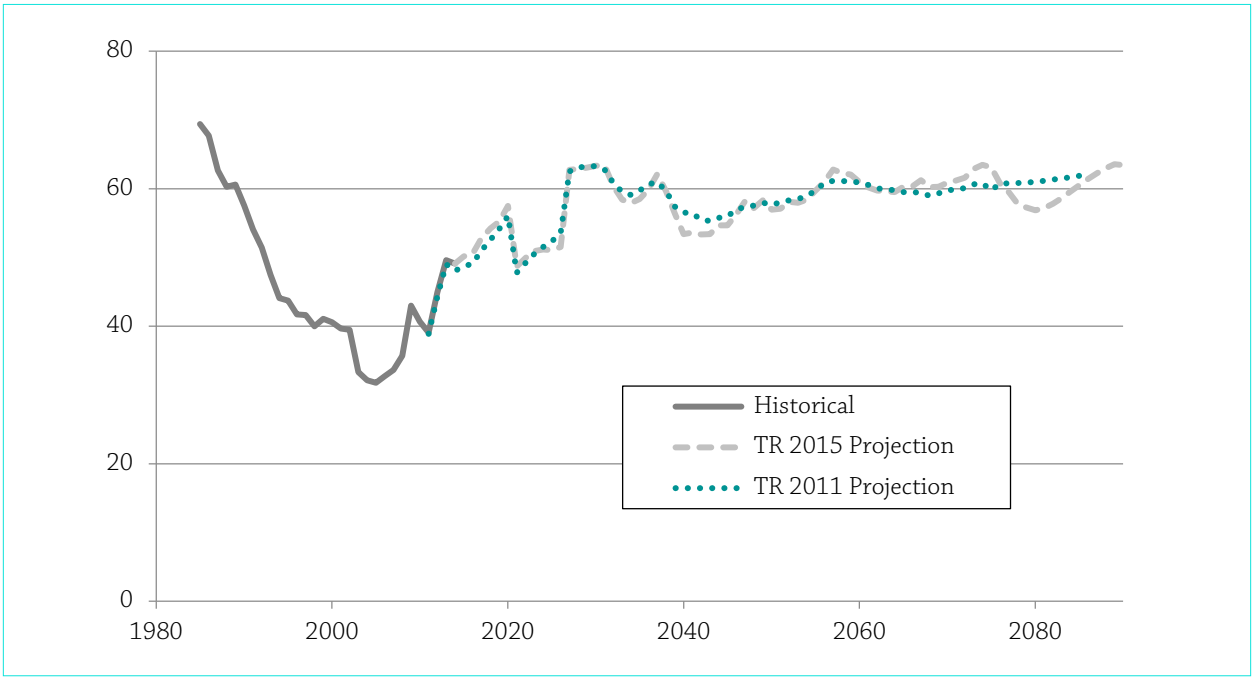
Figure 15B. Percent of Decisions Allowed by ALJ Cohort 2005–2014: Judges Active in 2014, Who Worked at Least 100 Cases in the Year



Note: This chart shows the mean approval rate in FYs 2005–2014, by the year in which the ALJs began their service *for those judges who were still active in 2014*. The 2005 cohort actually refers to all the judges who were in service as of 2005 (the first year our data begin) who were still working in 2014. The 2009 cohort includes those judges who were hired (or first began deciding cases) in 2009 and remain in service through 2014, and similarly for subsequent years. Approval rates are calculated only for those judges with more than 100 dispositions in a year.

Source: ALJ disposition data, 2005–2014, Social Security Administration, Office of Disability Adjudication and Review.

Figure 16. DI Recipients Converting to Retired Worker Benefits (per 1000 Recipients), Projections of 2011 and 2015 Trustees Reports



Source: *Trustees Report* 2011, 2015.

The overall evidence leads the Technical Panel to suspect that total allowance rates may have entered a decline beyond that attributable to the business cycle. Hence, the Panel calls for further monitoring and study of the factors that contribute to the recent decline in DI total allowance rates.

Termination Rates

Individuals may exit the DI program for one of three reasons: 1) conversion to retired worker benefits at full retirement age (FRA); 2) death; or 3) recovery. Of the 769,171 disabled workers exiting from the SSDI program in 2013, 58.9 percent exited due to conversion to retired worker benefits, 32.6 percent due to death, and 7.7 percent because their earnings exceeded the substantial gainful activity level or they no longer met the program's medical eligibility criteria.[53] From 1985 to 2013, the annual exit rate from DI fell from 12.8 percent to 8.6 percent. On average DI beneficiaries now remain in the program longer than their counterparts of earlier years.

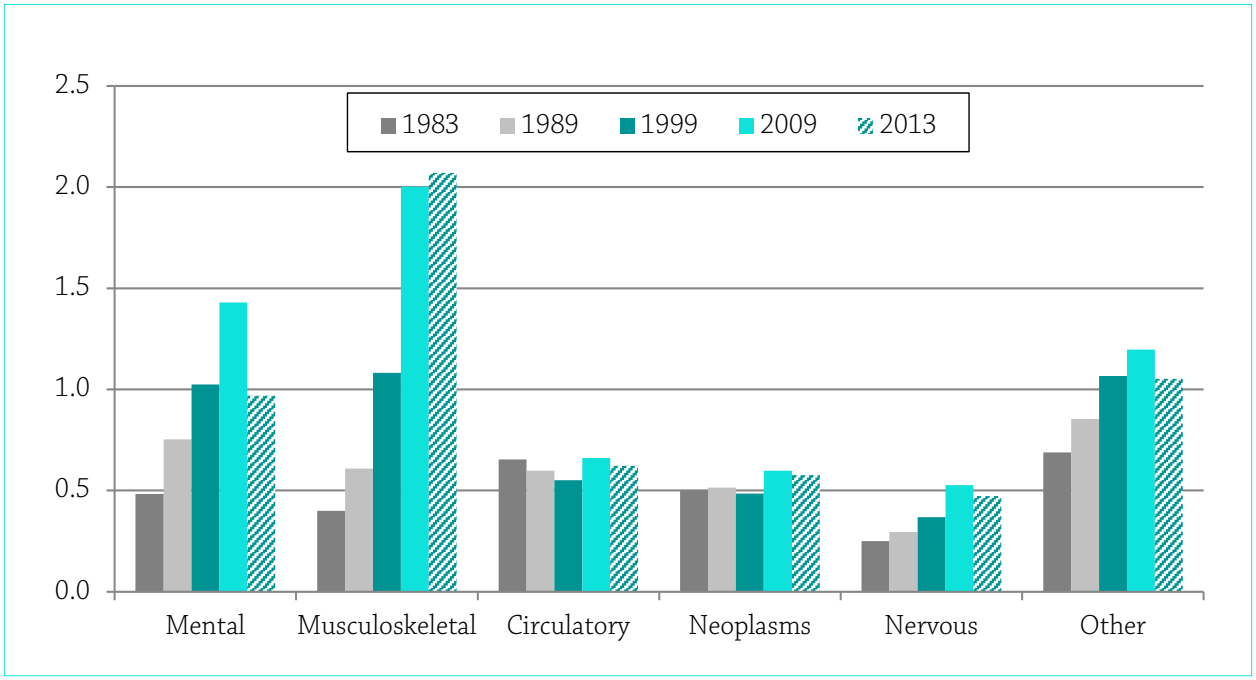
Conversion to retired worker benefits. DI recipients who reach the FRA convert to retired worker benefits.[54] Thus, the exit rate associated with the FRA is a function of the DI population's age distribution. As shown in Figure 16, the FRA exit rate trended down during the late 1980s and through the late 1990s as DI enrollment rates increased especially rapidly among younger adults and a decreasing share of DI recipients was just under the FRA. The rate was fairly stable in the early 2000s and artificially low from 2003 through 2008 because of the increase in the FRA that occurred during that period.[55] The FRA exit rate increased between 2011 and 2014, as the oldest members of the Baby Boom generation (born in 1946) reached their FRA in 2012.

53 All figures in this paragraph are from the Annual Statistical Report on the Social Security Disability Insurance Program, 2013, Tables 49 and 50.

54 The FRA is age 66 for those born from 1943 to 1954.

55 Only DI recipients born from January 1938 through October 1938 would have converted to retired worker benefits in 2003 because the FRA for the group had increased by two months to 65 years and two months. Similarly, only DI recipients born from November 1938 through August 1939 would have converted to retired worker benefits in 2004. In other words, from 2003 through 2008, the size of the cohorts converting to retired worker benefits were about one-sixth smaller because of the policy change, thereby explaining the substantial increase in the exit rate from 2008 to 2009 per Figure 8.

Figure 17. DI Awards by Diagnosis per 1,000 DI-Insured: 1983, 1989, 1999, 2009, 2013



Source: Annual Statistical Report on the Social Security Disability Insurance Program, 2013 (December 2014); Annual Statistical Supplement, 2014 (April 2015).

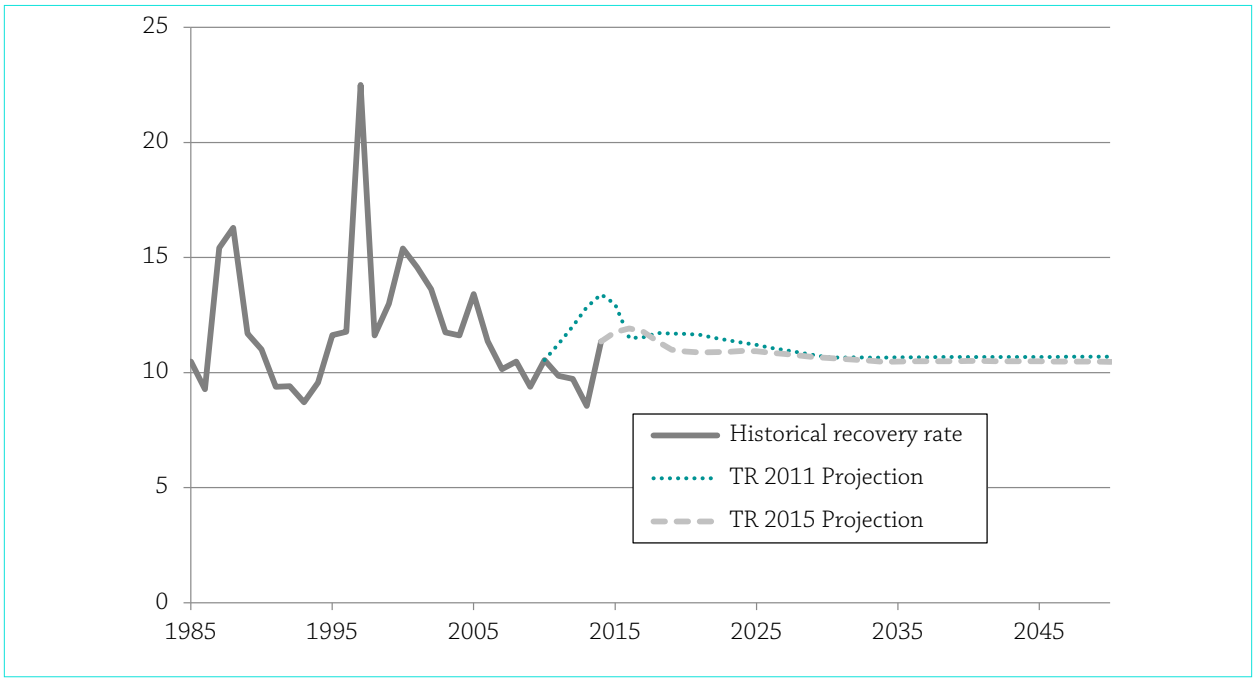
OCACT projects substantial increases in the exit rate in subsequent years, with eventual stabilization at around 60 per 1,000, a rate not seen since the 1980s. The rationale for this predicted rise is the aging of the beneficiary population. The distinct notch in Figure 16 for exit rates predicted for 2021 through 2026 reflects the impact of the rise in FRA from age 66 to age 67 for cohorts born between 1955 and 1960. A one-time rise in the FRA generates a temporary decline and subsequent catch up in FRA exit rates.

The 2011 Technical Panel was skeptical of the Trustee's assumptions of a gradual rise in the FRA exit rate after 2026. The current Technical Panel does not see a basis for questioning this assumption.

Mortality. The mortality rate of DI recipients has declined steadily and rapidly in recent years. The age-sex-adjusted mortality rate fell from 4.70 percent in 1985 to 2.51 percent by 2015. This decline was substantially greater than for all non-elderly adults during the same period. To some extent, the decline in the mortality rate since 1985 reflects the increase in the share of female DI recipients whose mortality rates are much lower than those of comparably aged males.

An even more important factor, however, is the shift in program-qualifying conditions (see Figure 17). In the early 1980s, the most common conditions among DI recipients were cancer and heart disorders. Following a liberalization of the program's medical eligibility criteria in 1984, applicants could more easily qualify for DI based upon mental and musculo-skeletal conditions, which are difficult to verify but may nevertheless inhibit individuals from functioning in a work-like setting.

Figure 18. Age-Sex-Adjusted Recovery Rate (per 1000 DI Recipients), Projections of 2011 and 2015 Trustees Reports



Source: Data provided by Office of the Chief Actuary, based on *Trustees Reports* 2011and 2015.

In reviewing these data, the 2011 Technical Panel was concerned that, in projecting mortality rates among DI beneficiaries, the Trustees were not adequately accounting for secular shifts in the composition of disorders towards conditions with low mortality and prolonged morbidity. This concern was amplified by an error in the 2010 *Trustees Report* (since corrected), which projected a ten-year near-hiatus in mortality declines between 2020 and 2030.

Since the 2011 Technical Panel did its work, three developments have placed the 2015 Technical Panel at greater ease with the Trustees' current projections. First, as noted, the Trustees have corrected the prior error that yielded an unrealistically slow decline in mortality rates. Second, the fraction of current DI beneficiaries that qualified with low mortality disorders (mental and musculo-skeletal) appears to have roughly stabilized at 60 percent between 2010 and 2013. Finally, while DI awards per insured population were roughly stable or declining across almost all categories between 2009 and 2013, the largest fall in awards (both proportionately and in level terms) was for mental disorders.[56]

Accounting for the factors above and the adjustments incorporated since the prior Technical Panel's report, the current Technical Panel is comfortable with the Trustees' current mortality assumptions for DI beneficiaries.

Recovery. The third channel by which DI beneficiaries exit the program is recovery. Beneficiaries are deemed recovered if their reported earnings exceed the substantial gainful activity amount over two-plus years, or if SSA conducts a Continuing Disability Review (CDR) and determines that their condition no longer meets medical eligibility criteria.[57] Returns to the workforce are likely to increase in response to improving economic conditions. The number of CDRs conducted by SSA will largely determine involuntary medical recovery exits.[58]

Figure 18 presents the age-sex-adjusted recovery rate for DI beneficiaries from 1985 through 2014 and the Trustees' long-range projections made in the 2010 and 2015 *Trustees Reports*. The recovery rate was particularly high in 1997, due to a federal policy change that terminated benefits for beneficiaries who qualified for DI due to drug or alcohol addiction. In a typical year, approximately one percent of all DI beneficiaries exit the program because they voluntarily return to work or SSA terminates their benefits due to medical improvement.

56 The extraordinarily steep fall in awards for mental disorders provides a further piece of evidence that a regime shift in DI determinations is underway.

57 The 1984 disability reforms made it substantially harder for SSA to terminate DI benefits due to medical recovery. Prior to 1984, SSA could terminate beneficiaries who were found during a CDR to no longer meet medical eligibility. Following the reforms, SSA could only terminate benefits if the examiner could document that the beneficiary's qualifying impairment had improved since the initial allowance.

58 We focus on medical CDRs rather than on CDR mailings given that the former are much more likely to result in program exit. The mailings sent to DI recipients ask questions such as, "Has your condition improved?" Perhaps not surprisingly, a very small share leads to benefit termination.

In addition to the state of the labor market, a key determinant of DI recoveries is the number of CDRs performed by SSA. The CDR rate (that is, the fraction of current DI beneficiaries receiving a CDR) rose steeply between 1993 and 2001, and then fell by more than 50 percent, as did the DI recovery rate. While only five to seven percent of CDRs result in benefits termination, CDRs nevertheless account for a substantial share of DI recoveries.[59]

In their 2011 report, the Trustees projected a substantial increase in recoveries between 2011 and 2014. This increase did not occur—in fact, recoveries continued their trend decline in these years (see Figure 18)—until 2014. The 2011 Technical Panel noted that the assumption of a sharp increase sustained over the long term seemed to rest on an optimistic forecast of SSA's ability to process more CDRs, which in turn depended upon ongoing Congressional budget authorizations to support this activity.[60] Seeing little case for optimism, the 2011 Technical Panel recommended an almost 20-percent reduction in the intermediate-case assumption for recoveries, and a significantly larger uncertainty range between the intermediate-cost, low-cost, and high-cost scenarios. Specifically the 2011 TP recommended reducing the estimated recovery rate from 10.9 to 8.7 per 1,000 beneficiaries, with high-cost and low-cost scenario estimates of 6.0 and 11.4 recoveries per 1,000.

The Trustees did not, for the most part, heed this recommendation. The 2014 and 2015 *Trustees Reports* reduced the estimated recovery rate to 10.4 recoveries per 1,000 beneficiaries (approximately 20 percent of the suggested reduction), and reduced the high- and low-cost estimates to 8.3 and 12.6 recoveries per thousand. The Trustees currently project a steep increase in recoveries between 2013 and 2015, a modest decline in recoveries between 2014 and 2032, and a convergence to a long-run recovery rate of 10.4 per 1,000 DI recipients, with low-cost and high-cost estimates of 12.6 and 8.3 respectively.

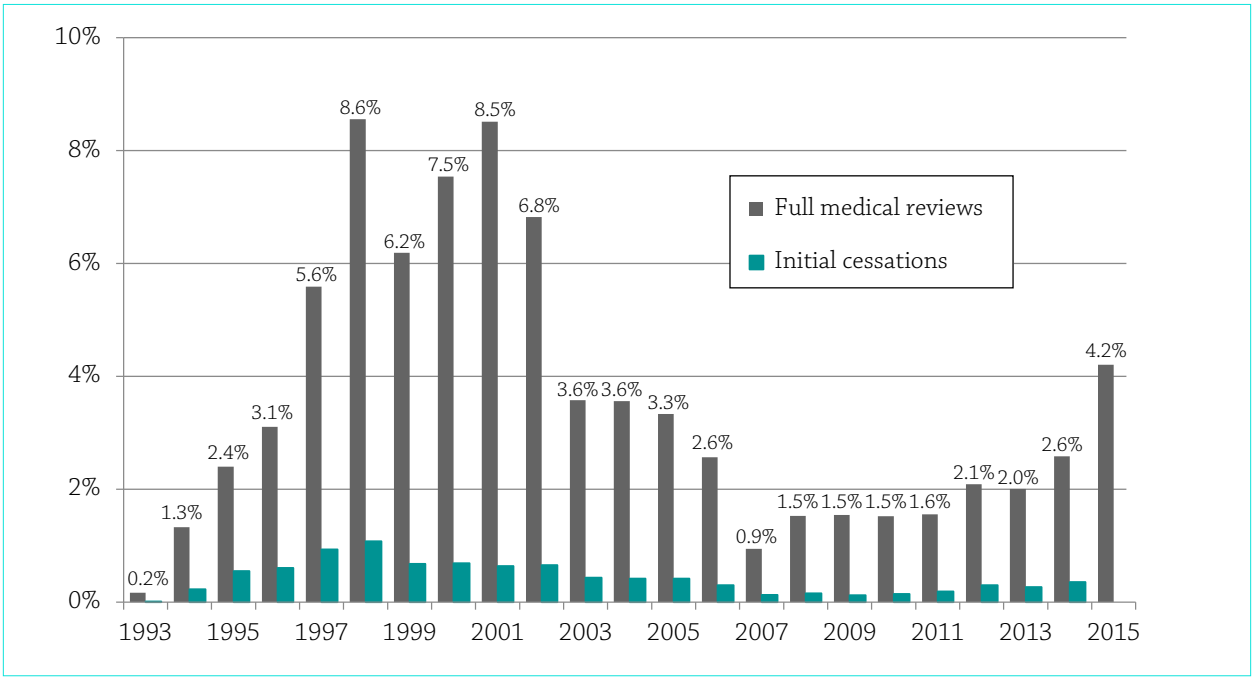
The data that have accrued since the prior Technical Panel provide qualified support for the Trustees' prior optimism regarding recoveries. The percentage of DI recipients receiving CDRs increased by 60 percent between 2011 and 2014, and is projected to rise substantially further in 2015 (Figure 19). The apparent halt to the secular rise in awards for low-mortality mental and musculo-skeletal disorders (Figure 17) further suggests that the duration of new DI spells may stabilize or decline—though this stabilization is likely to affect the mortality rate more than the recovery rate. In light of these developments, this Technical Panel believes that the Trustees' current assumptions remain too optimistic, but not by as much as the previous Panel.

The Technical Panel recommends lowering the intermediate, high-cost, and low-cost assumptions for the DI recovery rate from 10.4 to 10.1 recoveries per 1,000 (a level last seen in 2007). We recommend symmetric downward increments to the low- and high-cost rates: from 12.6 and 8.3 recoveries per 1,000 respectively to 12.3 and 8.0 per 1,000.

59 In 2001, for example, 6.8 percent of beneficiaries received a CDR and 4.0 percent of those were terminated. These 20,592 terminated beneficiaries accounted for 38 percent of all recoveries in 2007, with the remainder accounted for by beneficiaries who were terminated due to earnings above SGA (Annual Statistical Report on the Social Security Disability Insurance Program, 2007, Table 50).

60 As the prior Technical Panel noted, OCACT estimates that CDR expenditures reduce subsequent program outlays by approximately seven to ten dollars per CDR dollar spent.

Figure 19. Percentage of DI Recipients in Current Payment Status (a) Receiving Full Medical Continuing Disability Reviews and (b) Initially Ceased due to Medical Review, 1993–2015



Source: OCACT, June 2015.

Conclusion

The secular rise in SSDI prevalence over the past three decades stems from three distinct sources, at least two of which (aging and incidence) reinforced one another. These contributing factors are not likely to recur, meaning that a further rise in SSDI prevalence is not inevitable. Thus, in projecting the evolution of the SSDI program, the Technical Panel recognizes that the years ahead are unlikely to closely resemble the preceding decades. The data that have accumulated since the prior Technical Panel regarding DI prevalence, incidence, allowance rates, and percent insured, all point to substantially slower program growth. In addition, the Trustees have adjusted some prior assumptions in response to the 2011 Technical Panel's recommendations, most notably regarding mortality. Thus, the current Technical Panel is more sanguine about the Trustees' projections for the DI program than was the prior Technical Panel. Other than the issue of program finances, which is outside the scope of the Technical Panel, we remain concerned about three factors: the unprecedented decline in DI-insured rates among men and the simultaneous plateau in insurance rates among women; the steep fall in total DI allowance rates, which may or may not reverse as the U.S. economy completes its recovery from the Great Recession; and the Trustees' somewhat optimistic projections about future DI recovery rates.