The Impact of Late-Career Health and Employment Shocks on Social Security and Pension Wealth

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1. Introduction

Health and employment shocks often derail retirement savings plans. About 19 percent of adults ages 51 to 61 were laid off from their jobs over a 10-year period, and about one-third developed serious health problems that limited their work ability (Johnson, Mermin, and Uccello 2005). People who lose their jobs in the years leading up to retirement or are forced by health problems to reduce their work hours generally have less money available for retirement savings than people who remain at work until their planned retirement age. Job loss between the ages of 51 and 71 reduces household financial and housing wealth by about 33 percent for single people, when other factors are held constant, and the onset of work disability reduces wealth by about 42 percent (Johnson, Mermin, and Uccello 2006). The estimated effects are smaller but still substantial for married people.

Social Security may provide some protection from health and employment shocks at older ages. The system's disability insurance provides some people whose health problems limited their work histories with more generous retirement benefits than they would otherwise receive. Social Security allows those with limited earnings to collect benefits based on their current, divorced, or deceased spouse's work history. Various features of the benefit formula, such as the provision to base benefits on only the highest 35 years of earnings or to replace larger shares of pre-retirement lifetime earnings for those with low income than those with high income, favors those with limited employment histories and lifetime earnings. As a result, health and employment shocks in the years leading up to retirement may have smaller effects on future Social Security benefits than on financial wealth holdings.

Traditional employer-sponsored pension benefits, however, may be especially vulnerable to health and employment shocks in the years immediately prior to benefit take-up. Most traditional plans tie benefits to years of service and nominal earnings received near the end of the career. As a result, pension wealth tends to grow rapidly in the years just before people qualify for benefits. An additional year on the job increases future benefits not only by adding an additional percentage of pay, but also by raising the value of previous accumulated benefits by a combination of real wage growth and

inflation. Thus, many people lose substantial pension wealth if they are laid off from their jobs just before qualifying for benefits or are forced by health problems to retire early.

This paper examines the impact of health and employment shocks on the value of Social Security wealth, traditional employer-sponsored pension wealth, and other household wealth. We begin by measuring the incidence of work disability and job layoffs up to age 62 for a sample of workers ages 51 to 55 at study baseline. We then compare wealth levels for those who do and do not experience each type of shock. The final stage of the analysis estimates multivariate models to assess the impact of health and employment shocks on each wealth type, holding other factors constant. The results show that late-career disability shocks significantly impede the accumulation of traditional pension wealth and other types of savings outside of Social Security. However, the onset of disability has much smaller effects on Social Security, primarily because of the protections afforded by Social Security disability benefits. Late-career job layoffs significantly reduce growth in Social Security and traditional pension wealth, but not in other types of household wealth.

2. Background

Social Security, employer-sponsored pension benefits, and household savings are the three pillars of retirement income. In 2004, Social Security benefits accounted for nearly two-fifths of income for adults ages 65 and older, more than half of income for people ages 80 and older, and more than four-fifths of income for older people in the bottom two-fifths of the income distribution (Social Security Administration 2006). Employer-sponsored pensions now account for about one-fifth of income at ages 65 and older. About 13 percent of income received by older adults comes from assets and about 43 percent comes from earnings (although the importance of earnings declines sharply with age).

All of these sources of retirement income may be vulnerable to health and employment shocks in the years leading to retirement. Health problems often raise out-of-pocket medical spending (Emanuel et al. 2000; Himmelstein et al. 2005) and force many people to retire early (CBO 2004; McGarry 2004). The increase in health care costs and loss of earnings leave people with less money to save for retirement. Older workers displaced from their jobs often encounter problems finding work (Chan and Stevens

2001), perhaps because employers are reluctant to hire workers near the end of their careers or because older people face outright discrimination in the labor market (Lahey 2005). Because people typically accumulate much of their retirement savings in the decade or so before they stop working (Engen, Gale, and Uccello 1999), adverse health and employment shocks in the 50s and 60s can substantially erode retirement preparedness.

Health and employment shocks may deal especially harsh blows to pension wealth from traditional defined benefit (DB) plans. Although they have been declining recently as 401(k)-type plans have proliferated and now cover only about one in five wage and salary workers in the private sector (U.S. Bureau of Labor Statistics 2006), traditional DB plans still predominate in the public sector and unionized workplaces. These plans provide workers with lifetime annuities that begin at retirement and pay regular benefits until death. Benefits are typically expressed as a multiple of years of service and earnings received near the end of the career (e.g., 1 percent of average salary received during the final three years on the job times the number of years of service.)[1] Participants cannot collect full benefits until reaching the plan's normal retirement age, but most plans allow workers who retire early to collect reduced benefits if they have enough seniority. Retirement ages vary across plans. The normal retirement age is set at 65 in about two-thirds of plans in the private sector, at 62 in about one-sixth of private plans, and at 60 or 55 in most of the rest (U.S. Bureau of Labor Statistics 2005). Most plans set the early retirement age at 55.

Because future benefits in traditional DB plans rise as workers age and accumulate substantial tenure, typically spiking at the plan's early retirement age and normal retirement age, workers who separate from their employer before they are able to collect benefits often lose significant pension wealth. An additional year on the job increases future pension benefits not only by adding an additional percentage of pay, but also by raising the value of previous accumulated benefits by a combination of real wage growth and inflation. This increment is often substantial for workers with lengthy job tenures. Workers displaced from their jobs before qualifying for benefits or forced by health problems to leave early miss out on these runups in pension wealth, potentially

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[1] Some plans instead pay benefits equal to a fixed dollar amount per year of service.

resulting in a substantial loss in future benefits. (Employer-provided disability benefits could partly offset the loss for workers with health problems, however.)

Pension losses from early labor force withdrawal tend to be less serious for workers in 401(k)-type retirement plans, which basically function as tax-advantaged savings accounts to which both employers and employees usually contribute. Contributions cease when workers leave their jobs, so that participants who stop work early typically end up with smaller balances than those who delay retirement, all else equal. However, because account balances grow smoothly while workers are on their jobs employment shocks do not cause workers to miss out on periods of rapid wealth accumulation, as can be the case with DB pensions. Additionally, as long as workers do not withdraw plan funds, existing account balances can continue to earn investment returns after workers separate from their employer, softening the impact of health and employment shocks on future pension benefits.

Although Social Security retirement benefits are based on lifetime earnings, the system redistributes income to people with low earnings, thus providing some protection from health and employment shocks that limit employment and earnings. For example, the benefit formula replaces a higher share of earnings for people with low earnings than high earnings. For people who begin collecting at the normal retirement age, the 2007 formula sets monthly benefits equal to 90 percent of their first $680 in average indexed monthly earnings, 32 percent of the next $3,420 in indexed monthly earnings, and 15 percent of earnings exceeding $4,100.[2] Additionally, only the most lucrative 35 years of employment figure in the computation of average indexed earnings, so people do not forfeit much Social Security benefits if they are unable to work for more than 35 years.

Spousal and survivor benefits also protect people who experience health and employment shocks that limit their lifetime earnings. Instead of receiving Social Security benefits based on their own earnings history, people have the option to collect benefits based on the earnings history of their current, divorced, or deceased spouse. People who elect benefits from current spouses receive payments equal to half of the spouse's benefit

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[2] People who begin collecting benefits before the normal retirement age, set at age 67 for those born after 1959, will receive smaller payments, and those who delay benefit take-up will receive larger payments. Adults can start collecting retirement benefits as early as age 62.

if the current or divorced spouse is alive, or the spouse's full benefit if the spouse is deceased. Spousal and survivor benefits can thus offset the loss of own Social Security retirement benefits, especially for widows and widowers, that can result when health problems and job loss reduce lifetime earnings.

Social Security also provides disability benefits to people who develop health problems that render than unable to work. To qualify, people must satisfy Social Security's strict disability criteria, which requires that they have a medically determined disability expected to last at least 12 months and be unable to engage in "substantial gainful activity." They must also meet work Social Security's work history and earnings conditions, which vary by age. Workers who becomes disabled at age 54, for example, must have worked at least eight years. Additionally, disabled workers must demonstrate recent work experience by having worked at least 5 of the 10 years before becoming disabled. Disability benefits, which do not begin for at least five months until after the onset of disability, are based on lifetime earnings, adjusted to account for the relatively short work lives of disability insurance beneficiaries.

3. Data and Methods

This study examines the impact of health and employment shocks on the accumulation of Social Security wealth, employer-sponsored DB pension wealth, and other household wealth. Data come from the Health and Retirement Study (HRS), a longitudinal survey of older Americans conducted by the Survey Research Center at the University of Michigan with primary funding from the National Institute on Aging. The survey collects detailed information on health status, employment, and assets. It oversamples African Americans, Hispanics, and Florida residents but includes sample weights used to adjust the estimates so that they represent the underlying national population.[3] We examine workers ages 51 to 55 in 1992 who were re-interviewed every other year through 2004 (when they were ages 63 to 67). After we eliminate respondents who drop out of the survey by 2004 (either through attrition or death), our full sample consists of 3,004 adults.

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[3] For additional information on the HRS, see Juster and Suzman (1995) or visit http://hrsonline.isr.umich.edu.

To calculate Social Security and pension wealth we use Social Security administrative records and detailed characteristics of employer-provided pension plans that have been linked to many HRS respondents.[4] Earnings and benefit records from the Social Security Administration are available through 1992 or 2004 for HRS respondents who gave permission for the release of their records. The HRS also obtained detailed pension plan descriptions in 1992 and 1998 from the employers of respondents who allowed the survey to contact their employers. We have Social Security earnings records for 2,384 adults in the full sample and DB pension plan information for 847 adults.

Measuring Health and Employment Shocks

The analysis begins by calculating the incidence of health and employment shocks up to age 62. We ignore shocks that occur at older ages. Because Social Security and most DB plans allow people to collect benefits at age 62, shocks that occur after age 62 are likely to have much smaller effects on public and private pension benefits. We classify adults as experiencing health shocks if they report the onset of health problems that limit the amount or type of work they can do. We classify adults as experiencing an employment shock if they ever report being laid off from their job since the previous interview.

Calculating Social Security Wealth

We calculate Social Security wealth in 1992 and 2004 and compare the change over the period for adults who experience shocks and those who do not. We define Social Security wealth at the baseline interview as the expected present value at age 62 of future benefits based on earnings through 1992, assuming that workers take-up benefits at age 62. Social Security wealth in 2004 is the present value at age 62 of benefits received through 2004 plus the expected present value of future benefits. The 2004 calculation computes benefits based on earnings records through benefit take-up or 2004, and assumes that take up occurs in 2005 for those who have not yet collected benefits. For consistency with the 1992 wealth calculation, 2004 benefit amounts are computed from administrative earnings records (as well as self-reported earnings between 1992 and 2004 for cases in which the administrative records do not extend beyond 1992), not from

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[4] These linkages are not available in the public HRS data. Only researchers who have been granted special permission by HRS can gain access to these restricted datasets.

administrative benefit records or self-reported benefits. In both 1992 and 2004 we also compute benefits for spouses to determine whether respondents qualify for Social Security spousal or survivor benefits.[5] In 2004 we calculate disability benefits based on earnings records for respondents who received disability benefits (according to administrative benefit records or, if not available, self reports).

Social Security wealth at time t, SSW_t, can be expressed as

$$SSW_t = \sum_{i=j}^{120} p_i \frac{Q_i B_i + (1 - Q_i) S_i}{(1 + r)^{(i-62)}},$$

where t is 1992 or 2004, r is the discount rate, j is age at benefit take-up, p_i is the probability of surviving from age at time t to age i, Q_i is the probability that the spouse is alive when the respondent is age i (conditional on being alive at time t), B_i is the Social Security benefit if the spouse is alive, and S_i is the survivor benefit. B_i is the maximum of the Social Security benefit based on the respondent's own earnings records and half of the benefit that the spouse earned, at age i. S_i is the maximum of the respondent's benefit and the deceased spouse's benefit, at age i. The computations use a real discount rate of 3 percent and assume that no one survives past age 120.

To examine how various features of Social Security may protect workers from health and employment shocks we also simulate Social Security wealth under the assumption that these features did not exist. We first remove the impact of disability benefits by calculating Social Security benefits for all adults (including those with disabilities) using the retired worker formula and not allowing take-up until age 62. We then remove spouse and survivor benefits by calculating Social Security wealth based solely on respondent's own earnings records. In those computations, we set

$$OSSW_t = \sum_{i=j}^{120} p_i \frac{OB_i}{(1 + r)^{(i-62)}},$$

where $OSSW_t$ is own Social Security wealth at time t (1992 or 2004), OB_i is the Social Security benefit received at age i based on the respondent's own earnings history, and other variables are as described earlier. Finally we calculate Social Security wealth based on 40 computation years instead of 35 and on a flat benefit formula that replaces 45

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[5] However, we lack information about divorced spouse benefits for people whose marriages ended before the survey began in 1992.

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percent of average indexed monthly earnings for all respondents, instead of the progressive formula used in the actual computations.

Calculating Pension Wealth

The analysis computes the expected present value of DB pension wealth accumulated through 1992 and 2004 for those who experience shocks and those who do not. Pension benefits are estimated from pension plan descriptions, Social Security earnings records, and self-reported hire and quit dates, under the assumption that workers take-up benefits as soon as they are eligible after separating from their employers.[6] Pension wealth at first interview is based on earnings through 1992, and 2004 pension wealth is based on earnings through take-up of benefits. Pension wealth at time *t*, PW_t, can be expressed as

$$PW_t = \sum_{i=j}^{120} p_i \frac{M_i}{(1+r)^{(i-62)}},$$

where M_i is pension benefits received at age *i* and other variables are as defined earlier.

Estimated pension wealth does not include benefits from past jobs or jobs that began after 1992. This limitation causes us to understate true pension wealth, especially for workers laid off from their pension job who become re-employed at another pension job. The bias is likely to be modest, however, because workers accumulate most of their DB pension wealth in their 50s, and only 13 percent of respondents in our sample have DB pension coverage from a job that they started after 1992.

Measuring Other Household Wealth

Finally, we examine the change in all other net household wealth over the sample period by the presence of negative shocks. All other wealth includes the value of housing, bank accounts, stocks, bonds, other real estate, IRAs, vehicles, and businesses, net of mortgage and other debt. We divide all other wealth by two for married and partnered respondents to make it comparable with Social Security and pension wealth, which are individual as opposed to household measures. All amounts are expressed in constant 2004 dollars.

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[6] The HRS provides a pension benefits calculator that uses summary plan descriptions, job start and end dates, and earnings records. The calculator's default setting estimates pension benefits based on annual earnings in 1992. However, we run the calculator on Social Security earnings records between the job start and end dates.

Modeling Financial Impact of Negative Shocks

The analysis isolates the effect of health and employment shocks by estimating separate regressions of the change in Social Security, pension, and other household wealth over the period. We use ordinary least squares for the Social Security and pension equations, but median regression for other household wealth because it is highly skewed. The regressions include variables indicating the onset of health-related work limitations and layoffs as well as baseline characteristics including baseline health problems, age, race, education, and earnings.

4. Results

In our full sample, consisting of workers ages 51 to 55 in 1992, just over a quarter develop health-related work limitations and just over a fifth are laid off from their jobs before age 62 (table 1). The incidence of employment and (especially) health shocks declines with educational attainment. Nearly one-third of workers who did not complete high school develop health problems, almost twice the disability rate for college graduates. Workers without high school degrees are also 33 percent more likely to be laid off than those with college degrees. Women, single workers, and African Americans are more likely than men, married workers, and other racial groups to experience health shocks before age 62. For instance, nearly one-third of African Americans develop health-related work limitations, compared with just over one-quarter of non-Hispanic whites. African American workers, however, are less likely to be laid off than other racial groups. Job displacement rates do not vary much by gender or marital status.

The last two columns of table 1 show the incidence of health and employment shocks in the selected samples we use for the Social Security and pension wealth analyses. The incidence of shocks in the Social Security sample is very similar to the full sample, suggesting that restricting the sample to respondents matched to Social Security earnings records does not bias our results much. The incidence of shocks in the pension sample, however, is somewhat lower than in the full sample, either because workers in DB plans are less likely to experience these shocks than other workers or because respondents linked to DB plans data differ somewhat from all workers in DB plans.

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Impact of Shocks on Social Security Wealth

Table 2 shows the change in Social Security wealth between 1992 and 2004 for workers who experience health and employment shocks and those who do not. Average Social Security wealth for all workers is about $130,000 at baseline, discounted to age 62 and expressed in 2004 dollars, and increases by about $41,000 over the period. Most of this growth arises from the additional earnings that workers accumulated between 1992 and 2004. Initial Social Security wealth for workers who never report a health-related work limitation is about $12,000 more than for those who develop work limitations by age 62 (but do not report any at baseline) and almost $18,000 more than for those who report work limitations at baseline. However, average Social Security wealth grows more rapidly over the period, in both absolute and relative terms, for workers who experience health shocks than for those who do not. Baseline Social Security wealth for workers who experience employment shocks is slightly higher than for those who are never laid off, but it grows somewhat more slowly over the period.

The first column of table 3 reports regression results of the change in Social Security wealth under existing law. (The appendix table reports descriptive statistics for the dependent variables and regressors in each model.) After controlling for baseline characteristics and the onset of widowhood and divorce we find that job layoffs significantly reduce Social Security wealth accumulation by about $4,200, or 10.4 percent of the average increment. Surprisingly, after baseline characteristics are controlled for, health shocks increase the change in Social Security wealth over the period by more than $10,000, a 25.3-percent increase above the average growth. Social Security wealth accumulation is positively related to baseline earnings and negatively related to age (because older workers have less time to amass additional wealth than younger workers). Men, workers who become widowed, and those with baseline work disabilities also experience relatively rapid growth in Social Security wealth.

The positive impact of health shocks on the accumulation of Social Security wealth may result from features of the system that weaken the connection between lifetime earnings and Social Security wealth. The progressive benefit formula; spouse, survivor, and disability benefits; and the inclusion of only the worker's 35 most lucrative earnings years in the benefit formula likely reduce the impact of health shocks. Disability

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benefits are likely to be especially important. Workers who experience health-related work limitations may qualify for disability benefits before reaching retirement age and begin receiving payments based on a formula that does not penalize them for relatively short careers (with limited earnings histories) and does not subject them to actuarial reductions for collecting benefits early.

To examine how well these Social Security features protect workers, we simulate Social Security wealth under three scenarios in which benefits are more directly related to lifetime earnings. The first scenario, reported in the second column of table 3, computes Social Security benefits as if the disability insurance (DI) program did not exist. Controlling for other factors, we find that the onset of health-related work limitations reduces the change in non-DI Social Security wealth over the period by $4,500, equal to 13 percent of the average growth. Under the second scenario, which assumes that Social Security spouse, survivor, and disability benefits do not exist, the negative impact of health shocks increases to $4,900, or 15 percent of the average gain in Social Security wealth under this scenario. Finally, when we calculate Social Security wealth without disability, spouse, or survivors benefits using a formula that incorporates the top 40 years of earnings and replaces a constant 45 percent of average indexed earnings for all workers, the negative impact of health shocks jumps to $7,900, equal to 18 percent of the average change in wealth.

Stripping these program features from Social Security has smaller effects on the estimated impact of layoffs. Eliminating disability, survivor, and spouse benefits and the progressive benefit formula from Social Security reduces the impact of job displacement from about -$4,200 to about -$4,000.

Impact on Pension and Other Household Wealth

Table 4 shows the change in DB pension wealth and per capita other household wealth between 1992 and 2004 for adults who experience health and employment shocks and those who do not. Overall, mean pension wealth increases from $164,000 to $245,000 over the period. Pension wealth is lower at baseline interview for those who later experience health shocks during the period but higher for those who are eventually laid off. Pension wealth grows more slowly over the period in absolute and relative terms for those who experience work disabilities and layoffs. Mean other household wealth

increases from $169,000 to $317,000 between 1992 and 2004. However, the baseline level and change over the period is more modest for median other household wealth, which increases from $78,000 to $121,000. For both mean and median other household wealth, baseline levels and changes are smaller for those who experience health and employment shocks than those who do not.

Table 5 reports regression results of the change in DB pension wealth and other household wealth. Late-career health and employment shocks sharply reduce DB pension wealth. Controlling for other factors, the regressions show that layoffs reduce pension wealth by about $30,900, equal to 38 percent of the average growth in pension wealth over the period. The onset of work disabilities reduces wealth by about $19,600, or about 24 percent of the average pension wealth increment over the period. DB pension wealth also increases with baseline earnings, and grows significantly more rapidly among college graduates than plan participants with less education and among African Americans than whites. Pension wealth growth slows as age rises.

Health problems significantly slow the accumulation of other household wealth in the years leading up to retirement. The onset of work disabilities reduces the growth in per capita household assets, excluding Social Security and DB pensions, by about $10,600, equal to 34.3 percent of the median increase in wealth between 1992 and 2004. Job layoffs reduce the growth in wealth by about $5,100 (equal to 16.7 percent of the median increment), but the effect is not statistically significant. Other household wealth increases with education and baseline earnings. The growth rate is also higher for people who are married at baseline than those who are single, and lower for African Americans than whites.

5. Conclusions

Work disabilities in the years leading up to retirement erode DB pension wealth and other non-Social Security wealth, but Social Security's disability benefits provide important protections. Workers who develop health problems that limit employment forfeit about one-fourth of the increase in DB pension wealth that they would have otherwise realized in their 50s and early 60s, and about one-third of other non-Social Security wealth. Because of the presence of disability benefits, however, the onset of work limitations in the years before age 62 actually increases Social Security wealth. If

the Social Security system did not include disability insurance, work limitations would substantially reduce Social Security wealth. Social Security's survivor and spouse benefits and progressive benefit formula also protect workers who develop health problems, though the impact of the former is relatively modest.

Despite the protections offered by Social Security, many people who develop disabilities late in their working lives may experience economic hardship in subsequent years. The boost in Social Security wealth following disability onset results primarily from the early receipt of benefits. Instead of having to wait until age 62 to receive Social Security benefits, disabled beneficiaries can begin collecting as early as five months after disability onset. We have not, however, examined the impact of disabilities on benefits received after age 62, which could be substantial and reveal significant economic insecurity in old age. (The final version of this paper will include those comparisons.) Moreover, workers who become disabled experience sharp income declines before age 62 (Congressional Budget Office 2004), even if Social Security wealth rises. Finally, only about 25 percent of the workers in our sample who report developing work disabilities go on to collect Social Security disability benefits. Economic outcomes are likely to be much worse for the majority of disabled workers who do qualify for disability benefits.

Late-career job layoffs significantly reduce pension wealth for workers in traditional employer-sponsored DB plans. Workers who are laid off in their 50s and early 60s lose an estimated 38 percent of pension wealth, when other factors are held constant. The impact is large because workers laid off in the years immediately before retirement miss out on the large runup in pension wealth that typically occurs just before workers qualify for benefits. Layoffs also erode Social Security wealth. However, long-term employment effects appear to be smaller for late career layoffs than work disabilities. For example, after excluding the value of disability insurance, we find that disability onset reduces Social Security wealth more sharply than job layoffs, and layoffs do not significantly erode household wealth held outside of Social Security or employer-sponsored DB plans. Many workers who lose their jobs in their 50s and 60s may eventually find new employment, or their spouses may increase their labor supply to partly offset the loss in family income. Despite the well-known employment challenges faced by displaced workers, especially those nearing retirement (Chan and Stevens 2001;

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Jacobson, LaLonde, and Sullivan 1993), these results suggest that job layoffs have less serious long-term effects than health problems.

Although late-career job loss and work disabilities erode retirement wealth, the effects are modest when compared to total retirement wealth. By the time workers have reached their early 50s, they have already accumulated about three-quarters of their lifetime Social Security wealth. The average $4,200 loss in Social Security wealth that we attribute to job displacement equals about 10 percent of the average gain in Social Security wealth between 1992 and 2004, but only about 2.5 percent of total 2004 Social Security wealth. Layoffs reduce median per capita 2004 household wealth held outside of Social Security and employer-sponsored DB pension plans by only 4 percent, while the impact of work disabilities is only about 9 percent. Job layoffs reduce final DB pension wealth more substantially—by about 13 percent—but DB plans are rapidly disappearing, and the effect is likely to be much smaller for defined contribution plans. Although not perfect, the existing retirement income system appears to provide some important protections to people experiencing adverse health and employment shocks late in their careers.

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Table 1. Incidence of Health and Employment Shocks between 1992 and the Year Respondents Turn 62, Workers Age 51-55 in 1992 (%)

	Full Sample	Social Security Sample	DB Pension Sample
Health-Related Work Limitation			
All	26	26	23
Gender			
Male	24	25	22
Female	28	28	24
Marital Status			
Married	25	25	22
Single	29	29	27
Education			
Less Than High School	32	32	26
High School Graduate	27	27	27
College Graduate	17	18	16
Race and Ethnicity			
White	26	26	23
African American	32	36	29
Hispanic	23	21	14
Job Layoff			
All	21	22	15
Gender			
Male	21	22	17
Female	21	21	12
Marital Status			
Married	21	21	14
Single	23	24	17
Education			
Less Than High School	24	25	18
High School Graduate	21	22	15
College Graduate	18	17	13
Race and Ethnicity			
White	21	22	15
African American	16	16	9
Hispanic	24	22	20

Source: Authors' estimates from the 1992-2004 waves of the Health and Retirement Study.

Table 2: Change in Expected Present Value of Social Security Wealth between 1992 and 2004 by Onset of Health and Employment Shocks, Workers Age 51-55 in 1992

	N	Mean Value, 1992	Mean Value, 2004	Absolute Change	Percent Change
All	2384	$129,271	$170,494	$41,222	31.9
Health-Related Work Limitation					
Never	1574	$133,817	$172,122	$38,306	28.6
Not at Baseline, Onset by Last Interview	564	$121,687	$170,089	$48,401	39.8
Limitation at First Interview	245	$116,376	$160,761	$44,385	38.1
Job Layoff					
Never	1835	$128,785	$170,634	$41,849	32.5
Laid Off by Last Interview	549	$130,855	$170,036	$39,181	29.9

Source: Authors' calculations from the 1992-2004 waves of the Health and Retirement Study.

Notes: All financial amounts are expressed in constant 2004 dollars. Health-related work limitations and job layoffs are restricted to those that occur before age 62. Estimates are weighted to account for the HRS sampling probabilities. Social Security wealth is the expected present value at age 62.

Table 3. Coefficients from OLS Regressions of Change in Expected Present Value of Social Security Wealth Between 1992 and 2004 (with Standard Errors in Parentheses and Coefficient Expressed as % of Mean Wealth Change in Brackets)

	Actual Social Security	Alternative Social Security Wealth Scenarios		
		No Disability Benefits	No Spouse, Survivors, or Disability Benefits	40 Computation Years, Flat Benefit Formula, No Spouse, Survivors, or Disability Bens
Onset of Health-Related Work Limitation	10,334 ***	-4,500 ***	-4,930 ***	-7,873 ***
	(1410)	(907)	(668)	(876)
	[25.3]	[-13.4]	[-14.9]	[-18.5]
Laid Off	-4,229 ***	-2,507 ***	-3,532 ***	-4,048 ***
	(1517)	(976)	(719)	(943)
	[-10.4]	[-7.5]	[-10.7]	[-9.5]
Health-Related Work Limitation in 1992	7,752 ***	-3,121 ***	-3,606 ***	-2,218 *
	(2055)	(1323)	(974)	(1278)
Married in 1992	-925	-1,467	-231	251
	(1574)	(1013)	(746)	(979)
Male	5,902 ***	3,273 ***	955	7,895 ***
	(1356)	(873)	(643)	(843)
Education				
Less than High School	1,650	-2,502 ***	-2,486 ***	-4,413 ***
	(1551)	(998)	(735)	(964)
College Graduate	1,247	3,624 ***	5,343 ***	7,122 ***
	(1636)	(1053)	(775)	(1017)
Race and Ethnicity				
African American	224	-27	41	-146
	(1927)	(1240)	(914)	(1198)
Hispanic	-1,826	860	1,665	-1,663
	(2207)	(1420)	(1046)	(1372)
Age in 1992	-1,716 ***	-872 ***	-571 ***	-1,606 ***
	(404)	(260)	(191)	(251)
Earnings in 1992	0.440 ***	0.414 ***	0.437 ***	1.019 ***
	(0.030)	(0.019)	(0.014)	(0.019)
Widowed after 1992	20,844 ***	18,590 ***	-586	-1,162
	(2217)	(1427)	(1051)	(1378)
Divorced after 1992	-4,383 *	-1,935	2,410 *	580
	(2631)	(1693)	(1247)	(1635)
Constant	111,760 ***	67,712 ***	52,228 ***	97,342 ***
	(21448)	(13804)	(10167)	(13332)
Mean Change in Social Security Wealth	40,817	33,607	33,127	42,667
R^2	0.165	0.291	0.426	0.688

Source: Authors' computations from the 1992-2004 waves of the Health and Retirement Study.
Notes: The sample consists of 2,384 people who in 1992 are working and ages 51 to 55. Health-related work limitations and job layoffs are restricted to those that occur before age 62. Social Security wealth is the expected present value at age 62 and is expressed in 2004 real dollars.

* p < .10;   ** p < .05;   *** p <.01

Table 4: Change in Expected Present Value of Pension Wealth and Value of Other Household Wealth between 1992 and 2004 by Onset of Health and Employment Shocks

	N	Mean Value, 1992 ($)	Mean Value, 2004 ($)	Absolute Change ($)	Percent Change
MEAN PENSION WEALTH					
All	847	163,659	245,149	81,490	49.8
Health-Related Work Limitation					
Never	619	169,475	255,698	86,223	50.9
Not at Baseline, Onset by Last Interview	175	151,298	217,698	66,401	43.9
Limitation at First Interview	53	135,611	209,876	74,265	54.8
Job Layoff					
Never	723	161,921	246,542	84,621	52.3
Laid Off by Last Interview	124	173,129	237,561	64,432	37.2
MEAN OTHER HOUSEHOLD WEALTH					
All	3004	169,355	316,674	147,320	87.0
Health-Related Work Limitation					
Never	1969	193,046	371,920	178,873	92.7
Interview	700	125,304	205,552	80,248	64.0
Limitation at First Interview	333	115,480	208,937	93,457	80.9
Job Layoff					
Never	2322	184,094	349,552	165,457	89.9
Laid Off by Last Interview	682	120,481	207,662	87,181	72.4
MEDIAN OTHER HOUSEHOLD WEALTH					
All	3004	78,124	121,000	42,876	54.9
Health-Related Work Limitation					
Never	1969	87,473	149,500	62,027	70.9
Interview	700	60,096	83,500	23,404	38.9
Limitation at First Interview	333	59,762	70,000	10,238	17.1
Job Layoff					
Never	2322	79,458	130,000	50,542	63.6
Laid Off by Last Interview	682	73,116	99,900	26,784	36.6

Source: Authors' estimates from the 1992-2004 waves of the Health and Retirement Study.

Notes: The sample consists of people who are working and ages 51 to 55 in 1992. Health-related work limitations and job layoffs are restricted to those that occur before age 62. Estimates are weighted to account for the HRS sampling probabilities. Pension wealth is the expected present value at age 62. Household wealth is divided by two for married or partnered respondents. Both pension wealth and other household wealth are expressed in 2004 real dollars.

Table 5. Coefficients from Regressions of Change in Expected Present Value of Pension Wealth and Other Household Wealth Between 1992 and 2004 (with standard errors in parentheses and Coefficient Expressed as % of Mean or Median Wealth Change in Brackets)

	Change in Pension Wealth	Median Change in Other Household Wealth
Onset of Health-Related Work Limitation	-19,648 ** (8677) [-24.1]	-10,555 *** (3488) [-34.3]
Laid Off	-30,905 *** (10414) [-38.0]	-5,128 (3767) [-16.7]
Health-Related Work Limitation in 1992	3,935 (14972)	-4,217 (4887)
Married in 1992	-908 (8945)	9,604 *** (3866)
Male	-6,321 (7873)	-5,989 * (3289)
Education		
Less than High School	-19,891 * (10537)	-9,531 *** (3788)
College Graduate	37,652 *** (8275)	48,574 *** (4063)
Race and Ethnicity		
African American	35,565 *** (10364)	-13,332 *** (4439)
Hispanic	6,147 (14547)	-10,095 * (5359)
Age in 1992	-8,926 *** (2398)	-668 (995)
Earnings in 1992	0.985 *** (0.163)	0.822 *** (0.058)
Widowed after 1992	4,006 (14860)	4,148 (5690)
Divorced after 1992	-919 (16344)	4,759 (6523)
Constant	510,630 *** (127206)	49,534 (52790)
N	847	3,004
Mean Change in Pension Wealth	81,387	…
Median Change in Other Household Wealth	…	30,755
R^2	0.137	…
Pseudo R^2	…	0.033

Source: Authors' computations from the 1992-2004 waves of the Health and Retirement Study.
Notes: Estimates of the change in pension wealth are from OLS regression, and estimates of the change in other household wealth are from median regression. The sample is restricted to people who in 1992 are working and ages 51 to 55. Health-related work limitations and job layoffs are restricted to those those occur before age 62. Pension wealth is the expected present value at age 62. Household wealth is divided by two for married or partnered respondents. Both pension wealth and other household wealth are expressed in 2004 real dollars.

Appendix Table. Descriptive Statistics for Variables in Regressions

	Change in Social Security Wealth OLS Regression	Change in Pension Wealth OLS Regression	Change in Other Household Wealth Median Regression
Mean Change in Social Security Wealth ($2004)	40,817		
Mean Change in DB Pension Wealth ($2004)		81,387	
Mean Change in Other Household Wealth ($2004)			120,990
Median Change in Other Household Wealth ($2004)			30,755
Mean			
Onset of Health-Related Work Limitation	0.27	0.24	0.27
Laid Off	0.21	0.14	0.21
Health-Related Work Limitation in 1992	0.10	0.06	0.11
Married in 1992	0.78	0.77	0.78
Male	0.49	0.53	0.50
Education			
Less than High School	0.26	0.16	0.26
College Graduate	0.21	0.32	0.21
Race and Ethnicity			
African American	0.13	0.16	0.15
Hispanic	0.10	0.07	0.10
Age in 1992	52.75	52.63	52.76
Earnings in 1992 ($2004)	28,494	38,809	30,059
Widowed after 1992	0.09	0.06	0.08
Divorced after 1992	0.06	0.05	0.06
N	2,384	847	3,004

Source: Authors' tabulations from the 1992-2004 waves of the Health and Retirement Study. Tabulations are unweighted.