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 Aging and Retirement

A Review of the Demography of Retirement in the United States





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A Review of the Demography of Retirement in the U.S.

The demography of retirement is important because of the role of retirement in the dynamics of the labor force, its role as a socioeconomic status in our society, and its sizeable impact on local, state, and federal budgets, particularly Social Security expenditures. This paper is intended to review some leading aspects of the demography of retirement not presented together in any earlier publication as well as to bring these materials up to date. I have linked labor force changes, age at retirement, age at entering the labor force, years in retirement, and total years of nonwork lifetime, giving up-to-date estimates of these elements of retirement. In particular, I have spelled out the methodology for developing estimates of median age at retirement by the method of demographic analysis and identified some important next areas of research, e.g., developing estimates of average age of entry into the labor force by demographic analysis, improving the method of estimating retirement age by allowing for the different levels of mortality of disabled and nondisabled retirees, estimating the relative contribution of mortality, fertility, and immigration to changes in the retired population, and applying the demographic estimates given to derive dollars received by SSA beneficiaries.

Section 1: Concepts of Retirement

First, an operational definition of retirement is needed. Different data sources suggest different definitions. It is usually constructed as a dichotomous variable—retired and not retired, but this is too simplistic to convey the actual situation. The concept should take the form of a polytomous variable. At least two working definitions or concepts of retirement have emerged. One concept involves complete separation from the labor force in later life (i.e., after about age 50). The other involves receipt of a pension after a “career” in the labor force.

A cross-classification of these two definitional concepts of retirement for the population 50 years and over identifies the following four categories of older persons with respect to retirement status:

1. Persons definitely retired, that is, receiving a pension and not in the labor force;
2. Persons definitely not retired, that is, not receiving a pension and in the labor force;
3. Persons “partially” retired, that is, receiving a pension and in the labor force; and
4. Others, that is, those not receiving a pension and not in the labor force.

The last of these categories consists mostly of women who have not been in the labor force for many years or ever, have no prospect of receiving a pension in their own right, and hence are not classifiable with respect to retirement status:

<u>Labor force status</u>		
<u>Pension status</u>	<u>Not in labor force</u>	<u>In labor force</u>
With a pension	Definitely retired	Partially retired
Without a pension	Status indeterminate	Definitely not retired

Data to fill all the cells in this matrix are not available, but data to fill some parts of it can be secured from the records of the Social Security Administration (SSA) and the Bureau of Labor Statistics. Definitions of retirement involving other variables (e.g., earnings) and more gradations in labor force attachments are possible but the various alternatives have not been fully studied. We talk of the “partially retired” and the “fully retired.” It is recognized that some “retired” persons and some “persons in the labor force” work a few hours a week and others work a full week.¹

Section 2: Aging of the Population and the Labor Force

The populations of the United States and other industrial countries have been rapidly aging over the last century; that is, the share of the total population 65 years and over has been rising at a fast pace. Concomitantly, the share of the population 18 to 64 years of age--traditionally taken to represent the principal working-age population--has been changing very little. As a result, there are relatively far fewer persons of primary working ages now in relation to the number in the principal retirement ages than there were several decades ago.

The historical decline in the birth rate has been the principal factor in the long-term aging of the population. Declines in the birth rate since the 1960s have reinforced this historical trend. Since the late 1960s, however, sharp declines in death rates at the older ages have become a dominant factor in the aging process. The effect of these factors has been reinforced by the declines in mortality rates at the middle ages, which have brought more survivors to old age. With the advent of the huge baby-boom cohorts of 1946-64 and the changes in mortality noted, we can expect a massive increase in the number of persons 65 years of age and over in the two decades after 2010. The combination of all these developments in fertility and mortality will cause a sharp rise in the share of elderly persons in the total population. These same factors explain the decline in the share of the population below age 65.

Labor force participation ratios at ages 65 years and over had been declining steadily for men and rising gradually for women in the several decades after the middle of the last century. The growth of the labor force had been augmented in those decades by the advent of the baby-boom cohorts to working age, but the larger supply of labor encouraged easier retirement and, on balance, the labor force participation rates of men declined in those years. With changing economic and other conditions since the 1990s, the decline has reversed and labor force participation at the older ages as well as full-time employment have been rising (Table 1). This change was largely influenced by the changing size of the elderly population but in the more recent years the increase was also greatly affected by the pressure of the severe recession experienced from 2008 to 2012. Labor force participation rates at the older ages are projected to rise only slightly over the next several decades.

¹ The Decennial Census and the American Community Survey do not inquire as to retirement status, but provide relevant supporting data, such as receipt of a social security pension, disability status, and age and sex, which can be analyzed for comparative evaluation of the data of the SSA.

Table 1
LABOR FORCE PARTICIPATION RATES (LFPR) CHANGES BY AGE AND GENDER FOR 1995-2018, CLASSIFIED BY AGE GROUP AND BIRTH COHORTS

MALE		LFPR						CHANGE		
Age Group	1995	2000	2005	2010	2015	2013	2018	1995-2010	2010-2015	2013-2018
45-49	90.7	90.3	89.3	88.5	87.9	87.3	88.7	-2.2	-0.6	1.4
50-54	86.4	86.9	85.9	85.1	84.0	83.9	85.3	-1.3	-1.1	1.4
55-59	77.4	78.3	77.6	78.5	77.1	78.0	78.4	1.1	-1.4	0.4
60-64	53.2	55.4	58.0	60.0	61.5	60.5	63.0	6.8	1.5	2.5
65-59	27.0	29.2	33.6	36.5	36.8	37.2	37.6	9.5	0.3	0.4
70-74	16.8	17.4	20.7	22.0	23.8	23.2	23.8	5.5	-0.6	0.6
75 and Over	7.6	7.9	8.4	10.4	11.2	11.3	11.9	2.8	0.1	0.6

FEMALE		LFPR						CHANGE		
Age Group	1995	2000	2005	2010	2015	2013	2018	1995-2010	2010-2015	2013-2018
45-49	77.2	78.7	77.7	76.8	74.5	75.0	76.2	-0.4	-1.7	1.2
50-54	70.7	74.0	74.0	74.8	72.6	73.0	73.5	4.1	-2.2	0.5
55-59	59.5	61.8	65.8	68.4	66.3	67.2	66.1	8.9	-2.1	-1.1
60-64	39.6	39.8	45.8	50.7	49.8	50.0	51.8	11.1	4.9	1.8
65-59	17.5	18.9	23.7	27.0	27.9	27.6	28.9	9.5	0.9	1.3
70-74	9.3	9.9	12.8	14.2	14.9	15.8	15.9	4.9	0.7	0.1
75 and Over	2.9	3.0	4.5	5.3	6.0	5.6	6.4	2.4	0.7	0.8

Official figures for year 2000 are not available. Figures shown are linearly interpolated between official figures for 1999 and 2002.

LFPR: The percent the civilian labor force population is of the civilian noninstitutional population. Row figures are for age groups. Diagonal figures are for birth cohorts.

Source: Accessed by internet at CPS/BLS labor force rates.

Section 3: Age and Economic Dependency

As a result of the changing age structure of the population during past decades and the relative stability of the labor force participation rates at the principal working ages, a shift in the relative number of persons in the labor force and the number of elderly persons not in the labor force--the principal beneficiaries of the entitlement programs—has been occurring in the United States and the other more developed countries. The numbers of workers who must provide the funds needed to support the present pay-as-you-go Social Security (SS) retirement system and disability insurance (DI) program, are projected to decline relative to the number of persons who must be supported. These relations can be expressed either as the ratio of persons in the principal nonworking ages to those in the principal working ages, the ratio of elderly nonworkers to all workers, or the ratio of beneficiaries from the SSA trust funds to its contributors.

The formulas are:

$$\text{Elderly age dependency ratio} = \frac{\text{Population 65 and over}}{\text{Population aged 18 to 64}}$$

$$\text{Elderly economic dependency ratio} = \frac{\text{Persons not in labor force 65 and over}}{\text{Total labor force 16 and over}}$$

$$\text{Old-Age, Survivors and Disability Income (OASDI) beneficiary ratio} = \frac{\text{Elderly beneficiaries}}{\text{Contributors of all ages}}$$

The state of the economy is a function of the balance of workers and nonworkers among other factors. Age and economic dependency ratios, which reflect this balance, are an indication of the burden that workers have in supporting the nonworkers in a population. The precise definition of the measure may vary, depending on whether the armed forces and the institutional population are included in the labor force and dependent population, respectively, and the choice of ages for each dependency class. The population age dependency ratio is the less precise measure but easier to prepare. Evaluation of this measure for the two broad dependent age segments of the population--children and the elderly--for the usual resident population of the United States, for 1980 to 2050, yields the following:

Age Group	1980	2000	2017	2035	2050
Total Population	65.2	61.6	61.9	73.6	72.8
Under 18	46.5	41.6	36.6	36.5	34.8
65 and Over	18.6	20.1	25.3	37.1	38.1

Note: Figures are not shown for ages 18-64 years, the principal working ages, because they are assumed to be non-dependent ages.

Source: U.S. Census Bureau, Population Division, Population Estimates Program. The projections are the projections based on 2017.

Note that a large portion of the dependents are children. The time series shows a substantial decline in the child dependency ratio since 1980 and a parallel rise in the elderly dependency ratio. It shows an aged dependency ratio of 19 in 1980 and 25 in 2017. The ratio is expected to rise rapidly in the years up to 2030, and then to rise gradually thereafter and stabilize at the slightly higher level.

Since not all persons in the “principal working ages” work and not all elderly persons are retired, the age-dependency ratio is not the best indicator of economic dependency. An improved measure is the elderly economic dependency ratio. The elderly economic dependency ratio can be computed as the ratio (per 100) of persons 65 years and over not in the labor force to all persons in the labor force. The number of workers has been rising much more slowly than the number of elderly nonworkers for many decades and is expected to continue doing so. As a result, the ratio of elderly persons not in the labor force to persons in the labor force has been rising steadily and is expected to continue in this direction. Changes in this measure parallel those for the elderly age dependency ratio—indicating the primary role of population structure in affecting economic dependency (Table 2).

Table 2 illustrates the trends of the three defined dependency ratios. Ratio 1 is the elderly age dependency ratio values or the number of persons 65 years old and over per 100 persons aged 18-64. Ratio 2, the elderly economic dependency ratio values show the number of persons 65 and over not in the labor force per 100 persons in the labor force 16 years and over)and was 13.4 (per 100) in 1950 and 25.5 (per 100) in 2017, and is expected to rise to 39.9 (per 100) by 2030. We can also examine the relative number of contributors and elderly beneficiaries under Social Security. The dependency ratios based on SSA data,

Ratio 3, are 6.1 beneficiaries (per 100 contributors) in 1950, 35.4 beneficiaries (per 100 contributors) in 2017, and 46 beneficiaries (per 100 contributors) in 2050. All three measures agree that elderly dependency hardly changed between 1995 and 2010 but will rise sharply between 2010 and 2030 (Table 2).

Table 2
PAST AND PROSPECTIVE TRENDS IN THREE MEASURES OF ELDERLY DEPENDENCY: 1950 TO 2050

Year	Ratio 1	Ratio 2	Ratio 3
1950	13.4	13.4	6.1
1975	18.2	19.8	31.4
1995	20.9	20.9	30.6
2010	20.8	20.8	32.0
2015	23.9	24.0	35.4
2016	24.6	24.9	35.3
2017	25.3	25.5	35.4
Ratios			
1975/1950	1.36	1.48	5.15
1995/1975	1.15	1.06	.97
2017/1995	1.21	1.22	1.16
Middle Series of Projections			
2025	31.9	30.9 (2026)	40.3
2030	35.5	39.9	43.4
2040	37.5	NA	46.4
2050	38.1	NA	46.1
Ratios			
2030/2017	1.40	1.53	1.23
2050/2030	1.07	NA	1.06

Source: Compiled from Murray Gendell, "Trends in retirement age in four countries, 1965-95." *Monthly Labor Review*, August, 1998: 20-30, Table 6; Jacob S. Siegel, *A Generation of Change: A Profile of America's Older Population*, New York: Russell Sage Foundation, 1993, Table 7.23; U.S. Census Bureau, Population Division "Population Projections of the United States by age, sex, race, and Hispanic origin," accessed on internet, January 2019; Social Security Administration, Office of the Chief Actuary, *The 2018 Annual Report of the Trustees of the OADI Trust Funds*, Table 6.B.; U.S. Bureau of Labor Statistics, Employment Projections Program, accessed on internet, January 2019, Table 3.7.

The population burden on the Social Security system is often also expressed in terms of the reciprocal of the economic dependency ratio, or the economic support ratio. This measure shows that in 1950 there were 7.4 workers per elderly nonworker, in 2000 there were 4.0, and today there are 3.3. By 2030 there are expected to be only 2.6 workers for every elderly nonworker and by 2050 2.0. These figures indicate a tremendous decrease in the economic support ratio in the next half century.

As stated, the decline in the economic support ratio results largely from the rapid rise in the number of elderly persons over many decades as compared with persons in the principal working ages, particularly the arrival of the baby boom cohorts at the retirement ages after 2010. These trends in the economic support ratio are associated with a substantial decline since 1950 in the average age of retirement of both men and women, to which I now turn.

Section 4: Average Age of Retirement

We are particularly interested in the length of the retirement period, but to measure it, we need to establish the average age at retirement. These measures have tremendous effect on the cost of the Social Security system. The average age of retirement of the nation's labor force can be measured in two distinct ways, by analysis of aggregate data on new Social Security beneficiaries and by demographic analysis of changes in the labor force at the older ages².

Of the two basic methods, the first conforms to the definition of retirement based on the receipt of a pension following a work career; the second conforms to the definition of retirement as permanent withdrawal from the labor force at the older ages. The available time series of data on new Social Security old-age beneficiaries requires adjustments for shifts over time in coverage and the ages included, and specifically for the exclusion of retirements for disability. Because the receipt of a "reduced" Social Security benefit begins at age 62 and receipt of a "full" benefit now begins at age 66, the data are subject to the further limitation that they set a lower limit on the age of retirement.

Estimates of the average (median) age of retirement derived by demographic analysis of labor force data do not have this limitation, but depend on the quality and consistency of labor force, population, and life table data from different sources and the validity of the assumptions made in the estimation formula. The basic formula calculates retirements (w) as a residual from a version of the component equation for the labor force at the older ages:

$$(-) w_1 = (L_2 - L_1 s) \div \sqrt{s} \quad (1)$$

where L_1 and L_2 represent the labor force at the initial and terminal years 5-years apart for 5-year birth cohorts and s represents the 5-year life table survival rate for a particular birth cohort³.

The estimation steps are as follows. (1) Net separations, assumed to approximate permanent retirements, are first calculated from age schedules of estimates of the labor force taken from the Current Population Survey for 5-year *birth cohorts* at two successive dates for each sex five years apart by use of the appropriate life tables; (2) the estimates derived in step 1 are converted into estimates of retirements for 5-year *age groups* by an appropriate method of interpolation (e.g., Karup-King osculatory interpolation); (3) and an estimate of the median age of retirement is computed from the estimates of retirements for 5-year *age groups* in step 2 (Gendell and Siegel, 1992). The formula assumes that the mortality level of the labor force is the same as that for the general population and that there is zero net international migration affecting these age groups in the 5-year interval.

Average age at retirement fell steadily from 1950-55 to 1995-2000, but with considerable slowing down in the last quarter of the century, for both men and women, as measured by demographic analysis of data on the labor force (Gendell and Siegel, 1992; Gendell, 2001; Table 3). It then stabilized and reversed course. It

² A special variation of the second method is to construct tables of working life, an extension of the conventional life table which yields average age at retirement, years of retired life, and years of working life. Working-life tables are multiple decrement tables and incorporate labor force entries and exits in addition to deaths as factors of change in the size of the life table cohort as it ages. The tables assume that the rates of mortality and labor force participation are "frozen" as of a particular year or years, but yield estimates of "future" working life. Separation from the labor force is assumed to occur only through death or permanent withdrawal. Current tables of this type are unavailable; the most recent such tables refer to 1979-80.

³ An alternate, algebraically equivalent, form of the equation is $w_2 = [(L_2 \div s) - L_1] \sqrt{s}$ and an approximation in terms of LFPR is: $[L_1 (1 - r_2 / r_1)] \sqrt{s}$, where r_1 is the LFPR at the beginning of the 5-year interval and r_2 is the LFPR for the same cohort at the end of the 5-year interval.

has been rising modestly in this century, although that reversal brought the value in 2010-2015 only back to the level in 1990 (Table 3). At the beginning of this century the figures were about 61.8 years for men and 61.0 for women, and in 2010-15 they were 62.5 for men and 62.4 for women. The decline in average retirement age was about five years for men and six years for women between 1950-55 and 1995-2000, but between the latter years and 2010-15 there was little change. For the most recent years estimated, 2013-18, there was a notable rise to 64.3/63.0. Average age at retirement based on Social Security data roughly parallel that based on demographic analysis. These figures indicate that half the older working population is still retiring below ages 65/66, the ages of full SS benefits.

Estimates of retirement age have also been calculated for blacks and women for many of the same periods by both the labor force method and the SS method. The general pattern and level of the values mirror those for the total male and female populations described above although at a slightly lower level (Table 3).

Table 3
MEDIAN AGE AT RETIREMENT, BY SEX AND RACE, AND MEAN AGE OF PERSONS INITIALLY AWARDED SOCIAL SECURITY RETIREMENT BENEFITS, BY SEX, 1950-55 TO 2013-18

Period	LABOR FORCE DATA ^a		LABOR FORCE DATA ^a		SOCIAL SECURITY DATA ^b	
	All Races Men	All Races Women	Black ^c Men	Black ^c Women	All Races Men	All Races Women
Original Estimates						
1950-1955	66.9 ^d	67.6 ^d	NA	NA	68.5	67.9
1955-1960	65.7 ^d	66.1 ^d	64.7	66.3	67.6	66.4
1960-1965	65.1	64.6	64.3	63.7	65.0	
1965-1970	64.2	64.2	63.7	62.3	63.9	64.3
1970-1975	63.4	62.9	63.9	61.9	65.9	64.3
1975-1980	63.0	63.2	62.5	63.8	62.9	62.9
1980-1985	62.8	62.7	62.0	62.8	62.8	62.7
1985-1990	62.6	62.8	61.7	61.7	62.8	62.8
1990-1995	62.4 ^e	62.3 ^e	NA	NA	62.7	62.6
1995-2000	62.0 ^e	61.4 ^e	NA	NA	62.6	62.6 ^f
2000-2005	61.6 ^e	60.5 ^e	NA	NA	62.6	62.5 ^f
2005-2010	61.6 ^e	62.0 ^e	NA	NA	NA	NA
Change 1950-1955 to 1995-2000(Years)	-4.9	-6.2	NA	NA	-5.9	-5.4
Change 1995-2000 to 2005-2010(Years)	0.4	0.6	NA	NA	NA	NA
Current Estimates ^g						
1990-1995	NA	NA	NA	NA	62.8	62.7
1995-2000	NA	NA	NA	NA	62.7	62.5
2000-2005	NA	NA	NA	NA	62.5	62.5
2005-2010	61.9	62.3	59.5	61.1	62.7	62.6
2015-2017	NA	NA	NA	NA	63.6	63.5
2013-2018	64.3	63.0	62.7	63.5	NA	NA
Change 1990-1995 to 2015-2017(Years)	NA	NA	NA	NA	0.8	0.8

Change 2005-2010 to 2013-2018(Years)	2.4	0.7	3.2	2.4	NA	NA
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Source: M. Gendell, "Older workers increasing their labor force participation and hours of work." Monthly Labor Review, January 2008: 31-54. M. Gendell, "Retirement age declines again in 1990s." Monthly Labor Review, Oct.2001: 12-21, Table 1; M. Gendell and J. S. Siegel, "Trends in retirement age in the United States, 1955-1993, by sex and race." Journal of Gerontology: Social Sciences 51B (3):S132-S139, 1996, Table 2; and M. Gendell and J. S. Siegel, "Trends in retirement age by sex, 1950-2005," Monthly Labor Review 115(7):22-29, July 1992, Tables 1 and 4. The Current Estimates were prepared by the author.

^a Median age at exit from the labor force for 5-year age groups from 50-55 to 75 years and over for reasons other than death. Estimated from labor force data obtained from the Current Population Survey published by the U.S. Bureau of Labor Statistics and life table survival rates.

^b Mean age of initial award of benefit for retirement or disability, estimated as the weighted average of the average ages of those receiving an award for retirement and those receiving an award for disability from the Social Security Administration.. The mean for individuals receiving disability benefits is limited to those 50 to 65 years of age.

^c Black and other races for 1955-60 to 1970-75.

^d Age data for disability awards are not available. If they were available, the mean age would be lower.

^e Calculated from data adjusted to levels prior to the 1994 revision of the Current Population Survey. Median ages computed from the published data are as follows: men, 1990-95, 62.1; men, 1995-2000, 62,0; women, 1990-95, 62.6; and women, 1995-2000, 61.8.

^f The mean retirement age for 1997 was 65.4, a level much higher than the figures since 1965 and for 1996 and 1998. It was, therefore, regarded as an anomaly and disregarded, so that the data for women in the period 1995-1999 were limited to four years.

^g "Current estimates" may differ from "Original estimates" because of slight differences in computing methods and in the method of interpolating life table values.

Variations in average age at retirement according to educational attainment have also been measured. There is strong evidence for a large gap in the average age of retirement according to educational attainment, with more educated persons retiring later, and suggestive evidence of a widening of the gap in the last several decades. The latter conclusion is reached by Rutledge (2018; Munnell, 2017) on the basis of an examination of labor force participation ratios (LFPR). The average age at retirement is taken as the age at which labor force participation ratios fall below 50%. This method is not generally dependable. If LFPR fluctuate by age and show a trend that differs from an independent measure such as Social Security data (as they did for women in the last century), erroneous inferences will be drawn as to the trend in average age. Such a superficial examination of LFPR cannot substitute for a more refined analysis of the labor force data. We cite Rutledge's figures then only for men and only for the educational-class differences. For 1976-79 the difference between high school graduates and college graduates was 0.5 year and in 2010-2016 it was 2.9 years.

Section 5: Years in Retirement and Length of Working Life

The fall in the retirement age and the increase in longevity have led to impressive increases in the number of years of nonworking life after retirement and the share of total adult life devoted to nonwork rather than work. The median retirement age of 66.9 years for men in 1950-55 corresponds to a retirement period of 12.0 years, and the median retirement age of 62.0 years for men in 1995-2000 corresponds to a retirement period of 18.0 years (Table 4). For women the corresponding figures are, for 1950-55, 67.6

years and 13.6 years, and, for 1995-2000, 61.4 years and 22.0 years. These figures represent increases in the retirement period of 6.0 years for men and 8.4 years for women over these four decades. Between 2005-10 and 2013-18, with the increase in the median age at retirement, the years in retirement tended to stabilize or fall slightly.

Table 4

YEARS IN RETIREMENT CORRESPONDING TO AGE AT EXIT FROM THE LABOR FORCE, 1950-55 TO 2010-2015, FOR 5-YEAR PERIODS, AND FOR 2015-17, FOR MEN AND WOMEN

Period	Men Median Age At Exit	Men Years of Retirement	Women Median Age At Exit	Women Years of Retirement
Original Estimates				
1950-1955	66.9	12.0	67.6	13.6
1965-1970	64.2	13.5	64.2	17.7
1975-1980	63.0	16.3	63.2	19.8
1990-1995	62.4	17.2	62.3	21.3
Current Estimates				
1990-1995	62.8	16.7	62.7	20.9
2000-2005	62.5	18.4	62.5	21.5
2005-2010	62.9	19.5	62.8	22.3
2015-2017	63.6	20.8	63.5	22.0
Change 1965-1970 from 1950- 1955(Years)	-2.7	1.5	-3.4	4.1
Change 1975-1980 from 1950- 1955(Years)	-3.9	4.3	-4.4	6.2
Change 1990-1995 from 1950- 1955(Years)	-4.5/-4.1	5.2/4.7	-5.3/-4.9	7.7/7.3
Change 2000-2005 from 1950- 1955(Years)	-4.4	6.4	-5.1	7.9
Change 2010-2015 from 1950- 1955(Years)	-4.0	7.5	-4.8	8.7
Change 2015-2017 from 1950- 1955(Years)	-3.3	8.8	-4.1	8.4

Source: Table 3. Years of retirement interpolated by the author from unabridged life tables for the United States (published by the National Center for Health Statistics), for the mid-year of the periods indicated.

We can now go on to calculate other measures of retirement changes relevant to retirement policy. We can estimate the share of nonwork years to total years of life from the average age at retirement, life expectancy at birth, and average age at entering the workforce. To determine the average age of entering the labor force, we need to apply the same demographic logic as for computing the average age at retirement (See Equation 1). For this purpose, the data on labor force participation between the ages of 16 and 50 can be used. In general, there was an upward shift in average age at entering the workforce, a change mainly due to an increase in years of schooling. Between 1950-55 and 2010-15 nonwork life as a

share of total life increased from a little over one-third to nearly one-half for men. We can also estimate the share of the total population above the retirement age⁴.

Section 6: Factors Affecting the Decision to Retire

In brief, the average age of retirement has been falling because workers have been willing to trade additional income for leisure and the economic supports for achieving this goal are available. These economic supports include private pension plans, personal savings, family inheritance, and especially Social Security, Medicare, and other government and private benefits. There is the possibility of supplementing these, if necessary, with part-time work. Moreover, a spouse may continue to work part or full time. Social Security benefits are adjusted for inflation, and so are some private benefits. It appears that the availability of benefits under Social Security at age 62, even though reduced, has considerable weight in the decision to retire early. Legislation calling for repeal of mandatory retirement at various ages has apparently not been important in this decision.

In the last few decades new pressures to remain in the labor force have appeared. As a consequence of such factors, labor force participation rates (LFPR) of elderly persons and the average age of retirement have risen since the 1990s, particularly in the last few years (Table 3). Because of this greater rise currently, increased attention has been given to the factors that might account for the rise. According to Munnell (2018) and Rutledge (2018), these are better health, changing labor markets, and Social Security incentives. Munnell maintains that improved health is one of the most important factors contributing to the retirement decision, as it certainly is for those who become disabled. She notes further that two factors relating to the labor market have served to push LFPR at the older ages higher. The movement away from defined benefit plans and shifting of investment risk to workers have increased incentives to retire later; and the shift from manufacturing to service-sector employment has made jobs less physically demanding, enabling older blue-collar workers to postpone retirement. Finally, the increase in the statutory age of full retirement from 65 to 66 and later has resulted in further reduction of benefits at the earlier ages of allowable retirement from age 62 on.

The recent increase in average age at retirement has been rather modest in historical context, and most workers are continuing to retire below age 63 and below the age of full benefits (i.e., 65/66). The factors cited by Munnell and Rutledge have shown some effect, especially in accounting for educational differences in age at retirement. At present, however, there is little basis for believing that expected increases in longevity will induce many workers to continue working longer than their predecessors did. For over half a century the average age at retirement was falling while life expectancy was rising. As suggested, the decision on the part of able-bodied persons whether to continue in the workforce or not is determined

⁴ With the above measures we can begin to answer the questions, how has the change in average retirement age affected the retirement income of beneficiaries? Other questions can be considered also. Since life expectancy has increased by several years since 1965, when Social Security legislation was passed and this increase has created “problems” for SSA, should a flexible definition of old age be introduced, such as a gradually shifting age with a fixed life expectancy of 10, 12, or 15 years? Then, there is the complaint made by some that blacks, particularly black males, do not get a fair return on their Social Security contributions because of their lower life expectancy and their resultant failure to live as far into the “benefit” ages as other races. To what extent do the greater retirement of blacks from disability in middle life and before age 62 and the more favorable expectation of life of blacks at the advanced ages offset the financial effect of their lower life expectancy? We leave also to another study the relative contributions, now and prospectively, of fertility, mortality, and immigration to the size of the retired population and the financial viability of the Social Security Trust Fund, as well as an analysis of the role of retirement in interstate migration.

essentially as a tradeoff between the value placed on increased leisure and the ability to afford retirement, not primarily by one's perceived longevity.

There is evidence that the nation's health is generally better. Improved health reduces the need to leave the labor force early as disabled. Improved health is enabling the more educated persons and workers with professional jobs to extend their work life (Population Reference Bureau, 2018). The evidence also indicates poorer health among older workers, however. Chronic conditions and disabilities are more widespread, especially among racial minorities and those with low income and education. More specifically, several research studies employing data from the Health and Retirement Study or the National Health Interview Survey show that older workers are experiencing more chronic conditions and disability, particularly as a result of obesity and hypertension, than earlier generations at the same ages. This development may provide pressure for earlier retirement in the years ahead.

Principal underlying factors affecting the decision to retire include the income earned on the job, the worker's expectation of future economic return under retirement, and the worker's health involving an assessment of their ability to continue working at their present job. Especially influential is the fact that older workers are saddled with considerably more debt than their predecessors. Less determinative factors are the rising cost of living and the worker's prospective longevity. These factors have made the task of saving enough to afford to retire increasingly challenging, however. Some workers are now choosing to continue to work or to return to the labor force because they anticipate a more difficult economic future, particularly given the effects of the recession of 2008-09 and later. They may lack a company pension, the value of their pension may have shrunk, they may lack sufficient savings to retire comfortably for the longer period expected, or their investments may have lost value (Mermin *et al.*, 2007). In addition, the sharp increases in the cost of health insurance have made it increasingly difficult for former workers to afford the premiums if they are not employed, or they are not offered employer-sponsored insurance at a subsidized price, prior to qualifying for Medicare. Moreover, companies have been reducing or eliminating health coverage of their retirees.

The decline in retirement age may have run its course, but there are no signs of a strong reversal of the trend. This assessment is based not only on formal measures of change in labor force participation ratios to date but also on the likely influence of a number of emergent trends affecting labor force participation. SS beneficiary data show that the rate of disability among older persons has been fluctuating widely but with no discernable trend while other research shows increases in disability. More flexible work schedules, including part-year and part-time employment and homework, are being offered, and changes in pension arrangements allow more workers to work part-time and receive a retirement pension. As result, many older men are leaving full-time work and taking on part-time work. This means that they can retire for the most part and use the income from part-time work to supplement other sources for their retirement. The years of retirement statutorily designated for receipt of partial or full benefits strongly influences choices by workers as to when to retire, while recognizing the numerous secondary reasons. The age for full retirement benefits, once 65, is now 66 for those born in 1943-54, and will rise, according to law, gradually to 67 by 2027 for those born after 1960. This further change may be a strong incentive to retire later.

The social security systems of the United States and other western countries have built-in incentives that encourage older workers to retire early (Gruber and Wise, 2004). These incentives intensify concerns about the financial viability of national retirement systems. This situation can be remedied in the United States by eliminating the reduced-benefit feature of OASDI or making it much less attractive, tying the normal age of retirement more closely to life expectancy or perhaps to healthy life expectancy, and removing other incentives to early retirement.

Section 7: Disability Retirement

Disability retirement poses a special strain on the financial solvency of a retirement system. Disabled workers exit the labor force prematurely, typically well before the regular age for retirement. Then they begin drawing benefits from the system and cease contributing to it. They may receive generous benefits at an early age. Moreover, the system presents a strong temptation for workers to misrepresent themselves as disabled so that they can retire early.

Various types of dependency rates may be defined in terms of the disabled population and the worker population. A disability-worker dependency ratio for a given year gives the prevalence of disability and, as calculated by the Actuary's Office, U.S. Social Security Administration, relates the number of disabled workers receiving benefits under Social Security to the number of workers covered by the Social Security system in that year (per 1000)⁵.

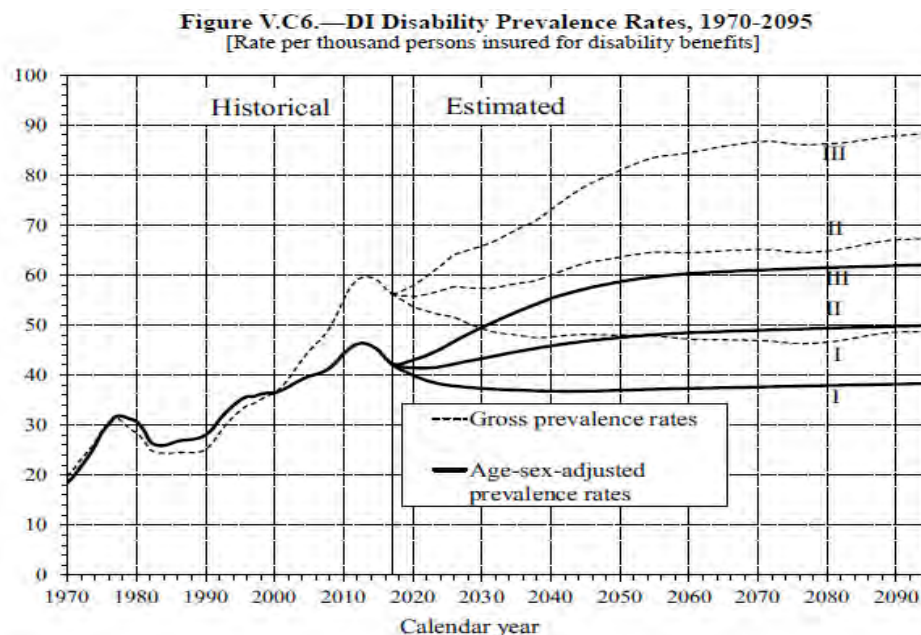
$$\frac{\text{Disabled beneficiaries}}{\text{Covered workers}} * 1000$$

This measure dropped between 1980 and 1990, but has been rising steadily since the latter date. The figure was 42 in 2017 as compared with 31 in 1980 and 36 in 2000, and is expected to rise to an upper asymptote of about 50 (Figure 1; Office of the Chief Actuary, U.S. SSA, 2018). (The rates are age-sex adjusted by SSA on the basis of the disability-insured population in 2000.)

⁵ Disability is defined under Social Security as "an inability to engage in substantial gainful activity due to medically determinable physical or mental impairment severe enough to satisfy the requirements of the program" and pertains to individuals who have not yet attained normal retirement age.

Figure 1
DISABILITY PREVALENCE RATES, 1970-2095

I, II, III are alternative low cost, intermediate, and high cost projection series.



Source: Office of the Chief Actuary. U.S. Social Security Administration, The 2018 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, Figure V.C6.

Another measure, the disability incidence rate, shows the number of new cases. The Actuary’s Office, U.S. SSA, calculates disability incidence rates as the number of new disability awardees per 1,000 disability-exposed population:

$$\frac{\text{New disability awardees} * 1000}{\text{Total covered workers - disabled beneficiaries}}$$

(The disability-exposed population is the disability-insured population that is not currently entitled to disability-worker benefits.)

The rate fluctuated, rather erratically, between 1970 and 2017, with a steep declines and rises and showing no definite trend. The rate is projected to be rise to 5.4 and remain there for all future years.

As noted above, the two major health surveys tell a different story than suggested by the SSA disability–incidence trend but agree with the SSA disability-prevalence trend. They conclude that chronic conditions and disability are more widespread in the population. Any difference may in part be attributed to the fact that the concepts of disability are different and that Social Security records are limited to those who qualify as beneficiaries of disability insurance and have not attained the age of normal retirement. Legislative changes also affect the SS data.

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