

## SOCIETY OF ACTUARIES

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# **Pension Section News**

### OASDI Trust Fund Principal Economic and Demographic Assumptions

Editor's Note: The following excerpt is taken from Section V. "Assumptions and Methods Underlying Actuarial Estimates," in the 2002 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds. Copies of the OASDI 2002 Annual Report are available from Cece Enders (410-965-3015).

he future income and outgo of the OASDI program will depend on many economic, demographic and program-specific factors. Trust fund income will depend on how these factors affect the size and composition of the working population and the level and distribution of earnings. Similarly, trust fund outgo will depend on how these factors affect the size and composition of the beneficiary population and the general level of benefits.

Because projections of these factors and their interrelationships are inherently uncertain, estimates are shown in this report on the basis of three plausible sets of assumptions designated as intermediate (alternative II), low cost (alternative I) and high cost (alternative III). The intermediate set, represents the Boards' best estimate of the future course of the population and the economy. In terms of the net effect on the status of the OASDI program, the low cost alternative I is the most optimistic, and the high cost number is the most pessimistic. Although the three sets of economic and demographic assumptions have been developed using the best available information, the resulting estimates should be interpreted with care. The estimates are not intended to be specific predictions of the future financial status of the OASDI program, but rather, they are intended to be indicators of the expected trend and a reasonable range of future income and outgo, under a variety of plausible economic and demographic conditions.

The values for each of the demographic, economic and program specific factors are assumed to move from recently experienced levels or trends, toward long-range ultimate values over the next five to 30 years. The ultimate values assumed after the first five to 30 years for both the demographic and the economic factors are intended to represent average experience or growth rates. Actual future values will exhibit fluctuations or cyclical patterns, as in the past.

#### **Economic Assumptions**

The basic economic assumptions are embodied in three alternatives that are designed to vary Social Security's financial status, and illustrate the likely range of outcomes that might be encountered.

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Continuing Professional Education Notice Society of Actuaries Webcasts by Sandy Neuenkirchen......22 The intermediate assumptions (alternative II) reflect the Trustees' consensus expectation of moderate economic growth throughout the projection period. The low cost assumptions (alternative I) represent a more optimistic outlook, with relatively strong economic growth. The high cost assumptions (alternative III) represent a relatively pessimistic forecast, with weak economic growth and two recessions in the short-range period. Economic cycles are not included in assumptions beyond the first five to ten years of the projection period because they have little effect on the longrange estimates of financial status.



#### **Demographic** Assumptions

The principal demographic assumptions for the three alternatives are shown in Table V.A3 (see page 7).

for each of the economic and demographic factors are assumed to move from recently experience levels or trends, toward long-range ultimate values over next five to 30 years.

The values

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 Table V.B1
 Principle Economic Assumptions

Average Annual percentage (Increase In-)					
Calendar Year	Average Annual Wage in Covered Employment	Consumer Price Index *	Real Wage Differential ** (Percent)		
Historical Data					
1960-1965	3.2	1.2	2.0		
1965-70	5.8	4.2	1.6		
1970-75	6.6	6.8	-0.1		
1975-80	8.7	8.9	-0.2		
1980-85	6.7	5.2	1.4		
1985-90	4.7	3.8	0.9		
1990-95	3.4	3.0	0.4		
1995-00	5.6	2.4	3.2		
1991	3.0	4.1	-1.1		
1992	4.9	2.9	2.0		
1993	1.9	2.8	-0.9		
1994	3.4	2.5	1.0		
1995	4.0	2.9	1.1		
1996	4.5	2.9	1.6		
1997	6.0	2.3	3.7		
1998	5.7	1.3	4.4		
1999	5.4	2.2	3.2		
2000	6.6	3.5	3.1		
2001	5.6	2.8	2.8		
Intermediate					
2002	3.1	13	1.8		
2003	4.9	25	2.4		
2004	4.2	2.0	1.5		
2005	4.1	29	1.2		
2006	4.2	3.0	1.2		
2007	4.1	3.0	1.1		
2008	4.0	3.0	1.0		
2009	4.0	3.0	1.0		
2010	4.1	3.0	1.0		
2015	4.1	3.0	1.1		
2020	4.1	3.0	1.1		
2025	4.1	3.0	1.1		
2030	4.1	3.0	1.1		
2035	4.1	3.0	1.1		
2040	4.1	3.0	1.1		
2045	4.1	3.0	1.1		
2050	4.1	3.0	1.1		
2055	4.1	3.0	1.1		
2060	4.1	3.0	1.1		
2065	4.1	3.0	1.1		
2070	4.1	3.0	1.1		
2075	4.1	3.0	1.1		
2080	4.1	3.0	1.1		

\* The Consumer Price Index is the annual average value for the calendar year of the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W)

\*\*The real-wage differential is the difference between the percentage increases, before rounding, in average annual wage in covered employment, and the average annual Consumer Price Index OASDI Trust Fund • from page 5

 Table V.B1
 Principle Economic Assumptions

Average Annual percentage (Increase In-)					
Calendar Year	Average Annual Wage in Covered Employment	Consumer Price Index *	Real Wage Differential ** (Percent)		
Low Cost					
2002	3.7	1.2	2.6		
2003	4.7	2.0	2.7		
2004	4.0	2.0	2.0		
2005	3.4	2.0	1.4		
2006	3.3	2.0	1.3		
2007	3.3	2.0	1.3		
2008	3.4	2.0	1.4		
2009	3.5	2.0	1.5		
2010	3.5	2.0	1.5		
2011	3.6	2.0	1.6		
2015	3.6	2.0	1.6		
2020	3.5	2.0	1.5		
2025	3.6	2.0	1.6		
2030	3.6	2.0	1.6		
2035	3.6	2.0	1.6		
2040	3.6	2.0	1.6		
2045	3.6	2.0	1.6		
2050	3.6	2.0	1.6		
2055	3.6	2.0	1.6		
2060	3.6	2.0	1.6		
2070	3.6	2.0	1.6		
2075	3.6	2.0	1.6		
2080	3.6	2.0	1.6		
High Cost					
2002	2.5	1.4	1.0		
2003	5.5	3.2	2.3		
2004	5.4	4.6	0.8		
2005	4.3	5.8	-1.6		
2006	5.7	5.8	-0.1		
2007	6.4	4.9	1.5		
2008	4.6	4.1	0.5		
2009	4.3	4.0	0.3		
2010	4.4	4.0	0.4		
2011	4.5	4.0	0.5		
2015	4.6	4.0	0.6		
2020	4.6	4.0	0.6		
2025	4.6	4.0	0.6		
2030	4.6	4.0	0.6		
2035	4.6	4.0	0.6		
3040	4.6	4.0	0.6		
3045	4.6	4.0	0.6		
2050	4.6	4.0	0.6		
2055	4.6	4.0	0.6		
2060	4.6	4.0	0.6		
2065	4.6	4.0	0.6		
2070	4.6	4.0	0.6		
2075	4.6	4.0	0.6		
2080	4.6	4.0	0.6		

\* The Consumer Price Index is the annual average value for the calendar year of the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W)

\*\*The real-wage differential is the difference between the [ercentage increases, before rounding, in average annual wage in covered employment, and the average annual Consumer Price Index Table V.A3 Period Life Expectancies

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			Life Expectancy * (at Age 65)		
Calendar Year	Male	Female	Calen	dar Year Male	Female
Historical Data			Low	Cost	
1940	11.9	13.4	2005	15.9	18.9
1945	12.6	14.4	2010	16.0	18.9
1950	12.8	15.1	2015	16.1	19.0
1955	13.1	15.6	2020	16.2	19.2
1960	12.9	15.9	2025	16.4	19.3
1965	12.9	16.3	2030	16.5	19.4
1970	13.1	17.1	2035	16.6	19.6
1975	13.7	18.0	2040	16.7	19.7
1980	14.0	18.4	2045	16.9	19.8
1985	14.4	18.6	2050	17.0	19.9
1990	15.0	19.0	2055	17.1	20.0
1995	15.3	19.0	2060	17.2	20.2
1996	15.4	19.0	2065	17.3	20.3
1997	15.5	19.1	2070	17.4	20.4
1998	15.6	19.0	2075	17.5	20.5
1999	15.7	18.9	2080	17.6	20.6
2000 +	15.7	19.0			
2001 +	15.8	19.0			

Intermediate			High Cost		
2005	16.0	9.1	2005	16.2	19.4
2010	16.4	19.4	2010	16.8	19.9
2015	16.7	19.7	2015	17.4	20.4
2020	17.0	20.0	2020	17.9	21.0
2025	17.3	20.3	2025	18.5	21.5
2030	17.7	20.6	2030	19.1	22.1
2035	18.0	20.9	2035	19.6	22.6
2040	18.3	21.2	2040	20.1	23.1
2045	18.6	21.5	2045	20.7	23.6
2050	18.8	21.8	2050	21.2	24.1
2055	19.1	22.1	2055	21.7	24.6
2060	19.4	22.4	2060	22.2	25.1
2065	19.7	22.6	2065	22.7	25.6
2070	19.9	22.9	2070	23.1	26.0
2075	20.2	23.1	2075	23.6	26.5
2080	20.4	23.4	2080	24.1	26.9

\* The period life expectancy at a given age for a given year represents the average number of years of life remaining if a group of persons at that age were to experience the mortality for that year over the course of their remaining life.