



SOCIETY OF ACTUARIES

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# Pension Section News

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## From the Pension Section Council Chairperson

by Colin England

This is my last piece as the Pension Section chairperson. I've enjoyed working on your behalf to improve our educational efforts and to fund research that will help all of us pension actuaries. Amy Viener, who convinced me to run, deserves the credit for my involvement.

The electronic training course for new actuarial students will be available shortly on our Web page. We're working out the last kinks to make it operational. We'll send you an e-mail when it is on the Web site for your use. However, we need your input to determine how we best develop this training aid. To start, we have an electronic questionnaire that will pop-up when you are finished using the training material. Please fill it in, and let us know how we can make this more useful for your actuarial students. I'd strongly encourage you to get some of your new actuarial students to use it and send us their comments as well.

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## OASDI Trust Fund: Principal Economic and Demographic Assumptions

Editor's Note: The following excerpt is taken from Section II.D, "Actuarial Analysis," in the 2000 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds. Copies of the OASDI 2000 Annual Report are available from Cece Enders (410-965-3015).

The future income and outgo of the OASDI program will depend on many economic and demographic factors, including gross domestic product, labor force, unemployment, average earnings, productivity, inflation, fertility, mortality, net immigration, marriage, divorce, retirement patterns, and disability incidence and termination. The income will depend on how these factors affect the size and composition of the working population and the level and distribution of earnings. Similarly, the 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 variables 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, alternative II, represents the Boards' best estimate of the future course of the population and the economy. In terms of the new effect on the status of the OASDI program, the low cost alternative I is the most optimistic, and the high cost alternative III is the most pessimistic.

The economic and demographic assumptions used in this report are reexamined each year in light of recent experience and new information about future trends, and are revised if warranted. This year, there was a particular need for such a review because the BEA introduced significant changes to the NIPA in late October 1999.

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## OASDI Trust Fund

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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

over the next 5 to 30 years. The ultimate values assumed after the first 5 to 30 years for both the economic and the demographic variables are intended to represent average experience or growth

financial status that should encompass most of the possibilities that might be encountered. 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 stronger economic growth. The high cost assumptions (alternative III) represent a relatively pessimistic forecast, with weaker 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 long-range estimates of financial status.

***“The estimates are not intended to be predictions of the future status of the OASDI program, but rather, they are intended to be indicators of the expected trend and likely range of future income and outgo....”***

estimates are not intended to be predictions of the future status of the OASDI program, but rather, they are intended to be indicators of the expected trend and likely range of future income and outgo, under a variety of plausible economic and demographic conditions.

The values for each of the economic and demographic factors are assumed to move from recently experienced levels or trends, toward long-range ultimate values

rates. Actual future values will exhibit fluctuations or cyclical patterns, as in the past.

### ***Economic Assumptions***

The principal economic assumptions for the three alternatives are summarized in Table II.D1 (See page 5).

Alternatives I, II, and III represent a range of economic assumptions designed to produce variation in Social Security's

### ***Demographic Assumptions***

The principal demographic assumptions for the three alternatives are shown in Table II.D2 (see page 6).

## ***Congratulations***

The following are newly elected members of the Pension Section Council. They will each serve a 3-year term:

- 1) ***John F. Kalnberg, PricewaterhouseCoopers LLP, Fort Lee, NJ***
- 2) ***Marilyn Miller Oliver, Oliver Consulting, Sausalito, CA***
- 3) ***Zenaida M. Samaniego, AXA Financial, New York, NY***

**TABLE II.D1  
Selected Economic Assumptions by Alternative  
Calendar Years 1960-2075**

Calendar Year	Average Annual Percentage (Change In-)		Real Wage Differential t (Percent)	Calendar Year	Average Annual Percentage (Change In-)		Real Wage Differential t (Percent)
	Average Annual Wage in Covered Employment	Consumer Price Index *			Average Annual Wage in Covered Employment	Consumer Price Index *	
<b>Historical Data:</b>				<b>Low Cost:</b>			
1960-64	3.4	1.3	2.1	2000	t 4.8	2.9	1.8
1965-69	5.3	3.4	2.0	2001	4.1	2.5	1.6
1970-74	6.3	6.1	0.2	2002	3.7	2.3	1.4
1975	6.7	9.1	-2.4	2003	3.6	2.3	1.3
1976	8.5	5.7	2.8	2004	3.7	2.3	1.4
1977	6.8	6.5	0.3	2005	3.7	2.3	1.4
1978	11.6	7.7	3.9	2006	3.7	2.3	1.4
1979	9.8	11.4	-1.6	2007	3.8	2.3	1.5
1980	6.7	13.4	-6.7	2008	3.7	2.3	1.4
1981	10.8	10.3	0.6	2009	3.8	2.3	1.5
1982	6.3	6.0	0.3	2010	3.9	2.3	1.5
1983	4.2	3.0	1.2	2020	3.8	2.3	1.5
1984	6.0	3.5	2.5	2030	3.8	2.3	1.5
1985	6.0	3.5	2.6	2040	3.8	2.3	1.5
1986	4.6	1.6	3.0	2050	3.8	2.3	1.5
1987	4.6	3.6	1.0	2060	3.8	2.3	1.5
1988	5.3	3.9	1.4	2070	3.8	2.3	1.5
1989	3.9	4.9	-0.9	2075	3.8	2.3	1.5
1990	5.1	5.2	-0.1				
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	5.7 +	2.3	3.4				
1998	5.6 +	1.3	4.3				
1999	5.2 +	2.2	3.0				
<b>Intermediate:</b>				<b>High Cost:</b>			
2000	4.6	3.1	1.5	2000	3.4	3.4	0.1
2001	4.4	3.0	1.4	2001	2.5	3.8	-1.3
2002	4.2	3.0	1.2	2002	6.8	5.3	1.5
2003	4.1	3.1	1.0	2003	6.5	5.9	0.6
2004	4.1	3.2	0.9	2004	1.9	4.0	-2.1
2005	4.2	3.3	1.0	2005	5.9	4.1	1.8
2006	4.2	3.3	0.9	2006	5.9	4.3	1.6
2007	4.3	3.3	1.0	2007	5.1	4.3	0.8
2008	4.2	3.3	0.9	2008	4.8	4.3	0.5
2009	4.3	3.3	1.0	2009	4.8	4.3	0.5
2010	4.3	3.3	1.0	2010	4.8	4.3	0.5
2020	4.3	3.3	1.0	2020	4.8	4.3	0.5
2030	4.3	3.3	1.0	2030	4.8	4.3	0.5
2040	4.3	3.3	1.0	2040	4.8	4.3	0.5
2050	4.3	3.3	1.0	2050	4.8	4.3	0.5
2060	4.3	3.3	1.0	2060	4.8	4.3	0.5
2070	4.3	3.3	1.0	2070	4.8	4.3	0.5
2075	4.3	3.3	1.0	2075	4.8	4.3	0.5

\* 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).  
 t The real-wage differential is the difference between the percentage increases, before rounding, in the average annual wage in covered employment, and the average annual Consumer Price Index.  
 + Preliminary. Wages in covered employment are considered preliminary for several years primarily due to uncertainty associated with estimates of amounts above the benefit and contribution base.

(continued on page 6)

**OASDI Trust Fund**  
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**TABLE II.D2**  
**Selected Demographic Assumptions by Alternative**  
**Calendar Years 1940-2075**

Calendar Year	Life Expectancy * (At Age 65)		Calendar Year	Life Expectancy * (At Age 65)	
	Male	Female		Male	Female
Historical Data:			Low Cost:		
1940	11.9	13.4	2000	15.8	19.1
1945	12.6	14.4	2005	15.8	18.9
1950	12.8	15.1	2010	15.9	18.8
1955	13.1	15.6	2015	15.9	18.7
1960	12.9	15.9	2020	16.0	18.8
1965	12.9	16.3	2025	16.1	18.9
1970	13.1	17.1	2030	16.3	19.1
1975	13.7	18.0	2035	16.4	19.2
1976	13.8	18.1	2040	16.5	19.3
1977	13.9	18.3	2045	16.6	19.4
1978	14.0	18.3	2050	16.7	19.5
1979	14.2	18.6	2055	16.8	19.6
1980	14.0	18.4	2060	16.9	19.7
1981	14.2	18.6	2065	17.0	19.8
1982	14.5	18.8	2070	17.1	19.9
1983	14.3	18.6	2075	17.2	20.0
1984	14.4	18.7			
1985	14.4	18.6	High Cost:		
1986	14.5	18.7	2000	15.9	19.2
1987	14.6	18.7	2005	16.4	19.7
1988	14.6	18.7	2010	16.9	20.0
1989	14.8	18.9	2015	17.3	20.4
1990	15.0	19.0	2020	17.9	20.9
1991	15.1	19.1	2025	18.4	21.5
1992	15.2	19.2	2030	19.0	22.0
1993	15.1	19.0	2035	19.5	22.5
1994	15.3	19.0	2040	20.0	23.0
1995	15.3	19.0	2045	20.5	23.5
1996	15.4	19.0	2050	21.0	23.9
1997	15.5	19.1	2055	21.5	24.4
1998 t	16.0	19.1	2060	22.0	24.8
1999 t	15.8	19.1	2065	22.4	25.3
Intermediate:			2070	22.9	25.7
2000	15.9	19.2	2075	23.3	26.1
2005	16.1	19.3			
1010	16.4	19.4			
2015	16.6	19.6			
2020	16.9	19.8			
2025	17.2	20.1			
2030	17.5	20.4			
2035	17.8	20.7			
2040	18.1	21.0			
2045	18.3	21.2			
2050	18.0	21.5			
2055	18.9	21.8			
2060	19.1	22.0			
2065	19.4	22.3			
2070	19.6	22.5			
2075	19.9	22.7			

\* The life expectancy for any year is the average number of years of life remaining for a group of persons if that group were to experience the death rates by age observed in, or assumed for, the selected year.

t Preliminary or estimated.