SCALED FACTORS FOR HYPOTHETICAL EARNINGS EXAMPLES UNDER THE 2004 TRUSTEES REPORT ASSUMPTIONS

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1. Introduction

Hypothetical earnings histories have traditionally been used by the Office of the Chief Actuary to illustrate a range of benefit levels, replacement rates, money's worth measures, time to recover contributions, and internal rates of return under the Social Security program. These illustrations have long been used to evaluate the program under present law, but have increasingly been used to evaluate the effects of possible program changes.[1]

Prior to the development of scaled factors, hypothetical "steady" workers were generally used. Such steady workers are assumed to earn a constant percentage of SSA's national average wage index (AWI)[2] throughout their careers. These hypothetical steady earnings patterns tend to over-represent the proportion of actual lifetime earnings received at younger ages and under-represent the proportion received at prime working ages for most workers. Over-representing early earnings tends to bias downward estimates of the internal rate of return of the present-law program. To avoid this bias, the Office of the Chief Actuary developed "scaled worker" hypothetical earnings patterns in 2001. These patterns express earnings at levels relative to the AWI by age. These earnings levels reflect the average patterns of work and earnings of actual insured workers over their careers.

This note presents the three sets of scaled worker factors recently updated for the hypothetical low, medium, and high lifetime earnings examples used in table VI.F11 of the 2004 Trustees Report. In addition, this note introduces a new set of scaled worker factors for a hypothetical worker with "very low" lifetime earnings.

In developing these four sets of factors, one set of *raw scaled factors* is initially developed using earnings from the Continuous Work History Sample (CWHS). An adjustment is made to these raw factors for ages 62 and over to account for the select nature of these workers who continue working at such ages. Then, these *preliminary adjusted scaled factors* are further adjusted so that the resulting "career-average earnings levels"[3] are 25 percent, 45 percent, 100 percent, and 160 percent of the AWI for the very low, low, medium, and high hypothetical workers, respectively. These career-average earnings levels have been selected in order to provide both a useful range of examples and continuity with previous estimates for hypothetical workers. A final hypothetical "maximum" earner with earnings equal to the OASDI maximum taxable earnings level for each year is generally used to provide a fuller range of career taxable earnings levels under the Social Security program. The "very low" earner is a new case developed for this actuarial note to further extend the range of examples provided by hypothetical earnings patterns.

It is useful to see how overall earnings for these hypothetical workers compare to those of actual retiring workers. The Primary Insurance Amount[4] (PIA), the basic Social Security benefit which is calculated based on a worker's earnings, is a convenient measure of this. Table 1 shows the distribution of actual workers retiring in 2003 relative to the PIAs of hypothetical scaled workers, based on a 1-percent sample of records from SSA's administrative records.

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[1] Refer to Actuarial Note #144 titled, *Internal Real Rates of Return under the OASDI Program for Hypothetical Workers,* for details. This note is located at the following internet site: http://www.socialsecurity.gov/OACT/NOTES/note144.html.

[2] For more information on the national average wage index, including historical values, see the following internet site: http://www.socialsecurity.gov/OACT/COLA/AWI.html.

[3] Career-average earnings levels are defined for retired workers as the highest 35 years of earnings, indexed for growth in average wages to the year prior to benefit entitlement. See further discussion under the subsection 3.b.

[4] See http://www.socialsecurity.gov/OACT/COLA/Benefits.html for more details on how the PIA is calculated.

Table 1.—Distribution of PIAs of Actual Workers Retiring in 2003, Relative to PIAs for Hypothetical Scaled Workers Retiring in 2003

Hypothetical case (average earnings)[1]	Percent with PIA less than PIA for hypothetical case				Percent with PIA closest to PIA for hypothetical case[2]			
	All males	All females	Total, all workers	Females not dually entitled	All males	All females	Total, all workers	Females not dually entitled
Very Low ($8,314)	5.8	23.3	14.0	13.5	9.4	34.0	20.8	21.6
Low ($14,965)	13.2	44.0	27.5	31.0	14.1	32.6	22.7	36.3
Medium ($33,256)	37.3	82.7	58.5	78.2	26.3	24.2	25.4	30.4
High ($52,624)	74.7	97.5	85.3	96.9	38.1	8.5	24.3	10.9
Maximum[3] ($69,418)	100	100	100	100	12.1	0.7	6.8	0.9

[1] Career-average earnings level wage indexed to 2003.

[2] Rounded values do not necessarily sum to 100 percent.

[3] The maximum worker is assumed to earn the taxable maximum each year from age 22 to the year before retirement.

Table 1 shows that 44 percent of female workers retiring in 2003 have PIAs below that of a hypothetical low wage scaled worker and that about 44 percent of all workers retiring in 2003 have PIAs closest to that of hypothetical low or very low wage scaled workers. The level of earnings corresponding to the new very low scaled factors was chosen so that approximately half the retirees who were previously best represented by the hypothetical low scaled worker would now be best represented by the hypothetical very low scaled worker.

Table 1 also shows how the hypothetical workers compare to non-dually entitled female workers. Dually entitled workers, though still insured for worker benefits, receive a larger benefit as a spouse or widow(er) than they do as a worker. About 58 percent of these non-dually entitled females have PIAs closest to that of a hypothetical very low or low scaled worker, compared to 67 percent of all female workers.

Most of the dually entitled females in the sample are dually entitled as spouses with spouse benefits approximately equal to half the husband's worker benefit. Many of the non-dually entitled females in the sample may become dually entitled as widows at later ages because (1) their husbands have, on average, shorter expected lifetimes and (2) widow benefits are higher than spouse benefits.

2. Developing *Raw Scaled Factors* from Earnings in the CWHS

Development of the *raw scaled factors* occurs in three steps:

   a. Select workers in the CWHS for computing the factors,

   b. Tabulate the earnings for these workers, and

   c. Develop the *raw scaled factors* from the tabulated earnings.

a. Select Workers in the CWHS for Computing the Factors

The CWHS is a 1-percent sample of workers with some OASDI taxable earnings during their lifetime. It is updated annually by the Office of Systems based on specifications from the Office of Research, Evaluation, and Statistics. The factors in this actuarial note are developed using the CWHS updated as of 2001. Because the CWHS contains earnings for all persons who have paid any Social Security taxes during their lifetime, it is important to limit analysis only to workers who are likely to be eligible for retirement or disability benefits, or to have dependents eligible for survivors benefits. To include only those workers, we used the status of *fully insured.* A worker is considered *fully insured* if he or she has a total number of quarters of coverage (QCs)[5] at least equal to the number of years after attainment of age 21 through the last year considered in the analysis (in this case 2000). A further requirement is that the worker has a minimum of 6 QCs. Since *permanent insured status* is achieved with 40 QCs, any worker with 40 QCs is *fully insured* no matter how many years have elapsed since age 21. Any worker who is classified as *fully insured* is likely to become eligible for a Social Security retirement benefit if he or she survives to eligibility age.

[5] The QC is the basic unit for determining whether a worker is insured for Social Security benefits. In 2000, for example, a worker needed to have $780 in covered earnings to obtain a QC. Workers can earn up to 4 QCs per calendar year. Since 1978 the amount of covered earnings required to obtain a QC has been automatically indexed each year with the growth in SSA's national average wage index. See http://www.socialsecurity.gov/OACT/COLA/QC.html for more information, including a list of historical QC amounts.

b. Tabulate Earnings for These Workers

The updated CWHS file contains taxable earnings for years 1951 through 2001. Due to posting delays, the earnings for 2001 in this file are less complete than for earlier years and were not used in our analysis. For each of the workers classified as *fully insured* as of 2000 (based on all earnings after 1950), our analysis includes earnings for the most recent 10-year period (1991 through 2000) for ages 21 and over. Each year of earnings is classified by age of worker, and is expressed as the ratio of the earnings to the AWI for the year.

Scaled factors were developed taking into account both the variations in earnings by age and the probabilities that workers may have years with zero earnings. Years with zero earnings are included among the earnings records selected. However, years in which the worker was deceased[6] or receiving a primary Social Security benefit are not included.

c. Develop Raw Scaled Factors from the Tabulated Earnings

To normalize earnings from different years, annual earnings amounts for each year are divided by the AWI for that year. For each *fully insured* worker, normalized earnings are tabulated by age for each age 21 and over for years 1991-2000, as described in the preceding paragraph. The normalized earnings are summed by age and a corresponding worker count is kept. The *raw scaled factors* are determined by dividing the tabulated sum for each age, including years at zero earnings, by the corresponding numbers of workers. The results are shown in table 2.

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[6] Data concerning worker deaths appears in the CWHS. However, death data in the CWHS does not include all state-reported death data. Therefore, we also used Social Security's NUMIDENT file to identify deaths of individuals in the CWHS. The NUMIDENT file contains, among other things, death data including state-reported deaths.

Table 2.—Raw Scaled Worker Factors for the 2004 Trustees Report

Age	Factor
21	0.291
22	0.346
23	0.425
24	0.497
25	0.556
26	0.606
27	0.652
28	0.690
29	0.723
30	0.749
31	0.772
32	0.792
33	0.809
34	0.824
35	0.840
36	0.852
37	0.866
38	0.878
39	0.888
40	0.897
41	0.906
42	0.915
43	0.924
44	0.932
45	0.937
46	0.940
47	0.943
48	0.944
49	0.941
50	0.934
51	0.925
52	0.914
53	0.898
54	0.880
55	0.857
56	0.827
57	0.799
58	0.767
59	0.735
60	0.696
61	0.652
62	0.826
63	0.835
64	0.805

3. Adjust *Raw Scaled Factors* to Match Selected Career-Average Earnings Levels

Adjustment of the *raw scaled factors* occurs in three steps:

a. Calculate *preliminary adjusted scaled factors* from the *raw scaled factors* by overriding the scaled factors at ages 62-64;

b. Construct the earnings pattern and calculate the *career-average earnings* for a hypothetical scaled worker using the *preliminary adjusted scaled factors*; and

c. Calculate very low, low, medium, and high *final scaled factors* from the *preliminary adjusted scaled factors* such that the *career-average earnings* levels for these hypothetical workers match the selected percentages of the AWI in the year prior to entitlement (25, 45, 100 and 160 percent).

a. Calculate Preliminary Adjusted Scaled Factors from Raw Scaled Factors

The following values, based on table 2, show that there is an accelerating decline in raw factors at ages 60 and 61, followed by increases at ages 62 and 63:

Age	Raw Scaled Factor	Difference
55	0.857	—
56	0.827	-0.030
57	0.799	-0.028
58	0.767	-0.032
59	0.735	-0.032
60	0.696	-0.039
61	0.652	-0.044
62	0.826	+0.174
63	0.835	+0.009
64	0.805	-0.030

We do not have definitive information on the reasons for these changes after age 59. However, it seems reasonable to assume that some of the decline in the raw factors at ages 60 and 61 is due to the retirement (total or partial) of some workers before they became entitled to their OASDI retirement benefits at age 62. The increases in the raw factors at ages 62 and 63 may reasonably be attributed to the fact that healthier, higher-wage workers, and workers who have maintained consistent employment at older ages, are more likely to delay entitlement to OASDI benefits until after age 62. The earnings of many non-workers, low-wage workers, or less-healthy workers have been removed from the tabulated group starting at age 62 because they have started to receive retirement benefits under Social Security.

Due to the differences between the groups of workers represented in data for ages just-before versus just-after reaching age 62, a smoother set of "adjusted" raw factors is developed for ages 62-64. The factors are developed assuming that earnings for workers over age 61 will stay constant in nominal dollars, thus decreasing in dollars that are indexed by changes in the AWI.

The *preliminary adjusted scaled factors* are set equal to the *raw scaled factors* for ages up to 61. Factors for ages 62 and over are calculated so that earnings in nominal dollars stay constant at the level for age 61. For example, the preliminary adjusted factor for age 62 is calculated by dividing the factor for age 61 by the *ultimate* assumed annual increase in average wages under the intermediate assumptions of the 2004 Trustees Report. The calculation of the *preliminary adjusted scaled factors* for ages 62-64 is shown in table 3.

This approach, while providing an imperfect approximation for all types of workers, was adopted in order to avoid having different scales for workers who become entitled to OASDI benefits at different ages.

Table 3.—Scaled Factor Adjustments Made for Ages After 61

Age	61	62	63	64
Raw scaled factor	0.652	0.826	0.835	0.805
Ultimate AWI increase since age 61, based on 2004 Trustees Report, Intermediate Assumptions	1.000	1.039	$(1.039)^2$	$(1.039)^3$
Preliminary adjusted scaled factor (age 61 raw scaled factor) / (Ultimate AWI increase)	0.652	0.628	0.604	0.581

b. Construct the Earnings Pattern and Calculate the Career-Average Earnings Level for a Selected Hypothetical Scaled Worker Using the Preliminary Adjusted Scaled Factors

The hypothetical scaled worker that is selected (referred to as the *1950-born preliminary scaled worker*) is assumed to have been born on January 2, 1950, to have earnings from age 21 through 64, and to retire at age 65. Earnings for each year are calculated by multiplying the *preliminary adjusted scaled factor* for that age by the AWI value for the corresponding year. This worker turns age 22 in 1972. So the age 22 preliminary adjusted factor of 0.346 is multiplied by the 1972 AWI of $7,133.80 to obtain annual earnings of $2,468.29. Table 4 shows the *preliminary adjusted scaled factors*, AWI amounts,

and corresponding hypothetical earnings for the *1950-born preliminary selected scaled worker*.

The last line of table 4 shows *career-average earnings* of $43,632 (wage indexed to 2014) for the *1950-born preliminary scaled worker*. This is a different calculation from the average indexed monthly earnings (AIME) shown in the corresponding table of Actuarial Note #144.[7] Career-average earnings are computed in a similar manner as the AIME except that (1) earnings are indexed to the year prior to entitlement rather than to two years prior to eligibility, and (2) earnings are averaged on an annual basis instead of a monthly one. For the *1950-born preliminary scaled worker*, who retires at age 65 in 2015, the indexing year in computing *career-average earnings* is 2014.

Table 4.—Computation of the Earnings Record and the Career-Average Earnings for the 1950-Born Preliminary Scaled Worker Based on the Preliminary Adjusted Scaled Factors and the AWI Series

Year	Age	Preliminary adjusted scaled factors (1)	AWI for current year (2)	Estimated earnings for current year (1)*(2) (3)	Earnings wage indexed to 2014 (4)
1971	21	0.291	$6,497.08	$1,890.65	$15,067.22
1972	22	0.346	7,133.80	2,468.29	17,914.97
1973	23	0.425	7,580.16	3,221.57	22,005.39
1974	24	0.497	8,030.76	3,991.29	25,733.36
1975	25	0.556	8,630.92	4,798.79	28,788.22
1976	26	0.606	9,226.48	5,591.25	31,377.09
1977	27	0.652	9,779.44	6,376.19	33,758.85
1978	28	0.690	10,556.03	7,283.66	35,726.39
1979	29	0.723	11,479.46	8,299.65	37,435.05
1980	30	0.749	12,513.46	9,372.58	38,781.26
1981	31	0.772	13,773.10	10,632.83	39,972.14
1982	32	0.792	14,531.34	11,508.82	41,007.68
1983	33	0.809	15,239.24	12,328.55	41,887.90
1984	34	0.824	16,135.07	13,295.30	42,664.56
1985	35	0.840	16,822.51	14,130.91	43,493.00
1986	36	0.852	17,321.82	14,758.19	44,114.33
1987	37	0.866	18,426.51	15,957.36	44,839.21
1988	38	0.878	19,334.04	16,975.29	45,460.54
1989	39	0.888	20,099.55	17,848.40	45,978.31
1990	40	0.897	21,027.98	18,862.10	46,444.31
1991	41	0.906	21,811.60	19,761.31	46,910.31
1992	42	0.915	22,935.42	20,985.91	47,376.30
1993	43	0.924	23,132.67	21,374.59	47,842.30
1994	44	0.932	23,753.53	22,138.29	48,256.52
1995	45	0.937	24,705.66	23,149.20	48,515.41
1996	46	0.940	25,913.90	24,359.07	48,670.74
1997	47	0.943	27,426.00	25,862.72	48,826.07
1998	48	0.944	28,861.44	27,245.20	48,877.85

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[7] This revision was introduced in the 2003 Trustees Report.

Table 4.—Computation of the Earnings Record and the Career-Average Earnings for the 1950-Born Preliminary Scaled Worker Based on the Preliminary Adjusted Scaled Factors and the AWI Series (Cont.)

Year	Age	Preliminary adjusted scaled factors (1)	AWI for current year (2)	Estimated earnings for current year (1)*(2) (3)	Earnings wage indexed to 2014 (4)
1999	49	0.941	$30,469.84	$28,672.12	$48,722.51
2000	50	0.934	32,154.82	30,032.60	48,360.07
2001	51	0.925	32,921.92	30,452.78	47,894.08
2002	52	0.914	33,252.09	30,392.41	47,324.53
2003	53	0.898	33,892.68	30,435.63	46,496.09
2004	54	0.880	35,057.39	30,850.50	45,564.09
2005	55	0.857	36,507.12	31,286.60	44,373.21
2006	56	0.827	37,907.81	31,349.76	42,819.89
2007	57	0.799	39,401.57	31,481.85	41,370.13
2008	58	0.767	41,021.30	31,463.34	39,713.25
2009	59	0.735	42,671.44	31,363.51	38,056.37
2010	60	0.696	44,382.24	30,890.04	36,037.06
2011	61	0.652	46,142.89	30,085.16	33,758.85
2012	62	0.628	47,988.47	30,114.01	32,491.65
2013	63	0.604	49,850.13	30,108.08	31,272.09
2014	64	0.581	51,777.38	30,098.24	30,098.24
Career-Average Earnings.					$43,632

c. Calculate Very Low, Low, Medium, and High Final Scaled Factors from the Preliminary Adjusted Scaled Factors such that Selected Hypothetical Scaled Workers with Earnings Based on These Factors Would Have Career-Average Earnings Equal to Selected Percentages of the AWI in the Year Prior to Entitlement.

The selected *career-average earnings level* for the medium scaled worker is the AWI in the year prior to entitlement[8]. Similarly, the selected *career-average earnings levels* for the, very low, low, and high scaled workers are 25 percent[9], 45 percent and 160 percent of the AWI in the year prior to entitlement, respectively. As noted earlier, the *career-average earnings* for the *1950-born preliminary scaled worker* is shown in table 4 as $43,632, wage indexed to 2014. By comparison, the average wage index for 2014 is $51,777[10]. Corresponding *career-average earnings* for a very low, low,

and high earner are $12,944, $23,300, and $82,844, respectively. Table 5 summarizes this information, and also provides the ratio of the selected career-average earnings to the *career-average earnings* for the *1950-born preliminary scaled worker.*

Two primary reasons for choosing the year prior to entitlement as the indexing year in computing the *career-average earnings* are:

- To maintain consistency with prior hypothetical steady workers[11] while simplifying calculations and

- To make the calculation of the hypothetical scaled worker factors independent of the prior hypothetical steady worker cases.

Furthermore, career-average earnings provide a reasonable denominator for replacement rate calculations that allow hypothetical scaled worker replacement rates to maintain consistency with the prior hypothetical steady worker replacement rates.

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[8] For the original scaled factors in Actuarial Note #144, the preliminary adjusted scaled factors by age were further adjusted so that the AIME value of the 1950-born selected scaled worker would equal the AIME value for the corresponding steady average worker.

[9] The level of 25 percent was chosen so that approximately half the retirees with PIA levels below that of a low scaled worker would have PIA levels below that of a very low scaled worker.

[10] The projected AWI value for 2014 is taken from the 2004 Trustees Report. See http://www.socialsecurity.gov/OACT/TR/TR04/lr6F7-2.html.

[11] Prior to 2001, the hypothetical workers used were all "steady" workers. Today, only the "steady maximum" worker has been retained. "Steady" workers were assumed to work steadily beginning at age 22, until retirement, death, or disability, and to have a steady amount of earnings relative to the AWI each year. For example, the "steady average" worker was assumed to earn the AWI for every working year. Similarly, the "steady low" worker was assumed to earn 45 percent of the AWI for every working year, and the "steady high" worker was assumed to earn 160 percent of the AWI for every working year.

Table 5.—Table of Key Ratios Used to Finalize Scaled Worker Calculations

Case	Assumed career-average earnings for hypothetical scaled workers (1)	Career-average earnings of the 1950-born preliminary selected scaled worker (2)	Ratio (1) / (2) (3)
Very low earner	$12,944	$43,632	0.297
Low earner.	23,300	43,632	0.534
Medium earner.	51,777	43,632	1.187
High earner	82,844	43,632	1.899

The last step is to apply the ratios from table 5 to the *preliminary adjusted scaled factors.* This requires four separate calculations, one each for the very low, low, medium, and high scaled worker cases. For example, the *scaled factors* for the hypothetical medium scaled worker are determined by multiplying:

- The *preliminary adjusted scaled factors* for ages 21 through 64, by

- The ratio of 1.187 shown in tables 5 and 6.

Table 6 shows the calculation of the final *scaled factors*, combining the *preliminary adjusted scaled factors* with the adjustment factors.

Table 6.—Calculation of Final Scaled Factors

		Earnings level			
		Very low	Low	Medium	High
Adjustment factors..		0.297	0.534	1.187	1.899
Age	Preliminary adjusted scaled factors	Final scaled factors			
21	0.291	0.086	0.155	0.345	0.553
22	0.346	0.103	0.185	0.411	0.657
23	0.425	0.126	0.227	0.504	0.807
24	0.497	0.147	0.265	0.590	0.944
25	0.556	0.165	0.297	0.660	1.056
26	0.606	0.180	0.324	0.719	1.151
27	0.652	0.193	0.348	0.774	1.238
28	0.690	0.205	0.368	0.819	1.310
29	0.723	0.214	0.386	0.858	1.373
30	0.749	0.222	0.400	0.889	1.422
31	0.772	0.229	0.412	0.916	1.466
32	0.792	0.235	0.423	0.940	1.504
33	0.809	0.240	0.432	0.960	1.536
34	0.824	0.244	0.440	0.978	1.565
35	0.840	0.249	0.449	0.997	1.595
36	0.852	0.253	0.455	1.011	1.618
37	0.866	0.257	0.462	1.028	1.644
38	0.878	0.260	0.469	1.042	1.667
39	0.888	0.263	0.474	1.054	1.686
40	0.897	0.266	0.479	1.064	1.703
41	0.906	0.269	0.484	1.075	1.720
42	0.915	0.271	0.489	1.086	1.737
43	0.924	0.274	0.493	1.096	1.754
44	0.932	0.276	0.498	1.106	1.770
45	0.937	0.278	0.500	1.112	1.779
46	0.940	0.279	0.502	1.115	1.785
47	0.943	0.280	0.504	1.119	1.790
48	0.944	0.280	0.504	1.120	1.792

Table 6.—Calculation of Final Scaled Factors (Cont.)

		Earnings level			
		Very low	Low	Medium	High
Adjustment factors..		0.297	0.534	1.187	1.899
Age	Preliminary adjusted scaled factors	Final scaled factors			
49	0.941	0.279	0.503	1.117	1.787
50	0.934	0.277	0.499	1.108	1.773
51	0.925	0.274	0.494	1.098	1.756
52	0.914	0.271	0.488	1.085	1.735
53	0.898	0.266	0.480	1.066	1.705
54	0.880	0.261	0.470	1.044	1.671
55	0.857	0.254	0.458	1.017	1.627
56	0.827	0.245	0.442	0.981	1.570
57	0.799	0.237	0.427	0.948	1.517
58	0.767	0.228	0.410	0.910	1.456
59	0.735	0.218	0.392	0.872	1.396
60	0.696	0.206	0.372	0.826	1.321
61	0.652	0.193	0.348	0.774	1.238
62	0.628	0.186	0.335	0.745	1.191
63	0.604	0.179	0.323	0.717	1.147
64	0.581	0.172	0.310	0.690	1.104

4. Developing Hypothetical Worker Earnings from Factors

Given a year of birth, and an earnings level for scaled workers, classified as either very low, low, medium, or high, annual earnings can be obtained by taking the relevant set of *scaled factors* and multiplying them by the AWIs in the corresponding years. Consider as an example a low earnings worker born in 1970. To determine earnings for this worker at age 22, the *scaled factor* for the low worker at age 22 would be multiplied by the AWI in 1992, the year in which the worker turns 22. Because the hypothetical workers are born in January, a year of age corresponds to a calendar year. Therefore, a worker born on January 2, 1970 would be age 22 throughout 1992. Earnings for other ages are determined in the same manner. In this manner, a series of very low, low, medium, and high scaled earnings can be developed for any hypothetical year of birth. Table 7 carries out the calculation of hypothetical scaled worker earnings for high earnings workers for the selected years of birth 1930, 1949, and 1997.

Table 7.—Calculation of Final Scaled Factors

Year of birth		1930		1949		1997	
Age	Final scaled factors for high earner (1)	AWI (2)	Age-scaled earnings (1)*(2) (3)	AWI (4)	Age-scaled earnings (1)*(4) (5)	AWI (6)	Age-scaled earnings (1)*(6) (7)
21	0.553	$2,799.16	$1,546.59	$6,186.24	$3,418.02	$60,180.48	$33,250.91
22	0.657	2,973.32	1,953.32	6,497.08	4,268.24	62,507.51	41,064.18
23	0.807	3,139.44	2,533.36	7,133.80	5,756.58	64,942.15	52,404.74
24	0.944	3,155.64	2,977.82	7,580.16	7,153.03	67,405.45	63,607.22
25	1.056	3,301.44	3,485.24	8,030.76	8,477.86	70,100.32	74,003.09
26	1.151	3,532.36	4,064.36	8,630.92	9,930.81	72,861.06	83,834.52
27	1.238	3,641.72	4,508.26	9,226.48	11,421.90	75,687.29	93,696.93
28	1.310	3,673.80	4,813.04	9,779.44	12,812.03	78,577.54	102,944.36
29	1.373	3,855.80	5,293.07	10,556.03	14,490.85	81,564.54	111,968.21
30	1.422	4,007.12	5,698.61	11,479.46	16,325.19	84,825.79	120,632.62
31	1.466	4,086.76	5,990.34	12,513.46	18,342.13	88,177.91	129,250.48
32	1.504	4,291.40	6,453.26	13,773.10	20,711.51	91,611.64	137,762.38
33	1.536	4,396.64	6,753.43	14,531.34	22,320.76	95,128.18	146,120.97
34	1.565	4,576.32	7,159.76	15,239.24	23,842.16	98,766.83	154,523.08
35	1.595	4,658.72	7,430.21	16,135.07	25,733.87	102,724.68	163,835.90
36	1.618	4,938.36	7,988.72	16,822.51	27,213.56	106,807.49	172,781.09
37	1.644	5,213.44	8,572.30	17,321.82	28,481.73	110,992.75	182,501.94
38	1.667	5,571.76	9,288.42	18,426.51	30,717.97	115,266.62	192,155.56
39	1.686	5,893.76	9,937.12	19,334.04	32,597.96	119,701.46	201,821.45
40	1.703	6,186.24	10,535.96	20,099.55	34,232.11	124,486.71	212,016.80
41	1.720	6,497.08	11,176.39	21,027.98	36,172.69	129,448.02	222,678.68
42	1.737	7,133.80	12,393.59	21,811.60	37,893.40	134,558.13	233,768.51
43	1.754	7,580.16	13,298.58	22,935.42	40,237.74	139,759.03	245,192.26
44	1.770	8,030.76	14,211.10	23,132.67	40,935.18	145,122.90	256,807.02
45	1.779	8,630.92	15,355.06	23,753.53	42,259.34	150,879.49	268,426.08
46	1.785	9,226.48	16,467.16	24,705.66	44,093.97	156,877.03	279,989.73
47	1.790	9,779.44	17,509.77	25,913.90	46,398.01	163,083.35	291,995.52
48	1.792	10,556.03	18,920.28	27,426.00	49,157.46	169,404.03	303,634.19
49	1.787	11,479.46	20,510.02	28,861.44	51,565.90	175,914.19	314,300.78
50	1.773	12,513.46	22,191.12	30,469.84	54,034.60	182,862.44	324,284.59
51	1.756	13,773.10	24,189.59	32,154.82	56,473.25	190,081.84	333,839.21
52	1.735	14,531.34	25,217.77	32,921.92	57,132.90	197,549.47	342,828.54
53	1.705	15,239.24	25,983.32	33,252.09	56,695.71	205,167.59	349,816.28
54	1.671	16,135.07	26,959.30	33,892.68	56,629.62	213,027.99	355,938.03
55	1.627	16,822.51	27,373.27	35,057.39	57,044.72	221,400.58	360,258.82
56	1.570	17,321.82	27,199.07	36,507.12	57,324.21	230,119.27	361,337.88
57	1.517	18,426.51	27,954.05	37,907.81	57,508.27	239,156.00	362,813.04
58	1.456	19,334.04	28,156.12	39,401.57	57,380.43	248,409.23	361,757.86
59	1.396	20,099.55	28,049.73	41,021.30	57,246.87	257,957.73	359,990.33
60	1.321	21,027.98	27,788.29	42,671.44	56,389.92	268,099.68	354,291.31
61	1.238	21,811.60	27,001.63	44,382.24	54,942.91	278,623.82	344,921.80
62	1.191	22,935.42	27,327.12	46,142.89	54,978.38	289,521.84	344,959.77
63	1.147	23,132.67	26,527.55	47,988.47	55,031.11	300,759.84	344,898.45
64	1.104	23,753.53	26,217.06	49,850.13	55,020.19	312,370.59	344,767.17