#### **ACTUARIAL NOTE**

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### ILLUSTRATIVE BENEFITS FOR RETIRED WORKERS, DISABLED WORKERS, AND SURVIVORS SCHEDULED UNDER CURRENT LAW

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The Social Security program provides monthly benefits to retired workers and their families, qualifying disabled workers and their families, and survivors of workers. The progressivity of the Social Security benefit formula provides individuals who have lower career-average earnings with monthly benefits that are a higher percentage their career-average earnings than that percentage for those who have higher careeraverage earnings. For a group of example workers with a range of full-lifetime average earnings levels<sup>1</sup> at various ages in 2016, this note displays their current earnings at various ages in 2015, their full-lifetime average earnings, and the amounts they would expect to receive at benefit entitlement.

The assumptions underlying the attached tables are similar to those used in the annual Social Security Statement available online to workers and former workers aged 18 and older. The benefit amounts are calculated as specified in current law. The amounts reflect no increase in the cost of living or in the average wage level after 2015. Thus, the benefit estimates for workers at various ages in 2016 who would be retiring in future years are roughly comparable to their potential benefits as disabled workers and for their survivors, which both assume benefit entitlement in 2016.

All example workers, except the steady maximum,<sup>2</sup> have scaled earnings patterns beginning at age 21. These patterns reflect the actual average work experience of insured workers during 1993-2012,

which show relatively low wages and probability of work at young and old ages and higher relative wages and probability of work at mid-career.<sup>3</sup> After 2015, earnings levels for workers illustrated in this note increase or decrease due solely to the scaled earnings pattern, and not due to changes in the average wage level.

The following four tables allow workers to look up estimated future benefits consistent with their earnings in 2015 and age in 2016. Each table lists *earnings in 2015* at various ages and *annual benefit amounts* at entitlement for *example workers* with full-lifetime average earnings levels<sup>4</sup> of \$10,000, \$20,000, \$30,000, \$40,000, \$50,000, \$60,000, and the taxable maximum. As mentioned above, the benefit amounts assume no increase in the cost of living or the average wage after 2015. Additional information about each table is provided below.

# • Table 1A: Retired Workers Who Become Entitled at Normal Retirement Age (NRA). This table also shows the percentage of fully insured workers with full-lifetime average earnings at or below each of the seven full-lifetime average earnings levels. We base these percentages on the earnings of a one-percent sample of individuals, aged 25 through 65, who were fully insured in 2013. The illustrated benefits are for workers only. Additional benefits may be available for auxiliary beneficiaries such as spouses and dependent children. The NRA increased to 66

<sup>&</sup>lt;sup>1</sup> The full-lifetime average earnings level reflects the average of the highest 35 years of wage-indexed earnings (wage-indexed to 2015) expected for the illustration assuming that the worker survives to age 65 without becoming disabled.

<sup>&</sup>lt;sup>2</sup> For the steady maximum worker, earnings start at age 22 and are assumed to equal the taxable maximum (the OASDI benefit and contribution base) for each year through 2015. Earnings after 2015 are assumed to equal the taxable maximum of \$118,500 for 2015.

<sup>&</sup>lt;sup>3</sup> For more details on development of the scaled earnings patterns, see Actuarial Note Number 2016.3 at: <a href="http://www.ssa.gov/OACT/NOTES/ran3/an2016-3.pdf">http://www.ssa.gov/OACT/NOTES/ran3/an2016-3.pdf</a>.

<sup>&</sup>lt;sup>4</sup> The full-lifetime average earnings level reflects the average of the highest 35 years of wage-indexed earnings (wage-indexed to 2015) expected for the illustration assuming the worker survives to age 65 without becoming disabled.

for those attaining age 62 in 2005, and it will increase further beginning with those attaining age 62 in 2017, reaching 67 for those attaining age 62 in 2022 and later.

- Table 1B: Retired Workers Who Become Entitled at Age 65. The only difference between table 1B and table 1A is that the example workers retire at age 65 rather than at NRA, resulting in lower benefit amounts due to reduction for early retirement. The illustrated benefits are for workers only. Additional benefits may be available for auxiliary beneficiaries such as spouses and dependent children.
- Table 2: Disabled Worker Annual Benefit Amounts. For the seven full-lifetime average earnings levels, table 2 provides benefit amounts assuming benefit entitlement in 2016 for disabled example workers aged 25, 35, 45, and 55. In addition, the table provides the percentage of disability insured workers with full-lifetime average earnings at or below each full-lifetime average earnings level. We base these percentages on the earnings of a one-percent sample of individuals, aged 25 through 65, who were disability insured in 2013. The illustrated benefits are for workers only. Additional benefits may be available for

auxiliary beneficiaries such as spouses and dependent children.

#### • Table 3: Survivor Annual Benefit Amounts.

For the seven full-lifetime average earnings levels, table 3 provides benefit amounts assuming that the deceased example workers would have attained ages 25, 35, 45, or 60 just before dying in 2016. In each case, we assume the surviving spouse is the same age as the deceased worker and that he or she becomes entitled to benefits in 2016. The table provides benefit estimates for three scenarios of survivor beneficiaries: (1) spouse and one child (spouse only for the age 60 case), (2) one child only, and (3) spouse and two children. Because of the family maximum benefit provision, annual benefit amounts for a spouse and two children are the same as, or only moderately higher than, benefit amounts for a spouse and one child. In addition, the table provides the percentage of fully insured workers with full-lifetime average earnings at or below each full-lifetime average earnings level. We base these percentages on the earnings of a one-percent sample of individuals, aged 25 through 65, who were fully or currently insured in 2013.

#### Table 1A. Retired Worker Annual Benefit Amounts<sup>1</sup> Scheduled in Current Law

For Insured Workers at Various Ages Who Become Entitled at Normal Retirement Age (NRA) With Various Full-Lifetime Earnings Patterns<sup>2</sup>

Age in 2016	Age at benefit entitlement (NRA)			Earning	s in 2015 an	d benefit at	entitlement	(NRA)	
25	67	Earnings in 2015	\$5,543	\$11,086	\$16,629	\$22,172	\$27,715	\$33,258	\$118,500
		Benefit at entitlement	8,988	12,504	15,708	18,912	22,104	25,308	34,704
35	67	Earnings in 2015	9,726	19,451	29,177	38,902	48,628	58,353	118,500
		Benefit at entitlement	8,988	12,504	15,708	18,912	22,104	25,308	34,764
45	67	Earnings in 2015	10,923	21,846	32,770	43,693	54,616	65,539	118,500
		Benefit at entitlement	8,988	12,504	15,708	18,912	22,104	25,308	34,788
55	67	Earnings in 2015	10,640	21,280	31,920	42,560	53,199	63,839	118,500
		Benefit at entitlement	8,988	12,504	15,708	18,912	22,104	25,308	34,692
65	66	Earnings in 2015	7,149	14,298	21,446	28,595	35,744	42,893	118,500
		Benefit at entitlement	8,364	11,628	14,616	17,592	20,580	23,556	32,148
Full-lifet	Full-lifetime average earnings level <sup>3</sup>		10,000	20,000	30,000	40,000	50,000	60,000	Maximum
Percent of fully insured workers with career									
average earnings at this level or below <sup>4</sup>		9	23	38	52	65	74	100	

<sup>&</sup>lt;sup>1</sup> The assumptions underlying the above benefit estimates are similar to those used for the Social Security Statement. These estimates reflect no increase in the cost of living or average wage and earnings levels after December 2015. However, earnings after 2015 follow scaled earnings patterns as age increases. (These assumptions are not consistent with those used for table V.C7 of the 2016 Trustees Report.)

Office of the Chief Actuary Social Security Administration December 2016

<sup>&</sup>lt;sup>2</sup> Scaled earnings patterns starting at age 21 are assumed for all but the maximum worker. These scaled patterns reflect the actual average work experience of insured workers during 1993-2012. For the maximum worker, earnings start at age 22 and are assumed to equal the taxable maximum (the OASDI benefit and contribution base) for each year through 2015. (For 2015, this amount was \$118,500.) For more details on the scaled-earnings patterns see Actuarial Note Number 2016.3 at: <a href="http://www.ssa.gov/OACT/NOTES/ran3/an2016-3.pdf">http://www.ssa.gov/OACT/NOTES/ran3/an2016-3.pdf</a>.

<sup>&</sup>lt;sup>3</sup> The full-lifetime average earnings level reflects the average of the highest 35 years of wage-indexed earnings (wage-indexed to 2015) expected for the illustration assuming the worker survives to age 65 without becoming disabled.

<sup>&</sup>lt;sup>4</sup>Based on a 1% sample of actual earnings histories for individuals aged 25 through 65 who were fully insured in 2013.

#### Table 1B. Retired Worker Annual Benefit Amounts<sup>1</sup> Scheduled in Current Law

For Insured Workers at Various Ages Who Become Entitled at Age 65 With Various Full-Lifetime Earnings Patterns<sup>2</sup>

Age in	Age at benefit								
2016	entitlement	Earnings in 2015 and benefit at entitlement (Age 65)							
25	65	Earnings in 2015	\$5,543	\$11,086	\$16,629	\$22,172	\$27,715	\$33,258	\$118,500
		Benefit at entitlement	7,788	10,836	13,620	16,392	19,164	21,936	30,084
35	65	Earnings in 2015	9,726	19,451	29,177	38,902	48,628	58,353	118,500
		Benefit at entitlement	7,788	10,836	13,620	16,392	19,164	21,936	30,132
45	65	Earnings in 2015	10,923	21,846	32,770	43,693	54,616	65,539	118,500
		Benefit at entitlement	7,788	10,836	13,620	16,392	19,164	21,936	30,144
55	65	Earnings in 2015	10,640	21,280	31,920	42,560	53,199	63,839	118,500
		Benefit at entitlement	7,788	10,836	13,620	16,392	19,164	21,936	30,036
65	65	Earnings in 2015	7,149	14,298	21,446	28,595	35,744	42,893	118,500
		Benefit at entitlement	7,812	10,860	13,644	16,428	19,200	21,984	29,892
Full-lifetime average earnings level <sup>3</sup>			10,000	20,000	30,000	40,000	50,000	60,000	Maximum
Percent of fully insured workers with career average earnings at this level or below <sup>4</sup>						100			
average earnings at this level of below				23	38	32	03	/4	100

<sup>&</sup>lt;sup>1</sup> The assumptions underlying the above benefit estimates are similar to those used for the Social Security Statement. These estimates reflect no increase in the cost of living or average wage and earnings levels after December 2015. However, earnings after 2015 follow scaled earnings patterns as age increases. (These assumptions are not consistent with those used for table V.C7 of the 2016 Trustees Report.)

<sup>&</sup>lt;sup>2</sup> Scaled earnings patterns starting at age 21 are assumed for all but the maximum worker. These scaled patterns reflect the actual average work experience of insured workers during 1993-2012. For the maximum worker, earnings start at age 22 and are assumed to equal the taxable maximum (the OASDI benefit and contribution base) for each year through 2015. (For 2015, this amount was \$118,500.) For more details on the scaled-earnings patterns see Actuarial Note Number 2016.3 at: <a href="http://www.ssa.gov/OACT/NOTES/ran3/an2016-3.pdf">http://www.ssa.gov/OACT/NOTES/ran3/an2016-3.pdf</a>.

<sup>&</sup>lt;sup>3</sup> The full-lifetime average earnings level reflects the average of the highest 35 years of wage-indexed earnings (wage-indexed to 2015) expected for the illustration assuming the worker survives to age 65 without becoming disabled.

<sup>&</sup>lt;sup>4</sup>Based on a 1% sample of actual earnings histories for individuals aged 25 through 65 who were fully insured in 2013.

## Table 2. Disabled Worker Annual Benefit Amounts For Disability Insured Workers Entitled in 2016 at Selected Ages and With Various Full-Lifetime Earnings Patterns<sup>1</sup> it

Age at benefit entitlement in 2016			Earning	rs in 2015 a	nd henefit s	at entitleme	nt in 2016	
2016 Earnings in 2015 and benefit at entitlement in 20								
25	Earnings in 2015	\$5,543	\$11,086	\$16,629	\$22,172	\$27,715	\$33,258	\$118,500
	Benefit at entitlement	4,116	8,256	10,356	11,832	13,296	14,772	34,128
35	Earnings in 2015	9,726	19,451	29,177	38,902	48,628	58,353	118,500
	Benefit at entitlement	7,044	10,968	13,476	15,984	18,492	21,000	34,020
45	Earnings in 2015	10,923	21,846	32,770	43,693	54,616	65,539	118,500
	Benefit at entitlement	8,376	11,916	14,892	17,880	20,856	23,832	33,888
55	Earnings in 2015	10,640	21,280	31,920	42,560	53,199	63,839	118,500
	Benefit at entitlement	8,892	12,288	15,444	18,612	21,780	24,948	33,672
Full-lifetime average earnings level <sup>2</sup>		10,000	20,000	30,000	40,000	50,000	60,000	Maximum
Percent of disability insured workers with career earnings at this level or below <sup>3</sup>		4	16	31	47	60	71	100

<sup>&</sup>lt;sup>1</sup> Scaled earnings patterns starting at age 21 are assumed for all but the maximum worker. These scaled patterns reflect the actual average work experience of insured workers during 1993-2012. For the maximum worker, earnings start at age 22 and are assumed to equal the taxable maximum (the OASDI benefit and contribution base) for each year through 2015. (For 2015, this amount was \$118,500.) For more details on the scaled-earnings patterns see Actuarial Note Number 2016.3 at: <a href="http://www.ssa.gov/OACT/NOTES/ran3/an2016-3.pdf">http://www.ssa.gov/OACT/NOTES/ran3/an2016-3.pdf</a>.

Note: These estimates reflect no increase in the cost of living after December 2015.

Office of the Chief Actuary Social Security Administration December 2016

<sup>&</sup>lt;sup>2</sup>The full-lifetime average earnings level reflects the average of the highest 35 years of wage-indexed earnings (wage-indexed to 2015) expected for the illustration assuming the worker survives to age 65 without having become disabled.

<sup>&</sup>lt;sup>3</sup> Based on a 1% sample of actual earnings histories for individuals aged 25 to 65 who were disability insured in 2013.

#### Table 3. Survivor Annual Benefit Amounts For Survivors Entitled in 2016 at Selected Ages and With Various Full-Lifetime Earnings Patterns of the Deceased Spouse<sup>1</sup> Age of Age of deceased surviving spouse in spouse in 2016 2016 Benefit at entitlement in 2016 and deceased spouse's earnings in 2015 Spouse and one child ..... \$6,816 \$13,632 \$16,200 \$18,624 \$21,048 \$23,472 \$51,288 25 3,408 6,816 8,100 9,312 10,524 25,644 Child only..... 11,736 25 Spouse and two children...... 6,816 13,632 16,200 18,624 22,200 26,592 59,844 Earnings of deceased spouse in 2015...... 5,543 11,086 16,629 27,715 33,258 118,500 22,172 11,472 17,088 21,192 25,272 29,352 33,456 51,264 Spouse and one child..... 35 Child only..... 5,736 8,544 10,596 12,636 14,676 16,728 25,632 35 Spouse and two children ...... 11,484 17,100 22,428 29,844 36,360 40,008 59,808 Earnings of deceased spouse in 2015...... 9,726 19,451 29,177 38,902 48,628 58,353 118,500 Spouse and one child..... 12,744 18,000 22,536 27,096 31,632 36,168 50,880 45 Child only..... 6,372 9,000 11,268 13,548 15,816 18,084 25,440 45 Spouse and two children ..... 12,756 18,012 24,900 33,144 38,388 42,456 59,364 Earnings of deceased spouse in 2015...... 10,923 32,770 21,846 43,693 54,616 65,539 118,500 8,748 11,004 13,248 15,504 17,760 23,988 Spouse only..... 6,324 60 Child only..... 6,624 9,180 11,544 13,908 16,260 18,624 25,164 60 Spouse and two children ...... 13,260 18,372 25,884 34,440 39,192 43,476 58,716 Earnings of deceased spouse in 2015 ...... 9,064 18,128 27,192 36,257 45,321 118,500 54,385 Full-lifetime average earnings level<sup>2</sup>..... 10,000 20,000 30,000 40,000 50,000 60,000 Maximum

24

39

53

10

Note: These estimates reflect no increase in the cost of living after December 2015.

Percent of fully or currently insured workers with

career average earnings at this level or below<sup>3</sup>.....

65

75

100

<sup>&</sup>lt;sup>1</sup> Scaled earnings patterns starting at age 21 are assumed for all but the maximum worker. These scaled patterns reflect the actual average work experience of insured workers during 1993-2012. For the maximum worker, earnings start at age 22 and are assumed to equal the taxable maximum (the OASDI benefit and contribution base) for each year through 2015. (For 2015, this amount was \$118,500.) For more details on the scaled-earnings patterns see Actuarial Note Number 2016.3 at: <a href="http://www.ssa.gov/OACT/NOTES/ran3/an2016-3.pdf">http://www.ssa.gov/OACT/NOTES/ran3/an2016-3.pdf</a>.

<sup>&</sup>lt;sup>2</sup>The full-lifetime average earnings level reflects the average of the highest 35 years of wage-indexed earnings (wage-indexed to 2015) expected for the illustration assuming the worker were to survive to age 65 without becoming disabled.

<sup>&</sup>lt;sup>3</sup> Based on a 1% sample of actual earnings histories for individuals aged 25 through 65 who were fully or currently insured in 2013.