

## Supplement to 2019 Technical Panel on Assumptions and Methods Report to the Social Security Advisory Board, September 2019

The 2019 Technical Panel on Assumptions and Methods was created by the Social Security Advisory Board in September 2018 with a charter to:

- Review the key economic and demographic assumptions underlying the Trustees Report, assess whether they are reasonable, and detail the rationale for considering alternative values.
- Review the current projection methods, assess whether they are reasonable and appropriate, and detail the rationale for considering new methodologies.
- Consult with the board, the Trustees, and the Office of the Chief Actuary (OCACT) regarding specific assumptions or methods that may benefit from additional attention from the Panel.
- Review ways to improve the presentation of key concepts in the Trustees Report so as to make them more accessible and informative to policymakers and the public.

The panel issued a report to the Social Security Advisory Board in September 2019 (TPAM Report). Contained in this report were recommendations regarding assumptions, methods and presentation of the Trustees Report. In order to illustrate the relative impact of the recommendations regarding assumptions, the panel requested that OCACT provide revised estimates of the financial effects on the OASI and DI Trust Funds for the 2019 Trustees Report using assumptions specified by the panel and related to these recommendations. These revised estimates are included in the Appendix.

### Background for Assumptions in OCACT Alternative Estimates

The panel reviewed the key economic, demographic and program specific assumptions underlying the Trustees Report. In the TPAM Report, the panel presented the rationale for considering a range of values for some assumptions. In order to provide quantifications of the relative impact of utilizing the alternative assumptions shown in this Supplement, the panel reached a consensus on specified values for each assumption for purposes of this Supplement only. This enabled OCACT to provide the alternative estimates shown herein.

In some cases the recommendations in the TPAM Report were more broadly written than the exact specification used to generate the results in this Supplement. The panel intended for its recommendations to be more general as it wanted the emphasis in the TPAM Report to be on the reasoning behind the assumptions and not on a particular implementation. The panel leaves choices about implementation of the recommendations to OCACT and the Trustees.

The reader therefore should not interpret the precise specifications used in these alternative estimates to be the same as or substitutes for the panel's recommendations. The recommendations of the panel were broader than this in some situations but the panel needed to establish a specific scenario for OCACT to enter into its models. This is an illustration of the complex nature of OCACT's work in that broad or general comments must be interpreted such that they can be included in OCACT's models

## Alternative Estimates of Financial Effects on the OASI and DI Trust Funds

Table 1 exhibits the impact of the panel’s specified assumptions on the 75-year actuarial balance; on the 75<sup>th</sup> year actuarial balance (2093); and on the year that the combined OASDI trust fund reserves are projected to be depleted. Table 2 exhibits the impact of the panel’s specified assumptions on these same measures for the DI actuarial status. In the Appendix, the letter from OCACT dated September 18, 2019 is included that describes these alternative estimates.

**Table 1**

<b>Effects of 2019 Technical Panel recommendations for alternative estimates on OASDI Actuarial Status</b>			
	<b>75-year OASDI actuarial balance</b>	<b>75th year (2093) OASDI actuarial balance</b>	<b>Year of OASDI Trust fund reserve depletion</b>
<b>2019 Trustees report</b>	<b>-2.78</b>	<b>-4.11</b>	<b>2035</b>
<b>Individual Assumptions:</b>	Difference:	Difference:	
Fertility rate	-0.21	-0.42	2035
Mortality improvement rate	0.11	-0.08	2035
Net immigration	0.13	0.49	2035
Unemployment rate	0.08	0.04	2036
Labor force participation rate	-0.23	-0.11	2034
Average real earnings growth rate (total):	-0.28	-0.29	2034
<i>Productivity + ratio of earnings to compensation</i>	<i>-0.18</i>		
<i>Labor share of output</i>	<i>-0.10</i>		
Taxable share of covered earnings	-0.17	-0.12	2034
CPI-W growth rate	-0.05	-0.06	2035
Real interest rate	-0.16	0.00	2034
Disability incidence rate	0.07	0.08	2035
<b>All 2019 Technical Panel Recommendations</b>	<b>-3.52</b>	<b>-4.61</b>	<b>2033</b>
Net change from 2019 Trustees report	<b>-0.74</b>	<b>-0.50</b>	<b>2</b>

**Table 2**

<b>Effects of 2019 Technical Panel recommendations for alternative estimates on DI Actuarial Status</b>			
	<b>75-year DI actuarial balance</b>	<b>75th year (2093) DI actuarial balance</b>	<b>Year of DI Trust fund reserve depletion</b>
<b>2019 Trustees report</b>	<b>-0.12</b>	<b>-0.26</b>	<b>2052</b>
<b>Assumptions:</b>	Change:	Change:	
Disability incidence rate	0.08	0.11	2084
<b>All 2019 Technical Panel Recommendations</b>	<b>-0.08</b>	<b>-0.15</b>	<b>2052</b>
Net change from 2019 Trustees report	0.04	0.11	



**SOCIAL SECURITY**  
Office of the Chief Actuary

September 18, 2019

Robert M. Beuerlein, FSA, MAAA  
Chair, 2019 Technical Panel on Assumptions and Methods  
Social Security Advisory Board  
400 Virginia Avenue SW, Suite 625  
Washington, D.C. 20024

Dear Bob:

As you requested, the Office of the Chief Actuary has completed estimates of the financial effects on the OASI and DI Trust Funds of using the Technical Panel's recommended assumptions in the context of the intermediate projections of the 2019 Trustees Report. Based on the specifications that you and members of the panel provided, with final clarifications on August 26, 2019, we are providing estimates of these financial effects and brief summaries of the panel's recommended assumptions. It is important to note that due to time constraints and the complexity of adjusting our modeling for the 2019 Trustees Report to reflect the panel's specifications, the results presented here represent close approximations to the results we would expect with a comprehensive revision of our models to accommodate the panel's recommendations.

*Table A* provides estimates for each of the panel's individual recommended assumptions and for the combination of all of the panel's recommended assumptions including interactions. Each of these estimates uses the intermediate assumptions of the 2019 Trustees Report, except for the individual assumption (or combination of assumptions, for the combined run) specified by the panel. Table A shows the following:

- 75-year OASDI actuarial balance
- 75th year OASDI annual balance
- Year of combined OASI and DI Trust Fund reserve depletion

Table A also provides estimates for the DI Trust Fund, using the panel's individual recommended disability incidence assumption and for the combination of all of the panel's recommended assumptions. Again, these estimates use the intermediate assumptions of the 2019 Trustees Report, except for the disability incidence assumption (or combination of assumptions, for the combined run) specified by the panel. Table A shows the following:

- 75-year DI actuarial balance
- 75th year DI annual balance
- Year of DI Trust Fund reserve depletion

The bottom section of Table A provides a brief comparison of the panel's long-range recommended assumptions to the intermediate assumptions of the 2019 Trustees Report.

**Table B** provides the OASDI annual cost rate, income rate, annual balance, and trust fund ratio under the combined recommended assumptions from the panel, along with the changes in annual rates and balances versus the 2019 Trustees Report intermediate baseline. These estimates reflect all of the panel's recommended changes in assumptions, including interactions, and use the intermediate assumptions of the 2019 Trustees Report where the panel did not recommend a change.

**Table C** provides the projected Social Security area population in total and for broad age groups (as in Table V.A3 of the 2019 Trustees Report), by year, reflecting the combined effects of the panel's recommended assumptions.

Below we provide our understanding of the panel's recommended changes in selected assumptions that we used to develop the estimates in the enclosed tables. These reflect the specifications and clarifications that you and members of the panel provided through August 26, 2019.

## **DEMOGRAPHIC ASSUMPTIONS**

### **1. Fertility**

The panel specified their recommended birth rate assumptions by single year of age and year. The panel's approach results in completed cohort birth rates of 2.0 for all cohorts attaining age 14 after 2021. However, due to the assumed continuing tempo effects (women delaying births to progressively older ages) throughout the 75-year projection period and beyond, the period total fertility rate (TFR) remains below 2.0 throughout the period. The assumed gradual deceleration of tempo leads to an increasing period TFR throughout the 75-year projection period, reaching 1.97 by 2093.

### **2. Mortality**

The panel recommended an overall mortality improvement rate of 1 percent for the last 50 years of the 75-year projection period (from 2043 to 2093), maintaining the 2019 Trustees Report relative age gradient in the improvement rate for that period, but with no differentiation by cause. As a starting point for the projection period in 2018 (and for years after the last available data through 2018), the panel recommended using the average rates of change observed over the relatively slow-improvement period since 2009, by age group and cause. For the transition from 2018 to 2043, the panel recommended a linear interpolation of the improvement rates by age group and cause.

### **3. Immigration**

The panel recommended using the projected immigration flows from the 2019 Trustees Report for years through 2029. Beginning in 2030, the panel recommended using a constant ratio of net

immigration to population, that being the ratio for the year 2029. They also specified using a constant ratio of net LPR immigration to net other-than-LPR immigration after 2029 (at the 2029 ratio). These ratios are the same for the individual immigration run and the combined run. The panel's approach results in an average net immigration level over the 75-year projection period of 1,580,000 for the individual assumption run and 1,535,000 for the combined assumption run.

## **ECONOMIC ASSUMPTIONS**

### **4. Unemployment Rate**

The panel recommended an ultimate unemployment rate of 4.8 percent. Starting with a level of 3.9 percent for 2018 (based on the partial-year data available for the 2019 Trustees Report), the panel specified that the unemployment rate would gradually increase, reaching 4.8 percent (on an age-sex-adjusted basis) in 2028 and remaining at that level through the end of the 75-year projection period.

### **5. Labor Force**

The panel provided specific recommendations for gradually decelerating declines in labor force participation rates (LFPR) for males under age 55 and for females under age 20. These declines lower LFPRs between the 2018 actual levels and 2043 by 6.5 percentage points for males under age 20, by 4.6 percentage points for males at ages 20-24, by 1.8 percentage points for males at ages 25 through 54, and by 6.5 percentage points for females under age 20. All other age/sex groups' participation rates are specified to remain as projected in the 2019 Trustees Report. The level of employment is affected by direct changes in LFPRs and unemployment rates. Average weeks worked per year (for workers of each age and sex) and the ratio of OASDI covered employment to U.S. total employment are as in the 2019 Trustees Report. The panel's recommendation results in LFPRs for 2093 of 70.4 percent for men age 16 and over and 61.1 percent for women age 16 and over, age-adjusted to the 2011 non-institutionalized population.

### **6. Average Real Earnings Growth**

The panel recommended slower real growth in average earnings, reflecting their recommended rates of change in productivity and the ratio of earnings to compensation and their recommended change in the labor share of output, described below. These changes result in an average real growth rate in average earnings of 1.34 percent from 2018 to 2028, and an average real growth rate of 1.08 percent from 2028 to 2093.

#### **Productivity**

The panel recommended an ultimate productivity growth rate of 1.55 percent per year after 2028, instead of 1.63 percent as under the intermediate assumptions in the 2019 Trustees Report. The panel specified a similar 0.08 percentage point reduction in the productivity growth rate relative to the 2019 Trustees Report intermediate assumption for the period from 2018 to 2028.

### Ratio of Earnings to Compensation

The panel recommended a rate of change in the ratio of total earnings (including wages and self-employment income) to total labor compensation from 2028 to 2093 of -0.07 percent, which is 0.02 percentage point lower than the assumption in the 2019 Trustees Report (-0.05 percent). Because self-employment earnings and compensation are one and the same, this means that the rate of change in the ratio of wages to employee compensation is lowered by 0.025 percentage point in every projection year after 2028. The panel also specified a similar 0.025 percentage point reduction for each year from 2018 to 2028.

### Labor Share of Output

The panel recommended that the labor share of output (employee compensation plus net self-employment income as a share of GDP) be assumed to increase linearly from the last historical value of 60.8 percent for 2018 to 61.5 percent for 2028 and remain at that level for the rest of the 75-year projection period.

## **7. Taxable Share of Earnings**

The panel specified a recommended gradient of change in the taxable share of earnings, from 82.8 percent for 2018 to 80.8 percent for 2043, remaining at that level thereafter.

## **8. CPI-W Increase**

The panel recommended an ultimate rate of increase in the CPI-W of 2.4 percent, reached in the first quarter of 2020, and the same annual rates of increase as in the 2019 Trustees Report through 2019. In the 2019 Trustees Report, the CPI-W was assumed to increase by 2.58 percent in 2018, by 1.83 percent in 2019, by 2.63 percent in 2020, and by 2.60 percent in 2021 and thereafter.

## **9. Real Interest Rate**

The panel recommended an ultimate real interest rate of 2.3 percent for Trust Fund special securities newly issued in 2043 and later. The panel specified phasing in to the ultimate real rate on new issues linearly over 25 years from the 2018 rate (-0.247 percent). The panel's recommendation results in a real interest rate below 1.0 percent for new securities issued to the trust funds through 2030.

## **PROGRAMMATIC ASSUMPTIONS**

### **10. Disability Incidence**

The panel recommended an ultimate disability incidence rate of 4.9 per 1,000 exposed, on an age-sex adjusted basis. The panel further indicated that the 2019 and 2020 incidence rates should be retained as projected for the 2019 Trustees Report, but that the transition path used for the 2019 Trustees Report should be "tilted" to reach the ultimate rate in 2028. Therefore, the 0.3 percentage point lower ultimate incidence rate is graded in linearly over 8 years, relative to the intermediate path assumed for the 2019 Trustees Report.

We hope these estimates will be helpful to the panel and readers of the panel's report in understanding the implications of the panel's recommendations.

Sincerely,

A handwritten signature in black ink that reads "Stephen C. Goss". The signature is written in a cursive style with a large, stylized 'S' at the beginning.

Stephen C. Goss, ASA, MAAA  
Chief Actuary

Enclosures (3)



**TABLE A - Effects of the 2019 Technical Panel Recommendations on the 2019 Trustees Report Intermediate Projections**

**Summary of Effects of 2019 Technical Panel Recommended Assumptions on OASDI Actuarial Status**

	75-year		75th year (2093)		Year of OASDI TF reserve depletion
	OASDI Actuarial Balance		OASDI Annual Balance		
	level	difference <i>(percent of taxable payroll)</i>	level	difference	
<b>2019 Trustees Report</b>	-2.78	--	-4.11	--	2035
<b>Individual recommendations:</b>					
Fertility rate	-2.99	-0.21	-4.53	-0.42	2035
Mortality improvement rate	-2.68	0.11	-4.19	-0.08	2035
Net immigration	-2.65	0.13	-3.62	0.49	2035
Unemployment rate	-2.71	0.08	-4.07	0.04	2036
Labor force participation rate	-3.02	-0.23	-4.22	-0.11	2034
Average real earnings growth rate (total):	-3.07	-0.28	-4.40	-0.29	2034
Productivity + ratio of earnings to compensation	-2.96	-0.18	--	--	--
Labor share of output	-2.89	-0.10	--	--	--
Taxable share of covered earnings	-2.96	-0.17	-4.23	-0.12	2034
CPI-W growth rate	-2.84	-0.05	-4.18	-0.06	2035
Real interest rate	-2.94	-0.16	-4.11	0.00	2034
Disability incidence rate	-2.71	0.07	-4.03	0.08	2035
<b>2019 Technical Panel Combined Recommendations</b>	<b>-3.52</b>	<b>-0.74</b>	<b>-4.61</b>	<b>-0.50</b>	<b>2033</b>

**Summary of Effects of 2019 Technical Panel Recommended Assumptions on DI Actuarial Status**

	75-year		75th year (2093)		Year of DI TF reserve depletion
	DI Actuarial Balance		DI Annual Balance		
	level	difference <i>(percent of taxable payroll)</i>	level	difference	
<b>2019 Trustees Report</b>	-0.12	--	-0.26	--	2052
<b>Individual recommendation:</b>					
Disability incidence rate	-0.03	0.08	-0.16	0.11	2084
<b>2019 Technical Panel Combined Recommendations</b>	<b>-0.08</b>	<b>0.04</b>	<b>-0.15</b>	<b>0.11</b>	<b>2052</b>

**Summary of Long-Range Assumptions for 2019 Trustees Report and 2019 Technical Panel Individual Recommendations (see letter for details)**

	2019 Trustees Report Intermediate Assumption		2019 Technical Panel Recommendation	
Fertility rate:				
Period total fertility rate	2.00	<i>(for 2027 and later)</i>	1.94	<i>(average for 2027 to 2093)</i>
Cohort completed fertility rate	2.00	<i>(for women attaining age 14 after 2026)</i>	2.00	<i>(for women attaining age 14 after 2021)</i>
Mortality improvement rate	0.73%	<i>(average from 2043 to 2093)</i>	1.00%	<i>(constant from 2043 to 2093)</i>
Net immigration	1,265,000	<i>(average for 2019 to 2093)</i>	1,580,000	<i>(average for 2019 to 2093)</i>
Unemployment rate	5.5%	<i>(for 2023 and later)</i>	4.8%	<i>(for 2028 and later)</i>
Labor force participation rate ages 16+ (M/F)	73.3/61.7%	<i>(for 2093, age-adjusted to 2011 population)</i>	70.4/61.1%	<i>(for 2093, age-adjusted to 2011 population)</i>
Average real earnings growth rate (2018-2028)	1.70%	<i>(average from 2018 to 2028)</i>	1.34%	<i>(average from 2018 to 2028)</i>
Average real earnings growth rate (2028-2093)	1.18%	<i>(average from 2028 to 2093)</i>	1.08%	<i>(average from 2028 to 2093)</i>
Productivity	1.63%	<i>(for 2028 and later)</i>	1.55%	<i>(for 2028 and later)</i>
Ratio of earnings to compensation	-0.05%	<i>(average from 2028 to 2093)</i>	-0.07%	<i>(average from 2028 to 2093)</i>
Labor share of output	63.2%	<i>(for 2028 and later)</i>	61.5%	<i>(for 2028 and later)</i>
Taxable share of covered earnings	82.5%	<i>(for 2028 and later)</i>	80.8%	<i>(for 2043 and later)</i>
CPI-W growth rate	2.6%	<i>(for 2021 and later)</i>	2.4%	<i>(for 2021 and later)</i>
Real interest rate	2.5%	<i>(for 2029 and later)</i>	2.3%	<i>(for 2043 and later)</i>
Disability incidence rate	5.2 per 1,000	<i>(for 2028 and later)</i>	4.9 per 1,000	<i>(for 2028 and later)</i>

**TABLE B - OASDI Cost Rate, Income Rate, Annual Balance, and Trust Fund Ratio  
Combined Effects of the 2019 Technical Panel Recommendations and Difference from the 2019 Trustees Report**

Year	Under 2019 Technical Panel Recommendations				Difference from 2019 Trustees Report		
	Expressed as a percentage of 2019 Trustees Report taxable payroll under current law				Expressed as a percentage of 2019 Trustees Report taxable payroll under current law		
	Cost Rate	Income Rate	Annual Balance	Trust Fund Ratio 1-1-year	Cost Rate	Income Rate	Annual Balance
2019	14.01	12.85	-1.16	273	0.10	0.01	-0.10
2020	14.09	12.88	-1.21	259	0.15	0.01	-0.14
2021	14.30	12.91	-1.40	244	0.22	0.01	-0.21
2022	14.53	12.94	-1.60	227	0.30	0.02	-0.29
2023	14.80	12.96	-1.84	209	0.40	0.02	-0.38
2024	15.11	13.00	-2.11	191	0.52	0.03	-0.49
2025	15.41	13.02	-2.39	171	0.63	0.03	-0.59
2026	15.72	13.15	-2.56	151	0.73	0.04	-0.69
2027	16.02	13.18	-2.84	130	0.83	0.05	-0.78
2028	16.32	13.23	-3.09	110	0.89	0.05	-0.84
2029	16.53	13.24	-3.29	89	0.91	0.05	-0.86
2030	16.73	13.26	-3.47	67	0.92	0.05	-0.87
2031	16.90	13.27	-3.63	46	0.93	0.05	-0.88
2032	17.04	13.28	-3.76	25	0.93	0.05	-0.88
2033	17.16	13.29	-3.87	3	0.93	0.05	-0.88
2034	17.25	13.30	-3.95	---	0.92	0.05	-0.87
2035	17.31	13.31	-4.01	---	0.91	0.05	-0.86
2036	17.36	13.31	-4.05	---	0.90	0.05	-0.84
2037	17.40	13.32	-4.08	---	0.88	0.05	-0.83
2038	17.43	13.32	-4.11	---	0.86	0.05	-0.81
2039	17.45	13.32	-4.13	---	0.85	0.05	-0.80
2040	17.45	13.32	-4.12	---	0.83	0.05	-0.78
2041	17.43	13.32	-4.10	---	0.82	0.05	-0.77
2042	17.39	13.32	-4.07	---	0.80	0.05	-0.76
2043	17.35	13.32	-4.03	---	0.79	0.05	-0.74
2044	17.30	13.32	-3.98	---	0.78	0.05	-0.73
2045	17.26	13.32	-3.94	---	0.77	0.05	-0.72
2046	17.22	13.32	-3.90	---	0.76	0.05	-0.72
2047	17.18	13.32	-3.86	---	0.75	0.05	-0.71
2048	17.15	13.32	-3.84	---	0.75	0.05	-0.70
2049	17.12	13.32	-3.81	---	0.74	0.05	-0.70
2050	17.10	13.31	-3.79	---	0.73	0.05	-0.69
2051	17.09	13.32	-3.78	---	0.73	0.04	-0.68
2052	17.09	13.32	-3.77	---	0.72	0.04	-0.68
2053	17.09	13.32	-3.77	---	0.72	0.04	-0.68
2054	17.10	13.32	-3.78	---	0.71	0.04	-0.67
2055	17.12	13.32	-3.80	---	0.71	0.04	-0.67
2056	17.15	13.32	-3.82	---	0.71	0.04	-0.66
2057	17.18	13.33	-3.86	---	0.70	0.04	-0.66
2058	17.23	13.33	-3.89	---	0.70	0.04	-0.66
2059	17.27	13.34	-3.94	---	0.69	0.04	-0.65
2060	17.32	13.34	-3.98	---	0.69	0.04	-0.65
2061	17.36	13.34	-4.02	---	0.68	0.04	-0.64
2062	17.41	13.35	-4.07	---	0.68	0.04	-0.64
2063	17.46	13.35	-4.11	---	0.68	0.04	-0.63
2064	17.51	13.36	-4.16	---	0.67	0.04	-0.63
2065	17.57	13.36	-4.21	---	0.67	0.04	-0.63
2066	17.62	13.36	-4.26	---	0.67	0.04	-0.63
2067	17.68	13.37	-4.31	---	0.67	0.04	-0.63
2068	17.74	13.37	-4.37	---	0.67	0.04	-0.63
2069	17.81	13.38	-4.43	---	0.67	0.04	-0.63
2070	17.87	13.38	-4.49	---	0.68	0.04	-0.63
2071	17.93	13.39	-4.55	---	0.68	0.04	-0.64
2072	17.99	13.39	-4.60	---	0.69	0.04	-0.65
2073	18.05	13.39	-4.65	---	0.70	0.04	-0.65
2074	18.10	13.40	-4.70	---	0.71	0.05	-0.66
2075	18.15	13.40	-4.75	---	0.72	0.05	-0.67
2076	18.19	13.41	-4.78	---	0.73	0.05	-0.68
2077	18.22	13.41	-4.81	---	0.74	0.05	-0.69
2078	18.23	13.41	-4.82	---	0.75	0.05	-0.70
2079	18.23	13.41	-4.82	---	0.76	0.05	-0.71
2080	18.23	13.41	-4.82	---	0.76	0.05	-0.71
2081	18.21	13.41	-4.80	---	0.77	0.05	-0.72
2082	18.20	13.41	-4.79	---	0.77	0.05	-0.72
2083	18.17	13.41	-4.77	---	0.77	0.05	-0.72
2084	18.15	13.41	-4.74	---	0.77	0.05	-0.72
2085	18.12	13.40	-4.71	---	0.76	0.05	-0.71
2086	18.09	13.40	-4.69	---	0.75	0.05	-0.70
2087	18.06	13.40	-4.66	---	0.73	0.05	-0.68
2088	18.04	13.40	-4.64	---	0.71	0.05	-0.66
2089	18.02	13.40	-4.62	---	0.68	0.05	-0.64
2090	18.01	13.40	-4.61	---	0.65	0.04	-0.61
2091	18.00	13.40	-4.60	---	0.61	0.04	-0.57
2092	18.00	13.40	-4.60	---	0.57	0.04	-0.54
2093	18.01	13.40	-4.61	---	0.53	0.04	-0.50
2094	18.02	13.40	-4.62	---	0.49	0.03	-0.46

	Cost Rate	Income Rate	Actuarial Balance	Year of reserve depletion <sup>1</sup>
2019 - 2093	17.36%	13.84%	-3.52%	2033

	Change in Cost rate	Change in Income Rate	Change in Actuarial Balance
	0.77%	0.03%	-0.74%

Based on Intermediate Assumptions of the 2019 Trustees Report, except for the assumptions recommended by the Panel.

Office of the Chief Actuary  
Social Security Administration

<sup>1</sup> Under present law the projected year of combined Trust Fund reserve depletion in the 2019 Trustees Report is 2035.

September 18, 2019

**TABLE C - Social Security Area Population Reflecting the  
Combined Effects of the 2019 Technical Panel Recommendations  
for Calendar Years 2017-2100**

Calendar Year	Population (in thousands)			Total
	Under 20	20 - 64	65 and Over	
2017	84,706	194,924	50,818	330,448
2018	84,706	195,703	52,388	332,798
2019	84,661	196,401	54,013	335,076
2020	84,597	197,056	55,688	337,341
2021	84,559	197,647	57,384	339,589
2022	84,595	198,097	59,133	341,825
2023	84,656	198,548	60,862	344,066
2024	84,731	199,023	62,556	346,310
2025	84,814	199,457	64,271	348,543
2026	84,869	199,958	65,937	350,764
2027	84,881	200,572	67,510	352,964
2028	84,910	201,224	69,002	355,136
2029	85,065	201,809	70,402	357,276
2030	85,371	202,381	71,626	359,379
2031	85,787	203,037	72,625	361,449
2032	86,273	203,750	73,467	363,490
2033	86,789	204,473	74,239	365,500
2034	87,307	205,158	75,014	367,479
2035	87,826	205,746	75,856	369,428
2036	88,397	206,322	76,630	371,349
2037	89,055	207,014	77,171	373,241
2038	89,788	207,818	77,498	375,104
2039	90,538	208,673	77,729	376,939
2040	91,269	209,531	77,945	378,746
2041	91,971	210,416	78,138	380,525
2042	92,625	211,279	78,373	382,277
2043	93,214	212,139	78,653	384,005
2044	93,738	212,998	78,977	385,713
2045	94,210	213,779	79,415	387,403
2046	94,630	214,571	79,877	389,079
2047	95,009	215,406	80,333	390,748
2048	95,356	216,283	80,779	392,418
2049	95,675	217,224	81,192	394,092
2050	95,973	218,150	81,655	395,778
2051	96,257	219,072	82,156	397,484
2052	96,533	220,009	82,676	399,218
2053	96,807	220,904	83,274	400,986
2054	97,085	221,728	83,980	402,794
2055	97,372	222,467	84,807	404,647
2056	97,672	223,187	85,690	406,549
2057	97,988	223,961	86,554	408,503
2058	98,325	224,808	87,378	410,511
2059	98,686	225,731	88,156	412,572
2060	99,079	226,703	88,916	414,698
2061	99,508	227,702	89,677	416,887
2062	99,971	228,714	90,440	419,125
2063	100,470	229,707	91,234	421,410
2064	101,002	230,670	92,064	423,736
2065	101,568	231,597	92,934	426,099
2066	102,162	232,524	93,806	428,491
2067	102,782	233,481	94,647	430,910
2068	103,423	234,413	95,514	433,351
2069	104,082	235,312	96,415	435,809
2070	104,752	236,188	97,342	438,281
2071	105,427	237,013	98,325	440,765
2072	106,103	237,786	99,368	443,257
2073	106,773	238,572	100,410	445,755
2074	107,433	239,475	101,348	448,255
2075	108,077	240,519	102,161	450,758
2076	108,704	241,676	102,882	453,262
2077	109,310	242,910	103,547	455,767
2078	109,896	244,190	104,190	458,276
2079	110,462	245,494	104,834	460,790
2080	111,007	246,821	105,483	463,311
2081	111,536	248,216	106,091	465,843
2082	112,050	249,710	106,629	468,389
2083	112,554	251,294	107,106	470,954
2084	113,050	252,911	107,577	473,538
2085	113,543	254,534	108,069	476,145
2086	114,038	256,151	108,591	478,780
2087	114,537	257,750	109,156	481,443
2088	115,045	259,313	109,780	484,138
2089	115,565	260,840	110,459	486,865
2090	116,104	262,343	111,184	489,631
2091	116,669	263,819	111,952	492,440
2092	117,261	265,275	112,758	495,293
2093	117,881	266,715	113,594	498,190
2094	118,530	268,141	114,460	501,130
2095	119,207	269,555	115,353	504,115
2096	119,912	270,961	116,272	507,145
2097	120,644	272,358	117,216	510,218
2098	121,400	273,750	118,183	513,334
2099	122,179	275,140	119,174	516,492
2100	122,978	276,527	120,187	519,692