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Social Security Retirement Benefit Claiming-Age Combinations Available to Married Couples

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Introduction

An eligible worker can claim Social Security retired-worker benefits based on his or her own earnings record as early as age 62 and can increase the monthly benefit amount by delaying claiming. Until age 70, each additional month of age at claiming entitles the beneficiary to an incremental benefit increase. Once initiated, the monthly benefit amount is fixed in real terms for the life of the participant. For a married couple in which both spouses are eligible for retired-worker benefits based on their own earnings records (hereafter, “own-record benefits”), both can claim their own benefits as though they are two separate individuals. However, the lower-earning spouse may be entitled to an additional spousal benefit, with its own claiming rules and payment formula. The same is true for couples in which one spouse is not entitled to an own-record benefit. The intersecting claiming rules and payment formulae produce a complex set of possible claiming-age combinations for married couples.

This note explores the claiming rules, contingent situations, claiming-age combinations, and benefit amounts available to married couples with a range of respective birth years and own-record benefit levels. The sheer number and variety of claiming-age combinations would be overwhelming if a couple were to consider each one individually. For instance, a couple with a nonearning spouse entitled to only the spousal benefit can face almost 6,000 possible month-of-age claiming combinations, depending on their respective birth years. For couples with a lower-earning spouse who is entitled to an own-record benefit only or who is dually entitled to both an own-record benefit and a spousal benefit, possible claiming-age combinations number over 9,000. Furthermore, the claiming strategy they choose directly affects their total monthly benefit amounts. For most couples, in which the higher-earning spouse is the same age as or older than the low earner, the highest possible monthly benefit for the lower-earning or nonearning spouse can exceed the lowest possible benefit by about 45 percent—and in some cases, by more than 70 percent.

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This study does not address optimizing the claiming strategy for married couples, which would necessarily include consideration of respective longevities, potential survivor benefits, discount rates, and other intertwined uncertainties. The complexity of the array of possible claiming options alone demonstrates the need for care in considering optimization.¹

Methodology

This section specifies the terminology, policy rules and formulae, and computational procedures necessary to produce the full range of claiming-age combinations available to a married couple. A sample series of couples of varying respective birth years is constructed to illustrate the range of results.

Couples

Of critical importance to a married couple's claiming strategy is the primary insurance amount (PIA) of each spouse. The PIA equals the monthly benefit amount for an eligible worker who claims at his or her full retirement age (FRA), according to his or her own earnings record. The FRA is determined by the individual's birth year.²

The high earner is the spouse with the higher PIA. The low earner is the spouse with the lower PIA. For brevity's sake (and to reflect historical prevalence), I will use masculine and feminine pronouns, respectively, when referring to the high earner and the low earner. Note, however, that all Social Security claiming rules and benefit formulae apply to each spouse equally, regardless of sex.

The terms FRA_H and FRA_L refer to the FRAs of the high and the low earner, respectively. PIA_H refers to the PIA of the high earner and is assumed to equal 100 to allow all other PIA values to be expressed as percentages of PIA_H . PIA_L , the PIA of the low earner, is therefore always less than 100, and a PIA_L of 0 indicates that the low earner is not entitled to an own-record benefit.

PIA_S refers to the PIA of the spousal benefit. It is calculated as 50 (that is, one-half the PIA_H) minus the PIA_L , if the PIA_L is less than 50; thus, the PIA_S is 50 if the PIA_L is 0. If the PIA_L is 50 or more, then the PIA_S is 0. In other words, if the PIA_L is equal to one-half or more of the PIA_H , then the low earner is not entitled to any spousal benefit and the couple is essentially equivalent to two separate own-record beneficiaries.³

This study distinguishes married couples solely by (1) the birth year of each spouse, which in turn determines their respective FRAs; and (2) the PIA_L , which determines the PIA_S .

Benefit Formulae, Claiming Ages, and Benefit Amounts

As noted before, an own-record benefit can be claimed at age 62 and the benefit amount increases for each month claiming is delayed. Specifically: If an individual claims at FRA, his or her PIA is the monthly benefit amount. For a benefit claimed before FRA, the PIA is reduced by $\frac{5}{9}$ of 1 percent for each

Selected Abbreviations

CA	claiming age
DRC	delayed retirement credit
FRA	full retirement age
LBY	low earner's birth year
MB	monthly benefit [amount]
PIA	primary insurance amount

Subscript Characters

H	high earner
L	low earner
S	spousal benefit
T	total

¹ For an exploration of claiming-age optimization, see Alleva (2015).

² For more information on the PIA and the FRA, see <https://www.socialsecurity.gov/OACT/COLA/piaformula.html> and <https://www.socialsecurity.gov/planners/retire/retirechart.html>, respectively.

³ For rules determining eligibility for spousal benefits, see https://www.socialsecurity.gov/OP_Home/handbook/handbook.03/handbook-0320.html and https://www.socialsecurity.gov/OP_Home/handbook/handbook.03/handbook-0305.html.

of up to 36 months immediately preceding FRA, and by $\frac{5}{12}$ of 1 percent for each of any prior months. For a benefit claimed after FRA, the PIA is increased by $\frac{2}{3}$ of 1 percent per month, up to age 70. The post-FRA increase is called the delayed retirement credit (DRC).⁴ All spouses in this study are assumed to claim on or before reaching age 70.

A spousal benefit is subject to its own claiming rules and benefit formula. To claim a spousal benefit, the low earner must wait until the later of (1) reaching age 62 or (2) the month in which the high earner claims his own-record benefit.⁵ If the low earner claims the spousal benefit at or after FRA_L, her benefit amount equals the PIA_S. Unlike own-record benefits, spousal benefits claimed after FRA do not increase. If claimed before FRA_L, the spousal benefit amount is the PIA_S reduced by $\frac{25}{36}$ of 1 percent for each of up to 36 months immediately preceding FRA, and by $\frac{5}{12}$ of 1 percent for each of any prior months.

The terms CA_H and CA_L refer to the own-record benefit claiming ages of the high and the low earner, respectively. CA_S refers to the low earner's age when claiming the spousal benefit. A critical related variable, β , is the age of the low earner when the high earner claims his own-record benefit.

The terms MB_H and MB_L refer to the monthly own-record benefit amounts of the high earner and the low earner, respectively. MB_S refers to the low earner's monthly spousal benefit amount. (If the PIA_L is 0, the MB_L is 0; likewise for the PIA_S and the MB_S.) MB_T refers to the low earner's total benefit, the sum of MB_L and MB_S. The benefit terms MB_H, MB_L, MB_S, and MB_T are expressed as percentages of the PIA_H.

If the low earner is entitled to any spousal benefit, her *full benefit* is the sum of the PIA_L and the PIA_S; that sum always equals 50 percent of the PIA_H. The total monthly benefit, MB_T, equals the full benefit only if the low earner claims both entitlements at FRA_L.

An important constraint on the CA_S is *deeming*. If the low earner is entitled to both own-record and spousal benefits (that is, both the PIA_L and the PIA_S are greater than 0), then both need to be claimed at the same time. In other words, upon claiming one benefit, the low earner is deemed to be claiming the other benefit as well. However, if the low earner claims her own-record benefit before the high earner claims his, she will not be able to claim the spousal benefit simultaneously. When the high earner does claim his own-record benefit, the low earner will be deemed to have claimed the spousal benefit at that time. To summarize, the CA_S is either the same as the CA_L or, if the low earner claims her own-record benefit before the high earner does, it is the same as β .⁶

⁴ For additional details on early claiming reduction factors, see https://www.socialsecurity.gov/OP_Home/handbook/handbook.07/handbook-0724.html. For additional details on the DRC, see https://www.socialsecurity.gov/OP_Home/handbook/handbook.07/handbook-0720.html.

⁵ For rules on when an individual can claim benefits on his or her spouse's earnings record, see https://www.socialsecurity.gov/OP_Home/handbook/handbook.03/handbook-0305.html.

⁶ Until 2016, couples could legally employ claiming strategies that enabled them to avoid deeming and other restrictions on dual-entitlement or spousal-benefit options. They could thus gain what was essentially an actuarially unfair advantage. The Bipartisan Budget Act (BBA) of 2015 ended those strategies by changing the rules for deemed filing and for voluntary suspension of claimed benefits. This study applies the post-BBA rules to all couples and does not consider those strategies, even though members of some of the earlier birth cohorts could exercise them. Restricting the older cohorts to the new rules eliminates some of their valid options from consideration but does not introduce any invalid ones. Applying the same set of rules to all sample couples ensures that the comparisons are consistent. For details on how the 2015 legislation changed Social Security's claiming rules, see <https://www.socialsecurity.gov/planners/retire/deemedfaq.html>, <https://www.socialsecurity.gov/legislation/Bipartisan%20Budget%20Act%20Closes%20Social%20Security%20Loophole%20updated.pdf>, <https://www.socialsecurity.gov/planners/retire/claiming.html>, and https://www.socialsecurity.gov/legislation/legis_bulletin_110315.html.

Claiming-Age Combinations, Entitlement Classes, and Spousal-Benefit Claiming Contingencies

A couple devises its claiming strategy by selecting a combination of claiming ages— CA_H , CA_L , and CA_S —to initiate their benefits. The set of claiming-age combinations available to a given couple is determined by the PIA_L and their respective birth years.

The low earner can be categorized into one of three entitlement classes: own-record benefit only, spousal benefit only, and dually entitled to own-record and spousal benefits. The value of the PIA_L determines the entitlement class, which in turn determines the types of claiming ages (CA_H , CA_L , and CA_S) that are relevant to the couple. All claiming-age combinations include a CA_H and either a CA_L , a CA_S , or both. The CA_H and the CA_L are independent but the CA_S options are contingent on the sequence and timing of own-record claiming (if applicable for the low earner). Integration of the claiming rules for own-record and spousal benefits produces contingencies for each entitlement class that specify valid CA_S options. In this study, a given couple's claiming-age combinations depend on the birth year (and thus the FRA) of each spouse and on the low earner's entitlement class. The entitlement classes and their respective spousal-benefit claiming contingencies are discussed below and summarized in Box 1.

Spousal benefit only ($PIA_L = 0$ and $PIA_S = 50$). In this entitlement class, the claiming-age combinations include a CA_H and a CA_S , but no CA_L , and thus the only available benefits are MB_H and MB_S .

In contingency 1 of this entitlement class, the high earner claims his own-record benefit before (or when) the low earner reaches age 62. The low earner cannot claim spousal benefits before she reaches age 62. Although she can claim at any age thereafter, there is no advantage in claiming after she reaches FRA; thus, for contingency 1, CA_S values range from 62 to FRA_L .

Box 1.

Spousal-benefit claiming contingency definitions, by entitlement class

Class and contingency	Definition	High earner claims own-record benefit—	Low earner's CA_S options
Spousal benefit only [$PIA_L = 0$ and $PIA_S = 50$]			
1	$\beta \leq 62$	Before or when low earner reaches age 62	62 to FRA_L
2	$62 < \beta < FRA_L$	After low earner reaches age 62 and before she reaches FRA_L	β to FRA_L
3	$FRA_L \leq \beta$	When or after low earner reaches FRA_L	β
Dually entitled [PIA_L and $PIA_S > 0$; $PIA_L + PIA_S = 50$]			
1	$\beta < CA_L$	Before low earner claims her own-record benefit; deeming applies at CA_L	CA_L
2	$CA_L < \beta$	After low earner claims her own-record benefit; deeming applies at β	β
3	$\beta = CA_L$	When low earner claims her own-record benefit; deeming applies at CA_L and β	CA_L, β
Own-record benefit only [$PIA_L \geq 50$ and $PIA_S = 0$]			
<i>Spousal-benefit claiming contingencies do not apply to this entitlement class</i>			
SOURCE: Author's definitions based on Social Security laws and regulations.			
NOTE: β = low earner's age when the high earner claims his own-record benefit.			

In contingency 2, the high earner claims his own-record benefit after the low earner reaches age 62 but before she reaches her FRA. In this case, the low earner can only claim on or after the date her spouse claims his own-record benefit. However, as in contingency 1, there is no advantage in delaying her claim beyond her FRA; thus, for contingency 2, CA_S values range from β to FRA_L .

In contingency 3, the high earner does not claim his own-record benefit before the low earner reaches her FRA. Once the high earner claims, the low earner can claim her spousal benefit, and because there is no advantage in delaying, she claims immediately, at β .

Dually entitled (PIA_L and $PIA_S > 0$; $PIA_L + PIA_S = 50$). In this entitlement class, the low earner has both an own-record benefit and a spousal benefit. The couple's claiming-age combinations include a CA_H , a CA_L , and a CA_S , and thus the available benefits are MB_H , MB_L , and MB_S .

In contingency 1 of this entitlement class, the high earner claims his own-record benefit before the low earner claims her own-record benefit. In this case, deeming rules require the CA_S to be the same as the CA_L . Note that if the low earner chooses to delay claiming beyond her FRA (thereby increasing MB_L but not increasing MB_S), she lowers the lifetime amount of her spousal benefit. Whether such a strategy is advantageous is an optimization question and is not explored here.

In contingency 2, the high earner claims his own-record benefit after the low earner claims hers. In this case, to claim the spousal benefit, the low earner must wait until the high earner claims his own-record benefit. In fact, her claim to a spousal benefit is deemed to occur when he does so (that is, at β).

In contingency 3, the high earner and the low earner claim their own-record benefits at the same time, and the spousal benefit is deemed to be claimed at that time as well. This contingency simply accounts for the possibility of both spouses claiming their own-record benefits simultaneously (not all couples have such an opportunity).

Own-record benefit only ($PIA_L \geq 50$ and $PIA_S = 0$). The low earner's own-record benefit is high enough that there is no spousal benefit. Thus, the claiming-age combinations include a CA_H and a CA_L but no CA_S , and the available benefits are MB_H and MB_L but not MB_S . Because there is no CA_S , this entitlement class has no contingencies.

Computations

This analysis considers 21 sample couples, in each of which the high earner is aged 62 in 2017 (birth year 1955). The sample couples are distinguished by the low earner's birth year (LBY), which ranges from 1945 to 1965. Thus, the sample couples account for every possible age difference from -10 years (a younger low earner) to $+10$ years (an older low earner); as of 2016, more than 90 percent of married couples had age differences within that range (Census Bureau 2017, Table FG3). In each sample couple, the 62-year-old high earner is newly eligible to claim his own-record benefit; the low earner, if she is older, may already have claimed her own-record benefit.

For each couple, I calculate the number of possible monthly and annual claiming-age combinations for each entitlement class and spousal-benefit claiming contingency. For the spousal-benefit-only and dual entitlement classes, I determine both the earliest eligible CA_S and the latest advantageous CA_S . Because both spouses must reach age 62 to claim their own-record benefits, the earliest eligible CA_S is either 62 (if the low earner is younger than the high earner) or the low earner's age when the high earner reaches 62. The earliest eligible CA_S also determines the minimum value of MB_S . Perhaps equally important, the latest advantageous CA_S is that to which the low earner may have to delay to maximize the MB_S . It is the older of FRA_L (if the high earner has claimed his own-record benefit) and the low earner's age when the

high earner reaches 70 (which may require her to wait well beyond FRA_L). For a given LBY, the same pairing of earliest eligible CA_S and latest advantageous CA_S applies to both the spousal-benefit-only and dual entitlement classes.

Results and Analysis

The computations produce three sets of results. The first set is the count of possible claiming-age combinations for each sample couple by entitlement class and spousal-benefit claiming contingency. The second set is the range of earliest eligible and latest advantageous CA_S values for each sample couple. The third set is the potential range of the low earner's monthly benefit amounts for each sample couple by entitlement class. The results are explored below.

Claiming-Age Combinations by LBY and Entitlement Class

A couple with a low earner in the own-record-only entitlement class selects the CA_H and CA_L ; there is no CA_S . Because the CA_H and CA_L are independent, and each spouse has 97 potential monthly claiming ages between ages 62 and 70 (inclusive), the number of possible claiming-age combinations is 97^2 , or 9,409. The same 9,409 claiming-age combinations apply to all couples in the own-record-only entitlement class, regardless of their respective birth years.

For the spousal-benefit-only and dual entitlement classes, Table 1 shows the number of possible monthly and annual claiming-age combinations by spousal-benefit claiming contingency. Recall that in each sample couple, the high earner was born in 1955 and is thus aged 62 in 2017.

Table 1 illustrates the complexity of choosing a claiming strategy for married couples. The number of options depends on the respective birth years of the two spouses and the low earner's entitlement class. These options are further distributed among the spousal-benefit claiming contingencies of each entitlement class, and this distribution is itself dependent on the couples' birth years. Contingencies are mutually exclusive such that each claiming-age combination in an entitlement class falls under one and only one contingency.

Spousal benefit only. For this entitlement class, the total number of claiming-age combinations drops with each additional current year of age of the low earner, and the distribution of claiming-age combinations among the three contingencies shifts across LBYs. For couples with the youngest low earners (aged 52 through 54 in 2017), the high earner will have reached age 70 and claimed his own-record benefit before the low earner reaches age 62 (contingency 1). For these couples, the high earner can claim at any of 97 monthly CA_H options between ages 62 and 70 and the low earner can claim at any of the 61 monthly CA_S options from age 62 to her FRA_L of 67. The product of 97 and 61 is 5,917.

For couples with a low earner aged 55 (LBY 1962), the high earner is able to delay claiming his own-record benefit until the low earner has reached 62, which limits her CA_S options. For instance, if the high earner delays claiming to age 70 (at which time the low earner will be 63), the CA_S options are limited to age 63 through her FRA_L of 67. For each successively earlier LBY, this situation further reduces the number of claiming-age combinations and reassigns more couples from contingency 1 to contingency 2.

Coincidentally, with each successively earlier LBY from 1960 to 1954, the FRA_L is 2 months younger (dropping incrementally from 67:00 to 66:00). A younger FRA_L reduces the number of CA_S options in contingencies 1 and 2 and increases the number in contingency 3. For each additional current year of age, the varying FRA_L reduces the claiming-age combinations in contingencies 1 and 2 more rapidly than would occur if the FRA were unchanged across LBYs.

Table 1.

Number of monthly and annual claiming-age combinations available to a married couple with a high earner born in 1955, by LBY, entitlement class, and spousal-benefit claiming contingency, 2017

LBY	Low earner's—		Spousal benefit claiming age		Spousal benefit only								Dual entitlement (own-record and spousal benefit)							
	Age in 2017	FRA	Earliest eligible	Latest advantageous	Contingency						Total	Contingency						Total		
					1		2		3			1		2		3				
					Monthly	Annual	Monthly	Annual	Monthly	Annual		Monthly	Annual	Monthly	Annual	Monthly	Annual		Monthly	Annual
1965	52	67:00	62:00	67:00	^a 5,917	^a 54	...	...	...	...	^a 5,917	^a 54	^a 9,409	^a 81	...	...	...	...	9,409	81
1964	53	67:00	62:00	67:00	^a 5,917	^a 54	...	...	...	...	^a 5,917	^a 54	^a 9,409	^a 81	...	...	...	...	9,409	81
1963	54	67:00	62:00	67:00	^a 5,917	^a 54	...	...	...	...	^a 5,917	^a 54	9,408	80	...	...	1	1	9,409	81
1962	55	67:00	62:00	67:00	5,185	48	654	5	...	...	5,839	53	9,318	78	78	1	13	2	9,409	81
1961	56	67:00	62:00	67:00	4,453	42	1,164	9	...	...	5,617	51	9,084	75	300	3	25	3	9,409	81
1960	57	67:00	62:00	67:00	3,721	36	1,530	^a 12	...	...	5,251	48	8,706	71	666	6	37	4	9,409	81
1959	58	66:10	62:00	66:10	2,891	25	^a 1,656	10	...	...	4,547	35	8,184	66	1,176	10	49	5	9,409	81
1958	59	66:08	62:00	67:00	2,109	20	1,595	10	5	1	3,709	31	7,518	60	1,830	15	61	6	9,409	81
1957	60	66:06	62:00	68:00	1,375	15	1,484	10	19	2	2,878	27	6,708	53	2,628	21	73	7	9,409	81
1956	61	66:04	62:00	69:00	689	10	1,377	10	33	3	2,099	23	5,754	45	3,570	28	85	8	9,409	81
1955	62	66:02	62:00	70:00	51	5	1,274	10	47	4	1,372	19	4,656	36	4,656	36	^a 97	^a 9	9,409	81
1954	63	66:00	63:00	71:00	...	...	702	9	61	6	763	15	3,570	28	5,754	45	85	8	9,409	81
1953	64	66:00	64:00	72:00	...	...	324	5	73	7	397	12	2,628	21	6,708	53	73	7	9,409	81
1952	65	66:00	65:00	73:00	...	...	90	2	85	8	175	10	1,830	15	7,518	60	61	6	9,409	81
1951	66	66:00	66:00	74:00	...	...	...	...	^a 97	^a 9	97	9	1,176	10	8,184	66	49	5	9,409	81
1950	67	66:00	67:00	75:00	...	...	...	...	^a 97	^a 9	97	9	666	6	8,706	71	37	4	9,409	81
1949	68	66:00	68:00	76:00	...	...	...	...	^a 97	^a 9	97	9	300	3	9,084	75	25	3	9,409	81
1948	69	66:00	69:00	77:00	...	...	...	...	^a 97	^a 9	97	9	78	1	9,318	78	13	2	9,409	81
1947	70	66:00	70:00	78:00	...	...	...	...	^a 97	^a 9	97	9	...	...	9,408	80	1	1	9,409	81
1946	71	66:00	71:00	79:00	...	...	...	...	^a 97	^a 9	97	9	...	...	^a 9,409	^a 81	...	...	9,409	81
1945	72	66:00	72:00	80:00	...	...	...	...	^a 97	^a 9	97	9	...	...	^a 9,409	^a 81	...	...	9,409	81

SOURCE: Author's calculations.

NOTES: For all couples with the low earner in the own-record-only entitlement class, the number of monthly and annual claiming-age combinations is 9,409 and 81, respectively.

... = not applicable.

a. Represents the greatest number of possible combinations for this entitlement class and contingency across all LBYs.

A low earner aged 59 (LBY 1958) may be older than FRA_L when the high earner claims his own-record benefit. If this couple delays the CA_H to 70, the low earner will by that time be 67, just beyond her FRA of 66:08. This situation introduces contingency 3; couples with LBY 1958 are the first (in descending LBY order) to be distributed across all three contingencies. With each successively earlier LBY through 1951, more of the distribution shifts to contingency 3. A low earner aged 63 (LBY 1954) is older than the high earner, and contingency 1 cannot apply to that couple.

Finally, a low earner aged 66 or older (LBY 1951 or earlier) is already at or beyond FRA (66:00) when the high earner is 62. This situation reflects contingency 3: Because the low earner has no advantage in delaying her spousal benefit, she will simply claim it as soon as the high earner claims his own-record benefit. There are 97 monthly CA_H options and the spousal benefit is claimed simultaneously; thus, there are 97 CA_S options. In summary, the younger the low earner is relative to the high earner, the more claiming-age combinations the couple can consider.

Dual entitlement. All couples with a dually entitled low earner have 9,409 claiming-age combinations, the same number that all own-record-only couples have. In addition to the CA_H and CA_L , each combination includes a CA_S which, because of deeming rules, coincides with either the CA_H or the CA_L , whichever occurs later. Although all dually entitled couples have the same total number of options, the options are distributed among the three contingencies in different ways for different couples according to an algebraic formula. The formula accounts for the age difference between the spouses, which determines the number of overlapping own-record claiming-age combinations (the number of months both spouses can simultaneously claim their respective own-record benefits). In the following formula, n is a constant equal to 97, the number of monthly own-record claiming ages from 62 to 70, and m is the number of months of overlapping own-benefit claiming ages for a given couple. If both spouses are the same age, $m = n$, and if the spouses' ages differ by more than 8 years, $m = 0$. For all couples, the following relationships hold:

$$a = \frac{2n^2 - m^2 - m}{2},$$

$$b = \frac{m^2 - m}{2}, \text{ and}$$

$$a + b + m = n^2.$$

If the high earner is the same age as or older than the low earner (LBYS 1955–1965), the number of claiming-age combinations in contingency 1 is equal to a and the number in contingency 2 is equal to b . The reverse is true if the high earner is the same age as or younger than the low earner (LBYS 1945–1955), where the number of options in contingency 1 is b and the number in contingency 2 is a . For all couples, the number in contingency 3 is m . Note that for couples with spouses of the same age (both born in 1955), a and b are equal and are thus the number of options in both contingencies 1 and 2.

For the youngest low earners (those with LBYS 1964 and 1965), the high earner has claimed before the low earner reaches age 62, so by definition, all 9,409 claiming-age combinations are classified as contingency 1. On the other hand, the oldest low earners (those with LBYS 1945 and 1946) will already have executed one of their 97 CA_L options before the high earner reaches age 62, so by definition, all 9,409 claiming-age combinations are classified as contingency 2. The 9,409 options available to the remaining couples (LBYS 1947–1963) are distributed among all three contingencies.

Several clear patterns emerge. With each successively earlier LBY, the number of options in contingency 1 decreases, and the number in contingency 2 increases. The number of combinations in

contingency 3 peaks for the couple with spouses who are the same age (LBY 1955) and decreases as the age difference widens in either direction. A couple with LBY 1955 has 97 possible months in which they can claim simultaneously (contingency 3) and an equal number (4,656) of options with the high earner claiming first (contingency 1) and the low earner claiming first (contingency 2). For couples with a younger low earner (LBYS 1956–1965), the high earner has more opportunities to claim first as the age difference increases, thus increasing the options in contingency 1. For couples with an older low earner (LBYS 1945–1954), the low earner has more opportunities to claim first as the age difference increases, thus increasing the options in contingency 2. For each pair of couples with the same age difference (that is, regardless of which spouse is older), the number of options of contingency 3 is the same; also, the number of options of contingency 1 available to one couple of the pair is mirrored by the number of options of contingency 2 available to the other couple of the pair. These symmetries are products of the algebraic formula specified above, which is derived from matrices of the own-record claiming-age combinations for each couple. Note that the deeming rules that apply to dually entitled couples negate FRA as a factor in computing the number and distribution of claiming-age combinations (unlike computations for spousal-benefit-only couples), which produces the symmetrical distribution of combinations across LBYS.

Naturally, no couple could expect to choose an optimal claiming strategy from 9,409 options using heuristics or qualitative reasoning alone. Even considering ages only in annual increments, the couple with a dually entitled low earner still must decide among 81 options. This large number of claiming-age combinations necessitates sophisticated methods of choosing an optimal claiming strategy.

CA_s Ranges by LBY

Table 1 shows the range between the earliest eligible and the latest advantageous CA_s value for a given LBY. The range is identical for both the spousal-benefit-only and dual entitlement classes. The earliest eligible and latest advantageous CA_s values depend on the couple's age difference and the low earner's FRA.

Earliest eligible CA_s. Recall that the spousal benefit must always be claimed at or after β . For couples with a low earner who is the same age as or younger than the high earner, the earliest eligible CA_s is 62. Because the high earner in all sample couples can claim at his current age of 62 in 2017, a younger low earner's earliest eligible CA_s is 62. However, if the low earner is older than the high earner (LBYS 1945–1954), she cannot claim a spousal benefit before the high earner attains age 62.

Latest advantageous CA_s. This value is the later of the FRA_L and the low earner's age when the high earner reaches age 70. Spousal benefits do not increase if they are claimed after FRA_L; thus, if the high earner reaches age 70 before the low earner reaches her FRA, then the latest advantageous CA_s is the FRA_L. However, if the high earner has not reached age 70 before the low earner reaches her FRA, the low earner may have to wait until he claims his benefit before she can claim her spousal benefit. Thus, for example, if the high earner delays claiming his own-record benefit until age 70, and if he is 10 years younger than his wife, her CA_s is 80. In this case, her delay in claiming the CA_s is required by claiming rules; thus the “latest advantageous CA_s” in this instance does not, strictly speaking, reflect a strategy that increases her advantage.

For dually entitled low earners, the gap between age 62 and the latest advantageous CA_s is of particular interest. Because the CA_L can be as young as 62 and the CA_s can be delayed by as long as it takes for the high earner to reach age 70, the gap between the CA_L and the CA_s can be as long as 18 years, from age 62 to age 80, in the extreme case of the couple with LBY 1945. In other words, this low earner would not receive her first spousal benefit until 18 years after her first own-record benefit.

Ranges of Possible Low-Earner Benefits

The Social Security own-record and spousal retirement-benefit formulae each produce a unique *benefit structure* for a given birth year, specifying the benefit amount as a fraction (or multiple) of the relevant PIA (PIA_H , PIA_L , or PIA_S) at each potential claiming age. As noted earlier, a benefit claimed before the FRA is subject to a reduction factor (a percentage reduction from the PIA) based on the claiming age and the benefit type. An own-record benefit (but not a spousal benefit) claimed after the FRA is subject to a DRC (a percentage increase to the PIA) based on the claiming age. Note that for both formulae, the older the FRA, the less generous the benefit structure.

Each claiming-age combination enumerated in Table 1 produces its own set of benefit amounts (MB_H , MB_L , and MB_S) depending on the formulae and program rules applicable to the couple and their entitlement class. Table 2 shows the ranges of the low earner's total benefit (MB_T) calculated from the set of claiming-age combinations available to each couple by selected PIA_L value (0, 10, 25, 40, and 50) covering all entitlement classes. Note that for the dual-entitlement class, the MB_L and MB_S values that underlie the respective minimum and maximum MB_T values reflect benefits that are not necessarily claimed simultaneously, as each is dependent on the claiming-age combination that produces the minimum or maximum MB_T value.

In Table 2, a benefit value of 50.00 indicates 50 percent of the PIA_H and reflects the low earner's full benefit amount, which she receives if she can and does claim all entitled benefits—own-record and spousal, as applicable—at her FRA. The ranges of minimum and maximum possible MB_T values over all couples and PIA_L levels demonstrate the variability of MB_T given the same full benefit amount of 50.00 in each case. The interplay of the following three factors affect that variability: (1) the FRA_L , (2) the disparity between the benefit formulae for MB_L and MB_S , and (3) the earliest eligible CA_S , which is determined by the age difference of the couple and, if older than 62, can limit the minimum of an MB_T range.

FRA_L . The FRA_L affects the variability of the ranges across LBYs, but not the variability within an LBY. Across LBYs with a common FRA_L , all ranges are the same within a given PIA_L level, with the exception of LBYs 1945–1954 (for which FRA_L is 66:00), because the earliest eligible CA_S coincidentally exceeds 62. In the absence of those limits on the earliest eligible CA_S , which affect the minimum but not the maximum MB_T , these ranges would also be the same across the LBYs.

The younger low earners (LBYs 1960–1965) have the disadvantage of an older FRA (67:00) with its less generous benefit structure. Strictly because the FRA_L is older for successively later LBYs, the benefit structures have increasingly lower minimum and maximum MB_T values, and the reduction factors for own-record and spousal benefits claimed before FRA_L increase with successively later LBYs. In addition, the DRC for own-record benefits claimed at age 70 decreases with successively later LBYs. Thus, the older the FRA_L , the lower the MB_T minimum and maximum values for a given PIA_L level. (This is true even for the minimums limited by the earliest eligible CA_S , in which the effect is hidden.)

Own-record and spousal benefit formula disparity. This disparity affects all LBYs equally because the formulae (if not the benefit structures they generate) are the same across all LBYs. The own-record benefit formula is more generous than the spousal benefit formula for two reasons. First, for a given LBY (and thus a given FRA_L), the reduction factor at each pre- FRA_L claiming age is less for the own-record benefit than it is for the spousal benefit. Table 2 lists the own-record and spousal benefit reduction factors at age 62 and shows that, for each LBY, the own-record benefit reduction factor is 5 percentage points lower than that for the spousal benefit. Secondly, DRCs are applicable to own-record benefits but not to spousal benefits.

Low earners with low values of PIA_L rely heavily on spousal benefits. For them, the formula disparity may impose a double penalty on their possible MB_T values: higher reduction factors for early claiming

Table 2.

Low earner's minimum and maximum total monthly benefit amount (MB_T) as a percentage of the PIA_H for a married couple with a high earner born in 1955, by LBY, entitlement class, and selected PIA_L , 2017

LBY	Low earner's FRA (FRA _L)	Reduction factor (%) for benefit claimed at 62:00		Spousal benefit—		DRC if claimed at 70:00 (%)	Spousal benefit only (PIA _L = 0, PIA _S = 50)			Dual entitlement (own-record and spousal benefit)												Own-record benefit only (PIAL = 50, PIAS = 0)		
		Own-record benefit	Spousal benefit	Earliest eligible claiming age	Reduction factor (%) if claimed at earliest eligible age		Mini-mum	Maxi-mum	Spread	(PIA _L = 10, PIA _S = 40)			(PIA _L = 25, PIA _S = 25)			(PIA _L = 40, PIA _S = 10)								
										Mini-mum	Maxi-mum	Spread	Mini-mum	Maxi-mum	Spread	Mini-mum	Maxi-mum	Spread	Mini-mum	Maxi-mum	Spread	Mini-mum	Maxi-mum	Spread
1965	67:00	30.00	35.00	62:00	35.00	24.00	32.50	50.00	53.85	33.00	52.40	58.79	33.75	56.00	65.93	34.50	59.60	72.75	35.00	62.00	77.14			
1964	67:00	30.00	35.00	62:00	35.00	24.00	32.50	50.00	53.85	33.00	52.40	58.79	33.75	56.00	65.93	34.50	59.60	72.75	35.00	62.00	77.14			
1963	67:00	30.00	35.00	62:00	35.00	24.00	32.50	50.00	53.85	33.00	52.40	58.79	33.75	56.00	65.93	34.50	59.60	72.75	35.00	62.00	77.14			
1962	67:00	30.00	35.00	62:00	35.00	24.00	32.50	50.00	53.85	33.00	52.40	58.79	33.75	56.00	65.93	34.50	59.60	72.75	35.00	62.00	77.14			
1961	67:00	30.00	35.00	62:00	35.00	24.00	32.50	50.00	53.85	33.00	52.40	58.79	33.75	56.00	65.93	34.50	59.60	72.75	35.00	62.00	77.14			
1960	67:00	30.00	35.00	62:00	35.00	24.00	32.50	50.00	53.85	33.00	52.40	58.79	33.75	56.00	65.93	34.50	59.60	72.75	35.00	62.00	77.14			
1959	66:10	29.17	34.17	62:00	34.17	25.33	32.92	50.00	51.90	33.42	52.53	57.21	34.17	56.33	64.88	34.92	60.13	72.22	35.42	62.67	76.94			
1958	66:08	28.33	33.33	62:00	33.33	26.67	33.33	50.00	50.00	33.83	52.67	55.67	34.58	56.67	63.86	35.33	60.67	71.70	35.83	63.33	76.74			
1957	66:06	27.50	32.50	62:00	32.50	28.00	33.75	50.00	48.15	34.25	52.80	54.16	35.00	57.00	62.86	35.75	61.20	71.19	36.25	64.00	76.55			
1956	66:04	26.67	31.67	62:00	31.67	29.33	34.17	50.00	46.34	34.67	52.93	52.69	35.42	57.33	61.88	36.17	61.73	70.69	36.67	64.67	76.36			
1955	66:02	25.83	30.83	62:00	30.83	30.67	34.58	50.00	44.58	35.08	53.07	51.26	35.83	57.67	60.93	36.58	62.27	70.20	37.08	65.33	76.18			
1954	66:00	25.00	30.00	63:00	25.00	32.00	37.50	50.00	33.33	37.50	53.20	41.87	37.50	58.00	54.67	37.50	62.80	67.47	37.50	66.00	76.00			
1953	66:00	25.00	30.00	64:00	16.67	32.00	41.67	50.00	20.00	40.83	53.20	30.29	39.58	58.00	46.53	38.33	62.80	63.83	37.50	66.00	76.00			
1952	66:00	25.00	30.00	65:00	8.33	32.00	45.83	50.00	9.09	44.17	53.20	20.45	41.67	58.00	39.20	39.17	62.80	60.34	37.50	66.00	76.00			
1951	66:00	25.00	30.00	66:00	0.00	32.00	50.00	50.00	0.00	47.50	53.20	12.00	43.75	58.00	32.57	40.00	62.80	57.00	37.50	66.00	76.00			
1950	66:00	25.00	30.00	67:00	0.00	32.00	50.00	50.00	0.00	47.50	53.20	12.00	43.75	58.00	32.57	40.00	62.80	57.00	37.50	66.00	76.00			
1949	66:00	25.00	30.00	68:00	0.00	32.00	50.00	50.00	0.00	47.50	53.20	12.00	43.75	58.00	32.57	40.00	62.80	57.00	37.50	66.00	76.00			
1948	66:00	25.00	30.00	69:00	0.00	32.00	50.00	50.00	0.00	47.50	53.20	12.00	43.75	58.00	32.57	40.00	62.80	57.00	37.50	66.00	76.00			
1947	66:00	25.00	30.00	70:00	0.00	32.00	50.00	50.00	0.00	47.50	53.20	12.00	43.75	58.00	32.57	40.00	62.80	57.00	37.50	66.00	76.00			
1946	66:00	25.00	30.00	71:00	0.00	32.00	50.00	50.00	0.00	47.50	53.20	12.00	43.75	58.00	32.57	40.00	62.80	57.00	37.50	66.00	76.00			
1945	66:00	25.00	30.00	72:00	0.00	32.00	50.00	50.00	0.00	47.50	53.20	12.00	43.75	58.00	32.57	40.00	62.80	57.00	37.50	66.00	76.00			

SOURCE: Author's calculations.

NOTE: "Spread" is the difference between the minimum and the maximum as a percentage of the minimum.

and limited (or no) eligibility for DRCs. Reduction factors affect the minimum values and DRCs affect the maximum values. As shown in Table 2 for couples in which the earliest eligible CA_S is 62:00 (LBYs 1955–1965), the minimum and maximum values both increase as the PIA_L level increases and the composition of MB_T progresses from all MB_S to all MB_L .

Earliest eligible CA_S limitation. If the low earner is older than the high earner, her CA_S is older than 62. This forces a delay in claiming her spousal (but not own-record) benefit and effectively raises the minimum without changing the benefit structure.

This effect is clearly seen in spousal-benefit-only cases. For LBYs 1955 and later, the earliest eligible CA_S is 62. For LBY 1954, however, the earliest eligible CA_S is 63, which creates a smaller reduction factor than that which applies for CA_S 62, thus raising the minimum relative to what it would be if claiming at age 62 were permissible. With successively earlier LBYs, the earliest eligible CA_S and the minimum benefit increase. Recalling that the spousal benefit does not increase when claimed after FRA_L , the minimum and maximum values are equal for couples with LBYs 1951 and earlier.

For couples with a low earner who cannot claim a spousal benefit at age 62 (LBYs 1954 and earlier), higher PIA_L values reduce the proportion of the MB_T attributable to the MB_S and thus reduce the influence of the earliest eligible CA_S on the total benefit; if the PIA_L is 50, the earliest eligible CA_S does not apply. Incidentally, for a low earner born in 1954, the MB_S reduction factor of 25 percent at the earliest eligible CA_S is equal to the MB_L reduction factor at age 62; thus, the minimum MB_T value is equal across all PIA_L levels. For successively earlier LBYs, the MB_S reduction factor at the earliest eligible CA_S sharply decreases while the MB_L reduction factor at age 62 is unchanged, such that minimum MB_T values decrease as PIA_L levels increase. In effect, a low earner who is older than the high earner is forced to delay claiming spousal benefits beyond age 62, thereby limiting the minimum benefit in proportion to the PIA_S level.

Spread. The spread value (the difference between the minimum and the maximum, expressed as a percentage of the minimum) also illuminates the effects of all three factors. The spread widens with each successively later LBY and with each higher PIA_L value. As the FRA_L increases from earlier to later LBYs, both the minimum and the maximum MB_T values decline (or hold constant); but because the minimum value decreases more sharply, the spread widens. Likewise, for any given LBY, as PIA_L increases, the spread also widens. This is due to the benefit formula disparity: As the low earner's own-record benefit accounts for a greater share of the total benefit, it relieves the reduction factor at the minimum less than it increases the effect of the DRCs on the maximum. For those LBYs and PIA_L levels subject to any restriction on the earliest eligible CA_S , the spreads are narrowed further. However, for most couples—those with LBYs of 1955 or later—these spreads are substantial, ranging from almost 45 percent for low earners entitled to spousal benefits only to nearly 80 percent for some dually entitled low earners. These values show that the claiming strategy selected by most married couples requires careful consideration.

Conclusion

This study presented the Social Security benefit claiming rules, formulae, entitlement classes, and spousal-benefit claiming contingencies applicable to married couples of various respective ages. Claiming-age combinations were calculated for a series of 21 married couples, in each of which the high earner was born in 1955. The couples were distinguished by the LBY, which was specified as each year from 1945 through 1965. The range of potential benefit levels for the low earner was calculated for several alternative assumptions about the spouses' relative own-record PIA levels.

The complexity of the claiming decision for these married couples is demonstrated by the number of possible claiming-age combinations and the ranges of potential benefit amounts. For married couples with a low earner who is entitled only to an own-record benefit or who is dually entitled to both an own-record benefit and a spousal benefit, there are over 9,000 different month-of-age claiming combinations. Depending on the age difference of the spouses, initial receipt of own-record and spousal benefits can be separated by many years. If the low earner is 10 years older than the high earner, she may have to wait up to 18 years after initiating her own-record benefit to receive the spousal benefit, depending on the claiming choice of the high earner. In addition, the claiming options available to a given couple can produce a wide range of total benefit amounts, demonstrating further that the selection of a claiming strategy matters greatly.

However, for all the complexity and variability demonstrated in this study, optimization of the claiming decision is a far more complex challenge. An optimal claiming strategy for a given married couple would account for the longevity expectations of each spouse, potential survivor benefits, discount rates, and the particular scenario for which to optimize. For instance, does the couple wish to optimize only for their time alive together, or for the time at least one of them is alive? Or does the couple perhaps have a narrower focus and aim to optimize only for the widowhood of the low earner, should she outlive the high earner? These questions will be addressed in upcoming research.

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