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California's $15 Minimum Wage and Secure Choice Retirement Savings Program Can Boost Young Low-Income Workers' Retirement Incomes by 50%

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Overview[1]

In 2016, the state of California enacted two landmark laws intended to bolster the economic security of private-sector workers in the state. SB 3 incrementally increases the statewide minimum wage to $15 in 2023, from $10 in 2016, and indexes it to inflation thereafter. This is expected to increase wages for 5.26 million workers, or 38% of California's workforce.[2] SB 1234 authorizes implementation of the California Secure Choice Retirement Savings Program (Secure Choice)—an automatic IRA that will be offered to about 7 million private-sector workers in California who are employed in businesses with five or more employees that do not sponsor their own pension or 401(k)-type plan.[3] The savings program, currently under development, is intended to provide an additional layer of income to supplement Social Security for workers who are otherwise likely to reach retirement without a real nest egg.

This study examines the separate and combined impacts of the $15 minimum wage policy and Secure Choice on the retirement income of California workers in the bottom half of the income distribution. We first estimate lifetime earnings for a sample of 25-year-old and 45-year-old workers at different income levels within the bottom 50% under two scenarios: one with the $15 minimum wage policy enacted in 2016, and a baseline scenario with the old minimum wage policy. Then we calculate Social Security benefits and potential retirement income from participating in Secure Choice for each worker in each scenario. Finally, we calculate the combined growth in retirement income resulting from the $15 minimum wage and Secure Choice, compared to the Social Security benefit that workers would have earned under the old minimum wage policy. The percentage increase in retirement income in relation to baseline Social Security is significant because most

This brief examines the impact of California state policies on the earnings and retirement incomes of prototypical young (25-year-old) and mid-career (45-year-old) low- and middle-income workers.

Typical "low-income" workers
are those at the 20th percentile of the annual earnings distribution for their age cohort throughout their careers. These workers represent roughly the middle of the bottom 38% of workers affected by the $15 minimum wage.

Typical "middle-income" workers
are those at the 50th percentile (median) of the annual earnings distribution for their cohort.

low-income households have few retirement assets outside of Social Security, and even middle-income households are under-saving for retirement.

We find that California's $15 minimum wage law and the California Secure Choice Retirement Savings Program combined will provide a substantial boost to the retirement incomes of low-income workers, through larger Social Security benefits and increased private retirement income. Secure Choice also has the potential to significantly increase the retirement incomes of middle-income workers who are unaffected by the minimum wage.

1. **Increased earnings from California's $15 minimum wage law and consistent participation in Secure Choice can increase young low- and middle-income workers' retirement income by about 50% compared to baseline Social Security benefits. (See sidebar for definitions.)**
    - Young workers in the bottom 50% of their age cohort, by income, can increase their retirement incomes by roughly half (46%-55% depending on income level) under the two policies compared to baseline Social Security.
    - A typical 25-year low-income worker in California would have earned $16,060 a year in Social Security benefits under the old minimum wage policy, in today's inflation-adjusted dollars. He or she is now on track to earn $24,840 a year from Social Security and Secure Choice combined, representing an increase in retirement income of $8,780 (55%). This increase includes $1,720 in extra Social Security from the higher minimum wage and nearly $7,060 from the Secure Choice retirement plan annually.
    - Mid-career workers in the bottom 50% of their age cohort, by income, can expect to increase their retirement income by 18%-22% under the two policies compared to baseline Social Security.

2. **California's $15 minimum wage law will substantially increase lifetime earnings among low-income workers.**
    - A typical 25-year-old low-income worker earning $14,000 a year today will see a 21% increase in lifetime earnings.
    - A typical 45-year-old low-income worker earning $23,000 a year will see an 8% increase in total lifetime earnings, and a 16% increase in earnings during their remaining working years.

- By boosting the earnings of low-income workers, the $15 minimum wage policy will enable them to save for retirement through Secure Choice and still see an appreciable increase in disposable income.

3. **Increased lifetime earnings from the $15 minimum wage law will result in a significant increase in Social Security benefits for young low-income workers, and a modest increase for mid-career low-income workers.**
    - A typical 25-year-old low-income worker will see an increase of $1,720 (11%) in annual Social Security benefits in today's dollars.
    - A typical 45-year-old low-income worker will see an increase of $590 (4.5%) in annual Social Security benefits in today's dollars.

4. **The California Secure Choice Retirement Savings Program has the potential to provide a sizable supplement to Social Security for both low- and middle-income workers, a large majority of whom are currently not saving for retirement.**
    - Currently, the typical US family approaching retirement has only $16,000 saved in retirement accounts, equivalent to just $800-900 per year in retirement income. About 44% of families with heads age 25-64 have no retirement accounts,[4] and more than half of private-sector employees do not have access to a workplace retirement plan.[5]
    - With earnings and retirement contributions augmented by the $15 minimum wage policy, a typical 25-year-old low-income worker who contributes a steady 5% of pay to a California Secure Choice retirement savings account can save enough to generate $7,060 a year in retirement income in today's dollars. A typical 45-year-old low-income worker can expect $2,250 a year.
    - Middle-income workers, though mostly unaffected by the minimum wage,[6] can expect significant retirement income from consistent participation in Secure Choice for the remainder of their careers: median 25-year-old and 45-year-old workers will see an increase in retirement income of $11,830 and $4,210 a year in inflation-adjusted dollars, respectively.

5. **Increased retirement income from the $15 minimum wage law and California Secure Choice Retirement Savings Program can be expected to lead to lower elder poverty rates over the long term than would otherwise exist. However, without additional resources, many low- and middle-income workers will still face a retirement income gap.**
    - For young low-income workers earning at the 10th and 20th percentiles in their age group, earning higher Social Security benefits as a result of the $15 minimum wage policy and contributing 5% of their pay to Secure Choice will mean retiring above the poverty line, rather than below it.

- However, given the high cost of living in California, many low-income workers will still fall short of full self-sufficiency in retirement unless they receive employer retirement contributions and/or additional wage increases.
- Young middle-income workers, who will need income equal to about three-quarters of their pre-retirement earnings to maintain their standard of living in retirement, can expect to see 55% of their pre-retirement incomes replaced by Social Security and Secure Choice. They will need to replace an additional 20% of earnings from other sources. Home equity can close some of the gap, but workers will need additional liquid assets.

Background

California $15 Minimum Wage Law

In August 2016, Governor Jerry Brown signed SB 3, a historic bill to raise the minimum wage in six steps from $10 in 2016 to $15 in 2023, and provide inflation-indexed annual increases thereafter. SB 3 provides a slower wage increase timeline for small businesses, though all businesses will be required to pay $15 in 2023. The law also allows the state to delay wage increases under unfavorable budgetary or economic conditions.[7] Prior to SB 3, the state minimum wage was scheduled to top out at $10 an hour in 2016, after two years of increases enacted in 2013 when the minimum wage was $8 an hour.

An estimated 5.26 million workers, or 38% of California's workforce, are expected to see wage increases as the result of SB 3. About 3.95 million of these workers are in jobs with wages that would otherwise fall below $15 an hour. Another 1.32 million workers will see a pay boost as employers voluntarily adjust wages of workers earning slightly above the minimum wage. Annual pay among affected workers is projected to increase an average of 25.4%. The median age of affected workers is 33 years, compared to 39 years for the overall workforce.[8]

California Secure Choice Retirement Savings Program (SB 1234)

Nationally, 44% of working-age households do not have dedicated retirement savings in a 401(k)-type plan or Individual Retirement Account (IRA).[9] In California, 64% of private-sector employees do not have access to a workplace retirement plan of any kind, whether a traditional pension—offered by a shrinking percentage of private employers—or a 401(k)-type individual retirement savings account. Low-income workers, small business employees, young workers, and Latinos are least likely to be offered a retirement plan at work.[10]

Currently under development, the Secure Choice program will offer automatic payroll deduction into portable IRAs that will follow workers from job to job, with professionally managed investments and relatively low fees.[11] The program will be funded solely through employee contributions.[12] Employers with five or more employees that do not sponsor a pension or 401(k)-type retirement account will be required to enroll their employees in Secure Choice and administer payroll deduction contributions. Individual employees can opt out.

Automatic payroll deduction is a critical step in improving the retirement income prospects of low-and middle-income workers, by facilitating retirement saving among those who would otherwise not save at all.

California Secure Choice is currently expected to launch a pilot in the third quarter of 2018, and to open to covered employers in January 2019. After the program opens, employers with 100 or more employees will have one year to register with the program, those with 50-99 employees will have two years, and those with 5-49 employees will have three years.[13] An estimated 7 million workers are eligible, and roughly 70% are expected to enroll.[14] The median annual income for eligible workers is $28,000.

Methodology Summary

This study estimates Social Security benefits and retirement income from Secure Choice based on projected lifetime earnings for sample workers in the bottom half of the earnings distribution. Lifetime earnings are estimated using Census data, output from the minimum wage impact model jointly developed by the Center on Wage and Employment Dynamics (CWED) and the Center for Labor Research and Education (CLRE) at UC Berkeley,[15] and long-term wage growth assumptions from the Social Security Administration. The CWED/CLRE wage model simulates earnings for California workers for 2018-2023 under the $15 statewide minimum wage policy, and under the previous state minimum wage policy.[16] The universe consists of California workers, excluding federal government employees, unpaid family workers, the self-employed, and those who work less than 13 weeks a year or less than an average of 3 hours a week.

Outcomes were modeled for two groups of workers: those aged 25 years and 45 years in 2018. For each group, we calculated annual earnings for sample workers representing the 10th, 20th, 30th, 40th, and 50th percentiles, by income, within each age cohort. We assumed that workers experience no significant breaks in employment; that they see earnings increases over time based on age; and that they stay in the same part of the income distribution within their age cohort.

Table 1 provides estimated annual earnings of our sample workers in 2018, when the minimum wage under SB 3 will be $11 an hour for workers in businesses with 26 or more employees, and $10.50 for those in businesses with 25 or fewer employees. In this study, the 20th percentile represents the typical low-income worker, who earns about $14,000 a year at age 25, and $23,000 at age 45. The typical middle-income (median) worker earns $24,000 at age 25, and $48,000 at age 45. (Values in the table are rounded to the nearest $1,000 for the sake of simplicity, but more precise estimates were used in the analysis in this brief.)

Based on the projected earnings history for each sample worker between age 25 and 64, we calculated Social Security benefits and potential income from the California Secure Choice Retirement Savings Program at age 65. To estimate sample workers' Social Security benefits, we used the Social Security Administration's current benefit formula, adjusted for projected wage growth. To estimate retirement income from Secure Choice, we assumed that all workers in the sample contribute 5% of earnings.[17] We assumed that funds are invested in a low-risk portfolio

Table 1: Estimated Earnings, 2018

	Earnings Percentile within Age Group				
	10th	20th	30th	40th	50th
25 year old	$10,000	**$14,000**	$17,000	$20,000	$24,000
45 year old	$17,000	**$23,000**	$30,000	$38,000	$48,000

Note: Universe is private-sector workers working at least 10 hours a week for 26+ weeks a year. Excludes federal government employees and self-employed. Values rounded to nearest $1,000.

for the first three years, and then switched into a Target Date Fund that shifts from stocks to bonds as a worker ages. Account balances at age 65 were converted into a life annuity with a 2.6% cost of living increase in order to arrive at annual income.

Workers were assumed to participate in Secure Choice continuously from 2018 until age 65, with no early withdrawals. At the time that this brief was in production, the California Secure Choice Retirement Savings Investment Board was considering a January 2019 launch, with a compliance deadline of January 2020 for the largest employers. The exact timing of the launch does not affect the projected retirement income outcomes, assuming workers are 25 and 45 years old when they first enroll in the program.

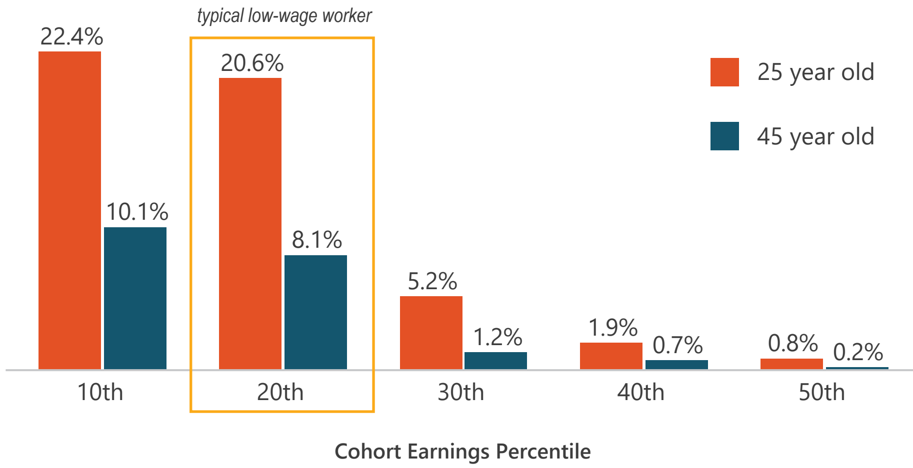
Further methodology details can be found in the **Appendix**. The remainder of this brief discusses the findings.

1. California's $15 Minimum Wage Law Will Substantially Increase Lifetime Earnings among Low-Income Workers

Figure 1 shows the projected increase in lifetime earnings from the $15 minimum wage law compared to the old minimum wage policy. Younger workers will see a greater increase in lifetime earnings than mid-career workers because they will spend more of their working lives in jobs affected by the new minimum wage policy. The 10^{th} and 20^{th} percentile 25-year-olds will see lifetime incomes that are 22% and 21% higher, respectively, than they would have if the $15 minimum wage had not been enacted. Among 45-year-olds, the lifetime earnings of 10^{th} and 20^{th} percentile workers will be increased by 10% and 8%, respectively. The impact drops off steeply between the 20^{th} and 30^{th} percentiles in both cases. For the 30^{th} percentile 25-year-olds, the minimum wage will increase their lifetime earnings by 5%.

However, mid-career low-income workers still stand to enjoy a sizable increase in earnings during the remainder of their working lives because of the $15 minimum wage law (**Figure 2**). The 10^{th} and 20^{th} percentile low-income workers within this age group will earn 19% and 16% more income, respectively, than they would have under the old minimum wage policy.

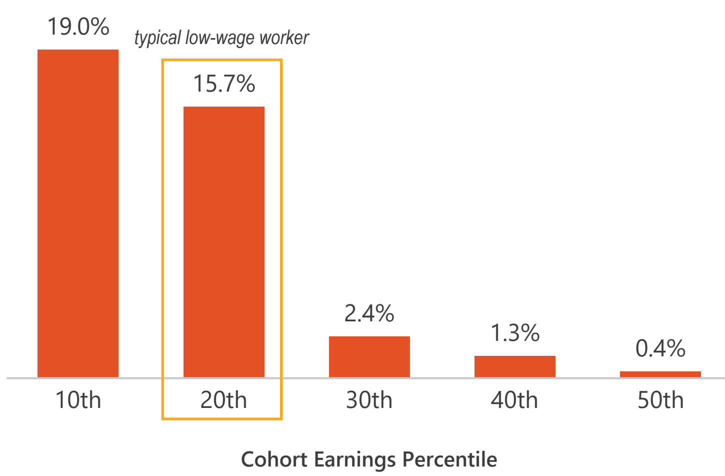
Figure 1: Increase in Lifetime Earnings from California’s $15 Minimum Wage Law



Note: Based on estimated average-wage-indexed earnings from age 25 to age 64.

It is important to note that our model somewhat understates the difference in lifetime earnings between the two minimum wage policies. This is because we assume that, going forward from 2023, jobs affected by the old minimum wage policy ($10 in 2016) maintain their wages at the same level relative to the $15 minimum wage, even though former policy lacks the annual cost of living increase of the new policy. Implicitly, this conservatively assumes that ad hoc increases in the minimum wage would have more or less kept up with inflation even without SB 3, which combines step increases and inflation adjustments to the minimum wage. Without this assumption, the combined impact of SB 3 and SB 1234 would have been found to be larger.

Figure 2: Increased Earnings During Remaining Working Years for Mid-Career Workers from California’s $15 Minimum Wage Law



Note: Based on estimated average-wage-indexed earnings from age 45 to age 64.

2. Increased Lifetime Earnings from the $15 Minimum Wage Law Will Lead to Higher Social Security Benefits for Low-Income Workers

Because Social Security benefits are based on the average of the top 35 years of earnings, an increase in lifetime earnings translates to an increase in benefits. **Table 2** shows Social Security benefits with and without the $15 minimum wage policy, and **Figure 3** illustrates the percentage increase in benefits compared to the old minimum wage policy.

Young workers (age 25) at the 10th and 20th percentiles can expect an extra $1,350 and $1,720 in annual Social Security benefits in today's dollars, respectively, representing increases of 10% and 11%.[18] Those at the 30th percentile will receive a smaller increase in both absolute and relative terms—$490, or a 3% increase. Mid-career low-income workers (age 45) can expect monthly Social Security checks under the $15 minimum wage policy that are 5% bigger than what they would have earned under the old minimum wage policy. Benefit increases are negligible for middle-income workers (40th and 50th percentile) in both age groups, who will see a very small boost in lifetime earnings from the $15 minimum wage policy. This is because most are already in jobs that pay well above the minimum wage, though some are minimum wage workers who work long hours.

Table 2: Annual Social Security Benefits, with and without California's $15 Minimum Wage Law

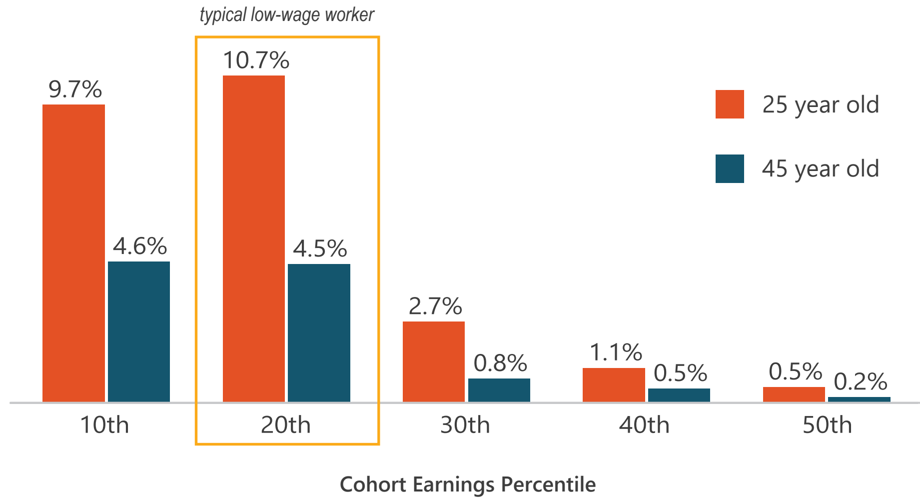
		Earnings Percentile within Age Group				
		10th	20th	30th	40th	50th
25 year old	Baseline	$13,878	$16,062	$18,600	$21,413	$24,749
	With $15 minimum wage law	$15,230	$17,779	$19,093	$21,657	$24,877
	Increase in annual Social Security benefit	**$1,352**	**$1,717**	**$493**	**$245**	**$128**
45 year old	Baseline	$10,903	$12,903	$15,093	$17,490	$20,308
	With $15 minimum wage law	$11,406	$13,488	$15,212	$17,571	$20,346
	Increase in annual Social Security benefit	**$503**	**$585**	**$120**	**$82**	**$38**

Note: Benefits are deflated using projected CPI. While inflation-adjusted baseline benefits appear significantly higher for young workers than for mid-career workers, they will be equivalent in relation to the prevailing standard of living when each group retires. Totals may not add up due to rounding.

Caution on Interpreting Social Security Benefit Values

While the baseline inflation-adjusted Social Security benefit values reported in this brief seem significantly higher for young workers than mid-career workers, they should not be interpreted as growing more generous with time. This is because Social Security benefits are structured with generational improvements in the standard of living in mind. For example, smartphones and mobile phone service were not used widely a quarter century ago, but now they are practically a necessity. Poverty is experienced in relation to current consumption standards, not those in place 40 years ago. Thus, when measured in relation to projected average wages, the projected baseline Social Security benefits in this study for young and mid-career workers are essentially equivalent to each other.

Figure 3: Increase in Annual Social Security Benefits from California's $15 Minimum Wage Law



Note: Based on top 35 years of average-wage-indexed earnings.

Benefit increase percentages are smaller than lifetime earnings increases, and higher for low-income workers than middle-income workers, because of Social Security's progressive benefit structure. For example, for workers retiring in 2017 at age 66—the Full Retirement Age for those born in 1950[19]—Social Security replaces 90% of the first $896 in monthly average earnings from the top 35 years, 30% of the next increment up to $5,339, and 15% thereafter.[20] Thus the greatest impact of the minimum wage on Social Security benefits is felt by the bottom 20% of workers who have more of their incomes within the 90% bracket.

3. The California Secure Choice Retirement Savings Program Can Provide a Substantial Supplement to Social Security

Most workers and families in the US, and in California, are under-prepared for retirement. Currently, 44% of US households with heads aged 25-64 have nothing saved in retirement accounts. The typical household approaching retirement (with heads aged 55-64) has only $16,000 saved in retirement accounts, equivalent to about $800-900 per year in retirement income.[21] California ranks near the bottom among states in terms of access to workplace retirement savings, despite being one of the most expensive places to live. About half of California workers are not on track to have sufficient income to meet basic needs in retirement.[22]

In light of the widespread retirement savings gap, both young and mid-career California workers stand to benefit from Secure Choice, regardless of whether they are low- or middle-income. At the same time, young workers have the most to gain from participating in Secure Choice because they have time on their side—40 years in which to accumulate compound interest on their retirement contributions versus 20 years for the 45-year-old worker.

Table 3 displays the annual income that workers could get from the Secure Choice program under the $15 minimum wage policy, and under the old $10 minimum wage policy, assuming they participate consistently with a 5% contribution rate and earn average investment returns. For both young and mid-career workers, benefits are directly related to income level because Secure Choice benefits are based on employee contributions and investment earnings. (Actual income could be higher or lower than these estimates, depending on economic conditions.) Under the $15 minimum wage policy, a typical 25-year-old low-income worker at the 20th percentile can expect $7,060 a year from Secure Choice in today's dollars (i.e., adjusted for inflation). A typical middle-income young worker can expect $11,940 a year in today's dollars.

Secure Choice benefits based on a 5% contribution rate are more modest for mid-career workers because they have less remaining time in which to accumulate investment returns: $2,250 a year in today's dollars for the typical low-income worker (20th percentile), and $4,210 for the typical middle-income worker (50th percentile). Financial planners recommend contributing at least 10% over a career in order to ensure sufficient retirement income, and those who do not save until mid-career must save an even greater percentage of their income in order to catch up.

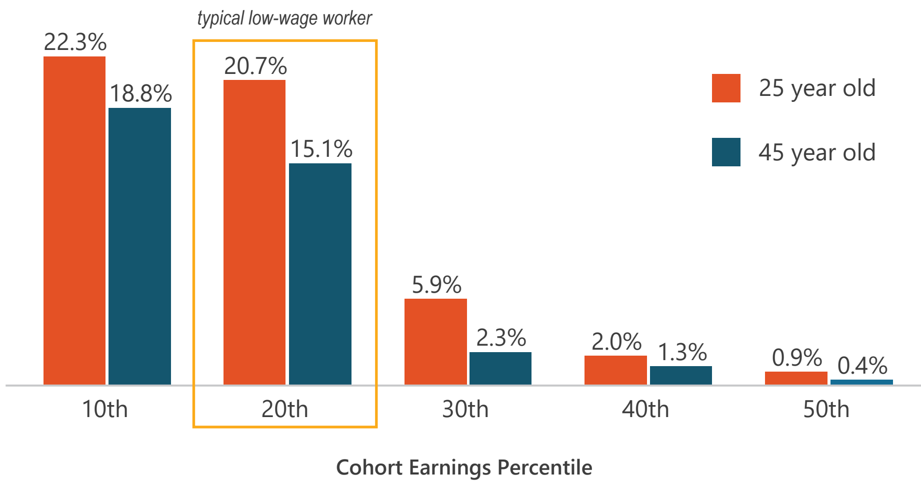
Figure 4 illustrates the percentage increase in Secure Choice retirement income resulting from the $15 minimum wage policy compared to the old minimum wage policy. For young workers at the bottom of the earnings distribution, the results mirror the increase in lifetime earnings from the $15 minimum wage policy: 22% and 21%, respectively, at the 10th and 20th percentiles. For low-earning mid-career workers, the percentage increase in Secure Choice benefits reflects the increase in earnings over the remaining two decades of their working lives: 19% at the 10th percentile and 15% at the 20th percentile. Thus, the $15 minimum wage has a significant impact on the potential retirement income that both young and mid-career workers can generate through consistent participation in Secure Choice.

Table 3: Annual Retirement Income from Secure Choice Retirement Savings Program

		Earnings Percentile within Age Group				
		10th	**20th**	30th	40th	50th
25 year old	Baseline	$4,255	$5,848	$7,575	$9,521	$11,828
	With $15 minimum wage law	**$5,204**	**$7,058**	**$8,020**	**$9,713**	**$11,939**
	Increase in annual Secure Choice benefit	$949	$1,210	$445	$192	$111
45 year old	Baseline	$1,393	$1,953	$2,607	$3,333	$4,194
	With $15 minimum wage law	**$1,655**	**$2,247**	**$2,666**	**$3,376**	**$4,209**
	Increase in annual Secure Choice benefit	$262	$294	$59	$43	$16

Note: Benefit values are deflated using the projected Consumer Price Index. Assumes steady 5% contribution rate, investment in a typical Target Date Fund, and conversion of balance at age 65 into a life annuity with an inflation-indexed COLA. See Appendix for details. Totals may not add up due to rounding.

Figure 4: Increase in Projected Secure Choice Income from $15 Minimum Wage Law



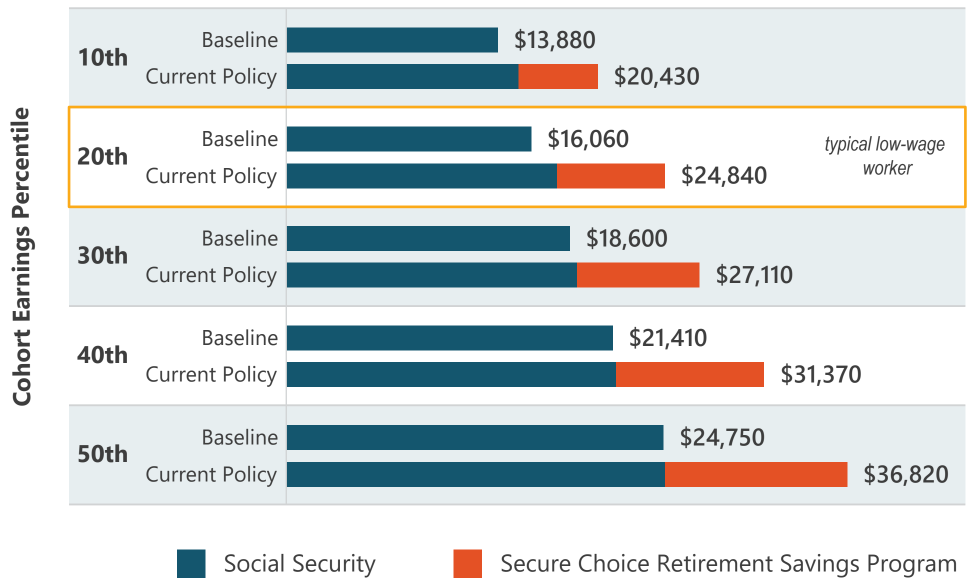
Note: Assumes steady 5% contribution rate, investment in a typical Target Date Fund, and conversion of balance at age 65 into a life annuity with an inflation-indexed COLA. See Appendix for details. Totals may not add up due to rounding.

4. California's $15 Minimum Wage Law, Combined with Secure Choice, Can Boost Young Workers' Retirement Incomes by about 50% Above Baseline Social Security

Secure Choice alone represents a substantial boost in retirement income for workers across wage levels, while Social Security is increased by the $15 minimum wage for lower earners. **Figures 5 and 6** show how the combined retirement income from Social Security and Secure Choice, augmented by the $15 minimum wage policy, stacks up against the baseline Social Security benefits under the old minimum wage policy for young workers (Figure 5) and mid-career workers (Figure 6). **Figure 7** illustrates the percentage difference between the two retirement income scenarios for each sample worker.

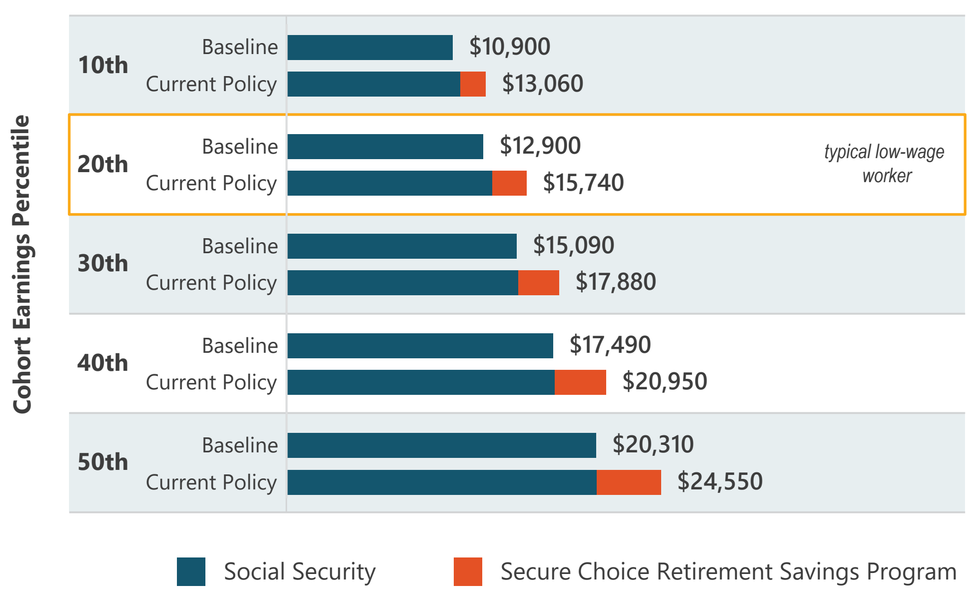
A typical 25-year-old low-income worker in California would have earned about $16,060 a year in Social Security benefits under the old minimum wage policy, in today's inflation-adjusted dollars. He or she is now on track to earn $24,840 a year from Social Security and Secure Choice combined, representing an increase of $8,780 (55%). This includes $1,720 in increased Social Security from the $15 minimum wage policy, and $7,060 from the Secure Choice retirement savings program annually. Out of the $7,060 from Secure Choice, $1,210 is from contributions from increased earnings under the $15 minimum wage policy.

Figure 5: Retirement Income Before and After 2016 Policies, 25 Year Old Workers



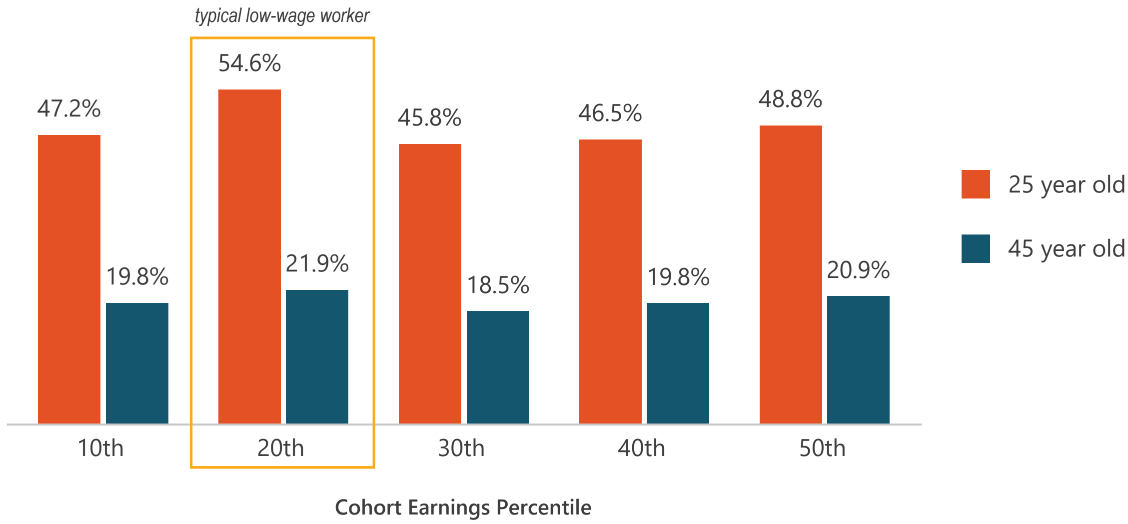
Note: Benefit values deflated using projected CPI. Assumes consistent savings behavior. Does not include sources of retirement income other than Social Security and Secure Choice.

Figure 6: Retirement Income Before and After 2016 Policies, 45 Year Old Workers



Note: Benefit values deflated using projected CPI. Assumes consistent savings behavior. Does not include sources of retirement income other than Social Security and Secure Choice.

Figure 7: Increase in Retirement Income from 2016 Policies Compared to Baseline Social Security



Note: Benefit values deflated using projected CPI. Assumes consistent savings behavior. Does not include sources of retirement income other than Social Security and Secure Choice.

Across the bottom half of the cohort income distribution, the increase in young workers' projected retirement income above baseline Social Security ranges from 46% to 55% depending on income level—that is, about half of baseline Social Security. Mid-career workers in the bottom half of the income distribution can expect to increase their retirement income by about 20% (18-22%, depending on income level) under the two policies compared to baseline Social Security. Again, this assumes consistent savings behavior and average investment returns. As with young workers, the 20th percentile mid-career worker will see the largest boost, 22%.

5. The $15 Minimum Wage and California Secure Choice Will Reduce Elder Poverty, but Workers Still Face a Retirement Income Gap

Whether measured by basic income needs or replacement rates, California workers still face a retirement income gap. While the $15 minimum wage law and the Secure Choice Retirement Savings Program have strong potential to reduce the share of retiring workers who fall into poverty in retirement, there is still work to be done to ensure that all workers retire with sufficient income to meet the high cost of living in California.

A critical question for policymakers is whether future retirees will have sufficient income to support themselves, or will require public assistance to meet basic needs like food and shelter. There are three key ways to measure retirement income adequacy: the federal poverty threshold, self-sufficiency standards, and maintenance of the pre-retirement standard of living. The first two—poverty and self-sufficiency—present obvious concerns for policymakers considering the impact of senior public assistance demand on state and local government budgets. At the same time, the ability of middle class workers to maintain their consumption levels in retirement has ramifications for tax revenues and economic growth.

We constructed a poverty measure for future retirees based on the Census Bureau's Supplemental Poverty Measure (SPM) for 2016. The SPM is an experimental measure developed by the Census Bureau that accounts for the local cost of living and actual household spending on subsistence needs, unlike the traditional Federal Poverty Level, which is based on household spending patterns from the 1960s, indexed to inflation.[23] The average Supplemental Poverty Measure (SPM) threshold for a single adult age 65 and older living in California is about $12,000 for a homeowner with no mortgage, and about $14,700 for a single renter or single owner with a mortgage.[24]

Assuming that the SPM keeps up with the standard of living, this translates to a poverty threshold for someone retiring 40 years from now of about $20,000 (in today's inflation-adjusted dollars) for a single homeowner, or $25,000 for a single renter or single owner with mortgage. Thus for low-income young workers at the 10th and 20th percentiles, the $15 minimum wage policy and contributing 5% of earnings to Secure Choice means the difference between retiring into or above poverty: $13,880 and $16,060 baseline Social Security income vs $20,430 and $24,840, respectively, under current policy.

However, many households above the poverty line qualify for some forms of public assistance, and low-income workers' projected income from Social Security and Secure Choice is not sufficient to meet self-sufficiency income standards that would allow them to manage basic expenses without any kind of outside assistance. The self-sufficiency standard for seniors—the Elder Index, developed by the Gerontology Institute at the University of Massachusetts Boston with Wider Opportunities for Women—currently averages $18,660 for single homeowners with no mortgage and $26,940 for single renters in California.[25] We project that in 40 years these thresholds would grow to $31,650 for a single homeowner with no mortgage and $45,690 for a single renter in today's dollars under the economic assumptions used in our lifetime earnings model.

In order for typical young low-income workers to be able to meet the projected self-sufficiency standard for single homeowners with no mortgage ($31,650), they need employer funding to help them reach a 9.5% contribution rate,[26] and/or a higher minimum wage policy. Workers who marry, and remain married into retirement, are also likely to accumulate greater retirement assets in relation to need—but current demographic trends indicate that this is not something that workers, especially women, should count on.[27]

Young middle-income workers will probably manage to accumulate enough assets, between Social Security and increased retirement savings from Secure Choice, to meet basic needs. But their projected replacement rate from the two programs is only 55%, compared to the 70-85% that is typically thought to be necessary for maintaining their pre-retirement standard of living. This leaves a gap of about 20% of pre-retirement earnings, which can be made up through increased retirement contributions (from both employees and employers) and building home equity. Given that middle-income workers need to save 10-15% of income throughout their working lives in order to avoid downward mobility in old age, a 5% savings rate is simply insufficient to meet this goal. According to our model, auto-escalation of Secure Choice contributions from 5% to 8%, in 1% annual increments, can increase the replacement rate by about 10 percentage points for 25-year-old middle-income workers.

Conclusion

Low-wage workers in California stand to see a substantial increase in retirement income from the combined impact of the $15 statewide minimum wage policy and the Secure Choice Retirement Savings Program, while middle-income workers will benefit from increased retirement savings through Secure Choice.

The $15 minimum wage will increase the lifetime earnings of the typical young low-income worker by about 21%, and the earnings of mid-career low-income workers in their remaining working lives by 16%. These increased earnings will lead to larger Social Security benefits for low-income workers, allow them to contribute to Secure Choice and still have additional disposable income, and augment overall retirement savings. The two policies combined have the potential to increase the retirement incomes of young workers by about 50% compared to baseline Social Security benefits—the primary and often the only retirement asset for low-income workers.

While many middle-income workers are likely to build up home equity as part of their nest egg, they also have a lower replacement rate from Social Security, and—on average—virtually no retirement savings. Thus the fact that participating in Secure Choice can augment young and mid-career middle-income workers' Social Security benefits by 49% and 21%, respectively, represents a meaningful improvement in their retirement security.

Ultimately, the $15 minimum wage and Secure Choice policies have the potential to allow young low-income workers to avoid poverty in retirement, but many will need additional resources to meet self-sufficiency standards.

Appendix: Methodology

Lifetime Earnings

We constructed earnings histories for California workers at sample earnings percentiles (i.e., 10^{th}, 20^{th}, 25^{th}, 30^{th}, 40^{th}, and 50^{th}) within their age group for workers age 25 and 45 in 2018 using data sources and methods as explained below.

Key source data include the following: 2000 Census, 2001-2015 American Community Survey (ACS), and the CWED/CLRE wage projection model, which modeled the earnings distribution for California workers with and without the statewide $15 minimum wage policy for 2018-2023 using 2015 ACS data as a baseline. The CWED/CLRE wage model estimates worker earnings under the complete phase-in of the minimum wage to $15 by 2023, versus a counterfactual minimum wage of $10 which would have stayed in effect had the new wage law not been enacted.

First we obtained the age-earnings distribution for each year from 2018 to 2023 under the current policy and under the counterfactual scenario from the CWED/CLRE model. The study universe consists of all California workers age 25-64, excluding the self-employed, federal workers, unpaid family workers, armed forces, and those working less than 13 weeks a year or 3 hours a week. The tabulations consisted of decile earnings for each five-year age bracket between 20 and 64 under each scenario for each year in the series.

To construct prior earnings histories for workers age 45 in 2018, we tabulated the same age-earnings distribution data for California workers from the public use microdata files for the 2000 Census PUMS (for calendar year 1999) and the 2001-2015 ACS.[28] For missing years in the series (1998, 2000, 2016, and 2017), we estimated the age-earnings distribution by interpolating from the available data in the series. We then projected the age-earnings distribution from 2024 to 2058 assuming a constant overall earnings distribution—i.e., no growth in inequality—in order to stay consistent with the Social Security Administration's economic assumptions. (Further details on general economic assumptions are provided below.)

For each age bracket, we assigned the tabulated earnings value at each percentile value to the midpoint age. For instance, if the earnings value was $15,000 for the 20th percentile among 25- to 29-year-olds, we assigned that value to age 27. Then we used linear interpolation to generate annual earnings estimates for ages between midpoints.

Finally, we constructed our sample workers' lifetime earnings trajectories by assuming that they would stay in the same part of the earnings distribution throughout their working lives. For example, workers age 25 who are at the 50^{th} percentile in 2018 are assumed to remain at that level relative to other workers in their age cohort until they reach retirement age.

The retirement income analysis was applied up to the 50^{th} percentile because the impact of the minimum wage policy is felt below that level, and the vast majority of workers eligible for the California Secure Choice Retirement Savings Program are below median income.

General Economic Assumptions: Wage Growth and Deflators

The CWED/CLRE wage projection model for 2018-2023 assumes nominal annual wage growth equal to the CPI from the 2015 baseline to 2018, then 1.98% through 2023. For subsequent years, we use the wage growth assumptions from the Social Security Administration (the Average Wage Index, or AWI) and apply them uniformly across the age-earnings distribution. The projected AWI in SSA's intermediate economic projections assumes 2.6% general price inflation and 1.26% real wage growth annually over the long term.

This means that our model projects positive real wage growth for the bottom half of the income distribution. While this may seem optimistic in light of wage stagnation among low- and middle-income workers over the past 40 years, it makes no practical difference for our study in terms of the relative impact of the two policies—$15 minimum wage and the California Secure Choice—compared to not having these policies. That is, the wage growth rate, whether positive, zero, or negative in real terms, has no effect on our findings on the percentage increase in retirement income resulting from the two policies. (To be clear, in all scenarios we assume experience-based real wage growth for our sample workers by moving them up in age within the age-earnings series each year.)

Wage growth and inflation assumptions do have an impact on the dollar values of our retirement income projections for both Social Security and Secure Choice. In this brief, projected benefit values are inflation-adjusted using the projected CPI, following convention. However, benefit values in this brief should be read cautiously, and not used to conclude that, for instance, Social Security benefits will grow more generous over time (see sidebar on page 8: Caution in Interpreting Social Security Benefit Values).

Social Security Benefit Estimates

After constructing the nominal wage trajectories for our sample workers through age 64, we applied the standard Social Security benefit formula to estimate monthly benefits at age 65. That is, we indexed each year's income using the projected AWI and then estimated the Average Indexed Monthly Earnings (AIME) from the top 35 years. We also used the AWI to grow the Social Security benefit bendpoints (the thresholds at which Social Security incremental replacement rates change), then calculated the Primary Insurance Amount (PIA). Finally, we reduced projected benefits to 86.67% of the PIA to account for benefits starting at age 65 instead of the full retirement age of 67 which will be in effect by the time our sample workers retire.

The projected AWI series used in this analysis reflects historical AWI data through 2015. Between 2016 and 2023, it was adjusted to match the wage growth assumptions used by the CWED/CLRE wage model. After 2023, it uses the SSA's projected intermediate growth rates.

California Secure Choice Retirement Income Estimates

Based on the earnings projections for each sample worker, for 2018 forward, we estimated contributions based on a 5% fixed contribution rate, then projected account balances and annual income available at age 65 using the assumptions and methods described below. Under

SB 1234, the Secure Choice Investment Board has discretion to set the default contribution rate between 2% and 5%, and to set auto-escalation up to 8%. The state-contracted consultants who authored the 2016 program design, market analysis, and financial feasibility study for Secure Choice (to which the author contributed) recommended that the default rate be set at 5% initially, and that the Board consider implementing auto-escalation. Both Connecticut and Oregon, which are pursuing similar programs, have chosen a 5% default contribution rate.

Fees: Based on the financial feasibility study for California Secure Choice and for similar programs in Oregon and Connecticut we assumed 100 basis points—i.e., 1% of account balance—for the first five years, and then 50 basis points thereafter.[29]

Investment portfolio: The first three years are assumed to be in a low-risk, Treasury-like instrument, as specified in SB 1234. Thereafter, we assume that funds are invested in a Target Date Fund that automatically shifts from stocks to bonds as the worker ages. We used geometric mean (i.e., dollar-weighted) returns for each age (i.e., 25, 26, 27, etc.) based on a typical TDF asset allocation glidepath and current capital market assumptions by asset class.[30]

The table below shows sample gross investment returns for the TDF portfolio.

Age	Rate of Gross Investment Return
30 and younger	7.15%
35	7.14%
40	7.09%
45	7.00%
50	6.81%
55	6.57%
60	6.34%

Note: 1.5% applied to first three years of participation in Secure Choice, consistent with investment policies in SB 1234.

Annual benefit calculation: The projected balance at age 65 was converted to a life annuity as follows. We calculated blended mortality rates (sex-weighted 55% male and 45% female) from SSA life tables for the 1970 and 1990 birth cohorts for the 25-year-old and 45-year-old workers, respectively.[31] (Our sample 25- and 45-year-olds actually belong to slightly later birth cohorts, 1993 and 1973. However, the Secure Choice program can be expected to price annuities assuming lower-than-average life generational gains in life expectancy compared to the population as a whole. This is because longevity gains have been concentrated in the top half of the income distribution.) Based on these mortality rates, we calculated the cost of an immediate life annuity with fixed monthly payments starting at age 65 with a 2.6% annual COLA, a 5% interest rate, and a cost (load) of 5% of the annuitized amount. The 5% interest rate is conservatively derived from the long-term bond yield in the capital market assumptions used to calculate TDF gross returns, and 50 basis points reflects discounted load for group annuities, compared to about 150 basis points for individual market annuities. The resulting annuity factors were applied to projected Secure Choice account balances to arrive at monthly benefits for sample workers.

Endnotes

[1] The author is grateful to Ian Perry for providing age-earnings tables from the CWED/CLRE minimum wage model that were critical to this study; Annette Bernhardt and Ken Jacobs for their advice; Steven Goss for clarifying Social Security economic assumptions early on in this project; and Dean Baker, Monique Morrissey, and Rowland Davis for their comments on the draft version of this paper. Any errors and omissions are the author's own.

[2] Michael Reich, Sylvia A. Allegretto, and Claire Montialoux, "The Effects of a $15 Minimum Wage by 2023 in California and Fresno," CWED Policy Brief, January 2017, http://irle.berkeley.edu/files/2017/Effects-of-a-15-Minimum-Wage-in-California-and-Fresno.pdf.

[3] Overture Financial, "Final Report to the California Secure Choice Retirement Savings Investment Board," March 17, 2016, http://www.treasurer.ca.gov/scib/report.pdf.

[4] Savings data from author's analysis of 2016 Survey of Consumer Finances Summary File microdata; income estimates from Fidelity Guaranteed Fixed Income Estimator, https://gie.fidelity.com/estimator/gie/gielanding?refann=061, accessed November 21, 2017.

[5] Author's analysis of 2015 CPS ASEC microdata from Sarah Flood, Miriam King, Steven Ruggles, and J. Robert Warren, Integrated Public Use Microdata Series, Current Population Survey: Version 5.0. [dataset], Minneapolis: University of Minnesota, 2017, https://doi.org/10.18128/D030.V5.0.

[6] Some middle-income workers have hourly wages at or below the minimum wage but work long hours.

[7] SB 3, Leno. Minimum wage: in-home supportive services; paid sick days. http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB3.

[8] Reich, Allegretto, and Montialous, op cit.

[9] Author's analysis of 2016 Survey of Consumer Finances Summary File microdata.

[10] Overture 2016, op cit.

[11] "California Secure Choice: Making Workplace Retirement Savings Possible for Millions of Californians," http://www.treasurer.ca.gov/scib/index.asp.

[12] The State of California has budgeted funds to provide a startup loan to the program, repayable with interest once the program achieves net positive cash flow.

[13] Draft regulations, Public Draft #1 (Version 11/27/17), presented at the Secure Choice Retirement Savings Investment Board meeting on 11/27/17.

[14] Overture Financial, op cit.

[15] A description of the methodology underlying the CWED/CLRE model is provided in Ian Perry, Sarah Thomason, and Annette Bernhardt, "Data and Methods for Estimating the Impact of Proposed Local Minimum Wage Laws," Center on Wage and Employment Dynamics Data Brief, UC Berkeley Institute for Research on Labor and Employment, June 2016, http://irle.berkeley.edu/files/2016/Data-and-Methods-for-Estimating-the-Impact-of-Proposed-Local-Minimum-Wage-Laws.pdf.

[16] The CWED/CLRE model does not include local minimum wage laws, some of which reach $15 before the statewide minimum wage.

[17] The analysis will slightly overstate the impact of Secure Choice on low-income workers as a group because, while most low-income workers in California will have access to the program, a minority work for employers with retirement plans that exclude many of their workers on the basis of tenure or hours.

SB 1234 does not require these employers give such workers access to Secure Choice. The analysis should therefore be interpreted as the impact of SB 3 and SB 1234 on eligible workers, not all low-income workers.

[18] While the 10th and 20th percentile workers will see about the same percentage increase in lifetime earnings, this translates to lower percentage growth in Social Security benefits at the 10th percentile because Social Security replaces a larger share of income for lower-income workers. Most of the projected earnings growth for both groups fall within the 30% replacement rate bracket.

[19] Social Security Administration, "Retirement Planner: Benefits By Year Of Birth," https://www.ssa.gov/planners/retire/agereduction.html.

[20] Social Security Administration, "Benefit Calculation Examples for Workers Retiring in 2017," https://www.ssa.gov/oact/progdata/retirebenefit2.html.

[21] Author's analysis of the 2016 Survey of Consumer Finances Summary File microdata. Annual retirement account income estimates based on Fidelity Guaranteed Income Estimator, https://gie.fidelity.com/estimator/gie/gielanding, and estimates from actuary Rowland Davis based on current interest rates.

[22] Sylvia Allegretto, Nari Rhee, Joelle Saad-Lessler, and Lauren Schmidt, "California Workers' Retirement Prospects," pp. 21-41 in Nari Rhee, ed., *Meeting California's Retirement Security Challenge*, UC Berkeley Center for Labor Research and Education, October 2011, http://laborcenter.berkeley.edu/pdf/2011/retirement_allegretto.pdf.

[23] The Federal Poverty Level is based on a basic food budget, multiplied by three. Since the formula was originally established in the 1960s, the share of typical household spending on non-food items has increased significantly.

[24] Author's calculations from the U.S. Census Bureau's 2016 Supplemental Poverty Measure Public Research File.

[25] Jan E. Mutchler, Yang Li, and Ping Xu, "Living Below the Line: Economic Insecurity and Older Americans Insecurity in the States 2016," Center for Social and Demographic Research on Aging, UMass Boston, p. 2, Table 2.

[26] Employer contributions are currently not allowed for Secure Choice in order to avoid federal preemption under the Employee Retirement Income Security Act (ERISA). However, some states and municipalities are considering offering multiple-employer 401(k) plans that could receive employer contributions, as supplement to Secure Choice type IRAs.

[27] Alicia H. Munnell, Geoffrey T. Sanzenbacher, and Sara Ellen King, "Do women still spend most of their lives married?" Center for Retirement Research at Boston College, August 2017, http://crr.bc.edu/wp-content/uploads/2017/08/IB_17-14.pdf.

[28] The ACS is implemented over the course of the year, and income questions are asked about the previous 12 months. We assume that the average responses represent outcomes for the same year in which the survey was implemented.

[29] N. Rhee (Nov. 2016), "Lessons from California, Connecticut, and Oregon: How Plan Design Considerations Shape the Financial Feasibility of State Auto-IRAs," Georgetown Center for Retirement Initiatives, Washington, DC.

[30] For further information on investment return assumptions, see the Methodology Appendix in Nari Rhee and William B. Fornia, "Are California Teachers Better off with a Pension of a 401Kk)?" UC Berkeley Center for Labor Research and Education, 2016, http://laborcenter.berkeley.edu/are-california-teachers-better-off-with-a-pension-or-a-401k/.

[31] Social Security Administration, "Table 7 — Cohort Life Tables for the Social Security Area by Year of Birth and Sex," https://www.ssa.gov/oact/NOTES/as120/LifeTables_Tbl_7.html.

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