HOW MUCH RETIREMENT SAVINGS IS SUFFICIENT?

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How much should one save and what level of retirement income should one aim for? It depends! A diplomatic, but truthful answer.

One thing is certain – shy away from rule-of-thumb suggestions; the retirement planning guidelines we offer provide a rigorous examination of several key components.

These planning guidelines are for workers seeking to maintain their living standards (lifestyle) before and after retirement. Our expansive framework considers salient features of law, regulations and lifecycle spending patterns in the U.S. and estimates target savings and replacement rates for a number of worker situations. The analysis reveals that consistent, and achievable, contributions are one of the key ingredients to preparing for a secure retirement.

DESIGNING THE FRAMEWORK

To determine the necessary income in retirement, our framework carefully takes several key components into consideration in great detail.

Taxes. We incorporate income tax (particularly the brackets, tax rates, and standard deductions, under the Tax Cut and Jobs Act (TCJA) of 2017) and payroll taxes for Social Security and Medicare. Payroll taxes cease to apply in retirement and income tax often experiences a drop upon retirement. Reductions in tax obligations are significant for a majority of retirees. Some suspect the TCJA to be a temporary tax phase so its impact on our methodology to be short-lived. We seek to incorporate the current environment in real time and revisit tax policy annually to understand any potential effect on income replacement.

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Social Security. Most U.S. workers count on Social Security (SS) as the first pillar of retirement income. Benefits vary with the covered workers' lifetime earnings level, birth cohort, and retirement age. We model SS as it exists today and don't attempt to forecast its reputed decline, but will monitor government actions as they unfold.

Lifecycle expenses. Based on econometrical analysis and comprehensive consumer expenditure data, our framework captures the hump shape of expenses over a workers' lifecycle. This includes noticeable expense reductions upon retirement, particularly in food, clothes, and transportation spending.

Health care costs. Insurance premiums and projected out-of-pocket expenses are based on the most recent data and research. They reflect the up-to-date impact of the Affordable Care Act (ACA). Various subsidies under the ACA are embedded into in the framework and linked to incomes relative to federal poverty line.

APPLYING THE FRAMEWORK

Our framework accommodates specific participant situations, such as defined contribution (DC) plan provisions, worker earnings and demographics, and expected asset returns. It computes a required savings rate and target replacement rate. It is capable of generating custom guidelines that can be used for retirement planning.

Tax obligations are mandatory. A large part of the lifecycle expenses are for basic needs, including food, shelter and other living essentials. Thus the equilibrium criterion in the framework for maintaining lifestyle is discretionary consumption, which is defined as the remainder of a worker's income after one has paid for those living essentials and allocated to retirement savings.

Let's examine a number of worker scenarios to understand how the framework can be applied to differing populations to generate useful retirement planning guidelines.

BASE CASE REPRESENTATIVE WORKER

As an illustration, Figure 1 shows the planning guidelines for Julie, a representative worker (see assumptions below the figure). If Julie saves 7% of pay, on a *persistent* basis, and works until age 67 (normal age for full Social Security benefits), her retirement income may replace 82% of pre-retirement income – her so called "replacement rate" – about 42% from Social Security and 40% from her DC plan. Her total (SS+DC) wealth amounts to 11.5 times final pay. Let's use this case as a baseline for comparisons with alternative scenarios.

FIGURE 1: Illustrative Savings and Replacement Rates

Retirement	Savings	Income replacement (%)			Wealth as a multiple of final pay		
age	Rate (%)	SS	DC	SS+DC	SS	DC	SS+DC
67	7.3	42.2	39.9	82.1	5.4	6.2	11.5

Notes: Baseline assumptions: CPI inflation 2.7%, National Average Wage Index (NAWI) = CPI+1%; Single worker, $45,000 initial earnings at age 25, annual pay raise = NAWI growth until age 55, then CPI until retirement; Constant 6.5% nominal asset return for simplicity; Annuity pricing: 5% interest rate, 10% load, annuitant life table, indexed to inflation; Health care cost: CPI+1.5%. The case studies presented are intended to illustrate products and services available at Northern Trust. They do not necessarily represent experiences of other clients nor do they indicate future performance. Individual results may vary. Source: Northern Trust Asset Management.

IMPACT OF EARLIER RETIREMENT

Suppose John aimed for an earlier retirement, at age 62, with all other things being equal to Julie. John would have to save significantly more (12% in Figure 2); and his target replacement rate would be lower (76%) because 1) the SS benefits would be reduced by the actuarial formula, 2) assets would be spread over more years in retirement, and 3) he would have a shorter time horizon to save and garner investment returns.

Individuals aiming for an earlier retirement need to save more during working years.

FIGURE 2: Higher Savings Required for Earlier Retirement

Retirement age	Savings Rate (%)	Income replacement (%) SS	DC	SS+DC	Wealth as a multiple of final pay SS	DC	DC+SS
62	12.2	33.5	42.2	75.7	4.5	8.0	12.5
65	8.9	38.4	41.3	79.7	5.0	6.8	11.8

Notes: Same assumptions for the hypothetical worker as in Figure 1, unless noted otherwise.
Source: Northern Trust Asset Management.

EFFECT ON HIGHER EARNERS

Social Security has a progressive benefit formula so that the relatively higher (lower) paid workers receive a smaller (bigger) replacement rate from SS. Correspondingly, if Julie was a higher earner she would have a greater private responsibility to save for retirement (Figure 3). Though, her target replacement rate would be lower, because the drops in her tax obligations and work-related expenses upon retirement would be more significant (compared to those relatively lower-paid workers).

FIGURE 3: Higher Savings Required for Higher Earners

Initial earnings	Savings Rate (%)	Income replacement (%) SS	DC	SS+DC	Wealth as a multiple of final pay SS	DC	DC+SS
$55,000	7.4	39.8	40.5	80.2	5.1	6.2	11.3
$75,000	7.7	35.6	42.1	77.8	4.6	6.5	11.1

Notes: Retirement at age 67. Same assumptions for the hypothetical worker as in Figure 1, unless noted otherwise.
Source: Northern Trust Asset Management.

IMPACT OF RETURNS

Investor profiles and their expectations of asset returns differ. A more optimistic assumption of return by 1% (7.5% in Figure 4 vs. the baseline 6.5%), for instance, would alleviate Julie's savings task by 1.3% (6.0% vs. the baseline 7.3%). A higher return is not easy to achieve, however. Rates and returns were elevated, particularly in the second half of the 20th century. It is challenging to forecast how the financial markets will develop in the coming decades.

A lower return by 1% (5.5% vs. the baseline 6.5%) would require Julie to save 1.5% more of each paycheck (8.8% vs. the baseline 7.3%). It is not a 1:1 substitution because the lost compounding effect on returns is larger than 1%. On the other hand, the hike of savings is perhaps less than some hunches would suggest. The reason is that Julie would need to reduce spending and lower her standard of living in working years in order to save more for retirement, which means a commensurate reduction in her target lifestyle in retirement. This means that career and retirement years need to coordinate and reach for equilibrium, as opposed to solely sacrificing the former in the pursuit of an exogenous target for the latter (e.g., a simplistic 85% replacement rate).

Career and retirement years need to coordinate and reach for equilibrium.

FIGURE 4: Required Savings for Potential Alternative Investment Returns

Hypothetical Expected return	Savings Rate (%)	Replacement rate (%) SS	DC	SS+DC	Wealth as a multiple of final pay SS	DC	DC+SS
7.5%	6.0	42.2	41.1	83.3	5.4	6.3	11.7
5.5%	8.8	42.2	38.4	80.6	5.4	5.9	11.3

Notes: Retirement at age 67. Same assumptions for the hypothetical worker as in Figure 1, unless noted otherwise.
Source: Northern Trust Asset Management.

POWER OF EMPLOYER MATCH

If the plan sponsor provided matching contributions, which is increasingly common, that would help shoulder Julie's duty to save, and at the same time could boost her aspiration for a better lifestyle both pre and post retirement (a higher replacement rate). The employer matching (and non-elective, if available) contributions would help loosen Julie's budget constraint – at least notionally, as money is fungible – and enable her to increase her living standard. By equilibrium, the living standard in retirement should be increased too, with the support of the now enhanced capacity.

FIGURE 5: Required savings with a 50% employer match, up to 6% of pay

Retirement Age	Savings rate (%) Employee	Total	Replacement rate (%) SS	DC	SS+DC	Wealth as a multiple of final pay SS	DC	DC+SS
62	9.8	12.8	33.5	44.3	77.8	4.5	8.4	12.9
65	6.4	9.4	38.4	43.6	82.0	5.0	7.2	12.2
67	5.1	7.7	42.2	41.9	84.1	5.4	6.5	11.8

Notes: Same assumptions for the hypothetical worker as in Figure 1, unless noted otherwise.
Source: Northern Trust Asset Management.

CONCLUDING REMARKS

Our framework is designed to provide a holistic view considering many of the significant influences affecting a participant's ability to save for retirement. It illustrates the required savings for workers to stay on track toward retirement. The levels of savings vary across situations. Overall, a steady retirement is not out of reach if contributions are made to the DC plan on a consistent basis.

Persistency in savings cannot be emphasized enough. Lapses could require years of additional contributions to catch up and achieve a successful retirement outcome. Also worth noting is that luxury spending (e.g., vacation home, global travel) shouldn't become a necessity in retirement if that is unaffordable in working years. If this is desired, nonetheless, one would need to save significantly more.

Economic environment changes and the worker's savings efforts need to be reviewed periodically. Often, more savings would be the most reliable way to close the perceived retirement shortfall. Further, retirement outcomes can be better managed by simultaneous efforts of working longer, saving more, and seeking more efficient investment strategies.

Looking to better understand your plan's unique circumstances and needs?

Our framework can be applied to any DC plan.

Please contact the Northern Solutions Group at (855) 645-8303 or email at NorthernSolutionsGroup@ntrs.com.

NORTHERN TRUST RETIREMENT SOLUTIONS

As one of the largest managers of retirement assets in the United States, our team has deep expertise in developing innovative answers to challenges faced by many plan sponsors, retirement advisors and individual investors. We take a consultative approach to addressing the needs of individual investors while offering a suite of solutions aimed at improving retirement outcomes.

NORTHERN TRUST ASSET MANAGEMENT

As a leading global asset management firm, our investment expertise, strength and innovation have earned the trust and confidence of the world's most sophisticated institutional and individual investors.

With $885 billion in total assets under management,[1] and a long standing history of solving complex challenges, we believe our strength and stability drive opportunities for our clients. Our comprehensive asset class offering includes passive, factor-based, fundamental active and multi-asset class solutions that are available in a variety of investment vehicles.

[1] Asset under management as of December 31, 2018.