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Save and Grow: Considerations for Future Financial Freedom

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Financial freedom means accumulating enough assets to maintain one's lifestyle without actively working. For most, reaching this goal requires effective financial planning and involves 1) making assumptions about variables outside the saver's control, such as future market returns, and 2) taking steps and making choices over which the saver does have control, such as the amount of money to save each year. This article examines these variables and provides insights that may be incorporated into sound financial planning. It further proposes tools to test the current state of retirement readiness and offers budgeting techniques to correct the course, if required.

Future Market Returns: Being Conservative is the Best Policy

Future market returns is one of the most important assumptions in retirement planning. This unknown variable largely dictates how much we need to save to meet our post-retirement goals and how long those savings will last. A commonly used assumption is a 6% real market return for a hypothetical blend of equity and bond securities, which is the difference between an 8% nominal return and a 2% inflation rate. The appeal of using an assumed market return is significant for both financial advisors and investors. It helps advisors set concrete targets that can be easily communicated to clients and it motivates clients to stay committed to a financial plan that is easy to understand. Under a 6% real return assumption, a 35-year-

old only needs to save 12.5% of his net income until age 65 to maintain his current lifestyle until age 90 (Figure 1a).

Using this same example, if we maintain a 12.5% savings rate but assume a real return consistent with actual historic market returns (Figure 1b), a 35-year-old would run out of resources before age 90 if he maintains his pre-retirement lifestyle. The actual historic market data over 87 years (1928 to 2015) was used to track 33 different time series returns (Figure 1b).³ The chart represents asset accumulation under nominal market returns. Income and expenses are assumed to grow with historic inflation rates. The 33 time series emphasize the difference in the asset accumulation pattern for a saver who turned 35 in 1928 compared to 1929 and so on through 1960.

As illustrated in Figure 1b, high inflation rates in select time series lead to steep asset accumulation in pre-retirement years followed by rapid reduction in post-retirement years due to high cost of living. In addition, it can be observed that investors who started saving in any year between 1928 and 1960 achieved an average annualized real market return lower than 6% over a 55-year period. Hence, an investor should consider four key factors when incorporating simplified return assumptions into retirement planning.

1. **Using a long-term average assumption has its limitations.** Since the average S&P 500 real return between 1928 and 2015 was approximately 6.3%, the 6% return assumption seems reasonable on the surface. However, the average return may be made up of periods of very high real returns and periods of very low or negative real returns. Based on historic data, it is possible the average return achieved over an investor's savings horizon is lower than 6%.
2. **The impact of fluctuating returns on an investor may differ depending on where he is in the savings cycle.** For example, having negative returns close to retirement is detrimental because it lowers the value of savings at a time when savers will begin withdrawing funds. On the other hand, experiencing negative returns earlier in the savings cycle may have a limited impact, since the value of

1 I gratefully acknowledge Dean Kerr, FSA, MAAA, ACIA, principal at Oliver Wyman, and Helen Colterman, FSA, ACIA, consultant at Oliver Wyman, for their helpful insights and review.

2 The views expressed are the author's own and may not represent the views of Oliver Wyman.

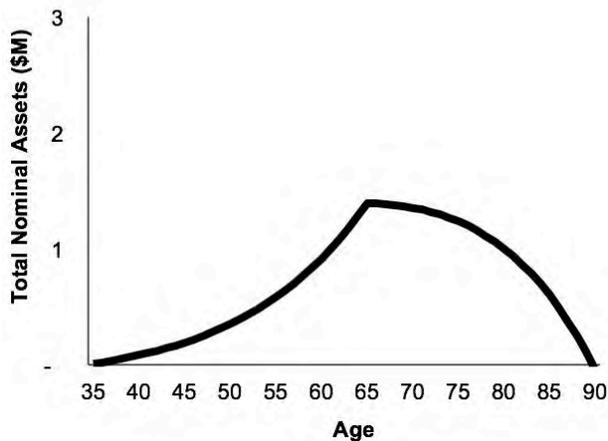
3 A 35-year-old is assumed to be invested until age 90 for a total of 55 years. Therefore, the chart tracks individuals who turned 35 in any year between 1928 and 1960, since at least 55 years of return data is available for this cohort.

Figure 1 Rule of Thumb Versus Historical Market Returns

a. Rule of Thumb

Assuming a 6% real return in the future, a 35-year-old only needs to save 12.5% of annual net income to maintain his current lifestyle until age 90.

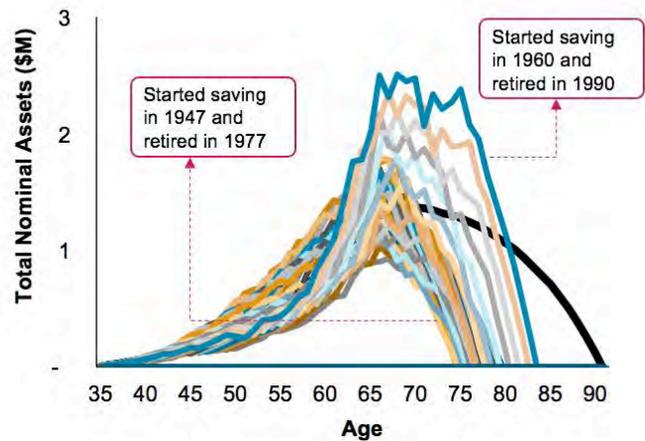
Starting net income at age 35 = \$90,000
Savings rate = 12.5%
Nominal return = 8%
Inflation = 2%



b. Historical Market Returns

The best scenario imitates the market returns and inflation rates experienced by someone who started saving in 1960 and retired in 1990. The worst scenario belongs to someone who started saving in 1947 and retired in 1977.

Starting net income at age 35 = \$90,000
Savings rate = 12.5%
Historical S&P, 10-year Treasury and inflation rates, based on calendar year individual who has reached age 35



Assumptions: Equity (S&P 500) allocation = (105 – age) % rounded to nearest 5%; bond (10-year Treasury) allocation % = 100% – equity allocation. Expenses are assumed to be a constant proportion of income in pre-retirement years. Income and expenses are assumed to increase with inflation rate. Post-retirement expenses are 70% of pre-retirement expenses. Management fee = 1% per year.

Source: Data from U.S. Inflation Calculator, “Historical Inflation Rates: 1914–2016,” accessed Oct. 29, 2016, <http://www.usinflationcalculator.com/inflation/historical-inflation-rates/>; and “Data,” accessed Oct. 29, 2016, http://www.stern.nyu.edu/~adamodar/New_Home_Page/data.html.

invested assets is relatively low and there is ample time for investments to recover before retirement. Since it is impossible to predict the future pattern of returns, the author recommends an investor consider lowering the return assumption to between 4% and 5% for purposes of financial planning and correspondingly adjusting other elements of the financial plan (e.g., increasing pre-retirement savings rate).

- Future inflation rates are an important assumption in retirement planning.** Although inflation rates are at very low levels and some western economies are even struggling with deflation, having a low inflation rate for

an extended period of time is a very recent phenomenon.⁴ High inflation rates during retirement years can be quite damaging, as cost-of-living increases force retirees to liquidate more of their assets to maintain their lifestyle. For example, the worst-case time series in Figure 1b involves a saver who retired in 1977 and then experienced inflation rates averaging 10%⁵ for five consecutive years. Due to very high loss of purchasing power, the retiree ran out of savings eight years after retirement.

- Increasing life expectancies add further complexity to retirement planning.** Since the 1930s, the life expectancy for a 65-year-old has

4 U.S. Inflation Calculator, “Historical Inflation Rates: 1914–2016,” accessed Oct. 29, 2016, <http://www.usinflationcalculator.com/inflation/historical-inflation-rates/>.

5 Annual inflation rate between 1978 and 1982 was 7.6%, 11.3%, 13.5%, 10.3% and 6.2%.

increased by seven years⁶ in the U.S.⁷ Longer life expectancies force retirees to curtail spending to provide for additional years of expenses. Stated differently, an increase in life expectancies augments the risk of retirees outliving their savings or being forced to accept a lower quality lifestyle. To counteract the financial impact of longer life expectancies, investors should consider increasing their pre-retirement savings rate.

Factors Within the Saver’s Control

Until now, this article has assumed a saver is targeting a given lifestyle until age 90 based on a pre-determined set of actions, namely 1) a fixed pre-retirement savings rate from age 35, 2) a pre-defined asset allocation (underlying the assumed average market return) and 3) a pre-defined spending pattern post-retirement. However, the four factors presented in the previous section, which are largely outside the saver’s control, have a significant impact on future financial readiness. To counteract potential risks or actual negative impacts related to these four factors, an investor should consider three actionable items within his control.

1. **The cost of waiting to save later in life is quite high.** For a given real return assumption, a lower savings rate is required for those who start saving earlier in life. The savings rate at different starting ages required under a 6% real return assumption and under a historic market return assumption defined by the worst-case time series (annual real return of 3.5%) is presented in Table 1.
2. **An asset allocation strategy is a very important factor in investment returns.** A range of asset allocation strategies exist, from very active to more passive. Passive asset allocation does not mean altogether ignoring asset allocation; rather, it typically refers to the selection of high-level market benchmarks coupled with minimal future trading activity to maintain alignment with those

Table 1 Required Saving Rates

Starting Age	35	40	45	50
Savings rate required under 6% real return assumption	12.5%	16.5%	22.0%	30.0%
Savings rate required under historic market assumption	25.0%	30.0%	39.0%	49.0%

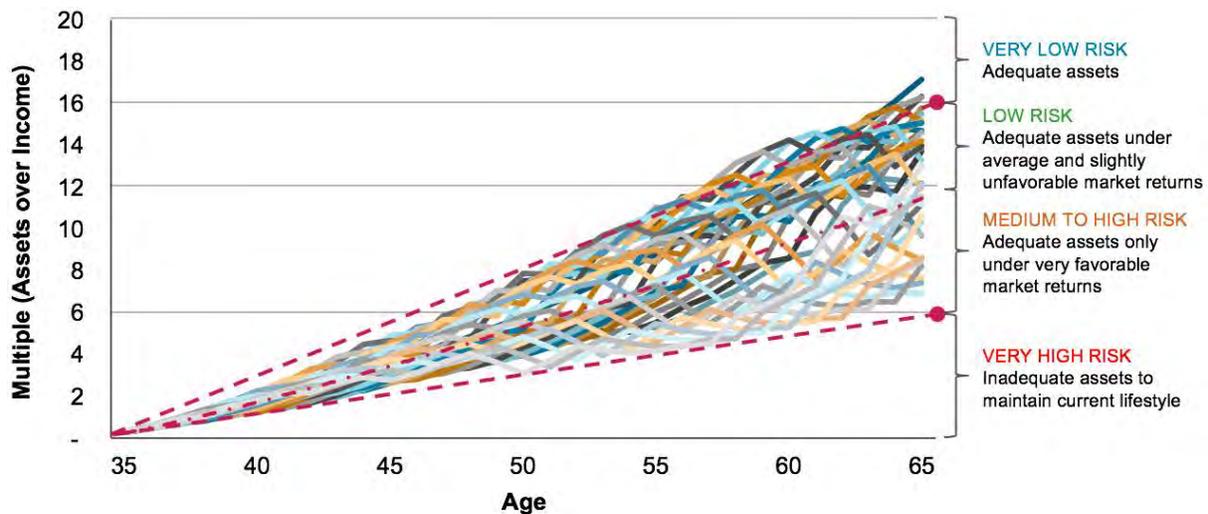
benchmarks. In other words, passive asset allocation involves investing assets across multiple asset classes or markets without attempting to “beat the market” by picking individual securities. According to a 2010 study,⁸ 75% of total investment fund returns are explained by the underlying market movement and 20% of returns are explained by asset allocation. Since 95% of the returns are explained by presence in the market and prudent asset allocation, the benefits of picking individual securities are questionable over a long-term horizon. Instead, an appropriately diversified portfolio with asset allocation targets based on one’s personal risk tolerance is the key to maximizing risk-adjusted future returns.

In the model described earlier, savings was assumed to be allocated to a blend of equities and 10-year Treasury bonds. In reality, the number of available asset classes is significant. Investors should consider diversifying the equity portion into home country, developed market and emerging market equities. Similarly, the fixed income allocation can be further diversified into government bonds, corporate bonds, emerging market bonds and preferred shares. Depending on portfolio size and risk tolerance, the investor can also consider asset classes such as agricultural commodities, land, oil and precious metals.

As discussed earlier, even passive asset allocation is a dynamic process. It is important for an investor to

6 Social Security Administration, “Retirement & Survivors Benefits: Life Expectancy Calculator,” accessed Oct. 29, 2016, <https://www.ssa.gov/OACT/population/longevity.html>.
 7 Social Security Administration, “Life Expectancy for Social Security,” accessed Oct. 21, 2016, <https://www.ssa.gov/history/lifeexpect.html>; Centers for Disease Control and Prevention, “Table 22. Life expectancy at birth, at age 65, and at age 75, by sex, race, and Hispanic origin: United States, selected years 1900–2010,” accessed Oct. 21, 2016, <https://www.cdc.gov/nchs/data/hus/2011/022.pdf>.
 8 James Xiong, Roger G. Ibbotson, Thomas Idzorek, and Peng Chen, “The Equal Importance of Asset Allocation and Active Management,” *Financial Analysts Journal* 66, no. 2 (March/April 2010): 22–30.

Figure 2 Total Assets Relative to Annual Net Income (Retirement Age = 65)



Assumptions: Equity (S&P 500) Allocation = (105 - Age) % rounded to nearest five percent; Bond (Treasury 10Y) Allocation % = 100% - Equity Allocation
 - Expenses are assumed to be a constant proportion of income in pre-retirement years
 - Post-retirement expenses are 70% of pre-retirement expenses; Management Fee = 1% per year
 - Income and Expenses are assumed to increase with inflation rate

Sources: <http://www.usinflationcalculator.com/inflation/historical-inflation-rates/> and http://www.stern.nyu.edu/~adamodar/New_Home_Page/data.html

rebalance his asset allocation to predefined targets on a regular basis; this results in diverting capital toward asset classes that have fallen out of favor and away from asset classes that may have exhibited above-average gains and which have an increased risk of correcting downward.⁹

Overall, proper asset allocation and rebalancing promote long-term asset accumulation and financial readiness.

3. **A dollar saved is a dollar earned.** Spending and savings rates and patterns define an individual's lifestyle and, ultimately, his financial readiness. Savings rates and spending patterns will be further discussed shortly.

Measuring Retirement Readiness in Pre-Retirement Years

Using current savings rate as the sole measure of retirement readiness is inadequate as it does not take into account assets already accumulated by the saver.

Instead, the comparison of accumulated assets and current annual net income provides a clearer picture of the current state of retirement readiness.

According to Figure 2, a 65-year-old with accumulated assets that equate to more than 16 times his annual net income should be able to maintain his current lifestyle until age 90, even under worse-than-average future returns. Similarly, a retiree with total assets between 12 and 16 times annual net income at age 65 should fare well in the case of average market returns but may have to adjust his lifestyle slightly in a scenario with worse-than-average returns. On the other hand, a retiree with assets between six and 12 times his annual net income at age 65 will only be able to maintain his lifestyle under very favorable scenarios and faces an increased risk of running out of funds before age 90.

⁹ Ronald Balvers, Yangru Wu, and Erik Gilliland, "Mean Reversion Across National Stock Markets and Parametric Contrarian Investment Strategies," *Journal of Finance* 55, no. 2 (April 2000): 745-72.

Improving Retirement Readiness: Using a Budget-Based Approach to Save Appropriately

Although it is important for all income earners to save adequately for retirement, inadequate savings have an outsized impact on the lifestyles of high income earners. Two drivers are the progressive taxation system and the fact that Social Security payments in retirement cover a higher proportion of expenses at lower income levels in comparison to higher income levels.¹⁰ As a result, it is important for a high income earner to save a relatively larger percentage of his pre-retirement income if he wishes to support his current lifestyle post-retirement; he can do so utilizing a budget-based approach.

Under a budget-based approach, one’s pre-retirement net (i.e., after-tax) income is divided into three categories: **necessities**, **discretionary** and **savings**. The necessities category includes required costs for day-to-day living, such as rent, utilities and groceries. The discretionary category includes expenses that contribute to a person’s general happiness and well-being such as travel, entertainment and shopping. Finally, the savings category includes funds earmarked for retirement and emergencies. Table 2 shows some examples.

Table 2 Categories for a Budget-Based Approach

Necessities	Discretionary	Savings
Rent/mortgage	Dining out	Money to retire
Utilities	Entertainment	Emergencies
Groceries	Travel	
Transportation	Shopping	
Clothing	Hobbies	
Health care	Gifts	

For a family with above-average income, the author recommends limiting the budget allocated toward necessities to 50% of annual net income. Spending more than 50% in this category leads to a leveraged lifestyle, since these expenses are often fixed in nature (e.g., mortgage payments) and thus difficult to adjust

lower in the short term. In addition to increasing risk, high spending on necessities constrains the amount available for discretionary spending and savings. Therefore, keeping these expenses under control directly supports future financial readiness. As income increases, however, this category usually consumes a lower percentage of income and consequently provides an opportunity to increase savings without additional effort or impact on current lifestyle (which is proxied by discretionary spending).

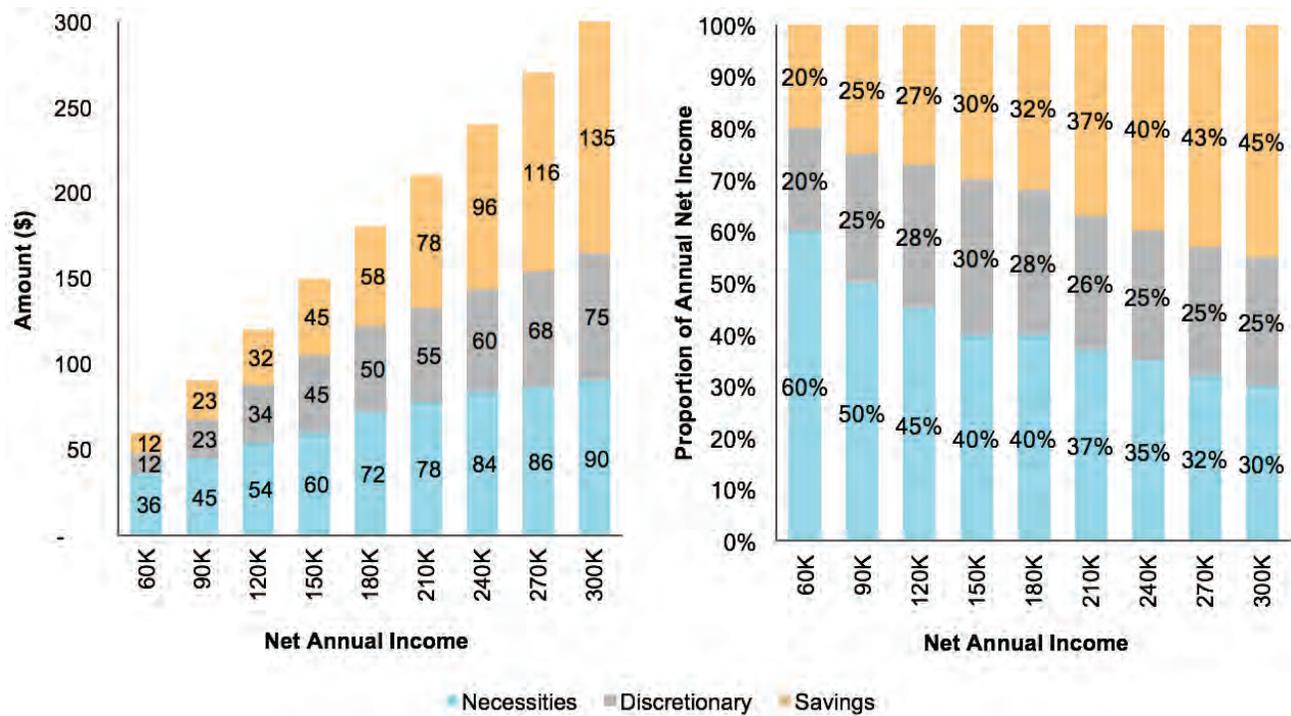
The author recommends limiting discretionary spending to 30% of annual net income, which, when coupled with necessities spending of under 50%, results in a savings rate of at least 20%. For a 35-year-old, a 20% savings rate provides sufficient asset accumulation to sustain his pre-retirement lifestyle until age 90 even under a fairly low real return assumption of 4%. Therefore, 30% discretionary spending allows an individual to enjoy life while still promoting future financial security. Given the typical variable nature of these expenses, spending in this category can be easily adjusted in the near term to adjust for lower-than-expected asset accumulation. However, attention should also be paid if spending in this category dips beneath 15% of income since discretionary spending drives quality of life in pre-retirement years. It provides one with new experiences, improves social interactions with others and contributes to overall happiness.

The proportion of income spent on necessities and discretionary items should be recorded and targeted separately. For example, if discretionary expenses are already beneath 30% of annual net income, it is not recommended to decrease them further to compensate for higher-than-target spending on necessities. The real problem in this case is high fixed expenditures on necessities.

Figure 3 provides a guideline as to what proportion of annual net income should be allocated to each of the three categories under different net income brackets. As income increases, the recommended expenses for necessities and discretionary items also increase but at

10 National Academy of Social Insurance, “How Do Benefits Compare to Earnings?” accessed Oct. 31, 2016, <http://www.nasi.org/learn/socialsecurity/benefits-compare-earnings>.

Figure 3 Amount and Proportion Spent Under Each Category



a lower rate, resulting in a higher proportion of income going toward saving.

The advantage of this budget-based approach is that it creates a more balanced lifestyle by encouraging people to live within their means and having them assess if something is truly a necessity. It also emphasizes a “save smart” rather than “save more” approach by taking into consideration the importance of discretionary spending. By categorizing expenses, this approach creates greater awareness of how income is being allocated and whether an adequate percentage is being saved for retirement.

This approach can also be utilized post-retirement, based on post-retirement annual net income generated from savings.

Conclusion

When it comes to making assumptions about market returns in retirement planning, it pays to

be conservative. For example, one might consider planning for the realization of a 4% or 5% long-term real return rather than 6%. In addition, proper asset allocation and rebalancing should be a major consideration during pre-retirement years to maximize risk-adjusted returns. To safeguard against higher life expectancies, market volatility and inflation rates, a higher savings rate should be considered. This rate can, in part, be determined using a budget-based approach, and by comparing accumulated assets to annual net income to measure one’s retirement readiness. If assets are deemed inadequate, adjustments in spending and saving behavior should be made.

Retirement planning involves many unknown variables, but the considerations specified in this paper provide a framework that can be leveraged to achieve a balanced lifestyle in pre-retirement years and financial freedom in post-retirement years.

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