



RETIREMENT INSIGHTS

Guide to RetirementSM

2021 Edition

J.P. Morgan



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Asset Management

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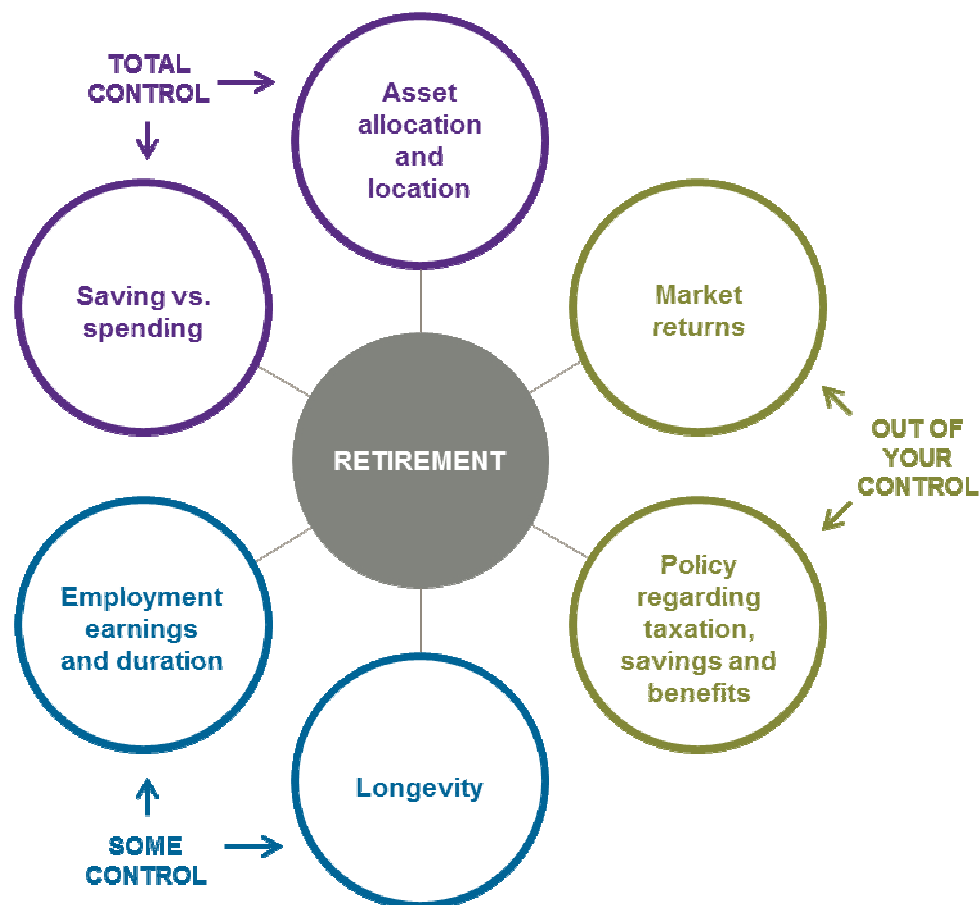
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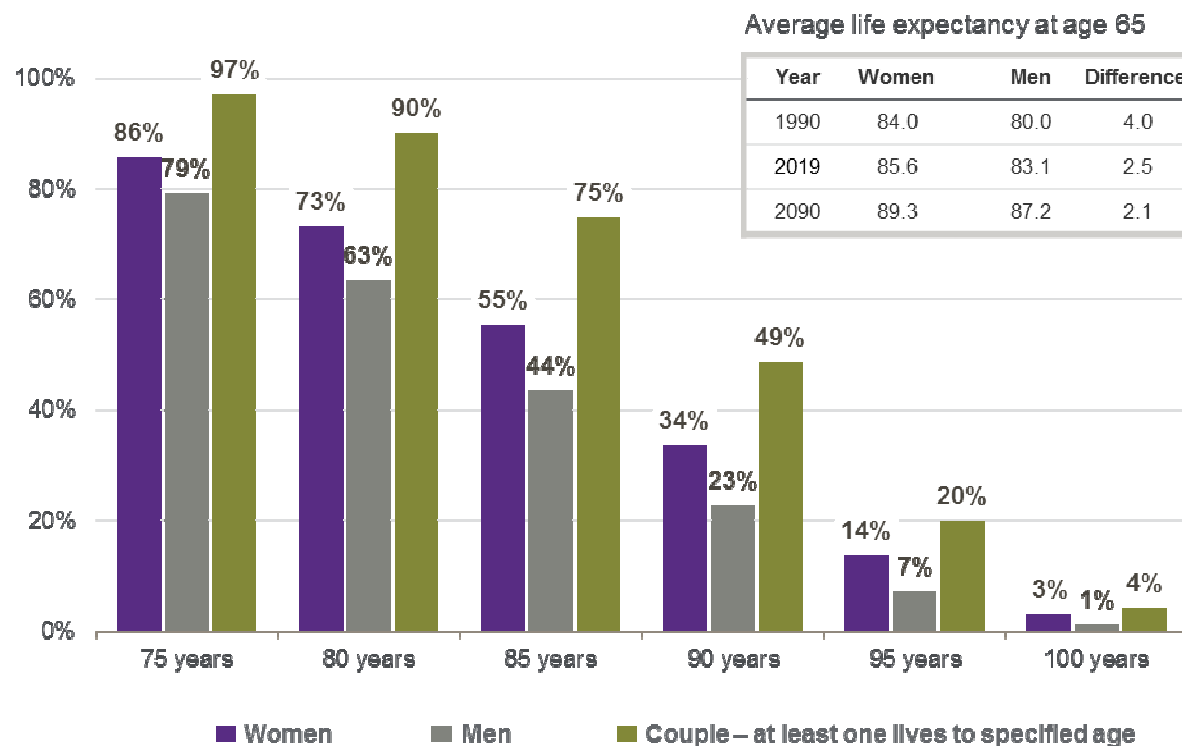
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A SOUND RETIREMENT PLAN

Make the most of the things that you can control but be sure to evaluate factors that are somewhat or completely out of your control within your comprehensive retirement plan.

If you're 65 today, the probability of living to a specific age or beyond



PLAN FOR LONGEVITY

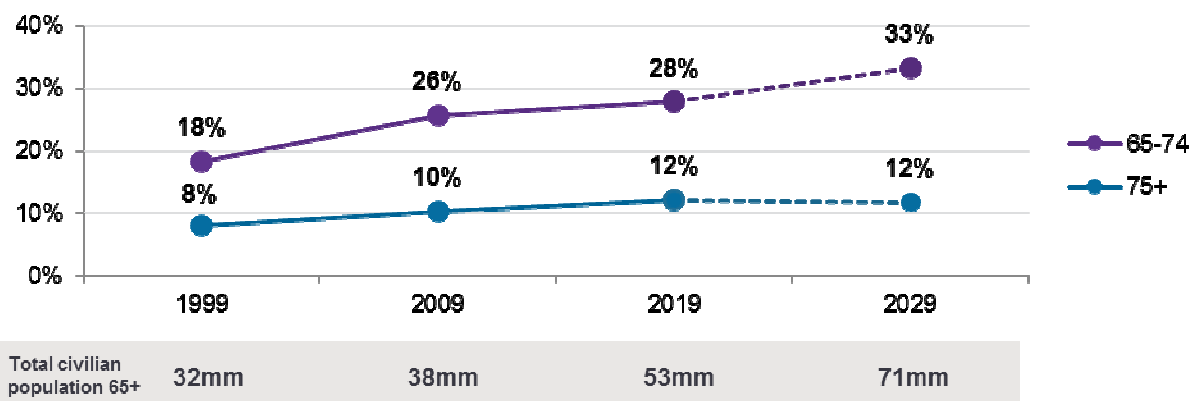
Average life expectancy continues to increase and is a mid-point not an end-point. You may need to plan on the probability of living much longer – perhaps 30+ years in retirement – and invest a portion of your portfolio for growth to maintain your purchasing power over time.

Source (chart): Social Security Administration, Period Life Table, 2017 (published in 2020), J.P. Morgan Asset Management.

Source (table): Social Security Administration 2020 OASDI Trustees Report.

Probability at least one member of a same-sex female couple lives to age 90 is 56% and a same-sex male couple is 40%.

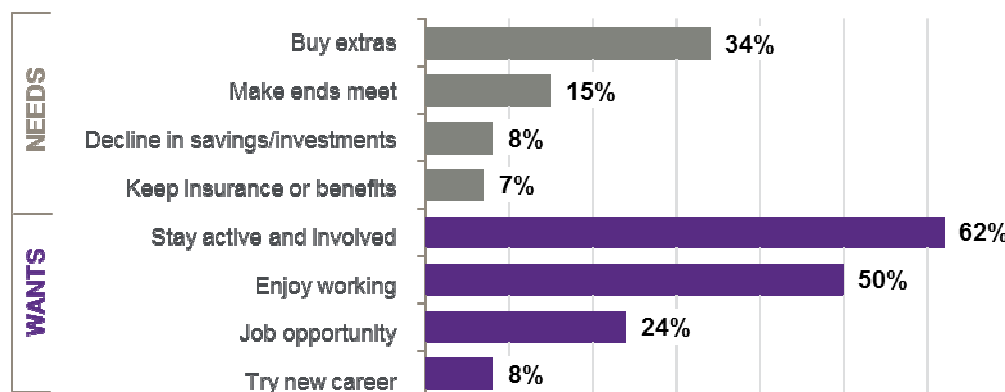
Percentage of people in the civilian labor force 1999-2029



IT'S STILL OFF TO WORK I GO

More people are working later in life, motivated by the desire to do so.

Major reasons people work in retirement

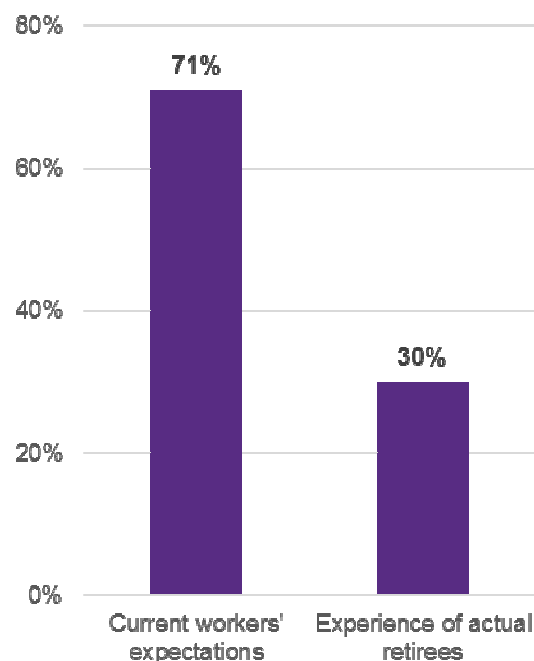


Source (top chart): Bureau of Labor Statistics, Employment Projections, Table 3.2 and Table 3.3. Actual data to 2019 and projection to 2029. Civilian population age 65+ is non-institutionalized population.

Source (bottom chart): Employee Benefit Research Institute, Mathew Greenwald & Associates, Inc., 2019 Retirement Confidence Survey. Latest available data as of December 31, 2020. People may have given more than one answer.

Expectations of workers vs. retirees

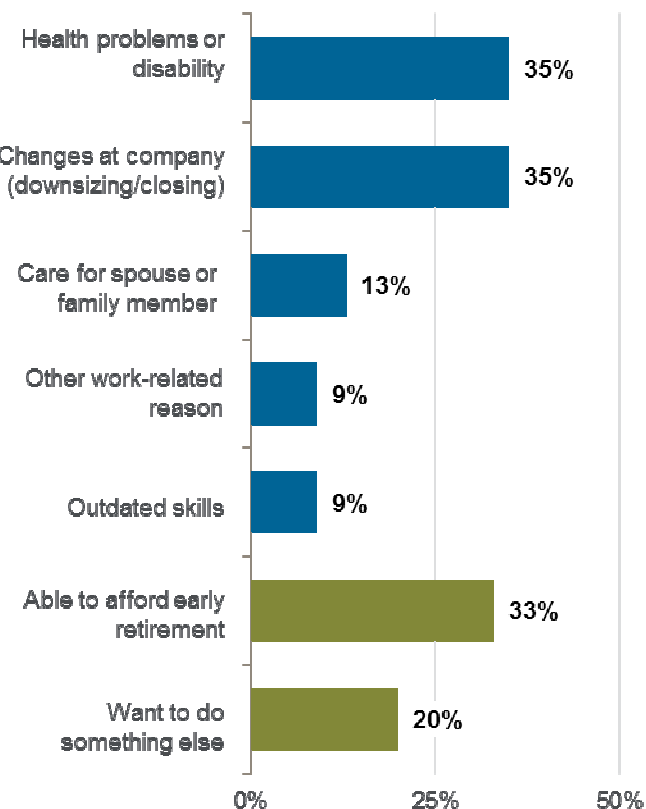
To retire at age 65 or older



Median retirement age

Expected: 65
Actual: 62

Reasons cited for retiring earlier than planned

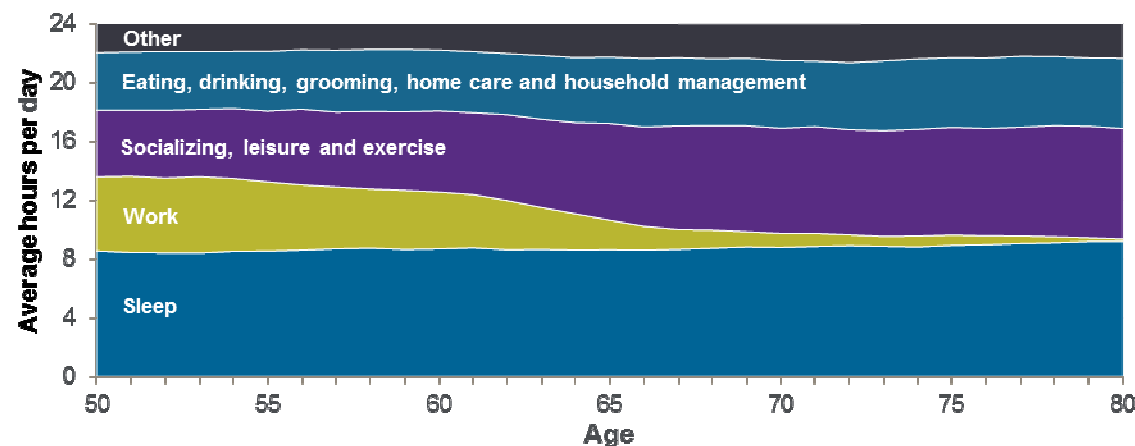


EARLY RETIREMENT

You may not have complete control over when you retire, so you should consider having a back-up plan. You may have to draw income earlier and make your portfolio last longer than you anticipate.

Source: Employee Benefit Research Institute, Mathew Greenwald & Associates, Inc. Left chart: 2020 Retirement Confidence Survey. Note the supplemental March 2020 survey resulted in a change of actual median retirement from 62 to 61 (not shown on the chart because it is likely a temporary situation). Right chart: 2019 Retirement Confidence Survey. Individuals may have given more than one answer. Latest available data as of December 31, 2020.

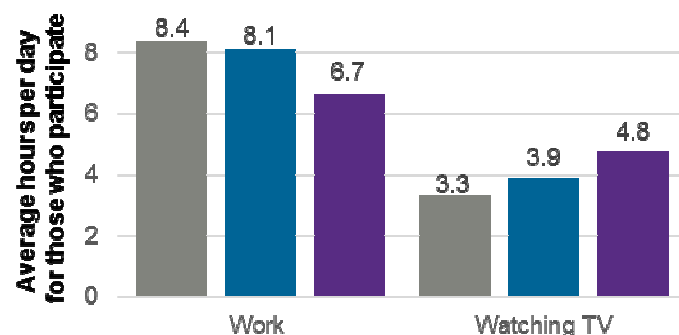
Daily hours spent per activity by age



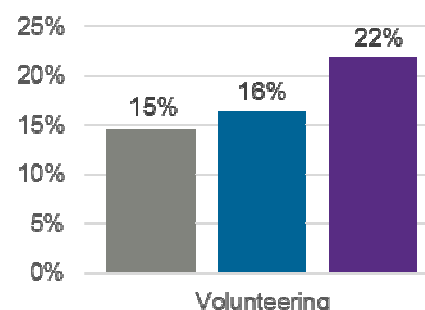
SPEND TIME PLANNING YOUR TIME

Retirement offers the gift of time to do the things that matter most to you. While our happiest years may be in retirement, the transition isn't always a walk on the beach. Knowing what activities and social connections are fulfilling prior to retiring can ease the stress often associated with this new life stage.

Average time spent by age



Participation rate by age



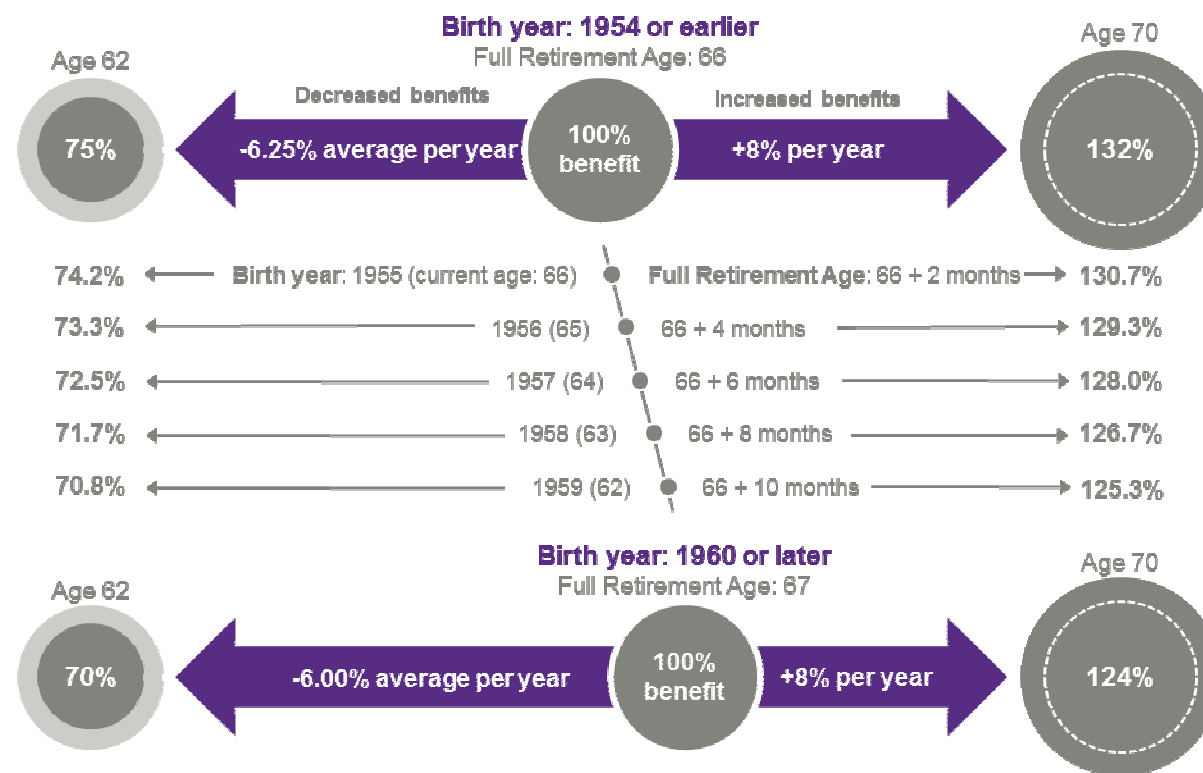
■ 45-54 ■ 55-64 ■ 65+

Source (top chart): Bureau of Labor Statistics American Time Use Survey 2019, J.P. Morgan Asset Management analysis. Values include people who do and do not participate in the activities. Values are averaged across rolling five-year age groups. Each category includes time spent traveling to and from the activity if applicable.

Source (bottom chart): Bureau of Labor Statistics American Time Use Survey, average for 2009-2019, among activity participants. J.P. Morgan Asset Management analysis. Work is "Work and Work-related (including travel)" with participation rate by age: 45-54: 58%; 55-64: 47%; 65+: 13%. Watching TV participation rate by age: 45-54: 79%; 55-64: 84%; 65+: 89%. Volunteering is "Organizational, Civic and Religious" with average time spent of approximately 2.3 hours per day for all age groups shown.

Benefits differ by birth year and claim age

Full Retirement Age = 100% benefit



UNDERSTAND THE TRADEOFFS

Deciding when to claim benefits will have a permanent impact on the benefit you receive. Claiming before your full retirement age can significantly reduce your benefit, while delaying increases it.

In 2017, full retirement age began transitioning from 66 to 67 by adding two months each year for six years. This makes claiming early even more of a benefit reduction.

Cost of living increase for benefits received in 2021

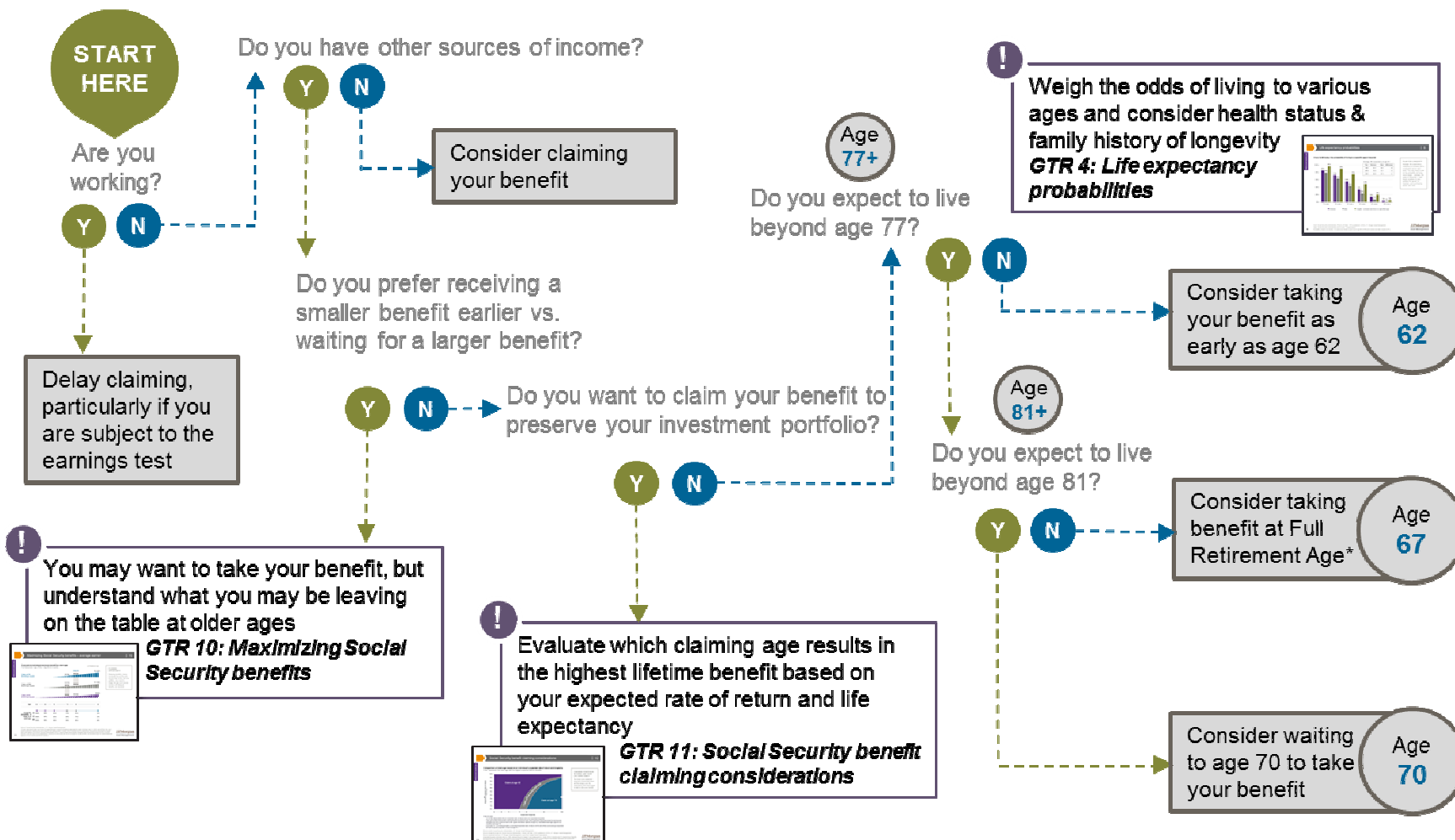
1.3%

Average cost of living adjustment (1985-2021)

2.5%

For illustrative purposes only. The Social Security Amendments Act of 1983 increased FRA from 65 to 67 over a 40-year period. The first phase of transition increased FRA from 65 to 66 for individuals turning 62 between 2000 and 2005. After an 11-year hiatus, the transition from 66 to 67 (2017-2022) will complete the move. This material should be regarded as educational information on Social Security and is not intended to provide specific advice. If you have questions regarding your particular situation, you should contact the Social Security Administration and/or your legal or tax professional.

Source: Social Security Administration, J.P. Morgan Asset Management.



Source: Social Security Administration, J.P. Morgan Asset Management. This material should be regarded as educational information on Social Security and is not intended to provide specific advice. If you have questions regarding your particular situation, you should contact the Social Security Administration and/or your legal or tax professionals.

*Full Retirement Age (FRA) of 67 is for individuals born 1960 or later. This decision tree is also appropriate for other FRAs.

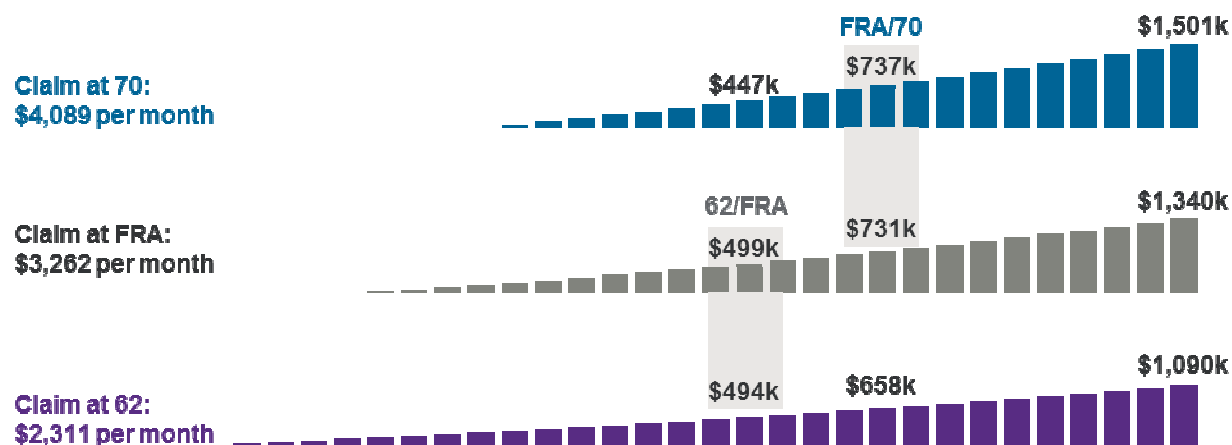
Maximizing Social Security benefits – maximum earner

| 10

Retirement landscape

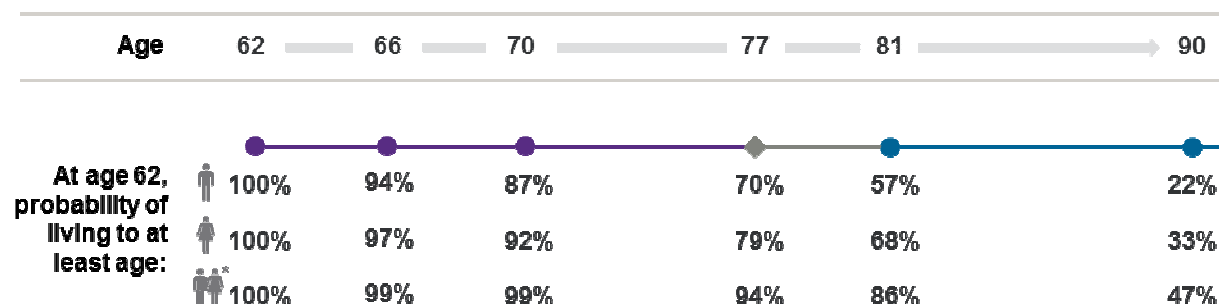
Cumulative Individual maximum benefit by claim age

Full Retirement Age (FRA) = Age 66 & 10 months



PLANNING OPPORTUNITY

Delaying benefits means increased Social Security income later in life, but your portfolio may need to bridge the gap and provide income until delayed benefits are received.



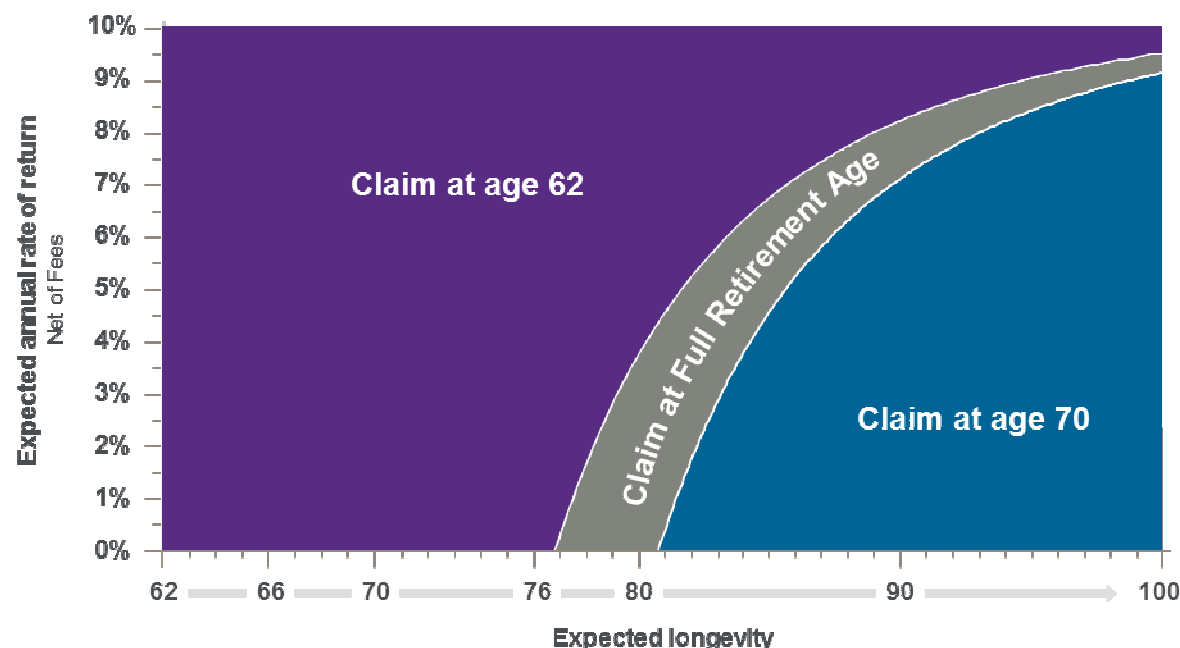
Source: Social Security Administration, J.P. Morgan Asset Management.

*Couple assumes at least one lives to the specified age or beyond. Break-even assumes the same individual, born in 1959, earns the maximum wage base each year (\$137,700 in 2020), retires at the end of age 61 and claims at 62 & 1 month, 66 & 10 months and 70, respectively. Benefits are assumed to increase each year based on the Social Security Administration 2020 OASDI Trustee's Report intermediate estimates (annual benefit increase of 2.5% in 2021 and 2.4% thereafter). Monthly amounts with the cost of living adjustments (not shown on the chart) are: \$3,590 at FRA and \$4,948 at age 70. Exact break-even ages are 76 & 8 months and 80 & 7 months.

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Comparison of claim age based on an individual's expected rate of return and longevity

Color represents the claim age with the highest expected lifetime benefits



CONSIDER PORTFOLIO RETURNS AND YOUR LIFE EXPECTANCY

The lower your expected long-term investment return and the longer your life expectancy, the more it pays to wait to take your benefit.

How to use:

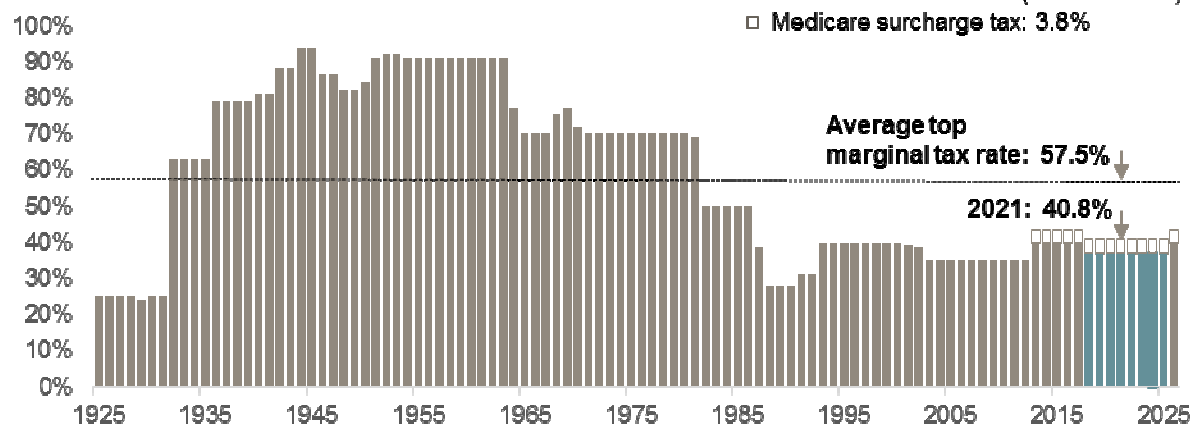
- Go to the intersection of your expected rate of return and your expected longevity.
- The color at this intersection represents the Social Security claim age that maximizes total wealth (cumulative Social Security benefit and investment portfolio) given the three claiming options of 62, Full Retirement Age (age 66 & 10 months) and age 70.
- Example: For a woman with an expected consistent 5% rate of return (net of fees) and an average life expectancy of 86: consider claiming at age 70.

Source (chart): Social Security Administration, J.P. Morgan Asset Management.

Source (longevity): Social Security Administration 2020 OASDI Trustees Report.

Assumes the same individual, born in 1959, retires at the end of age 61 and claims at 62 & 1 month, 66 & 10 months and 70, respectively. Benefits are assumed to increase each year based on the Social Security Administration 2020 OASDI Trustee's Report intermediate estimates (annual benefit increase of 2.5% in 2021 and 2.4% thereafter). Analysis is based on the average earner (all earnings profiles yield similar results). Expected rate of return is deterministic, in nominal terms, and net of fees.

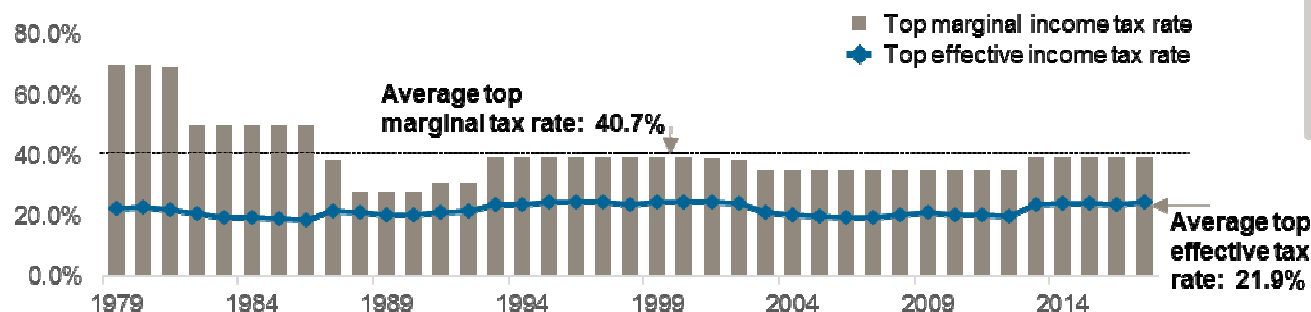
Top marginal federal income tax rate 1925-2026



IMPORTANCE OF INCOME TAX PLANNING

The top marginal bracket of 37%, when combined with the 3.8% Medicare surcharge tax, puts high earners at a 40.8% rate for each additional dollar of investment income, which is below the long-term historical average. Overall, high earners pay an average of almost 22 cents of every dollar of taxable income to federal income taxes.

Top marginal federal income tax rate vs. effective tax rate of the top 1% 1979-2017



Source: Congressional Budget Office, Tax Policy Center, J.P. Morgan Asset Management. Data as of December 31, 2020. Average top effective tax rate based on top 1% of household income, 1979-2017, CBO Publication 56575. The presenter of this slide is not a tax or legal professional. Clients should consult a personal tax or legal professional prior to making any tax- or legal-related investment decisions.

Retirement savings checkpoints

Household Income ≤\$90k
Annual Savings Rate: 5%

13

Saving

Current age	Current household income						
	\$30,000	\$40,000	\$50,000	\$60,000	\$70,000	\$80,000	\$90,000
Checkpoint (x current household income)							
25	0.4	0.5	0.6	0.7	0.9	1.0	1.2
30	0.8	0.9	0.9	1.1	1.3	1.5	1.7
35	1.2	1.3	1.4	1.5	1.8	2.1	2.3
40	1.7	1.8	1.9	2.1	2.5	2.7	3.0
45	2.3	2.4	2.6	2.8	3.2	3.6	3.8
50	3.0	3.2	3.3	3.6	4.1	4.5	4.8
55	3.8	4.1	4.3	4.6	5.2	5.7	6.1
60	5.2	5.5	5.7	6.1	6.9	7.5	8.0
65	6.8	7.2	7.5	8.0	9.0	9.8	10.4

How to use:

- This analysis assumes you would like to maintain an equivalent lifestyle in retirement.
- Household income is assumed to be gross income (before taxes and savings).
- Go to the intersection of your current age and your closest current household income.
- Multiply your current household income by the checkpoint shown. This is the amount you should have saved today, assuming you continue contributions of 5% going forward.
- Example: For a 40-year-old with a household income of \$50,000: $\$50,000 \times 1.9 = \$95,000$

This chart is for illustrative purposes only and must not be relied upon to make investment decisions. J.P. Morgan's model is based on a blend of J.P. Morgan Asset Management's (JPMAM) proprietary Long-Term Capital Market Assumptions (first 10 years) and equilibrium returns, and an 80% confidence level through retirement. Household income replacement rates are derived from an inflation-adjusted analysis of Consumer Expenditure Survey (BLS) data (2013-2016); Social Security benefits using modified scaled earnings in 2019 for a single wage earner at age 65 and a spousal benefit at age 62 reduced by Medicare Part B premiums. For more details, see slide 15.

Consult with a financial professional for a more personalized assessment. Allocations, assumptions and expected returns are not meant to represent JPMAM performance. Given the complex risk/reward tradeoffs involved, we advise clients to rely on judgment as well as quantitative optimization approaches in setting strategic allocations. References to future returns for either asset allocation strategies or asset classes are not promises or even estimates of actual returns a client portfolio may achieve.

MODEL ASSUMPTIONS

Annual gross savings rate:
5%*

Pre-retirement investment
return: 5.75%

Post-retirement investment
return: 5.0%

Inflation rate: 2.0%

Retirement age:

- Primary earner: 65
- Spouse: 62

Years in retirement: 30

*5% is approximately the U.S.
average annual savings rate

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Retirement savings checkpoints

Household Income \geq \$100k
Annual Savings Rate: 10%

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Saving

Current age	Current household income						
	\$100,000	125,000	\$150,000	\$175,000	\$200,000	\$250,000	\$300,000
Checkpoint (x current household income)							
25	0.2	0.4	0.6	0.8	1.0	1.2	1.3
30	0.8	1.0	1.3	1.5	1.7	2.0	2.1
35	1.5	1.7	2.1	2.3	2.5	2.9	3.1
40	2.3	2.6	3.0	3.3	3.6	4.0	4.2
45	3.3	3.6	4.1	4.5	4.8	5.3	5.6
50	4.5	4.9	5.4	5.9	6.3	6.8	7.2
55	5.9	6.4	7.0	7.6	8.0	8.7	9.2
60	8.0	8.7	9.5	10.3	10.8	11.6	12.2
65	10.8	11.5	12.6	13.6	14.2	15.3	16.0

How to use:

- This analysis assumes you would like to maintain an equivalent lifestyle in retirement.
- Household income is assumed to be gross income (before taxes and savings).
- Go to the intersection of your current age and your closest current household income.
- Multiply your current household income by the checkpoint shown. This is the amount you should have saved today, assuming you continue contributions of 10% going forward.
- Example: For a 40-year-old with a household income of \$100,000: $\$100,000 \times 2.3 = \$230,000$.

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return: **5.75%**

Post-retirement investment
return: **5.0%**

Inflation rate: **2.0%**

Retirement age:

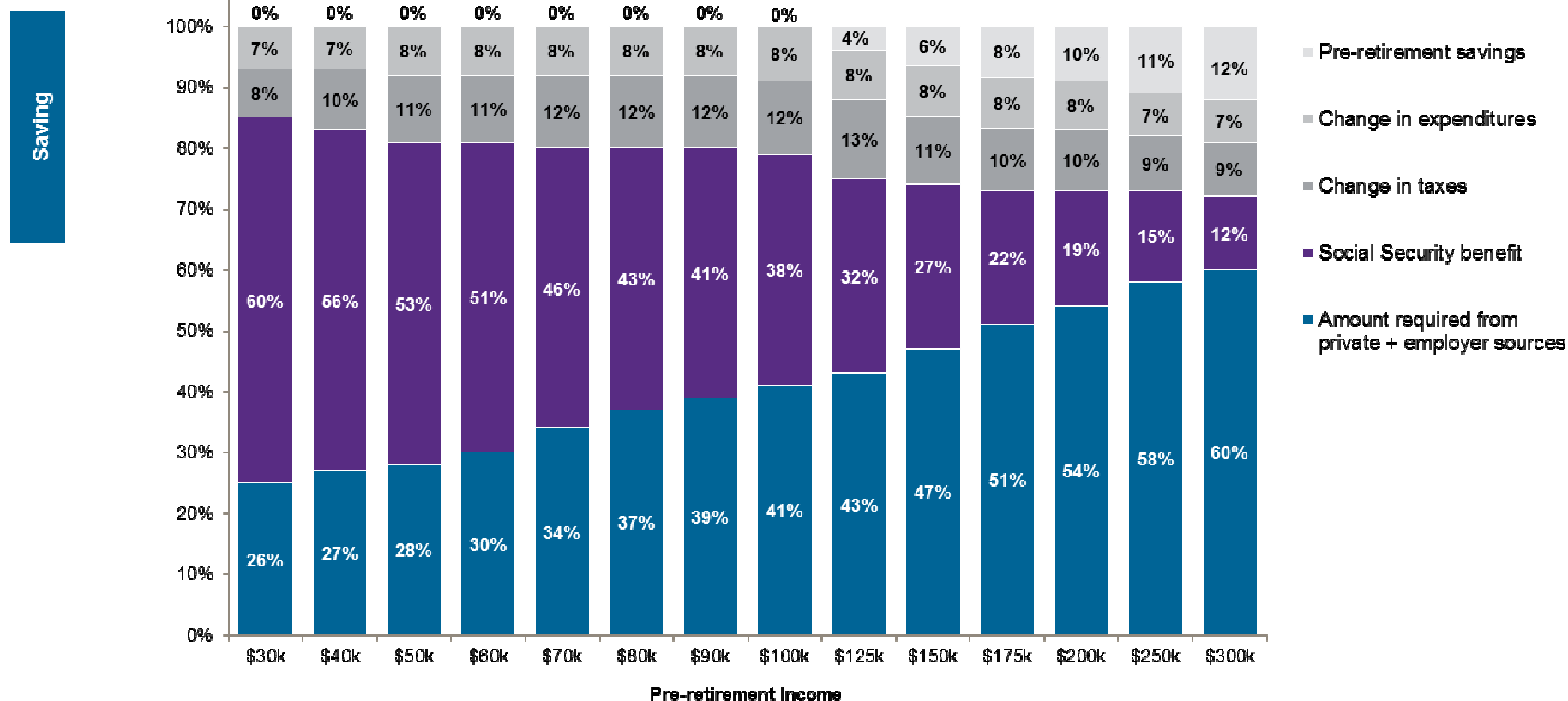
- Primary earner: **65**
- Spouse: **62**

Years in retirement: **30**

*10% is approximately twice the
U.S. average annual savings rate

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Replacement rate detail by household income



Source: J.P. Morgan Asset Management analysis, 2019. Household income replacement rates are derived from an inflation-adjusted analysis of: Consumer Expenditure Survey (BLS) data (2013-2016); Social Security benefits using modified scaled earnings in 2019 for a single wage earner at age 65 and a spousal benefit at age 62 reduced by Medicare Part B premiums. The income replacement needs may be lower for households in which both spouses are working and the second spouse's individual benefits are greater than their spousal benefit. Single household income replacement needs may vary as spending is typically less than a two-spouse household; however, the loss of the Social Security spousal benefit may offset the spending reduction. Percentages and values may not sum due to rounding.

Annual savings needed if starting today

Household Income ≤\$90k

16

Saving

	Current household income						
	\$30,000	\$40,000	\$50,000	\$60,000	\$70,000	\$80,000	\$90,000
Start saving age	Savings rate (x current household income)						
25	7%	7%	8%	8%	9%	10%	11%
30	9%	10%	10%	11%	12%	13%	14%
35	12%	12%	13%	14%	15%	17%	18%
40	16%	17%	17%	18%	21%	22%	24%
45	22%	23%	24%	25%	28%	31%	33%
50	32%	34%	35%	37%	42%	46%	48%

How to use:

- Go to the intersection of your current age and your closest current household income.
- This is the percentage of your current household income to contribute annually going forward if you have \$0 saved for retirement today.
- Example: A 40-year-old with household income of \$50,000 and \$0 saved for retirement today may need to save 17% every year until retirement.

Important things you need to know:

- Values assume you would like to maintain an equivalent lifestyle in retirement.
- Household income is assumed to be gross income (before taxes and savings).

MODEL ASSUMPTIONS

Pre-retirement investment return: 5.75%

Post-retirement investment return: 5.0%

Inflation rate: 2.0%

Retirement age:

- Primary earner: 65
- Spouse: 62

Years in retirement: 30

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Annual savings needed if starting today

Household Income ≥\$100k

17

Saving

	Current household income						
	\$100,000	\$125,000	\$150,000	\$175,000	\$200,000	\$250,000	\$300,000
Start saving age	Savings rate (x current household income)						
25	11%	12%	13%	14%	15%	16%	17%
30	14%	15%	17%	18%	19%	20%	21%
35	18%	20%	22%	23%	24%	26%	27%
40	25%	26%	29%	31%	32%	35%	37%
45	34%	37%	40%	43%	45%	48%	51%
50	50%	54%	59%	63%	66%	71%	75%

How to use:

- Go to the intersection of your current age and your closest current household income.
- This is the percentage of your current household income to contribute annually going forward if you have \$0 saved for retirement today.
- Example: A 40-year-old with household income of \$100,000 and \$0 saved for retirement today may need to save 25% every year until retirement.

Important things you need to know:

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- Household income is assumed to be gross income (before taxes and savings).

MODEL ASSUMPTIONS

Pre-retirement investment return: 5.75%

Post-retirement investment return: 5.0%

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Retirement age:

- Primary earner: 65
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Years in retirement: 30

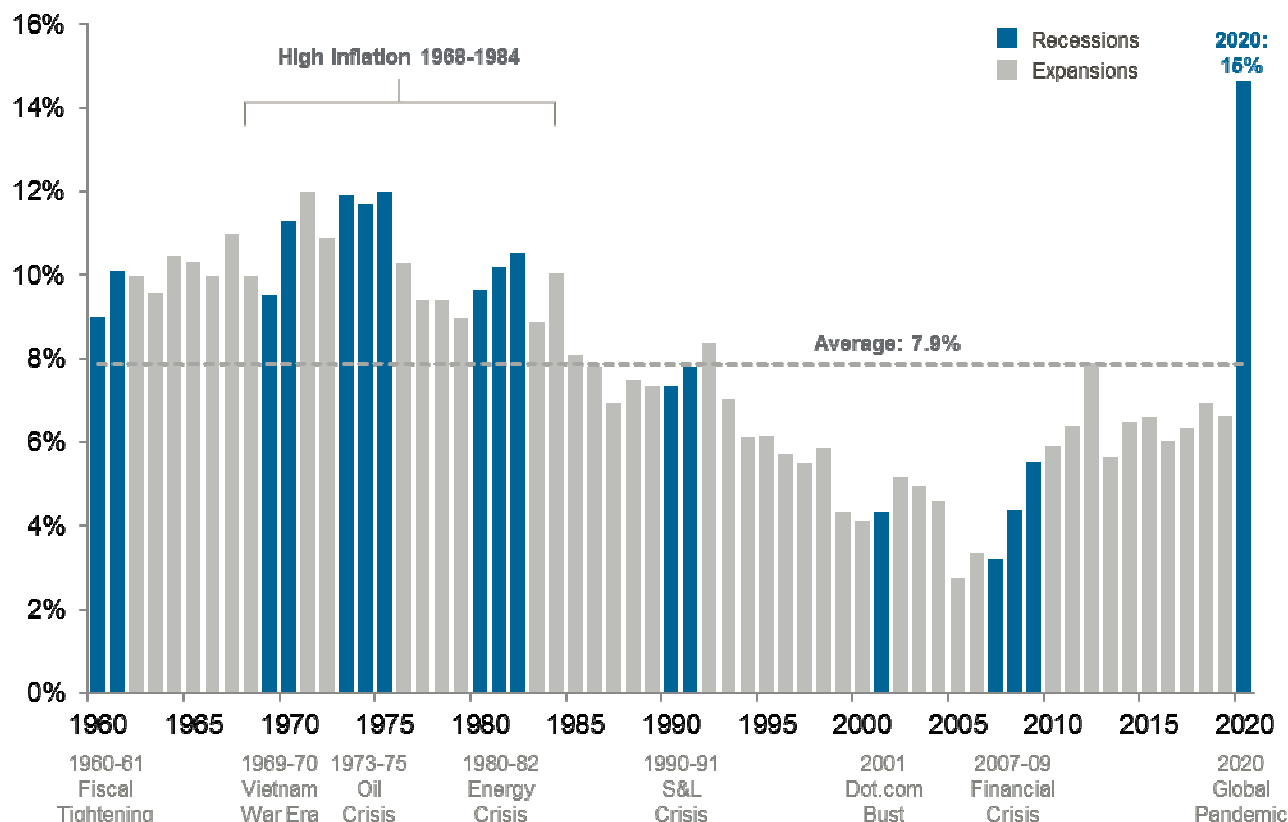
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Personal savings rate

Annual, % of gross income



BEWARE THE WEALTH EFFECT

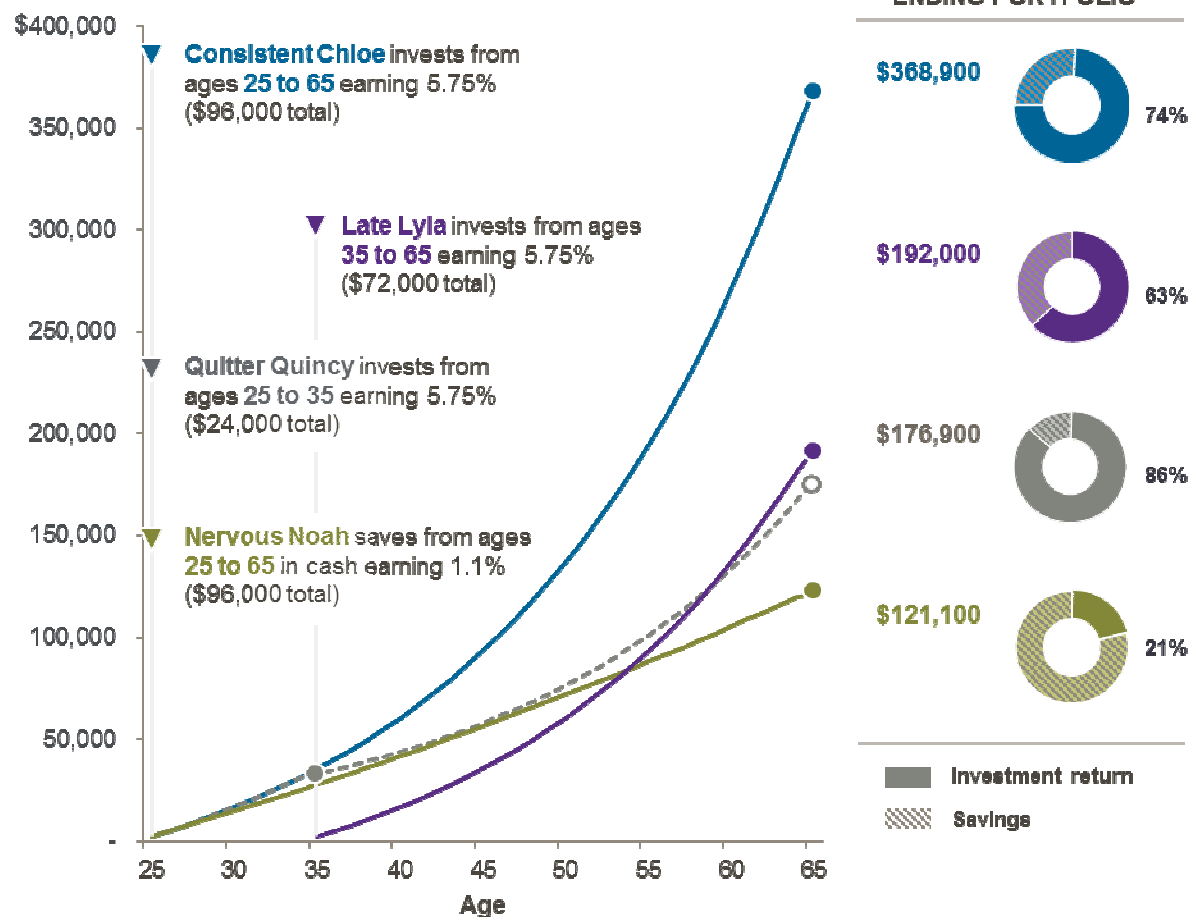
During economic expansions when the value of stocks and homes increase, Americans tend to save less than during recessions. The 2020 Global Pandemic resulted in a record high level of savings.

On average, Americans are saving well below the 10%-15% consistent annual savings rate required to successfully fund retirement.*

*Recommended savings rates are based on J.P. Morgan analysis of median and affluent households.

Source: Bureau of Economic Analysis, National Bureau of Economic Research, J.P. Morgan Asset Management. Personal savings rate is calculated as personal savings (after-tax income minus personal outlays) divided by gross income. Employer and employee contributions to retirement funds are included in after-tax income but not in personal outlays, and thus are implicitly included in personal savings. Savings rate data as of December 31, 2020.

Account growth of \$200 Invested/saved monthly



SAVING FUNDAMENTALS

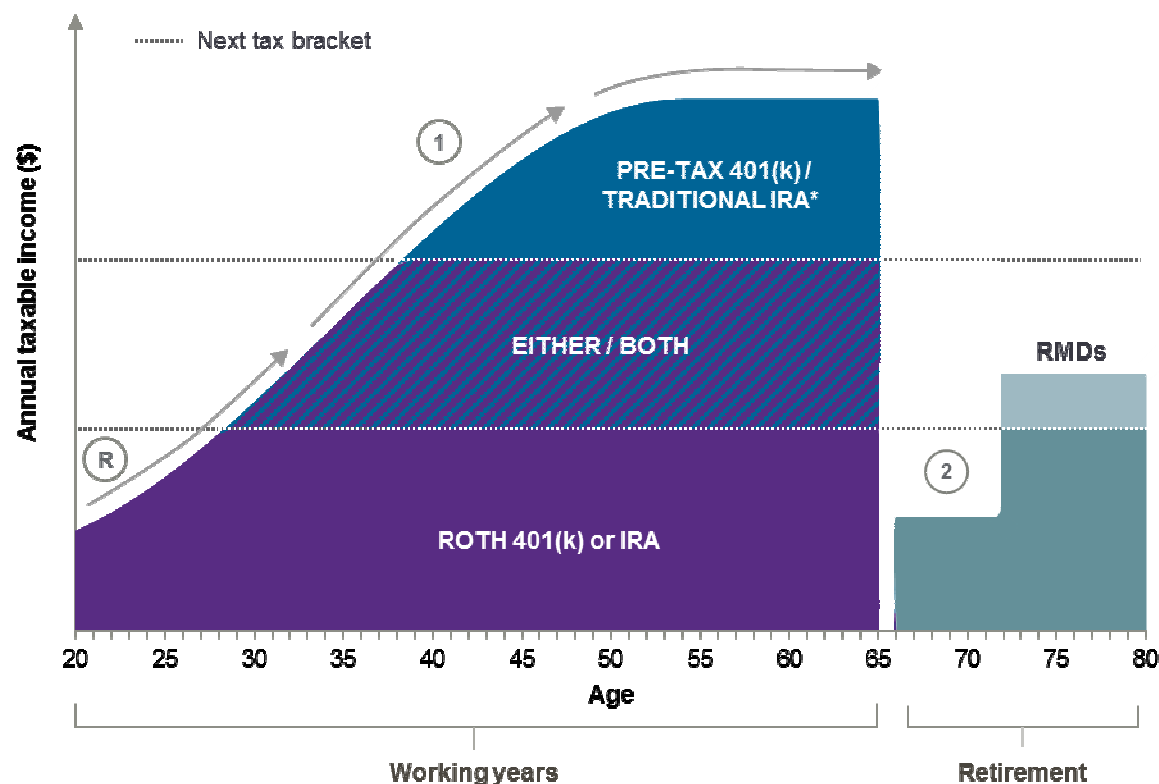
Saving early and often, and investing what you save are some of the keys to a successful retirement due to the power of long-term compounding.

The above example is for illustrative purposes only and not indicative of any investment. Account value in this example assumes a 5.75% annual return and cash assumes a 1.1% annual return.

Source: J.P. Morgan Asset Management, Long-Term Capital Market Assumptions. Compounding is the increasing value of assets due to investment return earned on both principal and prior investment gains.

Saving

Changes in lifetime taxable income Hypothetical wage curve



TAX DIVERSIFICATION

Managing taxes over a lifetime requires a balance of your current and future tax pictures. Make income tax diversification a priority to have more flexibility and control in retirement.

Rule: Contributing to a Roth early in your career and shifting as your income increases.

1. Roth 401(k) contributions in peak earning years if wealth is concentrated in tax-deferred accounts.

2. Proactive Roth conversions in lower income retirement years if RMDs are likely to push you into a higher bracket.

*If eligible to make a deductible contribution (based on your MAGI). The illustration reflects savings options into Traditional and Roth IRA accounts, as well as into pre-tax and Roth 401(k) accounts. RMD = Required Minimum Distributions, which are typically due no later than April 1 following the year the owner turns 72 and are calculated every year based on the year-end retirement account value and the owner/plan participant's life expectancy using the IRS Uniform or Joint Life Expectancy Table. Employer contributions are typically pre-tax and are subject to tax upon distribution.

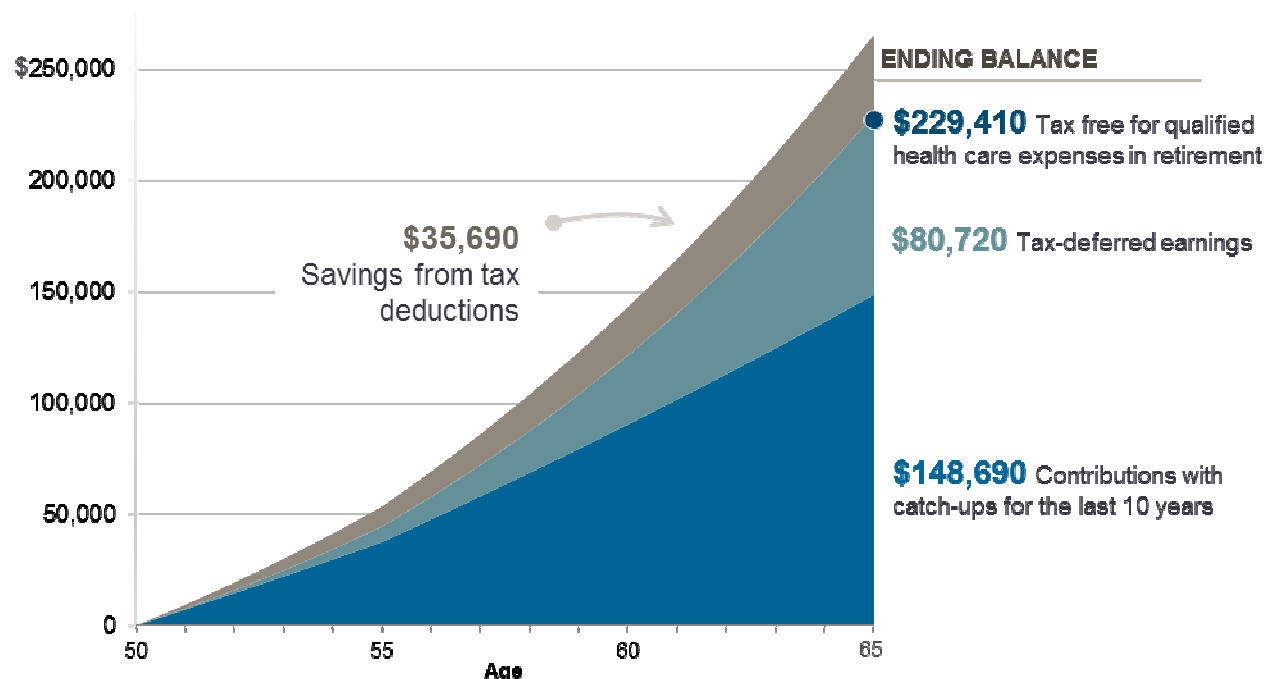
The above example is for illustrative purposes only.

Source: J.P. Morgan Asset Management.

Saving

Health Savings Account (HSA) savings are triple tax advantaged¹

Maximum family contribution with catch-ups, 5.75% return and 24% marginal tax rate



MAKE THE MOST OF IT

If you are enrolled in a qualified high-deductible health plan and are eligible to contribute to a Health Savings Account, be sure to open and fund your HSA.

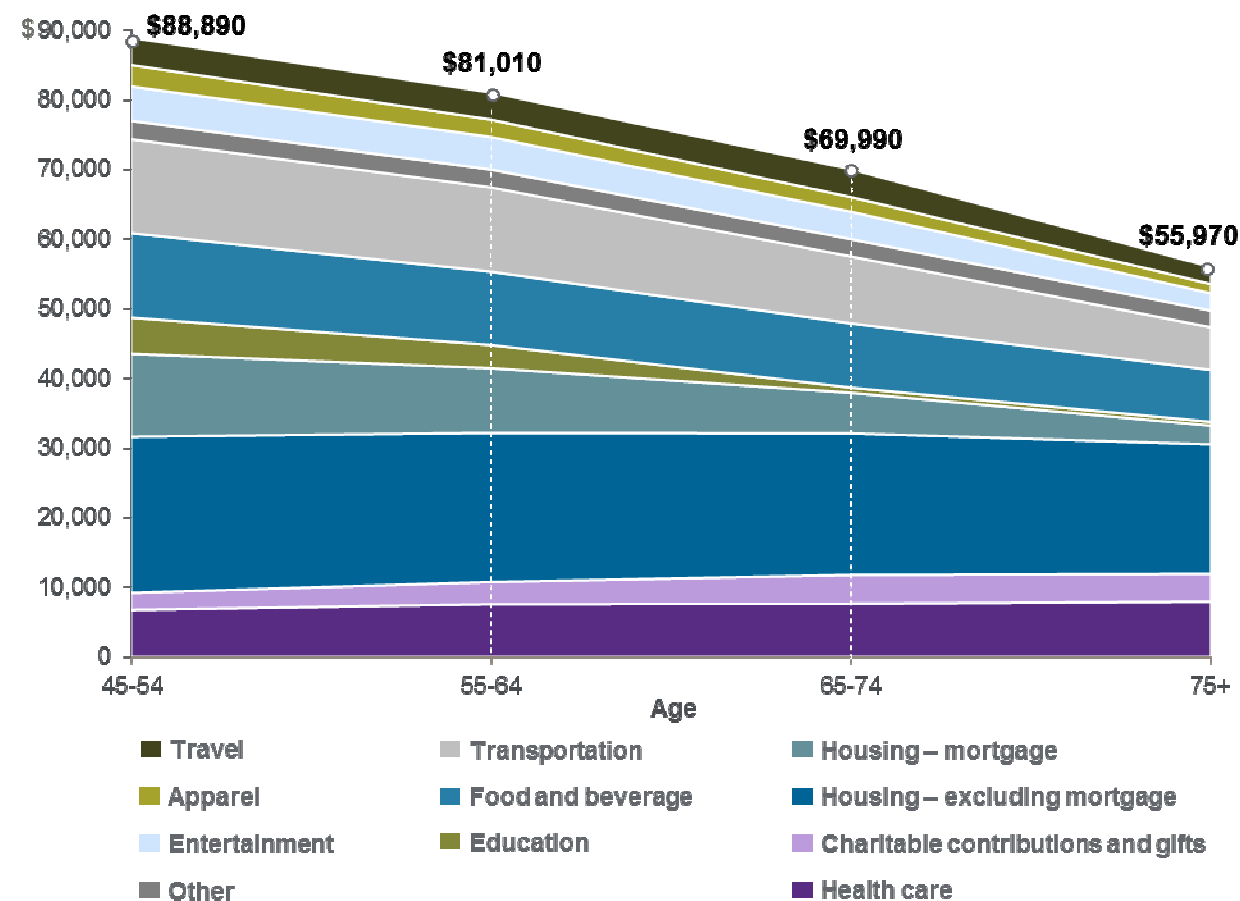
Investing your HSA contributions for the long term and paying for current health care expenses out of income or short-term savings can provide significant tax-free funds for health care expenses in retirement.

¹Must have a qualifying high-deductible health plan to make contributions. Funds in the HSA may be withdrawn tax free for qualified medical expenses unless a creditor deduction for medical expenses is claimed. After age 65 funds also may be withdrawn for any reason and taxed as ordinary income without penalty. Some health insurance premiums may be qualified expenses such as COBRA coverage, coverage while receiving state or federal unemployment compensation, Medicare Part B and D premiums and qualified long-term care (LTC) insurance premiums up to certain limits, but excludes Medigap/Medicare supplement policies and most hybrid products that combine LTC with annuities and life insurance. See IRS Publications 969 and 502. This is not intended to be individual tax advice; consult your tax professional.

The above example is for illustrative purposes only and not indicative of any investment. Does not include account fees. Present value of illustrated HSA after 15 years is \$170,452. Estimated savings from tax deductions at a 37% marginal rate are \$55,016. Assumes cash or income used for health care expenses is not withdrawn from an account with a tax liability. The example assumes the HSA is fully invested; if \$2,000 was held in a cash account, the illustrated cumulative HSA account value would be \$224,780. 2021 family contribution limit is \$7,200 adjusted for inflation of 2.0% for 30 years with catch-up contributions of \$1,000 per person (adjusted for inflation) starting at age 55 in 2026. Individual 2021 contribution limit is \$3,600. \$229,408 is enough to fund about 13 years of projected average qualified Medicare-related health care expenses for a couple.

Average household spending patterns by various age groups

For those with a bachelor's degree or higher

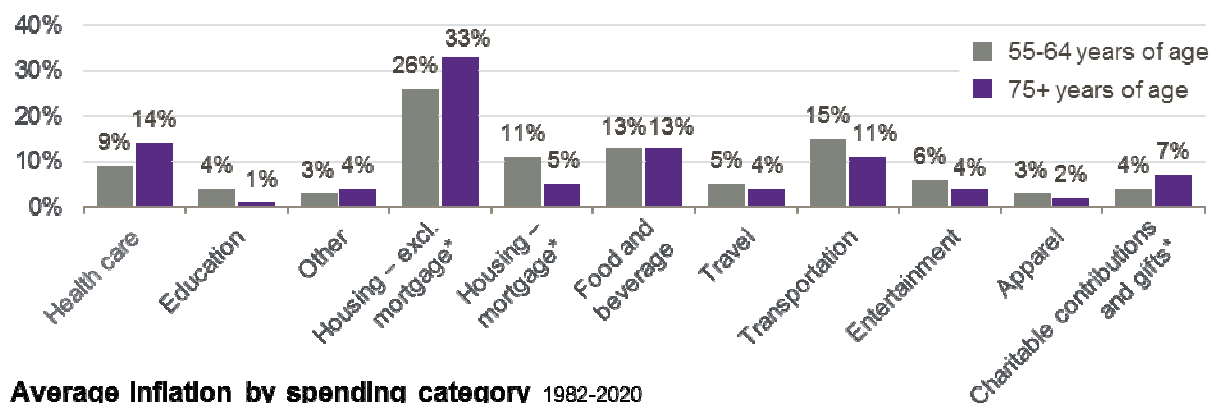


WHAT TO EXPECT

Household spending peaks at the age of 45, after which spending declines in all categories but health care and charitable contributions and gifts. Housing is the largest expense, even at older ages.

Source: J.P. Morgan Asset Management. Annual estimates based on average consumer expenditures from 2017 to 2019. Consumer Expenditure Surveys (BLS) for each age group excluding pension contributions. Population includes households where a bachelor's degree or higher is achieved by any member. Average household size for age 45-54 is 3.1, age 55-64 is 2.4, age 65-74 is 1.9 and age 75+ is 1.8.

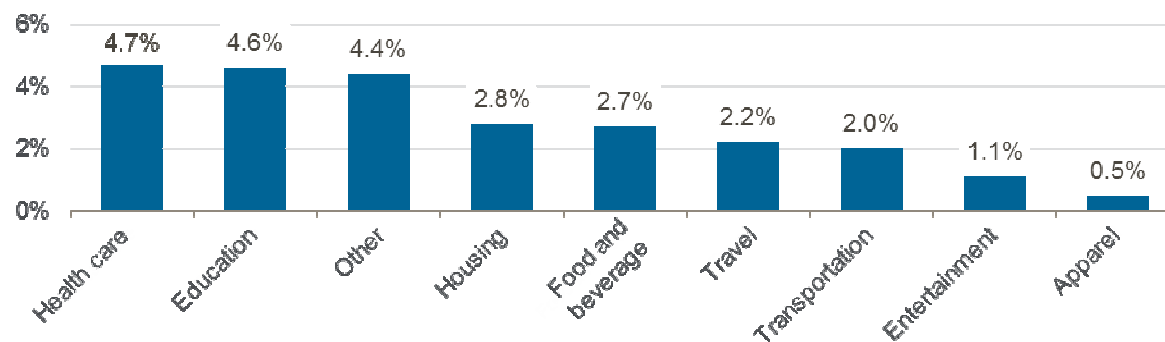
Average annual spending by age and category 2017-2019



LOSING GROUND

Inflation can disproportionately affect older Americans due to differences in spending habits and price increases in those categories.

Average Inflation by spending category 1982-2020



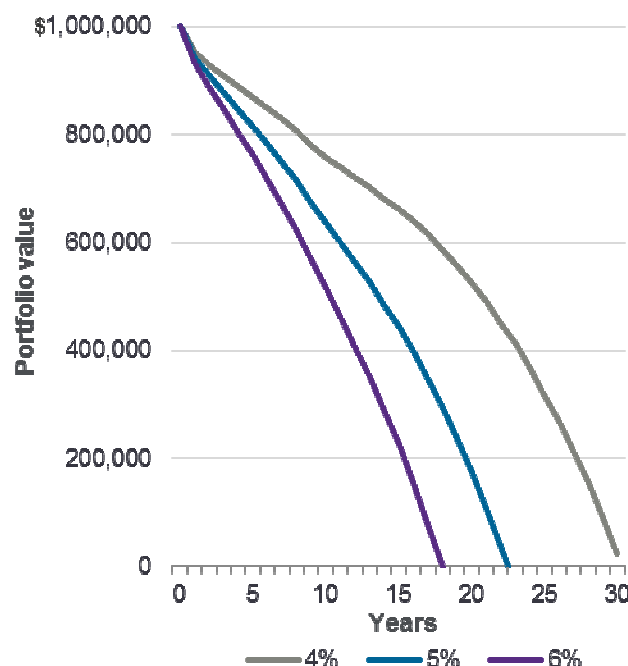
*There are no individual inflation measures for these specific subcategories.

Source (top chart): BLS, 2017-2019 annual average Consumer Expenditure Survey for households where at least one member has a bachelor's degree. Charitable contributions include gifts to religious, educational and political organizations, and other cash gifts. Spending percentages may not equal 100% due to rounding.

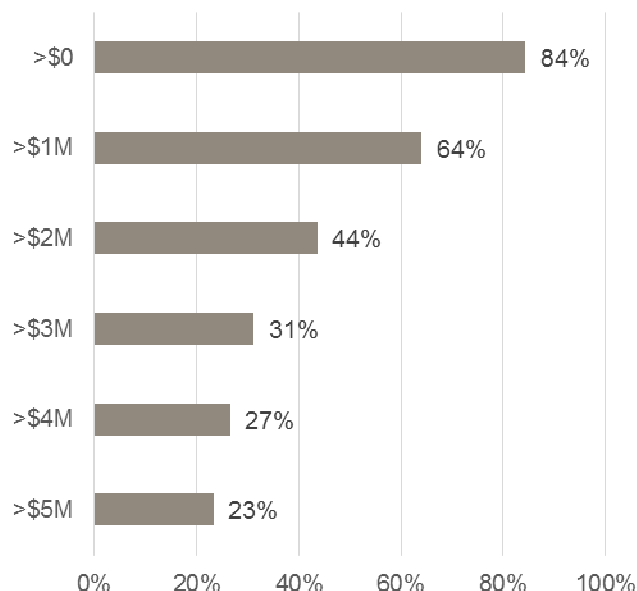
Source (bottom chart): BLS, Consumer Price Index, J.P. Morgan Asset Management. Data represent annual percentage increase from December 1981 through December 2020 with the exception of entertainment and education, which date back to 1993, and travel, which dates back to 2001. The inflation rate for the Other category is derived from personal care products and tobacco. Tobacco has experienced 7% inflation since 1986.

Spending

40/60 portfolio at various initial withdrawal rates
Projected nominal outcomes, 80th percentile



Historical ending wealth at 4% initial withdrawal rate
64 rolling 30-year periods



GOOD IN THEORY, POOR IN PRACTICE

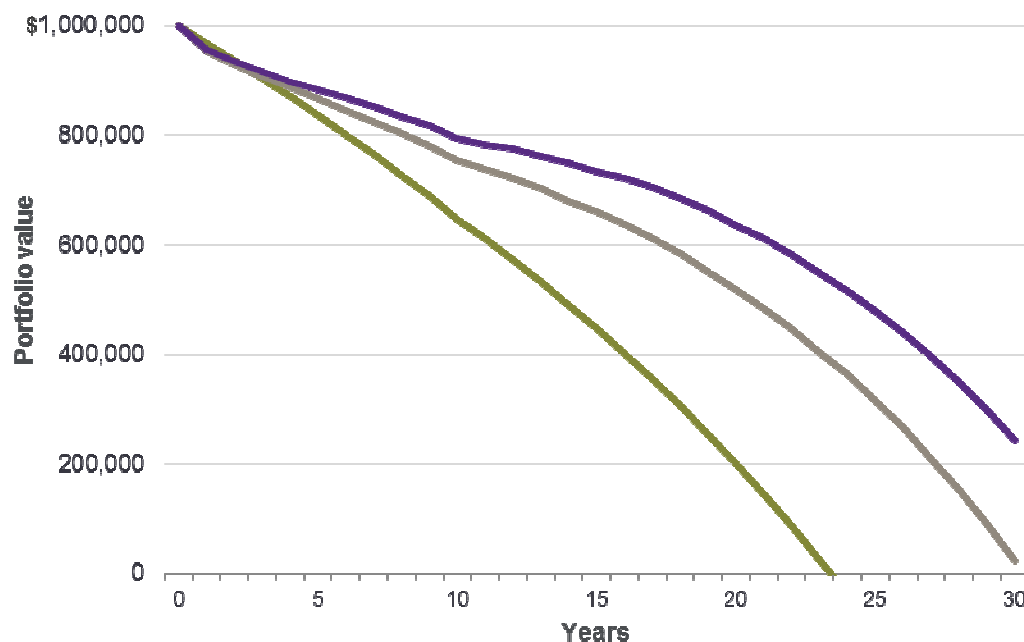
The 4% rule is the maximum initial withdrawal percentage that has a high likelihood of not running out of money after 30 years. It is not guidance on how to efficiently use your wealth to support your retirement lifestyle. You may want to consider a dynamic approach that adjusts over time to more effectively use your retirement savings.

These charts are for illustrative purposes only and must not be used, or relied upon, to make investment decisions. Portfolios are described as equity/bond percentages (e.g., a 40/60 portfolio is 40% equities and 60% bonds).

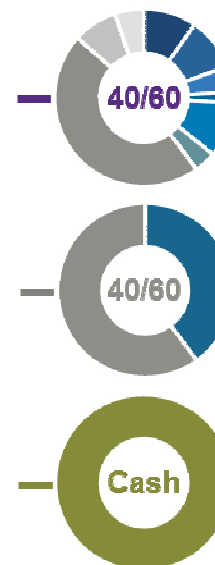
Right chart: The portfolio returns for the historical analysis are calculated based on 40% S&P 500 Total Return and 60% Bloomberg Barclays U.S. Aggregate Total Return. Each portfolio's starting value is set at \$1,000,000. Withdrawals are increased annually by CPI (CPI NSA Index). Ending wealth at the end of each 30-year rolling period is in nominal terms.

Left chart: The hypothetical portfolio assumes All Country World Equity and U.S. Aggregate Bonds. J.P. Morgan's model is based on a blend of J.P. Morgan Asset Management's (JPMAM) proprietary Long-Term Capital Market Assumptions (first 10 years) and equilibrium returns (20 years). The resulting projections include only the benchmark return associated with the portfolio and do not include alpha from the underlying product strategies within each asset class. The yearly withdrawal amount is set as a fixed percentage of the initial amount of \$1,000,000 and is then inflation adjusted over the period (2.0%). Allocations, assumptions and expected returns are not meant to represent JPMAM performance. Given the complex risk/reward tradeoffs involved, we advise clients to rely on judgment as well as quantitative optimization approaches in setting strategic allocations. References to future returns for either asset allocation strategies or asset classes are not promises or even estimates of actual returns a client portfolio may achieve.

Various portfolios with a 4% initial withdrawal rate
Projected nominal outcomes, 80th percentile



Portfolios
Equity%/Bond%



THE POWER OF DIVERSIFICATION

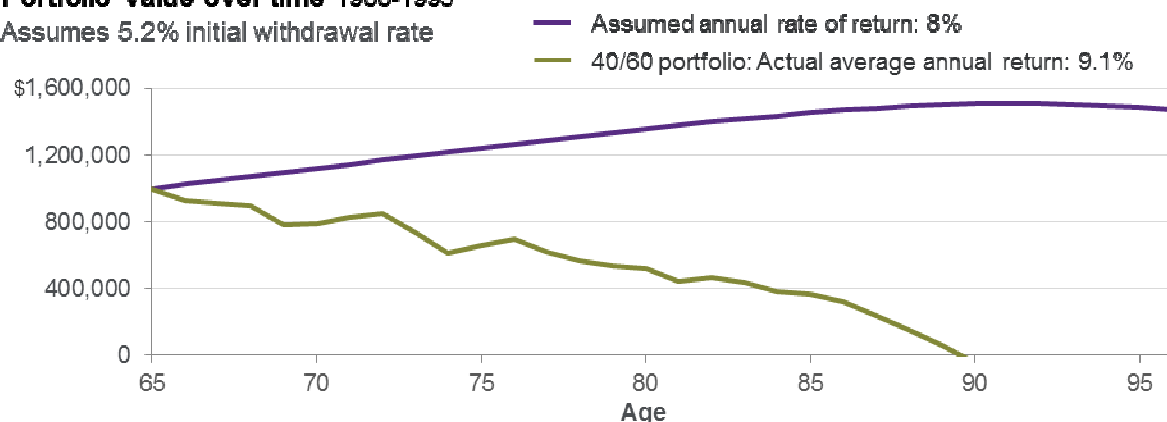
Holding too much cash or owning only a few asset classes can put your retirement at risk. Greater diversification can improve your retirement outcome over the long term.

This chart is for illustrative purposes only and must not be used, or relied upon, to make investment decisions. J.P. Morgan's model is based on a blend of J.P. Morgan Asset Management's (JPMAM) proprietary Long-Term Capital Market Assumptions (first 10 years) and equilibrium returns (20 years). Hypothetical 40/60 portfolio (grey) is composed of All Country World Equity and U.S. Aggregate Bonds. For the diversified 40/60 (purple) allocation see "Model Portfolio Details" on the Disclosure page. The resulting projections include only the benchmark return associated with the portfolio and do not include alpha from the underlying product strategies within each asset class. The yearly withdrawal amount is set as a fixed percentage of the initial amount of \$1,000,000 and is then inflation adjusted over the period (2.0%). Allocations, assumptions and expected returns are not meant to represent JPMAM performance. Given the complex risk/reward tradeoffs involved, we advise clients to rely on judgment as well as quantitative optimization approaches in setting strategic allocations. References to future returns for either asset allocation strategies or asset classes are not promises or even estimates of actual returns a client portfolio may achieve.

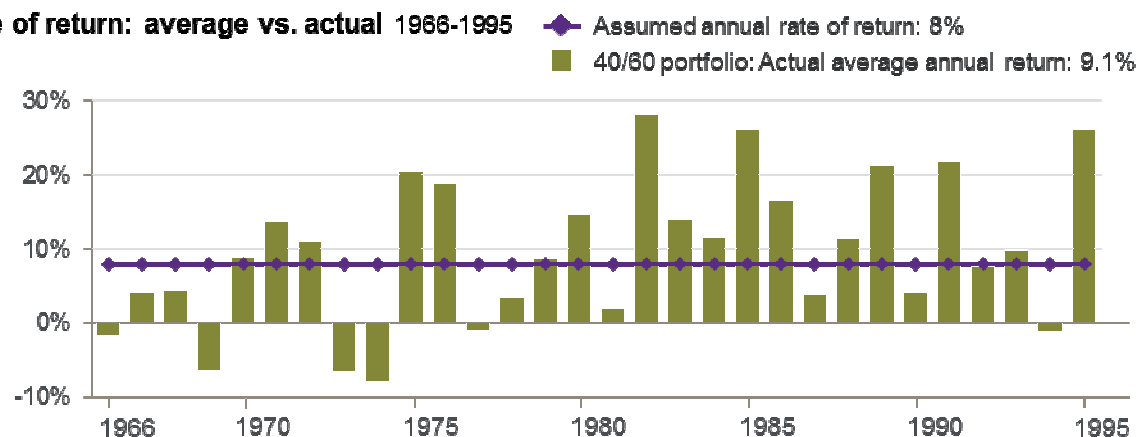
Spending

Portfolio value over time 1966-1995

Assumes 5.2% initial withdrawal rate



Rate of return: average vs. actual 1966-1995



SEQUENCE OF RETURN RISK

Withdrawing assets in down markets early in retirement can ravage a portfolio. Consider investment solutions that incorporate downside protection such as:

- Greater diversification among non-correlated asset classes
- Investments that use options strategies for defensive purposes
- Annuities with guarantees and/or protection features

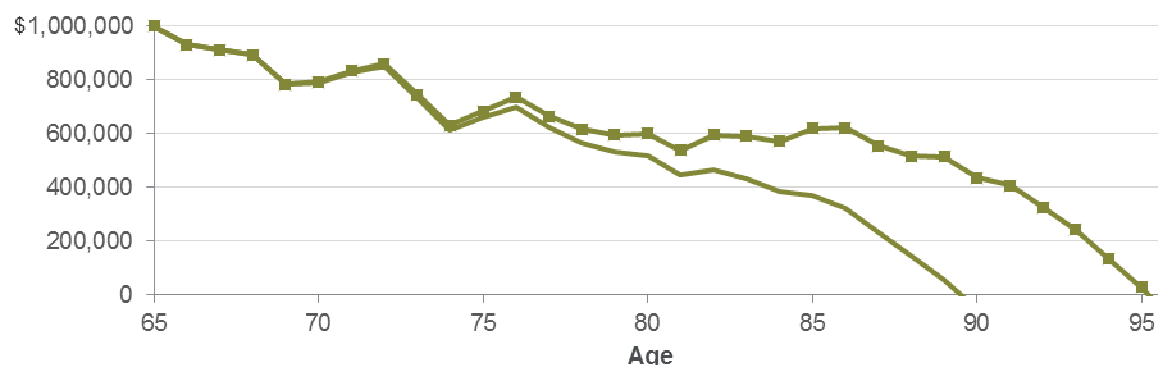
Assumptions (top chart): Retire at age 65 with \$1,000,000 and withdraw 5.2% of the initial portfolio value (\$52,000). Withdrawal amount increased by 3.0% inflation each year (lower than the average inflation rate of the period between 1966-1995).

Source: J.P. Morgan Asset Management. Returns are based on a hypothetical portfolio, which is assumed to be invested 40% in the S&P 500 Total Return Index and 60% in the Bloomberg Barclays Capital U.S. Aggregate Index. The assumptions are presented for illustrative purposes only. They must not be used, or relied upon, to make investment decisions. There is no direct correlation between a hypothetical investment and the anticipated future return of an index. Past performance does not guarantee future results.

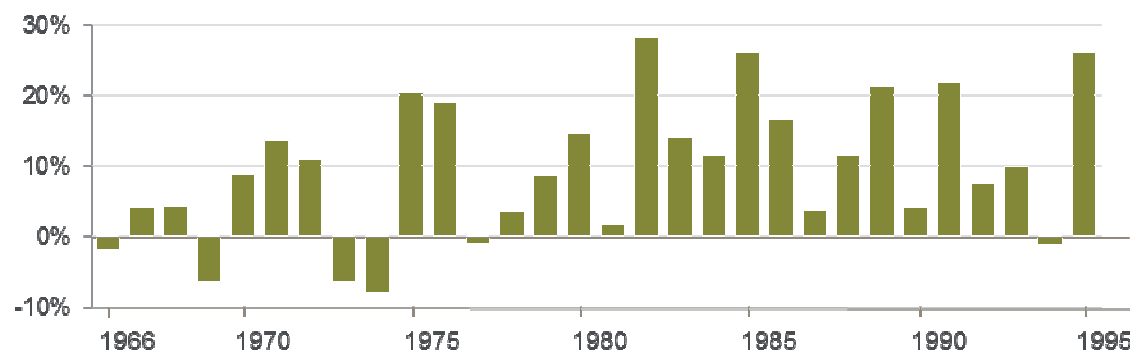
Portfolio value over time 1966-1995

Assumes 5.2% initial withdrawal rate

- Withdrawal dynamically adjusted based on performance
- Withdrawal annually increased by inflation



Rate of return: 40% equity/60% bond portfolio 1966-1995



Assumptions (top chart): Retire at age 65 with \$1,000,000 and withdraw 5.2% of the initial portfolio value (\$52,000). Withdrawal amount increased by 3.0% inflation each year. Dynamic withdrawal scenario assumes that if the annual rate of return on portfolio is: 1) less than 3%, withdrawal remains the same as the prior year; 2) between 3% and 15%, withdrawal is increased by inflation (3%); 3) greater than 15%, withdrawal is increased by 4%. While the dynamic withdrawal scenario during this historical period provided 14% more total spending in today's dollars, it is for illustrative purposes only and may not be successful during other time periods.

Source: J.P. Morgan Asset Management. Returns are based on a hypothetical portfolio, which is assumed to be invested 40% in the S&P 500 Total Return Index and 60% in the Bloomberg Barclays Capital U.S. Aggregate Index. The assumptions are presented for illustrative purposes only. They must not be used, or relied upon, to make investment decisions. There is no direct correlation between a hypothetical investment and the anticipated future return of an index. Past performance does not guarantee future results.

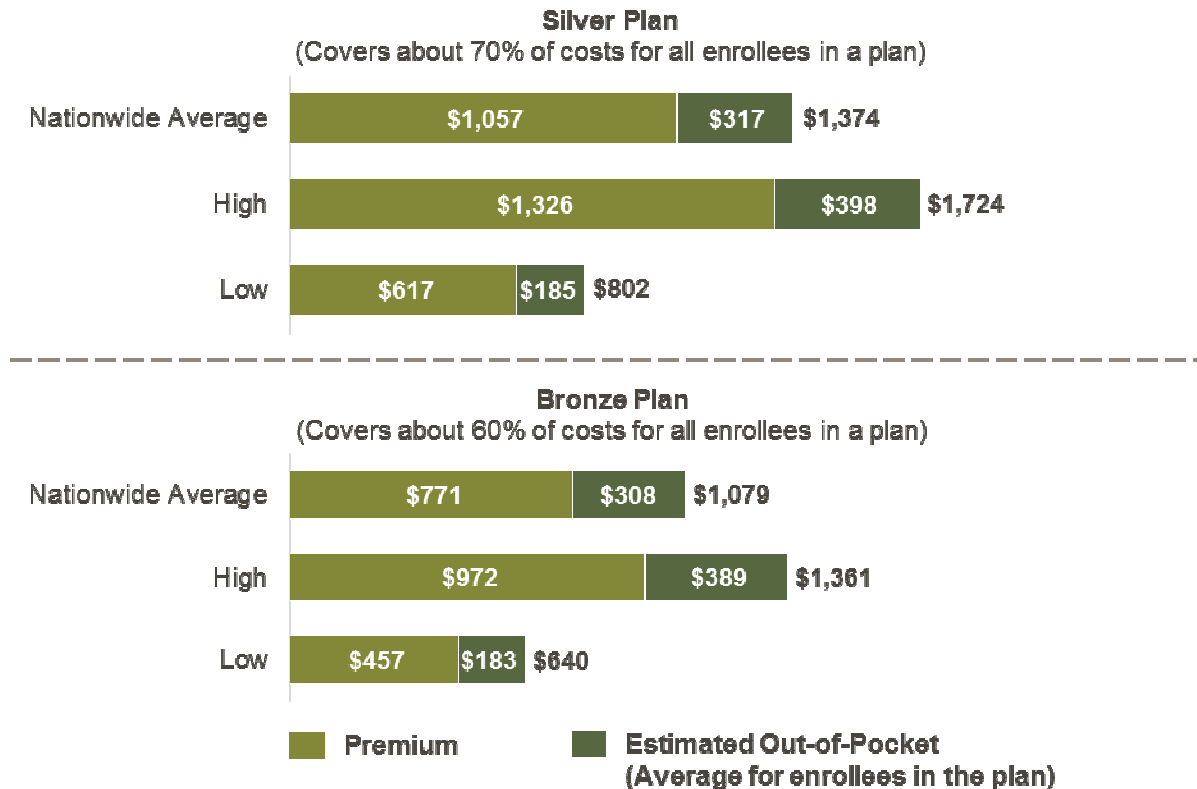
BE FLEXIBLE

Spending the same amount in retirement grown by inflation regardless of how your portfolio is performing can result in an unsuccessful outcome.

Consider adjusting your spending strategy based on market conditions to help make your money last and provide more total spending through your retirement years.

2021 Marketplace¹ plan monthly cost estimate per person: non-smoker, age 64

Spending



COST WILL VARY BY GEOGRAPHY, AGE AND OTHER FACTORS. FOR YOUR ESTIMATE:
<https://www.kff.org/interactive/subsidy-calculator/>

Enrollees in Bronze plans may be healthier than those in Silver plans. For any specific individual, out-of-pocket expenses may be higher in a Bronze plan. Regardless of which plan type you choose, deductibles and co-payments will vary from plan to plan.

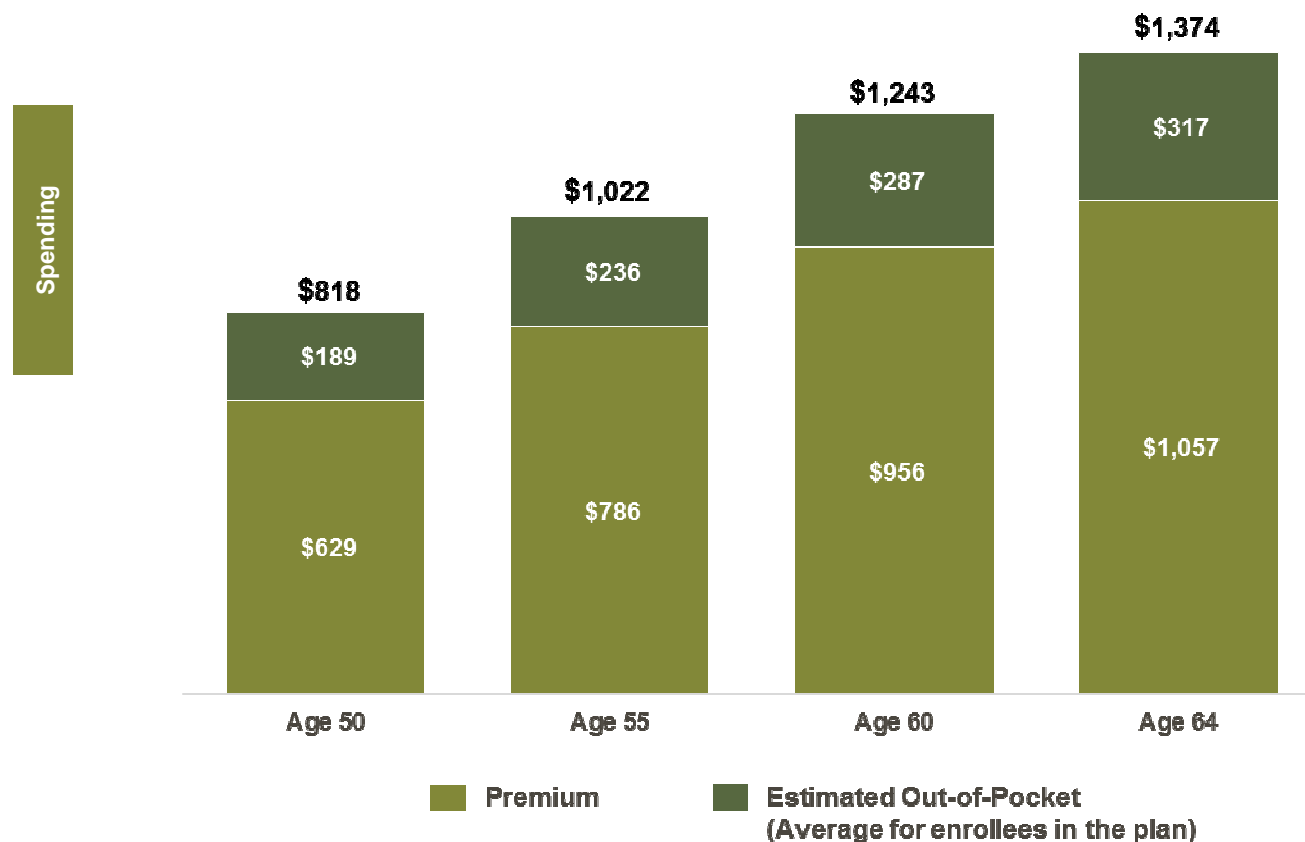
Premium tax credits and cost-sharing subsidies may be available to some individuals with Modified Adjusted Gross Income below \$51,040 for an individual or \$68,960 for a couple in most states.

¹Health insurance plans available through Healthcare.gov.

Not meant to be personal advice. Those with incomes below \$17,609 for an individual or \$23,791 for a couple may not be eligible for a subsidy in some states; other states have lower limits. A qualifying plan will allow you to make contributions to a Health Savings Account (HSA). When searching for a qualifying plan on the Marketplace website, look for the HSA eligible flag in the upper left-hand corner or use the filter option in the right-hand corner. Qualifying plans may provide less coverage; be sure to evaluate tradeoffs, especially if you are eligible for a premium subsidy.

Source: Healthcare.gov, Kaiser Family Foundation subsidy calculator as of December 15, 2020, <https://www.kff.org/interactive/subsidy-calculator/>. Low costs shown above are for zip code 11217 in Brooklyn, New York, and high costs are for zip code 32320 in Apalachicola, Florida. Federal poverty level data from Federal Register, Vol. 85, No. 12, Jan 17, 2020.

2021 Marketplace Silver plan monthly cost per person: non-smoker, national average



UNDERSTAND COSTS SPECIFIC TO YOUR SITUATION

Marketplace plan insurers typically charge older individuals more than younger ones.

To account for age-related increases plus inflation, use an annual cost increase of 6.0% for health care costs prior to Medicare eligibility.

Cost trends and increases due to age vary by geography. For more information:

<https://www.kff.org/interactive/subsidy-calculator/>

This is not meant to be personal advice. For information about your options, go to [Healthcare.gov](https://www.healthcare.gov)

Source: [Healthcare.gov](https://www.healthcare.gov), Kaiser Family Foundation subsidy calculator as of December 16, 2020, <https://www.kff.org/interactive/subsidy-calculator/>

Three steps for Medicare coverage

| 30

1 Sign up for Part A and B on Medicare.gov

Part A:
(inpatient hospital insurance)



Part B:
(insurance that covers doctor visits, tests and outpatient hospital visits)

2 Choose your plan

Option 1

Original Medicare
accepted by all
Medicare providers



Sign up for
Medigap
(also called
"supplemental")



Choose a
Part D plan



Not included.
You may buy a
separate policy

Option 2

**Medicare Advantage/
Part C** limited to a
network of providers



Not included.
Be prepared for
variable costs



Usually
included



Check details:
benefits vary by
plan

3 Prepare for additional expenses

- Out-of-pocket drug expenses aren't covered
 - Need income or savings for these costs; costs can change as your health changes
- Medicare does not cover most long-term care costs
 - Custodial care for activities of daily living is not covered
 - Medicaid may pay for long-term care if you have few assets and low income¹

For help, visit the Medicare Rights Center at www.medicarerights.org or your State Health Insurance Assistance Program (SHIP) at www.shiptacenter.org.

¹Medicare does pay for medically necessary skilled nursing facility or home health care with strict requirements that are difficult to meet on a limited basis and for some hospice care. If you transfer assets to others there is a five-year "look back" where the government will recover the assets transferred if you go on Medicaid. This is not personal advice; consult an eldercare attorney if you have questions.

Source: Medicare.gov as of December 31, 2020, J.P. Morgan analysis.

MEDICARE DETAILS

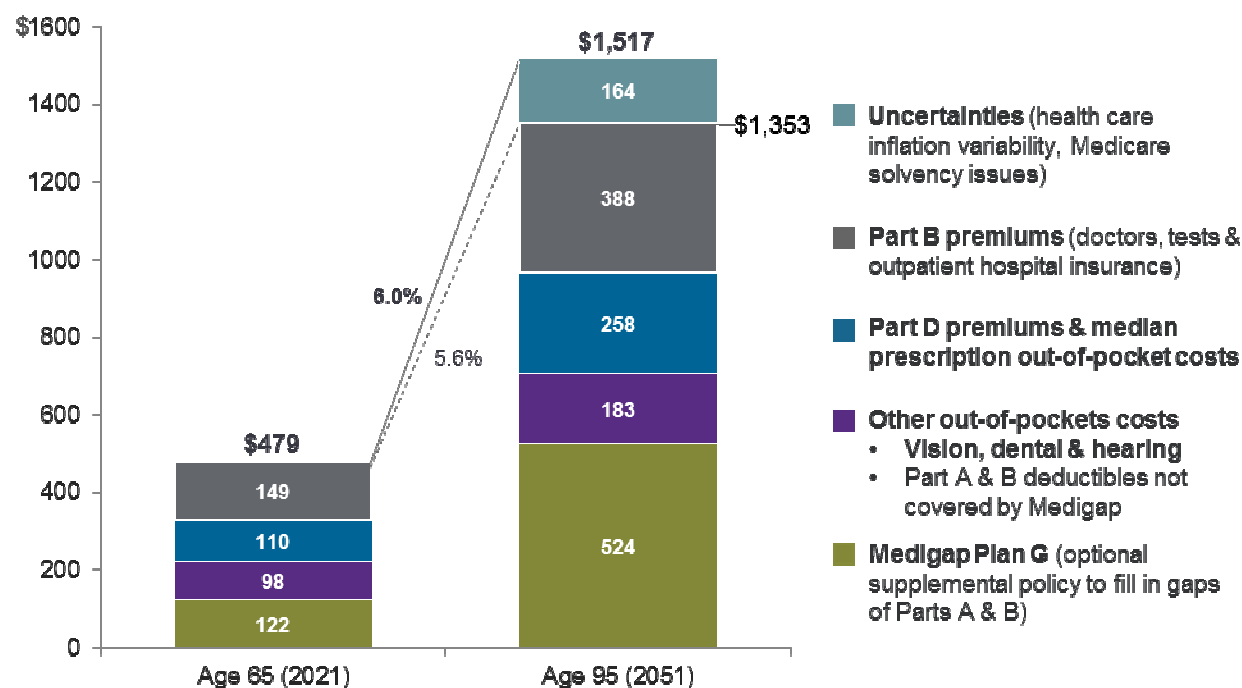
Individuals who have paid Medicare taxes for 10 years (and their spouses who are age 65 or older) are eligible for Medicare at age 65.

Enroll during your Initial Enrollment Period (3 months before and 3 months after your 65th birthday month) or face lifetime penalties.

Sign up the month before the month you turn 65 to avoid coverage gaps.

Reevaluate your choice during open enrollment October 15 - Dec 7 each year.

Original Medicare costs in retirement (In 2021 dollars) Monthly amount per person



A GROWING CONCERN

Annual expenses per person in 2021 are \$5,740.

Given variation in health care cost inflation from year to year, it may be prudent to assume an annual health care inflation rate of 6.0%, which may require growth as well as current income from your portfolio in retirement.

Estimated future value total median monthly cost at age 85 is \$2,747. Today's dollar calculation used a 2% discount rate to account for overall inflation. Medigap premiums typically increase with age, in addition to annual inflation, except for the following states: AR, CT, MA, ME, MN, NY, VT, WA. For options available in other states, contact the State Health Insurance Assistance Program (SHIP) <https://www.shiptacenter.org/>. Plan G premium is nationwide average for non-smokers. If Plan G is not available, analysis includes the most comprehensive plan available.

Source: HealthView Services proprietary data file received January 2021, used by permission. 2019 Consumer Expenditure Survey, latest available data as of December 31, 2020, J.P. Morgan analysis.

The surcharge amount is the same for all income levels within a band
If you go over a threshold, you pay the additional premium for that band








SURCHARGE DETAILS

There may be a bigger impact for singles and surviving spouses:
 Medicare surcharge thresholds for singles are half of the thresholds for couples.

Couples are less likely to be affected unless they have significant pensions, work or rental income.

Filing an appeal?
 If you have stopped work or you have lower income due to circumstances outside of your control, you might be eligible for an appeal. See form SSA-44 for details:
<https://www.ssa.gov/forms/ssa-44-ext.pdf>

Spending

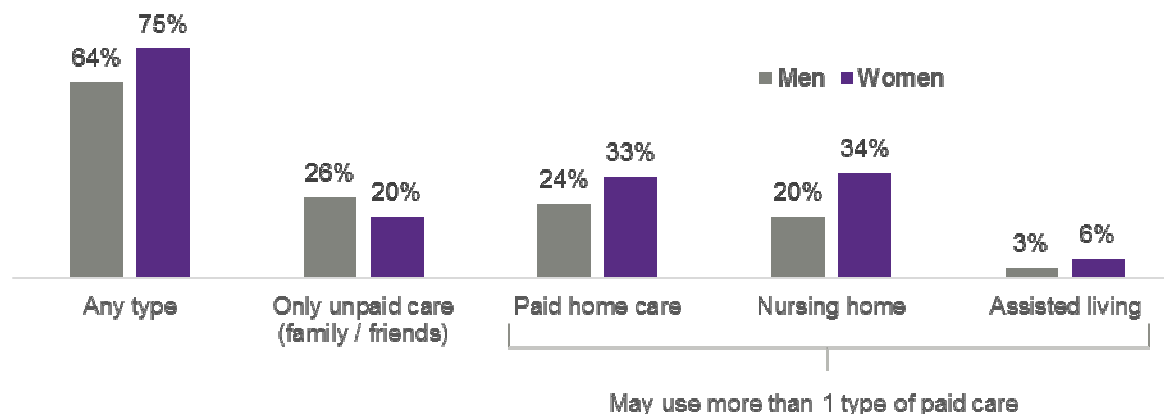
Modified Adjusted Gross Income based on 2019 tax year filing ¹		Additional <u>monthly</u> premium amount per person Parts B & D in 2021
 FILING SINGLE	 FILING JOINTLY	
\$88,001 - \$111,000	\$176,001 - \$222,000	 \$220
\$111,001 - \$138,000	\$222,001 - \$276,000	 \$329
\$138,001 - \$165,000	\$276,001 - \$330,000	 \$437
\$165,001 - \$499,999	\$330,001 - \$749,999	 \$546
\$500,000 or more	\$750,000 or more	 \$582

¹The Social Security Administration uses the most recent federal return supplied by the IRS. If you amended your return in a way that changes your surcharge amount, you may need to contact your Social Security office.

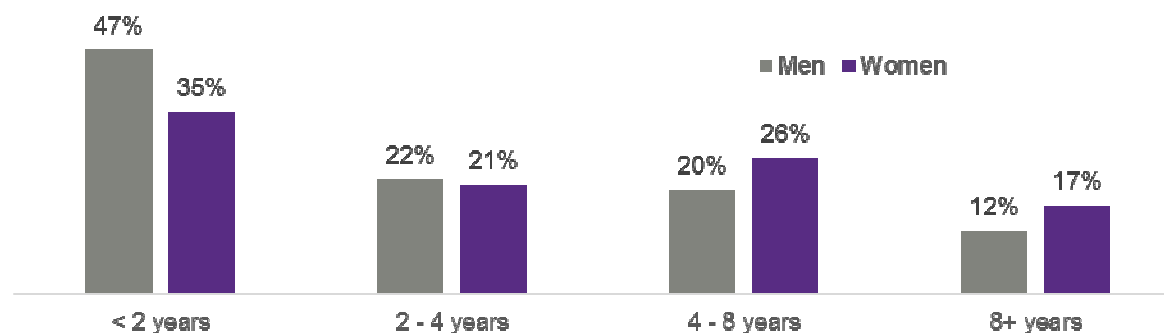
Source: Medicare.gov as of December 31, 2020.

This is not meant to be personal tax advice. Please consult your tax professional for specifics for your situation. Modified Adjusted Gross Income (MAGI) for purposes of calculating Medicare surcharges is Adjusted Gross Income (AGI) plus tax-exempt interest income. Thresholds increase each year with inflation starting in 2020, except the top threshold, which was added in 2019; this top threshold is set to annually inflate starting in 2028.

Lifetime probability of needing assistance with two or more activities of daily living



Duration of paid care after age 65 (if paid care is used)



CREATE A CARE PLAN

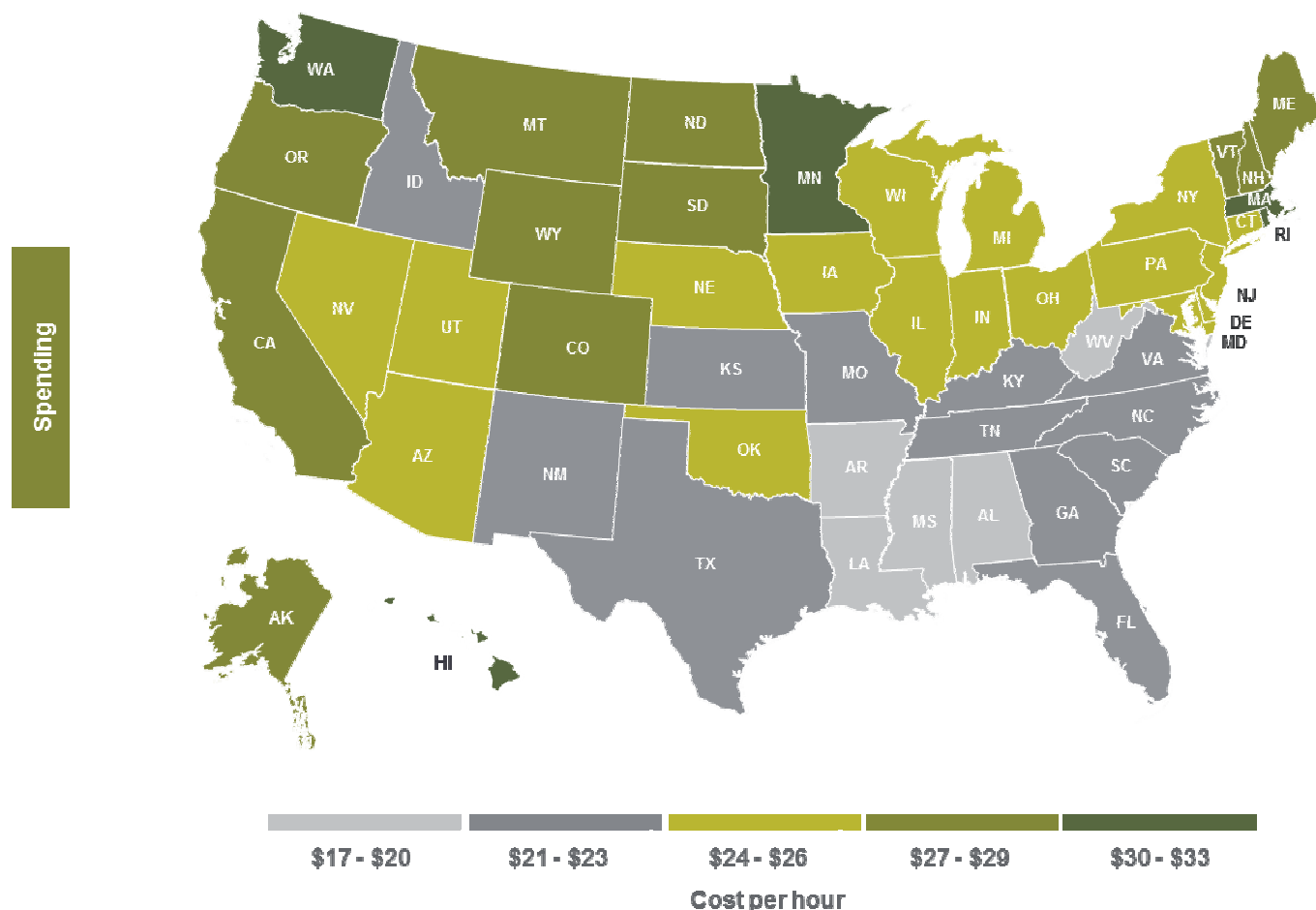
There is a high likelihood of needing care, which is often provided by family and friends. A care plan may help you avoid burdening others, ensure your family understands your wishes and allow you to have more control over your care.

Single individuals and surviving spouses who are often women may be reliant on paid care.

If paid care is used, over 3 in 10 men and 4 in 10 women require it for 4 or more years.

Long-term care includes needing help with two or more activities of daily living such as eating, dressing, bathing, transferring and toileting or severe cognitive impairment. For both charts, a nursing home care stay of less than 90 days is not included because it may include recovery from injuries and operations such as hip or knee replacements.

Source: U.S. Department of Health and Human Services, ASPE Issue Brief April 2019, What is the Long-Term Risk of Needing and Receiving Long-Term Services and Supports, Table 3 and Table 5.



THE COST OF CARE

The median cost for a home health aide is \$24 an hour but can vary widely. While the most common starting point for care is at home, it may progress to other settings.

The national annual median cost for a private room in a nursing home is \$105,850. These costs are commonly between \$85,000 and \$135,000 but may be lower or higher. For costs specific to your area:

www.genworth.com/costofcare

Source: Genworth Cost of Care Survey 2020, conducted by CareScout®, August, 2020. © 2020 Genworth Financial, Inc. All rights reserved.
 Methodology document: [Genworth Cost of Care Summary Findings and Methodology](http://www.genworth.com/costofcare). Costs vary within states. Median values are rounded to the nearest dollar. Annualized median cost inflation for home health aides from 2004-2020 was 1.9%; 2019-2020 was 4.4%. Annualized median cost inflation for a private room in a nursing home from 2004-2020 was 3.1%; 2019-2020 was 3.6%. For more information on the cost of care in your location, see the Genworth website at: www.genworth.com/costofcare

J.P. Morgan analysis: Given recent cost increases, consider using an annual inflation rate of 3.5% when planning for these costs.

Consider utilizing more than one option



FAMILY

Family and friends may provide some assistance or help coordinate care



SAVINGS

Savings may fund paid care; some expenses such as travel may go down



INSURANCE

Options include traditional long-term care insurance, combination life and annuity products, life insurance for a surviving spouse and deferred annuities for income late in life



LIFE PLAN COMMUNITIES

Also known as Continuing Care Retirement Communities, this option starts with independent living and offers additional services or facilities when needed (costs and services vary)²

For more information <https://www.mylifesite.net/>



HOME EQUITY

Second homes may be sold; the home equity in your primary residence may be used if your other options are limited; credit availability and home values may fluctuate

MEDICAID

After exhausting other options

Rules to qualify vary by state but generally you must be low income with few assets to qualify¹



START PLANNING EARLY

- Will you want to move closer to your family?
- If insurance affordability is an issue, is it feasible to buy less coverage and combine it with other solutions?
- Are you saving in a Health Savings Account (HSA)? HSAs may be used tax free for qualified expenses or after tax without penalty after age 65 for non-qualified expenses.³
- If you want care at home, consider how you will remain socially connected and the potential costs of doing so.

¹If you transfer assets to others there is a five-year "look back" where the government will recover the assets transferred if you go on Medicaid. This is not personal advice; consult an Elder Care attorney if you have questions about Medicaid, Medicaid qualification and look-back rules.

²There are about 2,000 CCRCs in the United States in 25 states. Mylifesite.net has information about Continuing Care Retirement Communities (CCRCs)

³HSAs may be used to fund qualified traditional long-term care policy premiums up to certain limits. Necessary home improvements may qualify if they don't improve the value of your home. Services for chronically ill individuals who are unable to perform two or more activities of daily living or who have severe cognitive impairment may be qualified if they are part of a prescribed plan from a licensed practitioner. For a list of qualified expenses, see IRS Publication 502 or consult your tax professional; this is not meant to be personal tax advice.

Source: J.P. Morgan Asset Management, Mylifesite.net as of December 31, 2020 for statistic on approximate number of CCRCs.

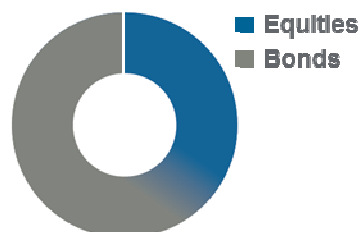
Short-term goals

Includes emergency reserve
fund of total spending needs
for 3-6 months



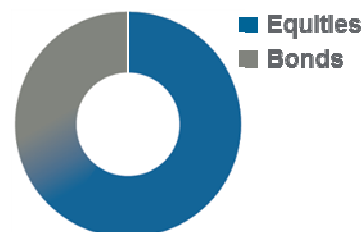
Medium-term goals

5-10 years, e.g., college, home



Long-term goals

15+ years, e.g., retirement



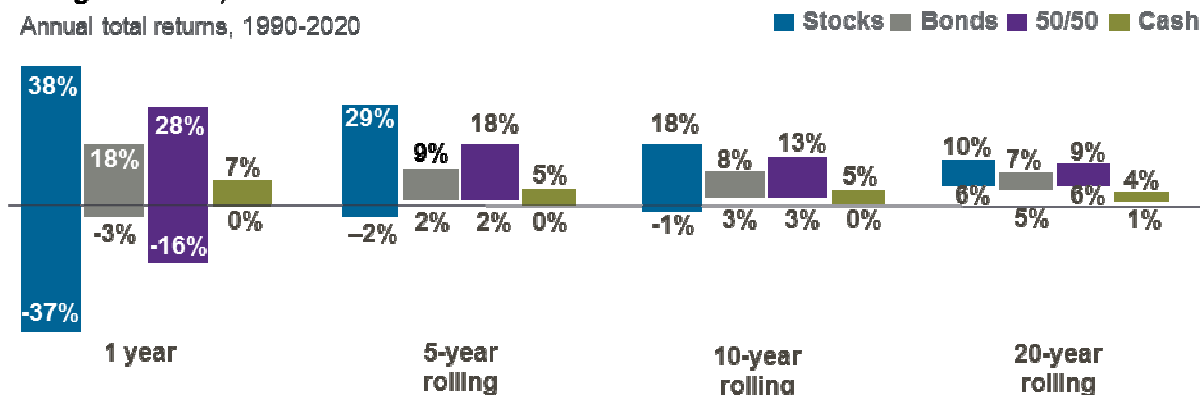
DIVIDE AND CONQUER

Aligning your investment strategy by goal can help you take different levels of risk based on varying time horizons and make sure you are saving enough to accomplish all of your goals – not just the ones that occur first.

Investing

Range of stock, bond and blended total returns

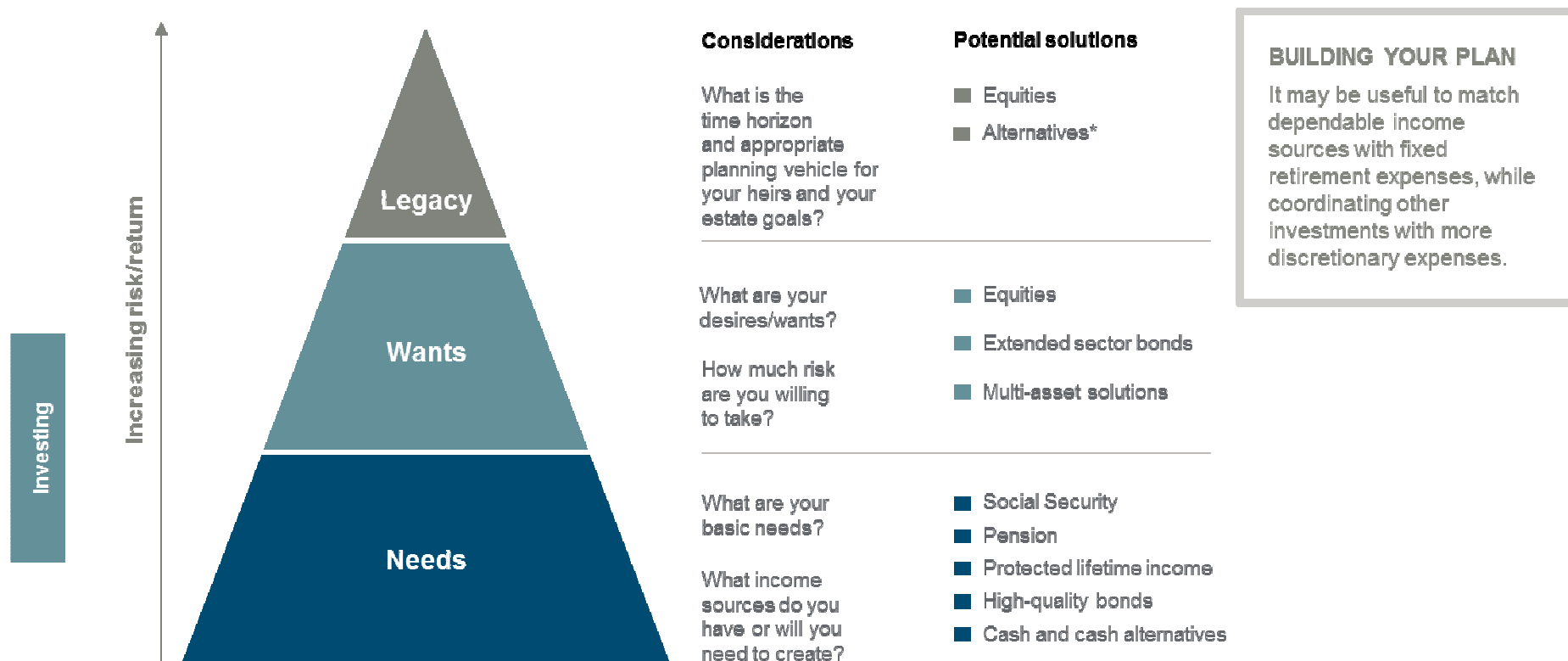
Annual total returns, 1990-2020



Source (top chart): J.P. Morgan Asset Management.

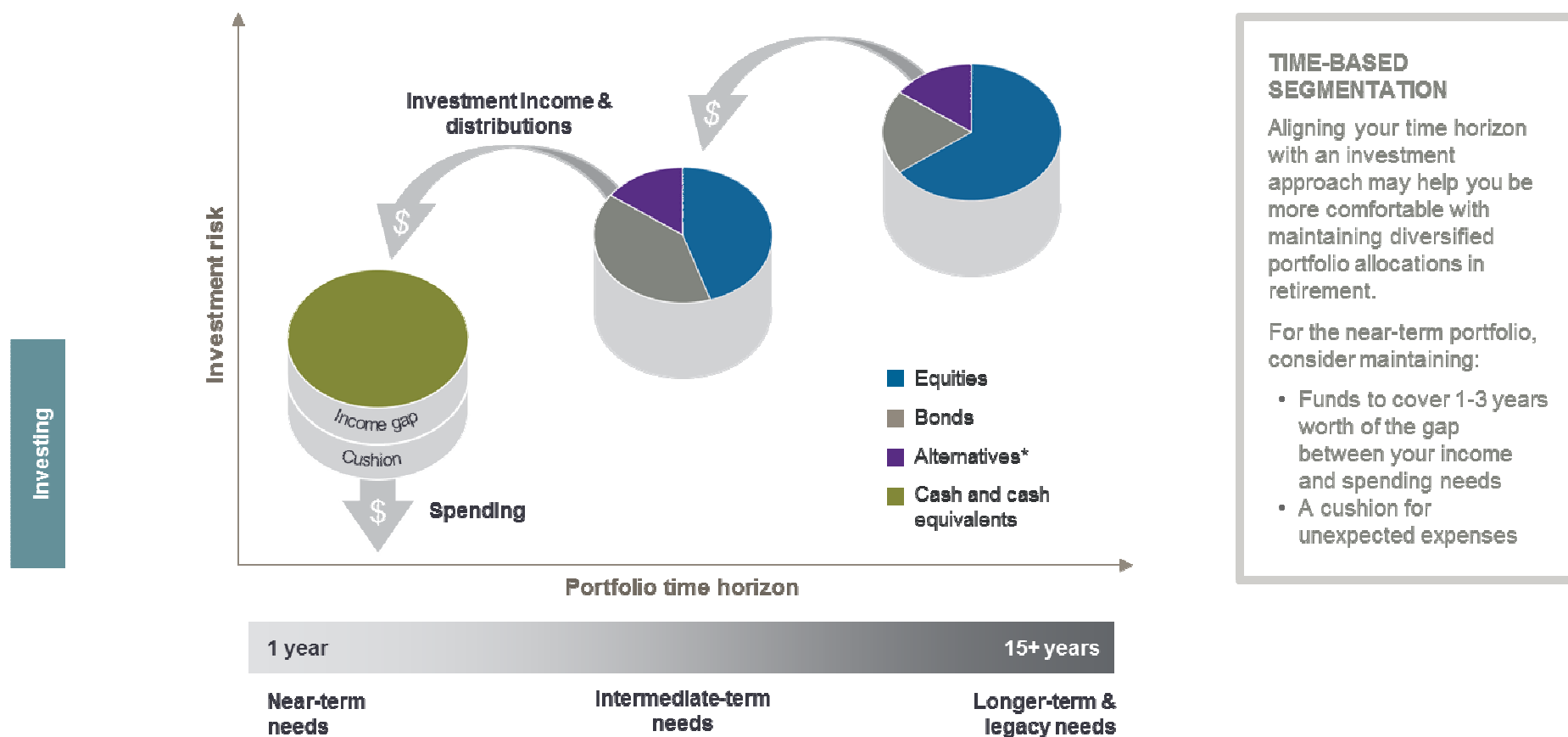
Source (bottom chart): Barclays, Bloomberg, FactSet, Federal Reserve, Robert Shiller, Strategas/Ibbotson, J.P. Morgan Asset Management. Returns shown are based on calendar year returns from 1990 to 2020. Stocks represent the S&P 500 Shiller Composite and Bonds represent Strategas/Ibbotson for periods from 1990 to 2010 and the Bloomberg Barclays Aggregate thereafter. Cash represents the U.S. 90 Day Treasury Bill Total Return.

Portfolio allocations are hypothetical and are for illustrative purposes only. They were created to illustrate different risk/return profiles and are not meant to represent actual asset allocation.



For illustrative purposes only. Source: J.P. Morgan Asset Management. Bonds are subject to interest rate risks. Bond prices generally fall when interest rates rise. The price of equity securities may rise or fall because of changes in the broad market or changes in a company's financial condition, sometimes rapidly or unpredictably. Equity securities are subject to "stock market risk," meaning that stock prices in general may decline over short or extended periods of time. Investing in alternative assets involves higher risks than traditional investments and is suitable only for the long term. They are not tax efficient and have higher fees than traditional investments. They may also be highly leveraged and engage in speculative investment techniques, which can magnify the potential for investment loss or gain.

*Equity, fixed income and cash are considered "traditional" asset classes. The term "alternative" describes all non-traditional asset classes. They include private and public equity, venture capital, hedge funds, real estate, commodities, distressed debt and more.



For illustrative purposes only. Source: J.P. Morgan Asset Management. Bonds are subject to interest rate risks. Bond prices generally fall when interest rates rise. The price of equity securities may rise or fall because of changes in the broad market or changes in a company's financial condition, sometimes rapidly or unpredictably. Equity securities are subject to stock market risk, meaning that stock prices in general may decline over short or extended periods of time. Investing in alternative assets involves higher risks than traditional investments and is suitable only for the long term. They are not tax efficient and have higher fees than traditional investments. They may also be highly leveraged and engage in speculative investment techniques, which can magnify the potential for investment loss or gain.

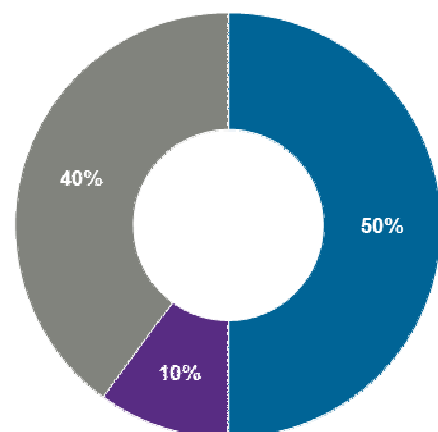
*Equity, fixed income and cash are considered traditional asset classes. The term "alternative" describes all non-traditional asset classes. They include private and public equity, venture capital, hedge funds, real estate, commodities, distressed debt and more.

Maximizing the power of diversification 2001–2020

MIX IT UP WISELY

Diversification may provide better returns with less risk.

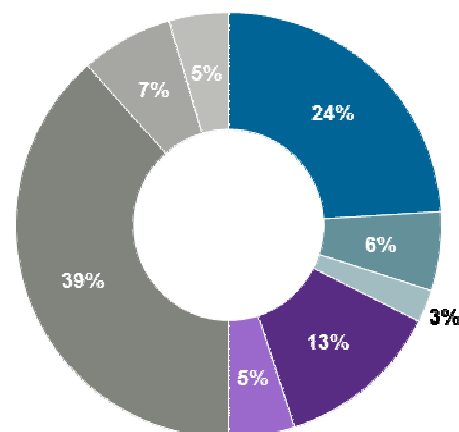
Less diversified portfolio



Return: 6.6%
Volatility: 10.3%

- S&P 500
- EAFE Equity
- Bloomberg Barclays U.S. Aggregate Total Return

More diversified portfolio



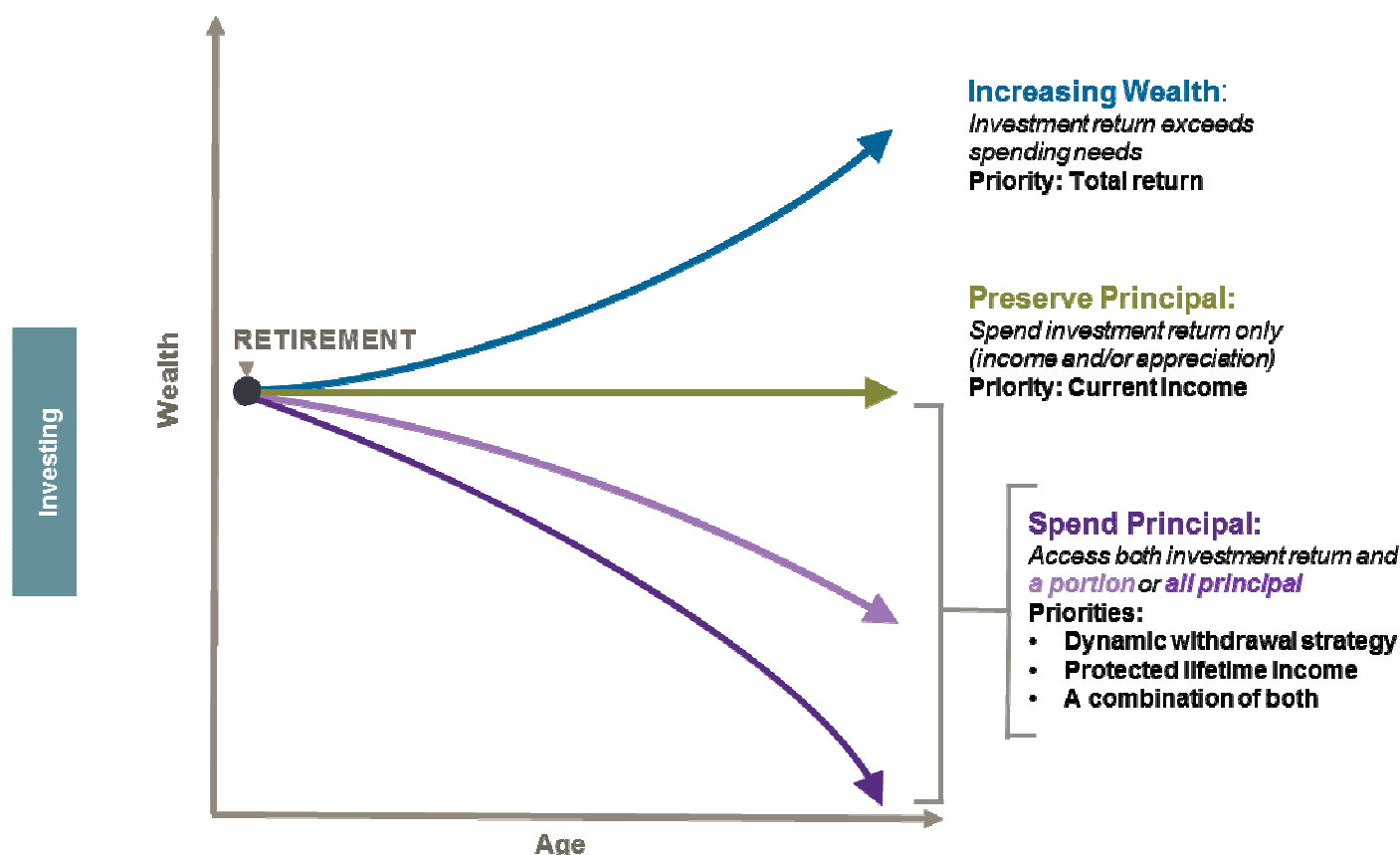
Return: 7.0%
Volatility: 10.1%

- S&P 500
- Russell 2000
- Bloomberg Barclays U.S. Aggregate Total Return
- REIT
- EAFE Equity
- Emerging Market Debt
- Emerging Market Equity
- US High Yield

Indices and weights of the less diversified portfolio are as follows: U.S. stocks: 50% S&P 500; International stocks: 10% MSCI EAFE; U.S. bonds: 40% Bloomberg Barclays Capital Aggregate. More diversified portfolio is as follows: U.S. stocks: 24% S&P 500, 6% Russell 2000, 2.5% NAREIT Equity REIT Index; International stocks: 12.5% MSCI EAFE, 5% MSCI Emerging Markets; U.S. bonds: 38.5% Bloomberg Barclays Capital Aggregate, 7% Barclays U.S. High Yield; International bonds: 4.5% J.P. Morgan EMBI Global Diversified. Source: Bloomberg, J.P. Morgan Asset Management.

Charts are shown for illustrative purposes only. Percentages may not sum due to rounding. Past returns are no guarantee of future results. Diversification does not guarantee investment returns and does not eliminate risk of loss. Data as of December 31, 2020.

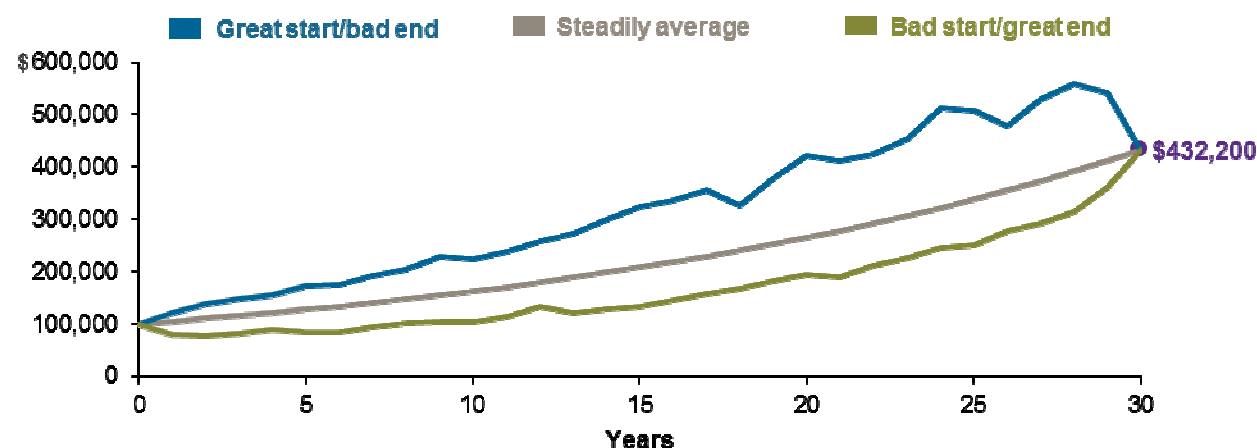
Retirement Investable wealth profiles and diversified portfolio priorities



ALIGN YOUR OBJECTIVE WITH YOUR OUTCOME

Retirement can mean several goals for your portfolio—current income, growth, sustainable withdrawals and/or protected income. To find the right balance, your projected outcome from your retirement plan can help you identify which of these to consider making a priority for your diversified portfolio.

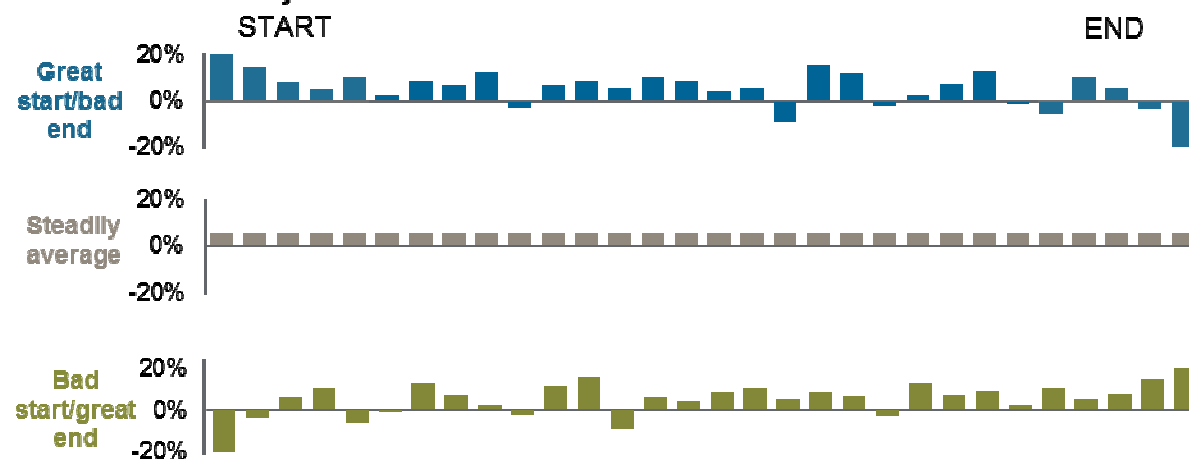
Value of three portfolios with the same average return
 \$100,000 lump sum investment with an average return of 5.0%



GET INVESTED AND STAY INVESTED

When making a one-time long-term investment, your average annual return will determine your outcome, regardless of the sequence in which the return is experienced.

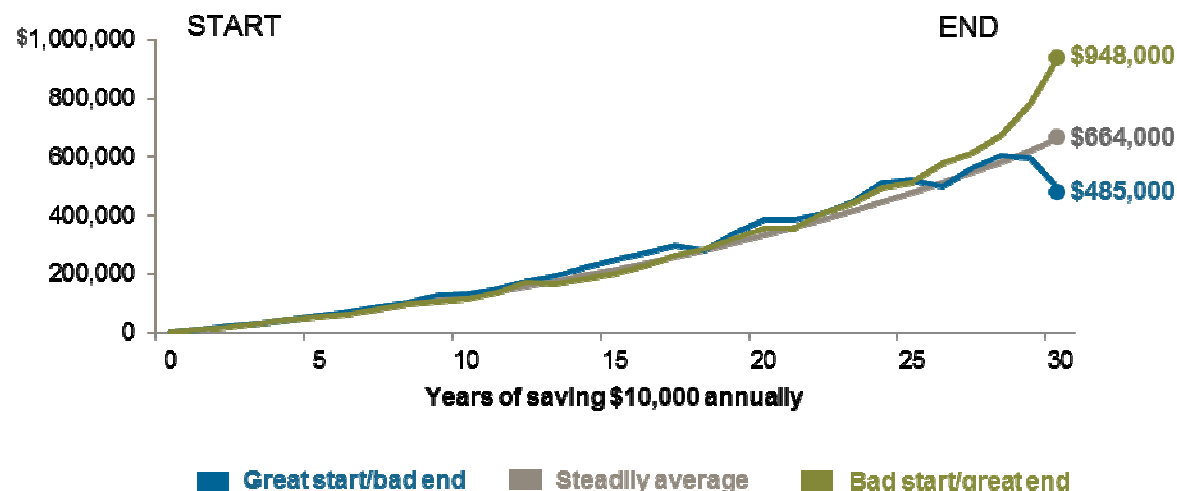
Annual returns by scenario



Average return: 5.0%

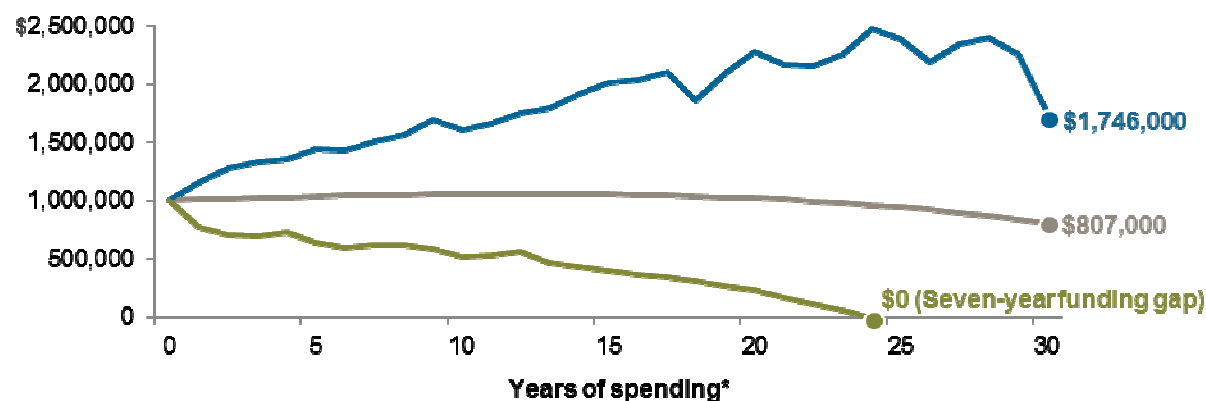
Hypothetical return scenarios are for illustrative purposes only and are not meant to represent an actual asset allocation.
 Source: J.P. Morgan Asset Management.

Portfolio values assuming various return sequence scenarios



THE GREATEST RISK IS WHEN WEALTH IS GREATEST

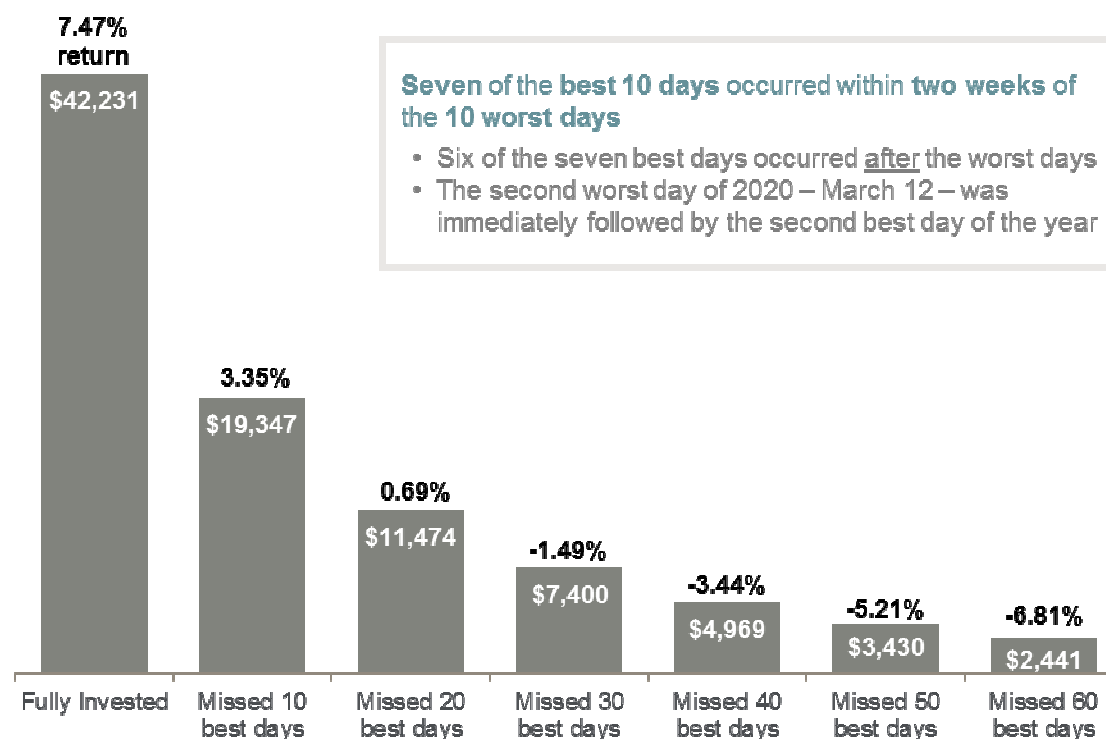
When saving for retirement, the return experienced in the early years has little effect compared to growth achieved through regularly saving. However, the rates of return just before and after retirement – when wealth is greatest – can have a significant impact on retirement outcomes.



For return sequence scenarios, see page 41. Hypothetical return scenarios are for illustrative purposes only and are not meant to represent an actual asset allocation. *Spending in retirement chart assumes an initial \$1,000,000 and a 4% withdrawal adjusted annually for inflation of 2%. Source: J.P. Morgan Asset Management.

Returns of the S&P 500

Performance of a \$10,000 investment between January 2, 2001 and December 31, 2020



Seven of the best 10 days occurred within two weeks of the 10 worst days

- Six of the seven best days occurred after the worst days
- The second worst day of 2020 – March 12 – was immediately followed by the second best day of the year

PLAN TO STAY INVESTED

Losses hurt more than gains feel good. Market lows can result in emotional decision making. Taking “control” by selling out of the market after the worst days is likely to result in missing the best days that follow. Investing for the long term in a well-diversified portfolio can result in a better retirement outcome.

Source: J.P. Morgan Asset Management analysis using data from Bloomberg. Returns are based on the S&P 500 Total Return Index, an unmanaged, capitalization-weighted index that measures the performance of 500 large capitalization domestic stocks representing all major industries. Indices do not include fees or operating expenses and are not available for actual investment. The hypothetical performance calculations are shown for illustrative purposes only and are not meant to be representative of actual results while investing over the time periods shown. The hypothetical performance calculations are shown gross of fees. If fees were included, returns would be lower. Hypothetical performance returns reflect the reinvestment of all dividends. The hypothetical performance results have certain inherent limitations. Unlike an actual performance record, they do not reflect actual trading, liquidity constraints, fees and other costs. Also, since the trades have not actually been executed, the results may have under- or overcompensated for the impact of certain market factors such as lack of liquidity. Simulated trading programs in general are also subject to the fact that they are designed with the benefit of hindsight. Returns will fluctuate and an investment upon redemption may be worth more or less than its original value. Past performance is not indicative of future returns. An individual cannot invest directly in an index. Data as of December 31, 2020.

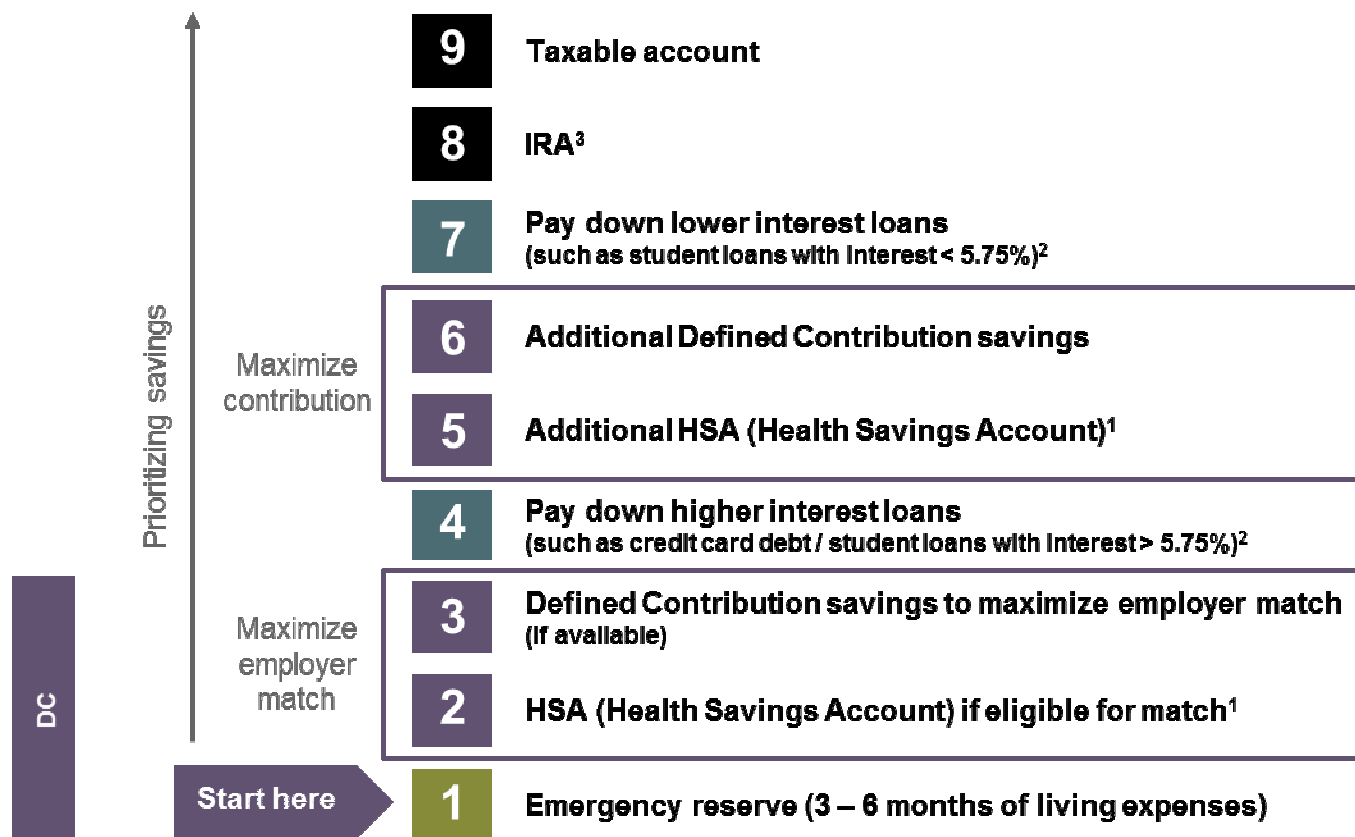
	Contributions ¹	Investment growth	Withdrawals	
Pre-tax 401(k) / Traditional IRA	+	+	— (Taxed as ordinary income)	Retirement accounts: Taxes generally apply to contributions or withdrawals. Most withdrawals must be qualified to avoid tax penalties. ²
Roth 401(k) / Roth IRA	—	+	+	
After-tax 401(k) / non-deductible Traditional IRA	—	+	— (Investment returns taxed as ordinary income)	
Health Savings Account (HSA)³	+	+	+	If not used for qualified health care expenses, withdrawals after age 65 will be taxed as ordinary income (without penalty).
	+ Preferential tax treatment — Subject to taxes			

Federal taxes; states may differ. This is not intended to be individual tax advice. Consult your tax professional.

¹Income and other restrictions may apply to contributions. Tax penalties usually apply for early withdrawals. Qualified withdrawals are generally those taken over age 59½; qualification requirements for amounts converted to a Roth from a traditional account may differ; for some account types, such as Roth accounts, contributions that are withdrawn may be qualified. See IRS Publications 590 and 560 for more information.

²Withdrawals from after-tax 401(k) and non-deductible IRAs must be taken on a pro-rata basis including contributions and earnings growth. For non-deductible IRAs, all Traditional IRAs must be aggregated when calculating the amount of pro-rata contributions and earnings growth.

³There are eligibility requirements. Qualified medical expenses include items such as prescriptions, teeth cleaning and eyeglasses and contacts for a medical reason. Cosmetic procedures, such as teeth whitening, and general health improvement, such as gym memberships and vitamins, are not qualified expenses. A 20% tax penalty applies on non-qualified distributions prior to age 65. After age 65, taxes must be paid on non-qualified distributions. See IRS Publication 502 for details.



GETTING STARTED

Start with emergency savings and make sure to take advantage of employer matching funds if they are available.

An HSA offers triple tax benefits if used for qualified medical expenses in retirement. Prioritize contributions to an HSA before a Defined Contribution plan if current medical expenses can be funded from low cost sources.⁴

¹Must have a high-deductible health insurance plan that is eligible to be paired with an HSA. Those taking Social Security benefits age 65 or older and those who are on Medicare are ineligible. Tax penalties apply for non-qualified distributions prior to age 65; consult IRS Publication 502 or your tax professional.

²This assumes that a diversified portfolio may earn 5.75% over the long term. Actual returns may be higher or lower. Generally, consider making additional payments on loans with a higher interest rate than your long-term expected investment return.

³Income limits may apply for IRAs. If ineligible for these, consider a non-deductible IRA or an after-tax 401(k) contribution. Individual situations will vary; consult your tax professional.

⁴Examples of low cost funding sources include cash and current income.

Source: J.P. Morgan analysis. Not intended to be a personal financial plan.

Account growth from contributions, employer match and Investment returns

GET THE FREE MONEY

Take full advantage of your employer match if available, and consider contributing even more to build your portfolio.

MODEL ASSUMPTIONS

Start age: 25

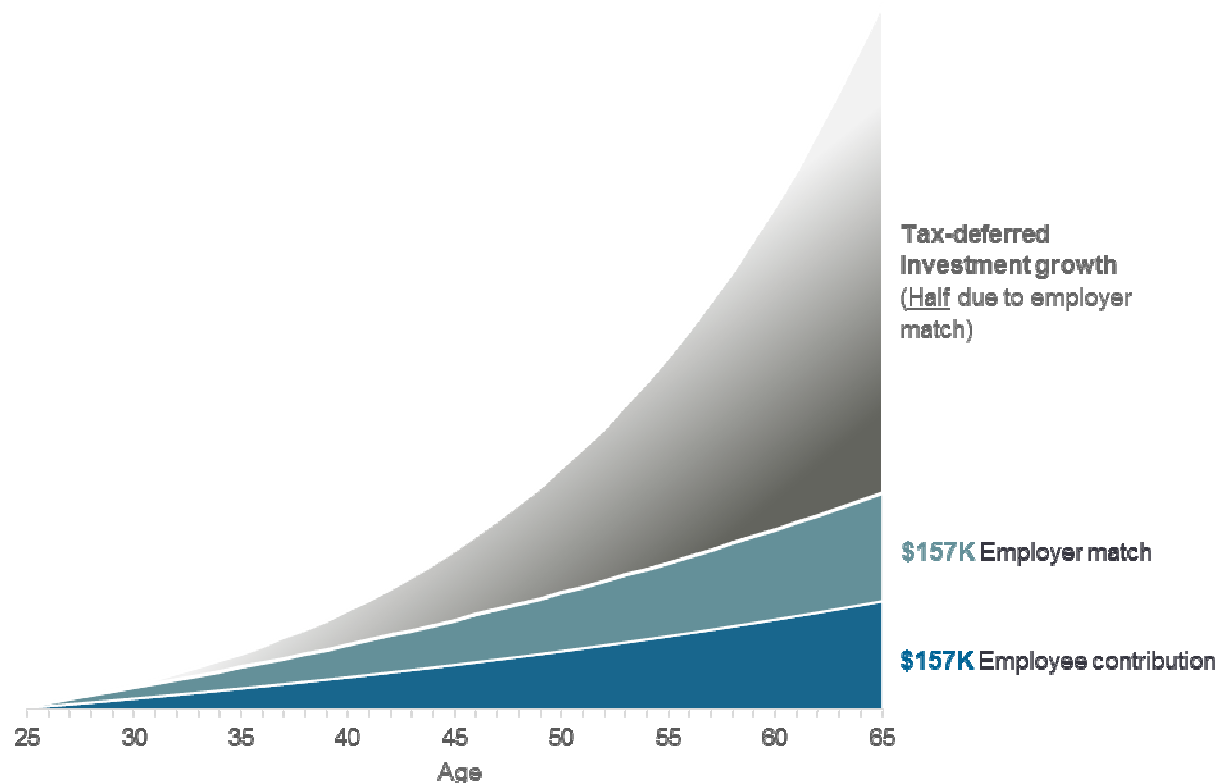
Retirement age: 65

Starting salary: \$50,000

Employee contribution: 5.0%

Employer match¹: 5.0%

DC

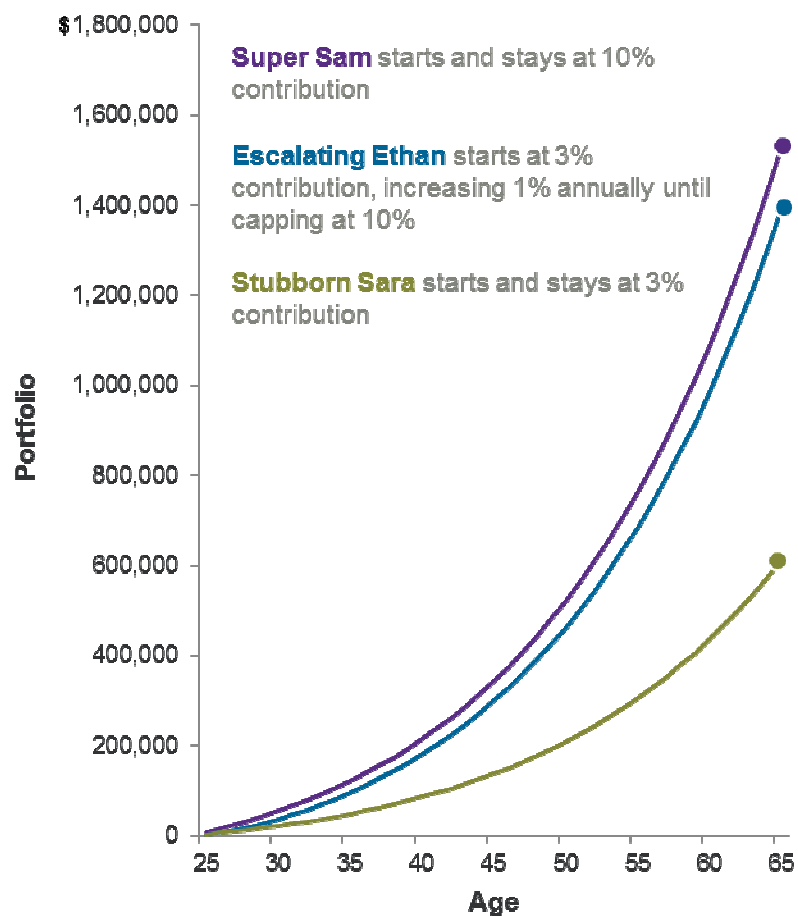


¹Assumes employer match of 100% of employee contribution, up to 5%.

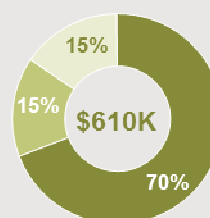
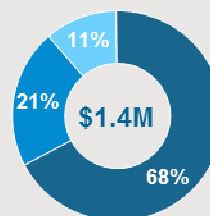
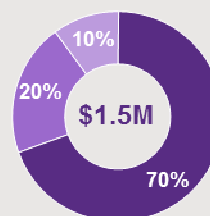
Inflation and wage growth is 2.0%. Growth of portfolio is tax deferred; ending portfolio may be subject to tax. The above example is for illustrative purposes only and not indicative of any investment.

Source: J.P. Morgan Asset Management, Long-Term Capital Market Assumptions.

Account growth of auto-escalation vs. a static contribution



Ending portfolio



Return Contribution
Employer match

MODEL ASSUMPTIONS

Start age: 25

Retirement age: 65

Starting salary: \$50,000

Wage growth: 2.0%

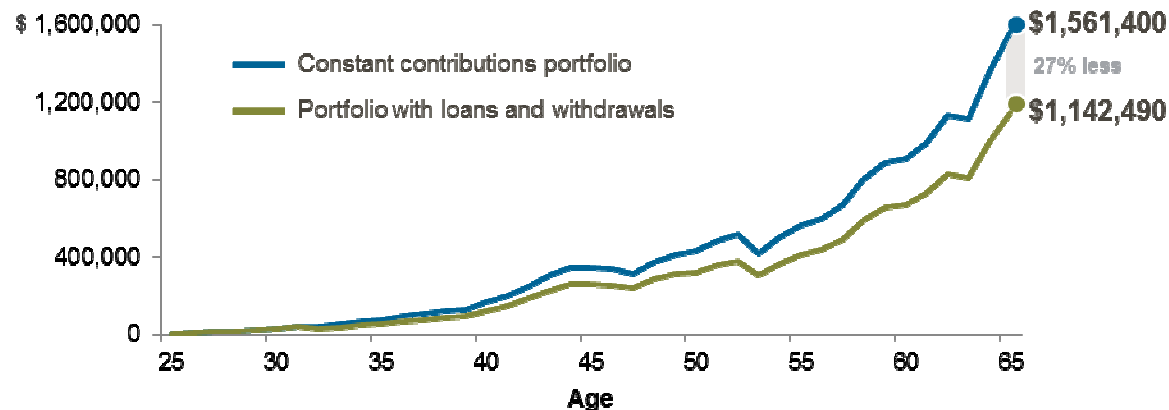
Assumed annual employer match: 100% of employee contribution up to 5%

Investment return: 5.75%

Individual is assumed to retire at the end of age 65. Growth of portfolio is tax deferred; ending portfolio may be subject to tax. The above example is for illustrative purposes only and not indicative of any investment.

Source: J.P. Morgan Asset Management, Long-Term Capital Market Assumptions.

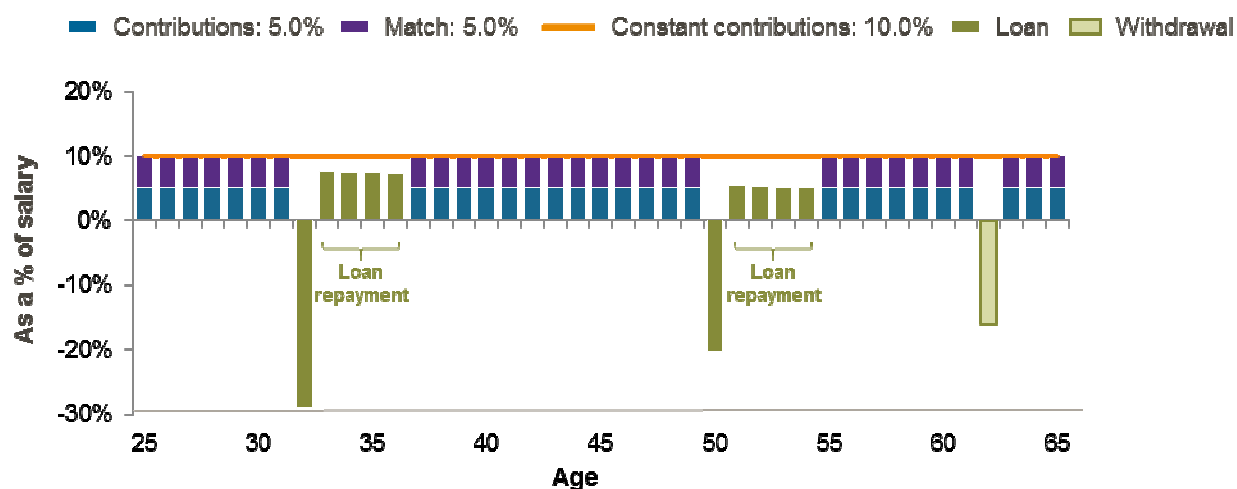
Growth of 401(k) Investment



MITIGATE THE EFFECTS OF LOANS

If taking a loan from your 401(k) is unavoidable, try to mitigate the impact by continuing contributions while repaying the loan. It is especially important to ensure you continue to receive an employer match, if available.

Assumed cash flows: 401(k) contributions, loans and withdrawals



Source: J.P. Morgan Asset Management. For illustrative purposes only. Hypothetical portfolio is assumed to be invested 60% in the S&P 500 and 40% in the Bloomberg Barclays Capital U.S. Aggregate Index from 1980 to 2020. Starting salary of \$30,000 increases by 2.0% each year. Loan and withdrawal amounts are assumed to be \$10,000. Loan interest rate is assumed to be 7.5% and is paid off over 4 years.

Federal Income tax rates applicable to taxable income

Tax rate	Single filers	Married filing jointly	Capital gains & dividends	Medicare tax on earned income	Medicare tax on investment income	Limits to itemized deductions
10%	Up to \$9,950	Up to \$19,900	0% up to \$40,400 (single) / \$80,800 (married)	1.45% (employee portion, employers also pay 1.45%)	0%	<ul style="list-style-type: none"> -Medical expenses greater than 7.5% of AGI deductible -SALT (state and local taxes) deduction capped at \$10,000 -Mortgage interest deduction limited to primary/secondary homes with up to \$750,000 new debt. Deduction is allowed on new home equity debt that is used to repair, build or improve upon home -Cash charitable gifts deductible up to 100% of AGI
12%	\$9,950-\$40,525	\$19,900-\$81,050				
22%	\$40,525-\$88,375	\$81,050-\$172,750				
24%	\$88,375-\$184,925	\$172,750-\$329,850	15% up to \$445,850 (single) / \$501,600 (married)			
32%	\$184,925-\$209,425	\$329,850-\$418,850		2.35% (includes 1.45% employee tax referenced above plus additional 0.90% tax for earned income above MAGI* \$200,000/\$250,000 threshold)	3.80% (additional tax will be levied on lesser of i) net investment income or ii) excess MAGI above \$200,000/\$250,000 threshold)	
35%	\$209,425-\$523,800	\$418,850-\$828,300				
37%	\$523,800 or more	\$828,300 or more	20%			

The personal exemption has been repealed and individual tax rates and personal deductions sunset after 2025 as per the TCJA 2017.

*Modified Adjusted Gross Income (MAGI) is AGI plus amount excluded from income as foreign earned income, tax-exempt interest and Social Security benefit.

Top/tax rates for ordinary income, capital gains and dividend income

Type of gain	Maximum rate	Alternative Minimum Tax (AMT) exemption**		
Top rate for ordinary income & non-qualified dividends	37%/40.8%*	Filing status	Exemption	Exemption phase-out range
Short-term capital gains (assets held 12 months or less)	37%/40.8%*	Single/Head of Household	\$73,600	\$523,600-\$818,000
Long-term capital gains (assets held more than 12 months) & qualified dividends	20%/23.8%*	Married filing jointly	\$114,600	\$1,047,200-\$1,505,600

*Includes top tax rate plus 3.8% Medicare tax on the lesser of net investment income or excess of MAGI over threshold (single threshold \$200,000; married filing jointly \$250,000).

**The exemption amount is reduced .25 for every \$1 of AMTI (income) above the threshold amount for the taxpayer's filing status. For AMTI above the top range the exemption will be \$0.

Federal estate, generation-skipping transfer (GST) tax & gift tax exemption

Top federal estate tax rate	40%
Federal estate, GST & gift tax exemption	\$11.7 million per individual/\$23.4 million per couple*
Annual gift tax exclusion	\$15,000 per donor, per donee (\$30,000 per couple)

*Increased levels expire after 2025.

Source: IRS.gov. The presenter of this slide is not a tax or legal professional. This slide is for informational purposes only and should not be relied on as tax or legal advice. Clients should consult their tax or legal professional before making any tax- or legal-related investment decisions.

	Traditional IRA	Roth IRA	Roth IRA conversion
Maximum contribution 2021	<ul style="list-style-type: none"> • \$6,000 (earned income) • \$7,000 (age 50 and over)¹ • Reduced by Roth IRA contributions 	<ul style="list-style-type: none"> • \$6,000 (earned income) • \$7,000 (age 50 and over)¹ • Reduced by Traditional IRA contributions 	No limit on conversions of Traditional IRAs, SEP IRAs, SIMPLE IRAs (if open 2+ years)
Tax-deductibility income limits (Traditional IRA) and contribution income limits (Roth IRA)	<p>If you or your spouse is covered by a retirement plan at work, tax-deductibility of contributions phases out at these income levels:</p> <p>2020 Single: \$65,000-\$75,000² Married: \$104,000-\$124,000²</p> <p>2021 Single: \$66,000-\$76,000² Married: \$105,000-\$125,000²</p>	<p>Contributions are non-deductible; employer plan coverage does not change the contribution limits:</p> <p>2020 Single: \$124,000-\$139,000 Married: \$196,000-\$206,000</p> <p>2021 Single: \$125,000-\$140,000 Married: \$198,000-\$208,000</p>	N/A
Federal tax treatment	<ul style="list-style-type: none"> • Investment growth is tax deferred and contributions may be tax deductible. Deductible contributions and investment gains are taxed as ordinary income upon withdrawal. • If non-deductible contributions have been made, each withdrawal is taxed proportionately on a pro-rata basis, taking into consideration all contributions made to all Traditional IRAs owned. 	<ul style="list-style-type: none"> • Taxes are due upon conversion of account balances not yet taxed. • Qualified withdrawals of contributions at any time are tax free and IRS penalty free; converted amounts may be withdrawn tax free.³ • Qualified withdrawals of earnings are tax free and IRS penalty free if taken after five years have passed since the account was initially funded and the account owner is age 59½ or older (other exceptions may be applicable). • Multiple Roth IRAs are considered one Roth IRA for withdrawal purposes and distributions MUST be withdrawn in a specific order deemed by the IRS that applies regardless of which Roth IRA is used to take that distribution. 	
Early withdrawals	Early withdrawals before age 59½ are generally subject to a 10% IRS penalty unless certain exceptions apply.		
Mandatory withdrawals	By April 1 of the year after turning 72 (70½ for those born prior to July 1, 1949).	None for account owner	None for account owner
Deadline to contribute	2020: April 15, 2021 2021: April 15, 2022	2020: April 15, 2021 2021: April 15, 2022	N/A

¹Must be age 50 or older by December 31 of the contribution year. IRS Publication 590.

²Assumes participation in an employer's retirement plan. No income limits apply when investors and spouses are not covered by a retirement plan at work. Income limits based on Modified AGI (Adjusted Gross Income less certain deductions). Use Worksheet 1-1 in IRS Publication 590-A or consult your tax professional.

³Distributions from a conversion amount must satisfy a five-year investment period to avoid the 10% penalty. This pertains only to the conversion amount that was treated as income for tax purposes. The presenter of this slide is not a tax or legal professional. Clients should consult a personal tax or legal professional prior to making any tax- or legal-related investment decisions. IRS Publication 590.

Source: IRS.gov.

Type of Retirement Account	Specifics	2020	2021
401(k), 403(b), 457(b)	401(k) elective deferral limit/with catch-up contribution (age 50 and over)	\$19,500 /\$26,000	\$19,500 /\$26,000
	Annual defined contribution limit	\$57,000	\$58,000
	Annual compensation limit	\$285,000	\$290,000
	Highly compensated employee threshold	\$130,000	\$130,000
	403(b)/457 elective deferrals/with catch-up contribution (age 50 and over)	\$19,500 /\$26,000	\$19,500 /\$26,000
SIMPLE IRA	SIMPLE employee deferrals/with catch-up deferral (age 50 and over) ¹	\$13,500 /\$16,500	\$13,500 /\$16,500
SEP IRA	Maximum contribution ²	\$57,000	\$58,000
	SEP minimum compensation	\$600	\$650
	SEP annual compensation limit	\$285,000	\$290,000
Health Savings Account (HSA)	Maximum contribution amount/with catch-up contribution (age 55 and over)	Single: \$3,550 /\$4,550 Family: \$7,100 /\$8,100 ³	Single: \$3,600 /\$4,600 Family: \$7,200 /\$8,200 ³
	Minimum deductible	Single: \$1,400 Family: \$2,800	Single: \$1,400 Family: \$2,800
	Maximum out-of-pocket expenses	Single: \$6,900 Family: \$13,800	Single: \$7,000 Family: \$14,000
Social Security	Wage base	\$137,700	\$142,800
	Maximum earnings test exempt amounts ⁴	\$18,240 /year (before FRA*) \$48,600 /year (in year of FRA)	\$18,960 /year (before FRA) \$50,520 /year (in year of FRA)
	Maximum Social Security benefit at FRA	\$3,011 /month	\$3,113 /month
Defined benefit – Maximum annual benefit at retirement		\$230,000	\$230,000

*FRA is Full Retirement Age for Social Security.

¹Employer may either match employee's salary reduction contributions dollar for dollar up to 3% of employee's compensation or make non-elective contributions equal to 2% of compensation up to the annual compensation limit. IRS Publication 560 and Notice 2019-59.

²Employer contributions may not exceed the annual defined contribution limit or 25% of compensation. Other rules apply for self-employed individuals. IRS Publication 560.

³Internal Revenue Procedure 2019-25, May 28, 2019 and Internal Revenue Procedure 2030-32, May 20, 2020.

⁴In calendar years before FRA, benefit reduced \$1 for every \$2 of earned income above the limit; during year of FRA, benefit reduced \$1 for every \$3 of earned income in months prior to FRA. SSA.gov as of November 2, 2020.

Source: IRS.gov.

Unless otherwise indicated, all illustrations are shown in U.S. dollars.

Past performance is no guarantee of comparable future results.

Diversification does not guarantee investment returns and does not eliminate the risk of loss.

Indices are unmanaged and an individual cannot invest directly in an index. Index returns do not include fees or expenses.

The **S&P 500 Index** is widely regarded as the best single gauge of the U.S. equities market. This world-renowned index includes a representative sample of 500 leading companies in leading industries of the U.S. economy. Although the S&P 500 Index focuses on the large cap segment of the market, with approximately 75% coverage of U.S. equities, it is also an ideal proxy for the total market. An investor cannot invest directly in an index.

The **Bloomberg Barclays Capital U.S. Aggregate Index** represents securities that are SEC-registered, taxable and dollar denominated. The index covers the U.S. investment-grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities and asset-backed securities. These major sectors are subdivided into more specific indices that are calculated and reported on a regular basis.

Bonds are subject to interest rate risks. Bond prices generally fall when interest rates rise.

The price of **equity** securities may rise or fall because of changes in the broad market or changes in a company's financial condition, sometimes rapidly or unpredictably. These price movements may result from factors affecting individual companies, sectors or industries, or the securities market as a whole, such as changes in economic or political conditions. Equity securities are subject to "stock market risk," meaning that stock prices in general may decline over short or extended periods of time.

Investing in **alternative assets** involves higher risks than traditional investments and is suitable only for sophisticated investors. Alternative investments involve greater risks than traditional investments and should not be deemed a complete investment program. They are not tax efficient and an investor should consult with his/her tax professional prior to investing. Alternative investments have higher fees than traditional investments and they may also be highly leveraged and engage in speculative investment techniques, which can magnify the potential for investment loss or gain. The value of the investment may fall as well as rise and investors may get back less than they invested.

Opinions and estimates offered constitute our judgment and are subject to change without notice, as are statements of financial market trends, which are based on current market conditions. We believe the information provided here is reliable, but do not warrant its accuracy or completeness. References to future returns are not promises or even estimates of actual returns a client portfolio may achieve.

Model Portfolio Details (Equity%/Bond%) Source: PI-AA-MODELS_4Q20 0903c02a81cfc27a

Asset class	20/80	40/60	50/50	60/40	80/20
U.S. large cap growth	4.8%	9.6%	12.0%	14.4%	19.3%
U.S. large cap value	4.8%	9.6%	12.0%	14.4%	19.3%
U.S. mid/small cap	2.5%	4.8%	6.0%	7.3%	9.5%
U.S. REITs	1.0%	2.0%	2.5%	3.0%	4.0%
Developed market equities	5.0%	10.0%	12.5%	15.0%	20.0%
Emerging market equities	2.0%	4.0%	5.0%	6.0%	8.0%
U.S. investment-grade bonds	62.8%	46.8%	38.5%	30.3%	12.5%
U.S. high yield bonds	10.5%	8.0%	7.0%	6.0%	4.5%
Emerging market debt	6.8%	5.3%	4.5%	3.8%	3.0%

Model portfolios can only be distributed by Intermediaries where Advisory Portfolios are available.

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