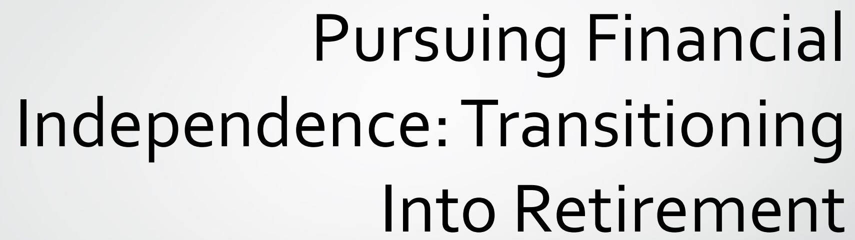

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2819 N. Parham Road, Suite 130, Richmond, VA 23294

Securities and Advisory Services Offered Through LPL Financial, Member FINRA/SIPC

Ronnie Poindexter, LPL Financial Advisor, CHFC, AIF

Ronnie started his financial career in 1983 after graduating from Virginia Polytechnic Institute in 1982 with a BS in Finance. He has put his 30+ years of financial planning to use for both his immediate office and multiple advisors in surrounding areas. His genuine friendly manner and knowledge of the industry can be a benefit to his clients and fellow advisors alike. He believes in doing what is best for his clients so that they can achieve their financial goals.

Ronnie has earned the Accredited Investment Fiduciary® professional designation from the Center for Fiduciary Studies. The AIF designation certifies he has specialized knowledge of fiduciary standards of care and their application to the investment management process.

Ronnie is an avid VA Tech football and Tar Heel Basketball fan. In his spare time, he enjoys restoring antique tractors and is especially proud of his children Ellen and Daniel. He lives with his wife Pat, in Glen Allen.

Alex Robinson, LPL Financial Advisor

Alex joined the firm in August 2013 after a four-year career with SagePoint Financial and enjoys the challenge and fulfillment of working with individuals and families on pursuing their financial and retirement goals.

Alex moved to the Richmond area in 2009 after graduating Cum Laude from Christopher Newport University with a BSBA in both Finance and Economics, and is a native of Windsor, Virginia.

Out of the office, Alex enjoys competing in several sports leagues around Richmond, occasional hunting outings, and renovation of his North Chesterfield home.

Brooks Billings, LPL Financial Advisor

Brooks began his tenure with the firm in December of 2018 after spending a year and a half at SagePoint Financial and is committed to helping individuals and families plan through life transitions by working with them to prioritize their goals.

Before his Financial career, Brooks graduated from Christopher Newport University with a BSBA in Business Administration. He prides himself on educating and consulting with his clients on financial matters relevant to their situation and believes being a resource in good and bad times is of utmost importance.

Brooks spends his free time with his dog Kona. He plays in various sports leagues throughout the year and is an avid fan of live music.

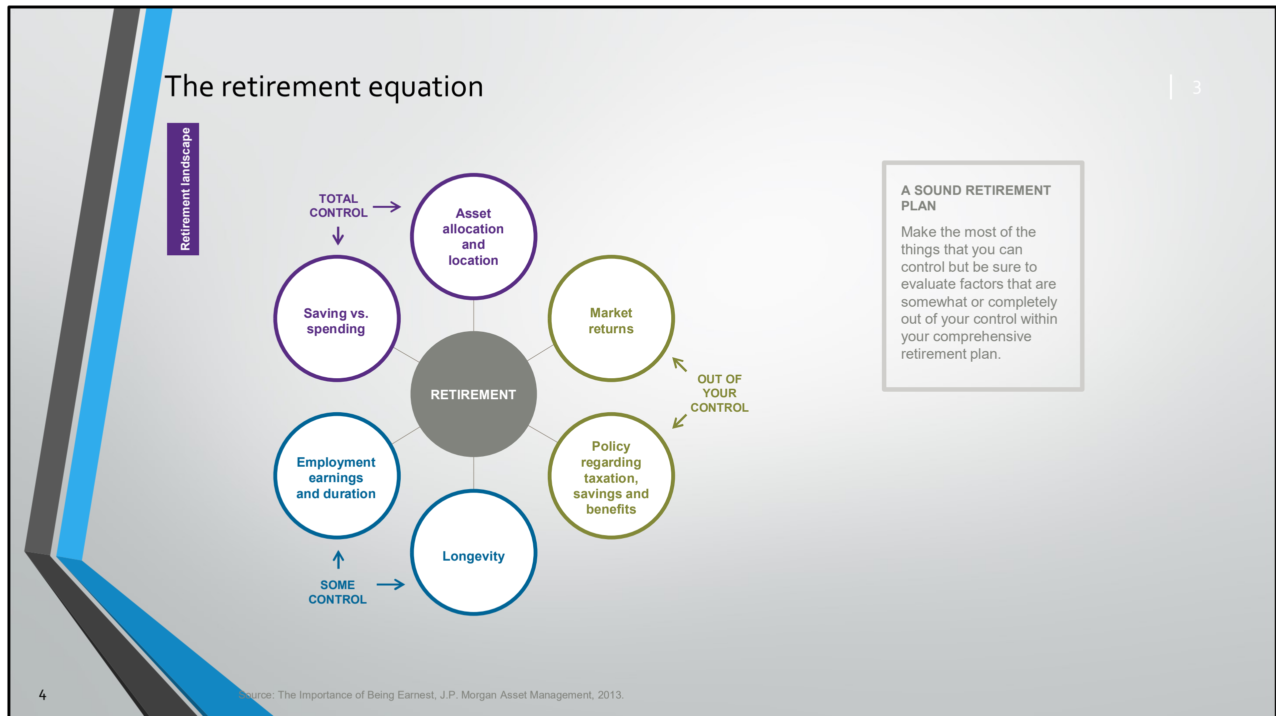
RETIREMENT INSIGHTS

Guide to Retirement℠

2020 Edition

Updated annually, the award-winning* Guide to Retirement provides an effective framework for supporting your retirement planning conversations with clients. It includes charts and graphs to help you explain complex issues in a clear and concise manner. A description and audio commentary are available for every slide.

*The Guide to Retirement won the 2012 RIIA Retirement Income Communications award, the 2014 MFEA STAR Award for retail education and the 2015 WealthManagement.com Industry Award for Thought Leadership – Investing. In addition, in 2018 it won "**Highly Commended"** in the "**Best Pensions Paper 2018 (North America)**" category: https://www.savvyinvestor.net/blog/awards-best-pensions-white-paper-north-america-2018, and most recently won the Investment Management Education Alliance (IMEA) Star Awards for "Retirement Ongoing Education".



Planning for retirement can be overwhelming as individuals navigate various retirement factors over which we have varying levels of control. There are challenges in retirement planning over which we have no control, like the future of tax policy, legislative and regulatory reform and market returns, and factors over which we have limited control, like longevity and how long we plan to work. The best way to achieve a secure retirement is to develop a comprehensive retirement plan and to focus on the factors we can control: maximize savings, understand and manage spending and adhere to a disciplined approach to investing.

Setting Every Community Up for Retirement Enhancement Act of 2019

Revisit your plan: changes as a result of the SECURE Act may require action.

Individuals

- Eliminates stretch IRA option for most non-spouse beneficiaries – full withdrawal required within 10 years of account owner's death
- Increase in the Required Minimum Distribution starting age to age 72[1]
- Penalty-free withdrawals for birth or adoption ($5,000 per person, within one year of birth or finalized adoption)[2]
- Eliminates age cap on traditional IRA contributions (earned income required)

Small Business Owners (≤100 Employees)

- Tax Credits to establish a qualified retirement plan, SEP or SIMPLE plan (up to $5,000)
- Tax Credits to add auto escalation to a 401(k) or SIMPLE IRA plan ($500 per year for three years)

Plan Sponsors

- Fiduciary safe harbor for selecting insurer to provide lifetime income
- Portability of lifetime income options
- Increase in the automatic escalation cap in the automatic enrollment safe harbor from 10% to 15% for 401(k) plans
- Simplification of the rules for non-elective safe harbor 401(k) plans

After 2020

- Open Multiple Employer Plans (MEPs): permits a "pooled plan provider" to offer a "pooled employer plan" (defined contribution) to unrelated employers
- Lifetime income disclosure required on participant statements[3]
- Enables 401(k) participation by long-term part-time employees[4]

HIGHLIGHTS

The SECURE Act included several provisions intended to increase access to an employer-provided retirement plan and savings rates as well as access to lifetime retirement income (i.e., protected income).

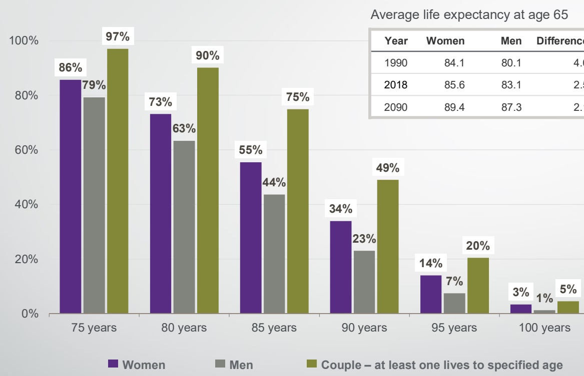
Certain changes such as the elimination of the stretch IRA and the increase in the required minimum distribution starting age should be carefully considered and may require you to update your retirement and estate plans.

Source: "The Setting Every Community Up for Retirement Enhancement Act of 2019, H.R. 1865". Unless specified, change is in effect after 2019.
1. Qualified defined contribution plans, traditional IRAs, 403(b) and 457(b) plans.
2. IRAs and qualified defined contribution plans and 403(b) plans if the plan sponsor chooses to offer this option.
3. 12 months after the Department of Labor provides guidance.
4. Applies to employees who work at least 500 hours in 3 consecutive years, but years before 2021 are ignored.

One of the factors in the retirement equation that an individual cannot control is legislative changes that affect the American retirement system. The Setting Every Community Up for Retirement Enhancement Act was passed with strong bipartisan support at the end of 2019. It included several significant changes that should be carefully reviewed by individuals, small business owners and plan sponsors. The changes go into effect either beginning in 2020 or after 2020.

Life expectancy probabilities

Retirement landscape



Year	Women	Men	Difference
1990	84.1	80.1	4.0
2018	85.6	83.1	2.5
2090	89.4	87.3	2.1

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.

Chart: Social Security Administration, Period Life Table, 2016 (published in 2019), J.P. Morgan Asset Management.
Table: Social Security Administration 2019 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 41%.

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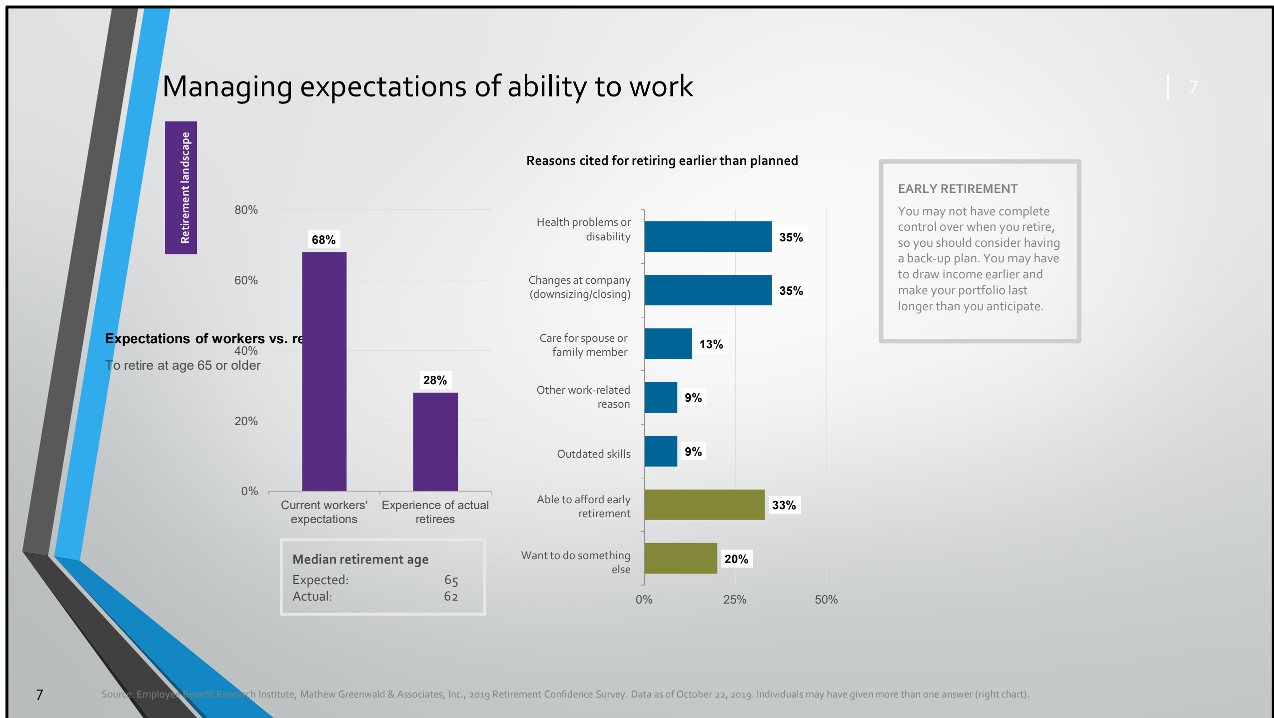
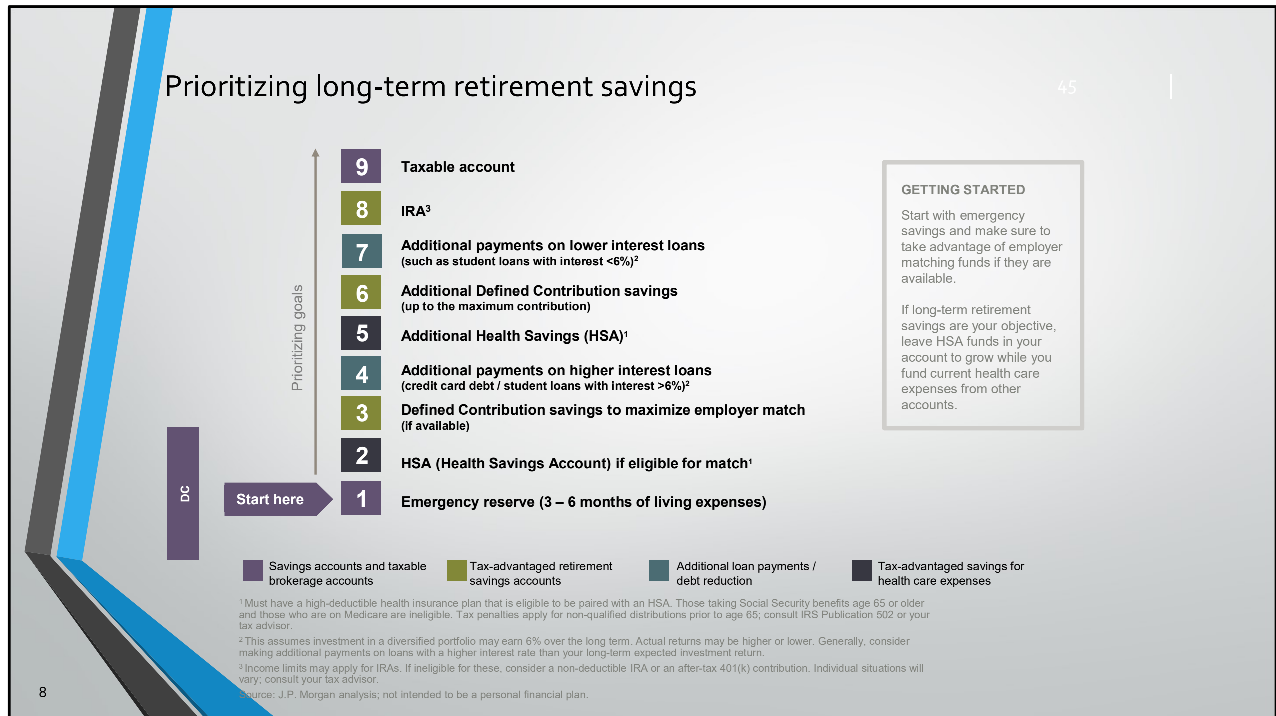
Life expectancies in the United States continue to increase as more people are living to older ages than ever before. This chart shows the probability that 65-year-old men and women today will reach various ages. For a 65-year-old couple, there is nearly an even chance that one of them will live to age 90 or beyond. Individuals should plan for living well beyond the average – to age 95 or even 100 – especially those in good health and with a family history of longevity.



While many people want to work at older ages, everyone may not be able to do so. Current workers overwhelmingly expect to work to 65 or later, but the experience of actual retirees is quite different. Nearly a third of retirees said they retired before they planned primarily due to health problems or disability, or due to changes at their company. It is very important that clients have a financial back-up plan in the event that they are not able to work as long as they desire, which should include appropriate disability coverage to protect their income.



Start at the bottom of our chart, then work your way up. First, have employees build an emergency reserve of 3 to 6 months of living expenses. Then they should take advantage of any company match. Unless they have relatively high interest loans, they may want to put more funds in their retirement accounts or Health Savings Accounts before paying off their loan balances.

Tax implications for retirement savings by account type

	Tax-Deductible Contributions / Investments[1]	Tax-Deferred Account Growth	Tax-Free Withdrawals	
Pre-tax 401(k) / Traditional IRA	●	●	—	**Taxable** (ordinary income tax)
Roth 401(k) / IRA	—	●	●	**For qualified withdrawals**
After-tax 401(k) / Non-deductible Traditional IRA	—	●	—	**Taxable investment returns** (ordinary income tax)
Health Savings Account (HSAs)[3]	●	●	●	**For qualified health care expenses**

Retirement accounts: Taxes generally apply to contributions or withdrawals. Most withdrawals must be qualified to avoid tax penalties.[2]

DC

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

[1] Income and other restrictions may apply to contributions. Non-tax deductible may also be referred to as after-tax 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.

[2] Withdrawals 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.

[3] There 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.

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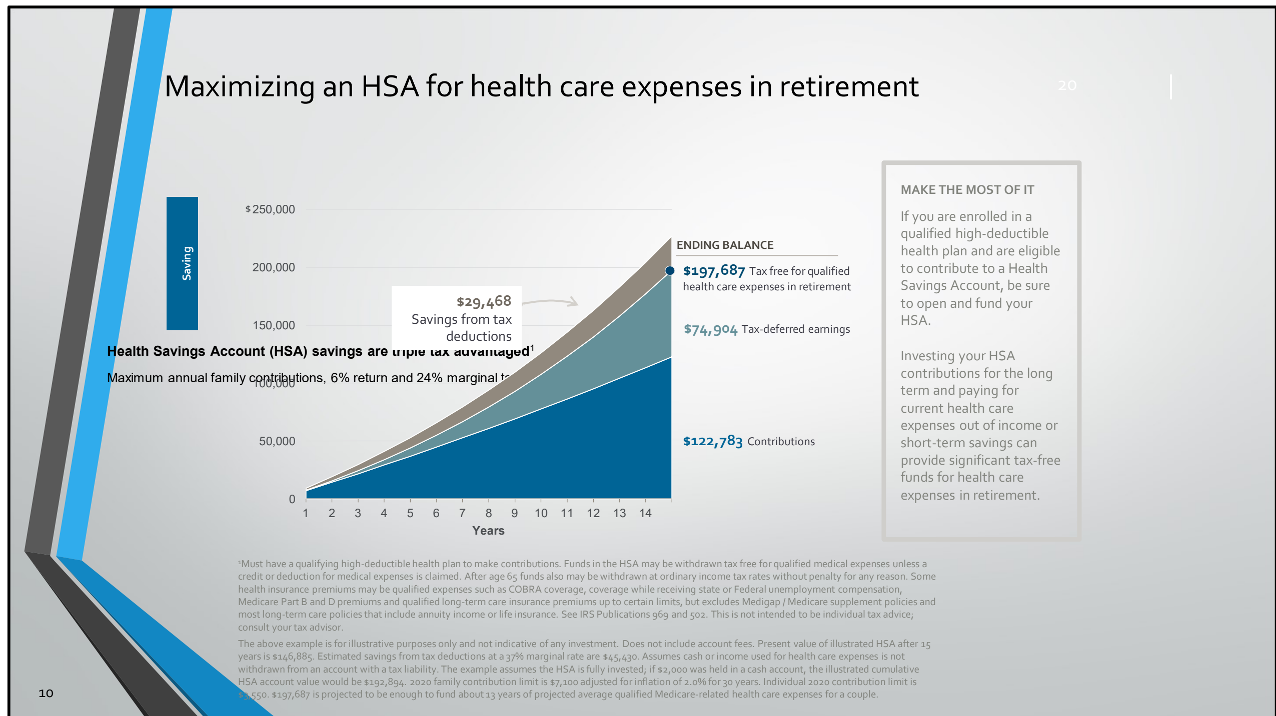
All the different tax-advantaged savings types can get confusing, so we created this chart. Earnings in tax-advantaged accounts are usually tax-free while within the account. For retirement accounts, money may go into the account or come out of the account tax-free, depending on the account type and if deposits and withdrawals are qualified. Non-deductible or after-tax contributions are less tax advantaged and should be considered after exhausting opportunities to save in the other tax-advantaged accounts. These accounts are designed for long-term retirement saving, so there may be penalties on early or non-qualified withdrawals. Health Savings Accounts, or HSAs, are especially tax advantaged. They must be paired with a qualified high-deductible health plan. Prior to age 65, withdrawals from an HSA must be used for qualified medical expenses, or taxes and penalties will apply. No contributions may be made to an HSA while on Medicare, but the funds may be used to pay for qualified health expenses in retirement tax-free. After age 65, the account owner may withdraw funds free of penalties but must pay taxes on non-qualified withdrawals. See IRS publications for details.



Health Savings Accounts are triple-tax free, so if you are eligible to contribute, make the most of it. Tax advantages include tax-free or tax-deductible contributions, tax-deferred earnings in the account and tax-free withdrawals for qualified health care expenses. If you invest your HSA dollars, the earnings inside your account may be significant. You are likely to have the best chance to accumulate earnings if you are able to pay for health care expenses outside of your HSA. This approach may help you defray qualified health care expenses in retirement.

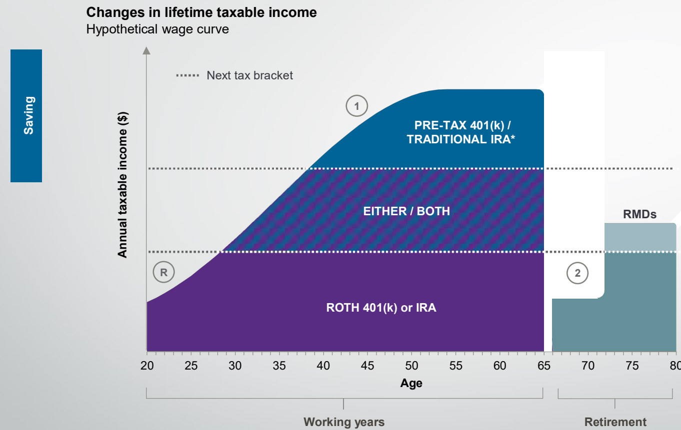
A quick note: If you lack other funds and need to pay for some or all of your qualified health care expenses out of your HSA, don't worry – you will likely have a lower balance at retirement, but you will still have the benefit of some important tax advantages.

While HSAs are very tax-advantaged, there will be tax penalties for withdrawals that are not qualified before the age of 65; therefore, it is important to have a separate emergency savings account. See IRS publications 502 and 969 for details on qualified withdrawals.

Evaluate a Roth at different life stages

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.

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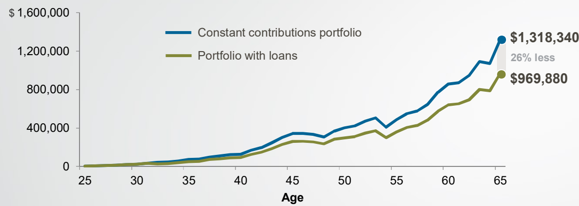
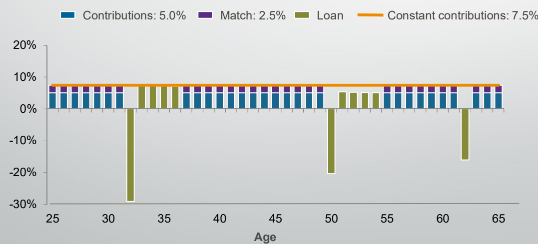
The decision to make a pre-tax/deductible contribution to a Traditional 401(k) or IRA or an after-tax contribution to a Roth 401(k) or Roth IRA is based on the income tax rate of the individual at the time of the contribution, and his/her anticipated tax rate in the future. The difference in tax rates can be caused by an investor's personal situation and/or tax policy over time. This chart shows a typical wage curve and the general "rule of thumb" about what type of contribution may be most appropriate based on current income and the bracket in retirement. An additional consideration is to maintain a healthy mix of taxable, tax-free (Roth) and tax-deferred accounts so that you can have greater flexibility to manage your income taxes. The numbers on the chart specify situations in which contributing to a Roth option should be carefully considered.

The toxic effect of loans and withdrawals

Growth of 401(k) investment



Assumed 401(k) contributions



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.

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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 Barclays Capital U.S. Aggregate Index from 1979 to 2019. Starting salary of $30,000 increasing by 2.0% each year.

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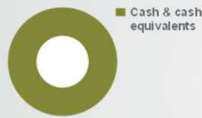
The top chart shows that employees who take loans or withdrawals from their accounts may end up with significantly lower balances in the end. The bottom chart shows that the employee did not get the benefit of contributions and a company match when paying back their loans. To avoid this scenario, stress the importance of an emergency reserve and savings for other goals outside of the retirement account. If the employee must borrow, if they keep contributing while paying back the loan, it may mitigate the negative impact of the loan.

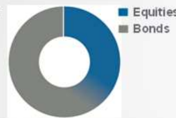
Goals-based wealth management

Investing

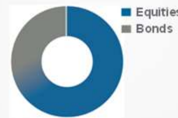
Short-term goals
Includes emergency reserve fund of total spending needs for 3-6 months



Medium-term goals
5-10 years, e.g. college, home



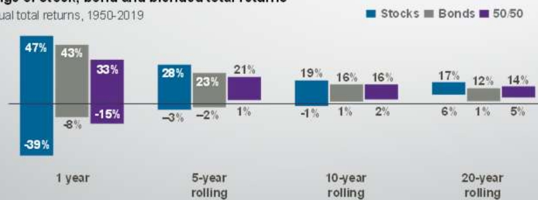
Long-term goals
15+ years, e.g. retirement



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.

Range of stock, bond and blended total returns
Annual total returns, 1950-2019



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 1950 to 2019. Stocks represent the S&P 500 Shiller Composite and Bonds represent Strategas/Ibbotson for periods from 1950 to 2010 and Bloomberg Barclays Aggregate thereafter.
Note: 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.

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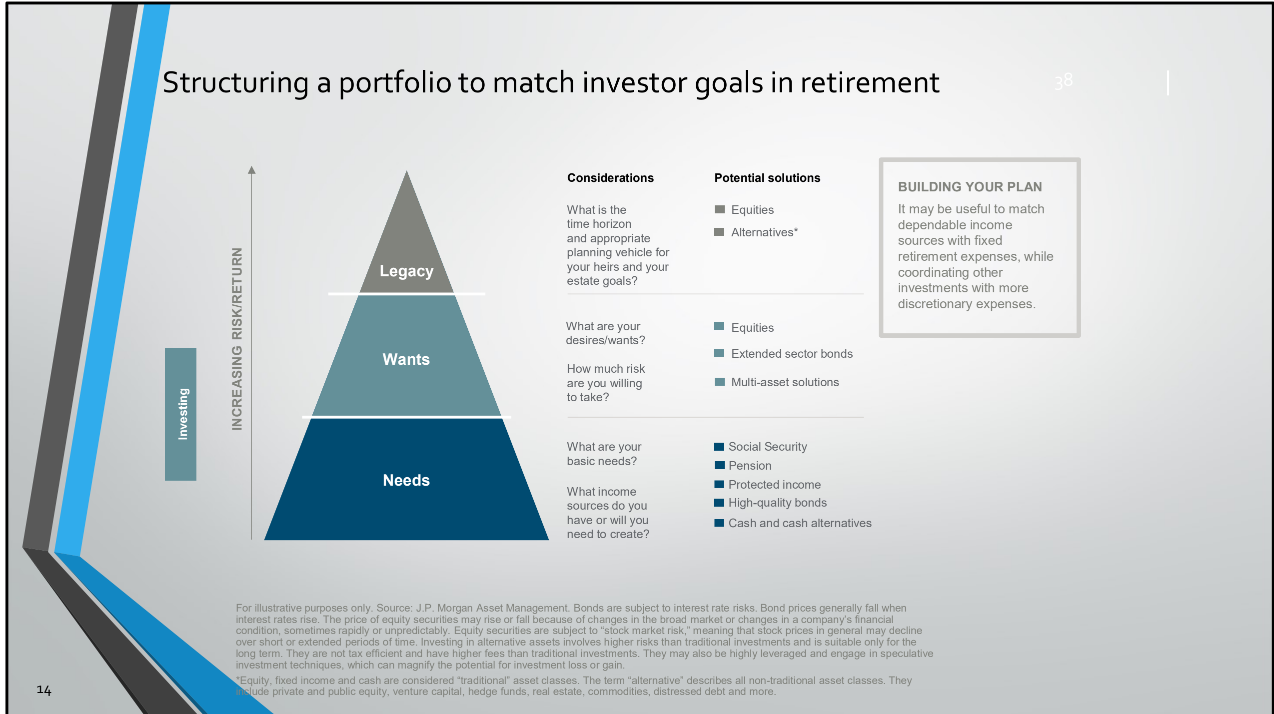
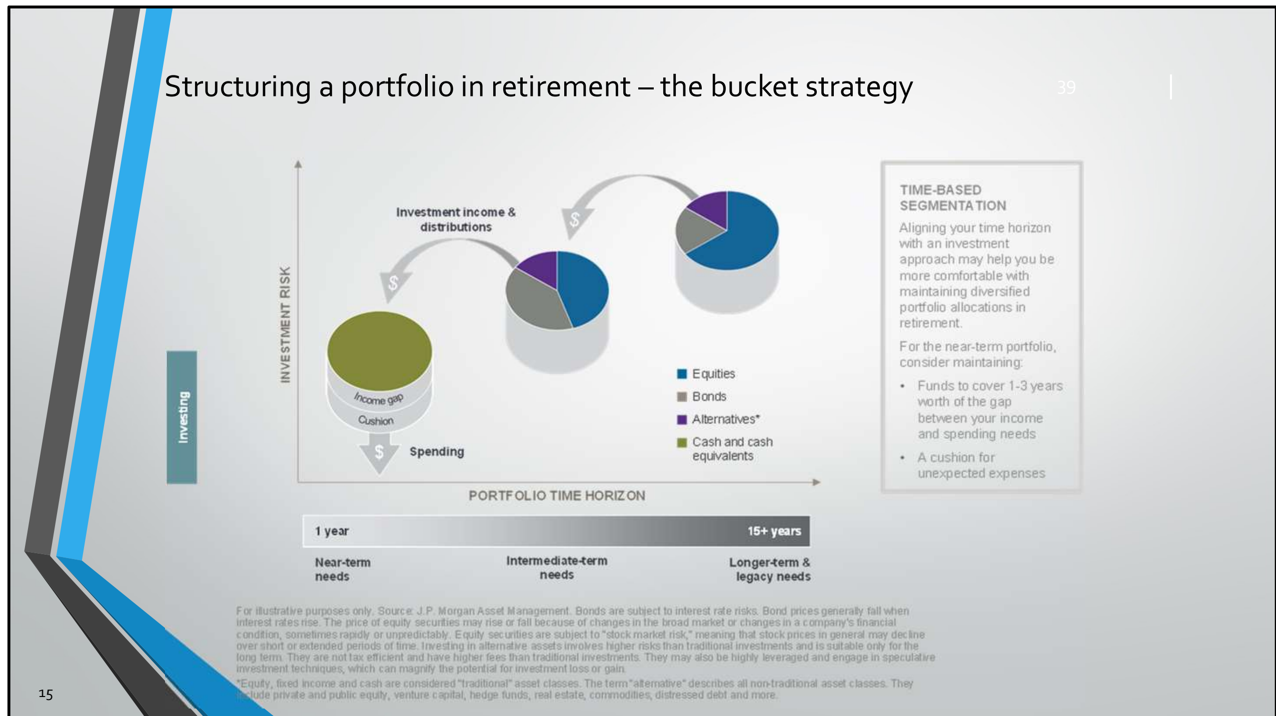
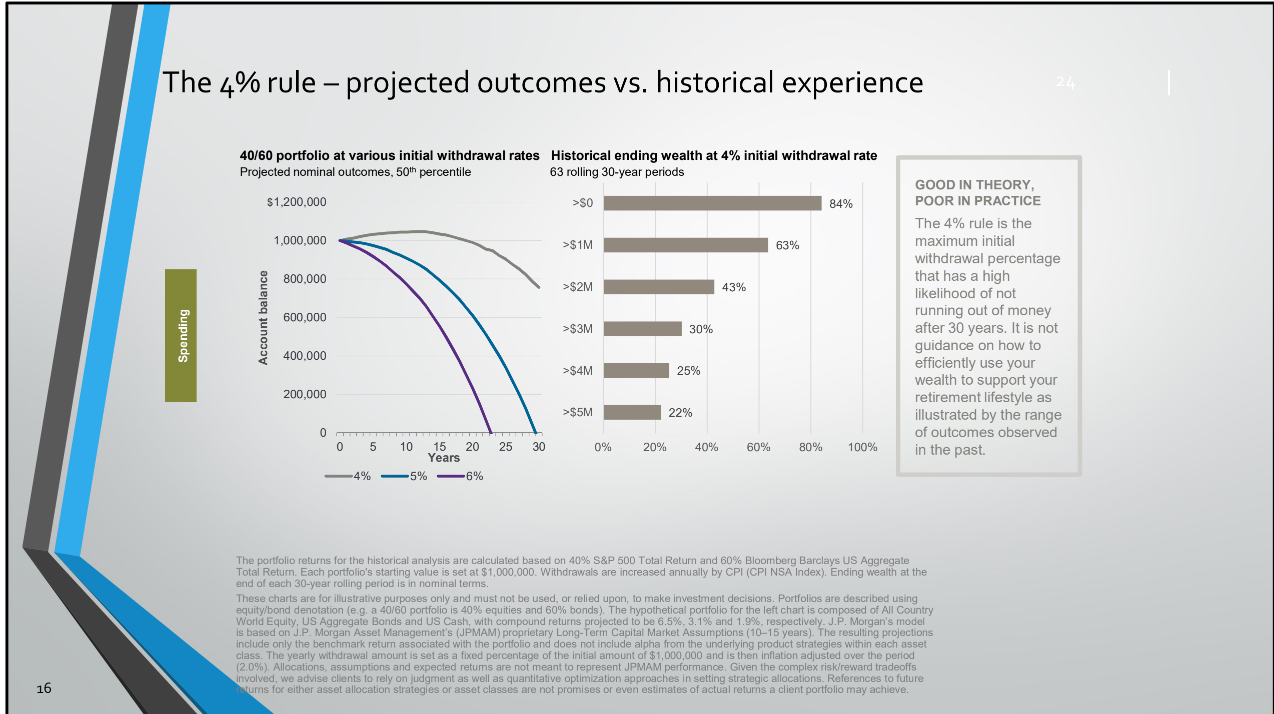
Achieving multiple goals with varying time horizons and savings requirements can be challenging if wealth and savings are grouped all together. For greater clarity and control, consider using a goals-based wealth management approach in which assets are invested according to the time horizon of major goals, and the savings required to achieve each goal is determined and managed on an individual basis. This goals-based approach is only successful if an emergency reserve fund of at least three to six months of total expenses is maintained in cash or cash equivalents, or is accessible through a short-term liquidity option to be readily available, if needed.



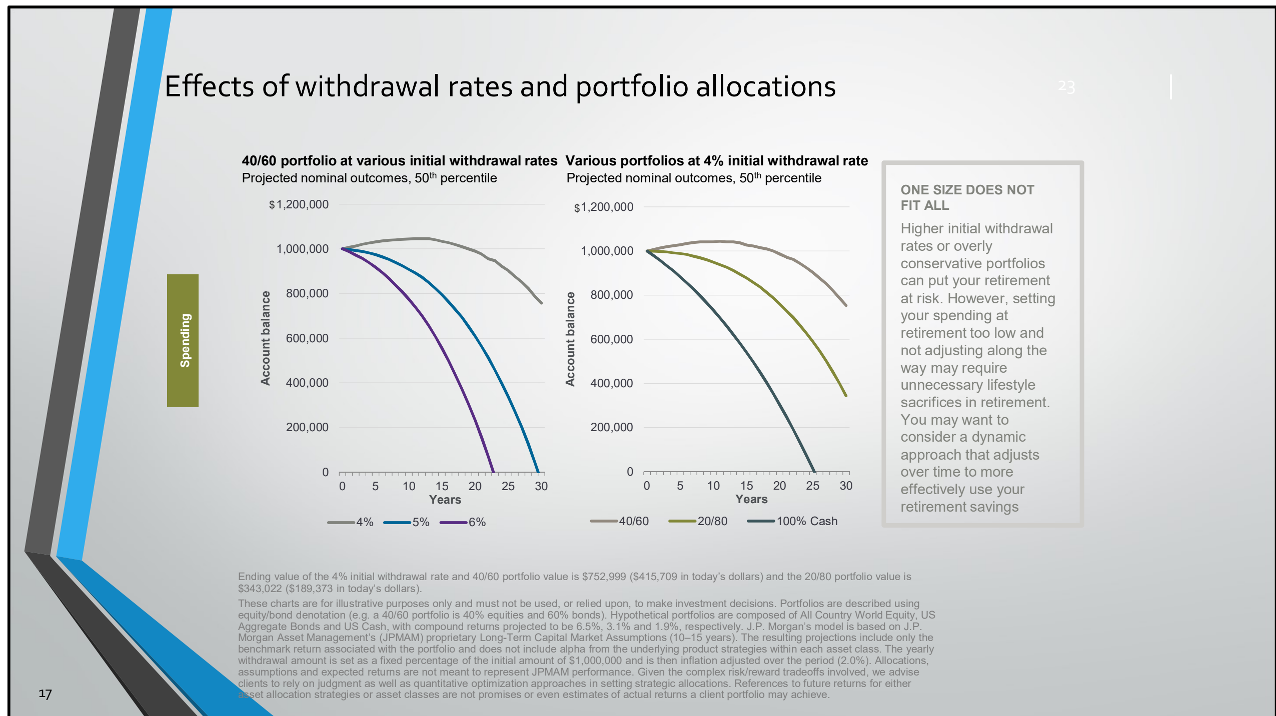
Aligning retirement assets based on how they will be used to support an individual's retirement lifestyle is one way to ensure a higher degree of confidence through retirement. Known as "guarantee the floor," this chart shows how needs, or non-discretionary spending, can be aligned with relatively safe or guaranteed funding sources, while wants can align to more of a balanced portfolio. If leaving a legacy is a goal, a more aggressive portfolio may make sense given the longer time horizon.



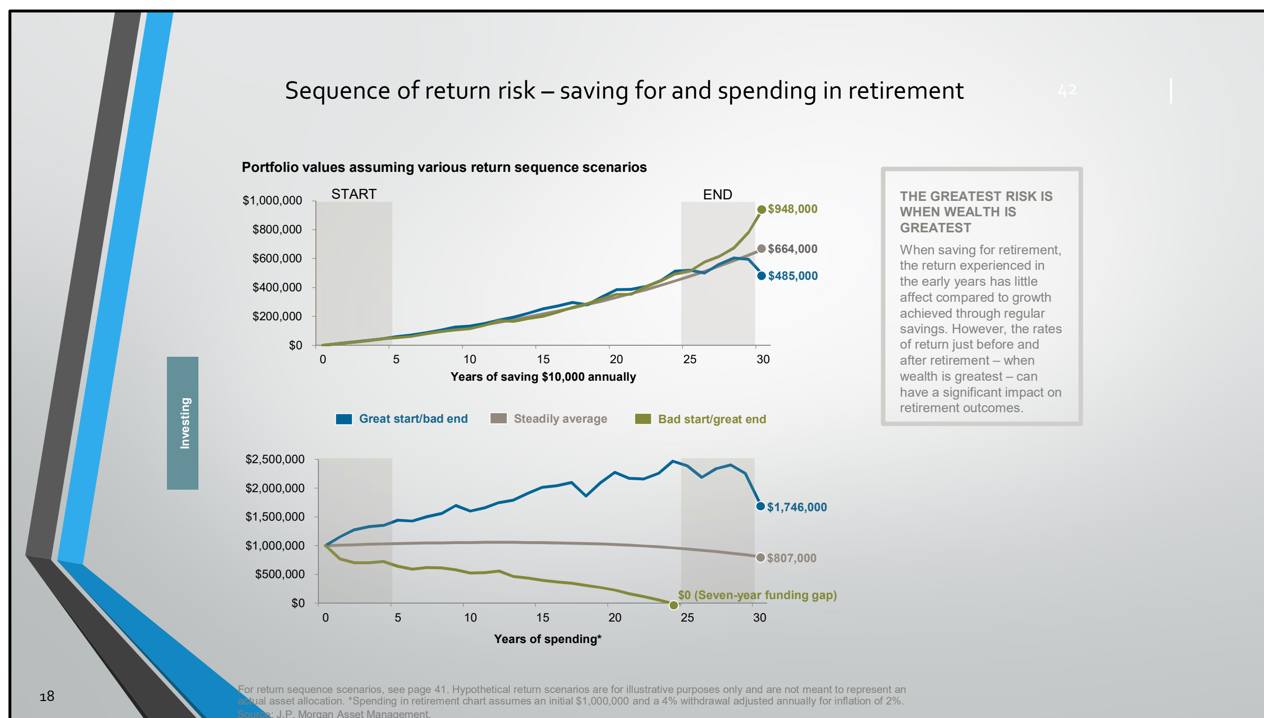
Experiencing market volatility in retirement may result in some people pulling out of the market at the wrong time or not taking on the equity exposure they need to combat inflation. Leveraging mental accounting to encourage better behaviors–aligning a retirement portfolio in time-segmented buckets–may help people maintain a disciplined investment strategy through retirement with an appropriate level of equity exposure. The short-term bucket, invested in cash and cash equivalents, should cover one or more years of a household's income gap in retirement–with the ideal number of years determined based on risk tolerance and market conditions over the near term. A "cushion" amount should also be maintained to cover unexpected expenses. The intermediate-term bucket should have a growth component, with any current income generated through dividends or interest moved periodically to replenish the short-term bucket. The longer-term portfolio can be a long-term care reserve fund or positioned for legacy planning purposes, and pursue a more aggressive investment objective, based on the time horizon.



On a forward-looking basis, assuming JPMorgan's 2020 Long-Term Capital Market Assumptions and a 40% equity, 60% bond portfolio, the 4% initial withdrawal rate may result in having about the level of wealth that an investor started retirement with, on a nominal basis. But how has the 4% rule performed in the past? Based on an analysis of 63 rolling 30-year historical periods, more than 1 in 5 times investors may have had 5 times the amount that they started with at the end of retirement. This may be a positive outcome if an investor's goal is to leave a legacy. It may be a poor outcome if lifestyle sacrifices were made along the way to keep spending low relative to how the portfolio was performing over time. The 4% rule is a helpful rule of thumb to understand the maximum withdrawal rate that has a very high confidence of not running out of money – it is not an efficient withdrawal plan for households that want to use their retirement wealth to support their retirement lifestyle.



Setting an initial withdrawal rate and an appropriate portfolio allocation is necessary to sustain 30+ years of spending in retirement. The chart on the left illustrates the effects of different initial withdrawal rates at a 40% equity / 60% bond allocation. The 4% initial withdrawal rate – a general rule of thumb introduced in 1994, which adjusts the initial withdrawal amount for inflation over time to preserve purchasing power – is valid, while the 5% and 6% initial withdrawal rate proves not as successful and may put retirement at risk. The right chart illustrates the 4% withdrawal rate, but assumes various portfolio allocations. The more conservative the investor, the more difficult it may be to sustain the 4% rule over long periods of time. Consider a more dynamic approach to ensure that you efficiently use your savings to support your lifestyle while ensuring that you don't run out of assets too quickly.



Poor returns have the biggest impact on outcomes when wealth is greatest. Using the three sequence of return scenarios illustrated on the prior page – great start/bad end in blue, steadily average in gray and bad start/great end in green – this slide shows outcomes assuming someone is saving for retirement in the top chart and spending in retirement in the bottom chart.

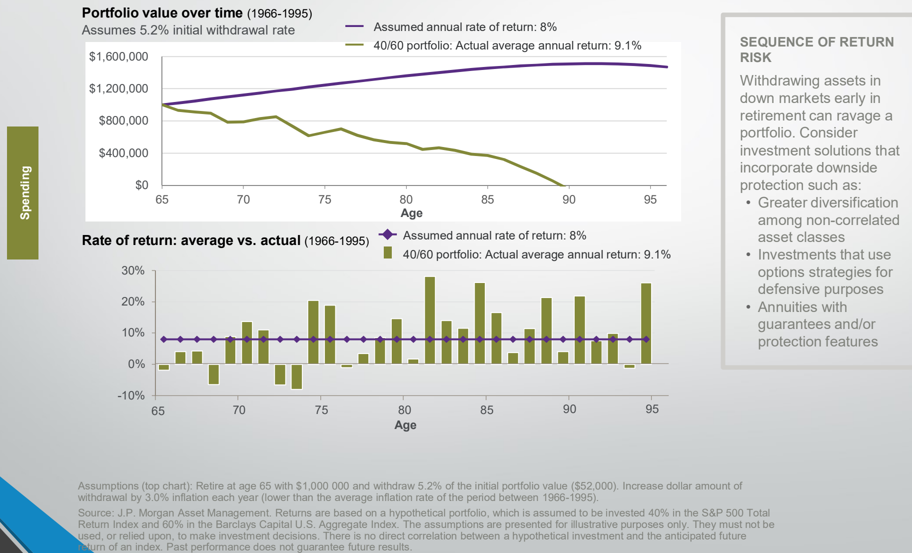
The top chart assumes that someone starts with $0 and begins saving $10,000 per year. In the early years of saving, the return experience makes very little difference across sequence of return scenarios. The most powerful impact to the portfolio's value is the savings behavior. However, the sequence of return experienced at the end of the savings timeframe when wealth is greatest produces very different outcomes.

The bottom chart shows the impact of withdrawals from a portfolio to fund a retirement lifestyle. If returns are poor early in retirement, the portfolio is what we call "ravaged" because more shares are sold at lower prices thereby exacerbating the poor returns that the portfolio is experiencing. This results in the portfolio being depleted in 23 years – or 7 years before the 30-year planning horizon. If, instead, a great start occurs at the beginning of retirement and the same spending is assumed, the portfolio value is estimated to be $1.7M after 30 years.

The key takeaway for clients to understand is how important it is to have the right level of risk prior to, as well as just after, retirement because that is when they have the most wealth at risk. Also discuss with them ways to mitigate sequence of return risk through

diversification, investments that use options strategies for defensive purposes or annuities that offer principal protection or protected income.

Dollar cost ravaging – timing risk of withdrawals



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). Increase dollar amount of withdrawal 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 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.

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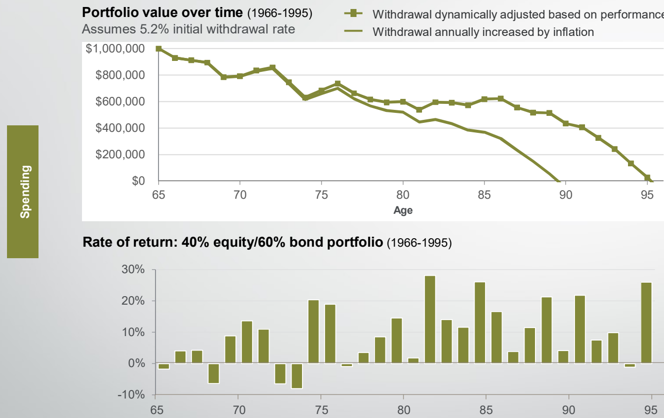
Retirement timing risk is when you retire at the beginning of a declining or bear market. This subjects a portfolio to sequence of return risk, which is poor market returns at the beginning of retirement. This may have a significant impact on outcomes. The bottom chart shows the returns experienced from 1966 to 1995, with below average and negative returns in the first 10 years resulting in the accelerated depletion of assets by the age of 89. Investment solutions that can help mitigate this risk include greater diversification among non-correlated asset classes, investments that use options strategies for defensive purposes, and annuities with guarantees and/or protection features.

Mitigating dollar cost ravaging – dynamic spending

Spending



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.

Assumptions (top chart): Retire at age 65 with $1,000,000 and withdraw 5.2% of the initial portfolio value ($52,000). "Withdrawal annually increased each year by inflation" assumes 3% inflation rate. 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 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.

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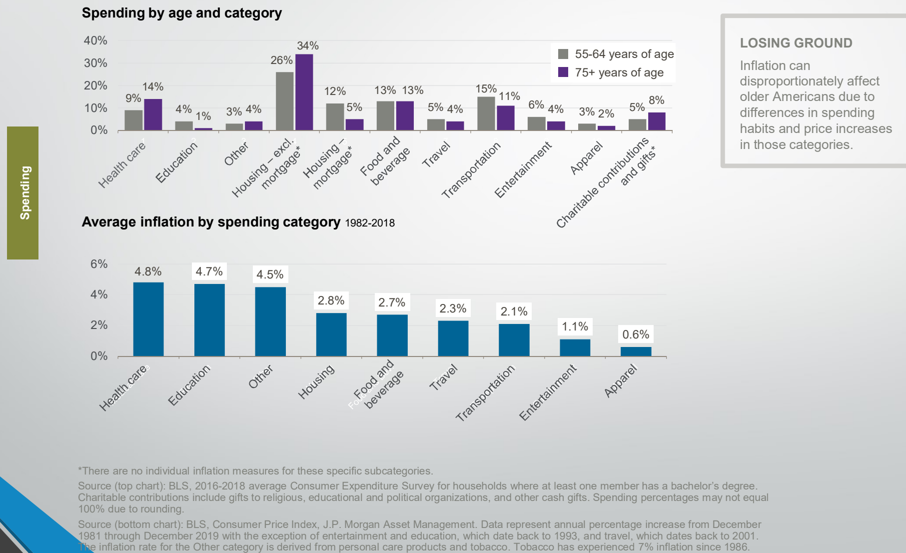
Dollar cost ravaging can occur if households experience poor returns early in retirement, just as they are beginning to spend their retirement portfolio. The bottom chart shows the sequence of returns experienced by a 40% equity and 60% bond portfolio from 1966 to 1995. During that time period, below average and negative returns were experienced in the first 10 years. The top chart shows the outcome of two spending scenarios. The smooth green line represents the portfolio value assuming that the household withdrawals 5.2% of their initial portfolio and increase each year's withdrawal by inflation, regardless of how their portfolio performs. The green line with symbols illustrates a dynamic spending strategy in which the household grows their withdrawal by inflation in periods of normal returns. They do not give themselves a raise after a year of poor market returns and give themselves a little more of a raise after a year of outperformance. By adapting their spending based on how their portfolio is performing, the household is able to meet their spending needs for the entire 30 years, and spend about 14% more in total in today's dollars.

Spending and inflation



Spending

LOSING GROUND

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

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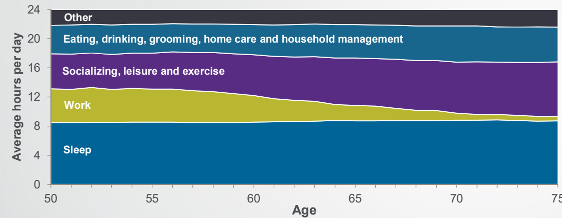
Older Americans can experience a higher rate of inflation primarily because they spend a higher percentage of their total budget on health care. Health care is the second highest inflating category behind education costs, which includes secondary education.

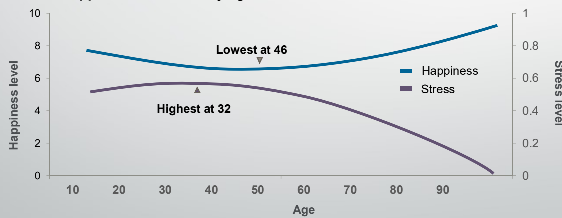
Changes in lifestyle

Retirement landscape

Amount of daily hours spent per activity by age



Levels of happiness and stress 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.

Values include people who do and do not participate in the activities. Values are weighted by the age and then averaged across rolling five-year age groups. Each category includes time spent traveling to and from the activity if applicable.

Source (top chart): Bureau of Labor Statistics American Time Use Survey 2016, J.P. Morgan Asset Management analysis.

Source (bottom chart): Carol Graham & Julia Ruiz Pozuelo, 2017. "Happiness, stress and age: how the U curve varies across people and places," Journal of Population Economics, 256. Values are for married Americans.

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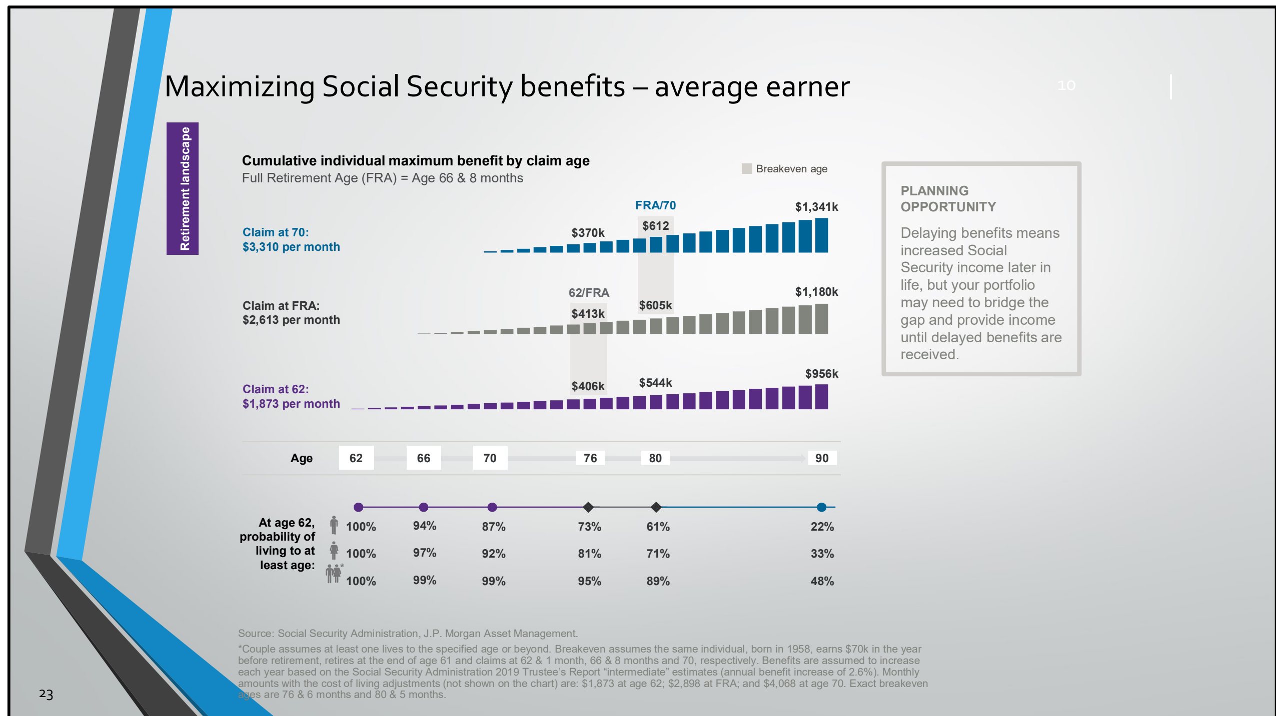
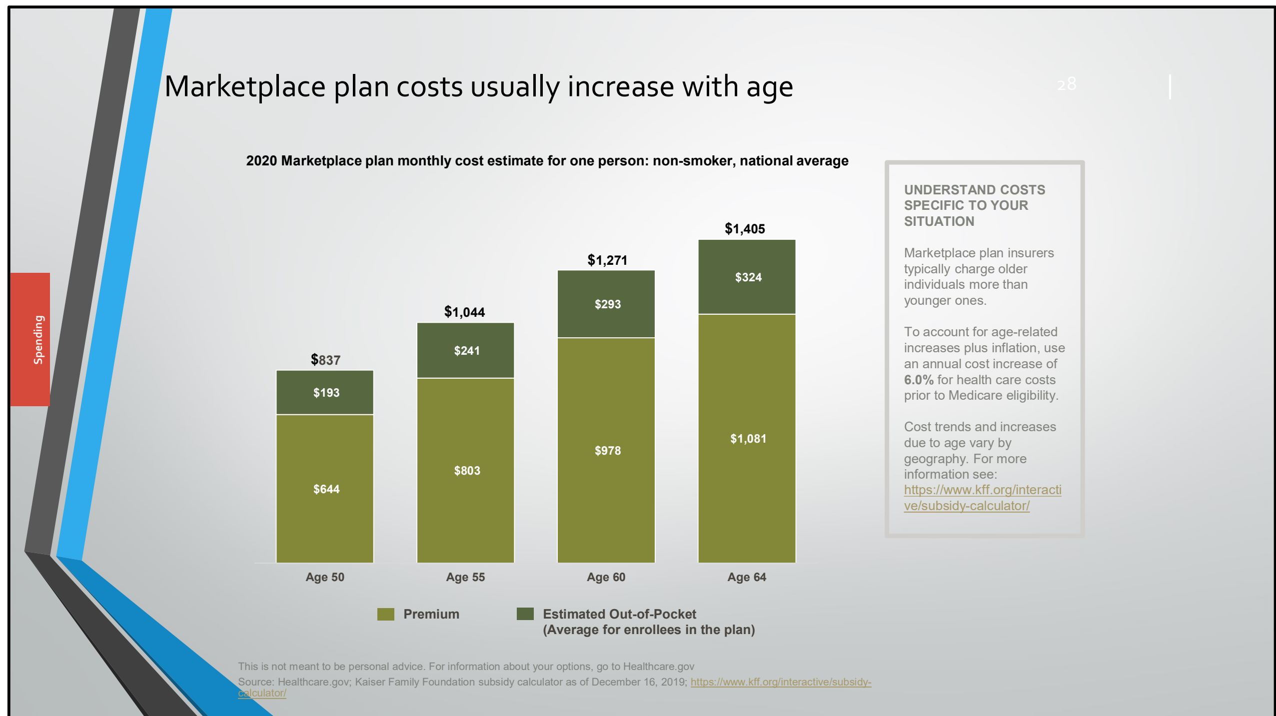
As households transition into retirement, time that had been spent working now is available for other pursuits. Individuals often enter retirement having spent too little time determining how they plan to spend this time – and run the risk of spending time and money pursuing activities that may not prove to be as fulfilling as they had anticipated. "Practicing retirement" can be a good way for individuals to try out interests in advance so that they are more likely to use their time and resources wisely – and to make the most of these years of increasing happiness and reduced stress.



The age at which one claims Social Security greatly affects the amount of benefit received. Key claiming ages are 62, Full Retirement Age (FRA is currently 66 and 8 months for individuals turning 62 in 2020) and 70, as shown in the row of ages in the middle of the slide. The top three graphs show the three most common ages an individual is likely to claim and the monthly benefit he or she would receive at those ages, assuming average earnings at retirement of $70,000 (based on JPMorgan research). Claiming at the latest age (70) provides the highest monthly amount but delays receipt of the benefit for 8 years. Claiming at Full Retirement Age, 66 and 8 months, or at 62 years old provides lesser amounts at earlier ages. The bars represent the cumulative value of benefits received by the specified age. The gray shading between the bar charts represents the ages at which waiting until a later claim age results in greater cumulative benefits than claiming at the earlier age. This is called the "breakeven age." The breakeven age between taking benefits at age 62 and FRA is age 76 and between FRA and 70 is 80. Along the bottom of the page, the percentages shown are the probability that a man, woman or one member of a married couple currently age 62 will live to the specified ages or beyond. Comparing these percentages against the breakeven ages will help a beneficiary make an informed decision about when to claim Social Security if maximizing the cumulative benefit received is a primary goal.

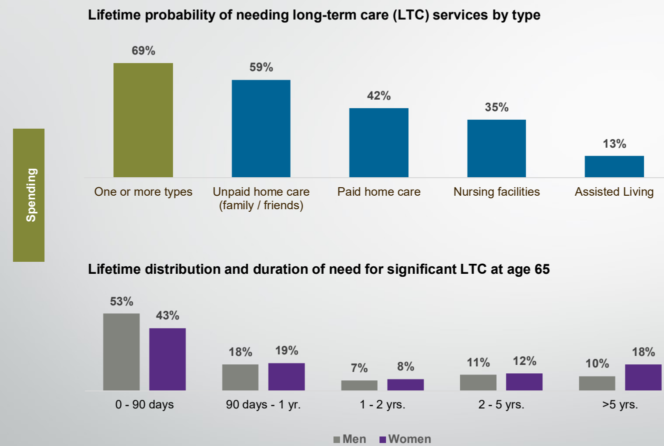
Note that while the benefits shown are for an average earner, the breakeven ages would be

the same for those with other earnings histories.



In most states, plans available on healthcare.gov will increase in price with age. To get information for your specific age and state, see the Kaiser Family Foundation subsidy calculator. You may also use the calculator for prior years if you want to see the historical trend for your particular area. If using this chart to estimate total annual premium and out-of-pocket health care costs, use an annual increase of 6% to account for both inflation and age-related increases.

Long-term care planning



CONSIDER THE RANGE OF POSSIBLE CARE NEEDS

There is a high likelihood of needing care. This often starts at home before progressing to other settings.

While considering the range of possibilities, take into account that 1 in 10 men and nearly 2 in 10 women are projected to have a significant care need for more than 5 years.

Top chart: Includes all types of care including managing finances, taking medications, shopping, using transportation and food preparation, as well as more significant care needs. Bottom chart: Significant care needs includes two or more activities of daily living such as eating, dressing, bathing, transferring and toileting or severe cognitive impairment. Those who meet the cognitive impairment criteria who require care for less than 90 days are included in the 90 days – 1 year category.

Source: Top chart: U.S. Department of Health and Human Services, ASPE Issue Brief, Revised February 2016, Table 1. Bottom chart: U.S. Department of Health and Human Services, Administration on Aging statistics last updated October 10, 2017. Most recent data available as of January 28, 2020.

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At age 65, the lifetime likelihood of needing at least some care is nearly 70%. Most often, care will be at home although it may progress to other settings. Duration of care needs vary widely, with about 5 in 10 men and 4 in 10 women requiring significant care for zero to 90 days and 1 in 10 men and nearly 2 in 10 women needing significant care for 5 years or more.

Long-term care planning solutions

Consider utilizing more than one solution

Spending

FAMILY
Family and friends may provide some assistance or help coordinate care

SAVINGS
Savings may fund paid care – and some other 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

CONTINUING CARE RETIREMENT COMMUNITIES
Known as CCRCs, these are communities where people start living on their own and as care needs develop additional services or facilities are provided (costs and services vary)[2]

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 qualify[1]

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.

[1] 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 about Medicaid, Medicaid qualification and look-back rules.

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

[3] HSAs 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 advisor; this is not meant to be personal tax advice.

Source: J.P. Morgan Asset Management and Mylifesite.net as of October 28, 2019 (statistic on approximate number of CCRCs.)

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When planning for long-term care, consider multiple solutions that may be utilized including family assistance, income, savings, home equity, life insurance for a surviving spouse, and other insurance options that range from traditional long-term care insurance to combination products to annuities. Continuing Care Retirement Communities (CCRCs) are also a possibility for those who can afford them. Types of CCRCs vary – see MyLifeSite.net for more information. Medicaid may be a last resort; and if Medicaid is utilized, you may have less control of type of care and care setting. For specifics regarding Medicaid qualification in your area, consult with an eldercare attorney.

MARKET INSIGHTS

Guide to the Markets®

U.S. | 1Q 2021 | As of December 31, 2020

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J.P.Morgan
Asset Management

Stock market since 1900

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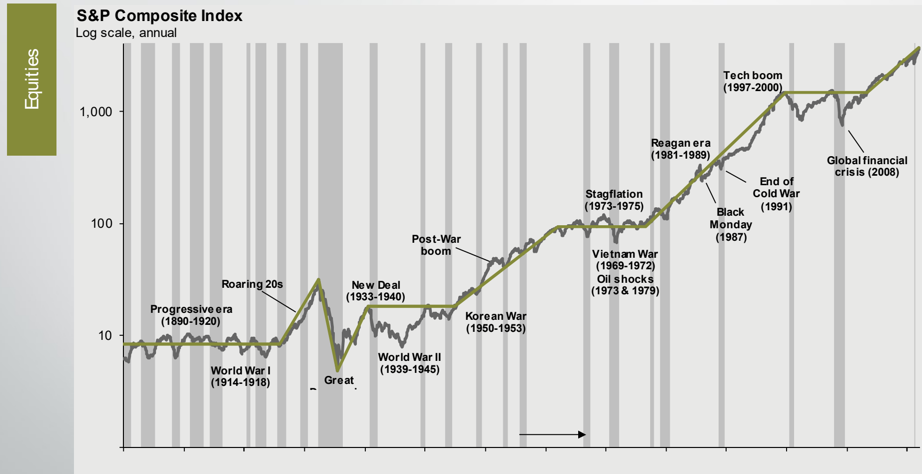
Equities



Source: FactSet, NBER, Robert Shiller, J.P. Morgan Asset Management.
Data shown in log scale to best illustrate long-term index patterns. Past performance is not indicative of future returns. Chart is for illustrative purposes only.

Guide to the Markets – U.S. Data are as of December 31, 2020.

This chart shows the S&P Composite Index, on a logarithmic scale, since 1900. The log scale helps illustrate long-term index patterns, namely the distinct periods of range- and trend-bound markets. Annotations help to indicate what caused movements in the market.

Bear markets and subsequent bull runs

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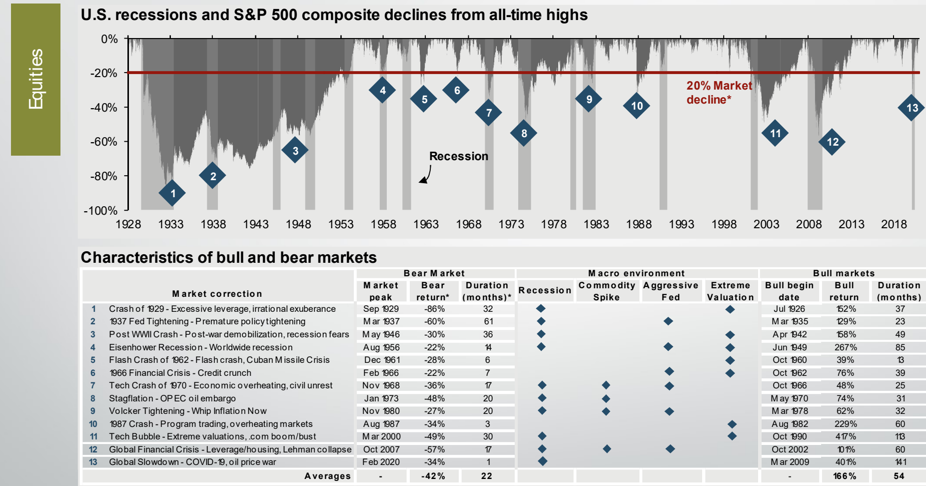
Equities



Characteristics of bull and bear markets

	Market correction	Bear Market			Macro environment				Bull markets		
		Market peak	Bear return*	Duration (months)*	Recession	Commodity Spike	Aggressive Fed	Extreme Valuation	Bull begin date	Bull return	Duration (months)
1	Crash of 1929 - Excessive leverage, irrational exuberance	Sep 1929	-86%	32	◆			◆	Jul 1926	152%	37
2	1937 Fed Tightening - Premature policy tightening	Mar 1937	-60%	61	◆		◆		Mar 1935	129%	23
3	Post WWII Crash - Post-war demobilization, recession fears	May 1946	-30%	36	◆			◆	Apr 1942	158%	49
4	Eisenhower Recession - Worldwide recession	Aug 1956	-22%	14	◆		◆	◆	Jun 1949	267%	85
5	Flash Crash of 1962 - Flash crash, Cuban Missile Crisis	Dec 1961	-28%	6				◆	Oct 1960	39%	13
6	1966 Financial Crisis - Credit crunch	Feb 1966	-22%	7			◆	◆	Oct 1962	76%	39
7	Tech Crash of 1970 - Economic overheating, civil unrest	Nov 1968	-36%	17	◆	◆	◆		Oct 1966	48%	25
8	Stagflation - OPEC oil embargo	Jan 1973	-48%	20	◆	◆			May 1970	74%	31
9	Volcker Tightening - Whip Inflation Now	Nov 1980	-27%	20	◆	◆	◆		Mar 1978	62%	32
10	1987 Crash - Program trading, overheating markets	Aug 1987	-34%	3				◆	Aug 1982	229%	60
11	Tech Bubble - Extreme valuations, .com boom/bust	Mar 2000	-49%	30	◆			◆	Oct 1990	417%	113
12	Global Financial Crisis - Leverage/housing, Lehman collapse	Oct 2007	-57%	17	◆	◆	◆		Oct 2002	101%	60
13	Global Slowdown - COVID-19, oil price war	Feb 2020	-34%	1	◆				Mar 2009	401%	141
	Averages	-	**-42%**	**22**					-	**166%**	**54**

Source: FactSet, NBER, Robert Shiller, Standard & Poor's, J.P. Morgan Asset Management.

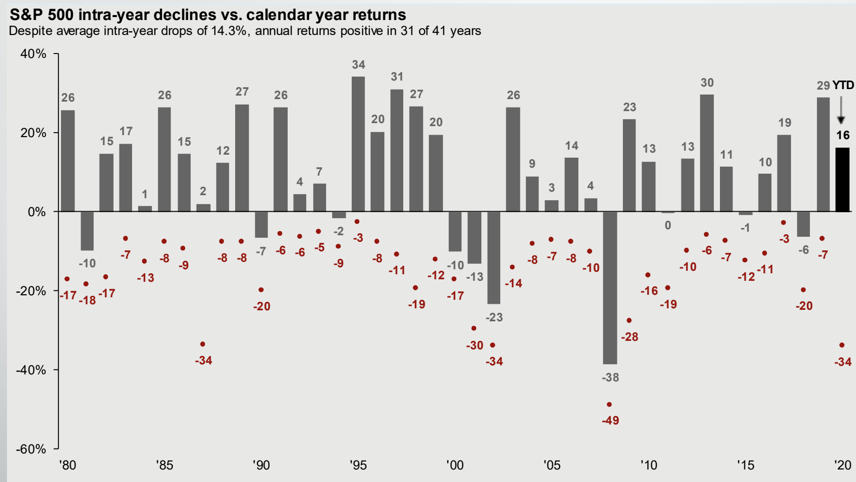
*A bear market is defined as a 20% or more decline from the previous market high. The related market return is the peak to trough return over the cycle. Periods of "Recession" are defined using NBER business cycle dates. "Commodity spikes" are defined as movement in oil prices of over 100% over an 18-month period. Periods of "Extreme Valuations" are those where S&P 500 last 12-months P/E levels were approximately two standard deviations above long-run averages, or time periods where equity market valuations appeared expensive given the broader macroeconomic environment. "Aggressive Fed Tightening" is defined as Federal Reserve monetary tightening that was unexpected and/or significant in magnitude. Bear and bull returns are price returns.

Guide to the Markets – U.S. Data are as of December 31, 2020.

This chart shows historical recessions, their corresponding bear markets (a 20% market decline from the previous all-time high), what caused them, and the magnitude of the drawdown. This is meant to illustrate that lofty valuations are not predictors of bear markets, but rather, bear markets are caused by external factors such as geopolitical conflict, monetary policy action and recessions.

Annual returns and intra-year declines

Equities



Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management.

Returns are based on price index only and do not include dividends. Intra-year drops refers to the largest market drops from a peak to a trough during the year. For illustrative purposes only. Returns shown are calendar year returns from 1980 to 2020, over which time period the average annual return was 9.0%.

Guide to the Markets – U.S. Data are as of December 31, 2020.

This chart shows intra-year stock market declines (red dot and number), as well as the market's return for the full year (gray bar). What is clear is that the market is capable of recovering from intra-year drops and finishing the year in positive territory, which should encourage investors to stay the course when markets get choppy.

Market volatility

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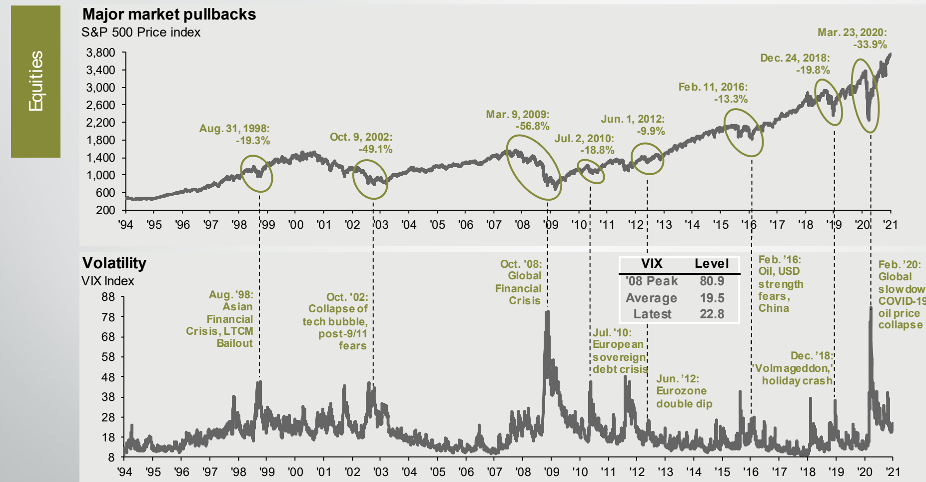
Equities



Source: CBOE, FactSet, Standard & Poor's, J.P. Morgan Asset Management.

Drawdowns are calculated as the prior peak to the lowest point.

Guide to the Markets – U.S. Data are as of December 31, 2020.

This slide looks at various measures of market volatility, with the top chart showing the magnitude and date of significant pullbacks since the Global Financial Crisis and the bottom chart showing the corresponding spike in the VIX, the volatility index.

Asset class returns

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Investing principles

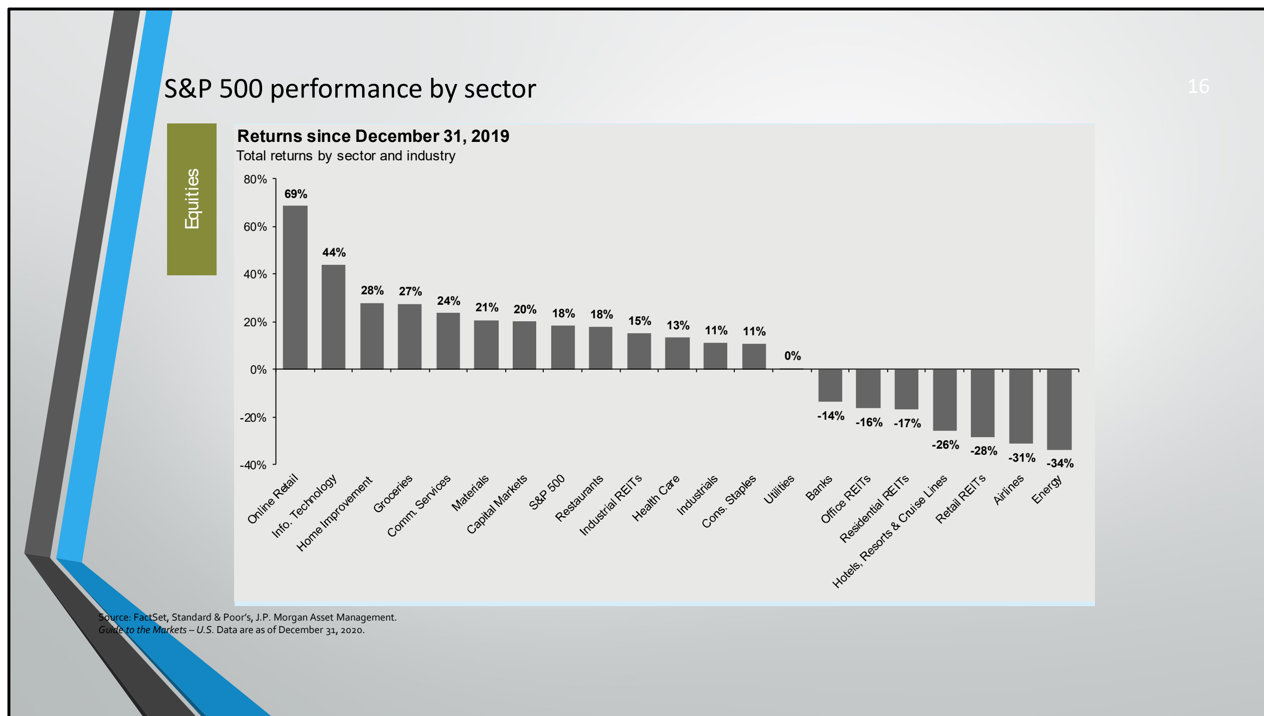
2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2006 - 2020 Ann.	2006 - 2020 Vol.
REITs 35.1%	EM Equity 39.8%	Fixed Income 5.2%	EM Equity 79.0%	REITs 27.9%	REITs 8.3%	REITs 19.7%	Small Cap 38.8%	REITs 28.0%	REITs 2.8%	Small Cap 21.3%	EM Equity 37.8%	Cash 1.8%	Large Cap 31.5%	Small Cap 20.0%	Large Cap 9.8%	EM Equity 23.3%
EM Equity 32.6%	Comdty. 16.2%	Cash 1.8%	High Yield 59.4%	Small Cap 26.9%	Fixed Income 7.8%	High Yield 19.6%	Large Cap 32.4%	Large Cap 13.7%	Large Cap 1.4%	High Yield 14.3%	DM Equity 25.6%	Fixed Income 0.0%	REITs 28.7%	EM Equity 18.7%	Small Cap 8.9%	REITs 23.1%
DM Equity 26.9%	DM Equity 11.6%	Asset Alloc. -25.4%	DM Equity 32.5%	EM Equity 19.2%	High Yield 3.1%	EM Equity 18.6%	DM Equity 23.3%	Fixed Income 6.0%	Fixed Income 0.5%	Large Cap 12.0%	Large Cap 21.8%	REITs -4.0%	Small Cap 25.5%	Large Cap 18.4%	High Yield 7.5%	Small Cap 22.6%
Small Cap 18.4%	Asset Alloc. 7.1%	High Yield -26.9%	REITs 28.0%	Comdty. 16.8%	Large Cap 2.1%	DM Equity 17.9%	Asset Alloc. 14.9%	Asset Alloc. 5.2%	Cash 0.0%	Comdty. 11.8%	Small Cap 14.6%	High Yield -4.1%	DM Equity 22.7%	Asset Alloc. 10.6%	REITs 7.1%	DM Equity 19.1%
Large Cap 15.8%	Fixed Income 7.0%	Small Cap -33.8%	Small Cap 27.2%	Large Cap 15.1%	Cash 0.1%	Small Cap 16.3%	High Yield 7.3%	Small Cap 4.9%	DM Equity -0.4%	EM Equity 11.6%	Asset Alloc. 14.6%	Large Cap -4.4%	Asset Alloc. 19.5%	DM Equity 8.3%	EM Equity 6.9%	Comdty. 18.8%
Asset Alloc. 15.3%	Large Cap 5.5%	Comdty. -35.6%	Large Cap 26.5%	High Yield 14.8%	Asset Alloc. -0.7%	Large Cap 16.0%	REITs 2.9%	Cash 0.0%	Asset Alloc. -2.0%	REITs 8.6%	High Yield 10.4%	Asset Alloc. -5.8%	EM Equity 18.9%	Fixed Income 7.5%	Asset Alloc. 6.7%	Large Cap 16.7%
High Yield 13.7%	Cash 4.8%	Large Cap -37.0%	Asset Alloc. 25.0%	Asset Alloc. 13.3%	Small Cap -4.2%	Asset Alloc. 12.2%	Cash 0.0%	High Yield 0.0%	High Yield -2.7%	Asset Alloc. 8.3%	REITs 8.7%	Small Cap -11.0%	High Yield 12.6%	High Yield 7.0%	DM Equity 5.0%	High Yield 12.2%
Cash 4.8%	High Yield 3.2%	REITs -37.7%	Comdty. 18.9%	DM Equity 8.2%	DM Equity -11.7%	Fixed Income 4.2%	Fixed Income -2.0%	EM Equity -1.8%	Small Cap -4.4%	Fixed Income 2.6%	Fixed Income 3.5%	Comdty. -11.2%	Fixed Income 8.7%	Cash 0.5%	Fixed Income 4.5%	Asset Alloc. 11.8%
Fixed Income 4.3%	Small Cap -1.6%	DM Equity -43.1%	Fixed Income 5.9%	Fixed Income 6.5%	Comdty. -13.3%	Cash 0.1%	EM Equity -2.3%	DM Equity -4.5%	EM Equity -14.6%	DM Equity 1.5%	Comdty. 1.7%	DM Equity -13.4%	Comdty. 7.7%	Comdty. -3.1%	Cash 1.2%	Fixed Income 3.2%
Comdty. 2.1%	REITs -15.7%	EM Equity -53.2%	Cash 0.1%	Cash 0.1%	EM Equity -18.2%	Comdty. -1.1%	Comdty. -9.5%	Comdty. -17.0%	Comdty. -24.7%	Cash 0.3%	Cash 0.8%	EM Equity -14.2%	Cash 2.2%	REITs -5.1%	Comdty. -4.0%	Cash 0.8%

Source: Barclays, Bloomberg, FactSet, MSCI, NAREIT, Russell, Standard & Poor's, J.P. Morgan Asset Management.

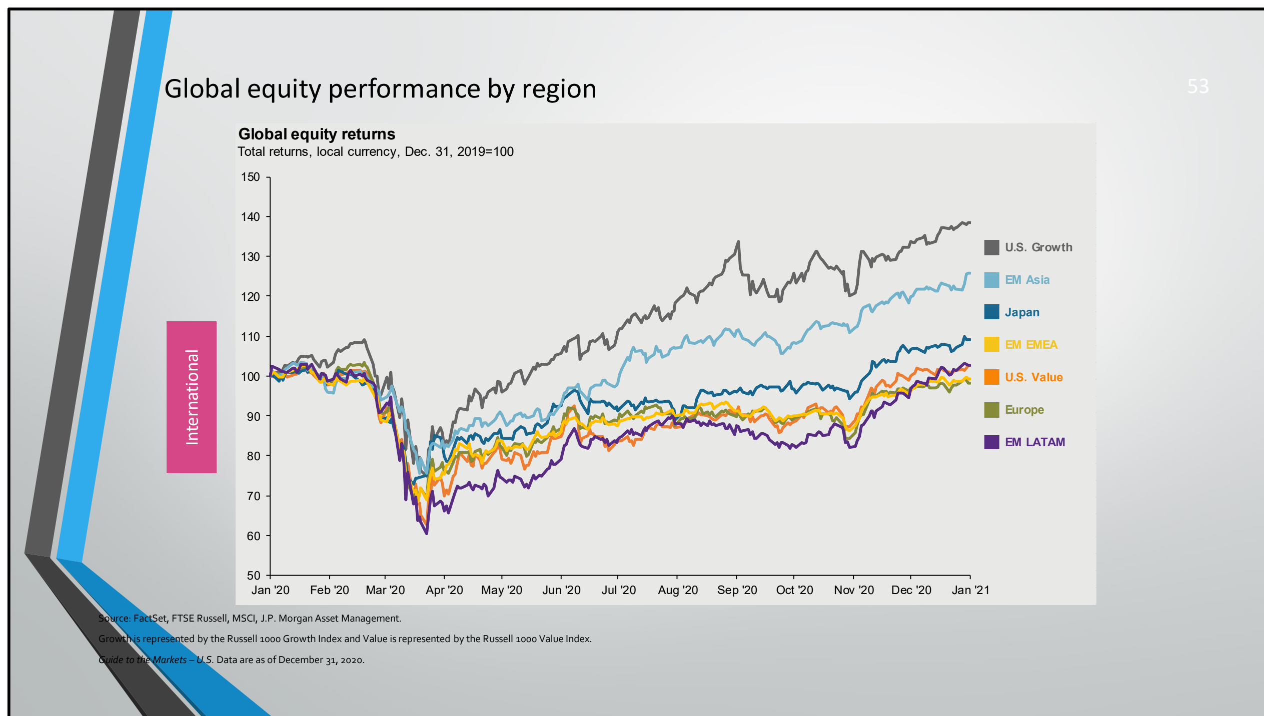
Large cap: S&P 500, Small cap: Russell 2000, EM Equity: MSCI EME, DM Equity: MSCI EAFE, Comdty: Bloomberg Commodity Index, High Yield: Bloomberg Barclays Global HY Index, Fixed Income: Bloomberg Barclays US Aggregate, REITs: NAREIT Equity REIT Index, Cash: Bloomberg Barclays 1-3m Treasury. The "Asset Allocation" portfolio assumes the following weights: 25% in the S&P 500, 10% in the Russell 2000, 15% in the MSCI EAFE, 5% in the MSCI EME, 25% in the Bloomberg Barclays US Aggregate, 5% in the Bloomberg Barclays 1-3m Treasury, 5% in the Bloomberg Barclays Global High Yield Index, 5% in the Bloomberg Commodity Index and 5% in the NAREIT Equity REIT Index. Balanced portfolio assumes annual rebalancing. Annualized (Ann.) return and volatility (Vol.) represents period from 12/31/05 to 12/31/20. Please see disclosure page at end for index definitions. All data represents total return for stated period. The "Asset Allocation" portfolio is for illustrative purposes only. Past performance is not indicative of future returns.

Guide to the Markets – U.S. Data are as of December 31, 2020.

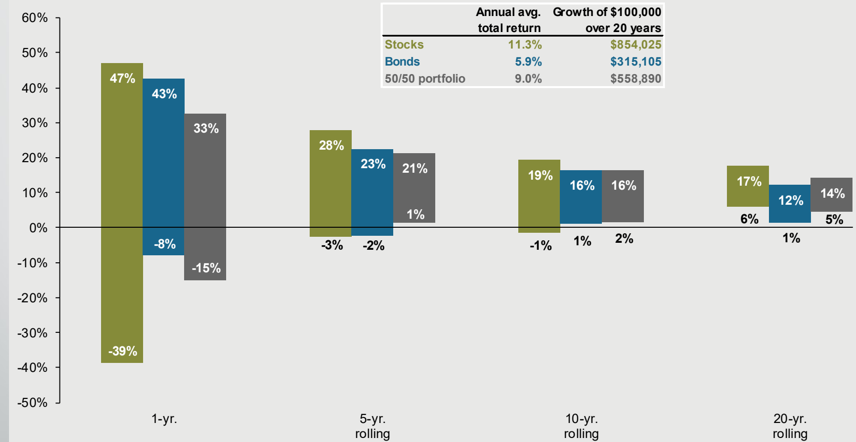
This chart shows the historical performance and volatility of different asset classes, as well as an annually rebalanced asset allocation portfolio. The asset allocation portfolio incorporates the various asset classes shown in the chart and highlights that balance and diversification can help reduce volatility and enhance returns.



This page shows the year-to-date performance of the S&P 500 by sectors and select sub-sectors. The chart illustrates the incredibly uneven recovery when we look beneath the surface of the broad market. This recovery has been led by sectors such as online retail and home improvements, which have been winners of the pandemic-induced shutdowns. On the other extreme, we have sectors such as airlines, energy, and department stores which have been the losers.



This page looks at the year-to-date performance of different regions in the world in local currencies. We can see that there is a great dispersion in style and regional performances this year. Growth stocks in the U.S. and EM Asia equities have led the gains, while Europe, Japan, Latin America, EMEA and U.S.value have been lagging.



This chart shows historical returns by holding period for stocks, bonds and a 50/50 portfolio, rebalanced annually, over different time horizons. The bars show the highest and lowest return that you could have gotten during each of the time periods (1-year, 5-year rolling, 10-year rolling and 20-year rolling). This page advocates for simple balanced portfolio, as well as for having an appropriate time horizon.

Diversification and the average investor

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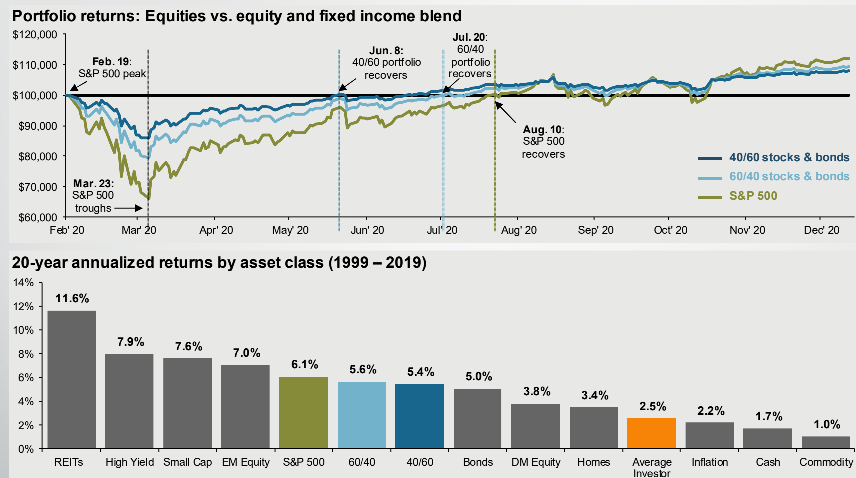


Investing principles

Source: Barclays, Bloomberg, FactSet, Standard & Poor's, J.P. Morgan Asset Management; (Bottom) Dalbar Inc, MSCI, NAREIT, Russell.

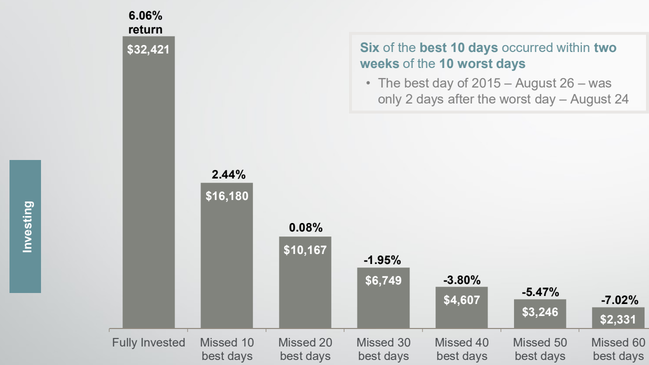
Indices used are as follows: REITs: NAREIT Equity REIT Index, Small cap: Russell 2000, EM Equity: MSCI EM, DM Equity: MSCI EAFE, Commodity: Bloomberg Commodity Index, High Yield: Bloomberg Barclays Global HY Index, Bonds: Bloomberg Barclays U.S. Aggregate Index, Homes: median sale price of existing single-family homes, Cash: Bloomberg Barclays 1-3m Treasury, Inflation: CPI. 60/40: A balanced portfolio with 60% invested in S&P 500 Index and 40% invested in high-quality U.S. fixed income, represented by the Bloomberg Barclays U.S. Aggregate Index. The portfolio is rebalanced annually. Average asset allocation investor return is based on an analysis by Dalbar Inc., which utilizes the net of aggregate mutual fund sales, redemptions and exchanges each month as a measure of investor behavior. Returns are annualized (and total return where applicable) and represent the 20-year period ending 12/31/19 to match Dalbar's most recent analysis.

Guide to the Markets – U.S. Data are as of December 31, 2020.

The top chart shows the powerful effects of portfolio diversification. It illustrates the difference in movements between the S&P 500, a 60/40 portfolio and a 40/60 portfolio indicating when each respective portfolio would have recovered its original value at the peak of the market in February 19th from the market bottom in March 23rd. It shows that the S&P 500 fell far more than either of the two diversified portfolio and also took longer to recover its value. The bottom chart shows 20-year annualized returns by asset class, as well as how an "average investor" would have fared. The average

investor asset allocation return is based on an analysis by Dalbar, which utilizes the net of aggregate mutual fund sales, redemptions and exchanges each month as a measure of investor behavior.

Impact of being out of the market



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 for the respective strategies 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, 2019.

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During periods of extreme market declines, a natural emotional reaction can be to sell out of the market and seek safety in cash. The results of this reaction can be devastating because often the best days occur close to the worst days during periods of market volatility. This chart compares an individual who was fully invested for the past 20 years in the S&P 500 to investors who missed some of the best days as a result of being out of the market for a period of time. Missing the top 10 best days will halve the annualized return; missing the top 30 days will result in a negative annualized return on the original $10,000 investment. Rather than emotionally reacting to or trying to time the market, adopting a disciplined long-term investment strategy may produce a better retirement outcome.

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Unless otherwise stated, all data are as of December 31, 2020 or most recently available.

Guide to the Markets – U.S.

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J.P. Morgan Asset Management – Index definitions & disclosures

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.

Indexes 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 **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 indexes 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 advisor 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.

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J.P. Morgan Asset Management – Index definitions

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

Equities:

The **Dow Jones Industrial Average** is a price-weighted average of 30 actively traded blue-chip U.S. stocks.

The **MSCI ACWI (All Country World Index)** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets.

The **MSCI EAFE Index (Europe, Australasia, Far East)** is a free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the US & Canada.

The **MSCI Emerging Markets Index** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets.

The **MSCI Europe Index** is a free float-adjusted market capitalization index that is designed to measure developed market equity performance in Europe.

The **MSCI Pacific Index** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the Pacific region.

The **Russell 1000 Index**® measures the performance of the 1,000 largest companies in the Russell 3000.

The **Russell 1000 Growth Index**® measures the performance of those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values.

The **Russell 1000 Value Index**® measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower forecasted growth values.

The **Russell 2000 Index**® measures the performance of the 2,000 smallest companies in the Russell 3000 Index.

The **Russell 2000 Growth Index**® measures the performance of those Russell 2000 companies with higher price-to-book ratios and higher forecasted growth values.

The **Russell 2000 Value Index**® measures the performance of those Russell 2000 companies with lower price-to-book ratios and lower forecasted growth values.

The **Russell 3000 Index**® measures the performance of the 3,000 largest U.S. companies based on total market capitalization.

The **Russell Midcap Index**® measures the performance of the 800 smallest companies in the Russell 1000 Index.

The **Russell Midcap Growth Index** ® measures the performance of those Russell Midcap companies with higher price-to-book ratios and higher forecasted growth values. The stocks are also members of the Russell 1000 Growth index.

The **Russell Midcap Value Index** ® measures the performance of those Russell Midcap companies with lower price-to-book ratios and lower forecasted growth values. The stocks are also members of the Russell 1000 Value index.

The **S&P 500 Index** is widely regarded as the best single gauge of the U.S. equities market. The index includes a representative sample of 500 leading companies in leading industries of the U.S. economy. The **S&P 500 Index** focuses on the large-cap segment of the market; however, since it includes a significant portion of the total value of the market, it also represents the market.

Fixed income:

The **Bloomberg Barclays 1-3 Month U.S. Treasury Bill Index** includes all publicly issued zero-coupon US Treasury Bills that have a remaining maturity of less than 3 months and more than 1 month, are rated investment grade, and have $250 million or more of outstanding face value. In addition, the securities must be denominated in U.S. dollars and must be fixed rate and non convertible.

The **Bloomberg Barclays Global High Yield Index** is a multi-currency flagship measure of the global high yield debt market. The index represents the union of the US High Yield, the Pan-European High Yield, and Emerging Markets (EM) Hard Currency High Yield Indices. The high yield and emerging markets sub-components are mutually exclusive. Until January 1, 2011, the index also included CMBS high yield securities.

The **Bloomberg Barclays Municipal Index**: consists of a broad selection of investment- grade general obligation and revenue bonds of maturities ranging from one year to 30 years. It is an unmanaged index representative of the tax-exempt bond market.

The **Bloomberg Barclays US Dollar Floating Rate Note (FRN) Index** provides a measure of the U.S. dollar denominated floating rate note market.

The **Bloomberg Barclays US Corporate Investment Grade Index** is an unmanaged index consisting of publicly issued US Corporate and specified foreign debentures and secured notes that are rated investment grade (Baa3/BBB or higher) by at least two ratings agencies, have at least one year to final maturity and have at least $250 million par amount outstanding. To qualify, bonds must be SEC-registered.

The **Bloomberg Barclays US High Yield Index** covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.

The **Bloomberg Barclays US Mortgage Backed Securities Index** is an unmanaged index that measures the performance of investment grade fixed-rate mortgage backed pass-through securities of GNMA, FNMA and FHLMC.

The **Bloomberg Barclays US TIPS Index** consists of Inflation-Protection securities issued by the U.S. Treasury.

The **J.P. Morgan Emerging Market Bond Global Index (EMBI)** includes U.S. dollar denominated Brady bonds, Eurobonds, traded loans and local market debt instruments issued by sovereign and quasi-sovereign entities.

The **J.P. Morgan Domestic High Yield Index** is designed to mirror the investable universe of the U.S. dollar domestic high yield corporate debt market.

The **J.P. Morgan Corporate Emerging Markets Bond Index Broad Diversified (CEMBI Broad Diversified)** is an expansion of the **J.P. Morgan Corporate Emerging Markets Bond Index (CEMBI)**. The CEMBI is a market capitalization weighted index consisting of U.S. dollar denominated emerging market corporate bonds.

The **J.P. Morgan Emerging Markets Bond Index Global Diversified (EMBI Global Diversified)** tracks total returns for U.S. dollar-denominated debt instruments issued by emerging market sovereign and quasi-sovereign entities: Brady bonds, loans, Eurobonds. The index limits the exposure of some of the larger countries.

The **J.P. Morgan GBI EM Global Diversified** tracks the performance of local currency debt issued by emerging market governments, whose debt is accessible by most of the international investor base.

The **U.S. Treasury Index** is a component of the U.S. Government index.

J.P. Morgan Asset Management – Index definitions & disclosures

Other asset classes:

The **Alerian MLP Index** is a composite of the 50 most prominent energy Master Limited Partnerships (MLPs) that provides investors with an unbiased, comprehensive benchmark for the asset class.

The **Bloomberg Commodity Index** and related sub-indices are composed of futures contracts on physical commodities and represents twenty two separate commodities traded on U.S. exchanges, with the exception of aluminum, nickel, and zinc

The **Cambridge Associates U.S. Global Buyout and Growth Index®** is based on data compiled from 1,768 global (U.S. & ex – U.S.) buyout and growth equity funds, including fully liquidated partnerships, formed between 1986 and 2013.

The **CS/Tremont Hedge Fund Index** is compiled by Credit Suisse Tremont Index, LLC. It is an asset-weighted hedge fund index and includes only funds, as opposed to separate accounts. The Index uses the Credit Suisse/Tremont database, which tracks over 4500 funds, and consists only of funds with a minimum of US$50 million under management, a 12-month track record, and audited financial statements. It is calculated and rebalanced on a monthly basis, and shown net of all performance fees and expenses. It is the exclusive property of Credit Suisse Tremont Index, LLC.

The **HFRI Monthly Indices (HFRI)** are equally weighted performance indexes, utilized by numerous hedge fund managers as a benchmark for their own hedge funds. The HFRI are broken down into 4 main strategies, each with multiple sub strategies. All single-manager HFRI Index constituents are included in the HFRI Fund Weighted Composite, which accounts for over 2200 funds listed on the internal HFR Database.

The **NAREIT EQUITY REIT Index** is designed to provide the most comprehensive assessment of overall industry performance, and includes all tax-qualified real estate investment trusts (REITs) that are listed on the NYSE, the American Stock Exchange or the NASDAQ National Market List.

The **NFI-ODCE**, short for NCREIF Fund Index - Open End Diversified Core Equity, is an index of investment returns reporting on both a historical and current basis the results of 33 open-end commingled funds pursuing a core investment strategy, some of which have performance histories dating back to the 1970s. The NFI-ODCE Index is capitalization-weighted and is reported gross of fees. Measurement is time-weighted.

Definitions:

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

Investments in **commodities** may have greater volatility than investments in traditional securities, particularly if the instruments involve leverage. The value of commodity-linked derivative instruments may be affected by changes in overall market movements, commodity index volatility, changes in interest rates, or factors affecting a particular industry or commodity, such as drought, floods, weather, livestock disease, embargoes, tariffs and international economic, political and regulatory developments. Use of leveraged commodity-linked derivatives creates an opportunity for increased return but, at the same time, creates the possibility for greater loss.

Derivatives may be riskier than other types of investments because they may be more sensitive to changes in economic or market conditions than other types of investments and could result in losses that significantly exceed the original investment. The use of derivatives may not be successful, resulting in investment losses, and the cost of such strategies may reduce investment returns.

Distressed Restructuring Strategies employ an investment process focused on corporate fixed income instruments, primarily on corporate credit instruments of companies trading at significant discounts to their value at issuance or obliged (par value) at maturity as a result of either formal bankruptcy proceeding or financial market perception of near term proceedings.

Investments in **emerging markets** can be more volatile. The normal risks of investing in foreign countries are heightened when investing in emerging markets. In addition, the small size of securities markets and the low trading volume may lead to a lack of liquidity, which leads to increased volatility. Also, emerging markets may not provide adequate legal protection for private or foreign investment or private property.

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.

Equity market neutral strategies employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between securities, select securities for purchase and sale. Equity Market Neutral Strategies typically maintain characteristic net equity market exposure no greater than 10% long or short.

Global macro strategies trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets.

International investing involves a greater degree of risk and increased volatility. Changes in currency exchange rates and differences in accounting and taxation policies outside the U.S. can raise or lower returns. Some overseas markets may not be as politically and economically stable as the United States and other nations.

There is no guarantee that the use of **long and short positions** will succeed in limiting an investor's exposure to domestic stock market movements, capitalization, sector swings or other risk factors. Using long and short selling strategies may have higher portfolio turnover rates. Short selling involves certain risks, including additional costs associated with covering short positions and a possibility of unlimited loss on certain short sale positions.

Merger arbitrage strategies which employ an investment process primarily focused on opportunities in equity and equity related instruments of companies which are currently engaged in a corporate transaction.

Mid-capitalization investing typically carries more risk than investing in well-established "blue-chip" companies. Historically, mid-cap companies' stock has experienced a greater degree of market volatility than the average stock.

Price to forward earnings is a measure of the price-to-earnings ratio (P/E) using forecasted earnings. **Price to book value** compares a stock's market value to its book value. **Price to cash flow** is a measure of the market's expectations of a firm's future financial health. **Price to dividends** is the ratio of the price of a share on a stock exchange to the dividends per share paid in the previous year, used as a measure of a company's potential as an investment.

Real estate investments may be subject to a higher degree of market risk because of concentration in a specific industry, sector or geographical sector. Real estate investments may be subject to risks including, but not limited to, declines in the value of real estate, risks related to general and economic conditions, changes in the value of the underlying property owned by the trust and defaults by borrower.

Relative Value Strategies maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities.

Small-capitalization investing typically carries more risk than investing in well-established "blue-chip" companies since smaller companies generally have a higher risk of failure. Historically, smaller companies' stock has experienced a greater degree of market volatility than the average stock.

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