4 Intellectual capital

CONTENTS

Private Bank

INVESTMENT PRODUCTS: NOT FDIC INSURED · NOT CDIC INSURED ·
NOT GOVERNMENT INSURED · NO BANK GUARANTEE · MAY LOSE VALUE

4.1 Why an investment philosophy matters more than ever

DAVID BAILIN, CHIEF INVESTMENT OFFICER

Following certain timeless principles has helped some families remain among the world's wealthiest for generations. In today's unsettled environment, our Investment Philosophy can offer vital consistency.

KEY MESSAGES

- Citi Private Bank's Investment Philosophy informs our approach to helping families maintain, grow and wisely manage their assets
- We advise building complementary core and opportunistic portfolios
- Your globally diversified core portfolio should be fully invested over time and regularly rebalanced
- Your opportunistic portfolio seeks to enhance your overall risk-adjusted returns

Introduction

Watching the news has become frightening. Pundits speak of an imminent recession. Global politics is fraught with populist strife. The rules-based international order of the post-World War II era is being tested. Economies around the world are living through an unprecedented experiment in monetary policy. And the management of assets in a world awash with capital and devoid of interest income is making investing for the future much harder. All of these factors pose great challenges to us as investors. In Outlook 2020, we therefore offer you guideposts for the coming year and beyond, helping you to focus on what we think really matters in the global economy and markets.

The strategies and themes that we set out in Outlook 2020 are an integral part of Citi Private Bank's advice to you. However, our views and recommendations are also the product of something bigger and even more fundamental. Our Investment Philosophy is a set of principles that ultimately inform our approach to managing your wealth. These principles are neither abstract nor complicated. However, they often go ignored by investors, whose wealth then suffers over time.

After more than ten years of rising markets, some investors feel tempted to wait on the sidelines, hoping for an entry point better than today. These market timers are actually making their portfolios more vulnerable, not less so. Other investors have taken on unintended credit or illiquidity risk in bond markets for which they are not being properly compensated. Our Investment Philosophy therefore helps you cut through the noise and stay the course throughout market cycles.

In the sections that follow, we set out the long established principles that together make up our philosophy, and offer compelling evidence about how and why they work. Our long experience of serving the world's wealthiest families has demonstrated the power of these principles. We believe that they are at their most effective when combined.

Our Investment Philosophy

Citi Private Bank is dedicated to helping the world's wealthiest individuals, families, and their family offices protect and grow wealth, thereby sustaining a legacy for future generations. Our Investment Philosophy therefore reflects certain principles that have enabled some families to remain among the world's wealthiest for generations:

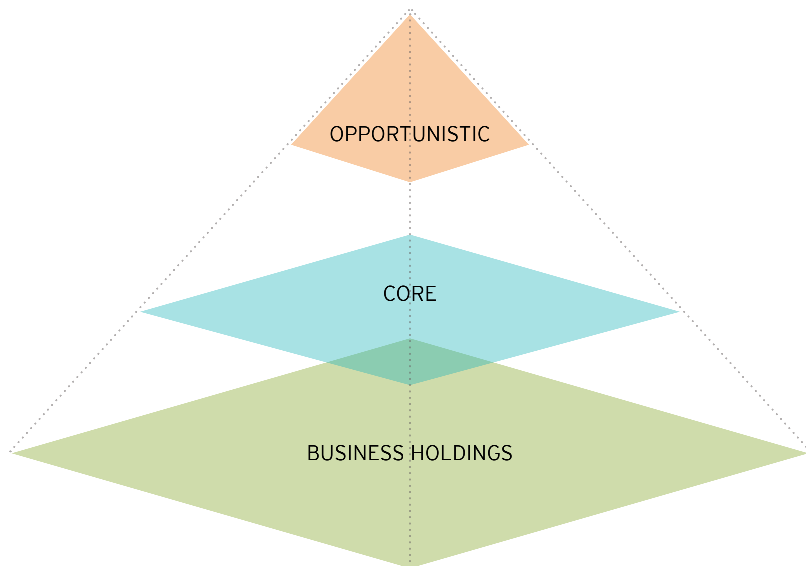
- Most of your assets, apart from your business holdings, should be invested in a core portfolio, which follows the principles of global multi-asset class diversification. Portfolios concentrated in few countries or asset classes are riskier and perform worse over time.
- Your globally diversified core portfolio should be fully invested for the long-term and be regularly adjusted to keep it in line with your customized investment plan. By contrast, market timing and cash hoarding are a fool's game.
- Opportunistic investing can complement your core portfolio's performance, based on your risk tolerance. Without discipline, however, opportunistic investing can hinder results.

Our Investment Philosophy rests upon our commitment to serve as your long-term guide for the design and implementation of your family's investment plan, as well as a partner in your family's business activities.

Establish complementary portfolios to enhance risk-adjusted returns

The centerpiece of our advice to you is to establish complementary core and opportunistic investment portfolios. The purpose of having two complementary portfolios is potentially to optimize returns and help minimize risk. It also allows for better investment discipline, as maintaining a long-term core portfolio is easier when investors maintain a parallel opportunistic one.

FIGURE 1. CORE AND OPPORTUNISTIC PORTFOLIOS WITHIN YOUR OVERALL WEALTH



Source: Global Investment Lab, Citi Private Bank, as of 5 Nov 2019

Your core portfolio should hold most of your wealth other than your business assets – **figure 1**. It seeks to maintain and grow your wealth by staying fully invested in global markets over time. It also helps to diversify your investment risks and mitigate risks from concentrated holdings and business exposures you may have.

Core portfolio investments should be diversified across asset classes, geographies, industries, and investment styles – see **Harness the power of global diversification** below. These investments' performance will be easily measurable in relation to relevant benchmarks. They should be held for the long-term and be regularly rebalanced to keep them in line with the customized plan we create for you.

Your opportunistic portfolio should hold the rest of your non-business assets, less a meaningful liquidity reserve. It seeks to enhance your overall returns, mitigate your risks, or indeed both, often via different types of opportunities to those pursued in your core portfolio.

Opportunistic portfolio investments are frequently more concentrated rather than diversified, focusing upon particular areas of your knowledge and interests, as well as other high-conviction ideas. They can be short-term or long-term, may arise irregularly, and require swift reaction. Their performance may be harder to measure against benchmarks. These investments may also increase the risk profile of your portfolio.

One way to use an opportunistic portfolio is to overweight high conviction themes like those outlined in **Realigning income portfolios** and **Unstoppable Trends**. Another is to create hedged positions based on markets that may be excessively over- or under-valued.

Our approach also recognizes the desire and ability of many wealthy families to pursue investments beyond their core portfolios, but also recognizes that many families do not distinguish between core and opportunistic investments. Citi Private Bank therefore enables you to pursue both core and opportunistic investments in a disciplined and complementary way.

Our core/opportunistic approach may enhance your risk-adjusted return potential, helping you protect and grow your wealth over time.

Harness the power of global diversification

We believe that your core investment portfolio should always follow the principles of global diversification in a highly disciplined way.

Global diversification[1] involves allocating your investment wealth to a broad, but thoughtful selection of different asset classes – including equities, fixed income, real estate and other alternative investments – from different countries and regions of the world, and across different industry sectors and style factors.

Our long experience of serving the world's wealthiest families reinforces our belief that global diversification has been one of the most effective forms of risk mitigation. It has helped prominent families to perpetuate their wealth for generations despite economic depressions, severe episodes of inflation and deflation, wars, revolutions, and technological disruption.

Global diversification's main benefit comes from having exposure to multiple sources of return and risk. Various countries' business and financial market cycles are often at earlier or later stages. Industry sectors – such as pharmaceuticals, technology, and utilities – and style factors – such as value, growth, and momentum – also tend to display stronger performance at different times. By carefully combining exposure to all of these, you can seek enhanced portfolio returns while mitigating overall risk.

Figure 3 shows this in action. Over the last seven decades, a global allocation would have produced an annualized return before fees of 10.5% at an asset class level. By contrast, an allocation consisting only of equities and fixed income from the best-performing market – the US – would have returned 9.3%. Not only would the global allocation have produced a higher return, but would also have been less risky in terms of volatility.

Most of the client portfolios that we review initially are not globally diversified and are often subject to concentrated, single-country risk. A misconception that greater familiarity with their home country or region may enable superior investment selection or incur less risk may be one reason for this. Another is that genuine global diversification is easy to achieve.

Global diversification is integral to our thinking and to the opportunities Citi Private Bank brings you. Our asset allocation methodology – which we use to create your customized long-term investment plan – addresses ten broad asset classes from around the world. We then work with you to implement your plan within your core portfolio by giving you access to investments from across the world.

We believe that harnessing the power of global multi-asset class diversification can help grow your wealth and assist in protecting against risk over time better than any other single approach. It's one reason why your relationship with Citi is so valuable – there are few advisers that understand the global economy as well as we do.

Market timing doesn't work: Stay fully invested and rebalance regularly

We believe that your core investment portfolio should remain fully invested for the long term, with regular rebalancing.

Fully investing your core portfolio involves implementing the customized plan we create for you at the earliest opportunity, and then keeping that core portfolio fully invested over time. Disciplined portfolio rebalancing involves regularly taking profits on assets and asset classes that have gone up and reallocating to those that have higher expected returns. This helps to keep your portfolio in line with your long-term investment plan. Over time, we have seen that client portfolios that follow the plan achieve higher risk-adjusted returns than those that do not follow the plan. And it is one reason why having a banker and investment counsellor is so valuable – How many clients have the time and discipline to rebalance when markets are zooming up or down?

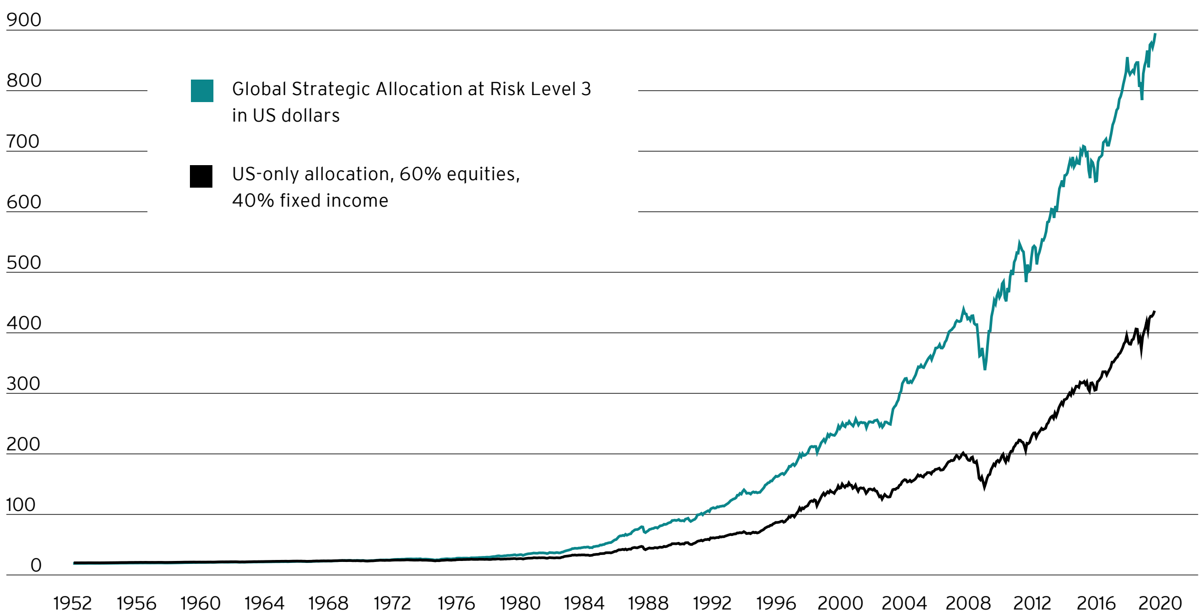
Staying fully invested enables your portfolio to earn compound returns. By rigorously reinvesting dividends, interest, and capital gains from your investments to make additional investments, and repeating this process every year, your investment wealth can grow more over the long-term.

In contrast, we strongly advise against trying to time the markets. We do not believe there is any effective method for switching your core portfolio between cash and risky assets to catch uptrends and avoid downtrends. The overwhelming evidence is that market timing typically ends up missing the sharp gains that often follow major downtrends, as well as foregoing the benefits of compound returns over time. This typically leads to lower portfolio returns and greater riskiness.

Figure 4 compares one market timing strategy with buying and holding the S&P 500 Index. Switching from holding the market into cash after every 20% fall in the index and then buying back in after every 20% recovery would have

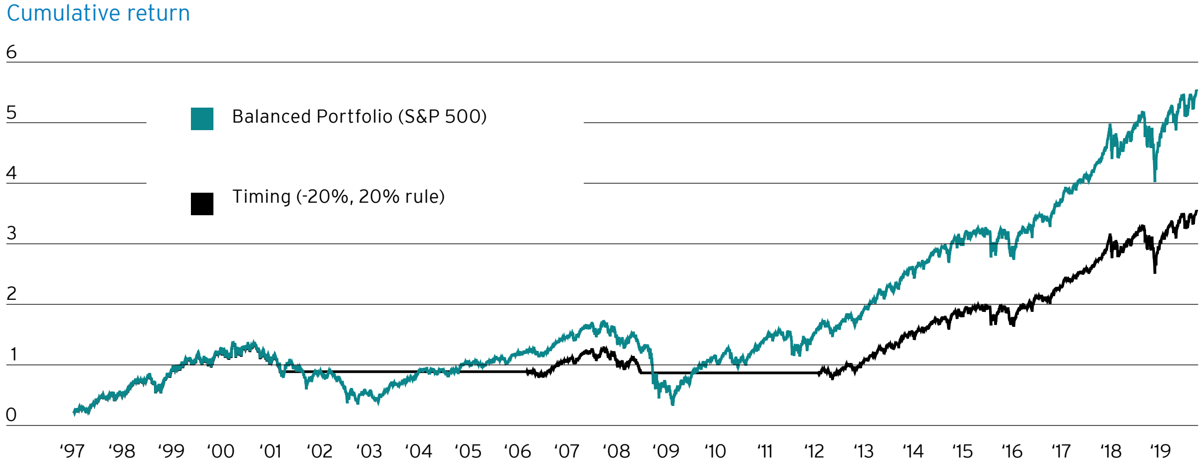
FIGURE 3. GLOBAL DIVERSIFICATION'S POWERFUL WEALTH EFFECTS

Growth of US$1m over time



Source: Global Asset Allocation team, Citi Private Bank, as of 1 Oct 2019. The Global US Dollar allocation represents a AVS Risk Level 3, including allocations to equities, fixed income, commodities, cash and hedge funds. Risk levels are an indication of clients' appetite for risk. Risk Level 3 – Seeks modest capital appreciation and, secondly capital preservation. These returns were calculated at an asset class level using indices and do not reflect fees, which would have reduced the performance shown. Past performance is no guarantee of future returns. Real results may vary.

FIGURE 4. MARKET TIMING STRATEGY VS BUY AND HOLD



Source: Bloomberg. Citi Private Bank Global Asset Allocation team, as of 18 Nov 2019. Study addresses the period from Jan 1997 to Oct 2019. This market timing strategy involves a switch out of the market after each 20% fall from a recent high, and subsequent repurchase after a 20% rally. Past performance is not indicative of future returns, actual results may vary.

produced a return of 200% over the twenty years shown. By contrast, simply buying and holding the index would have produced a 330% return.

Of course, keeping core portfolios fully invested during late-cycle conditions like today's – or during major market downtrends – can be psychologically challenging. In an effort to mitigate the effects of falling markets, we often recommend that your portfolio shift towards more defensive and higher quality holdings around times of potential market peaks, while remaining fully invested. We also typically advise taking advantage of lower valuations after market declines by buying more of certain assets. Our Global Investment Committee reallocated in such fashion after the sharp decline of December 2018.

Although we strongly advise against market timing within your core portfolio, we believe an opportunistic portfolio can be an appropriate place for making moves in volatile or dislocated markets, among other activities. We recommend maintaining interest-earning liquid and high-yielding non-cash holdings within an opportunistic portfolio, which you can use to buy risky assets during market dislocations, to participate in new strategies, or for when unexpected private investment opportunities arise.

Keeping your core portfolio fully invested and rebalancing it regularly may help you achieve superior returns over the long term.

Putting our Investment Philosophy into practice

While politics, the economy, and financial markets seem to be in an endless state of flux, the principles that make up our philosophy are fixed and timeless. They therefore provide a solid foundation for helping to protect and grow your wealth. Just as important as having such a philosophy, however, is putting it into practice. Many investors pay lip service to various key principles, but then fail to apply them. Citi Private Bank's investment processes are therefore designed to help you implement our philosophy systematically in your portfolio. In the article that follows, we demonstrate **How we do what we do**.

How we do what we do

DAVID BAILIN, CHIEF INVESTMENT OFFICER

The principles of our Investment Philosophy have helped certain wealthy families to protect and grow their wealth over generations. Our investment process implements these principles in your portfolio.

KEY MESSAGES

- Sophisticated families should have a customized plan for their core portfolios
- These core portfolios should be stocked with cost-effective and performance-driven implementation opportunities
- Our disciplined approach to opportunistic investing enables you to seek enhanced risk-adjusted returns in an adjacent portfolio, allowing the core to remain fully invested
- The first step to determining if you are following our principles is to request your personalized Outlook Watchlist report

Introduction

Our Investment Philosophy inspires and informs everything that we do when managing your portfolio. Its long-established principles have helped certain families to remain among the world's wealthiest for generations. However, it is their implementation in portfolios that drives client benefits. Citi Private Bank's investment process puts principles into action.

Our investment process therefore enables you to establish complementary core and opportunistic portfolios. It presents you with actionable opportunities to achieve global multi-asset class diversification. It helps you stay fully invested throughout market cycles and avoid the devastating consequences of market timing. Our process does all of this by emphasizing a customized service, including access to sophisticated insights, opportunities, and resources that are typically reserved for institutional investors. Here is how what we do what do.

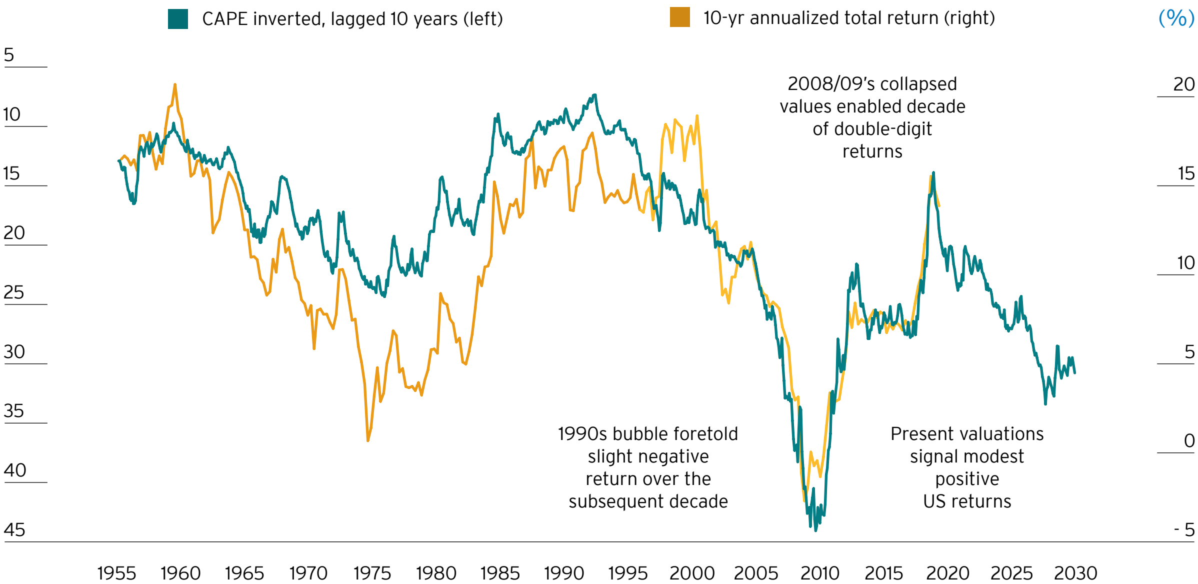
Creating your globally diversified plan

Behind every great core portfolio is a carefully constructed plan. Our process begins by working with you to understand your return goals, risk tolerance, and other criteria. Based on this unique data, your team customizes a plan to pursue your goals, using our own proprietary methodology. The plan or 'strategic asset allocation' that we create in this way provides the long-term roadmap for your core portfolio. It determines the appropriate mix of asset classes from around the world specifically for you.

The inner wheel of **figure 1** shows a recent example of such a plan. It contains equities and fixed income, hedge funds, private equity, and real estate, with the potential to add cash and commodities. It is globally diversified, with exposure to almost fifty countries around the world in the equity allocation alone. The recommended allocation amount to each asset class is also displayed. Within the asset classes displayed, we then advocate emphasizing particular themes – for examples, see **Realigning income portfolios** and **Unstoppable trends**.

The plan we create for you highlights what we believe is the optimal course for pursuing your investment goals in your core portfolio.

FIGURE 2. VALUATIONS FORECAST LONG-TERM RETURNS



Source: Haver Analytics through 6 May 2019. Chart shows the cyclically-adjusted price to earnings valuation (CAPE) for the S&P 500 Index today shifted ten years forwards as well as subsequent total annualized returns. The return is a rolling ten-year average. Past performance is no guarantee of future returns. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. See Glossary for definitions.

Seeking enhanced risk-adjusted returns

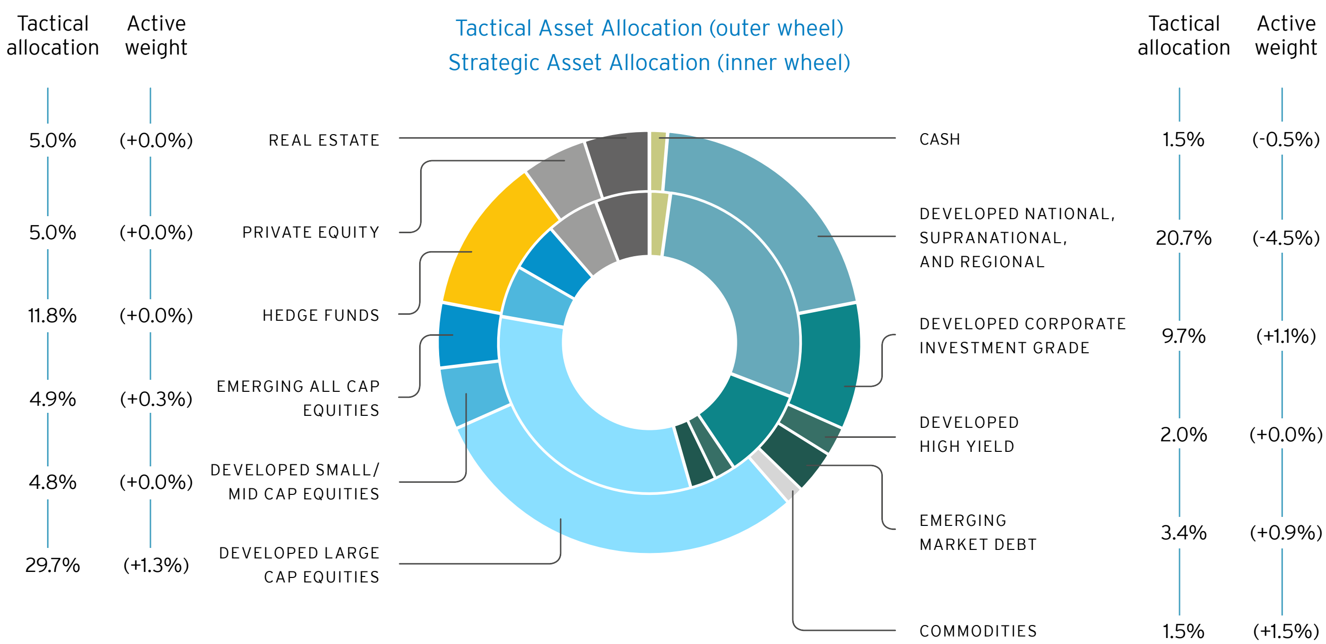
We determine the plan for your core portfolio in a differentiated way. Our proprietary strategic asset allocation methodology – Adaptive Valuation Strategies (AVS) – estimates future asset class returns based on current valuations. Analysis covering many decades shows that low current valuations are typically followed by high returns and high valuations by low returns. **Figure 2** shows this in action for equities. AVS then typically allocates more to lowly valued asset classes and less to those highly valued ones. To see our current valuation-based estimates of annualized returns for ten asset classes over the coming decade, see **The long-term outlook for asset classes**.

Many other asset allocation methodologies assume that future returns will resemble past averages. They implicitly assume positive events are as likely as negative ones at any given time. This ignores realities such as the lower probability of continuing corporate earnings growth in advanced economic cycle conditions like those of today. AVS's valuation-based approach seeks to avoid such unrealistic assumptions.

Having determined what we believe to be the optimal way for you to allocate your core portfolio, we then suggest regular tactical adjustments to that long-term plan. Our Global Investment Committee (GIC) recommends that you underweight and overweight certain asset classes based on the outlook for the next twelve to eighteen months. Their current tactical recommendations are shown in the outer wheel of **figure 1**.

Our strategic and tactical recommendations seek to enhance your long-term risk-adjusted returns, based on your investment objectives and risk profile.

FIGURE 1. GLOBAL MULTI-ASSET CLASS DIVERSIFICATION IN ACTION



NOTE: **Active weight** is the difference between tactical (outer wheel) and strategic (inner wheel) allocations.

Source: Global Asset Allocation team, Citi Private Bank. Global USD allocation with Hedge Funds and 10% illiquids (PE & RE): Risk Level 3 - Tactical Allocations. Figures in brackets are GIC active allocations as of 20 Nov 2019. All allocations are subject to change at discretion of the GIC of Citi Private Bank. Risk Level 3 is designed for investors with a blended objective who require a mix of assets and seek a balance between investments that offer income and those positioned for a potentially higher return on investment. Risk Level 3 may be appropriate for investors willing to subject their portfolio to additional risk for potential growth in addition to a level of income reflective of his/her stated risk tolerance.

Populating your core portfolio

To help you implement your allocation in your core portfolio, we offer you access to a wide array of investments from around the world via an open-architecture platform that does not rely on funds managed by Citi – see the inner segment of **figure 3**. These include individual securities, as well as active and passive strategies from researched third-party asset managers across the marketplace. To source these opportunities, our dedicated research teams scrutinize distinctive managers across both traditional and alternative asset classes - see **Connecting you to select alternative investments**.

Citi Private Bank's internal portfolio managers oversee individual equity and fixed income portfolios, which can be constructed to your specific requirements. For qualified clients, we also recommend that your core portfolio builds asset class exposure via capital markets strategies, which can help you select specific outcomes, including increased upside participation, capital protection, income generation, and combinations thereof – see **Earn income waiting for a bear market**.

We bring you managed investments, individual securities, and capital markets strategies to help to realize your plan in your core portfolio.

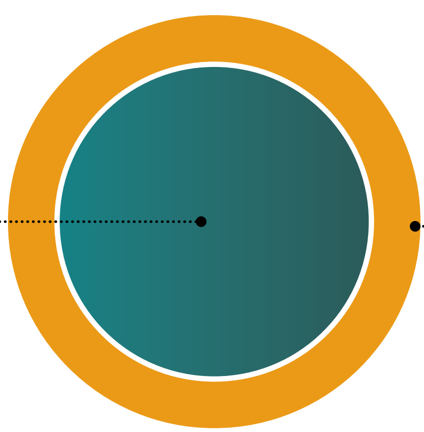
FIGURE 3. CORE AND OPPORTUNISTIC PORTFOLIO INVESTMENTS

CORE PORTFOLIO

- MULTI-ASSET CLASS PORTFOLIOS
- MANAGED SINGLE-STRATEGY
- ALTERNATIVE ASSET CLASS BASKETS
- PORTFOLIO OF EQUITIES OR FIXED INCOME
- BROAD MARKET ETFS AND MUTUAL FUNDS
- BROAD INDEX/INDEX ETF LINKED STRUCTURED NOTES
- BROAD MARKET FUNDED DERIVATIVES

OPPORTUNISTIC PORTFOLIO

- SINGLE STOCKS
- SINGLE BONDS OR FI THEMATIC
- MANAGED COUNTRY STRATEGIES
- MANAGED THEMATIC STRATEGIES
- THEMATIC EQUITIES OR ETFS
- THIRD PARTY THEMATIC STRATEGIES
- DERIVATIVES
- THIRD PARTY COUNTRY STRATEGIES
- PORTFOLIO HEDGING
- STRUCTURES WITH STOCK OR STOCK BASKET UNDERLYING
- THIRD PARTY SECTOR STRATEGIES
- MANAGED SECTOR STRATEGIES



Source: Global Investment Lab, Citi Private Bank, as of 15 Nov 2019

Helping you to stay the course

Having customized a plan for you, we can implement it in your core portfolio at the earliest opportunity and then help you remain fully invested for the long-term. In our periodic reviews with you, we urge regular rebalancing to keep your core portfolio in line with shifts in the plan. We believe the case for doing so is clear.

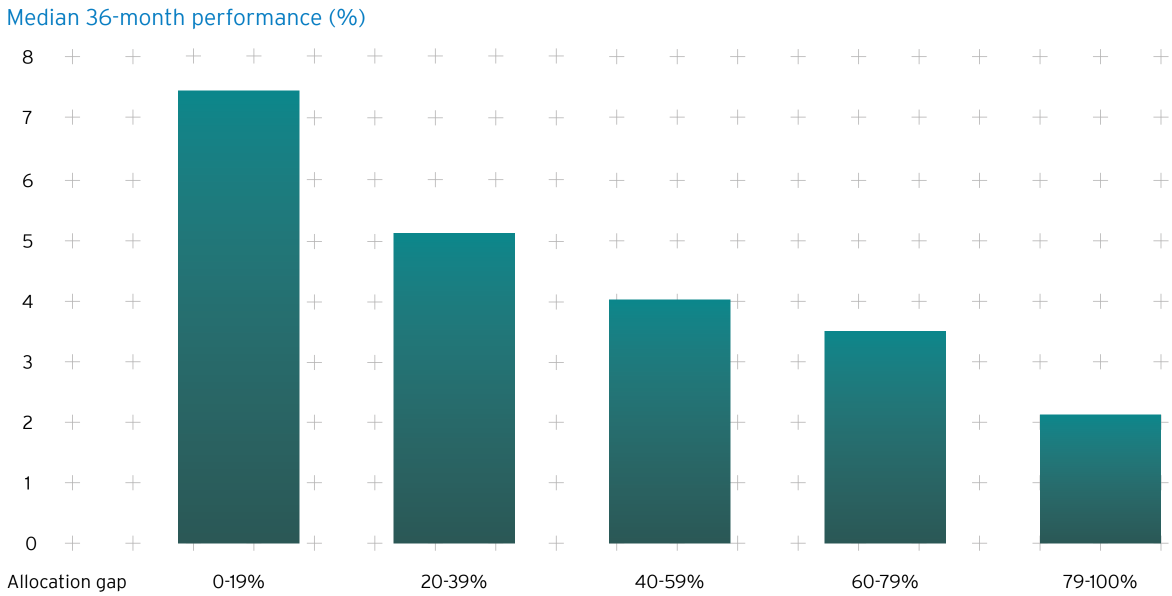
Our analysis of some 3,000 client portfolios over the three years to September 2019 finds that the portfolios that have most closely followed the globally diversified AVS asset allocations we recommend have generally outperformed those that have not – **figure 4**. On average, the less the divergence between our recommended allocation and the client portfolio, the higher the performance.

Rebalancing in action

Citi Private Bank's discretionary managers play a vital role in rebalancing many clients' core portfolios systematically over time. By late 2018, for example, US and global equities had suffered peak-to-trough declines of roughly 20%, causing equity allocations to drift below target levels. Our discretionary managers thus rebalanced holdings by adding more equities. In early 2019, they also implemented the tactical recommendation of our Global Investment Committee (GIC) to use our entire tactical cash holdings to add to beaten-down equity and credit holdings.

Keeping your portfolio fully invested and regularly rebalanced is embedded in everything we do, from our regular review process to our discretionary managers' approach.

FIGURE 4. THE IMPORTANCE OF FOLLOWING THE PLAN



Source: Citi Private Bank Global Investment Lab, as of 30 Sep 2019. Divergence from our recommended allocation is represented here by allocation gaps. Allocation gaps measure the degree to which clients' portfolios follow our recommended allocations at all risk levels and levels of liquidity. The lower the gap percentages, the more aligned the portfolios with our recommended allocations. A reading of 0% indicates virtually full alignment with our recommendation. This information is drawn from Citi Private Bank's proprietary data covering 3,000 continuing client portfolios whose reference currency is US dollars. Past performance is no guarantee of future returns. Real results may vary.

Guiding your opportunistic portfolio

An effective opportunistic portfolio can help enhance your overall risk-adjusted returns. But while not bound by the same rules as your core portfolio, we still encourage a disciplined approach. We first determine the appropriate size of your opportunistic portfolio. The higher your risk level, the more of your investment wealth can be committed to opportunistic investments – **figure 5**. Our Global Investment Lab can then perform a comprehensive analysis of your core portfolio and business holdings in order to diagnose your risk exposures. In light of this, we can recommend opportunistic investments that could help enhance your current exposures.

Drawing on intelligence from Citi Private Bank's global network, the opportunistic investments we suggest take many forms. As well as your existing exposures, they also reflect any special interests or expertise you may have. Examples include taking advantage of mis-pricings caused by dislocations in public markets, participating in new issues for qualified clients, as well as periodic private equity and venture capital scenarios – see the outer ring of **figure 3** and **Unstoppable trends**. As you wait for attractive opportunities to arise, we will offer you cash management strategies to help make your opportunistic liquidity reserves work hard.

Our systematic approach to opportunistic investing can help you pursue alpha to complement your core portfolio.

Partnering with your family office

A growing number of our clients rely upon a family office to oversee their investment needs. Our dedicated team therefore works in close partnership with your family office, be it newly created or large and long-established. We customize an integrated strategy for each family office, reflecting not only investment needs, but also lending, liquidity, wealth planning, technology, and philanthropic requirements. For eligible clients, we can provide institutional-level services, ideas, pricing, and execution. Serving families with members, businesses, and foundations across multiple jurisdictions is a particular area of strength for us.

Our investment process integrates seamlessly with that of your family office and other advisors.

Structuring your wealth intelligently

Global multi-asset class diversification, staying invested, and pursuing opportunistic investments can all assist with sustaining your wealth for the long-term. Just as important, however, is how your wealth is structured. Appropriate structures can accommodate not only financial investments, but also homes, businesses, treasured collections, yachts and aircraft. They can help to minimize taxation, protect against legal challenges and sovereign risk, and ensure your wishes are followed during your lifetime and beyond. Citi

FIGURE 5. SIZING YOUR OPPORTUNISTIC PORTFOLIO

		Core	Opportunistic
LOWER RISK	Level 1	At least 95%	Up to 5%
	Level 2	At least 92.5%	Up to 7.5%
	Level 3	At least 85%	Up to 15%
HIGHER RISK	Level 4	At least 82.5%	Up to 17.5%
	Level 5	At least 80%	Up to 20%

Source: Private Bank Global Asset Allocation Team, as of 19 Nov 2019. Risk levels are an indication of clients' appetite for risk, where Risk Level 1 is the lowest and Risk Level 5 the highest. Risk Level 1 is designed for clients whose priorities are capital preservation and liquidity management; Risk Level 2 seeks capital preservation and income generation; Risk Level 3 seeks modest capital appreciation and capital preservation; Risk Level 4 seeks moderate volatility and long-term growth; Risk Level 5 seeks maximum long-term growth of capital.

FOCUS:

Connecting you to select alternative investments

Allocating to alternative asset classes – private equity, real estate, and hedge funds – can potentially benefit both your core and opportunistic portfolios. For example, adding these asset classes to a core allocation could help enhance returns and diversify your portfolio's risks. They may also offer attractive set-ups for opportunistic investing for those looking to increase their risk profile.

Through Citi Investment Management Alternatives, our experienced and innovative team originates relevant and timely investment opportunities across these asset classes. It does so by way of research, driven by important investment themes.

To identify investment themes, the CIM Alternatives team draws upon the work of Citi Private Bank's Global Investment Committee – see **Realigning income portfolios** and **Unstoppable trends**. The team examines influential long-term forces across the economy, markets, politics, regulation, and more. Specifically, it looks for investible secular trends, market aberrations that might be exploited, and potential pitfalls to be avoided.

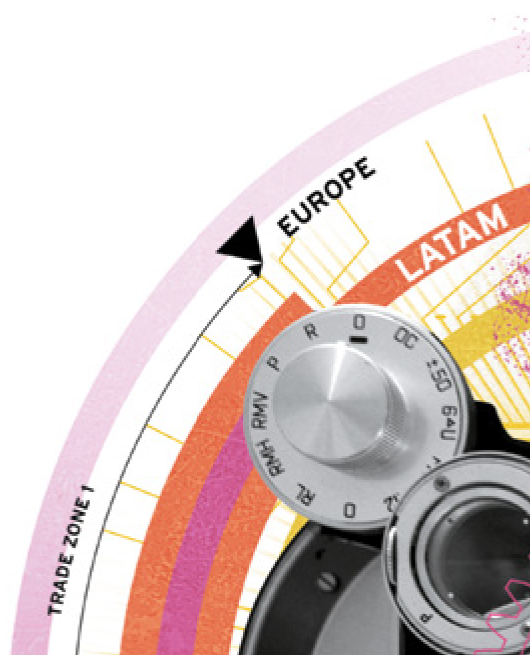
Based on its findings, the team performs quantitative and qualitative research into strategies from experienced managers across the marketplace. It then works alongside those managers who pass the rigorous selection criteria to offer bespoke investment vehicles to clients. As well as potential holdings for core portfolios, the team highlights timely possibilities for opportunistic portfolios.

Trust's Wealth Planners therefore work with you and with your tax and legal advisors to develop a plan for your entire wealth that seeks to sustain your legacy for generations to come.

We create structures that help you safeguard your family and assets for the long term.

Put our principles into practice in your portfolio

Have you established complementary core and opportunistic portfolios? Are they adhering to the principles set out in our Investment Philosophy? Are you pursuing opportunistic investments systematically? To answer these and other vital questions, please ask us for your personalized Outlook Watchlist report. This will compare your actual core portfolio to the plan we recommend for you. If necessary, we can then advise how you can bring it into line with the plan, as well as identify complementary opportunistic investments. Let us implement our principles in your portfolio.



ASSET CLASS DEFINITIONS

Cash is represented by US 3-month Government Bond TR, measuring the US dollar-denominated active 3-Month, fixed-rate, nominal debt issues by the US Treasury.

Commodities asset class contains the index composites — GSCI Precious Metals Index, GSCI Energy Index, GSCI Industrial Metals Index, and GSCI Agricultural Index — measuring investment performance in different markets, namely precious metals (e.g., gold, silver), energy commodity (e.g., oil, coal), industrial metals (e.g., copper, iron ore), and agricultural commodity (i.e., soy, coffee) respectively. Reuters/ Jeffries CRB Spot Price Index, the TR/CC CRB Excess Return Index, an arithmetic average of commodity futures prices with monthly rebalancing, is used for supplemental historical data.

Emerging Markets (EM) Hard Currency Fixed Income is represented by the FTSE Emerging Market Sovereign Bond Index (ESBI), covering hard currency emerging market sovereign debt.

Global Developed Market Corporate Fixed Income is composed of Bloomberg Barclays indices capturing investment debt from seven different local currency markets. The composite includes investment grade rated corporate bonds from the developed-market issuers.

Global Developed Market Equity is composed of MSCI indices capturing large-, mid- and small-cap representation across 23 individual developed-market countries, as weighted by the market capitalization of these countries. The composite covers approximately 95% of the free float-adjusted market capitalization in each country.

Global Developed Investment Grade Fixed Income is composed of Barclays indices capturing investment grade debt from twenty different local currency markets. The composite includes fixed-rate treasury, government-related, and investment grade rated corporate and securitized bonds from the developed-market issuers. Local market indices for US, UK and Japan are used for supplemental historical data.

Global Emerging Market Fixed Income is composed of Barclays indices measuring performance of fixed-rate local currency emerging markets government debt for 19 different markets across Latin America, EMEA and Asia regions. iBoxx ABF China Govt. Bond, the Markit iBoxx ABF Index comprising local currency debt from China, is used for supplemental historical data.

Global High Yield Fixed Income is composed of Barclays indices measuring the non-investment grade, fixed-rate corporate bonds denominated in US dollars, British pounds and Euros. Securities are classified as high yield if the middle rating of Moody's, Fitch, and S&P is Ba1/BB+/BB+ or below, excluding emerging market debt. Ibbotson High Yield Index, a broad high yield index including bonds across the maturity spectrum, within the BB-B rated credit quality spectrum, included in the below-investment grade universe, is used for supplemental historical data.

Hedge Funds is composed of investment managers employing different investment styles as characterized by different sub categories – HFRI Equity Long/Short: Positions both long and short in primarily equity and equity derivative securities; HFRI Credit: Positions in corporate fixed income securities; HFRI Event Driven: Positions in companies currently or prospectively involved in wide variety of corporate transactions; HFRI Relative Value: Positions based on a valuation discrepancy between multiple securities; HFRI Multi Strategy: Positions based on realization of a spread between related yield instruments; HFRI Macro: Positions based on movements in underlying economic variables and their impact on different markets; Barclays Trader CTA Index: The composite performance of established programs (Commodity Trading Advisors) with more than four years of performance history.

High Yield Bank Loans are debt financing obligations issued by a bank or other financial institution to a company or individual that holds legal claim to the borrower's assets in the event of a corporate bankruptcy. These loans are usually secured by a company's assets, and often pay a high coupon due to a company's poor (non-investment grade) credit worthiness.

Private Equity characteristics are driven by those for Developed Market Small-Cap Equities, adjusted for illiquidity, sector concentration, and greater leverage.

INDEX DEFINITIONS

The **Bloomberg Barclays Global Aggregate Bond Index** is a flagship measure of global investment grade debt from twenty-four local currency markets. This multi-currency benchmark includes treasury, government-related, corporate and securitized fixed-rate bonds from both developed and emerging markets issuers.

The **Bloomberg-JP Morgan Asia Currency Index** is designed as a spot index of the most actively traded currency pairs in Asia's emerging markets valued against the US dollar.

The **Bloomberg JP Morgan Latin American Currency Index** represents Latin America's currency markets on an aggregate basis. It is a spot index of Latin America's most actively traded currency pairs valued against the US dollar, whose composition is based primarily on trade weights, with an added liquidity filter.

The **CSI 300** is a capitalization-weighted stock market index designed to replicate the performance of top 300 stocks traded in the Shanghai and Shenzhen stock exchanges. It was considered as a blue chip index for mainland China stock exchanges

Citi US Broad Investment Grade Index (USBIG)—Corporate, is a subsector of the USBIG. The index includes fixed rate US dollar denominated investment grade corporate debt within the finance, industrial and utility sectors. This index includes US and non-US corporate securities (excludes US government-guaranteed and non-US sovereign and provincial securities).

Citi Emerging Markets Sovereign Bond Index includes local currency sovereign bond indices for 14 emerging markets countries. These indices comprise fixed-rate sovereign debt with at least one-year until maturity. They are market capitalization-weighted and rebalanced monthly for Brazil, Chile, Colombia, Hungary, Indonesia, Malaysia, Mexico, Peru, Philippines, Poland, Russia, Thailand, Turkey, and South Africa.

The **Citi Euro Broad Investment Grade Index** is a multi-asset benchmark for Investment grade, Euro-denominated fixed income bonds. It includes government, government-sponsored, collateralized, and corporate debt.

Citi's US High Yield Market Index is a US dollar-denominated index which measures the performance of high yield debt issued by corporations domiciled in the US or Canada. Recognized as a broad measure of the North American high-yield market amongst all Citi's fixed income indices, it includes cash-pay and deferred-interest securities. All the bonds are publically placed, have a fixed coupon, and are non-convertible.

The **Citi World Broad Investment Grade Index** is a multi-asset, multicurrency benchmark which provides a measure of the global fixed income markets.

The **Euro Stoxx 50 Index** is a blue-chip index for the Eurozone, provides a blue-chip representation of supersector leaders in the region. The index covers fifty stocks from eleven Eurozone countries.

The **FTSE All-World Index** is a stock market index representing global equity performance that covers over 3,100 companies in 47 countries starting in 1986.

The **MSCI Emerging Markets Index** captures large- and mid- cap representation across twenty-four Emerging Markets (EM) countries. With 837 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

The **MSCI Emerging Markets (EM) Latin America Index** captures large and mid-cap representation across five Emerging Markets (EM) countries in Latin America. With 113 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

The **MSCI World Index** represents the performance of more than 1,600 large- and mid-cap stocks across 23 developed markets countries. The index covers approximately 85% of the free float-adjusted market capitalization in each country

The **MSCI World ex-USA Index** represents the performance of large and mid-cap representation across 22 of 23 developed markets countries excluding the United States. With 1,005 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

The **S&P 500 Index** is a capitalization-weighted index that includes a representative sample of 500 leading companies in leading industries of the US economy. Although the S&P 500 focuses on the large-cap segment of the market, with over 80% coverage of US equities, it is also an ideal proxy for the total market.

The **S&P 1500 Index** combines three leading indices, the S&P 500, the S&P MidCap 400, and the S&P SmallCap 600, to cover approximately 90% of US market capitalization. It is designed for investors seeking to replicate the performance of the US equity market or benchmark against a representative universe of tradable stocks.

The **S&P 500 Fossil Fuel Free Index** is designed to measure the performance of companies in the S&P 500 that do not own fossil fuel reserves. Fossil fuel reserves are defined as economically and technically recoverable sources of crude oil, natural gas and thermal coal.

The **S&P Global Dividend Aristocrats** is designed to measure the performance of the highest dividend yielding companies within the S&P Global Broad Market Index (BMI) that have followed a policy of increasing or stable dividends for at least ten consecutive years.

The **U.S. Dollar Index** (DXY) is an of the value of the US dollar relative to a basket of major US trade partners' currencies.

OTHER TERMINOLOGY

Adaptive Valuations Strategies is Citi Private Bank's own strategic asset allocation methodology. It determines the suitable long-term mix of assets for each client's investment portfolio. Correlation is a statistical measure of how two assets or asset classes move in relation to one another. Correlation is measured on a scale of 1 to -1. A correlation of 1 implies perfect positive correlation, meaning that two assets or asset classes move in the same direction all of the time. A correlation of -1 implies perfect negative correlation, such that two assets or asset classes move in the opposite direction to each other all the time. A correlation of 0 implies zero correlation, such that there is no relationship between the movements in the two over time.

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LIBOR – The London interbank offered rate is the rate of interest at which banks offer to lend funds to each other. It is used a reference rate for large amounts of financial contracts.

Price-to-book ratio (P/B) compares the capitalization of an individual stock or of an index of stocks to the value of that stock or that index's combined shareholder capital. It is calculated by dividing the current closing price of the stock by the most recently reported book value per share. A low P/B can indicate a lowly-valued company or index, while a high P/B can indicate high valuation.

Price-earnings ratio (P/E) measures a company's or an index of companies' current share price relative to its earnings per share. A low P/E can indicate a lowly-valued company or index, while a high P/E can indicate high valuation.

Return on equity (ROE) is the amount of net income earned as a percentage of shareholders equity. It captures a company's profitability – or aggregate profitability among numerous companies – by showing how much profit is achieved with shareholders' capital.

Strategic asset allocation is the process of creating a long-term investment plan by assembling an appropriate mix of equities, fixed income, cash and other investments. It can potentially enhance portfolio returns and help manage risk. Strategic Return Estimates are Citi Private Bank's forecast of returns for specific asset classes over a 10-year time horizon. The forecast for each specific asset class is made using a proprietary methodology that is appropriate for that asset class. Equity asset classes are forecast using a proprietary methodology based on the calculation of valuation levels with the assumption these valuation levels revert to their longterm trends over time. Fixed Income asset classes are forecast using a proprietary methodology based on current yield levels. Other asset classes have other specific forecasting methodologies. Please note that hedge funds, private equity, real estate, structured products and managed futures are generally illiquid investments and are subject to restrictions on transferability and resale. Each SRE is gross of actual client fees and expenses. Components of the methodology used to create the SREs include the rate of return for various asset classes based on indices. Termination and replacement of investments may subject investors to new or different charges. Past performance is not indicative of future results. Future rates of return cannot be predicted with certainty. Investments that pay higher rates of return are often subject to higher risk and greater potential loss in an extreme scenario. The actual rate of return on investments can vary widely over time, especially for long-term investments. This includes the potential loss of principal on your investment. It is not possible to invest directly in an index.

Tactical asset allocation looks to adjust the strategic asset allocation of a client's investment portfolio to incorporate shorter-term market insights.

Volatility – is a statistical measure of the variation of returns for a given security, market index, or asset class. It is most often measured by way of standard deviation. The higher the volatility, the riskier the underlying asset is considered to be.

Yield-to-Maturity (YTM) is the total return received on a bond or index of bonds when held to maturity. The total return includes both the payment of coupons and the return of the principal at maturity.

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Bond rating equivalence

Alpha and/or numeric symbols used to give indications of relative credit quality. In the municipal market, these designations are published by the rating services. Internal ratings are also used by other market participants to indicate credit quality.

Bond credit quality ratings	Rating agencies		
Credit risk	**Moody's[1]**	**Standard and Poor's[2]**	**Fitch Ratings[2]**
Investment Grade			
Highest quality	Aaa	AAA	AAA
High quality (very strong)	Aa	AA	AA
Upper medium grade (Strong)	A	A	A
Medium grade	Baa	BBB	BBB
Not Investment Grade			
Lower medium grade (somewhat speculative)	Ba	BB	BB
Low grade (speculative)	B	B	B
Poor quality (may default)	Caa	CCC	CCC
Most speculative	Ca	CC	CC
No interest being paid or bankruptcy petition filed	C	D	C
In default	C	D	D

1 The ratings from Aa to Ca by Moody's may be modified by the addition of a 1, 2, or 3 to show relative standing within the category.
2 The ratings from AA to CC by Standard and Poor's and Fitch Ratings may be modified by the addition of a plus or a minus to show relative standing within the category.

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Additionally, the underlying collateral supporting non-Agency MBS may default on principal and interest payments. In certain cases, this could cause the income stream of the security to decline and result in loss of principal. Further, an insufficient level of credit support may result in a downgrade of a mortgage bond's credit rating and lead to a higher probability of principal loss and increased price volatility. Investments in subordinated MBS involve greater credit risk of default than the senior classes of the same issue. Default risk may be pronounced in cases where the MBS security is secured by, or evidencing an interest in, a relatively small or less diverse pool of underlying mortgage loans.

MBS are also sensitive to interest rate changes which can negatively impact the market value of the security. During times of heightened volatility, MBS can experience greater levels of illiquidity and larger price movements. Price volatility may also occur from other factors including, but not limited to, prepayments, future prepayment expectations, credit concerns, underlying collateral performance and technical changes in the market.

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PRINT DATE: 16 DEC 2019

For the second year running, we have been named
'Best Global Private Bank' at the PWM/The Banker
Global Private Banking Awards 2019.

We were also named 'Best Private Bank
for Global Families and Family Offices',
'Best Global Private Bank for Customer Service',
and 'Best Leader in Private Banking'.

We are thrilled to have been recognized for
providing the worldly and wealthy with private
banking that crosses all borders.

Or as we call it, Private Banking for Global Citizens.

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