CANADIAN ETF Watch

MAY 2019

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The Impact of Sequence of Returns on Your Retirement Portfolio

- Will Passive Fixed Income Survive the Coming Storm?
- The Case For Multifactor Investing
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Conference Edition!

EXCHANGE TRADED FORUM 2019

VANCOUVER
THURSDAY, JUNE 6

Welcome and thank you for attending ETF Vancouver 2019

The entire team at **Radius Financial Education** would like to welcome you to the **9th Annual Radius Vancouver Exchange Traded Forum**. Thank you for your attendance.

Vancouver's premier Exchange Traded event once again, bringing together leading professionals within the exploding ETF industry including investors, advisors, managers, and other industry professionals to share their expertise, views and analysis.

ETFs listed in Canada reached a record high of CAD$178.7 billion at the end of April, 2019, shattering the previous record of CAD$172.9 billion set at the end of March, 2019. It is a 8.9% increase for the last 3 month and 16.7% increase over the past 12 month.

Since December 2018 to April 2019 assets invested in ETFs listed in Canada increased by more than CAD$22 billion. The Canadian ETF industry had 698 ETFs, assets of CAD$178.7 billion, from 36 providers at the end of April 2019.

Again, we sincerely thank you for taking the time to attend our event to stay current and connected.

We look forward to meeting and speaking with you and wish you continued success with your business.

Sincerely,
Radius Financial Education Team

Data source: Canadian ETF Association

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The Impact of Sequence of Returns on Your Retirement Portfolio

Rene Dinter
Director, ETF Distribution,
Vancouver
BMO Global Asset Management

As you accumulate assets and grow your money for retirement - known as the "accumulation phase of investing" – market volatility is generally more tolerable. Since you have a longer time horizon before you plan to use your money you take comfort in knowing your investments have time to recover from any short term volatility in the market.

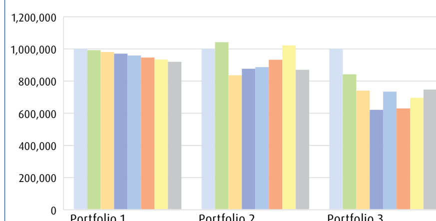
As you begin drawing down on assets during retirement and create an income stream – known as the 'de-accumulation phase' of investing – market volatility takes on greater significance, especially if your portfolio is subject to this volatility at the beginning of retirement. More specifically, market fluctuations and the order in which positive and negative investment returns occur, or 'the sequence of returns,' can have a detrimental effect on your retirement savings.

Timing of retirement can have an impact
Looking more closely at sequence of returns risk and the timing of retirement, if negative returns happen near the beginning of retirement, overall capital will decrease more quickly compared to a portfolio with positive returns at the beginning of the retirement withdrawal period. This is why the first years of retirement are so important; what happens during that period may determine whether or not you'll outlive your savings or if you'll have to lower your desired standard of living later in retirement to extend these savings.

As seen in **Figure 1**, three similar retirement portfolios can end up having very different outcomes, depending on the market conditions they're under and the sequence of returns. In each scenario, the portfolio earns an average annual 5% per year return over the seven years and assumes a $60,000 withdrawal per year from an initial capital investment of $1 million. We can see that Portfolio 3, with a negative variable rate of return at the beginning, faces a greater depletion of capital and is left with a considerably lower balance compared to Portfolio 1 and Portfolio 2, at the end of year seven.

Figure 1

Capital accumulation and depletion over a 7-year period
Each scenario has an average annual 5% per year return and assumes a $60,000 withdrawal at the end of every year. Initial capital investment is $1,000,000.



Year	Retirement Capital Constant Return	Constant Return Rate	Retirement Capital Variable High Start	Variable Return Rate (High Start)	Retirement Capital Variable Return Low Start	Variable Return (Low Start)
	$1,000,000		**$1,000,000**		**$1,000,000**	
1	$990,000	5%	$1,040,000	10%	$840,000	-10%
2	$979,500	5%	$834,400	-14%	$738,000	-5%
3	$968,475	5%	$874,528	12%	$618,960	-8%
4	$956,899	5%	$884,490	8%	$732,269	28%
5	$944,744	5%	$930,629	12%	$628,333	-6%
6	$931,981	5%	$1,019,530	16%	$693,999	20%
7	$918,580	5%	$867,772	-9%	$745,039	16%

For illustration purposes only • Source: BMO Financial Group

Mitigating sequence of returns risk
De-risk your retirement portfolio – Reduce sequence returns risk by decreasing the risk itself within your portfolio. One way of doing this is by reducing your exposure to riskier investments, perhaps at the outset, when you begin retirement.

Diversify across asset classes – Diversification is perhaps even more important during retirement, to ensure more stable, consistent returns.

Flexible spending – Those who want upside in their savings, should be flexible with their spending and willing to make adjustments.

Plan ahead – Understand what your objectives are for retirement and what your expected spending will be to ensure ample income to live comfortably.

For more information please contact your local BMO GAM Representative or call us at:
1-800-220-8949

Will Passive Fixed Income Survive the Coming Storm?

Ahmed Farooq
CFP, CIMA®
Vice President, ETF Business Development, Franklin Templeton Investments

I witnessed the fixed income revolution in 2007 when investors and advisors flocked to passive fixed income ETF strategies for several reasons. First, they wanted low cost solutions, they didn't want to worry about volume or inventory issues when buying traditional bonds, and they were skeptical of active fixed income strategies that was trying to seek sufficient alpha in this low interest rate environment. Assets under management within fixed income ETFs grew steadily at 35% YoY to $54.3 billion in total dollars invested. However, in the last couple of years, I have started to see an evolution take place.

The catalyst for this change began when investors realized that using several passive bond ETFs within a portfolio as a way to implement a strategic duration call was no longer cutting it. This "safe haven" portion of a portfolio was now becoming a big thorn in most investors' sides, as they tried navigating through a storm of rising rates and geopolitical events. All of a sudden, the conversation shifted from using passive ETFs to outsourcing fixed income expertise to an active manager as a way to harness outcome-oriented investing.

"I'd rather outsource my fixed income allocations, rather than fuss and worry over trying to get my allocations just right", or "Frankly, I don't have the knowledge or time to keep up with my fixed income portfolio", became the common theme amongst advisors. In 2018 alone, active fixed income ETF strategies grew at a rate of 48% versus passive fixed income ETF strategies, which grew at a rate of 2% on a YoY basis. The 10-year growth rate for active ETFs was a staggering 81%.

The 30-year bull may be coming to an end

We can't forget that we had a 30-year bull market for bonds, an unusual period that fostered a number of interest rates cuts and a low inflationary environment that supported a sustained period of steady performance within the Canadian Bond Universe. Today, changes in monetary, fiscal and trade policies and higher asset correlations present threatening new challenges for fixed income investors. These emerging dynamics underlying your passive fixed income allocation mean that you, the investor or advisor, now have to become more active in how you manage your passive fixed income allocation. Passive portfolios will not automatically adjust to market changes, the responsibility of adjusting fixed income allocations to achieve the same outcomes accordingly belong to you.

Furthermore, as interest rates have normalized and monetary policy has tightened, conditions are set for greater downside risk, increased dispersion and less predictable correlations—variables that a passive vehicle does not manage against as effectively, as the sole job of passive investment is to mimic the fundamentals of the index and not provide any biases toward a certain outcome. Let's consider two of the biggest threats to fixed income investors in the recent past: rising rates and duration management.

Rising Rates

Until recently, we saw interest rates reach an all-time low, followed by a period of rate hikes that had significant impact on fixed income investing. In the last 10 years, the only way to achieve higher coupons was to go out and buy bonds priced at a premium or higher credit risk, which also meant an erosion on the overall price to par at maturity. Furthermore, the inverse relationship between bond prices and interest rates are also of a concern; as interest rates go up, bond prices fall. Within this changing context, managing a fixed income portfolio has not been easy.

Duration management

Last year, duration risk was a big concern for most investors. There was on-going debate on where to be positioned on the yield curve, specifically during a rate hike. We saw passive bond indexes exhibit increased duration, partially caused by issuers refinancing to lock in lower rates. The feedback from most investors was either to stay short on the curve, or they were not knowledgeable enough to make this call. A passive portfolio would have maintained benchmarked duration and would not have adjusted.

Three challenges with passive index funds

The average investor may not be aware of the risks and potential unintended consequences that are built into fixed income indices. We believe the following three major challenges faced by fixed income indexing can be solved with active managers that are working to mitigate these risks.

Challenge #1 - Indexes are weighted towards big debtors

A typical equity index uses market capitalization to determine the weightings within the index. While this may come with its own set of flaws, bond indexes are issuance-weighted. This means that fixed income indexes place larger relative weight with companies or governments that issue the most debt.

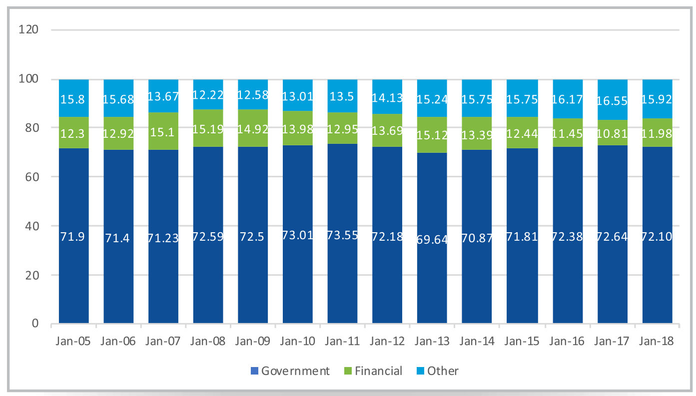
A case in point is the Citi World Government Bond Index (WGBI): 76% of the index is made up of just five countries, and their average debt-to-GDP ratio, or government borrowings less repayments, is over 128%. Paradoxically, the remaining 18 countries in the index combined make up only 24% of the index, and their average debt-to-GDP ratio is 60%!

Passive investors' holdings become increasingly centered on issuers that are expanding their debt load, which makes you wonder whether it is wise for an investor to boost their holdings simply because the company or country increases its financial leverage. Furthermore, would they make that decision themselves if the index didn't force their hand?

Challenge #2 – Index composition is "passively" driven by market forces

A passive product must follow index reconstitution, irrespective of investment merit or market insight. An active manager can work to mitigate the shifts that may drive or change the risk reward profile of a portfolio based on their research. For example, the FTSE Canada Universe Bond Index displays sustained overconcentration in just two sectors over the last decade – Government and Financials. In fact, as of December 31st, 2018, these two sectors alone comprise 85.14% of the Index.

Sector Concentration
FTSE Canada Universe Bond Index 2005-2018



Source: Bloomberg, ©2019 Morningstar

Challenge #3 – Indexes may not align with investors' goals

Bond markets have many different participants who have many different reasons for buying. Almost 50% of the $100 trillion in global fixed income assets is held by central banks and those trying to stabilize foreign exchange rates and adjust money supply. The goals of these market participants may not at all align with the goals of retail investors seeking diversification, income and/or total return. As a result, bond indexes can be shaped by many disparate forces, many of which are not relevant to the average investor.

A case in point is that, as of June 30, 2018, almost 17% of the Bloomberg Barclays Global Aggregate Index is comprised of negative interest rate bonds. This means that instead of receiving interest, the investor has to pay the issuer interest for the right to lend them their money. How many retail investors would choose to purchase bonds with negative yields? Not many, yet many of the managers of index funds have to own those bonds simply because they are in the indexes they track.

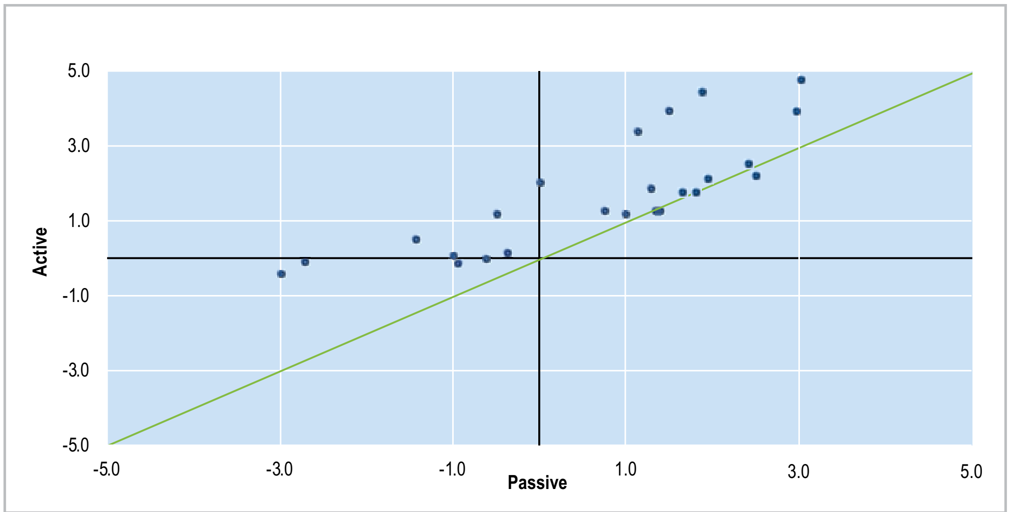
Actively managed fixed income has outperformed recently

Knowing the perils of today's market environment along with the flaws inherent in fixed income indexing, active managers have leveraged their experience and expertise with success. The capability to seek out the best opportunities and be flexible, in order to meet investor needs, is what makes them different. By aligning goals, having personal relationships with issuers and, most importantly, using a variety of strategies to express their views on the market and position their portfolios to add value, active fixed income ETFs have outperformed the FTSE Canada Universe Bond Index 83% of the time.

Continued on the next page

Rolling 1-Year Returns Ratio Active vs. Passive
2 Years Ending 12/31/2018 (24 Rolling 1-Year Periods)

This chart compares rolling 1-year returns of all ETFs within the Canadian actively managed fixed income category against the FTSE Canada Universe Bond Index over the 24-month period ending December 31, 2018.



83%

of the time, active fixed income had better returns

Source: ©Morningstar.12/31/18. The category returns in the illustration represent all of the active ETFs (net-of-fees) within the Canadian Fixed Income, Canadian Short Term Fixed Income, Canadian Corporate Fixed Income, Canadian Long Term Fixed Income and Canadian Inflation-Protected Fixed Income categories. Passive is represented by FTSE Canada Universe Bond Index.

Position your clients for success

Active management requires a different mindset and a culture where value is given to proprietary, in-depth local research, trading capabilities and risk management. Also important is an operational infrastructure to operate at the scale required to invest fluidly and responsibly in order to seek outcomes that are in line with investors' goals and expectations.

The senior investment professionals and fund managers at Franklin Templeton base their decisions on each investment's inherent potential for strong risk-adjusted returns. They aren't constrained to the size limitations of the specific index weightings. As active managers, they have the flexibility to decide to invest outside the benchmark as well as over/underweight positions relative to the benchmark if their bottom-up analysis dictates it's a better position.

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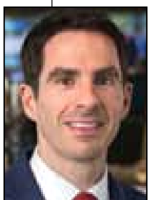
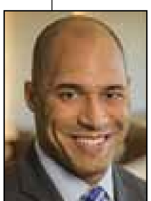
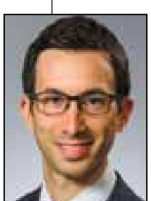
The Case For Multifactor Investing



Gerard O'Reilly
Co-Chief Executive Officer and Chief Investment Officer, Dimensional Fund Advisors LP



Lukas J. Smart, CFA
Senior Portfolio Manager, Dimensional Fund Advisors LP



Joel P. Schneider
Deputy Head of Portfolio Management, North America Dimensional Fund Advisors LP

Joe Hohn
Portfolio Manager, Dimensional Fund Advisors LP

Key Takeaways

- Research has shown that there are differences in expected returns among securities.
- Dimensional Fund Advisors has identified four dimensions of expected returns in equity markets – the overall market, company size, relative price, and profitability help identify differences in expected returns across stocks.
- Incorporating the dimensions of expected returns into an investment strategy offers the potential for outperformance, but requires balancing the trade-offs among competing premiums.
- The exchange-traded fund (ETF) is a vehicle well suited to our systematic and transparent investment approach.

Executive Summary

Theoretical and empirical research in finance has led to an evolution in our understanding of how financial markets work. For instance, 45 years ago, most financial economists and some market participants thought that sensitivity to the market was the only driver of expected returns; they thought the market was the only factor needed to systematically explain differences in expected returns among securities. Today, we recognize several other factors in addition to the market itself. Economists have also done a great deal of work related to market microstructure. This academic research is highly relevant to financial market participants because it has improved our understanding of what drives expected returns.

The existence of multiple factors presents additional challenges to investors' asset allocation decisions. In the past, those decisions were relatively simple: To build their own portfolios, investors had to decide (1) how to split their money between fixed income and equities and (2) whether to invest in index funds, conventional active funds, or individual securities. Today, while investors still need to make those decisions, they can make better choices by taking into account, among other things, the additional factors that help explain returns in the equity markets and how those factors interact with each other, as well as how much emphasis they want to place on each factor. A multifactor world presents better opportunities to meet investors' needs and pursue improved outcomes, but doing so effectively requires a greater degree of expertise to evaluate and manage the trade-offs between expected returns on the one hand and risks and costs on the other.

Dimensional's Investment Philosophy

Backed by decades of theoretical and empirical research, Dimensional Fund Advisors' investment philosophy was founded on the idea that security prices contain reliable information about differences in expected returns among securities. These prices reflect the expectations of all market participants who trade voluntarily with one another at prices they see as fair given their expectations of risk and return and the information available.[1] As a result, the daily activity of market participants drives prices toward equilibrium.

Research has also shown there are differences in expected returns among securities[2]. Those differences are driven by the prices investors pay and the expected cash flows from the investment. Investors have different preferences and opportunities. They face and are willing to bear different risks. Put simply, the lower the relative price an investor pays, the higher the expected return.

Because markets are very effective at aggregating and disseminating investors' knowledge and expectations into market prices, we can use information in prices, together with fundamental data and our understanding of asset pricing theory, to systematically identify differences in expected returns among securities. At Dimensional, we refer to the systematic identification of those differences as dimensions of expected returns. We use the term dimensions instead of factors because, in our view, not all factors qualify as dimensions worth pursuing. Dimensions point to systematic differences in expected returns among securities and are the core investment insight behind relevant factors.

Dimensions of Expected Returns

We have identified four dimensions of expected returns in equity markets: the overall market, company size, relative price, and profitability. Company size and relative price are price-driven dimensions, while profitability contains information about future cash flows to investors.

The market dimension reflects the excess return over the risk-free rate that market participants demand for investing in a broadly diversified portfolio of equity securities without any style or market capitalization bias. That premium is called the equity premium. The company size dimension reflects the excess return that investors demand for investing in small-capitalization stocks relative to large-capitalization stocks. The premium associated with this dimension is the small-cap premium. The relative price dimension reflects the excess return that investors expect from investing in low relative price or value stocks (as measured, for instance, by the price-to-book ratio) relative to high relative price or growth stocks. The premium associated with this dimension is the value premium. The profitability dimension provides a way to discern the expected returns of companies with similar price-driven characteristics. If two companies trade at the same relative price, the one with higher profitability should have a higher expected return. The premium associated with this dimension is the profitability premium.

To avoid chasing data-mined results, we have high hurdles to clear before a premium can be considered a dimension. These dimensions are supported by theoretical and empirical research[3]. They are sensible, persistent over time, pervasive across markets, robust to multiple definitions, and can be captured in cost-effective ways in well-diversified portfolios. While there is no guarantee the premiums will be positive in the future, these rigorous criteria increase our confidence that these premiums are likely to continue in the future and can be pursued in a real trading environment. That is why we want to build our investment strategies around these dimensions.

The list of identified premiums is long. We have evaluated many of the premiums academics have uncovered over the years and found that most are redundant or do not meet our criteria. When we do add a new dimension, it is done with scientific rigor and involves careful analysis by Dimensional researchers and portfolio managers, as well as the financial economists with whom we maintain close ties. The investment process goes beyond identifying the drivers of expected returns. It also requires expertise in structuring and implementing cost-effective investment solutions.

Integrated Solutions

Integrated solutions that incorporate all dimensions of expected returns can potentially increase the reliability of outcomes by providing more information about securities' expected returns. However, in balancing the tradeoffs among competing premiums, diversification, and costs, successful integration requires a deep understanding of the interaction among the dimensions. Pursuing one premium without taking into account how that will impact a strategy's emphasis on the other premiums can hurt a portfolio's performance. For instance, more profitable companies tend to have higher relative prices than less profitable companies. Consequently, if we seek to capture the profitability premium without taking into account how it interacts with the value premium, it could hinder our ability to capture the value premium.

Likewise, the integration of relative price and profitability allows us to separate firms with higher profitability from firms with lower profitability within the low relative price segment of the market. This in turn allows us to overweight the securities of firms with higher profitability and exclude or underweight those with lower profitability in an effort to increase expected returns. It is difficult yet essential to properly account for the interaction among the different dimensions and the costs associated with implementing investment solutions along several dimensions.

We realize that not all securities contribute equally to the premiums. As Eugene F. Fama and Kenneth R. French (2007)[4], among others, have shown, some small or value stocks do extremely well while others have average returns.

Research has also shown that it is not possible to reliably predict which securities are going to do well on an individual basis, because in many cases news about why they will do well has not arrived yet (e.g., a new discovery or a new need by some other company), so it is not yet in the price. For that reason, the most reliable way to capture

Continued on the next page

the premiums is to have a diversified strategy that emphasizes securities with higher expected returns (lower market cap, low relative price, and high profitability stocks). Concentrated portfolios may inadvertently exclude securities that ultimately generate most of those premiums, whereas broadly diversified portfolios are more likely to include those securities and capture those expected premiums.

In addition, it is almost impossible to reliably determine when premiums maybe realized. Under these conditions, it is useful to expect the premiums to be earned every day. Thus, to increase the reliability of outcomes and the likelihood of capturing different market premiums on a daily basis, strategies should have a continual and accurate focus on the dimensions of expected returns. This need is, in fact, why we require that a premium be persistent to be considered a dimension that we use in our portfolios.

A premium that can be pursued with a large number of stocks in a relatively low turnover strategy is going to be much more attractive than a premium that is concentrated on a small set of stocks and requires significant turnover. A good portfolio design will recognize that difference and focus on premiums that can be captured with a large number of securities with relatively low turnover. Targeting these investable premiums makes implementation more efficient because it allows us to treat securities with similar characteristics as close substitutes for one another, at least over short timeframes and provided we maintain appropriate diversification. To screen out stocks that may have detrimental effects on the performance of the portfolio, good portfolio design will also recognize that noninvestable premiums must be taken into account when managing and implementing strategies.

Implementation in an ETF

The body of research is rich, but long-term results for investors depend on how effectively the insight can be implemented as strategies in competitive, real-world financial markets, either through a mutual fund, an ETF, or another investment vehicle.

Implementation through an ETF, a vehicle well suited to our systematic and transparent investment approach, begins by building a custom index that takes into account the foregoing considerations.

The application of Dimensional's investment philosophy to Manulife ETFs required careful design of the indexes tracked by the ETFs. Each ETF will track a specific index designed to target higher expected returns within a specific segment of the market in a broadly diversified way. For example, the John Hancock Dimensional Large Cap Index[5] targets the top 750 companies based on market capitalization. Within that segment, it then weights securities based on the dimensions of higher expected returns: smaller market capitalization, lower relative price, and higher profitability. Regardless of the targeted segment, the indexes are designed to consider the dimensions of expected returns when defining those segments and weighting securities within them.

Trading costs have a direct impact on investors' returns, so the indexes are constructed to allow for cost-effective trading. In the index design, we work to reduce trading costs by adding what we call "Index MemoryTM." For an index with no memory, the companies held in the index prior to rebalancing would have no bearing on the new construction of the index. In our design, the index remembers what was held previously.

To help illustrate this concept, consider a company that is currently in the index and can still be held at its current weight without meaningfully changing the overall index's characteristics. Index MemoryTM enables the index to continue to hold that company, which minimizes unnecessary turnover. Again, the idea is to target a particular segment of the market, capture dimensions of expected returns, and simultaneously be aware of costs that reduce returns.

These trade-offs, intended to minimize unnecessary turnover for the ETF portfolios, have also been incorporated into the reconstitution rules of the indexes. Reconstitution, the process by which the list of stocks and/or their weight in the indexes changes, happens twice per year. As with any decision we make regarding portfolio design and implementation, we considered multiple tradeoffs in determining how often to rebalance the indexes. Our aim for the indexes is to maintain consistent focus on the dimensions of expected returns while keeping turnover low and otherwise limiting the costs associated with pursuing the premiums associated with those dimensions. Reconstituting twice per year allows us to balance those competing objectives.

The ETFs are designed to fully replicate the indexes as efficiently as possible. In addition to trading the ETF portfolio so that it tracks the index closely, portfolio management activities include managing cash and corporate actions. Dimensional's experience with portfolio design, management, and execution provides useful knowledge applicable to both the design of the index and the ongoing management of the ETFs.

Conclusion

In liquid and competitive markets, security prices reflect the aggregate expectations of all market participants. As a result, we can use information in market prices to systematically identify differences in expected returns among securities along multiple dimensions – market, company size, relative price, and profitability – and to structure and implement investment strategies along those dimensions. The premiums associated with those dimensions are largely unpredictable over short periods, both in terms of when they will show up and which individual securities will be the drivers of those premiums. For those reasons, we believe the best way to invest is to structure broadly diversified portfolios with a consistent focus on the desired dimensions, seeking to capture the expected premiums associated with them.

This multidimensional approach increases the likelihood of capturing the premiums associated with each dimension. It requires expertise in understanding how the premiums interact and compete with each other, because stocks are often exposed to more than one premium. It also requires expertise in balancing the trade-offs among diversification, trading costs, and other market frictions.

In the end, we believe a deep commitment to theoretical and empirical research, combined with a focus on effective implementation in competitive and complex markets, can increase an investor's chance of capturing the higher expected returns supported by financial theory.

Only Manulife ETFs are sub-advised by Dimensional Canada.*

Gerard O'Reilly, Co-Chief Executive Officer and Chief Investment Officer, Dimensional Fund Advisors LP

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Joe Hohn, Portfolio Manager, Dimensional Fund Advisors LP

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[1]Fair is used in the sense that no market participant has an unfair advantage over others in predicting how prices will move in the future. Given their preferences and expectations, buyers think purchased securities will add to their portfolios by more than what they paid for them. Similarly, given their preferences and expectations, sellers have a different view – the money received is worth more to them than the securities sold. Buyers and sellers meet their different expectations at the traded price, which they both see as fair, and they transact voluntarily. The evolution of these views drives prices. This evolution is based on, among other things, new information.

[2]See Robert C. Merton, “An Intertemporal Capital Asset Pricing Model.” Econometrica 41 (1973): 867–87; and Eugene F. Fama and Kenneth R. French, “A Five-Factor Asset Pricing Model.” Journal of Financial Economics 116, no. 1 (April 2015): 1–22.

[3]For more information about the historical performance of the equity, small cap, value, and profitability premiums in the U.S. and in developed ex-U.S. markets, see http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html.

[4]See Eugene F. Fama and Kenneth R. French, “Migration,” Financial Analysts Journal 63, no. 3 (2007): 48–58.

[5]The John Hancock Dimensional Large Cap Index is designed to comprise a subset of securities in the U.S. universe issued by companies whose market capitalizations are larger than that of the 750 largest U.S. company at the time of rebalancing. In selecting and weighting securities in the Indexes, the Index Provider uses a rules-based process that incorporates sources of expected returns. As currently contemplated, securities are classified according to their market capitalization, relative price, and profitability. Weights for individual securities are then determined by adjusting their natural weight within the universe of eligible names so that names with smaller market capitalizations, lower relative price and higher profitability generally receive an increased weight relative to their natural weight, and vice versa. The Index is rebalanced on a semiannual basis. Dimensional Fund Advisors LP will receive compensation from Manulife Asset Management Limited in connection with licensing rights to the indexes.

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Investing in Sectors with ETFs

ETFs are ideal products to explore sector investment strategies. One interesting sector worth attention is U.S. healthcare and its subsector of biotechnology.

Karl Cheong
Head of Distribution, Canada, First Trust Portfolios Canada

Despite some volatility along the way, stocks have significantly outperformed the S&P 500 Index over the past couple years, a trend that began in earnest after the surprise results of the 2016 U.S. election. Since then (11/8/2016 – 1/31/2019), the NYSE Arca Biotechnology Index has posted a cumulative return of 69.81%, outperforming the S&P 500 Index by 29.56%. Here are some of the trends in the biotechnology sector that may contribute to continued outperformance moving forward.

Regulatory Environment Remains Favorable

Government regulation can have a significant impact on the biotechnology industry. Fortunately for investors, the current legislative and regulatory environment appears to be a tailwind for biotechnology stocks. The passage of the 21st Century Cures Act in 2016 was aimed at promoting innovation and improving patient care, in part by streamlining the FDA's drug and device approval processes. Since the law was passed, the FDA has announced several important changes to expedite approvals and apply its oversight more efficiently. In June 2018, the FDA announced an overhaul of the Center for Drug Evaluation and Research (CDER) that would increase the number of drug review divisions from 19 to 30. In January 2019, the FDA announced plans to add 50 more clinical reviewers for cell and gene therapy products, an area of significant scientific research and advancement.

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The results of the agency's efforts can be seen in the number of drug and device approvals. In 2018, the FDA approved a record 59 new drugs, well above the 10-year average of 36.[1] Novel medical device approvals reached a record high as well with 106, surpassing the 99 approved in 2017.

Innovation Continues

Innovation in the biotechnology industry is accelerating, highlighted by advances in cutting edge gene and cell therapies for cancer treatment. The first gene therapy treatment was approved by the FDA in August 2017. Since then, 15 other gene and cell therapies have been approved. The pipeline is robust too, with the FDA noting a large increase in the number of gene and cell therapy investigational new drug (IND) applications, and projecting to receive more than 200 applications annually by 2020.

M&A Activity is Accelerating

M&A activity has long been a catalyst for investor returns in biotechnology, and today is no different. In 2018, there were 10 M&A deals targeting public companies worth over $1 billion, at a combined value of $122 billion.1 For comparison, there were just 2.7 deals per year, averaging $19 billion, over the prior ten years. M&A activity has been quite lucrative for investors in stocks that have been acquired, with premiums averaging 69% over that stretch. And the level of deal activity doesn't appear to be slowing. Two deals with a combined value of over $95 billion were announced in the first month of 2019, including the $89 billion purchase of Celgene Corp by Bristol- Myers Squibb. With large pharmaceutical and biotechnology companies holding ample cash on their balance sheets, seeking ways to replace lost revenue from recent and upcoming patent expirations, we expect more strategic acquisitions in the industry ahead.

In Canada, ETFs provide a good way to participate in sector opportunities. The benefits of transparency, liquidity, ease of buying and selling and low-cost make ETFs an important tool for investors.

Karl Cheong, Head of Distribution, Canada,
First Trust Portfolios Canada

[1]Source: Bloomberg. There is no assurance these trends will continue.

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The Role of Gold in Today's Global Multi-Asset Portfolio

January 2019 | By George Milling-Stanley, *Head of Gold Strategy, Global SPDR ETFs,* Robin Tsui, *APAC Gold Strategist, Global SPDR ETFs* and Diego Andrade, *Senior Gold Research Strategist, Global SPDR ETFs*

Traditionally, investors have used gold tactically with an aim to help preserve wealth during market corrections, times of geopolitical stress or persistent dollar weakness. However, the expanding universe of investable asset classes and the relative ease of shifting across different assets mean today's typical multi-asset fund looks different than "balanced" stock-and-bond funds of the past. Given gold's historically low or negative correlation with most other asset classes, we believe gold should be considered as a core diversifying asset with a long-term strategic role in multi-asset portfolios.

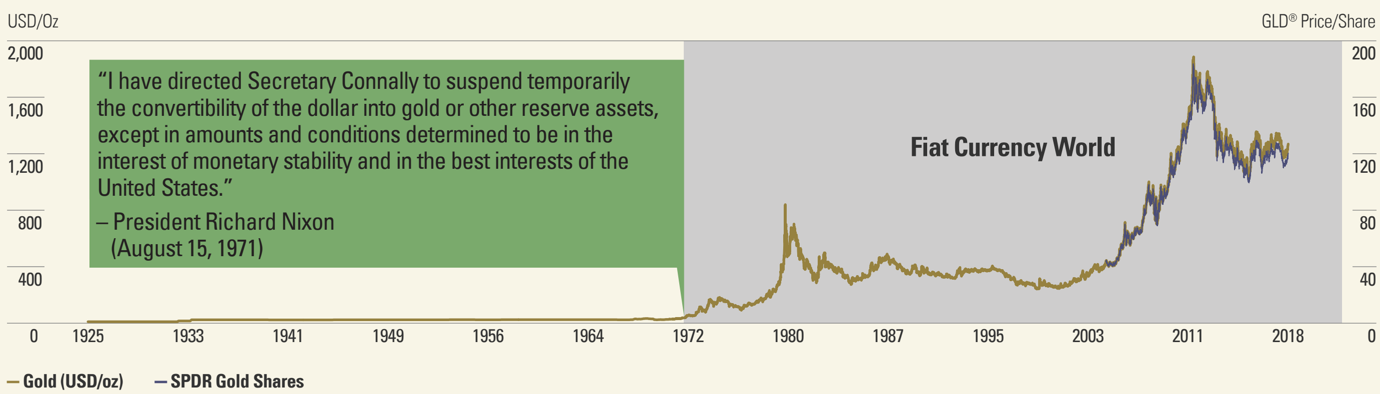
In this paper, we examine how gold, through investing in SPDR® Gold Shares (GLD®), may improve the risk-return characteristics of a hypothetical multi-asset portfolio that includes global stocks, various classes of fixed income, real estate, private equity, commodities and, of course, gold. We found that holding between 2 percent and 10 percent of GLD between January 1, 2005[1] and December 31, 2018 may have improved the hypothetical portfolio's cumulative returns, its Sharpe ratio and lowered its maximum drawdown compared to a portfolio without any gold-backed investments that is based on the asset weightings set forth in Figure 9.

Gold as an Investable Asset: From IPO to ETF

Since 1971, when President Nixon removed the US dollar from the Gold Standard, the price of gold has increased from $43.28 oz. to $1,279.00/oz. at the end of December 2018. Since that policy move, which we call "The Initial Public Offering of Gold," the dollar gold price has increased at an average rate of 7.57 percent per year.[2] The IPO of Gold unleashed gold's longstanding currency-like characteristics, giving it the potential to become a mainstream investment. That potential became tangible with the launch of GLD in November 2004. The ETF gathered $1 billion in assets under management in just three days, making it very tradable almost immediately and allowing exposure to gold to rival the ease and efficiency of owning stocks.

GLD's arrival made it convenient for multi-asset portfolios to include gold. Today, research has shown how the modern multi-asset portfolio may be more efficient with a strategic allocation to gold playing a crucial role as a potential core diversifier.[3]

Figure 1: IPO of GOLD & SPDR Gold Shares



Sources: From 1900–1967, The dollar price of gold is calculated from the average annual exchange rates of the dollar against the British pound taken from a table published for the London and Cambridge Economic Service by Times Newspapers Ltd. as part of The British Economy: Key Statistics. From 1968 — March 19, 2015, the gold price is based on the London Gold Fix, a daily survey of spot gold prices conducted by telephone. From March 20, 2015-present, the gold price is based on the LBMA Gold Price, which is determined twice each business day (10:30 a.m. and 3:00 p.m. London time) by participants in a physically settled, electronic and tradable auction. All gold prices from 1968-present based on data compiled by Bloomberg Finance L.P. **Performance quoted of SPDR Gold Shares above represents past performance, which is no guarantee of future results. Investment return and principal value will fluctuate, so you may have a gain or loss when shares are sold. Current performance may be higher or lower than that quoted. Visit spdrs.com for most recent month end performance.**

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Mining Gold's Potential Strategic Benefits

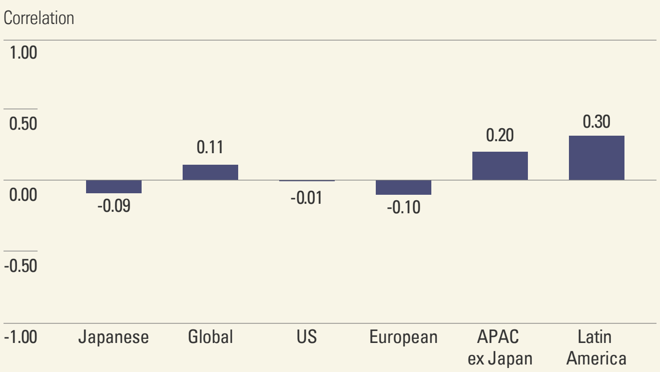
We see three potential strategic benefits as major reasons why multi-asset portfolio managers should consider including gold in their portfolios.

1. Increase Portfolio Diversification

When building a multi-asset portfolio, investors must consider not only the potential or forecasted risk-return characteristics of a particular asset class, but also how that asset class or market segment behaves relative to other investments. Asset classes with high forecasted risk-adjusted returns are obviously preferred. But investors should also look for asset classes that move differently relative to one another.

A low correlation between the asset classes would lower portfolio volatility and therefore, all else being equal, increase portfolio diversification and enhance the overall risk-adjusted return of the portfolio. Figures 2 and 3 depict gold's historical correlation to major equity and bond markets. These very low or negative correlations highlight the potential long-term diversification benefits of adding gold to a multi-asset portfolio.

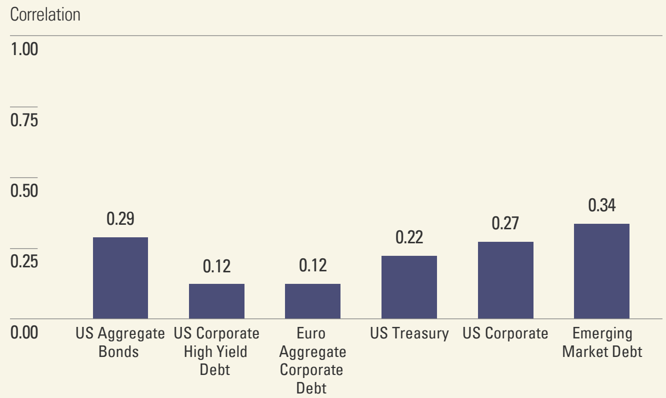
Figure 2: Gold has had Low or Negative Correlation with Major Equity Markets Since 2000



Source: Bloomberg Finance L.P., State Street Global Advisors, data from January 1, 2000 to December 31, 2018.

Correlations are calculated from monthly returns in USD. Asset classes represented by the following indices — Japanese: MSCI Japan Index; MSCI AC World Daily TR Index; US: S&P 500 Index; European: MSCI Europe Index; APAC ex Japan: MSCI ASIA PAC Ex Japan Index; Gold: LBMA Gold Price PM. Latin America: MSCI Emerging Markets Latin America Index.

Figure 3: Gold has had Low Correlation with Major Bonds Markets Since 2000



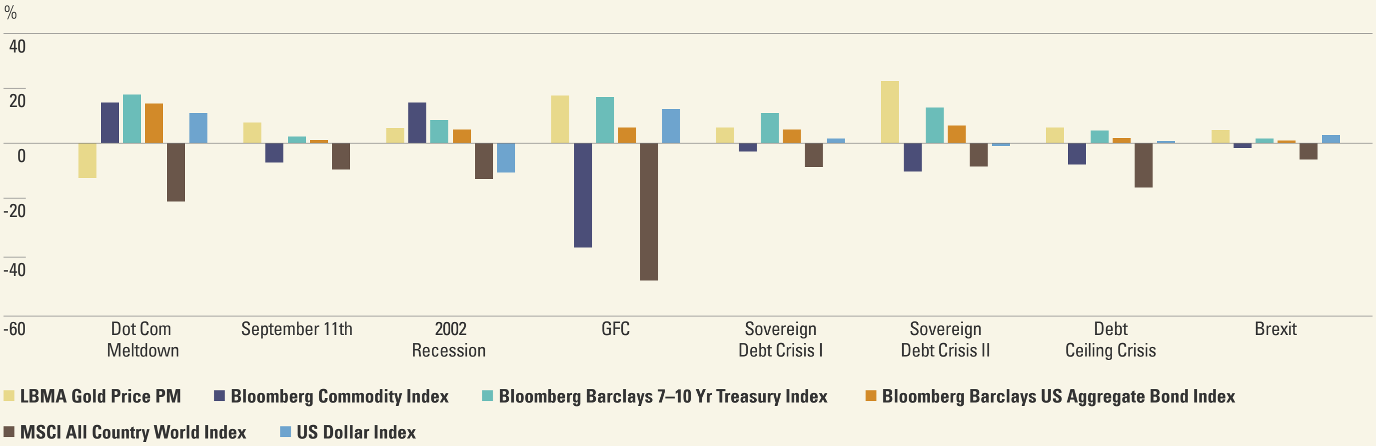
Source: Bloomberg Finance L.P., State Street Global Advisors, data from January 1, 2000 to December 31, 2018.

Correlations are calculated from monthly returns in US Dollars. Asset classes represented by the following indices — U.S. Aggregate Bonds: Bloomberg Barclays U.S. Aggregate Bond Index Total Return; U.S. Corporate High Yield Debt: Bloomberg Barclays U.S. Corporate High Yield Bond Index Total Return; Euro Aggregate Corporate Debt: Bloomberg Barclays Europe Aggregate Corporate Bond Index Total Return; U.S. Treasury: Bloomberg Barclays U.S. Treasury Bond Index Total Return; U.S. Corporate Investment Grade Bonds: Bloomberg Barclays U.S. Corporate Bond Index; Emerging Market Debt: Bloomberg Barclays Emerging Markets USD Aggregate Bond Index Gold: LBMA Gold Price PM.

2. Hedge Tail Risk

Gold has historically been used to provide potential tail risk mitigation during times of market stress, as it has tended to rise during stock market pullbacks. Figure 4 shows that gold was able to deliver competitive returns and outperformed other asset classes during a number of past black swan events. This demonstrates that including gold in a multi-asset portfolio may provide portfolio managers with a means of moderating market volatility and reducing portfolio drawdown.

Figure 4: Gold as a Tail Risk Hedge — Performance in Market Downturn

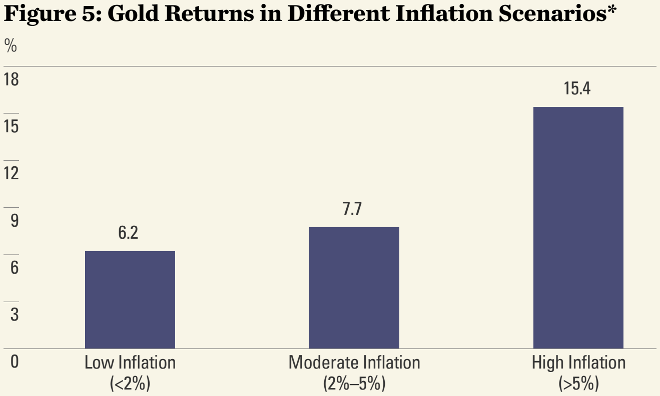


Source: Bloomberg Finance L.P., State Street Global Advisors, as of December 31, 2018. Notes: Dot-Com Meltdown: 2/29/2000–3/30/2001; September 11 Terrorist Attacks: 8/31/2001–9/28/2001; 2002 Recession: 2/28/2002–8/30/2002; Global Financial Crisis: 11/30/2007–3/31/2009; Sovereign Debt Crisis I: 4/30/2010–8/31/2010; Sovereign Debt Crisis II: 2/28/2011–10/31/2011; Debt Ceiling Crisis: 7/22/2011–8/8/2011; Brexit: 6/22/2016–6/27/2016.
Past performance is not a guarantee of future results. Performance above does not reflect charges and expenses associated with the fund or brokerage commissions associated with buying and selling exchange traded funds. Performance above is not meant to represent the performance of any investment product. Performance data above derived from total return indices.

3. Manage Inflation

Gold also has a long track record of offering some potential preservation of purchasing power in varying inflationary environments. Analyzing gold's historical price performance since 1970 shows that during periods when the annual rate of inflation in the US has been below 2 percent, the gold price has risen at an average rate of 6.2 percent a year. Moreover, during periods of moderate inflation — defined as an annual increase between 2 and 5 percent — gold has risen at an average rate of 7.7 percent a year. But gold has shown its greatest historical effectiveness in preserving purchasing power during periods when inflation has been running above 5 percent a year. During such times, the gold price has increased by an average annual rate of 15.4 percent.

Figure 5: Gold Returns in Different Inflation Scenarios*

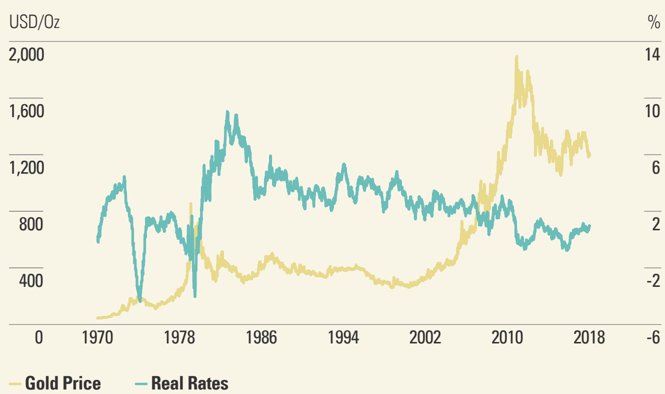


Source: Bloomberg Finance L.P., State Street Global Advisors, data from January 31, 1970 to December 31, 2018.
Past performance is not a guarantee of future results. Performance above does not reflect charges and expenses associated with the fund or brokerage commissions associated with buying and selling exchange traded funds. Performance above is not meant to represent the performance of any investment product.

* Computed using average monthly gold returns and US CPI Figures from January 31, 1970 to December 31, 2018.

In addition, the price of gold has been influenced historically by real rates of return. One of the main reasons why the gold price did not appreciate during the 1980s and 1990s was because other asset classes performed so well. Conversely, gold has appreciated at times when real returns on assets like bonds have been low. We compared gold prices with real returns, with real returns calculated by subtracting the US core consumer price index (excluding food and energy) from the yield of US 10-year Treasury notes (Figure 6).

Figures 6: Gold Returns vs. Real T-Note Returns Since 1970**



Source: Bloomberg Finance, L.P., State Street Global Advisors, as of December 31, 2018.
Past performance is not a guarantee of future results. Performance above does not reflect charges and expenses associated with the fund or brokerage commissions associated with buying and selling exchange traded funds. Performance above is not meant to represent the performance of any investment product.

** Gold Price represented by LBMA Gold Price; Real Rates represented by 10-year Treasury note yield minus US core Consumer Price Index (excluding food and energy).

Figure 7: Gold ETFs vs. Other Gold Investment Vehicles

	Gold ETFs	Mutual Funds	Gold Futures	Gold Mining Stocks	Gold Bars or Coins	Paper Gold Accounts
Potential Advantages	• Transparency • Intraday Trading Capability* • Mostly backed by physical gold	• Mostly actively managed • May be able to generate alpha	• Leverage • Intraday Trading Capability* • Relatively large positions with low commissions	• Leverage • Intraday Trading Capability* • Offers operating and financial leverage	• Physical possession • Transparency	• Ease of use • Transparency
Consideration	• Asset-Weighted Expense ratio (≈37 bps)**	• Asset-Weighted Expense ratio (≈102 bps)**	• Management of position • Basis risk	• Have not exhibited exhibited perfect tracking to gold price • Exposed to company specific factors	• Transport costs • Storage costs • Insurance costs • Required to pay a 'premium' over spot	• Not backed by physical gold
Trade Characteristics	• Tactical and Strategic	• Strategic	• Tactical	• Tactical and Strategic	• Strategic	• Strategic

Source: State Street Global Advisors, Bloomberg Finance L.P., as of December 31, 2018.

* There can be no assurance that a liquid market will be maintained.

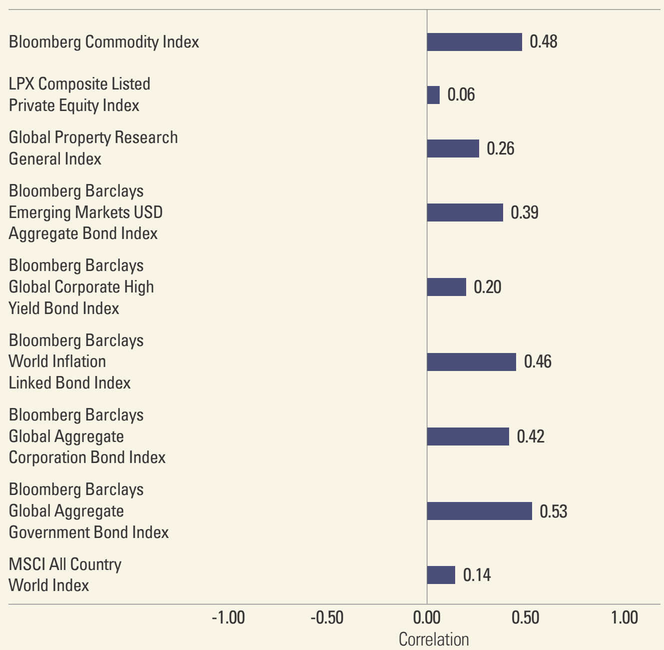
** Source: Bloomberg Finance L.P., and SSGA. Based on expense ratios of the 22 currently-listed gold mutual funds and the four currently-listed U.S. gold bullion ETFs, per Bloomberg. (Comparison excludes U.S. leveraged and inverse gold bullion ETFs). Asset-weighting more accurately reflects what investors in general are currently paying for their exposure.

In the 1980s, T-notes averaged a real rate of return of 4.50 percent, and 3.44 percent in the 1990s. Real returns continued to drop in the first decade of the new century, averaging 2.28 percent. Since the start of this decade, real rates have averaged 0.62 percent — the latest sharp drop relating to the Global Financial Crisis and the extraordinary central bank policies such as quantitative easing that followed. The last time real rates were so low was in the 1970s when they averaged 1.02 percent. Those low real rates were one of the major reasons why the price of gold appreciated from $43 an ounce at the time of the "IPO of Gold" to $512 at the end of 1979. Again, the disinflationary trend over the past 35-plus years and the low-to-negative real rates around the world that still prevail have been in gold's favor, as Figure 6 shows.

Case Study: Strategic Allocation to GLD in a Global Multi-Asset Portfolio

"A Case for Global Diversification: Harnessing the Global Multi-Asset Market Portfolio" by State Street Global Advisors' Investment Solutions Group (ISG)[4] examined the global investable opportunity set and its implications for investors. They defined the Global Multi-Asset Market Portfolio (GMP) as the portfolio consisting of all investable capital assets, where the proportion invested in each asset corresponds to that asset's market value divided by the sum of the market value of all assets in the portfolio. It is the sum of all investors' holdings and a de facto proxy for the investable opportunity set available to all investors globally, or what is usually known as the 'market portfolio.' This represents a good starting point for many investors looking to build a globally diversified investment portfolio.

Figure 8: GLD has had Low Correlation to Other Asset Classes in the Hypothetical Portfolio



Source: Bloomberg Finance L.P., State Street Global Advisors, data from January 1, 2005 to December 31, 2018.

All correlation calculations above derived from monthly total return indices in US dollars.

To examine the potential results of adding a 2%, 5% and 10% of GLD into a multi-asset portfolio, we constructed hypothetical global multi-asset portfolios based on the concept of the GMP developed by ISG by:

- Replicating the asset classes in the GMP with non invest-able market indices
- Slightly adjusting each asset weighting in the GMP to include commodities and assume no gold exposure at the start (Portfolio A)
- Subtracting the weight equally from the equities and government-bonds asset classes (two asset classes with the highest weights) to add in GLD at 2% (Portfolio B), 5% (Portfolio C) and 10% (Portfolio D).

Returns of the hypothetical blended portfolios cover the period between January 1, 2005 and December 31, 2018, and the portfolios are rebalanced every 12 months to maintain target portfolio weights.

From the results shown in Figure 10, we found that under our hypothetical scenario:

- Portfolios B, C and D had higher Sharpe ratios, lower maximum drawdowns and lower standard deviations with higher returns compared to Portfolio A;
- Portfolio D had the highest Sharpe Ratio (0.45) and highest cumulative return (111.15%);
- Portfolio D had the lowest maximum drawdown (-29.43%).

From a risk-adjusted return perspective, our hypothetical blended portfolio results have shown that adding 2%, 5%, 10% of GLD to the portfolio would have improved Sharpe ratios. The results illustrated that this hypothetical scenario using broad indices to represent various asset classes that includes allocations of anywhere from 2% to 10% to GLD right after the ETF's inception would have outperformed multi-asset portfolios with identical exposure to indices but without equivalent allocations to GLD. From a risk-management perspective, hypothetical portfolios with a GLD allocation had lower maximum drawdowns. For example, a 10% allocation in GLD would have reduced maximum drawdown by almost 390 bps compared to no allocation in GLD.[5]

Seek an Dependable and Cost-Effective Way to Invest in Gold

Given that that adding a 2% to 10% strategic asset allocation to GLD in a hypothetical multi-asset portfolio between January 1, 2005 and December 31, 2018 may have improved risk-adjusted return and reduced maximum drawdown compared to the portfolio without any exposure to gold-backed investments, global multi-asset portfolio managers should consider the merits of including gold in their portfolios.

Figure 9: Asset Class Weightings for Hypothetical Blended Portfolios A, B, C and D

		Weighting (%)			
Asset Class	**Index/Fund**	**Portfolio A**	**Portfolio B**	**Portfolio C**	**Portfolio D**
Equity	MSCI All Country World Index	40	39	37.5	35
Total Equity		**40**	**39**	**37.5**	**35**
Government Bonds	Bloomberg Barclays Global Aggregate Government Bond Index	25	24	22.5	20
IG Credit	Bloomberg Barclays Global Aggregate Corporation Bond Index	16	16	16	16
Inflation Linked Bonds	Bloomberg Barclays World Inflation Linked Bond Index	2	2	2	2
HY Bonds	Bloomberg Barclays Global Corporate High Yield Bond Index	2	2	2	2
EM Debt	Bloomberg Barclays Emerging Markets USD Aggregate Bond Index	5	5	5	5
Total Fixed Income		**50**	**49**	**47.5**	**45**
Real Estate	Global Property Research General Index	4	4	4	4
Private Equity	LPX Composite Listed Private Equity Index	4	4	4	4
Commodities	Bloomberg Commodity Index	2	2	2	2
Gold	SPDR® Gold Shares (GLD®)	0	2	5	10
Total Alternative		**10**	**12**	**15**	**20**
Hypothetical Portfolio Total		**100**	**100**	**100**	**100**

Source: State Street Global Advisors, as of December 31, 2018.

The asset allocation scenario is for hypothetical purposes only and is not intended to represent a specific asset allocation strategy or recommend a particular allocation. Each investor's situation is unique and asset allocation decisions should be based on an investor's risk tolerance, time horizon and financial situation. It is not possible to invest directly in an index.

Figure 10: Hypothetical Blended Portfolio Results

Hypothetical Portfolio	GLD Allocation %	Annualized Return %	Cumulative Return %	Annualized Standard Deviation %	Sharpe Ratio*	Maximum Drawdown (%)
A	0	5.10	100.75	9.51	0.40	-33.29
B	2	5.17	102.50	9.45	0.41	-32.54
C	5	5.29	105.90	9.36	0.43	-31.39
D	10	5.48	111.15	9.30	0.45	-29.43

* Assumes risk-free rate of Citigroup 3-month T-bills.

Source: Bloomberg Finance L.P., FactSet, State Street Global Advisors, as of December 31, 2018.

Past performance is not a guarantee of future results. The impact of adding GLD to an investor's portfolio will vary based upon an investor's asset allocation decisions and market performance, among other things. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income. Returns do not represent those of a specific product but were achieved by mathematically combining the actual performance data of the constituents as listed in Figure 9, according to their weightings detailed in Figure 9. Performance of the hypothetical blended portfolio assumes no transaction and rebalancing costs, so actual results will differ. Performance of SPDR® Gold Shares (GLD®) reflects annual expense ratio of 0.40 percent.

All data based on monthly measures of performance.

GLD's performance quoted represents past performance, which is no guarantee of future results. Investment return and principal value will fluctuate, so you may have a gain or loss when shares are sold. Current performance may be higher or lower than that quoted.

Visit spdrs.com for most recent month end performance.

While investment in physical gold bullion is the most direct way to invest in gold, it may involve higher ongoing costs for transport, storage and insurance. Gold mining companies may be influenced by the gold price, but their growth and performance also depend on effective management, production costs, reserves and exploration, among other factors. Gold futures are widely used by investors looking for exposure to gold and have the benefit of being traded in standardized contracts on exchanges. Futures do not require full funding up front, which may be preferable to those investors looking for leverage, but the requirement to regularly roll futures contracts to maintain exposure does mean ongoing management of the gold position is required for a longer-term strategic allocation.

US-listed mutual funds with a precious metal strategy on average are more expensive than gold ETFs.[6] US mutual funds focused on precious metals together have an asset-weighted average expense ratio of just below 102 basis points compared with an asset-weighted average expense ratio of about 37 bps for US-listed ETFs backed by physical gold. Also, investing in physical-backed gold ETFs, like GLD, may help to eliminate many of the issues mentioned above as this investment vehicle seeks to provide a cost-effective way to track the price of gold.

The "IPO of Gold" helped legitimize gold as an asset class in 1971 and the arrival of GLD in November 2004 transformed gold into an accessible mainstream investment. We believe that as the size and the number of investable asset classes continue to grow, gold, an asset with historically low and negative correlation with other asset classes, ought to play a more central strategic role in multi-asset portfolios.

SPDR® Gold Shares Standard Performance as of December 31, 2018

	1 Month (%)	QTD (%)	YTD (%)	1 Year (%)	3 Years (%)	5 Years (%)	10 Years (%)	Since Inception 11/18/2004 (%)
Quarter End								
NAV	5.23	7.84	-1.54	-1.54	6.03	0.90	3.59	7.40
Market Value	4.94	7.53	-1.94	-1.94	6.11	0.86	3.43	7.31
LBMA Gold Price PM	5.05	7.73	-0.93	-0.93	6.45	1.21	3.93	7.81

Performance quoted represents past performance, which is no guarantee of future results. Investment return and principal value will fluctuate, so you may have a gain or loss when shares are sold. Current performance may be higher or lower than that quoted. Visit spdrs.com for most recent month end performance.

Gross Expense Ratio: 0.40%. The gross expense ratio is the fund's total annual operating expense ratio. It is gross of any fee waivers or expense reimbursements. It can be found in the fund's most recent prospectus.

[1] SPDR Gold Shares was listed on the New York Stock Exchange on November 18,2004, so returns of our hypothetical blended portfolio began with the first full year of GLD's existence.

[2] Bloomberg Finance L.P., State Street Global Advisors, August 13, 1971–December 31, 2018.

[3] Frederic Dodard and Abigail Greenway, A Case For Global Diversification: Harnessing the Global Multi-Asset Market Portfolio, IQ Insights, State Street Global Advisors, ISG EMEA, 2015.

[4] Ibid.

[5] Maximum portfolio loss for Portfolio A, B, C and D occurred during 2007–2009, at the height of the global financial crisis.

[6] Source: Bloomberg Finance L.P. and State Street Global Advisors. Based on expense ratios of the 22 currently-listed gold mutual funds and the four currently-listed US gold bullion ETFs, per Bloomberg. (Comparison excludes US leveraged and inverse gold bullion ETFs). Asset-weighting more accurately reflects what investors in general are currently paying for their exposure.

Glossary

10-Year U.S. Treasury Note A debt obligation issued by the US government that matures in 10 years. The debt pays interest at a fixed rate once every six months and pays the face value to the holder at maturity.

Black Swan An event that is beyond what is normally in the realm of what is expected and is thus very difficult to foresee. The term was made popular by Nassim Nicholas Taleb, a finance professor and trader who has authored a number of books on uncertainty, including "The Black Swan," a discussion on the impact of random events.

Bloomberg Barclays Emerging Markets USD Aggregate Index A hard currency emerging markets debt benchmark that includes US dollar-denominated debt from sovereign, quasi-sovereign, and corporate issuers in the developing markets.

Bloomberg Barclays Euro-Aggregate Corporate Bond Index A rules-based benchmark measuring investment grade, euro-denominated, fixed rate issued by corporations. Only bonds with a maturity of 1 year and above are eligible.

Bloomberg Barclays Global Aggregate Corporate Bond Index A benchmark of global investment-grade, fixed-rate corporate debt. This multi-currency benchmark includes bonds from developed and emerging markets issuers within the industrial, utility and financial sectors.

Bloomberg Barclays Global Aggregate Government Bond Index A benchmark that provides a broad-based measure of the global investment-grade fixed income markets, with a focus on Treasuries and government-related debt from both developed- and emerging-market issuers.

Bloomberg Barclays Global Corporate High Yield Bond Index A multi-currency fixed-income benchmark 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.

Bloomberg Barclays World Inflation Linked Bond Index A fixed-income benchmark that measures the performance of investment grade, government inflation-linked debt from 12 different developed-market countries.

Bloomberg Barclays U.S. Aggregate Bond Index A benchmark that provides a measure of the performance of the U.S. dollar denominated investment grade bond market. The "Agg" includes investment-grade government bonds, investment-grade corporate bonds, mortgage pass through securities, commercial mortgage backed securities and asset backed securities that are publicly for sale in the US.

Bloomberg Barclays U.S. Corporate Bond Index A fixed-income benchmark that measures the investment-grade, fixed-rate, taxable corporate bond market. It includes USD denominated securities publicly issued by US and non-US industrial, utility and financial issuers.

Bloomberg Barclays Emerging Markets USD Aggregate Index A hard currency emerging markets debt benchmark that includes US dollar-denominated debt from sovereign, quasi-sovereign, and corporate issuers in the developing markets.

Bloomberg Barclays U.S. High Yield Corporate Bond Index The Barclays U.S. 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 index includes both corporate and non-corporate sectors.

Bloomberg Barclays U.S. Treasury Bond Index A benchmark of US dollar-denominated, fixed-rate, nominal debt issued by the US Treasury. Treasury bills are excluded by the maturity constraint, but are part of a separate Short Treasury Index.

Bloomberg Commodity Index A broadly diversified commodity price index distributed by Bloomberg Indexes that tracks 22 commodity futures and seven sectors. No one commodity can compose less than 2 percent or more than 15 percent of the index, and no sector can represent more than 33 percent of the index.

Brexit An abbreviation of the term "British Exit" referring to the UK referendum on June 23, 2016 that resulted in the country's decision to withdraw from the European Union.

CPI, or Consumer Price Index A widely used measure of inflation at the consumer level that helps to evaluate changes in cost of living.

Debt Ceiling Crisis A contentious debate in July 2011 regarding the maximum amount of money that the US government should be allowed to borrow. Congress did end up immediately raising the "debt ceiling" by $400 billion, from $14.3 trillion to $14.7 trillion, with the possibility of future increases included in the agreement as well, but the contentious nature of the debate led Standard and Poor's to downgrade the US'credit rating from AAA to AA+, even though the U.S. did not default.

Fiat Currency Currency that a government declares to be legal tender, but that it is not backed by a physical commodity. The value of fiat money is linked to supply and demand rather than the value of the material that the money is made of, such as gold or silver historically. Fiat money's value is instead based solely on the faith and credit of the economy.

Global Financial Crisis The economic crisis that occurred from 2007-2009 that is generally considered biggest economic challenge since the Great Depression of the 1930s. The GFC was triggered largely by the sub-prime mortgage crisis, which led to the collapse of systemically vital US investment banks such as Lehman Brothers. The crisis began with the collapse of two Bear Stearns hedge funds in June 2007, and the stabilization period began in late 2008 and continued until the end of 2009.

Global Property Research General Index A broad-based global real estate benchmark that contains all listed real estate companies that conform to General Property Research's index-qualification rules, bringing the number of index constituents to more than 650. The index's inception date was Dec. 31 1983.

Gold Standard A monetary standard under which the basic unit of currency is defined by a stated quantity of gold. In 1971 US President Richard Nixon ended the ability to convert US dollars into gold at the fixed price of $35 per ounce.

LBMA Gold Price The LBMA Gold Price is determined twice each business day — 10:30 a.m. London time (i.e., the LBMA Gold Price AM) and 3:00 p.m. London time (i.e., the LBMA Gold Price PM) by the participants in a physically settled, electronic and tradable auction.

LPX Composite Listed Private Equity Index A broad global listed private equity index whose number of constituents is not limited. The LPX Composite includes all major private equity companies listed on global stock exchanges that fulfils the index provider's liquidity criteria. The index composition is well diversified across listed private equity categories, styles, regions and vintage years. The index has two versions: a price index (PI) and a total return index (TR) that includes all payouts.

MSCI ACWI Index, or MSCI All Country World Index A free-float weighted global equity index that includes companies in 23 emerging market countries and 23 developed market countries and is designed to be a proxy for most of the investable equities universe around the world.

Real Rate of Return The return realized on an investment, usually expressed annually as a percentage, which is adjusted to reflect the effects of inflation or other external factors, on the so-called nominal return. The real rate of return is calculated as follows: Real Rate of Return = Nominal Interest Rate — Inflation. Sharpe Ratio A measure for calculating risk-adjusted returns that has become the industry standard for such calculations. It was developed by Nobel laureate William F. Sharpe. The Sharpe ratio is the average return earned in excess of the risk-free rate per unit of volatility or total risk. The higher the Sharpe ratio the better.

Sharpe Ratio A measure for calculating risk-adjusted returns that has become the industry standard for such calculations. It was developed by Nobel laureate William F. Sharpe. The Sharpe ratio is the average return earned in excess of the risk-free rate per unit of volatility or total risk. The higher the Sharpe ratio the better.

Sovereign Debt Crisis A period of time beginning in 2008 when several European countries on the periphery of the Eurozone became unable to repay or refinance government debt or bail out banks without the assistance of the European Central Bank and the International Monetary Fund. It was brought to heel in July 2012 with the ECB's pledge to save the euro and the Eurozone at all costs. While the crisis began with the collapse of Icelandic and Irish banks, it became largely focused on southern European countries — mainly Greece, but also Spain, Portugal and even Italy.

Standard Deviation A statistical measure of volatility that quantifies the historical dispersion of a security, fund or index around an average. Investors use standard deviation to measure expected risk or volatility, and a higher standard deviation means the security has tended to show higher volatility or price swings in the past. As an example, for a normally distributed return series, about two-thirds of the time returns will be within 1 standard deviation of the average return.

Hypothetical Blended Portfolio Performance Methodology

Returns shown in Figure 10 do not represent those of a fund but were achieved by mathematically combining the actual performance data of MSCI AC World Daily TR Index, Bloomberg Barclays Global Aggregate Government Bond Index, Bloomberg Barclays Aggregate Global Corporate Bond Index, Bloomberg Barclays Emerging Markets Debt Index, Global Property Research General Index, S&P Listed Private Equity Index, Bloomberg Barclays World Inflation Linked Bond Index, Bloomberg Barclays Global Corporate High Yield Index, S&P GSCI Index, and SPDR® Gold Shares (GLD®) between January 1, 2005 and December 31, 2018. Each portfolio is re-balanced at the beginning of each year to maintain target portfolio weights. The performance assumes no transaction and rebalancing costs, so actual results will differ. It is not possible to invest directly in an index. Performance of GLD reflects annual expense ratio of 0.40%. The impact of adding GLD to an investor's portfolio will vary based upon an investor's asset allocation decisions and market performance, among other things.

Important Risk Information

The views expressed in this material are the views of George Milling- Stanley, Robin Tsui and Diego Andrade and are subject to change based on market and other conditions. This document contains certain statements that may be deemed forward-looking statements. Please note that any such statements are not guarantees of any future performance and actual results or developments may differ materially from those projected.

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ETFs trade like stocks, are subject to investment risk, fluctuate in market value and may trade at prices above or below the ETFs' net asset value. Brokerage commissions and ETF expenses will reduce returns.

While the shares of ETFs are tradable on secondary markets, they may not readily trade in all market conditions and may trade at significant discounts in periods of market stress.

There can be no assurance that a liquid market will be maintained for ETF shares.

Commodities and commodity-index linked securities may be affected by changes in overall market movements, changes in interest rates, and other factors such as weather, disease, embargoes, or political and regulatory developments, as well as trading activity of speculators and arbitrageurs in the underlying commodities.

Government bonds and corporate bonds generally have more moderate short-term price fluctuations than stocks, but provide lower potential long-term returns.

Foreign investments involve greater risks than US investments, including political and economic risks and the risk of currency fluctuations, all of which may be magnified in emerging markets.

Asset Allocation is a method of diversification which positions assets among major investment categories. Asset Allocation may be used in an effort to manage risk and enhance returns. It does not, however, guarantee a profit or protect against loss. Diversification does not ensure a profit or guarantee against loss.

Investments in small-sized companies may involve greater risks than in those of larger, better known companies.

Equity securities may fluctuate in value in response to the activities of individual companies and general market and economic conditions.

Bonds generally present less short-term risk and volatility than stocks, but contain interest rate risk (as interest rates raise, bond prices usually fall); issuer default risk; issuer credit risk; liquidity risk; and inflation risk. These effects are usually pronounced for longer-term securities. Any fixed income security sold or redeemed prior to maturity may be subject to a substantial gain or loss.

International Government bonds and corporate bonds generally have more moderate short-term price fluctuations than stocks, but provide lower potential long-term returns.

Increase in real interest rates can cause the price of inflation-protected debt securities to decrease. Interest payments on inflation-protected debt securities can be unpredictable.

Investing in high yield fixed income securities, otherwise known as junk bonds, is considered speculative and involves greater risk of loss of principal and interest than investing in investment grade fixed income securities. These Lower-quality debt securities involve greater risk of default or price changes due to potential changes in the credit quality of the issuer.

Investing in futures is highly risky. Futures positions are considered highly leveraged because the initial margins are significantly smaller than the cash value of the contracts. The smaller the value of the margin in comparison to the cash value of the futures contract, the higher the leverage. There are a number of risks associated with futures investing including but not limited to counterparty credit risk, currency risk, derivatives risk, foreign issuer exposure risk, sector concentration risk, leveraging and liquidity risks.

Derivative investments may involve risks such as potential illiquidity of the markets and additional risk of loss of principal.

The use of leverage, as part of the investment process, can multiply market movements into greater changes in an investment's value, thus resulting in increased volatility of returns.

Growth stocks may underperform stocks in other broad style categories (and the stock market as a whole) over any period of time and may shift in and out of favor with investors generally, sometimes rapidly.

Frequent trading of ETFs could significantly increase commissions and other costs such that they may offset any savings from low fees or costs.

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Investing in commodities entails significant risk and is not appropriate for all investors.

Important risk information

Investing involves risk, and you could lose money on an investment in SPDR® Gold Trust ("GLD®").

ETFs trade like stocks, are subject to investment risk, fluctuate in market value and may trade at prices above or below the ETFs' net asset value. Brokerage commissions and ETF expenses will reduce returns.

Commodities and commodity-index linked securities may be affected by changes in overall market movements, changes in interest rates, and other factors such as weather, disease, embargoes, or political and regulatory developments, as well as trading activity of speculators and arbitrageurs in the underlying commodities.

Frequent trading of ETFs could significantly increase commissions and other costs such that they may offset any savings from low fees or costs.

Diversification does not ensure a profit or guarantee against loss.

Investing in commodities entails significant risk and is not appropriate for all investors.

Important Information Relating to SPDR® Gold Trust ("GLD®"):

The SPDR Gold Trust ("GLD") has filed a registration statement (including a prospectus) with the Securities and Exchange Commission ("SEC") for the offering to which this communication relates. Before you invest, you should read the prospectus in that registration statement and other documents GLD has filed with the SEC for more complete information about GLD and this offering. Please see the GLD prospectus for a more detailed discussion of the risks of investing in GLD shares. The GLD prospectus is available by clicking here. You may get these documents for free by visiting EDGAR on the SEC website at sec.gov or by visiting spdrgoldshares.com. Alternatively, the Trust or any authorized participant will arrange to send you the prospectus if you request it by calling 866.320.4053.

GLD is not an investment company registered under the Investment Company Act of 1940 (the "1940 Act") and is not subject to regulation under the Commodity Exchange Act of 1936 (the "CEA"). As a result, shareholders of the Trust do not have the protections associated with ownership of shares in an investment company registered under the 1940 Act or the protections afforded by the CEA.

GLD shares trade like stocks, are subject to investment risk and will fluctuate in market value. The value of GLD shares relates directly to the value of the gold held by GLD (less its expenses), and fluctuations in the price of gold could materially and adversely affect an investment in the shares. The price received upon the sale of the shares, which trade at market price, may be more or less than the value of the gold represented by them. GLD does not generate any income, and as GLD regularly sells gold to pay for its ongoing expenses, the amount of gold represented by each Share will decline over time to that extent.

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For more information, please contact the Marketing Agent for GLD: State Street Global Advisors Funds Distributors, LLC, One Iron Street, Boston, MA, 02210; T: +1 866 320 4053 spdrgoldshares.com.

Before investing, consider the funds' investment objectives, risks, charges and expenses. To obtain a prospectus which contains this and other information, call 866.787.2257 or visit spdrs.com. Read it carefully.

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There are Many Myths That Persist in the ETF Marketplace That Need to be "Debunked"

As ETFs continue to rise in popularity, oft-repeated myths can gain traction despite a clear lack of evidence. At the Canadian ETF Association, education is an important part of our mandate, which includes addressing common misconceptions. Here are just three of the more common myths:

Pat Dunwoody
Executive Director, Canadian ETF Association (CETFA)

1. ETFs Could Cause A Market Crash

This erroneous belief stems, in part, from the rapid growth of ETFs as an accessible investment vehicle. At the end of April, there was $178 billion in assets invested in almost 700 Canadian-listed ETFs. As this number continues to grow, it is increasingly important to ensure advisors and investors have the information they need to make informed decisions about their portfolios.

An important caveat to exchange trading is that, just like a stock, an ETF is subject to the integrity of the markets. In other words, if there is a market event or large moves in investor sentiment, we should expect ETFs to move with the market. ETFs are priced based on their underlying portfolios, not the other way around. The assumption that since ETFs drove market instability — as they became prominent — doesn't pass the smell test.

ETFs, like stocks, are market dependent. When macroeconomic events, investor sentiment or other factors cause market fluctuations, ETFs move with the market. When market volatility increases, ETF trading tends to increase as well. This has caused some observers to argue that ETFs cause the volatility and distort the price of their underlying securities.

cetfa
Canadian ETF Association

Simply put, when ETF prices fluctuate, it should be considered a symptom of market volatility, not a cause.

While the global ETF market has grown considerably over the last few years, it is still small relative to the total securities market. In Canada, ETFs represents 9.9% of investment fund assets and roughly 5% of global equity markets, and the trading associated with ETFs is still a fraction of the total market. Today and in any imaginable future, it is the broader market that drives prices. Inflating the power of ETFs to suggest they control market instability isn't credible.

ETFs are an investment vehicle that allows people to buy and sell stocks and bonds. The investment vehicle itself does not have influence over broader market fluctuations.

2. ETFs Are Just Like Stocks

ETFs trade on an exchange; however, unlike a stock, which has a limited number of shares available for sale or purchase, ETFs are an open-ended funds (like mutual funds) that can create new units based on demand. This means that clients can buy larger blocks of units without worrying about running through the order book, while clients that buy smaller blocks will benefit through offsetting client orders. Market makers will continually offer new shares and will create new units when needed.

3. ETFs Aren't Liquid

ETF liquidity begins with the underlying portfolio, where ETFs that are based on harder to trade strategies will then have less liquidity. An ETF adds liquidity through exchange trading, where as an ETF matures more buyers and sellers meet on the exchange and the ETF develops more liquidity than its underlying portfolio. This is particularly beneficial in narrower asset classes and fixed income, areas with historical liquidity challenges.

When the price of an ETF falls, market makers can attempt to take advantage of the price difference between the ETF shares and the price of its underlying assets by buying the ETF and selling the underlying assets. This trading is a response to market shifts, not a cause of them. This arbitrage can also increase liquidity and help curb price volatility by bringing ETF share prices back in tandem with their underlying holdings.

At the end of the day, ETFs are an important innovation in financial markets, and allow more investors to access different asset classes and to have better trade execution on more diversified portfolios. Just like anything else, understanding how they work is critical to having a good client experience.

Pat Dunwoody, Executive Director, Canadian ETF Association (CETFA)

Three Crucial ETF Facts

ETF providers have been required to file ETF Facts documents annually with Canadian securities regulators since December of last year. And some of the early adopters have already filed their second, updated versions of the documents.

Brian Bridger
CFA, FRM
Vice President, Analytics & Data, Fundata Canada Inc.

ETF Facts contain much of the typical information about ETFs that can normally be found on the sponsoring companies' websites, such as manager information, what the fund invests in, how it has performed, fee information, etc. However, the ETF Facts also contain a number of informative metrics that had not previously been disclosed and cannot be found in typical marketing material. This includes average daily trading volume, number of days traded, and average bid/ask spread. Let's examine what these mean, and how Canadian ETFs stack up for each of these measures.

All three of these data points require historical market data, so ETFs that do not have 12 months of history will not provide this information. Based on information from Fundata's extensive database, of the 834 ETFs with ETF Facts available, 574 have at least some of these data points.

Average Daily Volume

This is simply the average number of units traded each day over a 12-month period. A lower trading-volume number does not necessarily mean that an ETF is less liquid, as this is determined mainly by the liquidity of the underlying holdings. Lower volumes could indicate, however, that an ETF is not very popular.

The average volume ranges from 8.5 million units per day all the way down to 40 units per day. The highest volume belongs to Canada's largest ETF by assets under management (AUM), the **iShares S&P/TSX 60 Index ETF (TSX: XIU).** The lowest-volume offering belongs to the USD version of the **BMO Long-Term US Treasury Bond Index ETF (TSX: ZTL.U).**

The median across all ETFs is just less than 16,000 units per day. Forty-two ETFs trade less than 1,000 units per day, 95 trade more than 100,000 units per day, and only 9 trade more than one million units per day.

The Canadian Investment Funds Standards Committee category with the highest average daily volume is Passive Inverse/Leveraged. Considering ETFs in this category are normally day-traded and are not meant to be long-term holdings, the high volume is understandable. Another category with high volume is Canadian Equity. This category includes four of the top-10 ETFs by AUM, including XIU.

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Among ETF providers, the highest average daily volume is posted by Horizons ETFs, followed by BlackRock and BMO ETFs. Horizons takes top spot mainly because of the number of Passive/Inverse Leveraged ETFs it offers, while BlackRock and BMO are the two largest ETF providers by AUM and market share.

Number of Days Traded

This metric shows the number of days that an ETF was traded out of the total number of trading days. As with trading volume, this statistic is more a reflection of an ETF's popularity than its liquidity.

Because the time period used is not always the same, we will look at the percentage of the number of days traded compared with the potential number of days. We will assume 251 if a company did not list the potential number of days.

Just less than half of the ETFs (286 out of 574) scored 100%, meaning they traded every day of the measurement period. At the low end of the spectrum, **First Trust AlphaDEX Emerging Markets Dividend ETF (CAD Hedged) Advisor Class (TSX: FDE.A)** scored 2.4%. This ETF is an Advisor series of FDE and traded just six days out of 249. The main series was not much better, trading less than half the available days with a score of 45%. In total, 10 funds scored less than 10%, and 60 funds were less than 50%.

On average, BlackRock and Mackenzie Financial had the highest percentages of number of days traded among ETF providers. They both averaged 98.4%. FT Portfolios Canada scored the lowest, at 54%, with WisdomTree next at 66%.

Average Bid/Ask Spread

This is the average bid/ask spread as a percentage of the bid/ask midpoint over a 12-month period. The actual calculation is highly complex and extremely data intensive, but the spread basically tells you the additional cost associated with a round trip (buy-and-sell) trade. In general, lower volume usually means wider spreads. However, spreads can also be affected by a number of other factors including illiquid underlying securities, active and opaque strategies, or simply a limited number of market makers.

Ignoring money market and high interest savings ETFs, 9 ETFs have a spread of 0.04%. This group consists of some of the largest ETFs by AUM, including XIU, iShares Core S&P 500 Index ETF (CAD- Hedged) (TSX: XSP), and **iShares Core Canadian Short Term Bond Index ETF (TSX: XSB).** At the other end of the spectrum, we see spreads as high as 2.26% for **Horizons Emerging Marijuana Growers Index ETF (NEO: HMJR), and 1.72% for First Asset Canadian Convertible Bond ETF (TSX: CXF)**. In total, there are nine ETFs with a spread greater than 1%, while the median spread is 0.2%.

From a category perspective, looking only at those categories with more than five funds, the lowest average spreads belong to Canadian Short Term Fixed Income, Canadian Dividend and Income Equity, and Canadian Equity, all around 0.12%. Commodity, High Yield Fixed Income, and Emerging Markets Equity have the highest average spreads, at 0.74%, 0.46%, and 0.4%, respectively.

By ETF provider, Evolve Funds Group has the lowest average spread, at 0.1%, followed by Vanguard and BlackRock, at 0.15% and 0.19%, respectively. The highest average spread is posted by Harvest Portfolios Group ETFs, at 0.53%. **Auspice Capital comes in quite a bit higher, but it only has one ETF, the Auspice Canadian Crude Oil Index ETF (TSX: CCX)** with an average bid/ask spread of 1.66%.

Brian Bridger, CFA, FRM, Vice President, Analytics & Data, Fundata Canada Inc.

HAC – An ETF for All Seasons

Most investors are aware of the old adage, 'Sell in May and Go Away'. This is because, in past years, markets have tended to be more volatile between the months of May and November. This notion however, is not entirely accurate. Historically, it is not the stock market that corrects during this period of the year – rather, risk increases.

According to Thackray's 2019 Investor's Guide, the favorable period for stock market investing, between late-October and early-May, has outperformed the unfavorable period (between May and October) 71% of the time over the last 50 years. This type of statistical persistency is high for an investment trend.

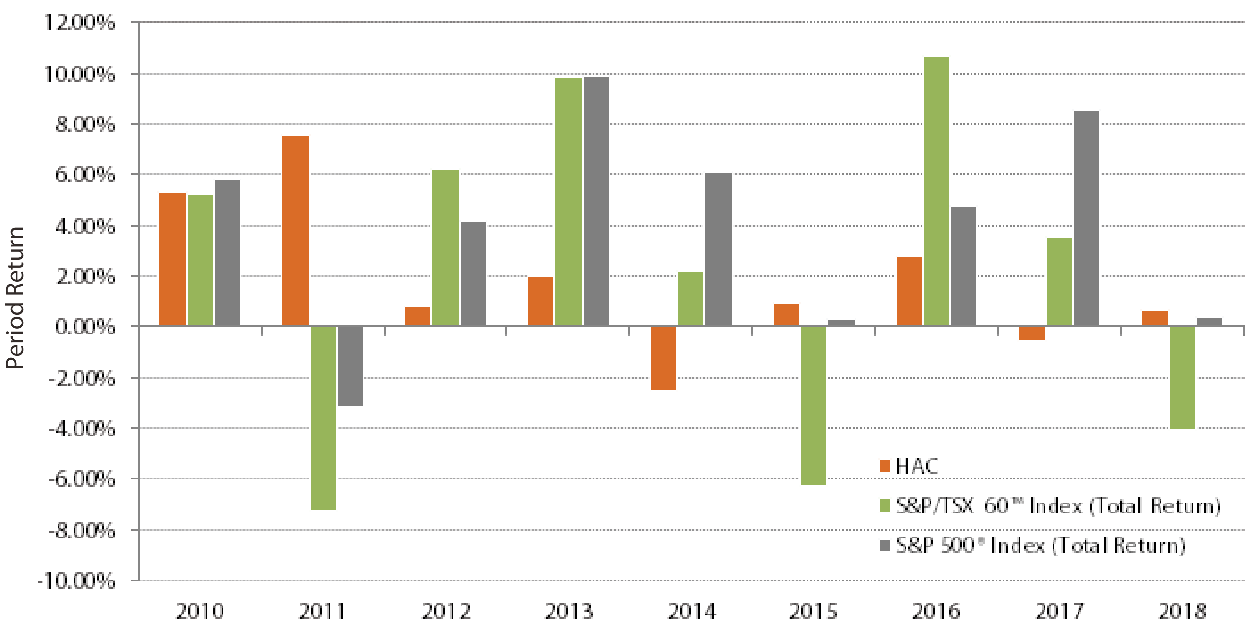
For this reason, the strategy of the Horizons Seasonal Rotation ETF ("HAC") is to take on more defensive portfolio positions during these unfavourable months to protect the portfolio against the traditionally higher-risk associated with equity investing during this period.

Going Defensive

Taking a more defensive position during the summer months has historically been strong for HAC. Since its inception in November of 2009, HAC has delivered a cumulative performance of 17.99% between May 6 to October 27, but more importantly, it has not experienced the same level of return volatility and number of drawdowns as the S&P 500® Index and the S&P/TSX 60™ Index.

HAC Unfavourable Season Performance Comparisonby Year[1]

From May 6 to October 27, in each calendar year from 2010 to 2018



[1]Source: Bloomberg, between October 28, 2010 to May 5, 2019.

The indicated rates of return in the bar chart above are for illustrative purposes only and are the historical annual compounded total returns, including changes in unit value and reinvestment of all distributions and do not take into account sales, redemption, distribution or optional charges or income taxes payable by any securityholder that would have reduced returns. Additionally, index returns do not take into account management, operating or trading expenses that may be incurred in replicating the index. The rates of return above are not indicative of future returns. The ETF is not guaranteed, its values change frequently, and past performance may not be repeated. The indices are not directly investible.

HAC – An ETF for All Seasons

Cumulative Returns/Standard Deviation[2] - Unfavourable Season

Product Name	Cumulative Returns (%)	Standard Deviation[3] (%)
Horizons Seasonal Rotation ETF	17.99	4.30
S&P/TSX 60™ Index (Total Return)	19.94	12.99
S&P 500® Index (Total Return)	42.64	15.77

[2]Source: Bloomberg, between May 6, 2010 to October 27, 2018.
[3]Annualized standard deviation is based on historical daily total returns (between May 6, 2010 to October 27, 2018 only).

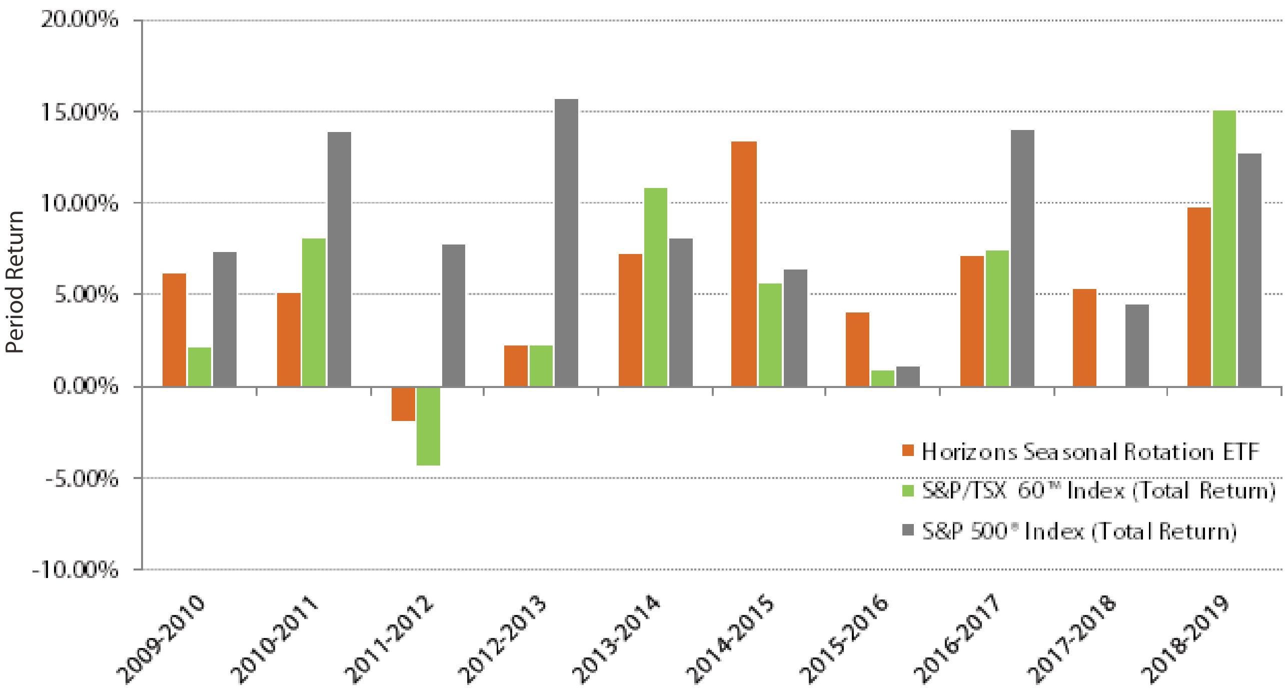
Taking Advantage of the Favourable Season

While the significant advantages of seasonal investing in the non-favourable season are well-documented, it is important to highlight HAC's track record in the favourable equity investing season that occurs between October 28 to May 5.

HAC has delivered a cumulative total return of 84.51% for all of the favourable seasons since inception versus a total return of 57.57% for the S&P/TSX 60™ Index and a 138.44% return for the S&P 500® Index during the same periods.

HAC Favourable Season Performance Comparison by Year[4]

From October 28 to May 5, in each calendar year from 2010 to 2018



[4]Source: Bloomberg, between October 28 2010 to May 5, 2019.
The indicated rates of return in the bar chart above are for illustrative purposes only and are the historical annual compounded total returns, including changes in unit value and reinvestment of all distributions and do not take into account sales, redemption, distribution or optional charges or income taxes payable by any securityholder that would have reduced returns. Additionally, index returns do not take into account management, operating or trading expenses that may be incurred in replicating the index. The rates of return above are not indicative of future returns. The ETF is not guaranteed, its values change frequently, and past performance may not be repeated. The indices are not directly investible.

HAC – An ETF for All Seasons

Cumulative Returns/Standard Deviation[5] - Favourable Season

Product Name	Cumulative Returns (%)	Standard Deviation[6] (%)
Horizons Seasonal Rotation ETF	84.51	11.09
S&P/TSX 60™ Index (Total Return)	57.57	11.88
S&P 500® Index (Total Return)	138.44	13.73

[5]Source: Bloomberg, between October 28, 2010 to May 5, 2019.
[6]Annualized standard deviation is based on historical daily total returns (between May 6, 2010 to October 27, 2018 only).

This seasonal rotation strategy is a key reason why HAC has been able to generate a very attractive return trajectory, an absolute return in excess of 8% per annum since HAC's inception on November 19, 2009, with substantially lower standard deviation. This is typically affiliated with successful hedge fund or alternative strategy. With a management fee of 0.75% (plus applicable sales taxes) and strong intraday liquidity, HAC combines the advantages of an absolute return strategy with the flexibility and cost-efficiency of an ETF.

Annualized Performance[7]

Product Name	Ticker	1 Month (%)	3 Months (%)	6 Months (%)	YTD (%)	1 Year (%)	3 Years (%)	5 Years (%)	10 Years (%)	Since Common Inception[8] (%)
Horizons Seasonal Rotation ETF	HAC	3.00	5.85	7.85	14.27	10.55	8.21	8.16	--	8.54
S&P 500 Index (Total Return – CAD Hedged)	SPX-HCDTR	4.01	9.32	8.79	17.63	11.90	13.92	10.98	14.77	12.94
S&P/TSX Composite (Total Return)	0000AR	3.22	7.55	12.16	16.94	9.60	9.11	5.60	9.08	6.95

[7]Source: Morningstar Direct, as at April 30, 2019.
[8]Since HAC's inception on November 19, 2009.
The indicated rates of return are the historical annual compounded total returns, including changes in unit value and reinvestment of all distributions and do not take into account sales, redemption, distribution or optional charges or income taxes payable by any securityholder that would have reduced returns. Additionally, index returns do not take into account management, operating or trading expenses that may be incurred in replicating the index. The rates of return above are not indicative of future returns. The ETF is not guaranteed, its values change frequently, and past performance may not be repeated. The indices are not directly investible.

To learn more, please visit **www.HorizonsETFs.com/HAC**

HORIZONS EXCHANGE TRADED FUNDS
ACTIVE ✦ BENCHMARK ✦ BETAPRO

MIRAE ASSET

Safety, Growth and Income are the Harvest Way.

When Harvest Portfolios Group Inc., CEO Michael Kovacs founded the company in 2009, global markets were in the middle of their worst stretch in two decades.

Stocks were nearing the end of a 17-month bear grip that saw the S&P 500 index lose 50% of its value from peak to trough. Extraordinary interventions by governments and central banks helped stabilize the financial system, but at the time, the outlook was anything but bright. While the industry was shaken, Kovacs was optimistic about the way ahead. He recalled the lessons learned during the Crash of 1987 when he was starting out in the investment business. That gave him a map to follow and confidence in the future.

On October 19, 1987 the Dow shed nearly 22% of its value, the biggest one-day percentage loss in history. Amid the Black Monday panic, Kovacs decided to focus on the fundamentals of value and wealth creation. Among his readings and research was to follow the writings of Warren Buffett. The more he read, the more he realized that 'The Buffett' way was simple. Buffett bought great companies and held on to them. Over time their share prices rose and they paid dividends. Those twin energizers added up to excellent returns over time.

These insights shaped the evolution of the Harvest way. Kovacs believes the best recipe for success is through ownership of the biggest global players, with deep pockets, strong businesses, dividend flows and opportunities for growth.

HARVEST EXCHANGE TRADED FUNDS

This is the core of the Harvest philosophy and these views have been reinforced through all the crashes and subsequent recoveries since 1987.

In 2016, Harvest adopted the ETF structure for its products. Harvest uses a quantitative and fundamental process to select and manage its suite of ETF portfolios. The mandates are transparent and simple for clients to understand. Harvest chooses global leaders, or the biggest and most dominant companies in their industry. They have financial staying power and a history of profitability and rising dividends. These features mean the companies protect investor capital while providing growth.

The philosophy was put to work in 2009 with the first fund, the Harvest Banks & Buildings mutual fund, which has since also been launched as an ETF. The ETF version of the fund offers investors a convenient and lower cost way to get at Harvest's longest running income strategy.

Both funds invest in a portfolio of mainly Canadian banking, other financial and real estate companies, REITs and up to 25% in similar US holdings.

Over the nine years ending Dec. 31, 2018 the original banks and buildings fund had an average annual compound return of 8.64%. Someone investing $100,000 investment when it was launched "during the smoking embers of the financial crisis," at the end of the financial crisis would have doubled their money and more.

"That's a pretty good return," Kovacs says.

Harvest has grown steadily and now offers 12 ETFs. The largest by assets are the Harvest Healthcare Leaders Income ETF (TSX:HHL, HHL.U) and the Harvest Brand Leaders Plus Income ETF (TSX:HBF, HBF.U)

The Harvest Healthcare Leaders Income ETF invests in an equally weighted portfolio of 20 of the largest global healthcare stocks. It offers a monthly income and is enhanced by a covered call strategy. The Harvest Brand Leaders Plus Income ETF is a globally diversified fund that invests in 20 companies selected from the world's top 100 rated brands. It also offers a monthly income and benefits from the covered call strategy.

In January 2019, Harvest launched two more ETFs, the Harvest Global Gold Giants Index ETF (TSX: HGGG) and the Harvest Equal Weight Global Utilities Income ETF (TSX:HUTL).

These are examples of the strategy at work.

The Harvest Equal Weight Global Utilities Income ETF focuses on 30 large cap global utilities in the telecom, electricity, pipelines, oil and gas storage and transportation sectors. The portfolio is equally weighted and uses a covered call strategy to generate additional income and pays a fixed monthly distribution.

The companies in the ETF are monopolies or oligopolies and are considered essential services because they provide such things as electricity and water. They have pricing power and are defensive assets that pay a steady income in all conditions. They trade actively and have options, which plays to the Harvest strength.

The Harvest Global Gold Giants Index ETF is a bit different, Kovacs says. He believes gold has been in a bear market for six years or more. It is traditionally a defensive asset and as we get later into the economic cycle, "it probably makes sense to have a position in gold."

Gold tends to do well if markets are dropping and if the US dollar declines. The fund follows a passive index of the 20 largest gold producers who are producing 30 million ounces of gold a year at and average cost of $670 US.

"Their profits will be tied to the price of gold," Kovacs says. "So you get leverage if gold prices move higher. We continue to think it will be an exciting area over the next few years."

Harvest enriches its returns with a covered call strategy that adds to the basic return. Harvest is second largest option writing firm in Canada with 8 of its 12 ETF's having option writing strategies. The company has made it their specialty and area of the market focus.
Harvest believes the process is a low risk way to increase returns and its funds have returned 8% or 9% a year consistently.

The strategy creates tax advantaged income through an active covered call writing process. The tax advantage comes from the premium income created by the call writing. It is treated as capital gains.

A second benefit is that it reduces volatility. This is because the stocks where calls have been written have the downside protection of the premium collected. Here's an example: The fund buys a stock at $50 per share and sells a call option that pays a premium of $2 per share. If the stock price declines, the fund is $2 per share better off than the fund that did not to write calls.

"This is a very simple formula," Kovacs says. "If the market rolls back we don't get called away on the stock, but keep the premium. If the market rallies, we lose a little bit. We sell the shares at higher prices than we originally bought them and buy them back again. So it's a bit of a balance. You're taking away a little bit of upside to capture the income."

Harvest writes covered calls to a maximum of 33% on any position which means it will always have a minimum of 67% exposure to the underlying securities.

As the economic expansion slows, the Harvest strategy helps reduce cyclical risk. Its funds are less volatile because of the call writing strategy. As well since the companies are global leaders they fall least in a weak market and recover first. Harvest does not own small cap stocks, believing the big names are a better way to reduce risk and enjoy a great return."

Kovacs believes Harvest products have broad appeal. Younger investors might want to see the conservative growth as a way to accumulate wealth and increase returns by using its dividend reinvestment plans (DRIPS). As they reinvest the dividends, the power of compounding helps their money grow by paying dividends on dividends.

Kovacs says those nearing retirement or in retirement are looking at fixed income returns of 2% or so. In this environment it is hard to generate income and not dip into capital.

A decade ago if you had $1 million and put it into GICs, you might have seen a 4 to 5% yield, or $40,000 to $50,000 a year. GICs are currently yielding somewhere between 1.8% and 2%, so the income has dropped to $18,500 and $20,000. Unless investors adopt a different strategy they are faced with drawing down their capital.
So how would Michael Kovacs summarize the Harvest way?

"We believe in long term growth through the ownership of great businesses, while generating a steady income along the way. We are simple, transparent and growth oriented. I really believe in our approach and have 75% of my personal investments just in our products."

Kovacs says ultimately portfolio managers are in the reassurance business.

"People want to be reassured that they own Merck, or Coca-Cola, quality businesses that will be here in 10 years and 15 years. That's what we own: quality, quality, quality."

2019 CALENDAR OF EVENTS

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Exchange Traded Forum (ETF Canada) 10th Annual

Monday, April 1 & Tuesday, April 2 ~ Toronto, Ontario

Canada's largest and longest standing event dedicated to Exchange Traded Products. Hear from leading financial industry professionals and industry experts who will provide valuable insights into the issues and trends that matter most to Canada's financial professionals. Join us for presentations, advisor/client-focused sessions, roundtable discussions, networking events and knowledge sharing critical issues facing the financial industry. This is an opportunity for IIROC based financial advisors and also Portfolio Managers to gather together in a great location to network, learn from each other, and participates in the numerous educational opportunities that fill the agenda.

EXCHANGE TRADED FORUM

ExchangeTradedForum.com

TORONTO

Exchange Traded Forum (ETF Canada West) 9th Annual

Thursday, June 6 ~ Vancouver, British Columbia

Canada's largest and longest standing event dedicated to **Exchange Traded Products**. Hear from leading financial industry professionals and industry experts who will provide valuable insights into the issues and trends that matter most to Canada's financial professionals. Join us for presentations, advisor/client-focused sessions, roundtable discussions, networking events and knowledge sharing critical issues facing the financial industry.

EXCHANGE TRADED FORUM

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VANCOUVER

Niagara Institutional Dialogue (NID) 10th Annual

Sunday, June 9 to Tuesday, June 11 ~ Niagara-on-the-Lake

Niagara Institutional Dialogue is Canada's premier institutional event with an academic angle and a focus on education & open dialogue. NID is an invitation-only symposium creating a forum for open dialogue and debate issues facing Canada's foremost institutional investors. The distinguished speaking faculty assembled each year includes academics, authors, policymakers, journalists, consultants and select practitioners. A selected group of senior representatives from Canadian pensions and family offices will participate in three days of informative discussions, education and networking. This confidential closed-door event is reserved for select industry participants.

Niagara Institutional Dialogue

InstitutionalDialogue.com

WAIS Canada 18th Annual

Monday, October 28 to Wednesday, October 30 ~ Niagara Falls

WAIS Canada is in its 18th year and is Canada's largest gathering of **alternative investments**, **investment professionals, investors, industry experts** and **service providers.** Today's WAIS has gone much beyond its original alternative investment only focus attracting investment professionals from all facets of investments. **WAIS Canada** is a popular annual event that is not to be missed.

WAIS CANADA

waisc.com

Interested in sponsoring or attending an event: info@radiusfinancialeducation.com or call us at T: 416.306.0151

2019 CALENDAR OF EVENTS

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* Exchange Traded Forum (ETF Frankfurt) 1st Annual

Thursday, May 9 ~ Frankfurt, Germany

A unique, 1-day European gathering of industry experts and financial professionals with comprehensive exposure to the latest products and trends in the fast growing ETF industry.

RadiusEurope.com

EXCHANGE TRADED FORUM
FRANKFURT

* Exchange Traded Forum (ETF London) 1st Annual

Wednesday, May 15 ~ London, U.K.

A unique, 1-day European gathering of industry experts and financial professionals with comprehensive exposure to the latest products and trends in the fast growing ETF industry.

RadiusEurope.com

EXCHANGE TRADED FORUM
LONDON

* London Institutional Dialogue 1st Annual

Thursday, September 19 & Friday, September 20 ~ London, U.K.

A 2-day event packed with family conversations and solutions for a unique class of wealth professionals and entrepreneurs. Networking and learning among peers and industry experts with comprehensive exposure to all important aspects for family stewards.

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London Institutional Dialogue
LONDON

Radius Europe Financial Education (Radius Europe) has been producing high level conferences within the financial services sector for over 18 years. As a leading producer of conferences within the financial sector, Radius Europe events focus on education and networking through an exchange of independent ideas and information, allowing our delegates to be leaders in their chosen fields. Our top-down approach to the agenda enables us to deliver relevant, thought-provoking, cutting edge, and sometimes controversial insight in a stimulating manner. We understand the importance of learning from the best. Each conference offers a well balanced speaker composition consisting of insight from authors, educators, economists, regulatory bodies and industry leaders from around the globe.

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CIFP Retirement Institute and The Canadian Institute of Financial Planners

* Retirement Canada Dialogue 1st Annual

Thursday, April 11 ~ Toronto, Ontario

Join the **CIFP Retirement Institute** for a full-day event packed with the latest trends and solutions for retirement planning professionals, turning a challenging retirement environment into an advantage for advisors. Networking and learning amongst peers and industry experts with comprehensive exposure to all important aspects for the practice of retirement planning.

RETIREMENT CANADA DIALOGUE
RetirementInstituite.ca
TORONTO

* CIFPs Annual National Conference 17th Annual

Sunday, June 2 to Wednesday, June 5 ~ Vancouver, B.C.

Join us at the **CIFPs Annual National Conference**, the premier financial planning gathering of major Canadian financial service organizations, planners, technical and educational experts. Educational streams focusing on Retirement & Lifestyle Planning, Risk Management & Estate Planning and Wealth Accumulation & Income Tax Planning. Plus an Advanced Financial Planning Stream.

CIFPs
CIFPs.ca/Conference
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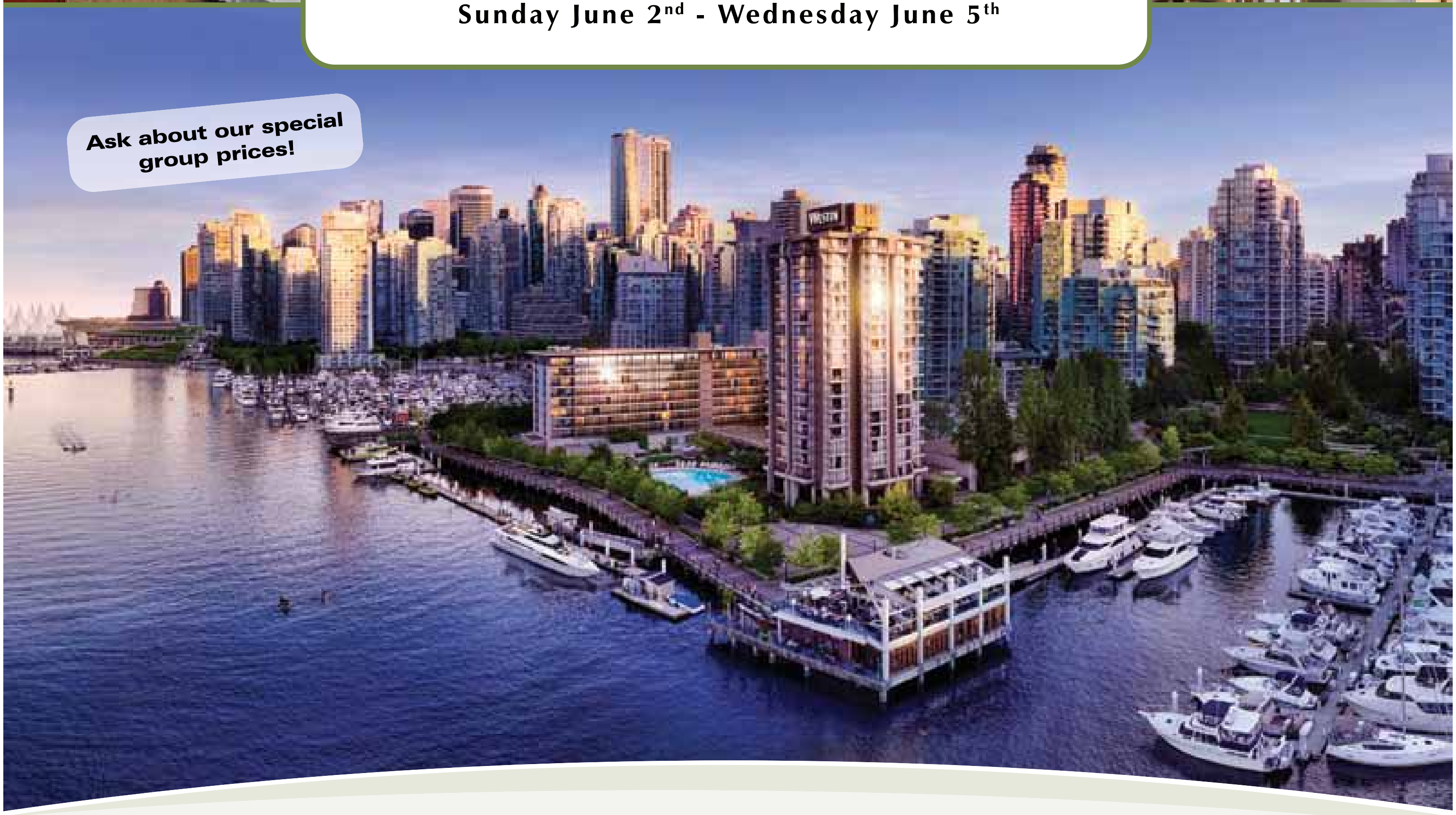
CIFPs

17th Annual National Conference - 2019

The Westin Bayshore, Vancouver, British Columbia
Sunday June 2nd - Wednesday June 5th



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Educational Streams Focusing On:
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- **Risk Management and Estate Planning**
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Contact us at 1-866-933-0233 for early bird specials

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