Greystone Plus Strategies: Benefits of Integrating Public and Private Markets

*View*Point

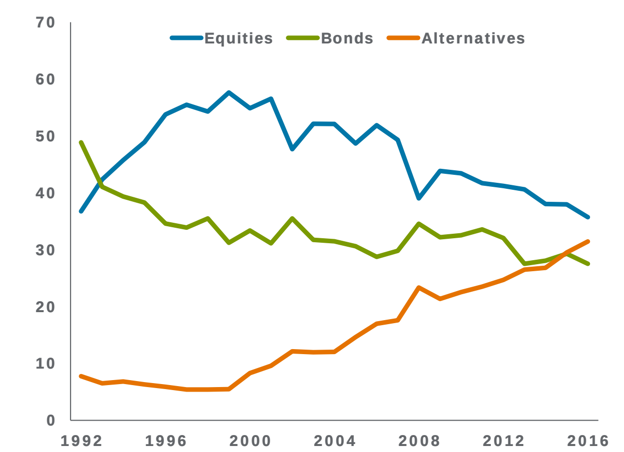
ROBERT L. VANDERHOOFT, CFA
Chief Executive Officer & Chief Investment Officer
rob.vanderhooft@greystone.ca

Key Points:

1. ***Alternative assets and private markets have gained prominence in recent years due to return enhancing and risk-reducing benefits***
2. ***Investors can improve investment outcomes by harvesting harder to access markets as well as the compounding effects of lower volatility***
3. ***Greystone's "Plus" strategies integrate private and public markets in easy to access and scalable solutions***

Since our founding in 1988, Greystone has believed that investors can improve their portfolio risk and return profile by integrating private asset classes. Large institutional investors have led the way with alternatives as shown in Figure 1. The largest pension plans in Canada have been incorporating private assets into their otherwise public portfolios at an increasing rate since the year 2000.

Figure 1: Canadian Defined Benefit Asset Mix Trends



Source: Pension Investment Association of Canada. At at Dec 31, 2016.

Institutional investors of all sizes are now also looking to add private investments to their portfolios. We believe this is important in today's low interest rate environment as investors need prudent sources of return enhancement.

In response, we have launched a suite of "Plus" funds; combining our ability in private debt (via commercial mortgages), direct real estate and direct infrastructure with our expertise in public equities and fixed income. These integrated solutions provide the opportunity for enhanced risk-adjusted returns, in a scalable and cost effective manner, regardless of investor size.

Prepared by:
Robert L. Vanderhooft, CFA
Chief Executive Officer & Chief Investment Officer
Jafer Naqvi, CFA
Vice-President, Fixed Income & Multi-Asset

GREYSTONE
MANAGED INVESTMENTS INC

We believe both the risk and return profile for investors can be enhanced through the integration of private assets through three primary sources:

1. Harvesting the private market premium,
2. Adding value with lower volatility, and
3. Diversification benefits

We believe there is a governance advantage to accessing integrated private and public market strategies through a single solution. Investors gain as the onus is on the investment manager to deliver private market premiums above public markets. Due to the opaque nature of private markets, investors may question the impact of hidden fees and costs. However, integrated strategies quickly bring possible excessive costs to light due to performance drags on the overall portfolio that conflict with the investment managers desire to deliver value above public market benchmarks.

Harvesting Private Market Premiums

Private market premiums refer to the incremental compensation that private investments derive. The premiums are derived from factors including; infrequent trading of private assets, higher costs related to access and fewer providers of capital in private markets.

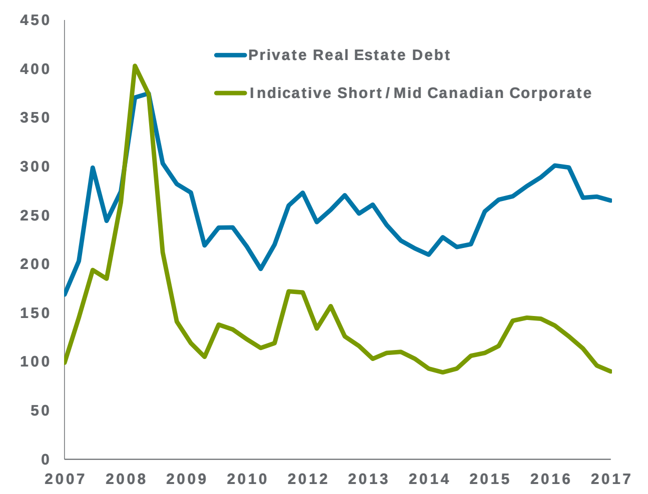
Infrequent trading of private markets should lead to incremental returns. For example, we can think of an investor faced with two investments of similar risk. Investment A trades in public markets and can be converted to cash on demand through an exchange. Investment B trades in private markets meaning the ability to buy and sell involves more uncertainty and time. The investor should demand a higher return for investment B as they have given up the option of immediate conversion to cash.

By definition, private markets do not provide the same level of data as public markets. As a result, due diligence and underwriting to access private markets requires higher costs. These higher costs require higher commensurate returns to justify the time and energy.

Both the infrequent trading and higher costs to underwrite combined with a greater minimum investment required result in fewer participants within private markets versus public markets. This reduces the capital available, providing private market participants a greater price-setting opportunity and higher implied return potential.

The challenge with quantifying the private market premium is finding equal risk proxies between public and private markets. We think credit markets provide such a comparison through spread measures. Figure 2 illustrates the spread of the Greystone Mortgage Fund, which accesses a wide spectrum of direct real estate lending opportunities. The strategy's historical experience suggests loss rates equivalent to investment grade credit. We can compare the Greystone Mortgage Fund's spread to those of investment grade corporate bond funds of similar duration and comparable risk. As of June 30th, the spread difference of approximately 180 basis points (bps) is largely representative of a private market premium.

Figure 2: Comparing Private and Public Credit Spreads

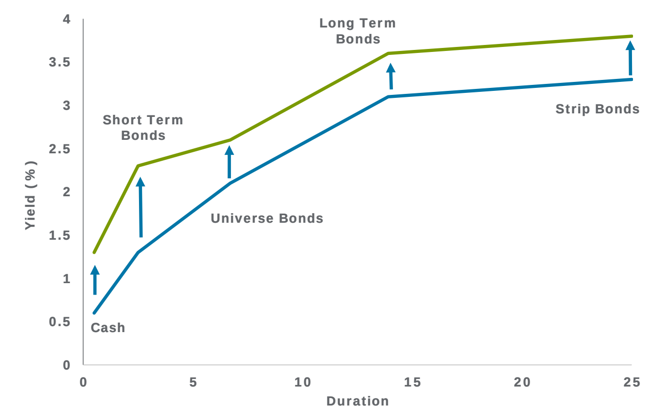


Source: Greystone, Bank of America/Merrill Lynch. As at March 31, 2017. Source: Greystone, Bank of America/Merrill Lynch 1-10 yr Corporate until June 30, 2015 followed by BMO 5-yr A rated indicative spreads thereafter. As of Jun 30, 2017.

The private nature of this type of real estate debt allows for yield enhancement above corporate bonds because the lender requires compensation for investing in private markets.

Institutional investors can harvest private premiums while still managing portfolios to their current objectives. At Greystone, we have worked to provide strategies that accomplish this integration so that the liquidity premium can be accessed over any fixed income objective. Continuing the debt example, our suite of Bond Plus strategies are currently delivering 50-100 basis points of incremental yield for fixed income portfolios with a duration of 0.5 years to beyond 10 years, displayed in Figure 3.

Figure 3: Integrating Private Debt Premiums into Existing Bond Portfolios



Source: Greystone. Cash, Short Term Bonds and Universe Bonds represent actual portfolios. Long Term and Strip bonds represent value add through portable alpha model, using cash enhancement. As at Jun 2017.

Adding Value with Lower Volatility

The path to achieving forward-looking expected returns is as important as the expected return itself, which is why volatility matters. Adding private market premiums can help lower return volatility and improve an investor's expected outcome over the long term. To understand this benefit we have to highlight different approaches to quoting forward-looking expected returns.

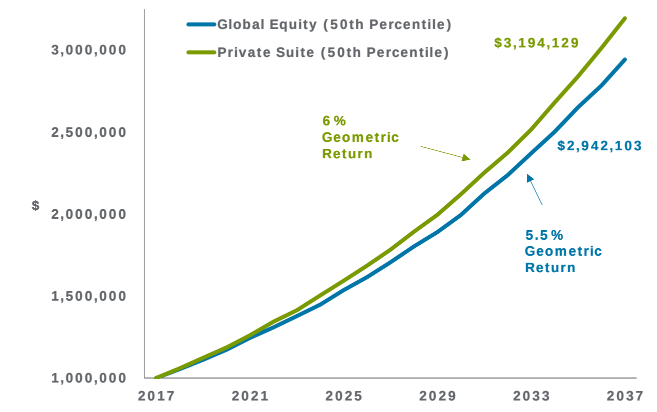
ARITHMETIC RETURNS are generally used to express average annual expected returns. They are unaffected by the inherent risk of an investment and do not account for the fact that positive and negative returns have different impacts on account values. For example, a 10% loss and a 10% gain on an investment would result in a 1% loss of account value, but would arithmetically average to 0%.

GEOMETRIC OR COMPOUNDED RETURNS account for the fact that positive and negative returns are asymmetric and better reflect total returns over time. Geometric returns will be lower than arithmetic returns for any asset that has volatility, or the risk of negative returns. Assets with higher expected volatility will witness a greater difference in geometric versus arithmetic returns.

The monetization of lower volatility explains how an investment with an equal or lower expected arithmetic (or average) return can lead to a superior final outcome, provided it is sufficiently less volatile.

We can illustrate the concepts through a Monte Carlo study (Figure 4) comparing global equities with an expected arithmetic return of 6.4% per annum to a diversified basket of private investments with an expected arithmetic return of only 6.1%. The private investment strategy reflects Greystone's Alternative Suite, which invests 20% in private commercial mortgages, 40% private infrastructure and 40% private real estate. Despite having a lower expected average annual rate of return, the private investment portfolio has a greater terminal account value at the median (50th percentile) outcome.

Figure 4: Monte Carlo Simulation of Global Equities versus Private Assets



Source: MSCI. Morningstar Direct. Investment Property Databank. Mercer MPA. Greystone.

The final annualized compounded return is 0.5% higher for the private assets and not 0.3% lower as suggested by the arithmetic average. Lower volatility in the private asset portfolio results in less expected losses and a compounding return benefit over time. Observing the geometric returns reveals that the reduced volatility was worth approximately 80 basis points when compared to average annual expected returns. We can see the impact in Figure 5, which provides a comparison of arithmetic expected returns, geometric expected returns and expected volatility.

Figure 5: Expected Return and Volatility of Public Equities versus Private Markets

Investment	Arithmetic Expected Return	Geometric Expected Return	Expected Volatility
Global Equities	6.4%	5.5%	13.8%
Alternative Suite	6.1%	6.0%	5.3%

Source: MSCI. Morningstar Direct. Investment Property Databank. Mercer MPA. Greystone. No assurance that expected return and volatility will be achieved. Past performance is not a guarantee of future performance.

Some investment professionals will note that the lower volatility in private markets is due to infrequent measurement. We account for this by adjusting expected volatility to remove the smoothing effect. There are also fundamental reasons that private markets demonstrate lower volatility. For example, comparing direct real estate strategies to REITs reveals higher leverage ratios in listed companies, as they frequently apply debt at both the property and operating level.

Benefits of Diversification

Many asset managers and consultants will quote expected returns using a geometric approach to better reflect the long-term expected returns. When this is the case, additional premiums exists for private markets through diversification benefits. This benefit arises from the ability to rebalance from well performing assets to poorer performing assets over time. The lower correlation of private assets to public markets means they will not rise and fall at the same pace and at the same time, providing more rebalancing opportunities versus traditional balanced funds. In the case of private mortgages, real estate and infrastructure, the degree to which the assets provide regular cash flows can help facilitate portfolio rebalancing despite infrequent trading. With full autonomy to manage across stocks, bonds and alternatives an asset manager gains communication and coordination efficiency for rebalancing private markets that may trade infrequently.

This additional value can be observed by comparing a Balanced portfolio that invests only in public securities against a Balanced Plus portfolio that strategically integrates private markets. By applying the portfolio weight of each asset class to the geometric return, we observe the Balanced Plus portfolio has an expected geometric return 60 bps higher than the traditional Balanced portfolio. This premium is the result of the private market return premium and lower volatility described previously.

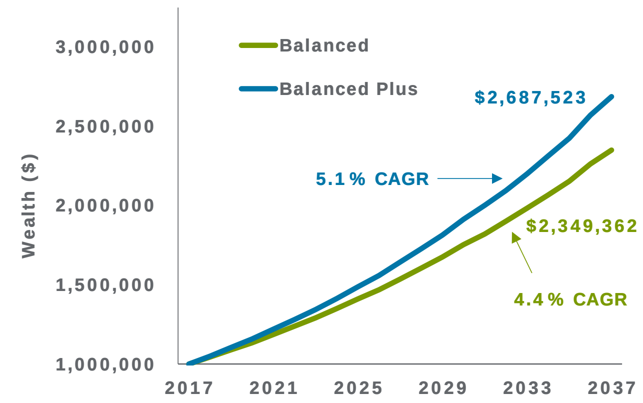
Figure 6: Expected Return of Balanced Fund with Alternatives

Investment	Geometric Expected Return	Traditional Balanced Weight	Balanced Plus Weight
Equities	5.4%	60%	50%
Bonds	2.1%	40%	22%
Private Assets	5.6%	0%	28%
Weighted Average Expected Return		4.1%	4.7%
Expected Volatility		8.0%	6.9%

Source: S&P/TSX. MSCI. Morningstar Direct. Investment Property Databank. Mercer MPA. FTSE TMX. S&P. Greystone. No assurance that expected return will be achieved.

In Figure 7, we can again run a Monte-Carlo simulation and examine the median outcome.

Figure 7: Monte Carlo Simulation of Traditional Balanced versus Balanced with Private Markets



Source: S&P/TSX. MSCI. Morningstar Direct. Investment Property Databank. Mercer MPA. FTSE TMX. S&P. Greystone. No assurance that expected returns will be achieved. Past performance is not a guarantee of future performance.

We see in Figure 7 that the total return in the median scenario is somewhat higher for both portfolios when compared to the weighted average of geometric returns in Figure 6. This is because a weighted average of expected geometric returns misses the lower portfolio risk due to diversification. A lower correlation of returns between asset classes will result in a greater portfolio return than is implied by weighted geometric averages.

With different fundamental pricing mechanisms and factor risk exposures from public securities, private investments provide diversification from stocks and bonds. While both traditional balanced and Balanced Plus benefit from diversification, the latter benefits by approximately 0.4% vs 0.3% bps due to a higher diversification premium.

The 0.7% higher return for Balanced Plus in Figure 7 represents the magnitude of enhancement investors may be able to achieve at a total portfolio level from integrating private assets. Importantly, this incremental return is achieved without an increase in expected portfolio volatility.

Increasing the Probability of Investment Success

With low bond yields and public equity valuation levels reaching post financial crisis highs, we believe that investors will face a challenge of lower portfolio returns going forward. In this environment, the ability to increase expected returns while managing risk is of increasing importance. We believe, that our offering of "Plus" solutions, which integrate private asset classes, can help investors improve their expected return profile while continuing to manage risk.

We look forward to discussing with you the scalability, administrative simplicity and fee synergies that can be achieved through combining public and private market strategies.

Bond Plus

Balanced Plus

Target Date Plus

Alternative Suite

Greystone Managed Investments Inc.

With over $30 billion in assets under management, we proudly serve universities, pension funds, multi-employer groups, endowments & foundations, insurance companies, and non-profit organizations.

We are a private company, majority-owned by our employees – over 95% of eligible employees are shareholders.[1]

Greystone has in-house expertise in the following areas:

FIXED INCOME

- Short-Term, Universe, Long-Term
- Corporate, High Yield
- Bond Plus
- Liability Driven Investing

PUBLIC EQUITIES

- Income & Growth
- Canadian, U.S., Global, International, China
- Canadian Small Cap

REAL ASSETS

- Real Estate
- Infrastructure

PRIVATE DEBT

- Mortgages

MULTI-ASSET

- Balanced
- Balanced Plus[2]
- Target Date Plus[2]
- Alternative Suite

FOR FURTHER INFORMATION PLEASE CONTACT:

Jafer Naqvi, CFA
Vice-President, Fixed Income & Multi-Asset
(416) 309-2586
jafer.naqvi@greystone.ca

REGINA (HEAD OFFICE)
300 Park Centre
1230 Blackfoot Drive
Regina, Saskatchewan S4S 7G4
Canada

TORONTO
77 King Street West
Suite 4510, TD North Tower
Toronto, Ontario M5K 1J3
Canada

WINNIPEG
201 Portage Avenue
Suite 1907
Winnipeg, Manitoba R3B 3K6
Canada

HONG KONG
Suite 1, 12/F
International Commerce Centre
1 Austin Road West, Kowloon
Hong Kong

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[1] An eligible employee is defined as contributing one or more years of service to Greystone. [2] Effective Aug 1, 2017.