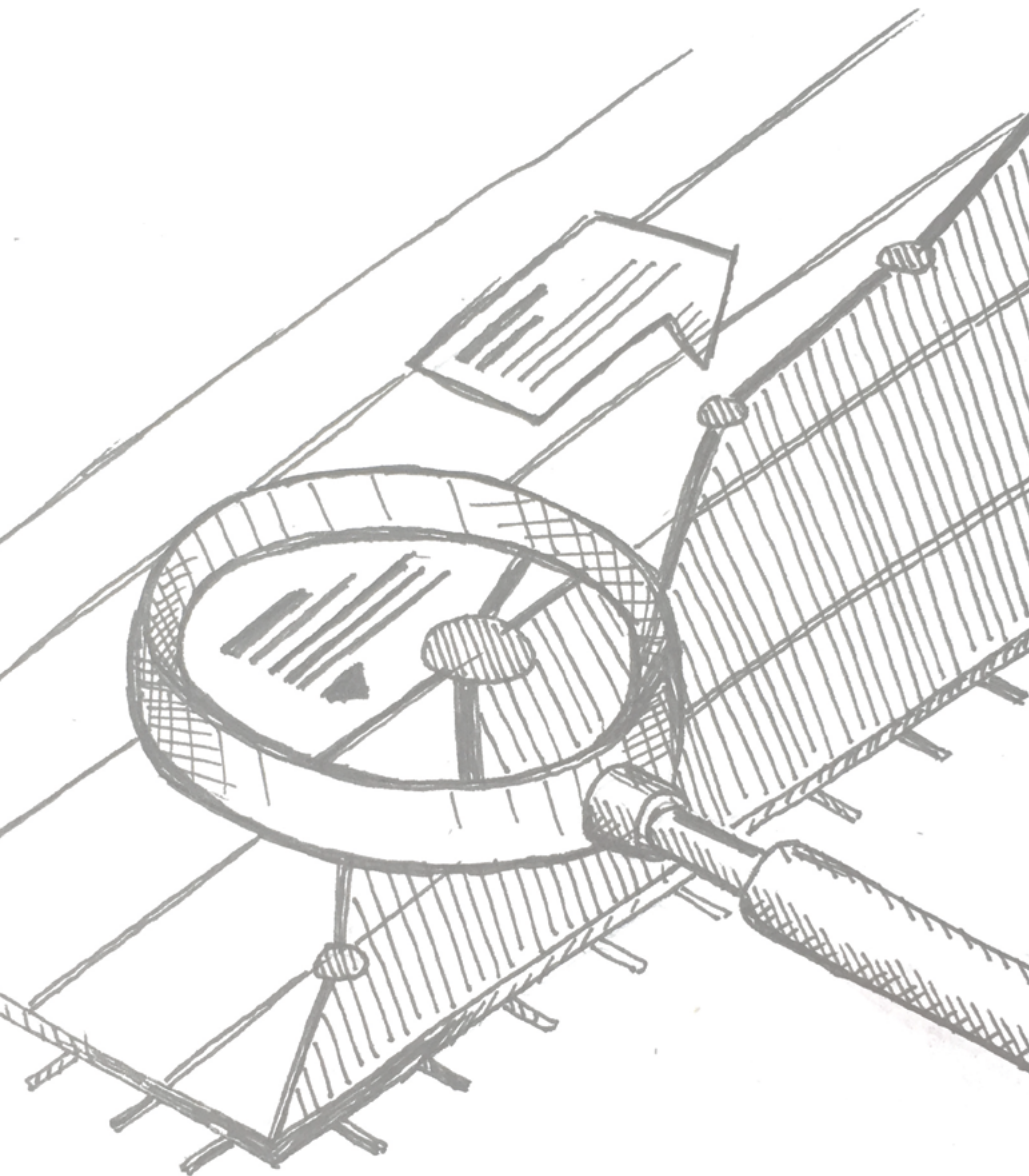


In Search Of Simplicity

In investing, does complex really mean better?



Background

Over the decades, the investment landscape has become increasingly crowded with complex alternative investment strategies, structured products and ETFs – all in an attempt to increase diversification and, presumably, reduce investor risk. But at what point does diversification turn into *di-worse-ification*? The exact number of asset classes needed for proper diversification is often debated. At Nexus we believe an investor can be properly diversified across sectors and geographies with a limited number of asset classes, achieving appropriate risk-reduction, but not at the expense of expected returns. Contrast this to an “institutional-style” portfolio invested in multi-manager, multi-style, multi-asset class portfolios, with upwards of 10 different asset classes and, sometimes, over a thousand security exposures. It begs the question, “Which is better?” To answer this, we examined how the Nexus North American Balanced Fund compared to various market indices and to blended “institutional-style” portfolios. We did this first using a risk/return analysis.

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But at what point does diversification turn into di-worse-ification?

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Risk / Return Analysis

Risk and return have a fundamental relationship: you cannot achieve return without taking any risk. A “risk/return analysis” depicts this relationship in a two-dimensional chart, usually showing return on the vertical axis and risk on the horizontal axis. Typically, risk/return analysis is done for comparative purposes. Most often, portfolios are compared to a reference point, or benchmark, which is a blend of passive indices, as well as to each of the indices on their own. In order to select a relevant benchmark, while keeping it as generic and unbiased as possible, we used a 65% allocation to the MSCI All Country World Index (which incorporates about 90% international developed market equities and 10% emerging market equities) and a 35% allocation to the FTSE TMX Canada Universe Bond Index. We will call this the “Comparison Benchmark”.

All indices we chose were based on the criteria that they are published by a well-known index provider, market-weighted ⁽¹⁾, expressed in total returns, gross of fees ⁽²⁾, and in Canadian dollars. The one exception to these rules is the widely-known Hedge Fund Research Inc.'s Global Hedge Fund Index, which is only provided net of fees. Though hedge fund costs are notoriously high, we believe that, even accounting for a substantial fee, the effect on the results of the analysis and our conclusion is insignificant.

In addition to stand-alone indices and the Comparison Benchmark, we also compared the Balanced Fund to diversified baskets of indices, representing the way institutional investors manage portfolios. We chose two comparison portfolios. The first is a blend of indices based on the average Canadian institutional asset mix as reported by Greenwich Associates in their “2015 Canadian Institutional Investors; Institutional Asset Allocation” study, published January 2016 (“Greenwich Blend”). ⁽³⁾ The Greenwich Blend mix is shown below.

Asset Class ⁽⁴⁾	Greenwich Bend	Greenwich ex “Alts”
Canadian bonds	36%	44%
Canadian equities	14%	17%
U.S. equities ⁽⁵⁾	18%	22%
EAFE equities ⁽⁵⁾	10%	11%
Emerging market equities ⁽⁵⁾	5%	6%
Real estate	9%	
Private equity	2%	
Infrastructure	4%	
Hedge funds	2%	
Total	100%	100%

Asset Class Weightings

Note that the Greenwich Blend portfolio has a fairly large allocation to “Alternative” assets (~17%), unlike our Balanced Fund, and unlike the way most individual investors structure their portfolios. To correct for this, we removed the four Alternative asset classes and redistributed the ~17% proportionately across the remaining asset classes to construct the second comparison portfolio, “Greenwich ex Alts”.

On this page you will find a risk/return chart, where the X (horizontal) axis represents risk as the annualized standard deviation of monthly returns, and the Y (vertical) axis shows annualized returns. The data is based on the period from December 31, 1999, when our current investment team started working together, to July 31, 2016. At the crosshairs of the chart lies the Comparison Benchmark. Ideally, an investor wants a portfolio in the upper left-hand quadrant – one that has performed better than the Benchmark, but without taking as much risk. The worst quadrant is the bottom right – lower returns than the Benchmark, but with more risk.

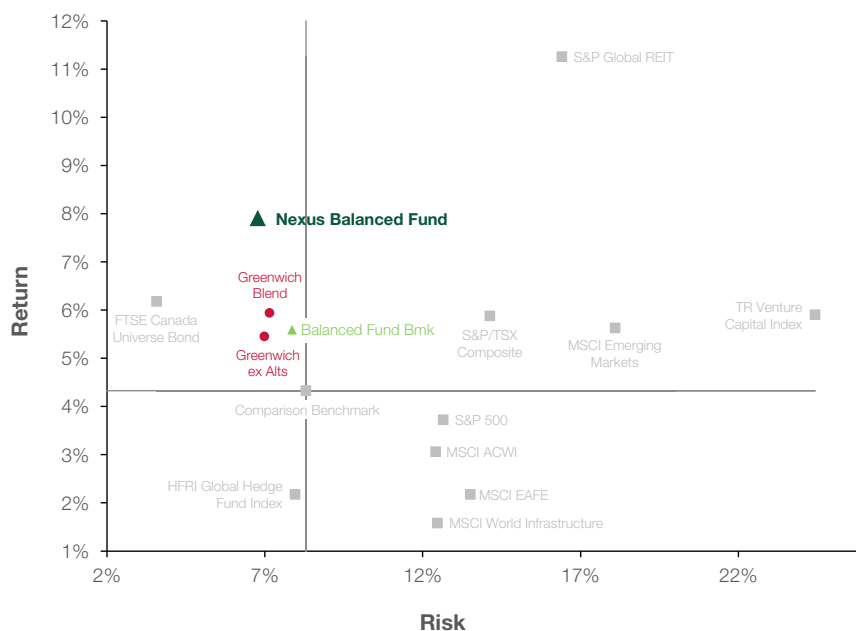
One of the points that sticks out most is the highest return portfolio, the S&P Global REIT Index. To have achieved this 11.3% return, you would have taken substantially higher risk than the Comparison Benchmark, and had to have had the foresight 16 years ago to invest only in that index. It is doubtful an investor would adopt such an approach. More likely, an investor would have constructed their portfolio with multiple asset classes to ensure adequate diversification.

The red dots represent the two Greenwich blends, examples of multi-asset class portfolios. Although adding Alternatives to a portfolio pushes the return slightly higher,

one must carefully consider the risk/return tradeoff of Alternatives, particularly complex strategies that are not transparent and/or easily understood. Moreover, Alternatives require significant due diligence in order to find, evaluate and monitor them properly. Often, they are illiquid and cost more. Doug Cronk of Alberta Investment Management Co. sums it up nicely: *“Many institutional investors do a subpar job of due diligence and oversight regarding some Alternatives ... how could the individual investor be expected to do any better?”*⁽⁶⁾

One observation from this part of the study is that a portfolio comprised of a conventional mix of the basic, liquid asset classes – such as the benchmark for the Nexus Balanced Fund (shown in green) – compares admirably to the other portfolios. With its simple composition (5% T-bills, 30% FTSE TMX Canada Bond, 40% S&P/TSX Composite, 25% S&P 500), it still manages to offer superior return but at a lower level of risk versus the Comparison Benchmark. An even more striking observation is the position of the Balanced Fund itself (also in light green). Nestled far into the coveted upper left-hand quadrant, it exhibits a significant return premium at below-benchmark risk.

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- Doug Cronk”



Risk / Return

Efficient Frontier Analysis

All of this paints a very attractive picture for a “simple” portfolio. However, there are two drawbacks to the analysis above. First, is the limited number of indices and asset classes selected for comparison. Many diversified portfolios contain other asset classes, such as small cap stocks or high yield bonds. Indeed, institutional investors such as the large public pension plans use upwards of 15 asset classes. In fact, the Canada Pension Plan Investment Board uses “25 distinct investment strategies”, according to its 2015 annual report. The second drawback is the use of a single, point-in-time reference. The average institutional investor’s asset mix in 1999 would have looked much different.

To correct for these drawbacks, we examined all possible mixes that could have been constructed over this time period using Modern Portfolio Theory, or mean-variance optimization.

“Modern Portfolio Theory (MPT), a hypothesis put forth by Harry Markowitz in his paper “Portfolio Selection,” (published in 1952 by the Journal of Finance) is an investment theory based on the idea that risk-averse investors can construct portfolios to optimize or maximize expected return based on a given level of market risk, emphasizing that risk is an inherent part of higher reward. It is one of the most important and influential economic theories dealing with finance and investment.

Also called “portfolio theory” or “portfolio management theory,” MPT suggests that it is possible to construct an “efficient frontier” of optimal portfolios, offering the maximum possible expected return for a given level of risk. It suggests that it is not enough to look at the expected risk and return of one particular stock. By investing in more than one stock, an investor can reap the benefits of diversification, particularly a reduction in the riskiness of the portfolio. MPT quantifies the benefits of diversification, also known as not putting all of your eggs in one basket.” -Investopedia

Due to the complexity of the math behind MPT, efficient frontier analysis necessitates the use of a computer “optimizer”, which tests multiple asset mixes until it finds the unique combination of asset classes that offers the highest return at a particular level of risk. Efficient frontier analysis is useful in analyzing investment strategies, as it shows how skilled one has been in constructing portfolios (i.e. how close a portfolio plots to the frontier). There are several key things to note about the efficient frontier. No point can plot above or to the left of it. As an investor, you want to get as close to the efficient frontier as possible, meaning you have achieved the biggest “return bang for your risk buck”. The efficient frontier is based on certain assumptions, including: normally distributed returns, investors are rational and risk-averse, no investor is large enough to influence the market and, investors have unlimited borrowing capabilities at the risk-free rate.

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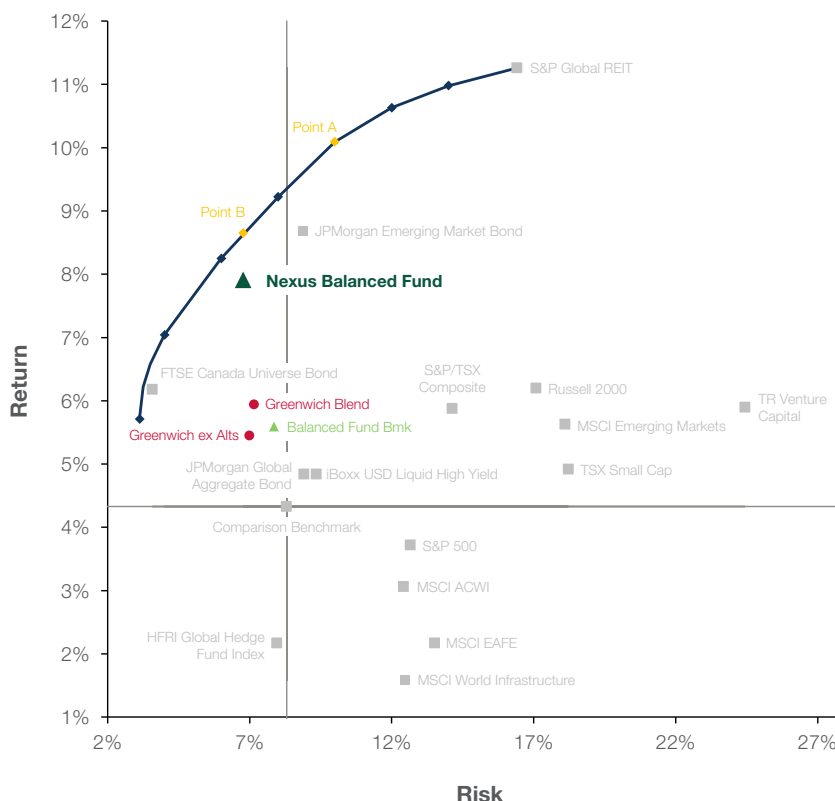
The following analysis is a portfolio optimization that has resulted in an efficient frontier, shown in the chart to the right. In its construction, all 14 indices were included. (The MSCI ACWI was not included due to its significant overlap with the MSCI EAFE and Emerging Market Indices).

Imagine that a 10% standard deviation is your risk tolerance limit, meaning that your portfolio value can fall 10% without you losing any sleep. You would ask the “optimizer” to find the combination of asset classes that offers the highest return at your 10% standard deviation limit. In this example, that mix is represented by Point A in yellow. The absolute highest return you could have earned at this level of risk over this 16½-year period using any combination of the 14 asset classes is 10.1%. That portfolio happens to be a mix of 42% global REITs and 58% emerging market bonds. Needless to say, choosing to invest all of one’s assets on December 31, 1999 in these two asset classes, in those specific allocations, and rebalancing on a monthly basis back to this target mix for the duration of the period, would have been fruitful. But is it a realistic scenario?

Now note the dark green marker representing the actual risk and return of the Nexus North American Balanced Fund. At 6.8% standard deviation and 7.9% annualized return, it sits extremely close to the efficient frontier. In fact, the difference in return between it and the point on the frontier at the same level of risk (Point B) is 74 basis points (0.74%) per annum. Point B represents a portfolio of 2% S&P/TSX, 24% global REITs, 36% Canadian bonds, 38% emerging market bonds and 1% global aggregate bonds. Calling that allocation correctly over 16 years ago seems unlikely.

Observations

Two striking things stand out here. First, all efficient portfolios and index blends have been constructed based on perfect hindsight, whereas the Balanced Fund and its benchmark are actual results. The Balanced Fund point represents a live track record of the Fund and of the current



Efficient Frontier

portfolio management team. It encompasses all the security selection decisions the managers implemented, using their forward-looking views on companies’ future earnings growth, other fundamental corporate and industry characteristics, as well as economic factors such as interest rates. It also represents all the decisions that were made with respect to portfolio construction – again, based on the team’s foresight.

The second remarkable thing is the simplicity of the Balanced Fund’s construction. The overwhelming majority of the Fund over this time period (over 80%) has been comprised of only three asset classes: Canadian equities, U.S. equities and Canadian bonds. In addition to a small amount of cash held throughout the Fund’s history, international developed market equities were introduced in very small proportion in late-2002 and emerging market equities appeared in mid-2012, also in very small proportion. (Combined, international developed and emerging market equities have never been more than 8% of the Fund.)

A Note on Active vs. Passive Management

Clearly, Nexus is an active manager and the comparison points are passive. That is simply the nature of this type of analysis. One of the key takeaways from this study is that the annualized value added of the Balanced Fund over the Greenwich Blend (without Alternatives) is 2.5%. This is an excellent premium by any

measure, but especially considering it was achieved with less risk. In dollar terms, on an initial investment of \$1,000,000, that translates to a cumulative difference over 16 ½ years of \$1,122,000 – a meaningful improvement. Even versus the Greenwich Blend with Alternatives, the Nexus Balanced Fund was ahead by \$930,000.⁽⁷⁾

Conclusion

“Simple” investing is not for everyone. If the \$250 billion Canada Pension Plan tried investing in the Nexus Balanced Fund, it could end up running afoul of concentration rules outlined in pension legislation. It is out of sheer necessity that large institutional investors have additional asset classes.

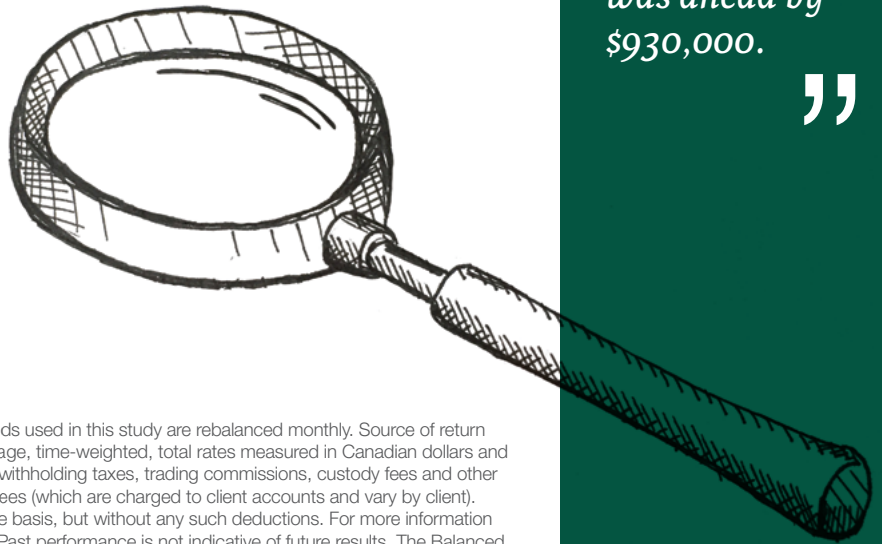
As for the individual investor, indeed, some people are wired for risk. They like the thrilling prospect of extraordinary returns, and can stomach the roller coaster ride, lack of transparency, illiquidity and the higher fees often associated with more exotic investments. If an investor wants Alternatives or the “flavour-of-the-month” product, there is no shortage of choice.

If, however, an investor thinks that constructing a portfolio comprised of 10 or more different asset classes will significantly reduce their risk and not diversify away their potential for return, they may want to think again. It may very well be that you don’t need a complicated portfolio strategy to get superior returns at reasonable risk levels. You might need just Nexus.

Post Script

Over the last 16+ years, investors have witnessed many market cycles. Arguably, the longest one has been a continued period of falling interest rates. This has had the effect of skewing the analysis in favour of interest-sensitive asset classes, such as bonds and real estate. We can make no claim that this particular cycle will continue going forward. Recently, markets have experienced above-average volatility, and the search for income generation in a low rate environment has caused investors to expand their investment opportunity set to areas such as Alternatives. Herein lies the problem of uncertainty. It is very difficult to predict what asset classes will perform well in the next market cycle,

when that cycle will begin and end, and on which factors that cycle will be based. Nexus's sound, consistent and proven process of selecting quality securities for the long term, regardless of market cycle – applied for almost 30 years – completely removes the burden of any “guesswork” from the shoulders of the investor.



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Notes

Analysis period: December 31, 1999 to July 31, 2016. All portfolio blends used in this study are rebalanced monthly. Source of return data: Bloomberg, Nexus. All Nexus returns are compound annual average, time-weighted, total rates measured in Canadian dollars and calculated after deducting such direct and indirect costs as applicable withholding taxes, trading commissions, custody fees and other fund/account expenses, but without deducting Nexus's management fees (which are charged to client accounts and vary by client). Returns for market indices and benchmarks are presented on the same basis, but without any such deductions. For more information about benchmarks, please refer to tinyurl.com/NexusOnBenchmarks. Past performance is not indicative of future results. The Balanced Fund Benchmark is 5% FTSE Canada 91 Day T-Bill Index, 30% FTSE Canada Universe Bond Index, 40% TSX, and 25% S&P 500 (in C\$); rebalanced monthly.

- ⁽¹⁾ Due to the nature of venture capital/private equity, there is no passive market index to use for comparison. The Thomson Reuters Venture Capital Index is value-weighted and rebalanced quarterly. The latest available sector weights from the TR VC Research Index are used, along with an update which accounts for relative performance of each sector in the public market (i.e. market-weighted Thomson Reuters sector returns). Source: Thomson Reuters.
- ⁽²⁾ The one exception to these rules is the HFRI Global Hedge Fund Index, which is reported net of all fees and asset weighted. The provider of this index is Hedge Fund Research, Inc. a widely-used hedge fund index source. There are no reliable, widely-used hedge fund indices that are reported before fees. HFRI says of the index's construction: “The strategies are asset weighted based on the distribution of assets in the hedge fund industry and (the index) is designed to be representative of the overall composition of the hedge fund universe”. Source: Hedge Fund Research.
- ⁽³⁾ The Greenwich study reports 5% as “Other Investments”, which included non-traditional asset classes such as commodities, GICs, stable value investments and target risk funds. Because these would have been impossible to replicate for the purposes of this analysis, the 5% was prorated out of the asset mix.
- ⁽⁴⁾ Asset classes represented by the following indices: Canadian Bonds – FTSE TMX Universe Canada Bond Index; Canadian Equities – S&P/TSX Composite Index; U.S. Equities – S&P 500 Index; EAFE Equities – MSCI EAFE; Emerging Market Equities – MSCI Emerging Markets Index; Real Estate – S&P Global REIT Index; Private Equity – Thomson Reuters Venture Capital Index; Infrastructure – MSCI World Infrastructure Index; Hedge Funds – HFRI Global Hedge Fund Index.
- ⁽⁵⁾ 31% of the total portfolio was labeled “International equities” but was not defined in the study. For this analysis, we split this into US, international developed and emerging markets based on their weights in the MSCI ACWI as this is a fair representation of the global market.
- ⁽⁶⁾ Doug Cronk, *Institutional Investing for Individual Investors*, June 9, 2014.
- ⁽⁷⁾ Cumulative dollar figures calculated on the same basis as described above under “Analysis Period”.

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