

Long-run Returns and Alphas

Implications for Portfolio Construction and Fees

There is a framework and a limited number of statistics that every investor needs to know in planning their investment program:

Long-run Real Returns and Tax

- For planning purposes, focus on real (after inflation) returns
- Hold cash and equivalents only for liquidity or shorter-term tactical shifts
- Over the long run, bonds are unlikely to give you a positive real, after tax return
- Based on history you should expect long run real returns for equities of 5.6% pre-tax and 3.6% after tax

Real vs Nominal Returns

Almost without exception, everything you read from the financial industry will be in terms of nominal returns. These are returns in actual dollars and are virtually useless except for comparing a portfolio result with an index or benchmark. Real returns are what we are all looking for because these are returns adjusted for inflation. If you double your portfolio over ten years but the cost of living also doubles, you are exactly where you started in terms of purchasing power. On the other hand, if you generate a real return of 4% per year, that is actual growth in purchasing power that you can either spend or save.

After Tax Returns

Either now or at some point in the future, you are going to want to use your portfolio to help you pay for goods and services. It is a sad fact of life, but you can only pay for the things you need and want after you have paid the government. Tax is a very important aspect of your investment decisions. First of all, you have options to defer tax on certain investment accounts – RESPs, RRSPs, RRIFs and TFSAs. Do not underestimate the value of these tax-advantaged accounts and, in general, use them to the maximum extent possible. When you have exhausted all the tax-advantaged avenues and still have savings, it is important to remember that in most cases, Canadian dividends and capital gains from all investments are taxed at roughly half the rate as are interest and employment income.

Important Statistics - Tax Deferred Accounts

Now look at how the framework of real returns fits together with a few crucial statistics for tax deferred accounts:

Asset Class	Long-run Real Returns
Cash and Equivalents	0.0%
10 year government bonds	1.6%
Equities total return	5.6%

The above figures for bonds are from a study of US government bond returns from 1946 to 2006 by Jeremy Seigel. The equities total return is based on the concept of an equity risk premium which is simply the amount by which equity returns exceed bond returns over long periods of time. There are many studies of the equity risk premium and they tend to range between 3 and 5% and everything in between. I have split the difference at 4%.

The first obvious conclusion is that there are only two reasons to hold cash: a) for liquidity purposes – to cover a near-term need for funds or b) for tactical purposes, when one is convinced that both bonds and equities are going to fall.

The other conclusion is that, if you can stomach the volatility, you want to maximize equities and minimize your bond holdings. The ability to do this will be improved if you a) can focus on income rather than portfolio value and b) if you are managing to live off the portfolio income either now or in the future. This is important because, if you have really adopted the income approach to your portfolio, then you will be less troubled by swings in market value and can tolerate a larger allocation to equities.

Important Statistics - Taxable Accounts

Introducing tax into the mix only makes equities more attractive:

Class	Real Returns	Inflation	Nominal Returns	Effective Tax Rate	After Tax Nominal Returns	After Tax Real Returns
Cash & Equivalents	0.0%	3.0%	3.0%	46.4%	1.6%	-1.4%
10 year govt. Bonds	1.6%	3.0%	4.6%	46.4%	2.5%	-0.5%
Equities total return	5.6%	3.0%	8.6%	23.5%*	6.6%	3.6%

*The tax rate on capital gains is half the normal tax rate or 23.2%. The top tax rate on Eligible Dividend Income in Ontario is 23.96%. History indicates that about 40% of equity returns are from dividends.

I have arbitrarily chosen an inflation rate of 3%. Under that assumption, equities are the only major asset class that will give you a positive return after tax and after inflation. This is because the effective tax rate on equities is lower and because tax is levied on nominal income. The assumed inflation rate would have to be below 1.85% in order for bonds to have a break-even real return after tax.

Alpha and Fees

- Your fees and expenses should not exceed your reasonable expectation for alpha
- Alphas in the real world can be cyclical

Alpha Defined

In brief, alpha is the actual portfolio return less the return of the appropriate index or benchmark. Alphas are almost always calculated before considering fees, expenses and taxes.

Reasonable Expectations for Alpha

The following figures are estimates for long-run alphas earned by the top 25% of managers in various asset classes. These estimates are based on my experience in institutional investing rather than exhaustive studies. These statistics will be ``in the ballpark`` rather than exact:

Asset Class	Approximate alpha for top quartile
Equities	2.0%
Bonds	<0.5%
Cash	0.0%

You will see managers highlighting outperformance figures much larger than these. There are a few typical reasons for this:

1. The results are for a relatively short period of time. Short-term in this context is less than 4 years
2. The period represented was a particularly favourable one for the investing style of the manager
3. The benchmark being used does not accurately match the investments (e.g. a small company fund being measured against the S&P500)
4. The investments are significantly riskier than the benchmark (e.g. the fund is using leverage)

Of course, someone has to be in the top 1%, and they may have legitimately generated much higher alphas. The challenge in this case is to figure out how they managed this terrific performance and if it is sustainable.

Implications for Fees

Looking at the above table, the easy rule of thumb is that fees and expenses should be less than the expected alpha for each asset class. If you want to be more precise, fees and expenses should be less than your expected alpha plus the cost of an index alternative. For example, a Canadian equity index ETF has an Expense Ratio (MER) of about 0.2%, so the upper limit for fees and expenses for active management should generally be about 2.2% unless you are convinced that your manager will perform above the top 25%. For reference, in my experience, the alpha for the top 10% of equity managers is about 4.0%.

It is important to note that all the above calculations assume that the active manager under consideration pursues a “normal” portfolio management strategy. If the manager you are considering is pursuing hedge fund or alternative investment strategies, they may have the prospect of more significant alpha. In this case, significant due diligence on your part is indicated, which is beyond the scope of this paper.

Cyclicality of Alphas

Remember that alphas for a given manager can be cyclical. The most typical case is when alphas are high or low because a given manager’s investment style is respectively in or out of favour. It can be profitable to operate in a manner that is out of phase with this cycle. For example, in 1999 at the height of the tech bubble, many great value managers were underperforming massively and bleeding clients. I saw first-hand how committing new money to these managers at that time resulted in great fees, superb service and terrific returns during the inevitable tech crash.