White Paper for Terrapinn Hedge Funds World Canada 2008 Conference

Canadian Market Developments

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In order to provide insights into the Canadian hedge fund industry, Tacita Capital undertook a statistical analysis of the monthly returns of the Scotia Capital Canadian Hedge Fund Performance Index since its inception, the 43 month period from January 2005 through July 2008. We elected to use the Equal Weighted Index ("SC Equal Weight HF") as opposed to the Asset Weighted Index to minimize the impact of the results of a handful of relatively large funds. Also, as a Family Office, we are interested the opportunity set of all individual strategies, regardless of fund size. The results of our analysis should be treated with caution given the limited time period, possible sample biases and the heterogeneity of hedge funds. Nevertheless, our findings provide perspective and insights on the Canadian hedge fund market.

Summary of Conclusions

We reiterate that the results of our analysis should be treated with caution given the limited time period, possible sample biases and the heterogeneity of hedge funds. However, in composite a picture does emerge.

(1) Canadian Hedge Funds during the period January 2005 through July 2008 were in the right sectors with the right directional weightings, concentrating on Materials and Energy while underweighting or even shorting other sectors. This was a great call. Time will tell whether they will be nimble enough to move ahead of future market turns. Their modest growth slant also worked to their advantage in this period. However, their concentration in small stocks hurt their performance. More bets placed in the large cap spectrum would have contributed to better numbers.

(2) Overall, the lower volatility and downside risk focus of Canadian Hedge Funds was prominent. This is a definite plus and one that is broadly unknown given the propensity for media headlines to focus on hedge funds in their most volatile months. However, on a risk-adjusted basis, their rankings are much lower and disappointing. Unquestionably, the high fees of hedge fund managers are a major factor impairing their absolute and risk-adjusted performance. Competition on this basis would be healthy evolution.

(3) From an asset management perspective, Canadian Hedge Funds earned a role in a well diversified portfolio, but it is not near as prominent as many of its zealous advocates proclaim. Stock-like returns with bond-like volatility is a marketing claim not a reality. The traditional instruments of Cash, Bonds and Stocks

continued to be the main components of a well-diversified portfolio. Investors who used Canadian Hedge Funds in lieu of Canadian small cap stocks in their portfolio design were particularly rewarded for this choice.

(4) Finally, as to the question of alpha generation, beauty is in the eye of the beholder, or should we say modeller. We believe the primary benefit of hedge funds is their exposure to risk factors other than the market, which contribute to overall portfolio diversification. Our firm has spent much of the past year in the quest for hedge fund managers who have distinctive and stable investment processes that can deliver a return and risk profile that enhances the diversification of our clients' portfolios. Most managers don't make the grade but a few have. Overall, we care less about alpha than a manager's ability to enhance total portfolio performance – that is the paramount metric.

Sector Analysis

We conducted a multiple regression analysis on the SC Equal Weight HF relative to the major sectors of the S&P/TSX. Our results confirm the common perception that hedge fund investment has been concentrated in Materials and Energy long positions – see the positive and larger coefficients and t Statistics and low P-values for these sectors below.

	Coefficients	*t Stat*	*P-value*
Intercept	0.24	0.89	0.38
Staples	0.11	1.26	0.22
Energy	0.12	2.34	0.03
Financials	-0.02	-0.20	0.84
Health	0.14	1.98	0.06
Industrials	-0.04	-0.57	0.58
Tech	-0.03	-0.96	0.34
Materials	0.28	5.21	0.00
Telecom	0.05	0.86	0.40
Utilities	-0.04	-0.51	0.61

The Materials sector, in particular, was a focus of investment. Although not statistically significant, the data suggests hedge funds were slightly short not only Financials but also Industrials, Technology and Utilities.

The coefficient of determination (R squared) of 0.80 for this regression suggests that although other variables besides sector weighting and direction contributed to hedge fund performance, sector selection has been a key factor in explaining their performance.

Performance Review

We reviewed the performance of the SC Equal Weight HF relative to certain size, style and sector indices. We also compared its performance to the Hennessee Hedge Fund Index. We use a currency hedged Hennessee Index; our experience is that many US-focused hedge funds in Canada currency hedge or have offsetting long and short positions.

	N Periods	Geometric Mean (%)	Arithmetic Mean (%)	Standard Deviation (%)	Sharpe Ratio	Sortino Ratio
SC Equal Weight HF	**43**	**9.8**	**10.32**	**10.78**	**0.1894**	**0.481**
S&P/TSX Composite TR	43	13.92	14.65	13.12	0.2588	0.5898
S&P/TSX SmallCap TR	43	3.8	4.95	15.69	0.0277	0.129
DJ Style Canada Growth TR CAD	43	17.46	18.71	17.45	0.2699	0.5719
DJ Style Canada Value TR CAD	43	12.94	13.47	11.08	0.2724	0.6759
S&P/TSX 300 Materials Sector TR	43	26.59	29.31	27.06	0.3079	0.6575
S&P/TSX 300 Financials Sector TR	43	8.23	8.85	11.76	0.1358	0.343
S&P/TSX 300 Energy Sector TR	43	21.88	24.94	28.12	0.2427	0.4775
Hennessee HF TR USD	43	7.44	7.57	5.47	0.221	0.7345

In absolute performance - as measured by the geometric return - the SC Equal Weight HF was outperformed by the S&P/TSX Composite, the DJ Growth and Value Indices as well as the Materials and Energy Sectors. Canadian hedge funds did outperform Financials but only by a small amount. The performance gain relative to US hedge funds and Canadian small cap stocks was more respectable.

It is in volatility management, not absolute performance that Canadian hedge funds led; only US hedge funds had a lower standard deviation. Interestingly, although the media often portrays the hedge fund industry as a casino of high risk, high performance bets, these findings clearly indicate that in aggregate the industry's performance has been about limiting volatility, not shooting for top numbers.

However, the real story is the risk-adjusted measures. Canadian hedge funds ranked a disappointing seventh on both the Sharpe and Sortino ratios. Only Financials and Canadian small cap stocks performed more poorly. Notably, US hedge funds outperformed Canada on these measures, likely reflecting their greater geographic coverage and diversity. These low rankings suggest that investors were not getting enough reward for the risks taken, at least as measured by deviation.

In measures of downside risk, Canadian hedge funds ranked better. As the following table shows, they outperformed the S&P/TSX Composite and Small Cap Indexes in the number of periods experiencing positive performance. Canadian hedge funds were highly ranked in terms of maximum decline experience – only US hedge funds have a lower maximum decline experience. Notably, Canadian small cap stocks overall experienced nearly three times the maximum loss.

	N Positive Periods	N Negative Periods	Number of Drawdowns	Average Decline (%)	Maximum Decline (%)	Average Drawdown Duration
SC Equal Weight HF	29	14	6	-4.11	-6.55	6
S&P/TSX Composite TR	27	16	8	-4.25	-9.45	4
S&P/TSX SmallCap TR	27	16	5	-8.88	-18.22	5
DJ Style Canada Growth TR CAD	31	12	7	-5.59	-8.08	4
DJ Style Canada Value TR CAD	27	16	7	-3.42	-9.95	3
S&P/TSX 300 Materials Sector TR	27	16	11	-6	-12.16	3
S&P/TSX 300 Financials Sector TR	29	14	6	-6.01	-18.25	3
S&P/TSX 300 Energy Sector TR	27	16	6	-9.78	-12.87	7
Hennessee HF TR USD	30	13	6	-2.11	-5.58	3

These results are again consistent with a focus on downside risk management. Clearly, hedge funds are hedging!

The Alpha Question

We used two models to determine whether Canadian hedge funds have generated alpha.

The first is the Capital Asset Pricing Model – we used the S&P/TSX as the market portfolio and the DEX 30 Bay T-Bill Index as the risk-free rate. Our finding here – see the alpha score of -0.0005 - indicates that Canadian hedge funds as a group did not generate alpha.

	Alpha	Alpha T Statistic	Beta	Beta T Statistic	R Squared
SC Equal Weight HF	**-0.0005**	-0.172	0.6783	8.4502	0.6353

The low beta with a robust level of confidence indicates a very low market-related volatility further supporting the risk conscious focus of the hedge funds.

The second model was a Three Factor view of the results separating market, value and size factors. Our firm believes that this model provides a powerful explanation of stock market returns. We used the S&P/TSX Composite as the market, the DEX 30 Day T-Bill Index as the risk-free rate, and the Dow Jones Style Value and Growth and Dow Jones Large Cap and Small Cap indices to calculate the value and size premiums. Notably, during the time period under examination the value and size premiums were negative - even though multiple studies and our analysis has evidenced significant positive premiums over the long-term.

This analysis suggests Canadian hedge funds have, in fact, generated alpha. As seen in the following table, the intercept statistic is 0.34 (i.e. 34 basis points per month of excess return). With a P-value of 0.15, we have some confidence in this conclusion.

	Coefficients	*t Stat*	*P-value*
Intercept	**0.34**	1.48	0.15
Market	0.46	5.80	0.00
Value	-0.10	-1.02	0.32
Size	0.34	4.85	0.00

The coefficient for the size premium is positive at a very robust level of confidence. The negative premium for the value coefficient indicates a modest growth weighting.

Overall, this analysis explains the poorer return performance of Canadian hedge funds. They had a very strong tilt to smaller stocks which did relatively poorly during this period and this eroded their performance. Their modest tilt to growth (which outperformed value during the period) was not sufficient to compensate for their deficit-generating size tilt.

Does the positive alpha number indicate skill? This cannot be answered by this study. First, the time period is much too short. Second, a more comprehensive model (e.g. a four factor model including momentum) could reduce or eliminate the alpha number. Finally, the excess return could be compensation for a more comprehensive catalogue of risk factors - liquidity, leverage, and tail risk to name a few.

Our firm is in the latter camp. We believe the primary benefit of hedge funds is their exposure to risk factors other than the market, which can contribute to overall portfolio diversification. Any alpha is a plus - it is manager dependent and in our experience rarely persistent over prolonged periods!

Portfolio Role

As portfolio managers for affluent Canadians, our interest in hedge funds is the role they play within a more broadly diversified portfolio. We wanted to answer the question - did the risk and return pattern of Canadian hedge funds over the time period examined indicate that they had a role in a diversified portfolio? Our analysis was conducted with perfect hindsight so our findings are illustrative and inferential rather than predictive and prescriptive.

As a first step, we calculated the correlations of the SC Equal Weight HF with indices representative of major asset groups. In addition to some of the indices previously mentioned, we used the DEX Universe Bond Index for Canadian bonds and the MSCI World Stock Index and MSCI Emerging Markets Index for world and emerging stocks. We did not currency hedge the world and emerging market stocks given the dominance of unhedged non-domestic stocks positions among Canadian individual investors. The correlations are as follows:

	TSX DEX 30 Day TBill TR	TSX DEX Univ Overall Bond TR	S&P/TSX Composite TR	MSCI World TR CAD	MSCI Emerging Mkts TR CAD	SC Equal Weight HF	Hennessee HF TR USD
TSX DEX 30 Day TBill TR	1.000	0.034	-0.094	-0.045	-0.048	-0.035	0.021
TSX DEX Univ Overall Bond TR	0.034	1.000	-0.167	-0.055	-0.112	-0.143	-0.285
S&P/TSX Composite TR	-0.094	-0.167	1.000	0.418	0.698	0.796	0.889
MSCI World TR CAD	-0.045	-0.055	0.418	1.000	0.681	0.268	0.377
MSCI Emerging Mkts TR CAD	-0.048	-0.112	0.698	0.681	1.000	0.646	0.733
SC Equal Weight HF	**-0.035**	**-0.143**	**0.796**	**0.268**	**0.646**	**1.000**	**0.746**
Hennessee HF TR USD	0.021	-0.285	0.889	0.377	0.733	0.746	1.000

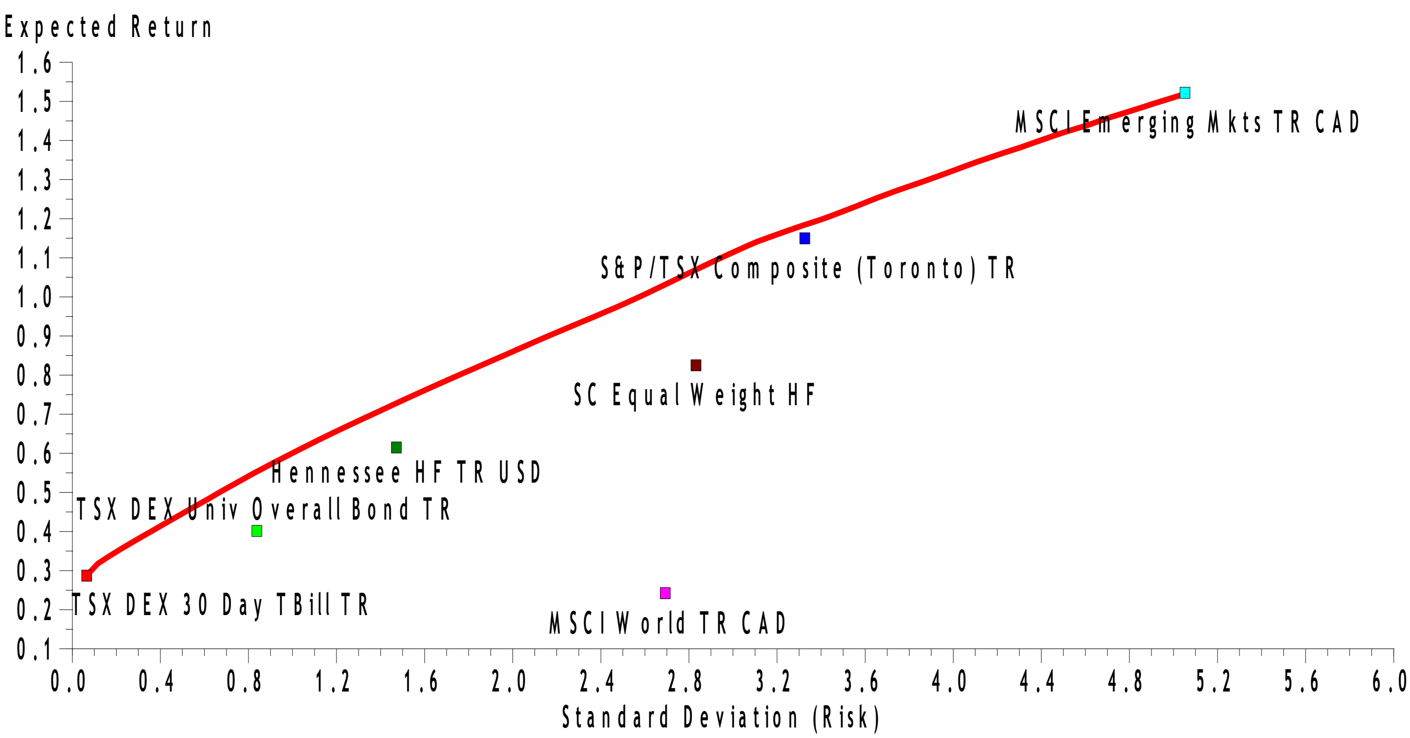
From a diversification perspective, the high correlation with Canadian stocks of 0.796 was disappointing. The much lower correlation of 0.268 with World stocks no doubt reflected the bullish commodity cycle in Canada and the diversifying impact of the Canadian dollar (note the hedged MSCI World Stock Index still had a 0.456 correlation). Canadian hedge funds were also highly correlated with US hedge funds during this period - likely reflective of growing macro bets on commodities worldwide as well as the growing commodity-heavy emerging market weighting in US hedge funds. This is reflected in the relatively high correlations of the Canadian and US hedge funds with the emerging markets during the period. (What is surprising is that US hedge funds were even more correlated with Canadian stocks than Canadian hedge funds; a subject that we are currently analyzing.)

We then ran a mean-variance optimization based on the actual returns, variances and correlations to determine an optimal asset mix over the period January 2005 through July 2008. The indices used are as above and include the following assets: Cash, Canadian Bonds, Canadian Stocks, World Stocks, Emerging Market Stocks, Canadian Hedge Funds and US Hedge Funds. We recognize hedge funds are not an asset class; they are a heterogeneous mix of investment strategies but we use the term for convenience here.

It should be noted that since only the hedge fund indices are net of fees, this analysis is slightly weighted against them. However, the advent of low cost ETF's to track bond and stock indices means that these results of the other asset classes could have been replicated with very modest costs. Further, the most prudent way to access hedge funds for many investors is a fund of hedge funds which also entails additional fees.

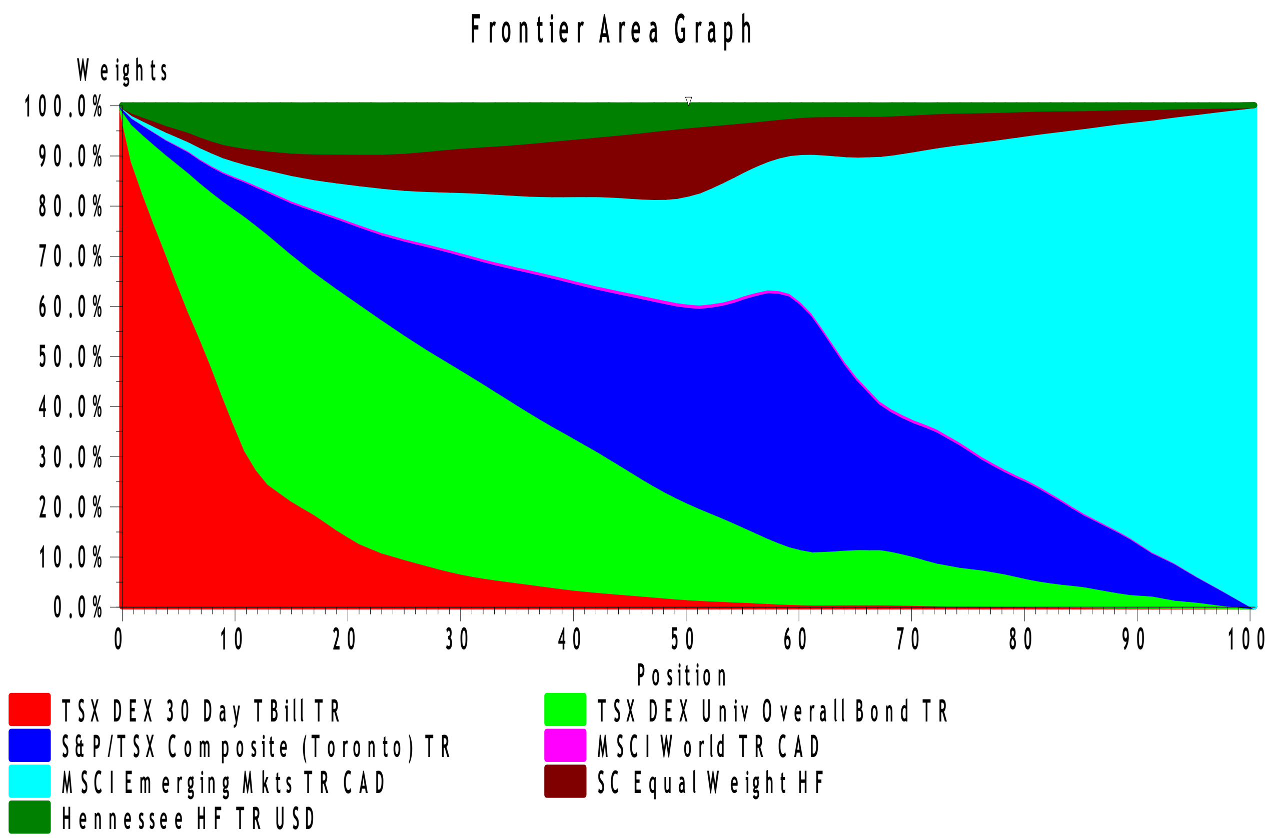
Finally, we used a resampling methodology to identify the frontier and underlying asset mixes. Resampling has been shown to generate more robust results.

The following is the efficient frontier graph for that period - the return and risk figures are monthly.



As is often the case with actual frontiers calculated with hindsight for limited time periods, the efficient frontier is a relatively uncurved line. Except for the starting and ending points (Cash and Emerging Market Stocks respectively), all of the other asset classes sit to the right of the frontier. In short, investors would have benefited from holding diversified portfolios that earned a higher return for the level of risk incurred - modern portfolio theory was at work.

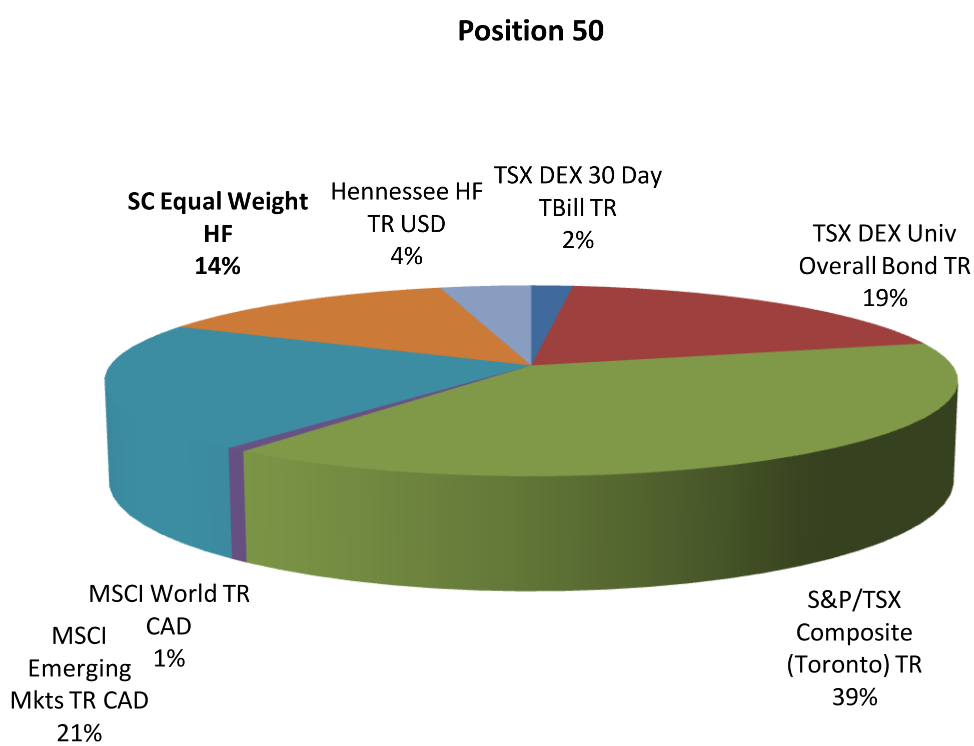
What is more illuminating is the frontier area graph indicating the asset mixes along the frontier. The graph breaks the frontier into 100 positions across its length on the X axis starting with most conservative and going to most aggressive and places weightings as a percent of the total mix (i.e. 100 percent) on the Y axis.



What is immediately apparent was the domination of the portfolios by Cash, Bonds and Stocks. The traditional building blocks of a portfolio remained intact. Canadian and US Hedge Funds played an ancillary role. As expected, more conservative portfolios were dominated by Cash and Bonds. Given the poor performance of World Stocks during this period, this asset class had a negligible role; a longer time frame with more normative numbers would materially magnify its presence. Canadian and Emerging Market Stocks dominated the more aggressive portfolios. It is important to note that optimization runs without Emerging Markets (not shown here) showed a continued overwhelming dominance by Canadian Stocks relative to other asset classes.

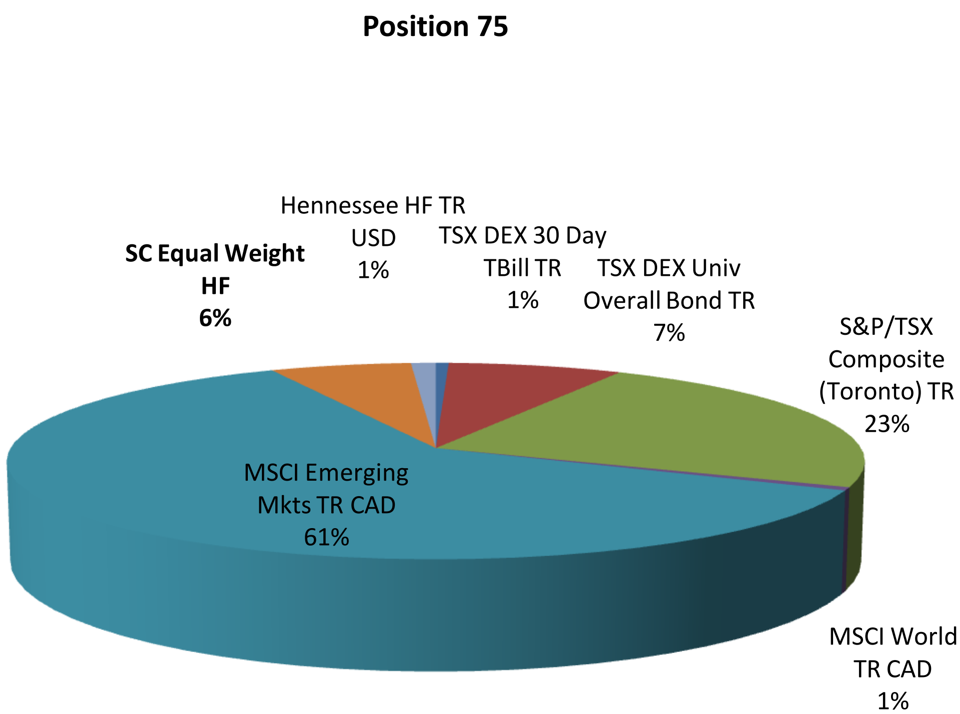
Overall, however, even relatively conservative investors would have benefited from exposure to the full range of asset classes including Hedge Funds as evidenced by the growing diversity of colours moving from the left. Interestingly, US Hedge Funds took a stronger role in more conservative portfolios than Canadian Hedge Funds despite their lower return. Their more negative correlation with Bonds and low standard deviation earned them this role. Canadian Hedge Funds only began to appear materially in the moderately risky portfolios.

The following chart breaks out the asset mix composition of the mid-point on the efficient frontier (i.e. Position 50), a position reflective of a growth investor.



A growth investor seeking optimal returns would have invested 14 percent of their portfolio in Canadian Hedge Funds as well as a 4 percent allocation to US Hedge Funds. The total hedge fund exposure of 18 percent compares to the total stock allocation of 61 percent. We found this level of allocation to Hedge Funds surprising given their strong correlation to Canadian and Emerging Market Stocks. Additional optimization runs (not shown here) suggest three reasons. First, at this level of overall portfolio risk, the negative correlation with bonds is a greater factor in their inclusion. Second, the weak performance of World Stocks contributed to a larger role for hedge funds. Third, the low volatility of the Hedge Fund indices contributes to their role. (Readers need to be aware that these results can only be generalized to a broadly diversified mix of hedge funds - individual strategies and funds are typically much more volatile.)

Canadian Hedge Fund allocations topped out 14% at Position 50; from there on, their role in the portfolio declined. For example, an aggressive growth investor at Position 75 would have invested only 6 percent in Canadian Hedge Funds, at least as represented here by a broadly diversified basket of individual hedge funds. More aggressive investors would have to search for more aggressive hedge funds.



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