

Executive Summary

Subject

The goal of this exercise is to evaluate performance of ten different hedge fund styles. We are also exploring the performance of Equity Long/Short fund and Convertible Bond Arbitrage funds, and how they relate to different factors of the market.

Methods and Analysis

The data consists of monthly returns of several hedge fund styles along with risk-free and factor excess returns from January 1994 to June 2012. Performance measures such as; arithmetic return, geometric return, volatility of excess returns, Sharpe ratio, alpha using market factor and information ratios were calculate on annual basis. Market beta and maximum drawdown along with skewness of monthly returns were calculated for each hedge fund style. Furthermore, for Equity Long/Short, univariate and multivariate regressions were to compare the returns while adjusting for different market factors. Lastly, for Convertible Bond Arbitrage fund, we adjusted alpha to illiquidity and stale prices by running regression on current-month, 1-month and 2-month lagged returns as well.

Analysis and Findings

Performance measures of all funds is provided in Exhibit A. It is important to note that amongst the given funds, Ded Sh Bs Hedge Fund was the worst performing fund on the basis annual (-2.66%) and geometric averages (-4%). Furthermore, the negative value of Sharpe Ratio suggests that the fund yielded a negative-excess-returns in terms of risk (-0.34). It also suggests that fund's returns moved in the opposite direction with respect to market (-0.86). However, looking at skewness, it is worth noting that the same fund has yielded extreme returns (0.66). Whereas, Global Macro fund was amongst the best performing funds since it yielded the highest annual (11.51%), geometric (11.62%) and adjust returns (7.54%). It also had the maximum drawdown (41.57) which occurred during the financial crisis of 2008. Event Driver Hedge yielded the highest return in terms of risk.

For Equity Long/Short Fund, looking at the loading factor for market, observe that when market factor is positive, it suggests that the manager is not going against the market. In terms of size, we are using SMB factor which is created by using shorting big companies and buying smaller ones. Since the coefficient of the regression is positive for SMB, we can deduce that the manager prefers buying smaller companies or shorting larger ones. Similarly, in terms of value we can deduce that the manager prefers buying companies with a higher value or shorting the ones with lower value. For market, we observed that the coefficient was positive as well, hence the manager is not going against the market in this fund. Lastly, for momentum, we see that the manager believes that the investors in market under-react and delay their over reactions since the coefficient is positive. Hence, they buy companies which have higher returns in the past twelve months.

With regards to Convertible Bond Arbitrage, the fund's tendency to follow the market at time t is 0.17. However, adjusting for illiquidity and stale prices for convertible bonds, we see that the beta co-efficient with time t , $t-1$ and $t-2$ is 0.26. This can also be perceived as the true beta of the fund due to illiquid nature of securities.

Exhibit A) Summary of results

Performance_measure	Ln/Sh Eq Hedge Fund USD	Eq Mkt Ntr Hedge Fund USD	Ded Sh Bs Hedge Fund USD	Global Mac Hedge Fund USD	Mngd Fut Hedge Fund USD	Emg Mkts Hedge Fund USD	Evnt Drvn Hedge Fund USD	Cnvt Arb Hedge Fund USD	Fx Inc Arb Hedge Fund USD	DJCS Hedge Fund USD
Annual Areturn	9.04%	5.29%	-2.66%	11.51%	6.12%	7.99%	8.83%	7.35%	5.24%	8.41%
Annual Greturn	8.89%	4.68%	-4.00%	11.62%	5.58%	7.08%	8.98%	7.34%	5.19%	8.44%
Annualized Volatility Excess Return	9.90%	10.22%	16.97%	9.64%	11.69%	14.89%	6.29%	6.90%	5.73%	7.50%
Annual SR	0.61	0.22	(0.34)	0.88	0.26	0.33	0.92	0.62	0.38	0.72
Market Beta	0.46	0.19	(0.86)	0.15	(0.07)	0.54	0.26	0.17	0.13	0.29
Annualized Alpha	3.19%	1.08%	-0.47%	7.54%	3.51%	1.62%	4.18%	3.25%	1.41%	3.59%
Annualized Information Ratio	0.493	0.111	(0.049)	0.811	0.303	0.136	0.910	0.517	0.266	0.619
MDD	4.34	13.45	1.97	41.57	1.99	2.41	4.24	8.67	7.82	4.71
Skewness	(0.0121)	(11.8663)	0.6596	0.0164	0.0271	(0.7571)	(2.2263)	(2.6799)	(4.4475)	(0.1804)

Max	
Min	

Exhibit B) Global Macro Hedge Fund – Draw Down and Cumulative Return

