

Performance Analysis of Macro Hedge Fund Strategies in India

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***Abstract-** Macro Hedge Fund Strategies are holdings primarily on the overall economic and political sights of various countries or their macroeconomic principles. Here Holdings may include long and short positions in various equity, hard currency and fixed income, commodities, and futures markets. The study aims to examine the different macro strategies and to analysis the performance of macro strategies in India. The data have been collected strategy wise from Eurekahedge and Hedge Fund Research Inc., covering a period of ten years from January 2008 to December 2017. The descriptive statistics and Sharpe ratio have been used in this study. The finding of the study shows that the six strategies, namely, Systematic Diversified Strategy, Commodity Strategy, Currency Strategy, Multi-Strategy, Active Trading Strategy, and Discretionary Strategy. The Systematic Diversified Strategy is the strategy that gives the maximum performance out of six macro strategies in India.*

***Keywords:** Macro Strategies, Sharpe ratio, Systematic Diversified, Active Trading, Commodity Strategy*

1. Introduction

Macro Investment Managers trade a wide range of strategies in which the investment manner is predicated on movements in the underlying economic variables and the impact on a fixed income, equity, hard currency, and commodity markets. Managers employ a diversity of techniques, both discretionary and systematic analysis, combinations of top-down and bottom-up, fundamental and quantitative approaches, and long and short term holding periods. Macro strategies are different from Relative Value strategies in that the primary investment is predicated on future movements in the underlying instruments, preferably than the realization of a valuation discrepancy between securities. Similarly, while both Macro and equity hedge managers may hold equity securities than the significant investment is predicated on the impact movements. In underlying economic variables can have on security prices, as opposed to equity Hedge, in which the fundamental attributes of the company are the most significant and integral to the investment. Macro strategies are holdings primarily on the overall economic and political sights of various countries or their macroeconomic principles. Here Holdings may include long and short positions in various equity, hard currency and fixed income, commodities, and futures markets. For example, if an accredited manager believes the India is headed into a recession, he may short sell stocks and futures contracts on major BSE indices. He may also see a big opportunity for growth in other countries, taking long positions in that country's assets.

Macro funds put up portfolios around forecast and projections of large-scale events on the country-wide, continental, and global scale, realizing opportunistic investment strategies to capitalize on macroeconomic and geopolitical trends. Macro strategists make forecasts and analyze trends involving factors such as: Interest rates,

Politics. Domestic and foreign policies, International trade, Currency exchange rates, and other factors. Macro funds are considered among the least-restricted funds as they generally place any type of trade they choose using almost any type of security. Macro funds are generally actively managed by accredited managers. They try to profit off broad changes that arises from both political and economic factors. They can be fairly diversified, offering exposure to different assets and instruments. Investors can expect higher investment thresholds and higher fees associated with these funds because accredited managers are actively managed these funds.

2. Review of Literature

Ackermann et al. (1999) have conducted a study entitled 'The Performance of Hedge Funds: Risk, Return, and Incentives'. The main objective of the study was to examine the performance of hedge funds linking with an incentive fee structure. The study concluded with the findings that diverse investment options made difficult to classify fund and identify the correct benchmark due to the short period. Liang (1999) has undertaken a study entitled "On the Performance of Hedge Funds". The broad objective of the study was to focus on the performance of hedge fund with compare to the mutual fund. The study indicated that Hedge funds were provided higher Sharpe ratios and performance than mutual funds through better manager skills, although hedge fund returns were more volatile. Average hedge fund returns were related positively to incentive fees, fund assets, and the lockup period. Malkiel and Saha (2004) have conducted a study entitled 'Hedge Funds: Risk and Return'. The main objectives of the study were to (i) investigate the substantial attrition of hedge funds. (ii) Analyze the determinants of hedge funds demise. (iii) Provide the results of tests of return persistence. The study concluded with the findings that hedge funds were riskier and provides lower returns than common funds. Amin and Kat (2003) have conducted a study entitled 'Hedge Fund Performance 1990-2000: Do the Money Machines Rally Add Value?' The main objective of the study was to examine the hedge fund offers to investors' superior risk-return tradeoffs. The study indicated with the findings that the main attraction of hedge funds lays in the weak relationship between hedge fund returns and returns on other assets classes. Mato Njavro (2012) has conducted a study entitled 'Asia-Focused Hedge Funds: Analysis of Performance, Performance Persistence and Survival'. The main objectives of the study were to (i) analysis the performance of Asia focused hedge funds in the context of the 2007 to 2010 global financial crisis. (ii) Examine the returns of Asia focused hedge funds. (iii) Analysis of the survival of Asia focused hedge funds. The study concluded with the findings that (i) Asia focused hedge funds were not produced significant alphas on average. (ii) Asia focused hedge funds were no conclusive evidence of persistence in performance for the best or worst performing funds. (iii) Larger and better performing funds with lower redemption frequencies were more likely to survive. Fung and Hsieh (2000) have conducted a study entitled 'Performance Characteristics of Hedge Funds and Commodity Funds: Natural Vs Spurious Biases'. The broad objective of the study was to determine aggregate hedge fund performance measure to funds-of-hedge funds. The study concluded with the findings that the individual hedge fund style was used to measures the performance of funds of the hedge fund. Brandon and Wang (2013) have conducted a study entitled 'Liquidity Risk, Return Predictability, and Hedge Funds' Performance: An Empirical Study'. The main objective of the study was to analyse the effect of liquidity risk on the performance of equity hedge fund portfolios. It was observed from the study that the effects of liquidity risk in hedge fund portfolios incorporate predictability in managerial skills performance. Mahato and Mohapatra (2020) have conducted a study on 'Performance of Hedge Fund Strategies in India: An Empirical Analysis'. The objectives of the study were to (i)

examine the different hedge fund strategies and (ii) analysis the performance of hedge fund strategies in India. The study concluded with the findings that (i) the five hedge fund strategies, namely, Equity Hedge Strategy, Event Driven strategy, Fund of Funds Strategy, Macro Strategy and Relative Value Strategy, and (ii) The Relative Value Strategy is the strategy that gives the maximum performance of a hedge fund in India. Banerjee and Chowdary (2018) have conducted a study entitled 'Performance of Hedge Funds in India'. The objective of the study was to examine the performance of hedge fund in India in compare to other countries like Europe, Asia- Pacific, USA, and Global Hedge Fund. The study concluded with the Findings that Indian hedge funds have generated better returns at greater risk on standard deviation of returns with higher draw downs.

3. Objective of the Study

This study has two broad objectives such as (i) to find out the different Macro Strategies perform in India, and (ii) to analysis the performance of Macro Strategies in India.

4. Research Methodology

The required data for the study has been collected from secondary source. The specific source from which data has been collected is the Hedge Fund Research Inc., and EurekaHedge. A total of six Macro Strategies (MCS) selected at random out of several Macro Strategies being used in India. Selection of these six strategies has been based on convenience. The data have been collected strategy wise from Hedge Fund Research Inc. and EurekaHedge, covering a period of ten years from January 2008 to December 2017. This study includes six different Macro Strategies (MCS) to represent as variables. The six strategies are Systematic Diversified Strategy (SDS), Commodity Strategy (COS), Currency Strategy (CUS), Multi-Strategy (MUS), Active Trading Strategy (ATS), and Discretionary Strategy (DIS). To measure the performance of Macro Strategies (MCS), the descriptive statistics and Sharpe ratio have been used in this study.

5. Analysis and Interpretation

The Performance of Macro Strategies has been analyzed here and the result thereof has been shown in Table 1. As stated before, the Macro Strategies has six *sub-strategies*, such as, Systematic Diversified Strategy (SDS), Commodity Strategy (COS), Currency Strategy (CUS), Multi-Strategy (MUS), Active Trading Strategy (ATS), and Discretionary Strategy (DIS). Table 1 contains the performance of the sub-strategies also.

Table 1: Descriptive statistics of the return on Macro strategies

Macro Strategies	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
SDS	-3.69	6.49	0.236	2.148	0.383	-0.237
COS	-3.61	7.50	0.174	1.595	1.130	4.064
CUS	-2.18	2.24	0.103	0.885	-0.008	-0.034
MUS	-3.32	4.29	0.223	1.253	0.061	1.128
ATS	-2.45	2.91	0.193	1.069	-0.029	0.076
DIS	-4.51	5.07	0.033	1.339	0.043	2.087

Note: SDS= Systematic Diversified Strategy, COS= Commodity Strategy, CUS= Currency Strategy, MUS= Multi-Strategy, ATS= Active Trading Strategy, and DIS= Discretionary Strategy.

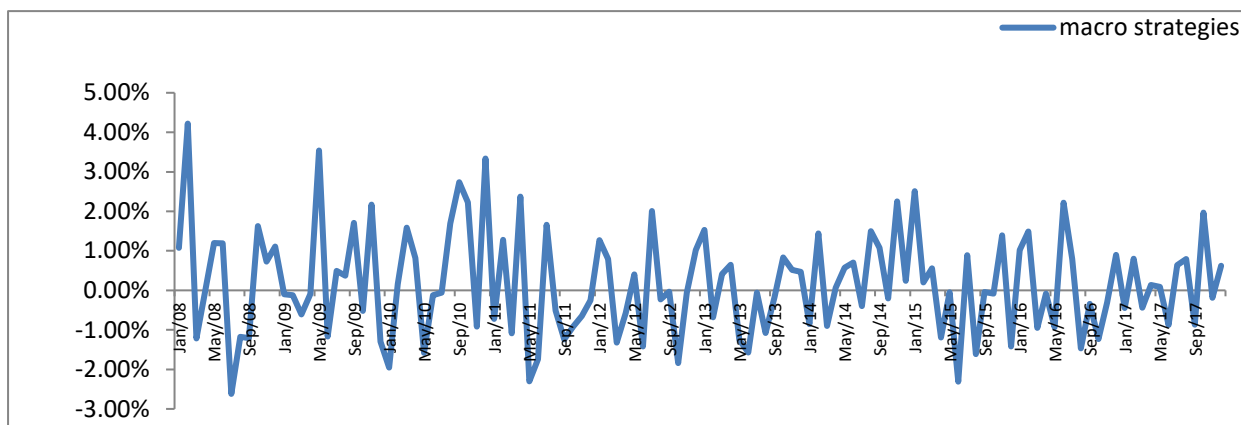
It is observed from Table 1 that Systematic Diversified Strategy (SDS) has recorded the highest return with a mean value of 0.236 among all the six sub strategies of Macro strategies. This is followed by Multi- Strategy (MUS), Active Trading Strategy (ATS), Commodity Strategy (COS), Currency Strategy (CUS), and Discretionary Strategy (DIS) with the mean values of, 0.223, 0.193, 0.174, 0.103 and 0.033 respectively.

It is also observed that Systematic Diversified Strategy (SDS) is the strategy that carries the highest risk with the standard deviation of 2.148. This turns out to be the most volatile strategy among all the strategies in the category. Moreover, it is also found that the skewness in Systematic Diversified Strategy (SDS), Commodity Strategy (COS), Multi- Strategy (MUS), and Discretionary Strategy (DIS) have been positive. Further, it is also found that the skewness in Currency Strategy (CUS) and Active Trading Strategy (ATS) have been negative. A positive skewness indicates existence of a higher probability of earning extreme positive returns and a negative skewness indicates existence of a higher probability of earning extreme negative returns.

Similarly, the kurtosis values of the returns of the strategies have been calculated to determine the steadiness of the earnings. A leptokurtic distribution would mean the earnings being more consistent, whereas a platykurtic distribution would mean the returns have 'outliers', that is, the returns not being stable. In case of Macro Strategies, as Table 1 shows COS has kurtosis value is 4.064. Therefore, it may be concluded that the return of Commodity Strategy (COS) has been 'leptokurtic'; hence it gives a consistent return. But, the kurtosis value of Systematic Diversified Strategy (SDS), Currency Strategy (CUS), Multi- Strategy (MUS), Active Trading Strategy (ATS), and Discretionary Strategy (DIS) have remained in between (-) 0.034 to 2.087, which is below 3.00. It is therefore 'platykurtic', having 'outliers', and hence their returns are not stable.

Further, a graphical representation of the performance of Macro Strategies over the 10 years period under study has been made for a quick comprehension. The graphs have been drawn for both the overall performance and for individual fund wise performance. Fig. 1 depicts the overall performance, whereas, Fig. 1(a) through 1(f) show the performance of Systematic Diversified Strategy (SDS), Commodity Strategy (COS), Currency Strategy (CUS), Multi-Strategy (MUS), Active Trading Strategy (ATS), and Discretionary Strategy (DIS), respectively. The X-axis represents time period and the Y-axis represents 'return' of Macro Strategies.

Fig. 1: Overall return of Macro Strategies



It is observed from Fig. 1 that the overall return of Macro Strategies has remained between a maximum 4.22% to a minimum of minus (-)2.62% over the 10 years period under study.

Going by the sub strategies, the returns have varied between 6.490% to minus (-) 3.690% in case of Systematic Diversified Strategy (SDS) as can be seen from Fig. 1(a); 7.500% to minus (-) 3.610% in case of Commodity Strategy (COS) as depicted in Fig. 1(b); 2.240% to minus (-) 2.180% in case of Currency Strategy (CUS) as reflected in Fig. 1(c); 4.290% to minus (-) 3.320% in case of Multi-Strategy (MUS) as depicted in Fig. 1(d); 2.910% to minus (-) 2.450% in case of Active Trading Strategy (ATS) as reflected in Fig. 1(e); and 5.070% to minus (-) 4.51% in case of Discretionary Strategy (DIS) as depicted in Fig. 1(f).

Fig. 1(a): Return of Systematic Diversified Strategy

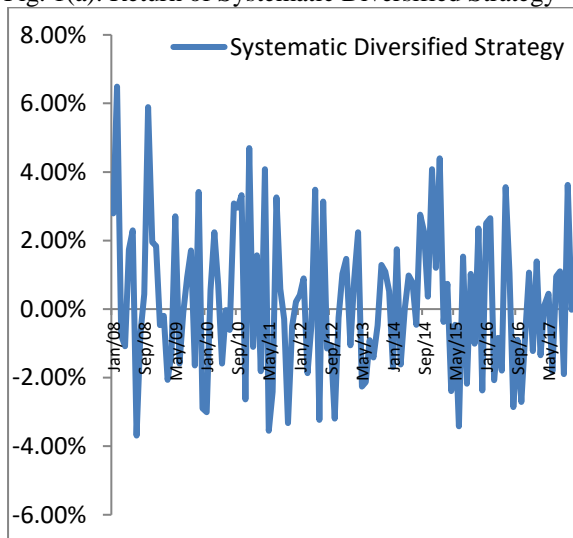


Fig. 1(b): Return of Commodity Strategy

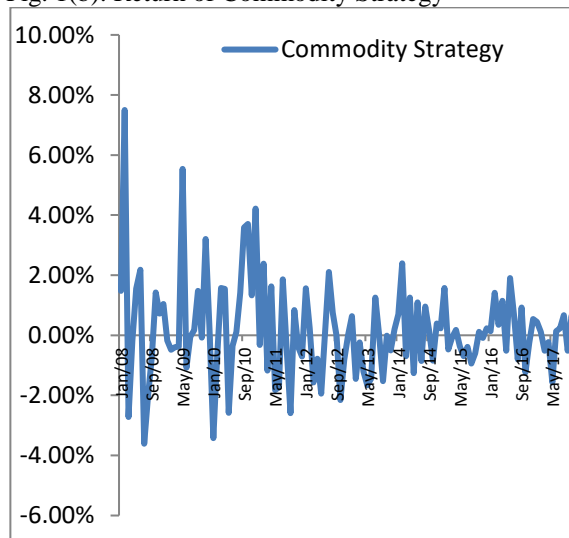


Fig. 1(c): Return of Currency Strategy

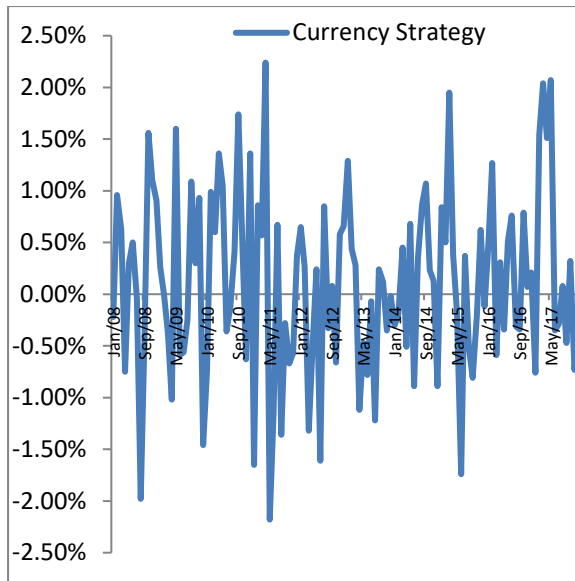


Fig. 1(d): Return of Multi- Strategy

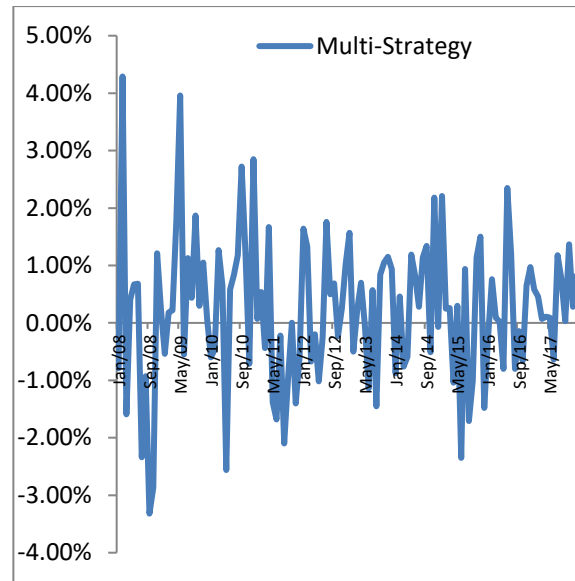


Fig. 1(e): Return of Active Trading Strategy

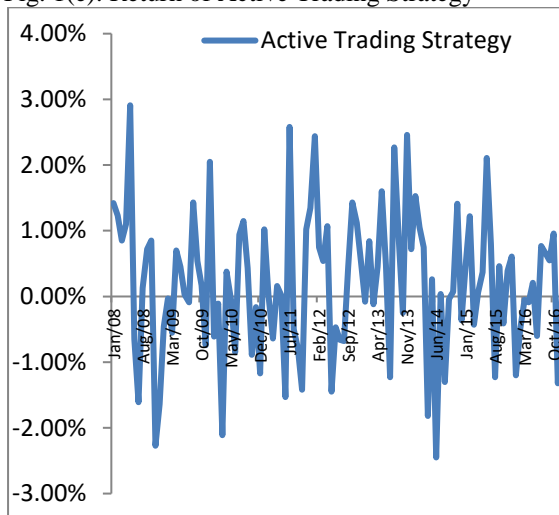
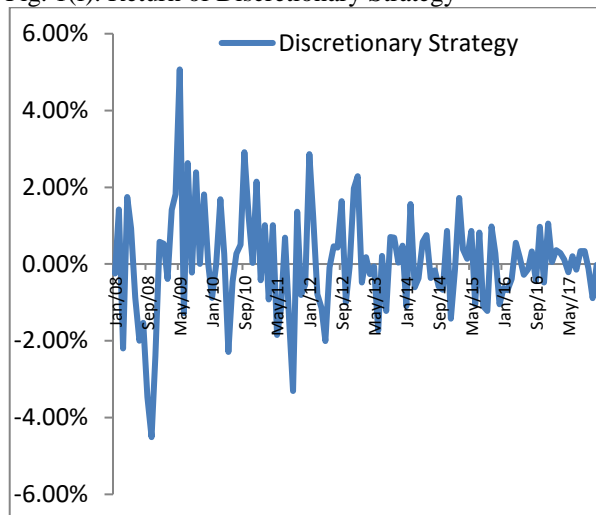


Fig. 1(f): Return of Discretionary Strategy



6. Risk and Return of Macro Strategy

The Risk and Return of Macro Strategies (MCS) have been analyzed here and the results shown in Table 2. There are six Macro Strategies, namely, Systematic Diversified Strategy (SDS), Commodity Strategy (COS), Currency Strategy (CUS), Multi-Strategy (MUS), Active Trading Strategy (ATS), and Discretionary Strategy (DIS), against which the analyses have been made here.

Table 2: Sharpe ratio of the returns on Macro Strategies

Macro strategies	Return	Risk Free Return	St. Deviation	Sharpe Ratio
SDS	0.028	0.028	0.074	0.004
COS	0.021	0.028	0.053	-0.133
CUS	0.012	0.028	0.029	-0.532

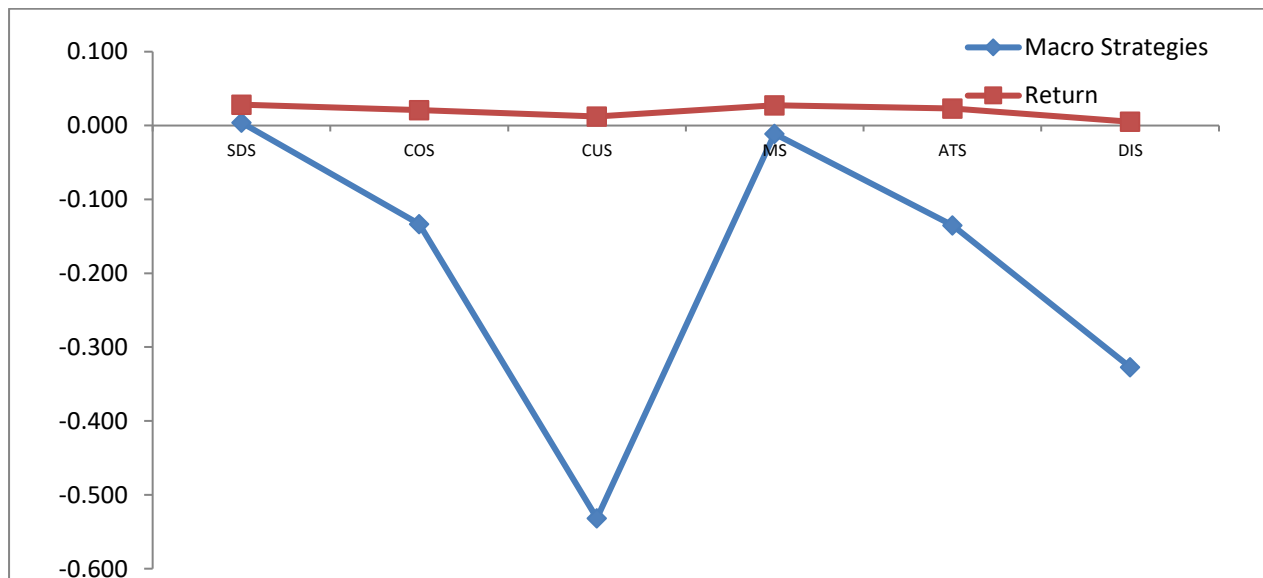
MUS	0.027	0.028	0.052	-0.011
ATS	0.023	0.028	0.035	-0.135
DIS	0.005	0.028	0.070	-0.327

Note: SDS= Systematic Diversified Strategy, COS= Commodity Strategy, CUS= Currency Strategy, MUS= Multi-Strategy, ATS= Active Trading Strategy, and DIS= Discretionary Strategy.

It is observed from Table 2 that the Sharpe ratio of Systematic diversified strategy (SDS) is found to be the highest out of the other Macro Strategies with a Sharpe value of 0.004. This implies that Systematic diversified strategy (SDS) gives the highest annual return per unit of risk over the period of 10 years ranging from 2008 to 2017. This is followed by Multi-Strategy (MUS), Commodity Strategy (COS), Active Trading Strategy (ATS), Discretionary Strategy (DIS) and Currency Strategy (CUS) with the values of, - 0.011, -0.133, -0.135, -0.327 and -0.532 respectively. It is found that Sharpe ratio in Systematic diversified strategy (SDS) gives higher value per unit of return, which implies that investors should favour to invest in Systematic diversified strategy (SDS). Further, the Systematic diversified strategy (SDS) is also more volatile and risky compared to other Macro strategies. If investor expects this to continue in the future, they should choose Systematic diversified strategy (SDS) over the other Macro strategies.

The risk and return of Macro Strategies have also been shown graphically for a quick comprehension. The graph has been drawn for risk and return of different Macro Strategies. Fig. 2 depicts the risk and return of different Macro Strategies namely, Systematic Diversified Strategy (SDS), Commodity Strategy (COS), Currency Strategy (CUS), Multi-Strategy (MUS), Active Trading Strategy (ATS), and Discretionary Strategy (DIS).

Fig. 2: Sharpe ratio of Macro Strategies



Note: SDS= Systematic Diversified Strategy, COS= Commodity Strategy, CUS= Currency Strategy, MUS= Multi-Strategy, ATS= Active Trading Strategy, and DIS= Discretionary Strategy.

Fig. 2 depicts the returns of different Macro Strategies over the 10 years period from January 2008 to December 2017 under study. The X-axis represents different Macro Strategies whereas the Y-axis represents the Sharpe

ratio and Return of different Macro Strategies, namely, Systematic Diversified Strategy (SDS), Commodity Strategy (COS), Currency Strategy (CUS), Multi-Strategy (MUS), Active Trading Strategy (ATS), and Discretionary Strategy (DIS). Fig. 2 also depicts that the risk and return of different Macro Strategies have lower than the actual return of different Macro Strategies.

7. Conclusion

The variation of the performance has been measured across six Macro Strategies (MCS) namely, Systematic Diversified Strategy (SDS), Commodity Strategy (COS), Currency Strategy (CUS), Multi-Strategy (MUS), Active Trading Strategy (ATS), and Discretionary Strategy (DIS) through descriptive statistics and Sharpe ratio. The variation of the return of Macro Strategies (MCS) over the ten years period from 2008 to 2017 has been analyzed with the findings that Systematic Diversified Strategy (SDS) is found to be more reliable among all the six identified Macro Strategies (MCS).

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