



## The Impact of Covid-19 on the Performance of Hedge Funds Compared to Mutual Funds in South Africa

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### ABSTRACT

Investors are constantly searching for methods to generate value above passive investment techniques. Therefore, analysing the performance of hedge funds as compared to mutual funds, particularly in the wake of Covid-19, can aid investors in their investment decision-making process. Those investors who desire above-average returns, particularly in volatile market conditions place an expectation on hedge funds to be able to achieve higher performance during economic downturns, given that they are designed to mitigate risk and to take advantage of harsh financial market conditions. Monthly, secondary data were collected from September 30, 2018 to August 31, 2021 to analyse and compare the risk-adjusted performance of five hedge funds and five mutual funds in South Africa. Both hedge and mutual funds indicated higher risk-adjusted returns from the pre-Covid-19 period compared to during the pandemic. Hedge funds were found to have higher risk-adjusted returns than mutual funds during the Covid-19 period. The novelty of these results indicated that hedge fund managers can achieve higher returns for investors during extreme market events.

**Keywords:** Hedge Fund, Mutual Fund, Performance Measurements, Fund Performance, Risk-Adjusted Returns, Covid-19, Outperformance

**JEL Classifications:** G11, G14, G23

### 1. INTRODUCTION

The financial industry is constantly evolving, and a significant part of this process is the creation of investment opportunities to make lucrative returns even under volatile market conditions. Following the inception of the first hedge fund by Albert Wislow Jones in 1949 (Fung and Hsieh, 1999.p310), hedge funds have become an exceedingly popular investment with staggering growth in the industry in the 1990s, along with steady growth in the value of different asset classes administered in 2007 (Ineichen and Silberstein, 2008). Inevitably, hedge funds were widely affected by the 2007/08 global financial crisis (Fong, 2013). With the first hedge fund established in 1995, total assets under management (AUM) grew steadily from R 1.4 billion in 2002 to R 67 billion in December 2015 (Novare, 216).

Hedge funds make use of a diverse range of both legal entities and natural persons to gather assets from investors and each entity is formulated to cater to specific purposes and a specific type of investor (Mirabile, 2016). Hedge funds are known for attracting large cash inflows by each investor and they operate in a minimally regulated environment with strict barriers to entry (Chartered Financial Analyst [CFA] Institute, 2021a). Favre and Galeano (2002.p21) categorised hedge funds as alternative investments. According to Wilcox and Fabozzi (2013. p276) and Mirabile (2016), the most common and traditional asset classes including bonds, commodities, stocks, and foreign exchange. However, alternative investments, on the other hand, are investments that include non-traditional asset classes, such as hedge funds, hard assets, collectables, venture capital, real estate funds, and

most recently centralised loan obligations and centralised debt obligations (Mirabile, 2016).

Hedge funds are the most recent form of alternative investing and thus a new investor can easily be confused by the complicated terminology and the unconventional nature of this investment type (Jurek and Stafford, 2015). A hedge fund as an alternative investment is a legal entity and not to be classified as an asset class. Moreover, hedge funds integrate short selling, leveraging, arbitrage and derivatives that incorporate active security investment selection and sophisticated portfolio construction tools to assist in generating lucrative investment returns whilst mitigating risk (Fong, 2013).

Mutual funds which are formally known as collective investment schemes (CIS) in South Africa, on the other hand, bring investors with the same investment objectives together. According to Sekhar (2017), a mutual fund is a pool of money into which different investors with similar objectives make their contributions which are intended to be invested according to their implicitly stated objectives of the fund. The total earnings from investments of mutual funds are equally shared amongst the mutual fund holders by taking into consideration units owned by each holder (Shen, 2017. p145). Consequently, mutual funds are suitable for the more ordinary investor as this type of fund presents an opportunity to invest in several different professionally managed securities at a lower cost relative to hedge funds (Tripathi, 2011.p14). Mutual funds, as with any other security investments, are vulnerable to market volatility and other associated risks and there is no guarantee that the investment objectives will be realised. The net asset value (NAV) of the different asset classes under mutual funds can fluctuate depending on the variables affecting the money and capital markets (Suppa-Aim, 2010.p116).

Although both hedge and mutual funds are pooled investment capital with the primary purpose to diversify, hedge funds do not invest in a homogeneous class of investments. Although they trade in similar asset classes, how these funds are both regulated, and the investment strategies involved differ substantially (Edwards, 2006. p7). By hedging away exposure to traditional asset classes kept in the investment portfolio, hedge funds aim to maintain a stable expected return on capital with limited exposure to systemic risk (Savona, 2014. p285). Furthermore, Poledna et al. (2014. p200) assert that limited exposure to systemic risk is mainly achieved through a short-selling strategy. According to Sosnoff (1996), short selling entails borrowing a security that is not owned and selling that same security when it is believed that the security's price will decline; which subsequently allows the security to be bought back at a lower price than what it was initially paid for. Even though some mutual funds can sell short, it does not occur often given the tight regulatory framework, relative to hedge funds. As a result, hedge funds have much greater market leverage and can take a wider range of positions in stocks, including options and derivatives (Eling and Faust, 2010. p1998).

Minahan (2006.p9) asserts that forming current evaluations and making investment decisions (often concerning past trends and occurrences) to capitalise on an unpredictable future, is at the

heart of investing. This philosophy of investing directly relates to the idea that traditional investors are constantly seeking investments that produce optimal returns. On the contrary, for the more contemporary and well-informed investor, pursuing investments that yield optimal returns is not the sole objective. For such investors, the process of making investment decisions is multifaceted and considers several underlying factors. As a result, contemporary investors are increasingly including hedge funds in their investment portfolios, as hedge funds expose investors to several investment strategies, allowing investors to tailor their investment plan to their specific requirements (Cai and Liang, 2012. p52).

It is of considerable importance to understand that different types of funds are selected to evaluate the primary reason for inevitably differing performances. The evaluation is not solely based on how the different performance ratios capture risk, but on the underlying difference in how these funds perform during various market conditions. Investments are the hardest hit during a financial crisis or economic depression. Consequently, investors, in particular, suffer substantial financial losses or even avoid investing altogether (Irons, 2009). The Covid-19 pandemic is no exception to these effects on investments. During financial and economic crises, investment funds that can endure or even profit from market volatility, are recommended as they are capable to withstand harsh market conditions (Becchetti et al., 2015).

As hedge funds are designed to protect investments by hedging against risks, this article aims to test if, during turbulent market conditions, hedge funds can both hedge against risk as well as generate higher returns. When the Covid-19 pandemic struck in early 2020, some hedge funds aimed to profit from the economic and financial downturn. For instance, short-sellers targeted the airline industry which was hit particularly hard by a volatile market precipitated by the pandemic (Daly, 2021). Amidst the Covid-19 pandemic, some hedge funds were positioned to incentivise the market shocks that accompanied the pandemic (Daly, 2021). However, the industry has borne the brunt of the economic instability and market fluctuations, as investors have withdrawn billions out of hedge funds.

Considering current market conditions, the study evaluates hedge fund performance against mutual fund performance before and during the Covid-19 pandemic to determine if the trajectory in prominence for these funds has continued to rise in the context of the outbreak. It is critical to recognise that hedge fund, as well as mutual fund investing, has expanded to the point where it now plays a substantial role in the South African financial industry. The purpose of this research is to evaluate how the Covid-19 pandemic has affected the performance of hedge funds in comparison to mutual funds, as well as to evaluate which fund type provided investors with the best risk-adjusted returns amid the global pandemic's turbulent market conditions. Additionally, the study aims to assess whether the risk-adjusted performance of hedge and mutual funds outperformed against the Financial Times Stock Exchange/Johannesburg Stock Exchange (FTSE/JSE) All Share Index (ALSI) during the research period. Given that a comparative risk-adjusted performance analysis between hedge

and mutual funds in South Africa, specifically during Covid-19, has not been performed, this research article attempts to contribute to the investor decision-making process.

## 2. LITERATURE REVIEW

### 2.1. Hedge Fund and Mutual Fund Performance during the Covid-19 Pandemic

Irons (2009) alluded that in volatile market conditions, such as financial crises and times of economic instability, investment fund performance is harmed, as investors suffer substantial losses or decide to cease investing altogether. Ben-David et al. (2012) on the contrary found that some investment funds can capitalise on economic downturns if they position themselves to incentivise these downturns. Puaschunder (2010) asserts that due to a lack of appropriate regulatory authorities, corporate executive incompetence, and a lack of accountability in the aftermath of the 2007/08 global financial crisis, investors lost faith in financial markets.

Between 2007 and 2008, when the global financial crisis began, hedge fund AUM plummeted by 25% and several funds were forced out of operation (Sung et al., 2021). However, risk mitigation is possible to be achieved through the specific trading strategies employed by hedge funds. Joaquim and Moura (2011) attribute risk mitigation to the fact that such strategies employed by hedge funds can reduce risk in times of economic uncertainties. For this reason, investors have recognised the importance of venturing into alternative investments such as hedge funds. Hedge fund strategies can leverage and capitalise on economic downturns by integrating a diverse range of risk-mitigating tools that can incentivise unfavourable market conditions. Traditional funds such as mutual funds suffered massive financial losses during the 2007/2008 global financial crisis as a result of focusing solely on achieving above-average returns (Joaquim and Moura, 2011).

In times of market instability and economic uncertainty, alternative investments play an increasingly significant part in an investor's portfolio, as evidenced by the volatile environment and consequences of Covid-19 (Khelifa et al., 2021). Hedge funds, similar to past evidence when markets have drastically fallen, continue to demonstrate their capacity to reduce risk and outperform any other investment vehicle. Hedge funds, on average, reduced the losses suffered by stock markets and diversified portfolios during the peak of Covid-19 market volatility in the first quarter of 2020 (Khelifa et al., 2021).

According to Bloomberg (2020), in March 2020, when the Covid-19 pandemic forced countries worldwide into lockdown, a select group of hedge funds managed to weather the storm. Moreover, these select groups of hedge funds gained profits as a result of bearish markets and some of these profits had not been realised since the financial crisis (Bloomberg, 2020). Falkowski et al. (2020) attributed these profits to credit relative value strategies such as long/short equity and macro strategies. These relative value strategies take advantage of market divergences; this can be done without spread betting-this is beneficial as spread betting is extremely dangerous and is only suitable for strategic,

short-term investors who believe they can predict the likely direction of a stock market daily (Fung and Hsieh, 2011). The long/short structure of these strategies means that there is an intrinsic lack of net market exposure which can be attributed to reducing drawdowns whilst simultaneously producing the best risk-adjusted returns relative to any highly ranked strategy (Falcioni, 2020).

Not with standing positive developments in the broader market, real growth in the United States (US) mutual funds has stagnated (Price waterhouse Coopers [PWC], 2021). Fees were under pressure, investor preferences shifted, and profit margins shrunk considerably, all of which put more pressure on the long-term prospects of US mutual funds. Furthermore, PWC (2021) notes that Covid-19 further exacerbated the pressure on US mutual fund managers in their efforts to try and remain competitive. Finnerty (2020), the US mutual fund leader asserted that to avoid this slump in the wake of a Covid-19 pandemic, a strategic shift needed to take place-this strategic shift needed to cater to the unique circumstances of the pandemic, to ensure that the ability for mutual funds to incentivise from economic shocks precipitated by the pandemic was not distorted.

The Association for Savings and Investment South Africa (ASISA) (2021) found that net assets invested in South African mutual funds reached a new high of R 2.9 trillion in the first quarter of 2021. The FTSE/JSE ALSI fell to 37,963.01 on March 19, 2020, its lowest level for 2020, as a result of the Covid-19-induced market volatility in the first quarter of 2020. The index had returned to 55,746 points at the end of June 2020. The FTSE/JSE ALSI closed at 66,086 points on June 30, 2021, a change of 18.5% over the previous year. Furthermore, ASISA (2021) discovered that the majority of net inflows flowed into interest-bearing portfolios. This subsequently meant that mutual funds would lose out when the stock market resurges. This loss is associated with an over-emphasis of interest-bearing securities in the portfolios of mutual funds. The minimal volatility that is associated with interest-bearing securities can be viewed as the driving factor for mutual funds' decision to include fewer volatile securities in their portfolio during volatile market conditions precipitated by the pandemic.

### 2.2. Hedge Fund Trading Strategies

Brav et al. (2015) in their study on the evolution and perspective of hedge fund trading alluded that the methods of hedge fund trading are ever-changing. According to Fung and Hsieh (2011), multiple hedge fund strategies have different factors that drive outcomes in each classification, whereas the same hedge fund strategy has a similar component that drives returns. Hedge funds are a type of financial product that is used to manage a private, unregulated range of investments using an array of strategies (Brav et al., 2015). These strategies are adopted to optimise returns while lowering or mitigating associated risks regardless of favourable or unfavourable market conditions (CFA Institute, 2021b). Hedge fund trading strategies include long/short equity, multi-asset, market-neutral and fixed-income arbitrage.

#### 2.2.1. Long/short equity strategies

Long/short equity (LSE) strategies are often correlated with high risk-adjusted returns, this traditional hedging strategy is often

associated with volatility rates that are usually lower than that of equity markets (Fung and Hsieh, 2011). In recent years, this strategy has become a widely popular and accepted strategy in various institutional investment funds and portfolios. A study by McCarthy (2013, p39), dedicated to the assessment of hedge fund strategies found that the LSE strategy approximately accounts for 25% of the hedge fund research performance index. Whilst this strategy is widely adopted in hedge fund trading, mutual funds have recently joined in on the bandwagon of utilising these LSE strategies (McCarthy, 2013). Although LSE strategies can increase a core portfolio's return profile and reduce pullbacks if stocks lose momentum, there is still room for improvement. Fund managers who employ LSE strategies tend to make use of fundamental stock-picking methods when composing their portfolios by purchasing stocks that will most likely outperform the market and shorting (selling) another percentage of stocks that are projected to underperform.

LSE-managed funds make use of leveraging to boost returns from stock selection whilst assuming risk that is less than the broader equity market (McCarthy and Wong, 2020). Agarwal and Naik (2004) noted that the net speculative exposure of an LSE-managed fund or portfolio, which is defined as long exposure minus short exposure, is normally positive. For instance, a typical manager's LSE fund composition might be 100% long and 45% short, resulting in a net equity market exposure of 55%. This is a major component when it comes to the risk and return of an LSE-managed fund. The downside is that this risk in some cases is not actively managed (Agarwal and Naik, 2004). The error that is often made by fund managers managing LSE funds is that they sideline and make net equity market exposure a by-product of stock selection rather than making it a self-standing isolated decision.

### 2.2.2. Multi-asset strategies

An increasing number of fund managers and investors are seeing the advantages of a multi-asset strategy, such as increased liquidity, lower volatility, and increased diversification (Peskin, 2017). Furthermore, their capacity to work well with a wide range of investing strategies and asset classes is highly attractive to investors. A multi-asset strategy in hedge fund investing moves away from the traditional asset allocation that merely includes stocks and bonds (Reddy et al., 2007). A multi-asset portfolio aims to improve the risk-return profile; to achieve this goal, alternative investments should be considered given that their return determinants are not the same as those of stocks and bond markets (Peskin, 2017).

Moreover, a multi-asset hedge fund can be classified under alternative investment strategies. Hedge fund managers utilise this strategy by realising a spread across linked yield securities. This occurs when one or more elements of the spread contain a composite of instruments such as equities, derivatives, fixed income, real estate, and a host of other instruments (Reddy et al., 2007). Furthermore, multi-asset strategies are highly quantitative in that they assess the actual relationship between instruments. These strategies also identify scenarios where the risk-adjusted margin between the securities provides the investment manager with a profitability opportunity (Reddy et al., 2007).

### 2.2.3. Market-neutral strategies

Fund managers of market-neutral strategies seek to capitalise on both increasing and decreasing prices in a variety of markets (Patton, 2009). Pairing long and short positions in various stocks to boost the return from efficient stock picks while reducing overall return from general market fluctuations is an instance of a market-neutral approach (Patton, 2009, p2501). Furthermore, in a market-neutral strategy, there is no acceptable approach, other techniques used by market-neutral managers include sector shorting merger arbitrage as well. Although these strategies appear to be considerably different at first glance, they generate their returns from the correlation between the fund's long and short constituents, regardless of whether the correlation takes place within the funds themselves or the specific securities in the fund (Wright, 2002).

Additionally, despite being less volatile, Wright (2002) found that market-neutral strategies offer returns that are comparable to those of long-only strategies. A significant investment in infrastructure and information technology is required in a market-neutral hedge fund strategy. Market-neutral strategies have different managers and prediction algorithms, but each has an underlying return (Ribeiro and Machado-Santos, 2011). Only in the short run do managers outperform the underlying return. It is more vital to choose the correct strategy than it is to choose a certain manager (Ribeiro and Machado-Santos, 2011).

### 2.2.4. Fixed-income arbitrage

Fixed-income hedge funds sought to profit from small variations in forwarding rates suggested by actual bond yields and, these funds also consider that liquidity or credit factors cause differences in valuations (Fung and Hsieh, 2002, p15). Option pricing models are used by derivatives managers to assess how much the spot price of convertible and option bonds differs from their underlying values. A fixed-income arbitrage technique involves taking opposing positions in the market to profit from slight price changes while reducing interest rate risk (Fung and Hsieh, 2002, p19). Outwardly fixed-income strategies trade long in an undervalued fixed-income instrument while trading short in an overvalued security. Nevertheless, as the yield difference between the positions can be as little as a few basis points, considerable leverage is usually used to capitalise on these price differentials (Okunev and White, 2006).

Okunev and White (2006, p44) assert that a gain is nearly inevitable if the counteracting long and short positions have comparable expiration dates. However, Stein et al. (2009) contend that this may not always be the case as positions may have to be liquidated at a loss if spreads fluctuate drastically before maturation and margin calls from the primary arbitrage necessitates equity capital inflows. Furthermore, changes in spreads happen as a result of various reasons ranging from changes in liquidity, an unexpected decline in a long position's credit worthiness; and most notably, exogenous disruptions-a notable example being the global credit crisis of 2007/2008 (Stein et al., 2009).

## 2.3. Existing Empirical Performance Studies on Hedge Funds and Mutual Funds

Despite the growing interest in hedge funds, few performance studies have been conducted in comparison to other investment

instruments such as mutual funds (Capocci and Hübner, 2004:56), specifically during a volatile market environment such as the Covid-19 pandemic. As reported by Capocci and Hübner (2004:56), this can be explained in part by their private qualities as well as the challenges experienced in gaining access to individual fund data. Consequently, it is worthwhile to review the findings obtained in the key performance studies of hedge and mutual funds concisely.

In a study where the main objectives were to explore the relationship between the performance of South African hedge funds and the FTSE/JSE ALSI and FTSE/JSE All Bond Index (ALBI), Adenigba (2016) assessed if South African hedge fund managers can successfully time the market and if South African hedge funds can generate absolute returns. Adenigba (2016) made use of monthly return data of 162 South African hedge funds over 118 months from January 2007 to October 2016. Adenigba (2016) categorised the hedge funds according to the strategies adopted. For each hedge fund investing strategy, fund excess returns for each portfolio were given equal weights. Furthermore, the assessment of these funds was based on the capital asset pricing model (CAPM), Fama and French three-factor as well as the four-factor model. The findings by Adenigba (2016) were that the correlation between South African hedge funds and the ALBI was weak and that South African hedge funds do not outperform the ALSI. However, the funds do outperform the ALBI. When testing the study's objective of whether hedge fund managers in South Africa can adequately time the market, the study discovered that South African hedge fund managers lack adequate market timing abilities (Adenigba, 2016).

In a study dedicated to the assessment of South African mutual funds' performance, Tan (2015) assessed the performance of ten South African mutual funds under the monetary easing period by the South African Reserve Bank (SARB); during this subsequent period, the money supply is increased with the primary aim of cutting interest rates, where the increase in money supply causes a surplus in financial markets (Koeda, 2019). The surplus aids tremendous capital inflows from developed nations to emerging economies. The research period (9 January 2009 to 31 October 2014) overlaps with a period of monetary easing, during which equity market sizes have risen dramatically. Moreover, this study also aimed to determine mutual fund managers' market timing skills by utilisation of the Henriksson and Merton (1981), and Treynor and Mazuy (1966) regression tests.

The assessment of the performance of mutual funds in this study was done using three distinct risk-adjusted measures namely, the Sharpe ratio, Jensen's alpha and the Treynor ratio. Furthermore, this study's theoretical perspective on the utilisation of the Jensen's alpha ratio was that the Jensen metric not only determines excess returns but also displays fund managers' selectivity skills. The study found that mutual fund managers in South Africa could not exhibit strong market timing and selectivity skills-this was based on the Henriksson and Merton (1981) and Treynor and Mazuy (1966) regression tests that were performed. During the monetary easing period, it was concluded by the study that South African

mutual fund managers lacked both selective and market timing skills (Tan, 2015).

### 3. METHODOLOGY

A quantitative research approach was followed in the article with a secondary data analysis approach. Data that were previously collected by governments, agencies, or research institutions to answer an initial research question, are known as secondary data (Vartanian, 2011; Johnston, 2014). Monthly secondary data were collected from September 30, 2018 to August 31, 2021 to analyse and compare the risk-adjusted performance of hedge funds and mutual funds in South Africa, before and during the Covid-19 period.

#### 3.1. Target Population and Research Sample

The target population for this research included a sample of five South African small market capitalisation, open-ended hedge, and mutual funds, respectively. For a fund to be classified as open-ended, a fund must typically issue additional shares on demand, and the shares included in the fund are not traded on an exchange, resulting in prices being determined by the NAV rather than supply and demand, and these prices rarely deviate from the NAV (Brown, 2013).

The following specifications were applied to create a matched sample framework for South African hedge and mutual funds, for comparable purposes:

- Each fund must have an inception date before September 30, 2018
- Each fund should have been operational until August 31, 2021, or onward; and
- The hedge funds and mutual funds must have comparable inception dates (not earlier than 2006 and not later than 2018), TERs and funds sizes.

Furthermore, the risk-adjusted performance of both selected hedge funds and mutual funds were compared to the FTSE/JSE ALSI to determine if each fund outperformed the market index.

The research period was divided into two periods:

- Period 1: From September 30, 2018 to February 29, 2020 (18 months)-representative of a period before Covid-19; and
- Period 2: From March 30, 2020 to August 31, 2021 (18 months)-representative of a period during Covid-19.

As seen in Table 1, the sample as representative of hedge funds (in general) with the matched sample as representative of mutual funds (in general) were selected with comparable ranges of inception dates, fund sizes and TERs. The hedge funds were launched between October 2007 and February 2018; with comparable inception dates for mutual funds between October 2006 and June 2018. Fund sizes range between R 76,250,000 and R 215,490,040; and R 45,000,000 and R 193,000,000 for hedge funds and mutual funds, respectively. The TERs range from 3.87% as the maximum and 0.81% as the minimum between hedge funds and mutual funds.

**Table 1: Overview of sampled hedge and mutual funds**

	Inception dates		Fund sizes (ZAR)		TER (%)	
	Earliest	Latest	Minimum	Maximum	Minimum	Maximum
Hedge funds	October 25, 2007	February 01, 2018	76,250,000	215,490,040	1.72	3.87
Mutual funds	October 02, 2006	June 29, 2018	45,000,000	193,000,000	0.81	1.66

### 3.2. Data Collection Method and Process

For the sample of hedge and mutual funds, monthly closing prices were sourced from IRESS Expert (2021) and FundsData Online (2021) and FundsData Online (2021), respectively. To compare the risk-adjusted performance of both selected hedge and mutual funds to the FTSE/JSE ALSI, the identified proxy for the South African general equity market, monthly closing prices were sourced from IRESS Expert (2021). Additionally, for the purpose of calculating the risk-adjusted performance according to the Sharpe ratio, Treynor ratio, and Jensen's alpha, the risk-free instrument for this study was selected as the short-term 91-day Treasury bill, as characterised by Bierman (1997. p22) as an instrument with zero risk and hence no relation to risky investments. The SARB (2021) provided statistics on the risk-free rate of return for the research period.

#### 3.2.1. Monthly rates of return

The monthly rates of return were calculated per fund as well as for the FTSE/JSE ALSI to serve as input to the performance measures (including the Sharpe, Treynor, Jensen's alpha and Sortino ratios). The monthly rates of return for the sampled hedge and mutual funds were calculated as follows (Du Plessis, 2015. p65)

$$r_{it} = \frac{NAV\ price_{it} - NAV\ price_{it-1}}{NAV\ price_{it-1}} \quad (1)$$

Where  $r_{it}$  represents the monthly rate of return of fund  $i$  in period  $t$ ,  $NAV\ price_{it}$  and  $NAV\ price_{it-1}$  represents the NAV price of fund  $i$  in period  $t$  and  $t-1$ , respectively.

While the monthly rate of return for the FTSE/JSE ALSI was calculated with the following equation (Du Plessis, 2015. p65)

$$r_{bt} = \frac{Index\ value_{bt} - Index\ value_{bt-1}}{Index\ value_{bt-1}} \quad (2)$$

Where  $r_{bt}$  represents the monthly rate of return of benchmark  $b$  in period  $t$ ,  $Index\ value_{bt}$  and  $Index\ value_{bt-1}$  represents the index value of benchmark  $b$  in period  $t$  and  $t-1$ , respectively.

#### 3.2.2. Unadjusted performance (annualised compound returns)

The unadjusted annualised compound returns (not adjusted for risk) for the sampled hedge and mutual funds, were calculated as follows (Du Plessis, 2015.p66)

$$r_{it} = \left[ \frac{NAV\ price_{it}}{NAV\ price_{it-f}} \right]^{\frac{1}{No\ of\ observations/12}} - 1 \quad (3)$$

Where  $r_{it}$  represents the monthly rate of unadjusted return of fund  $i$  in period  $t$ ,  $NAV\ price_{it}$  represents the NAV price of fund  $i$  in period

$t$  of the most current observation, and  $NAV\ price_{it-f}$  represents the NAV price of fund  $i$  in period  $t-f$  as the first observation.

#### 3.2.3. Risk-adjusted performance measures

Evaluating and analysing a fund's historic performance is an integral part of the process of making investment selection decisions for both individual investors and financial institutions. To utilise a successful investment strategy, Goetzman (2020. p21) stated that suitable performance measures must be applied. Performance measures assist in the understanding and decision-making process between different investment alternatives and how money is invested in capital funds (Cheah, 2012). Performance measures should never be interpreted in isolation; they should be interpreted considering their risk measures, as well as what can be deduced from the outcomes of each measure and how they complement one another (van Heerden, 2020). It is crucial to consider that a fund with a great level of unique risks (unsystematic risk or firm-specific risk) might beat the market on one measure but underperform the market on another.

##### 3.2.3.1. Sharpe ratio

The Sharpe ratio was developed by Sharpe (1966) and considers the overall or total risk (market or systematic risk, and unique/specific or unsystematic risk) of the fund rather than solely market/systematic risk (as considered by the Treynor ratio). The risk premium generated per unit of total risk is computed using this approach. The following equation was used to calculate the Sharpe ratio (Sharpe, 2000):

$$R_p = \frac{E(R_p) - R_f}{\sigma(R_p)} \quad (4)$$

Where  $E(R_p)$  denotes the expected return of the fund,  $R_f$  denotes the return on a risk-free asset, and  $\sigma(R_p)$  denotes the standard deviation of the fund's returns.

##### 3.2.3.2. Treynor ratio

Instead of concentrating on a fund's overall risk, the Treynor ratio concentrates on the specific fund's relevant market/systematic risk (Treynor, 1965). The Treynor ratio solely considers systematic risk when adjusting returns for risk characteristics (measured by beta) and assumes diversification (Treynor, 1965). This ratio was calculated as follows (Marx et al., 2010. p284)

$$R_p = \frac{E(R_p) - R_f}{\sigma(R_p)} \quad (5)$$

Where  $E(R_p)$  represents the expected return of the fund,  $R_f$  represents the return on a risk-free asset, and  $\beta_p$  represents the fund's beta, or the systematic risk that the fund bears.

##### 3.2.3.3. Jensen's alpha

The Jensen's alpha was developed by Jensen (1968) and compares the excess return of a fund to the theoretical required rate of return

as predicted by the capital asset pricing model (CAPM), developed by Markowitz (1952). The required rate of return on a specific asset depends on its current level of risk (Reilly and Brown, 2012. p205). The Jensen's alpha displays the excess actual returns, also known as alpha, that a fund has achieved in excess over the return required by the fund, as suggested by the CAPM model, and was computed as follows (Eling and Schuhmacher, 2007.p2633)

$$\alpha = R_p - [R_f + \beta_p (R_m - R_f)] \quad (6)$$

Where  $R_p$  is the fund's actual historical results,  $R_f$  is the rate of return for a risk-free asset,  $\beta_p$  is the fund's beta as well as a systematic risk, and  $R_m$  is the market portfolio's return.

### 3.2.3.4. Sortino ratio

The Sortino ratio is used to assess the risk-adjusted return of a financial asset or fund (Sortino and Price, 1994). It is similar to the Sharpe ratio, but instead of penalising both upside and downside uncertainty equally, it simply penalises returns that go below a user-specified objective or minimum rate of return. It is critical to consider downside risk when utilising the Sortino ratio and to measure risk using semi-standard deviation rather than standard deviation (Sortino and Van der Meer, 1991). Since the Sortino ratio only considers the negative departure of a fund's returns from the mean, it is considered to provide a more accurate picture of its risk-adjusted performance, as positive volatility is a benefit. The Sortino ratio can be used by investors, analysts, and portfolio managers to evaluate an investment's return for a certain level of bad risk, and was calculated as follows (Reilly and Brown, 2012.p955)

$$\text{Sortino ratio} = \frac{R_p - \tau}{\sqrt[n]{LPM_{ni}(\tau)}} \quad (7)$$

Where  $R_p$  represents the fund's average return,  $\tau$  indicates the lowest acceptable return level (specified as zero for this study), the usage of lower partial moments is referred to as  $LPM$ , and  $n$  reflects the order chosen to represent the investor's level of risk aversion.

## 4. EMPIRICAL RESULTS AND FINDINGS

### 4.1. Unadjusted Hedge Fund and Mutual Fund Performance

Tables 2 and 3 depict the unadjusted South African hedge and mutual funds' performance for period 1 and period 2, respectively. The fund with the lowest return is indicated by (L) and the fund with the highest return is indicated by (H).

Hedge fund returns in Table 2 indicated an overall increase from Period 1 to 2. The average annualised unadjusted returns for the hedge funds increased by 7.8386% from periods 1 to 2. Fund E exhibited the highest returns in period 1 with 3.461% as compared to fund C which indicated the highest return in Period 2 (as well as overall for both periods) of 16.908%.

Mutual funds as indicated in Table 3 similarly displayed an exponential increase in unadjusted annualised returns from Period 1 to 2. The average returns in period 1 were negative and the returns from Period 1 to 2 increased by 12.720%. Fund E had the

**Table 2: Unadjusted hedge fund returns**

Hedge fund	Annualised returns (%)		Effect
	Period 1 (Before Covid-19)	Period 2 (During Covid-19)	
A	0.153 <sup>(L)</sup>	6.137	↑
B	1.537	16.903	↑
C	2.212	16.908 <sup>(H)</sup>	↑
D	0.576	8.310	↑
E	3.461 <sup>(H)</sup>	-1.126 <sup>(L)</sup>	↓
Average	1.588	9.426	↑
FTSE/JSE	-5.993	20.401	↑
ALSI			

↑: Increase; ↓: Decrease

**Table 3: Unadjusted mutual fund returns**

Mutual fund	Annualised returns (%)		Effect
	Period 1 (Before Covid-19)	Period 2 (During Covid-19)	
A	-2.198	8.568	↑
B	-9.408 <sup>(L)</sup>	14.201	↑
C	-6.323	17.649 <sup>(H)</sup>	↑
D	0.366	6.540 <sup>(L)</sup>	↑
E	7.180 <sup>(H)</sup>	9.817	↓
Average	-2.076	10.644	↑
FTSE/JSE	-5.993	20.401	↑
ALSI			

↑: Increase; ↓: Decrease

**Table 4: Summary of the Sharpe ratio for sampled hedge funds**

Hedge fund	Period 1 (Before Covid-19)		Period 2 (During Covid-19)	
	Ratio	Rank	Ratio	Rank
A	-2.038	4	0.395	4
B	-0.597	2	0.827 <sup>(B)</sup>	1
C	-0.515 <sup>(B)</sup>	1	0.707	3
D	-2.156 <sup>(W)</sup>	5	0.762	2
E	-1.097	3	-0.870 <sup>(W)</sup>	5
Average		-1.281		0.364

highest returns for period 1 of 7.180% and fund C for period 2 at 17.649% (which was the overall highest returns for both periods).

When comparing these sets of funds for the period before Covid-19, hedge funds displayed higher returns on average; whereas mutual funds exhibited higher returns during the Covid-19 period. Both funds exhibited an increase in returns from the period before to the period during Covid-19. However, mutual funds had a higher increase in returns (12.720%), as compared to the increase for hedge funds (7.838%).

It can further be noted that Covid-19 did not affect the returns of either hedge or mutual funds negatively as the returns increased from the pre-Covid-19 period (with the only exception of hedge fund E). It can be assumed that these funds were able to take advantage of adverse economic conditions brought on by the pandemic. This steady increase in returns from a pre-Covid-19 period to a period during Covid-19, could be attributed to the composition of the fund's asset allocation, as these funds possibly

hold assets that can profit from periods of economic downturns. Another factor that could be attributed to this increase is the number of high-quality stocks (such as dual-listed stocks) that can withstand economic downturns, held by the funds. However, to support these claims of possible factors attributing to the increase in these returns, would require further empirical evidence and validation which is not in the scope of this study.

In terms of the FTSE/JSE ALSI, the benchmark return was calculated to be  $-5.993\%$  for the period before Covid-19, and  $20.401\%$  for the period during Covid-19. Before Covid-19, both hedge and mutual funds outperformed the index. However, during Covid-19, both hedge and mutual funds underperformed against the index. The underperformance could be attributed to the fact that the ALSI includes the top 40 listed companies that are able to withstand economic downturns precipitated by the Covid-19 pandemic. These companies are structured to derive benefits from economic downturns (CMS, 2021).

#### 4.2. Risk-Adjusted Performance Measures

Tables 4-11 display the results of the risk-adjusted returns for hedge and mutual funds as calculated for each performance measure. In

each of the periods, the best-performing fund is indicated by (B), whereas the worst-performing fund is indicated by (W).

As seen in Table 4, negative Sharpe ratios are exhibited by all hedge funds before Covid-19 with an overall average Sharpe ratio of  $-1.281$ . This negative Sharpe ratio is indicative of performance lower than the risk-free rate. During Covid-19, an improvement in performance was exhibited with only the exception of fund E. The overall average for the period during Covid-19 was  $0.364$ . Fund B exhibited superior performance during Covid-19 ( $0.827$ ) indicating that better returns relative to the amount of risk taken,

**Table 8: Summary of the Jensen's Alpha for sampled hedge funds**

Hedge fund	Period 1 (Before Covid-19)		Period 2 (During Covid-19)	
	Alpha	Rank	Alpha	Rank
A	$-0.065^{(H)}$	5	0.010	3
B	0.018	2	$0.014^{(H)}$	1
C	$0.026^{(H)}$	1	$-0.003$	4
D	$-0.061$	4	0.010	2
E	$-0.027$	3	$-0.084^{(H)}$	5
Average	$-0.022$		$-0.011$	

**Table 9: Summary of Jensen's alpha for sampled mutual funds**

Mutual fund	Period 1 (Before Covid-19)		Period 2 (During Covid-19)	
	Alpha	Rank	Alpha	Rank
A	0.011	3	$-0.067^{(H)}$	5
B	$-0.061^{(H)}$	5	$-0.034$	3
C	$0.093^{(H)}$	1	$-0.019^{(H)}$	1
D	$-0.014$	4	$-0.064$	4
E	0.032	2	$-0.021$	2
Average	0.012		$-0.041$	

**Table 10: Summary of the Sortino ratio for sampled hedge funds**

Hedge fund	Period 1 (Before Covid-19)		Period 2 (During Covid-19)	
	Ratio	Rank	Ratio	Rank
A	$3.395^{(H)}$	5	46.902	2
B	4.309	4	12.146	4
C	9.073	3	12.150	3
D	16.641	2	$52.709^{(H)}$	1
E	$52.426^{(H)}$	1	$-6.498^{(H)}$	5
Average	17.169		23.482	

**Table 11: Summary of the Sortino ratio for sampled mutual funds**

Mutual fund	Period 1 (Before Covid-19)		Period 2 (During Covid-19)	
	Ratio	Rank	Ratio	Rank
A	$-5.741$	3	$5.847^{(H)}$	5
B	$-16.919^{(H)}$	5	7.680	2
C	$-11.528$	4	6.873	4
D	2.349	2	7.126	3
E	$12.122^{(H)}$	1	$9.915^{(H)}$	1
Average	$-3.943$		7.488	

**Table 5: Summary of the Sharpe ratio for sampled mutual funds**

Mutual fund	Period 1 (Before Covid-19)		Period 2 (During Covid-19)	
	Ratio	Rank	Ratio	Rank
A	$-0.811$	2	0.301	4
B	$-1.396^{(W)}$	5	0.553	2
C	$-1.178$	4	$0.659^{(H)}$	1
D	$-0.946$	3	$0.210^{(W)}$	5
E	$0.010^{(H)}$	1	0.405	3
Average	$-0.864$		0.426	

**Table 6: Summary of the Treynor ratio for sampled hedge funds**

Hedge fund	Period 1 (Before Covid-19)		Period 2 (During Covid-19)	
	Ratio	Rank	Ratio	Rank
A	$-2.104^{(H)}$	5	$0.296^{(H)}$	1
B	$-0.098$	2	0.185	3
C	$-0.085^{(H)}$	1	0.161	4
D	$-2.056$	4	0.211	2
E	$-0.519$	3	$-0.255^{(H)}$	5
Average	$-0.972$		0.120	

**Table 7: Summary of the Treynor ratio for sampled mutual funds**

Mutual fund	Period 1 (Before Covid-19)		Period 2 (During Covid-19)	
	Ratio	Rank	Ratio	Rank
A	$-0.116$	2	0.067	4
B	$-0.208^{(W)}$	5	0.123	2
C	$-0.174$	4	$0.144^{(B)}$	1
D	$-0.165$	3	$0.047^{(W)}$	5
E	$0.005^{(B)}$	1	0.122	3
Average	$-0.132$		0.101	



were obtainable. Fund D was a close contender, with a shortfall of only 0.065. Overall, hedge funds indicated a significant improvement from before to during Covid-19 in achieving excess returns above the risk-free rate.

Four of the sampled mutual funds exhibited negative Sharpe ratios with an overall average of  $-0.864$  before Covid-19, higher than that of hedge funds during the same period. Similar to hedge funds, mutual funds displayed an improvement in the period during Covid-19 with an average of  $0.426$ ; however, lower than that of hedge funds during the same period. Fund C exhibited the ability to outperform the risk-free rate during Covid-19 with the highest Sharpe ratio during the period. Before Covid-19, both hedge and mutual funds achieved performance that was inferior to that of the risk-free rate. However, mutual funds were able to achieve a greater level of outperformance both before and during Covid-19, as compared to hedge funds.

The Treynor ratios, as indicated in Table 6, shows the same pattern as that of the Sharpe ratios for the period before Covid-19. The average Treynor ratio before Covid-19 was  $-0.972$ , implying that hedge funds performed inferior relative to the risk-free rate. Fund A displayed the lowest Treynor ratio before Covid-19 and improved significantly during Covid-19 with the highest Treynor ratio across the sample. A relative improvement was experienced in the Treynor ratio for hedge funds from before to during Covid-19, from a negative value of  $-0.972$  to  $-0.120$ .

Table 7 similarly showed the same negative pattern as hedge funds for the period before Covid-19. The only exception was for that of fund E, the only fund with a positive Treynor ratio for this period. The average Treynor ratio before Covid-19 was  $-0.132$  which was marginally lower than the  $0.101$  average during Covid-19. Fund C had the highest Treynor ratio during Covid-19, indicating outperformance relative to the risk-free rate, albeit lower than the outperformance as indicated by hedge fund A. Overall, similar to the Sharpe ratio, mutual funds averaged a higher Treynor ratio before Covid-19; however, hedge funds averaged a higher Treynor ratio during Covid-19. The Sharpe and Treynor ratios are similar, with the only difference as the measurement of risk-total risk (standard deviation) and systematic risk (beta), respectively. Given that both the Sharpe and Treynor ratios delivered the same ranking results for mutual funds during Covid-19, it can be concluded that mutual funds were well diversified with lower unsystematic (or unique) risk during the volatile market conditions.

As reported in Table 8, before Covid-19, fund A, D and E exhibited inferior performance with low or negative excess returns produced (with negative alpha values). However, during the same period, fund B and C showed positive alpha values which indicated

superior performance with large excess returns produced. On average, mutual funds performed inferiorly before Covid-19 as indicated by a negative alpha value ( $-0.022$ ). During Covid-19, the performance increased slightly, although still indicative of poor performance. During Covid-19, it is noted that fund C, although negative, performed as expected by the CAPM with an alpha value close to zero. Similar to the trend indicated by the Sharpe and Treynor ratios, Jensen's alpha indicated an improvement in performance from before to during Covid-19.

Three mutual funds exhibited positive alpha values (fund A, C, D) before Covid-19, with fund C as the best performing fund both before and during Covid-19. The average Jensen's alpha for mutual funds before Covid-19 had a positive alpha value, indicating superior performance; whereas during Covid-19, the average was negative (with all sampled funds displaying negative alpha values), indicative of inferior performance. Overall, the Jensen's alpha for mutual funds was higher (positive value) before Covid-19, and lower during Covid-19, as compared to that of hedge funds.

The Sortino ratios for hedge funds and mutual funds as reported in Tables 10 and 11, respectively, both produced an increase from the period before Covid-19 to the period during Covid-19. This implies that these funds faced significantly lower levels of downside risk during Covid-19. The hedge fund Sortino ratios (Table 10) displayed positive values for all hedge funds across both analysed periods. The only exception (similar to the results of the Sharpe ratio) was fund E that exhibited inferior performance with a negative value, contradicting the superior performance achieved before Covid-19. Fund D displayed the highest Sortino ratio during Covid-19 which implies that this fund earned a higher return per unit of unfavourable risk.

As seen in Table 11, fund E had the highest Sortino ratio before and during Covid-19, with a downside risk of  $0.592\%$  and  $0.990\%$ , respectively. This implies that fund E produced a higher return per unit of unfavourable risk in both analysed periods. During Covid-19, mutual funds were able to produce excess returns above the minimum acceptable level (specified as zero). The improvement of mutual funds in producing excess returns above zero from before to during Covid-19 is relatively higher than the improvement produced by hedge funds ( $11.431\%$  and  $6.313\%$ , respectively); although the overall average is significantly lower.

### 4.3. Risk-Adjusted Performance of Sampled Funds Relative to the FTSE/JSE All Share Index

Table 12 indicates the risk-adjusted performance of hedge and mutual funds relative to the ALSI before and during Covid-19.

**Table 12: Risk-adjusted performance of hedge and mutual funds relative to the FTSE/JSE ALSI before and during Covid-19**

	Period 1 (Before Covid-19)					Period 2 (During Covid-19)				
	ALSI	Average hedge fund	Difference	Average mutual fund	Difference	ALSI	Average hedge fund	Difference	Average mutual fund	Difference
Sharpe ratio	-0.939	-1.281	-0.342	-0.846	0.075	0.985	0.364	-0.621	0.426	-0.559
Treynor ratio	-0.131	-0.972	-0.842	-0.132	-0.001	0.164	0.120	-0.045	0.101	-0.064
Jensen's alpha	0.000	-0.022	-0.022	0.012	0.012	0.000	-0.011	-0.011	-0.041	-0.041
Sortino ratio	-24.575	17.169	41.744	-3.943	20.632	12.661	23.482	10.820	7.488	-5.173

To determine which funds outperformed (performed superiorly) against the general equity market in South Africa, the difference between the funds' risk-adjusted performance and that of the ALSI was calculated.

Table 12 provides an overview of hedge and mutual funds' risk-adjusted performance relative to the ALSI before and during Covid-19. On average, and across the Sharpe ratio, Treynor ratio and Jensen's alpha, hedge funds performed inferiorly before Covid-19 relative to the ALSI with an indicated difference of  $-0.342$ ,  $-0.842$  and  $-0.022$ , respectively. This suggests that before Covid-19, the general equity market achieved better risk-adjusted returns. However, according to the Sortino ratio, hedge funds performed significantly better than the ALSI (during the same period), with a difference of  $41.744$ . As compared to the ALSI, mutual funds indicated superior performance as reported by the Sharpe ratio, Jensen's alpha and Sortino ratio during the period before Covid-19; while indicated inferior performance according to the Treynor ratio when compared to the ALSI with a marginal difference of  $-0.001$ . On average, mutual funds performed better than hedge funds before Covid-19, according to all performance measures except the Sortino ratio. The Sortino ratio is considered to be a more realistic representation of risk as it does not penalise upside risk, it can be concluded that from a downside risk perspective, hedge funds performed better than the general equity market in South Africa, before Covid-19.

The general equity market fared well during the Covid-19 period with higher risk-adjusted returns reported by analysed performance measures, than before Covid-19. Compared to mutual funds, hedge funds performed superiorly during the Covid-19 period across all performance measures except for the Sharpe ratio. This indicated that during Covid-19, mutual funds were better able to diversify across financial assets to obtain higher risk-adjusted returns. Mutual funds performed inferiorly relative to the ALSI, with the only exception of the Sortino ratio (similar to before Covid-19) with a difference of  $10.820$ . During Covid-19, a period in which financial markets were highly volatile, hedge funds were able to achieve above downside risk-adjusted returns which can be attributed to the different trading strategies that hedge funds employ to take advantage of market downturns. Thus, mutual funds performed inferiorly against both hedge funds and the ALSI during Covid-19, although with improved performance from before Covid-19 as measured by the Sharpe, Treynor and Sortino ratios.

## 5. CONCLUSION

Investment decisions require considerable analysis and in the context of the Covid-19 pandemic, which led to volatile financial markets, investors particularly require investments that are able to produce above average risk-adjusted returns. Therefore, this study analysed the risk-adjusted performance of hedge funds relative to mutual funds by using a sample of five South African hedge and mutual funds, respectively, as representative. The sampled funds enabled an understanding and evaluation of how these volatile market conditions, affected the risk-adjusted performance of these funds.

During the research period, on average, the risk-adjusted returns for both hedge and mutual funds improved from a pre-Covid-19 period to a period during Covid-19, which validated the assumption that certain investment funds can leverage and capitalise from economic downturns. For hedge funds, this improvement can be attributed to the trading strategies employed. Before Covid-19 (specified as a period between 30 September 2018 and 29 February 2020), as measured by the Sharpe ratio, Treynor ratio and Jensen's alpha performance measures, mutual funds performed at a higher risk-adjusted level compared to hedge funds. However, during the same period, hedge funds achieved higher risk-adjusted performance indicated by the Sortino ratio, when taking downside risk into account. Mutual funds were further able to achieve higher risk-adjusted returns as compared to the ALSI, with the Treynor ratio being the only exception.

During Covid-19 (specified as a period between 30 March and 31 August 2021), hedge funds performed superiorly against mutual funds with a possible indication of poorer diversification as indicated by a lower Sharpe ratio. Mutual funds were well diversified with lower unsystematic (or unique) risk during the market downturn given that both the Sharpe and Treynor ratios delivered the same ranking results during Covid-19. Despite the higher risk-adjusted performance achieved compared to mutual funds, hedge funds performed inferiorly when compared to the ALSI during Covid-19. The only exception was reported by the Sortino ratio, where hedge funds were able to derive higher downside-risk adjusted returns.

It can therefore be concluded that hedge funds were able to perform better, from a risk-adjusted perspective, than mutual funds during the volatile market environment of the Covid-19 pandemic, through the specific trading strategies employed that aim to hedge against or take advantage of such periods. Furthermore, monetary easing policies were implemented by reserve banks during Covid-19, which aim to resuscitate various sectors of the economy including the financial market. Although assessing the effects of monetary easing on hedge and mutual funds was not in the scope of this study, if assuming that those monetary easing policies implemented during Covid-19 had an impact on the financial markets, it may be concluded that hedge and mutual funds leveraged from this as returns during Covid-19 were higher than those of the pre-Covid-19 period.

## 6. RECOMMENDATIONS

This research article made several assumptions about the possible attributes of the performance outcomes. This then lays a solid foundation for future studies to test whether the alluded attributions made in fact contribute to the performance of hedge and mutual funds. Firstly, the steady increase in the unadjusted returns from before to during Covid-19 was ascribed to the composition of the fund's asset allocation. It was assumed that these funds could hold stocks that can profit from economic downturns. Furthermore, the increase in returns could similarly be attributed to the number of high-quality companies (dual-listed companies) that can withstand the economic downturns these funds hold. Since determining the attributing factors to the performance of hedge funds and mutual

funds was not in the scope of this study, future research can use this study as a foundation to formulate an analysis on how a fund's asset composition affects its performance during Covid-19.

During any financial or global crisis such as the Covid-19 pandemic that causes both supply and demand shocks, reserve banks sought to provide liquidity to the economy, this includes interest rate decreases to encourage commercial banks to lend more to households and firms to avoid bankruptcy. Furthermore, liquidity is essential in the open financial market, where stock values are severely influenced by turbulent market circumstances. These monetary easing policies can thus be used as a proxy to determine how hedge funds and mutual funds perform during such periods. This can be done to determine which funds leverage and capitalise from monetary easing policies by reserve banks during the Covid-19 pandemic.

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