Do Hedge Funds hedge? Explain and assess the strategies Hedge Funds adopt in order to fulfil their objectives and the role of Hedge Funds in the financial crisis from 2007

Introduction

This paper intends to determine to what extent hedge fund strategies depict the principles of hedging. After a brief introduction to hedge fund operation and structure, I will first explore the principles of hedging. Second, I will consider some of the key strategies hedge funds pursue before comparing them to hedging principles. Finally I will assess hedge funds and hedging in the context of the 2007/08 financial crisis.

Hedge funds

Although there is no universally acknowledged definition of a hedge fund the function is the same as any other fund - investors entrust a fund manager with capital to be invested on their behalf, and by using the fund manager's superior market knowledge, they intend to receive their full initial investment back plus some additional return. However, there are many characteristics of Hedge funds that make them unique.

Hedge Funds have historically adhered to light regulation, thus providing the fund manager with great flexibility in their investment decisions. With this greater flexibility the aim of a hedge fund is to achieve substantial positive returns that uncorrelated with the market. Specifically, managers have the right to use short positions, large amounts of leverage and to utilise the full spectrum of derivatives (Stulz, 2007). The freedom granted to fund managers allows them to take on great risk with the intention of obtaining substantial returns on the capital invested. Despite the fact that the main principle of hedging is to eliminate price variability, i.e. market exposure, hedge funds can realise great losses also.

To be allowed such freedom, the fund managers can only accept capital from a small number of "accredited investors, consisting of institutional investors, companies, or high net worth individuals who can 'fend for themselves'" (Eichengreen *et al*., 1998). It is not uncommon for fund managers to invest some of their own capital into the fund to reassure other investors of their confidence in them. Hedge Funds are structured in a way that they are lightly taxed to maximise net return but implement high annual fees for their services plus the fund managers' percentage of the profit accumulated.

Principles of hedging

Hedging seeks to reduce the risk of holding an asset by holding a second, which coupled together across states of the world, the payoffs cancel out. Thus hedgers reduce the price risk of buying or selling an asset.

A risk free hedging policy in its simplest form can be used to completely eradicate price uncertainty of a single asset. As such, an investor who wishes to complete the transaction of an asset at a date in the future can use a hedging instrument, most likely a futures contract, to agree a price today at which the asset is to be bought or sold. Thus, any subsequent price volatility is controlled for as the price for the asset in the future is known with certainty.

If an investor is pursuing a risk bearing strategy then hedging might be used to minimize the level of risk being taken in light of any such expected return. In this instance an optimal hedge may be chosen to minimise the variance in the return of the strategy with respect to the variance in the price of the asset and of the hedging instrument. Depending on the extent to which a position is hedged, an investor can alter the amount of risk being taken and the potential return.

Conversely, hedging may only represent one component of the broader strategy. A speculative may seek to profit from the use of hedging instruments. Rather than using hedging in pure isolation and to eliminate price uncertainty, the broader strategy may be to gain from the ability to hedge an asset, while taking a speculative position depending on price expectation.

Another way hedging can be utilised as part of a strategy is to reduce the market exposure of a portfolio with the use of Modern Portfolio Theory for example. The hedging strategy is such that investors choose a number of diversified and uncorrelated assets to comprise a portfolio. For any desired rate of return, dependent on risk tolerance, an optimal portfolio can be selected. With the rates of return on the assets uncorrelated, the risk is successfully hedged as the demise of one or two assets will not compromise the whole portfolio.

Leading on from this, hedging can also be used to protect a portfolio of assets from impacts to the whole economy, as opposed to just a few individual assets. Using short selling or put options of market indexes, an investor can protect against, and even profit from, a downturn in an economy. By betting against an overall rise in the market, while having a net long portfolio, the risk of a general reduction in the value of a stock market or can be reduced.

The extent to which an investor can hedge is, in practice, restricted depended on a number of variables. This could be due to the number of hedging instrument may not be available in the market to cove the size of a large investment. Also, common hedging instruments such as futures contracts are standardised, meaning they may not be bespoke enough to meet the exact criteria of a particular investment, this could be in terms of delivery date or denomination of volume for example. The effect of market restrictions also need to be considered. Transaction costs for the instruments will affect how much an investor hedges, while in some circumstances, short selling may be prohibited by financial regulators.

Hedge fund strategies

With over eight thousand hedge funds currently existing in 2018, classifying them into only a handful of strategies is somewhat difficult. In this section I intend to observe some of the more general strategies and assess to what extent their operations reflect the principles of hedging.

Equity funds: market neutral

The general process for this strategy is to first pick a sector and then individual stocks within it based upon some fundamental valuation. From this set of stocks the fund manager will take long positions in stocks considered to be undervalued, and take short positions in stocks believed to be overvalued. Taking positions of the same size the market risk is zero, leverage is then used to increase returns.

If the market experiences a shock in either direction, the profitability of the opposite positions taken will cancel each other out. In principle, this strategy successfully hedges market risk given the long and short positions are equally weighted. Despite all risk being accounted for in relation to shocks, profits can still be made using significant leverage. If the fund manager has chosen correctly the overvalued and undervalued stocks, and is neither net long nor short, this strategy should still achieve profitable returns if/when the corresponding stocks *correctly* reflect *fundamental value,* according to the model used to value the assets. However, depending on fundamental valuation and fund manager discretion, a manager may be either net long or net short in the particular sector, leaving some exposure and risk, suit their own preferences.

Directional funds: global macro

Global macro funds predict and invest in global flows of equity, debt and currency across the broad spectrum of the global economy. Although this strategy is defined as a hedge fund, "these funds generally take speculative, directional positions in stocks, bonds and currencies worldwide, based on macro-economic forecasts" (McCray, 2005, p. 29). It is understood that the fund managers require market exposure in order to capitalise on their expectations of market movement. By hedging the risk they are taking in their positions, the considerable returns that investors and manager are hoping for would be hard to obtain. Instead they use hedging instruments to complement their forecasts, such that they anticipate profiting from the market exposure these instruments provide. Despite return volatility being lower than that of stock markets, volatility as a group is higher than most other hedge fund strategies.

Event driven: merger arbitrage

In the event of a successful merger there is a well-known pattern of asset price movements. Specifically, in the short term, the company being acquired will experience an increases in its share price, and the acquiring company will experience a decrease in its share price. However, if the deal falls through then the share price of both companies will fall. The justification for why this happens is not relevant here.

What is important is that hedge funds use events such as these to exploit predictable patterns in asset prices. To do so, long positions would be taken in the acquired firm and short positions in the acquiring firm. This technique looks to capitalise from both sides of the deal, the gain in the acquired firm's value and the fall in the acquiring firm's value. This two-tailed success does not mean that hedging isn't taking place however. If the deal falls through both firms will realise a reduction in their share price, and by having a long position in one firm and a short position in another, the overall position is hedged. Most commonly, the acquiring firm tends to suffer the most when a merger attempt fails (Neuhauser, *et al,* 2011). Comparing the payoff in this context, even if the deal falls through, given equal weight between the long and short positions of the two firms, the short position will be more profitable and an overall profit will result for hedge funds. In this context, market risk has been controlled for.

Emerging markets

Quite simply, as the name suggests, emerging market hedge funds invest in equities or issue debt to companies or countries that do not have well established markets. The intention of this strategy is to profit from the rapid growth of an emerging company or country, as such, these funds either do not or cannot hedge the risk in the portfolios. They do not hedge the risk because they want to maintain the market exposure in order to benefit from its rapid expected growth. In this sense, emerging market hedge funds are not too dissimilar from global macro funds explained earlier. Differentiating them further somewhat is that emerging market hedge funds often cannot hedge the risk being bared as there may not exist a market for short selling as found in developed capital markets (Myers & Thompson, 2010).

How do hedge funds achieve their objectives and to what extent do they hedge?

It is first important to state the objectives of a hedge fund. In its simplest form, this is to achieve an excessive return on capital that is uncorrelated with the market. They have the ability to achieve this due to the array of financial instruments at their disposal, enabling profit opportunities even when markets are falling.

Market neutral equity funds, as described above, employ a genuine hedged strategy in order to achieve excessive return on the market which is uncorrelated with market performance. The strategy in theory successfully eliminates market risk in the sense that any payoffs from a market shock will cancel each other out. The profit of the fund is therefore reliant on the correct selection of the assets which the fund manager has speculated with and the amount of leverage used, this leverage being a benefit of the low regulation environment in which hedge funds operate. It appears that this point is relevant to assessing how the strategy achieves its returns (alpha), and that the use of hedging reduces market exposure to prevent losses.

Contrastingly, *emerging market* hedge funds operate quite differently to market neutral funds. The market risk is largely unhedged due to a number of factors. Most relevant to the strategy itself, investors do not intend to hedge themselves against any market risk by holding a second asset as by doing so, it would hinder their ability to reach their objective of high returns. By holding second asset (short selling) to reduce the risk of their typically long position, they would not gain as much form the expected increase in the emerging market. This therefore mean that returns are not uncorrelated with the market as returns solely depend on the market. This does not meant hedging does not exist in the strategy at all. Investors would likely hedge against exchange rate movements for asset returns denominated in foreign currencies. Additionally, investments may be targeted across a number of emerging economies and industries such that the portfolio is well diversified and returns between assets are as uncorrelated as possible.

Merger arbitrage strategies do not hedged in the sense that their success depends on whether a deal is successfully completed, displaying little diversification. However, by holding a long position in one company and a short in the other, if the deal falls through, and both share prices fall, the risk of holding one asset is reduced by holding the other. But in order to achieve significant returns they do not rely on hedged positions. The position in each of the two companies could be hedged by picking a pair for each firm in their respective industries, thus mitigating risk. Nonetheless this does not aid in achieving greater returns, this strategy uses the ability to short sell in order to gain on both sides of the deal and not hedge risk.

Global macro hedge funds, unlike emerging market funds, are not directly correlated with market performs. The addition of having well established and developed financial markets in the majority of the markets in which they operate, this strategy can successfully benefit from down markets, such as tighter government regulations or political unrest. However, in order to achieve excessive return on the market, large amounts of leverage is used and risky investments leave both immense upside and downside exposure. Similar with all global funds however, hedging against exchange rates is a particular method used to maintain any profits realised in foreign currencies from depreciation.

To conclude, hedging strategies are utilised by hedge funds to obtain some extent, some more than others. To earn excessive market returns however, it appears more so that hedge funds use their entitlement to large leverage ratios and ability to short sell to maximise return on finely analysed investments, which to the average investor may appear risky. Hedging being used to actually achieve these returns seems less evident, except for in the case of market neutral funds, but the hedge instruments used do allow for returns to be uncorrelated with the market. Despite this, hedging plays a role in maintaining profit value realised in other currencies, but even this is likely to be amidst some speculation.

Hedge funds and the 2007 crises

Both the banking and shadow banking industries took excessive risks in the events leading up to the financial crises in 2007, with all parties involved, including credit rating agencies, playing an integral role. Hedge funds bought large amounts of AAA rated restructured mortgage products from the banks, providing liquidity to these typically illiquid markets. Mortgage repayments, including high risk ones, were restructured and issued in the form of collateral debt obligations (CDO) and mortgage backed securities (MBS, as well as credit default swaps (CDS) being offered.

When the high risk mortgage repayments that the hedge funds had purchased the rights to started to default, pressure was applied to sell these assets with the need of reducing risk and leverage (Itzhak *et al,* 2012). Due to the high liquidity of the assets and hedge funds selling the fast, their price plummeted. The widespread nature of the high risk assets throughout the financial system meant that significant losses were realised across a number of industries.

The principles of hedging imply that even in the case of an asset price bubble bursting, losses can be minimised. In the context of the U.S. residential real estate bubble, Lo (2008) describes how even the Chief Risk Officer of a major investment bank would be hard pushed to convince investors to hedge against one of their best performing business areas. The strategies deployed were to capitalise fully on the market increase without regard to the consequences in the near future. These strategies ignored the principles of hedging.

With the collapse of tow multibillion dollar hedge funds on the first half of 2007 in response to the start of the subprime mortgage failures (LO, 2008), it is clear that hedge funds were over exposed to the instruments. If the long positions in the market had been hedged to some degree by having short positions and a more diversified portfolio, the impact would have been significantly subdued. Dissimilar to the principles of hedging, the investment strategies did not reduce market exposure but instead used extensive leverage to expose themselves further to the market with the intention of profiting from the continued increase in property prices. Furthermore, the widespread nature of the instruments meant that returns on different funds were correlated. With a large number of hedge funds dependent on the continued success of one market, the lack of diversification provided significant systemic risk also.

Conclusion

In conclusion, the strategies of hedge funds appear to ignore the principles of hedging to a sizeable extent. Many risky investments are made with the intention of enhancing market exposure with the hope of gaining from a speculative position. Analysed in this paper, market neutral funds more closely resemble hedging principles as opposed to emerging markets for example. Despite hedging instruments being used, in the context of achieving excessive returns on the market, hedging risk and market exposure is typically not the intention of many strategies.

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