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The Second Leg Down

Strategies for Profiting after a Market Sell-Off

HARI P. KRISHNAN

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To Sudarshan and Kailash

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Preface

There have been times when I have looked into the abyss as a portfolio manager, yet found a way to avoid disastrous losses. My trading accounts have weathered the 2008 crisis, the 2010 Flash Crash, the European Crisis of 2011 and the volatility spike from nowhere in August 2015, with varying degrees of success. Things have not always gone as well as I had hoped, yet I have always come away with a collection of new tactics for survival. For a fund manager, it is about survival after all. Aside from the money, your reward for decent performance is another year of money management. You don't want to take the path of boxers, who only decide to retire after a series of devastating knockouts. It is nice not to have to go out on your shield. This book has been inspired by the various crises I have faced as a money manager and the techniques I have learned and devised for managing through them. As every crisis is somewhat different, finding the most efficient hedge is a never-ending quest. I do hope that readers will find something that they can use to avert catastrophic losses.

The style of this book is casual and conversational, yet it attempts to be as accurate and realistic as possible. I have been asked who the ideal reader of this book might be. The best answer I can give is me, 20 years ago. This is a more pedestrian effort than Rilke's *Letters to a Young Poet*. Still, if I had followed the roadmap laid out in the pages that follow, I would have avoided numerous mistakes over the course of my career. More pragmatically, the book is targeted at a wide range of potential readers. Pension fund managers might find value in the discussion of duration hedging, bespoke trend following and roll down as a source of return for bond portfolios. The introductory options sections are designed to give a buy-side perspective on a topic that is usually discussed in terms of arbitrage, precise replication and stochastic calculus. I try to address *why* someone might want to use particular options structures. I also highlight specific structures that portfolio managers actually use and what might predicate a certain trade.

It is common for portfolio managers to hide their best ideas. In some cases, they might even publish strategies that didn't quite work, for implementation reasons. This leads to a situation where people who don't have any money management experience write extensive books about investing, while those who have the most to contribute are relatively silent. How is it possible to provide some valuable content without giving too much away? In this book, I have tried to veer from the norm. By focusing on hedging, rather than alpha generation, I have been able to go into some detail about specific strategies, without pretending to offer a cook book for making money. These have actually been battle-tested in the markets, for institutional clients.

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About the Author

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The Second Leg Down

CHAPTER 1

Introduction

Finance is full of colourful stories and the most exciting ones tend to involve someone on the verge of collapse. We feel a mix of thrill and *schadenfreude* when we read about the traders who blew up or the elite hedge funds that had to liquidate after failing to meet their margin calls. In a moment of panic, investors can do the strangest things and this can make for great theatre. Arrogance and overconfidence are punished by the markets, which seem to have a life force of their own. Many shrewd investors have completely lost their way in a moment of crisis. There are numerous stories of portfolio managers who have patiently extracted profits from the markets for years, then had a large and unexpected loss. It might have been advisable for them to exit the position ("cutting their losses") and try to claw back using their core strategy over time. Yet, the temptation is to put all the chips on black in an attempt to make the money back quickly. In principle, this is a wretched idea, as the profit from a long series of rational trades over time may be overwhelmed by a single irrational bet.

THE AIRPLANE TICKET TRADE

The legend of the airplane ticket trade is an extreme example of bad judgment under pressure, yet it is sometimes presented as rational decision-making. The story goes as follows. A trader has been losing money and is unlikely to collect much of a bonus this year. So the trader decides to dial up risk in an attempt to make it all back in one go. This backfires horribly, leading to further losses. The trader expects risk to be cut at any moment now, so he does two things. He makes a very large short-term trade that will either make or lose a large amount and he simultaneously buys a ticket to South America. It's a tactical play, with little edge but lots of risk. The trader then goes to the airport and repeatedly checks his price feed in the lounge. If the trade goes in his favour, he closes the position then goes back to the office. If it goes belly up, he buys a bottle of vodka from the duty free then takes the flight. The trader's behaviour might seem reasonable at 30,000 feet. In the best scenario, he gets a large bonus; in the worst, he takes a long tropical holiday. There doesn't seem to be much downside and one could argue that from the trader's standpoint, he is long an option. But would you want to be that trader at the moment of crisis? If the position is going slightly against you, are you willing to hang on for dear life, with no conviction that you are making the right trade? If it is your own money, do you want to risk everything on a roll of the dice? If you are a fund manager, how can you rationalise what you have done to clients if it all goes wrong?

THE BULL CYCLE

In reality, most institutional losses and disasters are not caused by trading reminiscent of the Wild West. Rather, they are caused by somewhat predictable behaviour through the market cycle. In bull markets, portfolio managers tend to increase exposure in an effort to chase the market and outperform competitors and benchmarks. Ten basis point differentials in performance seem important. By the "market", we mean risky assets such as stocks and corporate bonds. Investors eagerly buy into every dip in the market, dampening volatility. As the value of collateral increases and volatility declines, banks lend more and the market eventually becomes overextended. This applies to equities, corporate bonds and other risky assets. When risky assets appear to be vectoring toward infinity, we would argue that it *is* a good time to hedge. Risk embedded in the system has increased, yet the market is practically giving away insurance. The painful memories of the last crash have been erased, making investors particularly vulnerable to a random shock.

Investors who chase returns after a large sustained move tend to have relatively low pain thresholds. They worry that they have missed the move, but are equally likely to bail out at the first sign of trouble. So long as the rally persists, the cost of insurance (i.e. options) tends to be low. The latecomers to the market do not want to erode their return by hedging and the longstanding bulls are complacent. You could sensibly argue that if the market continues to rally, hedging costs should be more than offset by profits in the rest of the portfolio. Yet there is a natural human reluctance to "waste" money on insurance when everything seems fine.

As the animal spirits take over, investors attempt to rationalise their behaviour in a variety of ways.

- "This time it's different." There is a central bank put on the market, as monetary conditions will be eased whenever there is a risk event. Regulators can prevent extreme intra-day moves by disqualifying trades that occur very far away from recent prices.
- Calm periods are persistent: they tend to last for a long time. Not very much happens from day to day, suggesting that there is plenty of time to prepare for the next correction.
- Over the long term, hedging is largely unnecessary. For example, some institutions don't hedge their currency risk. Over the long term, they assume that currency moves will wash out. Buying insurance on risky assets such as equities is a losing strategy over the long term. According to academic theory, hedging must have a negative risk premium, as it reduces the non-diversifiable risks in your portfolio. Insurance companies are generally profitable because they sell individual policies that are statistically overpriced. So long as the policies are relatively uncorrelated, insurers are able to collect more than they pay out over the long term.

If you are not careful, you can convince yourself that *selling* insurance is an unbeatable strategy. Short volatility strategies tend to perform magnificently in back-tests, without much parameterisation. All you need to do is persistently sell downside protection on equity indices, risky currencies and corporate bonds, or so it would seem. When volatility is low, these options appear to be slightly but consistently overpriced. It is tempting to conclude that you can make small but very steady returns in this environment. As volatility rises, your profits become less reliable from day to day. However, this might be more than compensated for by an increase in the premium you collect when volatility is high. Most active management strategies are short volatility in one way or another. Whether you buy equities, take long positions in risky bonds or engage in spread trades, you will tend to perform better in flat to rising markets than highly volatile ones. The vast majority of hedge fund strategies are structurally short volatility. The incentive structures for many hedge funds and proprietary trading desks favour collecting pennies in front of the bulldozer. However, this does not imply that selling volatility universally has a positive expected return. Once you put a back test into action, you are vulnerable to large jumps that may not have appeared in the sample past. As soon as you introduce leverage, you are vulnerable to risk and margin constraints that can force you out of a trade at the worst possible time. Markets don't usually collapse because investors want to sell, but because they *have* to. Liquidation is forced, in the presence of margin calls. We will examine the effect of margin constraints on short volatility strategies in Chapter 4.