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OPTIONS FOR VOLATILE MARKETS

2 SECOND EDITION

MANAGING VOLATILITY AND PROTECTING AGAINST CATASTROPHIC RISK

OPTIONS FOR VOLATILE MARKETS

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In memory of Roslyn Lehman

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Preface

Because our previous books covered the gamut on option theory and strategies, one might reasonably ask why we felt the need to publish a new book on the subject at this time. The answer to that is twofold: (1) because there have been material developments within the world of options—new durations, new rules, new volatility instruments, and (2) more important, because there have also been significant changes in the nature of the markets and the environment for securities investing. In the interest of brevity, we referred to the new environment in the title simply as *volatile markets*, but that understates how extensive we feel the changes are. What we are really saying (and we expound further on this subject in the Introduction) is that today's financial markets harbor risk and uncertainties far beyond historically accepted norms, and that it is now more important than ever to manage the risks in investment portfolios on a continual basis. To that end, we still see listed options as the single most effective tool in the financial arsenal for dealing with such risk and volatility.

We still believe covered call writing is an underutilized strategy that offers equity investors a highly effective tool for reducing volatility—much more so than simply relying on security diversification. But we also feel that volatility has become more of a factor in equity investing than ever before and that the downside risks of equity investing have expanded dramatically. These risks, which are an ever-present factor in equities markets, are growing rather than receding, and have reached a level that not only requires a more potent defense against risk than covered call writing by itself, but suggest that equity portfolios should adopt a virtually continuous risk-management strategy. Yet, as we concluded in our earlier work, the mainstream investment management industry remains sorely lacking in either using options themselves or in aiding investors in using them. The events of 2008 and the "flash crash" of 2010 should have awakened professional managers in a big way to the need to hedge equity portfolios with options, but for a variety of systemic reasons, those changes have been slow to emerge. Our aim with this book is to help both individuals and money management professionals recognize that risk is very definitely a controllable entity.

In 2003, we published *New Insights on Covered Call Writing* because we felt that vast improvements in online tools, data, and discount brokerage services coupled with changes in options availability and reduced transaction costs had significantly changed the landscape for individual investors with regard to writing covered calls in stock portfolios. At the same time, the full-service wire houses were discouraging their reps and clients from using options and professional money managers continued to live in a stock picking world that simply didn't embrace options in a serious way. For the most part, these conditions persist. Yet, had you adopted covered call writing in the beginning of 2004 in a well diversified portfolio, you would not only have significantly reduced your volatility compared to that of the S&P 500 over the ensuing six years, you would also have handily outperformed it. Between the years 2004 and 2009, the S&P Total Return index (S&P 500 with dividends reinvested) returned 13.36 percent, while, according to the CBOE, its Buy-Write index (BXM) returned 20.54 percent for the same period.

The basic practice of covered call writing reduces volatility quite nicely (about one-third according to studies on the BXM index), but more advanced forms of option writing coupled with more powerful hedging strategies such as purchasing puts may be necessary in today's environment. Put hedging satisfies the downside protection requirement, but can be prohibitively expensive and has other drawbacks. In this book, we discuss variations of both strategies in detail as well as the use of both together to deal with today's markets. Finally, we examine the new vehicles that allow investors to actually trade volatility itself.

The first five chapters in this book represent an updated and condensed version of the basic options and covered call writing content from *New Insights on Covered Call Writing*. (Chapters 1 and 2 are very elementary and are included so those who have never used options before can start from scratch. Those already familiar with options may want to jump in at Chapter 3 for the basics of covered call writing.) Chapter 6 focuses on put hedging and Chapter 7 combines call writing and put hedging into collar strategies. Chapter 8 applies these option strategies to the rapidly growing field of exchange-traded funds (ETFs), and Chapter 9 explains how to utilize the new volatility instruments that are now available.

The book is addressed to the broad audience of equity investors, both individual and professional. We feel that every investor in listed equities, whether managing a portfolio themselves, or paying a broker, money manager, or mutual fund manager to manage it for them, should at least recognize that there are tools available to effectively reduce risk and volatility, and to either learn how to use those tools themselves, or find a professional who does. In particular, we hope, for the sake of millions of hardworking Americans, that the people responsible for pension and retirement assets in this country take note, as trillions of dollars in retirement assets are woefully unhedged against another calamity like 2008 or worse.

Richard Lehman
Lawrence G. McMillan

INTRODUCTION

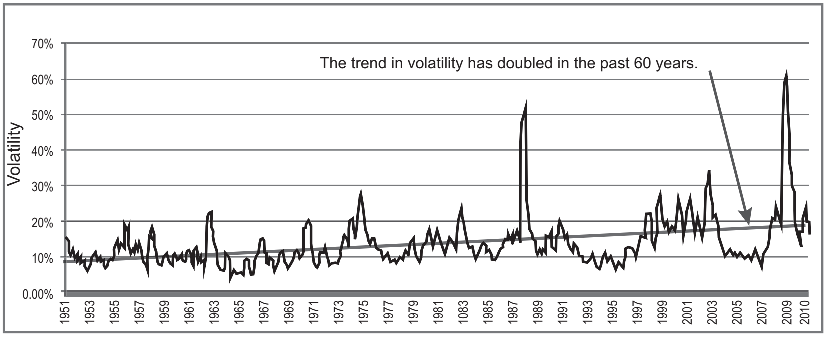
The "New Normal" in Equity Investing

Anyone who has invested in stocks over the last several decades would be naïve to ignore the fact that the risks of owning equity investments have increased during that time. A simple look at the time-honored measure of market volatility—a standard statistical measure of the ups and downs in stock prices over time—illustrates that over the last half-century, it has been steadily rising, with the most recent 25 years looking considerably different than the prior 25. And, as we are all too well aware, the volatility experienced in 2008 exceeded that of any previous year on record. Figure I.1 illustrates historical 100-day volatility on the S&P 500 Index daily since the 1950s.

To accommodate the huge spikes in volatility during 1987 and 2008, the scale in Figure I.1 is somewhat compressed, so the slope on the trend line may not look like much of a rise. But upon closer scrutiny, one can see that *average volatility is now running at almost double the average volatility of the 1950s*. A similar chart showing the magnitude of daily price moves over the same period would have the same look, and would show that average daily price moves on the S&P index averaged around .5 percent in the 1950s and are now approaching 1 percent per day. Given that the benchmark objective for long term equity returns, however, is still assumed to be in the neighborhood of around 10 percent per year, we face the reality that *we risk 10 percent of our annual expected return on an any single day, and that we are experiencing nearly twice the risk to get the same expected annual return as we received 50 years ago.*

When we use the term *volatile markets* in the book's title, we are alluding to this overall increase in volatility, as well as specific times like 1987 and 2008 when volatility literally went off the charts. In addition, we are talking

FIGURE I.1 S&P 500 Average Annual 100-day Volatility 1951 to 2010



Data Source: Standard & Poor's.

about more than just the standard definition of volatility, which is little more than a statistical measure of the movement in a stock or in the overall market for a very brief period in history—generally much less than a single year. Clearly, the risks of owning equity securities include hidden dangers in the market that have not been experienced yet, and are therefore not accounted for in any mathematical measure of historical volatility. A classic case of such risk, and one of the contributing factors to the subprime mortgage disaster, was the assumption by the bond rating agencies that subprime mortgages represented safe investments since a nationwide decline in home prices had never occurred in the history of their data. In the extreme, such risks may include other "black swans" (a term popularized by Nassim Nicolas Taleb in his book of the same name), which are low-probability events with potentially catastrophic results, like market crashes or meltdowns.

Thus, when we say "volatile markets," we're incorporating risk in the much broader sense than is described by the concept of volatility. Risk is, of course, about the future—not the past. Risk is about things unforeseen, things unquantifiable, and things we cannot even currently imagine. Risk on an individual stock is no longer confined to a bad quarter or a disappointing product launch. It now includes things like corporate malfeasance, business espionage, and stolen technology. Furthermore, as opportunity has become a global phenomenon, so has risk, adding immeasurably to the risks we now assume, and incorporating government policy, currency valuations, geopolitical events, trade wars, sovereign debt issues, global resource use, and international piracy—in parts of the planet that would never even have been on our radar screens a decade or two ago.

Risk also now includes new structural dangers in the makeup of our markets themselves, such as the changing nature of electronic and so-called "high-frequency" trading. We are now at the mercy not only of the actions of thousands of large institutions and millions of people who participate in the equity marketplace, but of private, nonregulated computers that are programmed to flood the market with intentionally bogus order flow in order to scalp a few cents off thousands of trades in time frames we humans can't even conceive. It is particularly unsettling that such computers may actually now account for the majority of trading volume in NYSE-listed stocks, yet no one knows how they will perform under extreme situations, or whether they are capable of actually *creating* an extreme situation themselves.

Life in the "new normal" of equity investing presents new challenges in managing these risks. In professional money management circles, diversification remains the most broadly accepted way of dealing with the long-term risks inherent in individual securities, and (using Modern Portfolio Theory) the risks of different asset classes. These techniques don't actually reduce the risk in individual investments or asset classes. They simply allow you to gain a statistical advantage over risk by spreading your money across enough things that are supposedly noncorrelated with one another (i.e., historically don't move in the same direction). Unfortunately, many investors simply don't have substantial enough assets to achieve a valid statistical level of diversification. Moreover, as demonstrated in 2008, asset classes that may have historically been noncorrelated with each other may end up correlating quite highly with each other during the exact times (i.e., extreme sell-offs) that we most need them to be noncorrelated. Another popular hedging technique, the "long-short" strategy, used primarily by hedge funds, and commonly implemented as a "130/30" approach (where the portfolio is 130 percent long in equity securities and simultaneously short 30 percent in other equities) also failed to provide an adequate overall hedging mechanism in 2008.

Hedging with options does not depend on long-term statistics to work, nor does it require a substantial portfolio to implement. Furthermore, options leave diversification strategies in the dust when it comes to providing the flexibility to allow investors and portfolio managers to tailor a strategy to their own unique risk tolerance and change it over time as conditions warrant.

One of the many advantages we glean from options is that they provide a quantifiable measure of just how much risk the market actually judges there to be in the underlying instrument. There is no way to know just how much risk is being priced into any particular stock simply by looking at the stock's price alone. For the most part, market-assessed risk simply gets buried in the market price of the security, and that can obscure the true nature and direction of its risk. However, when the stock has options, we can see just how much forward-looking risk is being priced into the security by looking at the price of its options and comparing that price to the theoretical price suggested by the past volatility in the underlying security. In short, the options market handicaps the risks of equities in the same way the odds makers handicap a horse race. A stock that is trading in anticipation of a major news item, such as a drug approval for example, may sell at a price of 15. By itself, this price does not tell us what the expected price *after* the announcement might be—it simply tells us the price at which positive and negative expectations are balanced in terms of supply and demand at the current moment. But, options on that stock can tell us whether the market expects the stock to trade between 13 and 17 following the announcement or between 5 and 25. In this manner, options provide a significant amount of information regarding expected risk on their underlying securities.

The market doesn't always have all the information necessary to reflect the true risk in any security, even when that security has options, but the options do indicate how much risk the general market expects. The importance of this information is that it enables us to use options to offset some or even all of the expected risks in the underlying securities, and therein lies the heart of their advantage. Through a variety of option strategies, which we identify in this book, one can modify the risk in the underlying security in a myriad of ways, whether the objective is to hedge, protect against catastrophic risk, generate income, minimize capital gains tax, or simply enable you to sleep nights.

Stocks and bonds were not created for investors as an alternative to bank accounts. They were created to help corporations raise capital and we just ended up using them that way. The volatility that comes with trading them in the secondary market is not the fault of the issuers—it is a consequence of a secondary market environment and ours to bear if we want to participate in the long-term growth of corporate America. We can keep our money in banks or government securities (and a rapidly growing segment of investors are), but we would have to cut back dramatically the long-term expectation of what our money would earn during our lifetimes. What we need is a way to adjust the risks and rewards of stocks to better suit our individual objectives. Options do just that.

A covered call write alters the risk-reward characteristics of owning the underlying stock by itself. So do put hedges, spreads, collars, and other option strategies. People may complain about the volatility in stocks and the meager returns from bonds these days, but we have the tools to modify the risk/reward characteristics of these vehicles in totally individualized fashion. In essence, options can be used to create a hybrid between a stock and a bond—an investment that retains modest long-term upside but generates income and has less risk. The tool is there. More people simply have to learn how to use it.

To address the "new normal" in equity investing in this book, we re-emphasize the classic volatility-reducing strategy of covered call writing and add new material on other underutilized option strategies such as put hedging and spreading. In addition, we demonstrate how investors can actually trade volatility itself through recently introduced vehicles like VIX and VXX, or employ volatility strategies to hedge an equity portfolio. We also examine the rapidly growing practice of using options with exchange-traded funds (ETFs). It is important to note that we are not just providing an academic approach here—we use the strategies described in this book in managing actual accounts.

CHAPTER 1

Option Basics

To understand and implement option strategies effectively, you need to understand not only how stocks and the equity markets work, but what options are, how they function, and what affects their value. The strategy discussions in this book assume you are already familiar with stocks and options, so to refresh you on the basics, we have constructed Chapters 1 and 2 as a review of listed equity options. If you are already familiar with options, you can begin reading about call writing in Chapter 3.

What Are Options?

An *option* is a contract representing the right, for a specified term, to buy or sell a specified security at a specified price. Like stock, they are also standardized so they can trade on formal securities exchanges and are regulated by the Securities and Exchange Commission (SEC).

There are two types of options: *puts* and *calls.*

1. **Call option:** A contract representing the right for a specified term to *buy* a specified security at a specified price.
2. **Put option:** A contract representing the right for a specified time to *sell* a specified security at a specified price.

The specified price is known as the *strike,* or *exercise, price;* the specified term is determined by the option's *expiration date;* and the specified security is referred to as the *underlying security.* There are exchange-listed options on a number of securities and even non-securities (such as indexes), but this book