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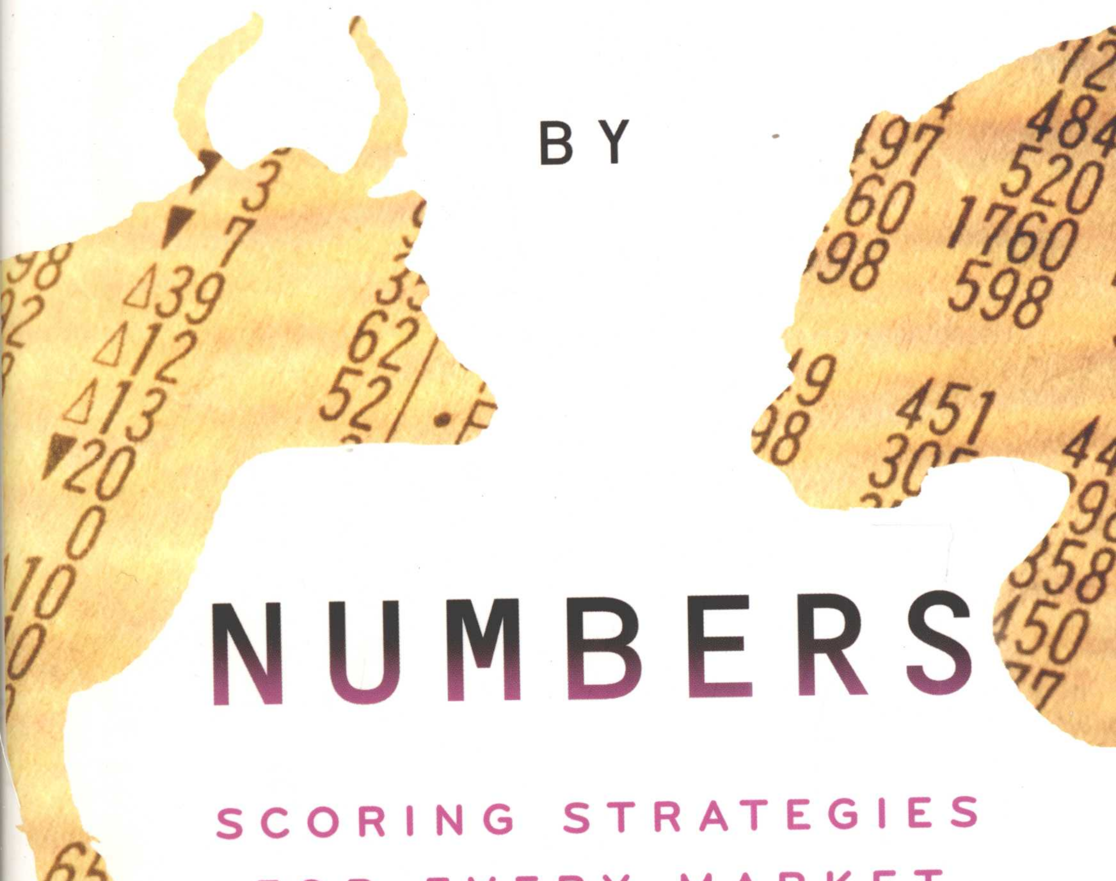
—MICHAEL CURCIO
President, E*TRADE Securities LLC

TRADING BY NUMBERS



SCORING STRATEGIES FOR EVERY MARKET

CK SWOPE AND W. SHAWN HOWELL

Trading by Numbers

Scoring Strategies for Every Market

RICK SWOPE
W. SHAWN HOWELL

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I have learned that a true teacher is characterized by who they are rather than what they do. This book is dedicated to teachers and mentors. My parents—having invested their lives in teaching generations. My professional mentors—Dr. Richard M. Wyskida and R. Wayne Penrod are among the best. Those who serve with passion—Lisa Phelan, Lisa Colson, and more. Mentors for eternity—Mike Schmid and Joe Donohue come to mind. Teachers from the ages—C. S. Lewis and G. K. Chesterton.

—Rick Swope

This book is dedicated to my family. To my parents: Thank you for the double dose of the "teacher gene" and for your enduring and unfaltering confidence that my abilities are limitless. The life lessons you taught me are woven throughout this book and hopefully will enrich many others' lives as they've enriched my own. To my wonderful children Katie and Will: You both have brought me immeasurable joy. You have incredible adventures ahead, lives to live, stories to tell, and gifts to share with the world. Remember, follow your passion, trust your inner voice, and stay a child at heart. To my wife Shelly: You've been my unswerving advocate, cheerleader, advisor, partner, friend, and copilot on our amazing journey thus far. In a life filled with countless blessing, the gift that is you, our bond, our children, and our life is without equal.

—W. Shawn Howell

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Finally, thanks to you, the reader, for trusting us to present you with the best trading and investing education. We don't take that trust lightly and we hope you find the information contained in these pages worthy of your time.

Rick Swope
W. Shawn Howell

Introduction

The genesis of this book came from a very simple concept. We wanted to write a book that we wished was available when we started our trading careers. As hard as it may be to believe now, it wasn't too long ago that a new trader pretty much had two choices for learning the markets: (1) Find an experienced trader who would let you shadow his every move or (2) open an account and hope you had equity left over after you learned all the painful and expensive lessons. Sure, there have always been the in-depth books that cover various trading topics in excellent detail, but most never seemed to have that practical edge—the kind of edge that takes the material from the realm of the academic to the realm of being real-life applicable.

Trading by Numbers is our attempt to provide the necessary depth for understanding the markets and strategies while still maintaining a level of practicality that allows you to try these strategies on your own tomorrow. We wanted to provide you with a user's manual, rather than a reference book.

The material is presented in two main sections. The first four chapters lay out an approach to adding structure to your analysis. The two key market dimensions that every trader must understand are trend and volatility. Chapter 1 sets the stage for analyzing trend and volatility by examining the role of technical analysis. Chapter 2 discusses trends and how to quantify them for your trading decisions. We want to be clear that we're not ascribing a level of precision that doesn't exist in the markets. Rather, the goal of scoring is to help you remove emotion and opinion from the process so that you can take an honest look at what the market is trying to tell you. Chapter 3 follows with a structured, quantified approach to market and trade candidate volatility. The result of both chapters will be a two-dimensional score that will help you choose the appropriate strategy.

Chapter 4 is a stand-alone chapter discussing risk and how to manage it in an uncertain market. In our view, managing risk is perhaps the most important discipline you can master in the markets. For many traders, we recommend starting with Chapter 4 if you are not inclined to read a book through in sequence.

The second major grouping of the book begins with Chapter 5 and continues through to Chapter 16. Each of these chapters deals with a different strategy. We start with some of the simpler strategies such as covered calls in Chapter 6 and move on to more complex strategies like the iron condor in Chapter 16. While we generally have sequenced these according to complexity and the order in which many traders naturally learn them, you can start anywhere and jump around at will. If you already understand basic directional strategies, feel free to start with straddles and strangles in Chapter 8. The point is that each strategy mostly stands alone, so there's no requirement to take them in the order presented. On the few occasions where we do reference other material, we include the chapter reference for you to easily review.

You'll notice that we liberally apply stories to the strategies, especially in the introductions. Our style of teaching is to establish a common understanding of concepts from other life experiences and then draw the parallels to the trading strategy. While not perfect, we hope it better accomplishes our goal of making this text more usable. Finally, we want to thank our model (albeit fictitious) trader, Frank, for serving as the example of the strategies in action. By seeing examples of the strategy played out, we trust you'll gain a better appreciation of when to use or forgo the various options available to you.

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CHAPTER 1

Market Scoring

It is not enough to do your best; you must know what to do, and then do your best.

—W. Edwards Deming

Many sports enthusiasts consider October 25, 1964 the date of one of the most embarrassing moments in sports. During a game against the San Francisco 49ers, Minnesota Vikings defensive end Jim Marshall had the good fortune to scoop up a fumble. He then ran 66 yards for the end zone and threw the ball away in celebration. Unfortunately, he had crossed into the wrong end zone and scored a safety for the opposing 49ers.

"My first inkling that something was wrong was when a 49er player gave me a hug in the end zone," commented Marshall after the game.

Best efforts, in sports as well as in trading the markets, are noble but not always fruitful. Jim Marshall had the necessary skills and certainly put forth his best effort, but he lost sight of his position and ended up on the losing side of the play.

A trader who "does his best" will memorize 50 candle patterns, run fundamental and technical screens at the start of every trading day, and hold his own in any discussion about the merits of Fibonacci retracements versus Elliott waves. To be sure, there are prerequisite skills that a trader should master before entering the markets, but knowing which skills to master and how to use those skills to manage your position can mean the difference between winning and losing.

INTUITION CAN BE HIGH TUITION

Let's begin with the obvious question: Why do we need a market-scoring system? Of course, we'll describe and develop the system in the following chapters, but we should start with a purpose. Is it really important to set a structure to our analysis of the markets rather than follow our instinct and intuition? Following only intuition can be costly in the markets because our intuition isn't always reliable in the face of a multitude of market data.

Let's look at a simple question. The following question is not complex, so read it and answer as quickly as you can.

> A bat plus a ball costs $1.10.
> The bat is $1.00 more than the ball.
> How much does the ball cost?

If you're like many people, your first response—your intuition—will lead you to respond with 10¢ as the cost of the ball. However, if the ball is 10¢ and the bat is $1.00 more, then the sum of the two is $1.20, not $1.10. Therefore, the ball must cost 5¢ and the bat is $1.05 for the correct total of $1.10.

In their bestselling book, *Nudge: Improving Decisions About Health, Wealth, and Happiness*, Richard Thaler and Cass Sunstein refer to two distinct ways of processing information: the automatic system and the reflective system.

The automatic system is rapid and feels instinctive, and it does not involve what we associate with the word *thinking*. When you duck because a ball is thrown at you unexpectedly, get nervous when your airplane hits turbulence, or smile when you see a cute puppy, you are using your automatic system.

The reflective system is more deliberate and self-conscious. You use the reflective system when you are asked, "How much is 411 times 37?"

People speak their native language using their automatic system and tend to struggle to speak another language using their reflective system.

Many readers will doubtless relate to having a teen driver in the household. Consider the myriad decisions that a new driver has to process: foot on the brake, hand on the wheel, turn the ignition key, release when the engine engages, shift into drive, check rear and side mirrors—and the list goes on. Each of these decisions is a discrete point of thought and decision for a new driver. On the other hand, an experienced driver will perform all the same steps but without a conscious thought assigned to any of them. In fact, the experienced driver may go through all of these steps while loading the dog into the car and taking a phone call. The teen driver is operating entirely within the reflective system mode, whereas the experienced driver operates within the automatic system.

Now consider what might happen if the teen driver chooses to go with her intuition rather than thinking through each step. She may do her very best with all good intentions, but without rules, guidelines, and experience, she'll very likely meet trouble in short order. As a new driver, she needs structure and rules. As she applies those guidelines, her experience will grow and she'll develop an automatic system that she can rely on for most of her driving activities. Of course, new situations will arise, such as icy roads, which will require new rules and some period of reflective system decisions. But these, too, will eventually lead to a new level of experience and a return to the automatic system of driving.

New traders are not at all unlike our new driver. Good intentions and underdeveloped intuition are not enough to navigate today's markets. Consider just a few of the many decisions that a trader needs to process:

- Which product to trade? Stock, ETF, option?
- Which chart style to use? Line, candlestick, bar?
- What time horizon on the chart? Intraday, daily, weekly?
- Which technical indicators to include?
- How much fundamental analysis to add?
- What risk management parameters to use?
- How to execute the opening and closing trades?

Failing on any one of these decision points may result in a losing trade. Imagine how the failure rate increases when a trader fails on multiple levels. Although having a structured approach to the markets doesn't guarantee success, it does help to ensure that the appropriate level of reflective system is applied where the automatic system isn't sufficient.

A flawed approach that many traders take is to overload the analysis. This is the "best-effort" strategy that is based on the belief that if a little is good, more must be better. If you find value in the 50-day and 200-day simple moving averages, then you assume you'll make better decisions by adding the 100-day exponential moving average along with stochastics. Besides, you really feel like you're making progress and putting forth your best effort when you grind through studying various technical trading strategies. It's better to think of your analysis like lawn fertilizer: The proper amount with the correct application can do wonders. Too much will leave you with a burnt mess.

THE ROLE OF TECHNICAL ANALYSIS

Because we're going with the premise that gut feeling and best intentions are inadequate for traders and investors, we have to recognize that additional tools of analysis are required. The primary set of tools that we'll use falls under the category of technical analysis. Technical analysis simply refers to the analysis of price, volume, and derivative patterns and indicators. This differs from fundamental analysis, which focuses on the health and performance of the underlying company. The balance between the two may be thought of in this way: Fundamental analysis helps you decide *what* to buy and sell; technical analysis helps you decide *when* to buy and sell.

Many people will argue that technical analysis is redundant to fundamental analysis because the two should be fairly well aligned. That may be true to a certain extent, but there are often great divergences between them. A company that is performing well from a fundamental standpoint may have a very weak stock price, and vice versa. The economist John Maynard Keynes is said to have warned investors that although markets do tend toward rational positions in the long run, "the market can stay irrational longer than you can stay solvent."

An example we often cite is Webvan (former ticker symbol: WBVN). Webvan had its initial public offering (IPO) in 1999. On the first day of trading, traders gave it a market capitalization (shares outstanding multiplied by the share price) of $11 billion. From a technical perspective, the stock had extraordinary strength coming out of the gate. However, the company lost $12 million on *zero* revenue during the year prior to its IPO. There is hardly a clearer example of a significant disconnect between stock price performance and company performance.

Five Benefits of Technical Analysis over Fundamental Analysis

1. **Technical analysis is real-time.**

   One of the key sources of fundamental analysis information for most traders and investors is the quarterly earnings report. Of course, there are other reports and news releases that may be issued more frequently, but the quarterly news tends to be dominant. Based on events and performance of the previous quarter, the company compiles their results and that becomes the basis of the quarterly report. Now consider that by the time you read the report, several months or longer may have passed since the occurrence of those events. In other words, the key reports that you rely on for fundamental analysis are lagging the events that drive the reports by weeks or months.

   Compare the time lag that is inherent to fundamental analysis with the real-time nature of technical analysis. Technical analysis starts with price and volume, which dynamically update with each trade. As a trade occurs, the price and volume instantly reflect the new information. For that reason, technical analysis is a much more responsive analysis for the trader. Price and volume (trading activity) are expected to reflect all that the market knows about a company's news, expectations, performance, and so on. Although an individual trader may not know about pending litigation, poor sales, geographic instability, or any of the other factors that may be influencing a company's fundamental position, the market as a whole will absorb and process this information and reflect the collective consensus through the price charts. In effect, the fundamental analysis of the market as a whole becomes distilled into real-time technical analysis for the individual trader.

2. **Technical analysis can be simpler.**

   The bread and butter of technical analysis is price and volume. Price simply reflects the current price that a buyer and seller agree on for the trade. Volume is typically a cumulative number that resets after each trading session. When a buyer agrees to purchase 1,000 shares from a seller, the transaction is complete and the total volume for that day rises by 1,000 shares. These concepts are very simple and straightforward. Beyond price and volume there are a handful of relatively simple technical concepts such as price gaps, support, resistance, and trends. These help the trader determine price direction, momentum, and other key factors that make up the technical analysis. Beyond the relatively simple concepts, there is a seemingly endless supply of more advanced technical indicators and concepts. The key point we're making here is that the salient aspects of technical analysis aren't dependent on arcane and complex concepts; they rest on the basics.

   With fundamental analysis, there are various financial and accounting metrics that feed into a complete analysis. Furthermore, it is incumbent upon the trader to calculate how these metrics will ultimately translate into price. After all, profit or loss from a trade is entirely a function of the difference between the purchase price and the sales price. So although it is often useful to understand the fundamental dynamics behind the company in question, the trader still must decide how that will influence the stock price. Let's suppose that you've looked at the price/earnings to growth (PEG) ratio, debt to total capital, and return on assets. What are the magnitude, direction, and timing of the influence on the stock price of these metrics? Compare that to a simple candlestick chart that shows green candles with rising volume. The candlestick chart gives a simpler and more immediate indication that the buyers are in control for a short-term uptrend.

3. **Technical analysis is more responsive for short-term traders.**

   When a trader is choosing the correct balance between fundamental and technical analysis, she needs to consider her trading time horizon. As a general rule, the longer the time horizon for the trade, the more important fundamental analysis is. In contrast, the value of