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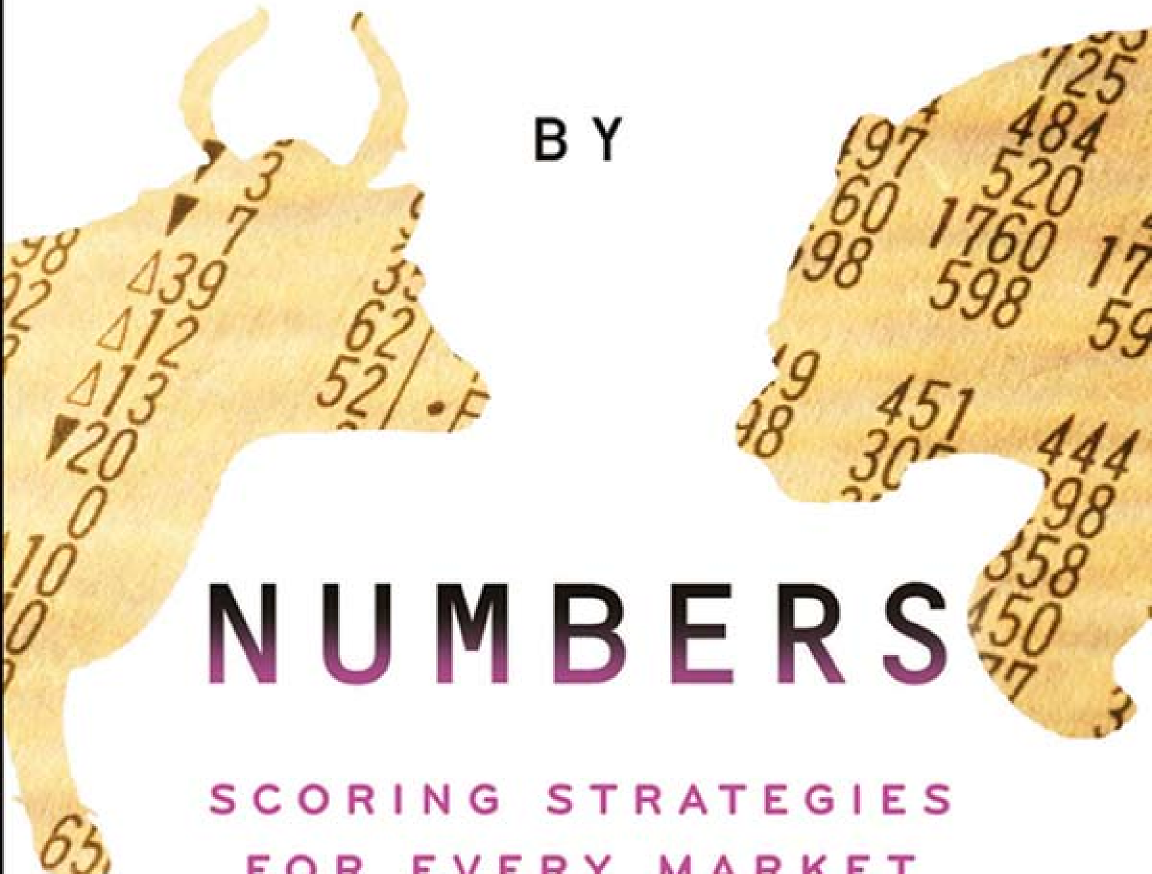

SCORING STRATEGIES FOR EVERY MARKET

RICK SWOPE AND W. SHAWN HOWELL

Trading by Numbers

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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.

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 fundamental analysis diminishes as the time horizon shortens. Very-short-term day traders—the scalpers—rarely, if ever, use fundamental analysis. Earnings per share growth really has no influence on where the stock price will be in 15 minutes. Therefore, technical analysis is the primary tool for determining strategy and execution for very-short-term traders.

Please don't misunderstand that long-term traders and investors then should use fundamental analysis to the exclusion of technical analysis. Though day traders find little use for fundamental analysis, the other end of the time horizon is different. Long-term traders and investors can use technical analysis very effectively to complement their fundamental views. As we noted earlier, technicals can help with the question of timing: when to buy or sell a long-term position. After identifying a trade candidate through fundamental analysis, technical analysis can focus on the best timing for executing the trade.

4. **Technical analysis shows what traders are doing, not just what they're saying.**

   The old saying, "Pay attention to what they do, not what they say," is never more true than in the markets. Words are cheap, but actions reveal the truth more accurately. Today's market is full of news programs, articles, web sites, and trading rooms that have no lack of opinions and analyses from all corners. A CEO will appear on a market interview program and give his top three reasons why his company's stock should outperform the market. Gurus abound who offer a bullish or bearish assessment of a stock price in rapid-fire succession. In short, everyone has something to say about XYZ's stock price.

   The beauty of technical analysis is its dispassionate delivery of facts. Every program on TV may be talking about reasons why XYZ stock should be falling, but if the charts continue to show an uptrend with sustaining volume then the fact remains that buying pressure exceeds selling pressure. Never lose sight of an important tenet of mass media programming: Market shows are in business to make money through building their audience, which then commands greater ad revenue. Market programs are not successful because you become more successful as a trader. Therefore, your success in the markets is incidental to their success. That may be a harsh reality, but it is reality nevertheless. If the program can capture your attention, work your emotions, and connect with you as a trader, the information and analyses they offer are secondary. The best analysis for your trade is up to you.

5. **Technical analysis is essential for managing risk.**

   There aren't too many soapboxes that we'll jump on, but this is one of them. We firmly believe that traders and investors cannot effectively manage risk without an understanding of the basics of technical analysis. This is partly due to the fact, mentioned earlier, that technical analysis is real-time, whereas fundamental analysis has a built-in time lag. Information flows too quickly these days for you to expect that you can respond to news or shifting fundamentals before the rest of the market. Technical analysis is a real-time monitoring system to alert you when it's time to exit the trade. A proper analysis of price will give you support and resistance levels that serve as your price targets for both profit and loss. If the trade moves against you, you have a precise point at which you've determined in advance that you'll exit the trade for a limited loss.

Risk management based on technicals then becomes a binary decision. If your analysis tells you that support is at $40 and your exit (stop order) is at $38, then anything above $38 keeps you in the trade. If the stock is trading at $38.01, you don't worry and fret over your next move; you stay in the trade. At $38, you don't start to rationalize why you should or shouldn't exit the trade. You have a plan based on an analysis of the charts and you execute without hesitation. Without technical analysis, that precise price at which you exit a trade to limit your losses is little more than a guess.

Technical Analysis Tells a Story

When you look at a price chart, your first goal should be to answer a simple question: Who is in control? The answer to that question will be (1) buyers, (2) sellers, or (3) nobody. If buyers are in control of the trading, we expect to see prices generally trending higher. Likewise, a downtrend indicates that sellers are in control. If neither is in control, prices trend sideways in a channel. The degree to which these trends are in place and the level of volatility within the trends is what we want to discern from our analysis. This is the key information that a market-scoring system will help you quantify.

Please recognize that pulling the story out of the charts doesn't allow you to predict the future. You'll be sorely disappointed if you have the expectation that the proper analysis in sufficient quantities will tell you where prices will be in a week, a month, or a year. The story tells you what has happened, how it happened, and what is happening right now. As traders, we all deal with the "hard right edge" of the chart—the uncertainty of tomorrow. Past and current activity help to serve as a guide for price direction and momentum, but risk management is always crucial to your success. Key strategies for managing risk are presented in later chapters.

So if the future can't be gleaned with certainty from technical analysis, does that invalidate its use? Absolutely not! The primary purpose of technical analysis is to protect, not predict. Technical analysis helps you identify key support and resistance levels, price gaps, trends, and trading patterns that serve as guides to signal your buying and selling points. Investors and traders who use fundamental analysis for decision making experience the same issue. A company that pays a high dividend or reports a high return on equity is not guaranteed a rising stock price. Nevertheless, you have a reasonable expectation that your analysis will lead to improved success over random stock picking.

The best way to think about your analysis—both technical and fundamental—is to liken it to a Lego set. Most readers are familiar with the small, plastic Lego pieces. Each piece contains a small, discrete bit of information: color, size, and shape. Taken alone, that information is of little benefit. The real value in the Lego piece is seen when many different pieces are assembled together and they take the shape of a dragon or castle. The best Lego shape is made when the right pieces come together to tell a story, even if all the pieces aren't used. Price candles, moving averages, volume, and other technical metrics are your Lego pieces. Deciding which pieces to use and how to fit them together is your challenge. Through market scoring, we're providing you with an assembly guide to help you choose the right pieces and fit them together. Once you see the shape that the market is building—the story—you'll be ready to execute the correct strategy for trading success.

CHAPTER 2

Trend Scoring

We always say: Ride to ride another day. We go out there with the attitude that we're going to do it in a way that we can do it again tomorrow.

—Laird Hamilton, world champion big wave surfer

Trends are to the trader what waves are to the surfer. You never see a surfer jump on a board in flat water because he has a gut feeling that a wave will develop. He waits until the wave starts to develop and then positions himself to catch the best part of the wave for the longest ride. However, when the wave starts to crash, he jumps off to get ready for the next wave.

Take particular care to notice what the surfer does and doesn't do. First of all, a new surfer isn't going to ride the big waves of Hawaii's North Shore. He starts with the one- or two-foot waves and moves up as his skills and experience grow. He always waits for the wave to tell him when to start the ride. The wave begins to develop and the surfer's goal is to identify the wave as early as possible by reading the water. He doesn't anticipate where the wave will be at some future time or convince himself that a wave *should* be where it's not. Once he starts his ride, he stays on for as long as the wave will allow. Eventually, the wave breaks apart and the surfer moves on to the next wave. He doesn't pick a spot near the shore where he thinks the wave should crash and then only jump off at that predetermined location. During the ride, he's constantly watching and feeling the water and making adjustments as necessary. And every surfer knows that as good as you may be, there will be waves that take you under the swell. That's when you remember that you're riding to ride another day.

As a trader, you should approach the market very much as the surfer approaches the ocean. Start with small, easy trends. The ride might not be as exhilarating, but the wipeouts won't be as painful, either. It never ceases to amaze us how often new traders want to trade something like a far-out-of-the-money call in a highly volatile stock because they think they're going to win the market lottery. If you're patient and prudent, you'll get to the point where you can confidently take larger risks for greater potential profit. Along the way, learn to read the story of the market so you can identify the trends as they begin to develop. Then you'll be positioned to ride the trend for maximum gain and know when it's time to jump off and look for the next opportunity.

TREND-SCORING SYSTEM

A good scoring system should start by identifying key parameters to be scored. The system should include enough parameters to provide for a strong score but limit the number to ensure that the system is usable. More is not necessarily better and will only make the system too burdensome to use in practice. Second, an effective scoring system should attempt to reduce the influence of user bias. This is best accomplished by using binary scores when possible. A binary score yields a yes/no answer rather than a subjective answer. For example, consider the following two approaches to determining whether the price is in an uptrend or downtrend:

1. Rate the strength of the trend:
   - **a.** Very weak
   - **b.** Weak
   - **c.** Neutral
   - **d.** Strong
   - **e.** Very strong

2. Rate the strength of the trend:
   - **a.** Red candle, close lower than the moving average
   - **b.** Green candle, close lower than the moving average
   - **c.** Neutral candle (doji or spinning top)
   - **d.** Red candle, close higher than the moving average
   - **e.** Green candle, close higher than the moving average

You can easily see that the first approach could have widely varying answers, depending on who is making the assessment. Two traders may look at the same chart but arrive at different conclusions if the analysis