Foreword by BARRY RITHOLTZ

THE BESTSELLING CLASSIC

TREND FOLLOWING

REVISED & EXTENDED FIFTH EDITION

How to Make a Fortune in **Bull**, **Bear**, and **Black Swan Markets**

MICHAEL W. COVEL

WILEY

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Trend Following

Fifth Edition

How to Make a Fortune in Bull, Bear, and Black Swan Markets

Michael W. Covel

WILEY

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He was impregnably armored by his good intentions and his ignorance. —Graham Greene, *The Quiet American*

Yesterday don't matter if it's gone.
—The Rolling Stones, "Ruby Tuesday"

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Preface

Men wanted for hazardous journey. Small wages. Bitter cold. Long months of complete darkness. Constant danger. Safe return doubtful. Honor and recognition in case of success.¹

Want to take the financial journey to a new investing philosophy that might very well affect the rest of your moneymaking life? I can't guarantee the yellow brick road, but I can promise the red pill will leave you wide awake.

In late 2016 *The Wall Street Journal* reported that Steve Edmundson, the investment chief for the Nevada Public Employees' Retirement System, has no coworkers, rarely takes meetings, and eats leftovers at his desk. His daily trading strategy: Do as little as possible, usually nothing. The Nevada system's \$35 billion in stocks and bonds are all in low-cost funds that mimic indexes. He may make one change to the portfolio a year.²

Not exactly a life changing revelation, I know, but that do-nothing, sit-on-your-hands investing premise doesn't stop with one-man shows. Dimensional Fund Advisors LP (DFA), the sixth-largest mutual fund manager, is drawing in nearly \$2 billion in net assets per month at a time when investors are fleeing other firms. DFA is built on the bedrock belief that active management practiced by traditional stock pickers is futile, if not an absurdity. DFA's founders are pioneers of index funds.³

Now we are getting somewhere, because just about everyone has money tied up in an index fund—which in 2017 is not exactly pioneering. But the much larger issue at hand, unknown to most, is that there is an academic *theory* that allows anyone to confidently *index*.

Nearly every time I strayed from the herd, I've made a lot of money. Wandering away from the action is the way to find the new action.

Jim Rogers

To receive my free interactive trend following presentation send a picture of your receipt to receipt@trendfollowing.com.

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Q: Do you pencil it in first? A: No, you just start drawing.

Q: But don't you make mistakes?

A: There is no such thing as a mistake. A mistake is an opportunity to do something else. You have to leave it and let nature take it course.

Ralph Steadman, British artist best known for his work with American author Hunter S. Thompson, talking to Anthony Bourdain The efficient market theory (EMT) states asset prices fully reflect all available information. This means it is *impossible* for average investors—or superstars, for that matter—to beat the market consistently on a risk-adjusted basis, since market prices should only react to new information or changes in discount rates. EMT, set in motion with Louis Bachelier's PhD thesis published in 1900, and developed by University of Chicago professor Eugene Fama, argues stocks always trade at fair value, making it impossible for investors to either purchase undervalued stocks or sell stocks for inflated prices.⁴

Let me drop the nuclear warhead on that perspective.

There is a mind-numbingly large hole in this cool-sounding theory. EMT by definition leaves the epic October 2008 stock market meltdown out of the academic equation. And for those who know about the sausage making of writing peer review papers or engineering a PhD, much of modern finance's foundation was bricked together with EMT mortar. Fama was ultimately awarded the 2013 Nobel Prize in Economic Sciences because his findings "changed market practice"—that is, the worldwide acceptance of index funds.

Those findings are the generally accepted status quo.

Not everyone, however, is a true believer guzzling the Kool-Aid.

One of the first and loudest critics of EMT was famed mathematician Benoit Mandelbrot. He saw EMT proponents sweep big events like 2008 under the carpet, like kids house cleaning for the first time, calling them "acts of God." French physicist Jean-Philippe Bouchaud sees EMT marketing in play: "The efficient market hypothesis is not only intellectually enticing, but also very reassuring for individual investors, who can buy stock shares without risking being outsmarted by more savvy investors." 5

Bouchaud continues: "Classical economics is built on very strong assumptions that quickly become axioms: the rationality of economic agents, the invisible hand and market efficiency, etc. An economist once told me, to my bewilderment: 'These concepts are so strong that they supersede any empirical observation.' As Robert Nelson argued in his book, *Economics as Religion*, 'the marketplace has been *deified*.' In reality, markets are not efficient, humans tend to be overfocused in the short-term and blind in the long-term, and errors get amplified through social pressure and herding, ultimately leading to collective irrationality, panic and crashes. Free markets are wild markets."

好书如挚友

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David Harding, a man you might not know yet, ratchets up the polemic by describing EMT in apocalyptic terms: "Imagine if the economy as we know it was built on a myth. Imagine if that myth was the foundation stone on which the mainstream financial systems that control the global economy have been erected—the great bazaars of stock markets, bond markets, fiendishly complex financial instruments, credit default swaps, futures and options on which the fortunes of billions rest. Imagine if the myth was the key cause of the global crash in 2008—and if its perpetuation today threatened another catastrophic crash in the future. We don't have to imagine. The myth is Efficient Market Theory (EMT)."

Harding does not have a Nobel Prize, but he does have a net worth of \$1.4 billion. He is a flat-out financial heretic and would not be offended if you called him a punk rocker for his antiestablishment attitude. In prior centuries he absolutely would have been burned at the stake for his wholesale dressing down of the financial high priests. He knows to question EMT is seen as *madness* by academics, banks, pension funds, and endowments. 9

Interestingly, and with a bipolar flair, the Nobel committee split the 2013 Nobel Prize among economists with radically different theories. Robert Shiller, a man focused more on *behavior* and who shares the Nobel Prize with Fama, sees the contradictions: "I think that maybe he has a cognitive dissonance. [His] research shows that markets are not efficient. So what do you do if you are living in the University of Chicago? It's like being a Catholic priest and then discovering that God doesn't exist or something you can't deal with so you've got to somehow rationalize it." 10

Harding goes further, explaining EMT *madness* in an everyman way: "This theory of rational markets treats economics like a physical science—like Newtonian physics—when in fact it is a human or social science. Human beings are prone to unpredictable behavior, to overreaction or slumbering inaction, to mania and panic. The markets that reflect this behavior do not assume some supra-human wisdom, they can and sometimes do reflect that volatility."¹¹

Further translation: Human nature isn't *rational*. It blows bubbles and then pops bubbles—and you can see this going back hundreds of years:

The efficient market theory is about two questions: Can the market be beat and is the market price the right price? First, evidence says the market can be beat. Second, debating the right or wrong price is futile. There is only the market price and it's the most real, objective piece of data in finance. Don't make the market a morality tale.

Michael Covel

When it is a question of money, everyone is of the same religion.

Voltaire

- Dutch Tulip Mania (1634–1637)
- The South Sea Bubble (1716–1720)

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Proponents of the theory [EMT] have never seemed interested in discordant evidence. Apparently, a reluctance to recant, and thereby to demystify the priesthood, is not limited to theologians.

Warren Buffett The Warren Buffett Portfolio 1999

Education rears disciples, imitators, and routinists, not pioneers of new ideas and creative geniuses. The schools are not nurseries of progress and improvement, but conservatories of tradition and unvarying modes of thought.

Ludwig von Mises

- The Mississippi Bubble (1716–1720)
- The British Railway Mania Bubble (1840s)
- The Panic of 1857
- The Florida Real Estate Bubble of the 1920s
- The stock market crash of 1929
- The 1973–1974 stock market crash
- Black Monday—the stock market crash of 1987
- Japan's bubble economy and crash, 1989–current
- Dot-com bubble (1999–2002)
- United States bear market (2007–2009)
- Flash Crash (2010)
- Chinese stock market crash (2015–2016)
- Brexit (2016)

And on and on. . . .

But it's beyond being not rational. Those events, the human actions driving those booms and busts, are best described by academia's *prospect theory*, *cognitive dissonance*, *the bandwagon effect*, *loss aversion*, and assorted *heuristics* in judgment and decision-making—to name a few of the hundreds of biases inherent in people's lizard brains.

No doubt, the efficient versus not-efficient debate will not be resolved in these pages. Perhaps it will never be satisfactorily resolved in an academic *mine is bigger than yours* sense, which would not be surprising given that human beings and their egos, greed, fear, and money are knotted up so tight as to restrict brain blood flow. And please don't expect this work to be filled with the latest and greatest macroeconomic bubblegum predictions. You already know that is bullshit completely unrelated to making money—even if you have not yet admitted that fact to yourself.

In the face of such chaos, complexity, and human frailty, my curiosity is quite simple. Answer a question: "Why does David Harding think he is *right* and, more importantly, how in the hell did he get all that money trading the likes of Apple, Tesla, gold, U.S. dollars, crude oil, NASDAQ, natural gas, lean hogs, palm oil, wheat, and coffee without investing in an index or having a fundamental expertise in any of those markets or the ability to predict directions?"

That is a worthy question, and the answer is a follow the big money adventure.

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Trend Following

The 233,092 words in this book are the result of my near 20-year hazardous journey for the truth about this trading called trend following. To this day it still fills a void in a marketplace inundated with books about value investing, index investing, and fundamental analysis, but lacking few resources to explain how David Harding made his billiondollar fortune with trend following.

Out of the gate let me break down the term *trend following* into its components. The first part is *trend*. Every trader needs a trend to make money. If you think about it, no matter what the technique, if there is not a trend after you buy, then you will not be able to sell at higher prices. *Following* is the next part of the term. We use this word because trend followers always wait for the trend to shift first, then *follow* it.¹²

Every good trend following method should automatically limit the loss on any position, long or short, without limiting the gain. Whenever a trend, once established, reverses quickly, there is always a point, not far above or below the extreme reached prior to the reversal, at which evidence of a trend in the opposite direction is given. At that point any position held in the direction of the original trend should be reversed—or at least closed out—at a limited loss. Profits are not limited because whenever a trend, once established, continues in a sustained fashion without giving any evidence of trend reversal, the trend following principle requires a market position be maintained as long as the trend continues.¹³

A big reason this conceptually works is seen in the wonky-sounding Bayesian statistics. Named for Thomas Bayes (1701–1761), the belief is the true state of the world is best expressed in probabilities that continually update as new unbiased information appears, like a price trend that keeps updating and extending. New data stays connected to prior data—think of it chain-ganged together. Random dice rolls this is not.

Trend following thus aims to capture the majority of a connected market trend up or down for outsized profit. It is designed for potential gains in all major asset classes—stocks, bonds, metals, currencies, and hundreds of other commodities. However straightforward the basics of trend following, it is a style of trading widely misunderstood by both average and pro investors, if it is known at all. Academic literature and real-world investors, for example, have put forth a host of strategies that,

You've got to guess at worst cases: No model will tell you that. My rule of thumb is double the worst that you have ever seen.

Cliff Asness

Fish see the bait, but not the hook; men see the profit, but not the peril.

Chinese proverb

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If you can't explain it simply, you don't understand it well enough. Anonymous on the surface, appear unique, but at a high level they are all related to trend following. 14

That classic trend wisdom has long failed to be understood in academic circles—that is, until very recently. Notable voices in the academic community have come around to agree *momentum* exists—the source of trend following profit—but to confuse matters they describe two forms of momentum: time series momentum (i.e., trend following) and cross-sectional momentum (i.e., relative strength). I don't see a connection between the two, and I can guess carving out business and academic niches for assorted reasons is in play, but I do know which strategy has produced decades of real performance proof, and it's trend following.

The desire to enlighten this state of confusion is what launched my original research and ignited my passion, going all the way back to 1994. My plan was to be as objective as possible, pulling research data from wide sources:

- Month-by-month trend following performance histories.
- Hundreds of interviews conducted with subjects from top traders to Nobel Prize winners.
- Published interviews from dozens of trend followers over the last 50 years—details not found on Google.
- Charts of winning markets traded by trend followers.
- Charts of historical markets seen across financial disasters.

If I could have utilized only data, numbers, charts, and graphs showing extreme trend following performance data, that would have been perfect—it is, after all, the raw, unassailable data.

Yet without a narrative explanation few readers would appreciate the ramifications of data mining. Robert Shiller has said "that there is a narrative basis for much of the human thought process, that the human mind can store facts around narratives, stories with a beginning and an end that have an emotional resonance. You can still memorize numbers, but you need stories. For example, the financial markets generate tons of numbers—dividends, prices, etc.—but they don't mean anything to us. We need either a story or a theory, but stories come first."¹⁵

Foundationally, my approach to researching and writing *Trend Following* became similar to the one described in the book *Good to Great*, in which researchers generated questions, accumulated data in an

To be aware how fruitful the playful mood can be is to be immune to the propaganda of the alienated, which extols resentment as a fuel of achievement.

Eric Hoffer

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open-ended search for answers, and then debated it all—looking for stories, then for explanations that could lead to theories.

However, unlike *Good to Great*, which was about well-known public companies, to this day the strategy of trend following is still built around an underground network of relatively unknown traders who, except for the occasional misguided article, the mainstream press virtually ignores—and that has not changed in my 20 years. What I attempted with my first edition of *Trend Following* and with this newest edition is to lift the veil on this enormously successful strategy—how trend followers trade and what can be learned that anyone can apply to their portfolio for profit.

Throughout this effort I avoided institutionalized knowledge as defined by Wall Street banks, brokers and typical *long only* hedge funds. I did not start with JPMorgan Chase or Goldman Sachs. Instead I asked questions across all types of sources and then, objectively, doggedly, and very slowly—and even through some Deep Throat help—answers that made intuitive sense were revealed.

If there was one factor that motivated me to work in this manner, it was childlike curiosity—where you rip the toy open to the find the motor and locate the *essence*. For example, one of my earliest curiosities was about who profited when a famed British bank collapsed, making the front cover of *Time* magazine. My research alone unearthed a connection between this bank and a wildly successful trend follower now worth billions. This trader's trend-trading track record had me wondering, "How did he discover trend following in the first place?"

I also wanted to know who won when a two-billion-dollar hedge fund collapsed and almost sank the entire global economy. Why did the biggest banks on Wall Street, the so-called smart guys in charge of your retirement, invest \$100 billion in this fund when there was so much obvious risk? Further, when I contrasted typical Wall Street losses during October 2008 to what trend following made during the same time in the great zero-sum game, it was hard to grasp why few market players were aware of the strategy. Other questions appeared:

- How does trend following win in the zero-sum game of trading?
- Why has it been the most profitable style of trading?
- What is the philosophical framework of trend following success?
- What are the timeless principles?

The credit bubble pushed the price of most financial assets far from fundamental value. The central bankers were rigging the market with their asymmetric approach to market volatility, where Alan Greenspan put a floor under the stock market but did not cap it with a ceiling. That ensured that the cost of waiting until after the event to clean up was unacceptably high. 16

Question: Some researchers argue that a market timing strategy based on buy/sell signals generated by a 50-or 200-day moving average offers a more appealing combination of risk and return than a buy and hold approach. What is your

Eugene Fama: An ancient tale with no empirical support.¹⁷

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- What is the trend following view of human behavior?
- Why is it enduring?

Many trend followers are still reclusive and extremely low key. One who has beaten the markets for over 40 years works out of a quiet office in a Florida coastal town. For Wall Street this approach is tantamount to sacrilege. It goes against all the customs, rituals, trappings, and myths embedded in so-called success. It is my hope my narratives, backed by data, will correct misconceptions of *winning* as a harried, intense workaholic posted 24/7 in front of 12 monitors while downing Red Bull.

One of my sources who helped break apart this puzzle was Charles Faulkner. He observed elite traders are almost "floating above the world, seeing it from a different perspective than the rest of other market participants." His insights go straight to the core:

• It doesn't matter what you think; it's what the market does that matters.

- What matters can be measured, so keep refining your measurements.
- You don't need to know when something will happen to know that it will happen.
- Successful trading is a probabilistic business, so plan accordingly.
- There is an edge to be gained in every aspect of your trading system.
- Everyone is fallible, even you, so your system must take this into account.
- Trading means losing as well as winning, something you must live with for success.

To adequately explain the genesis of this new edition, I need time travel. You see, my public trend following persona started in October 1996 with the launch of a simple four-page website. Armed with a political science degree from George Mason University, no connection to Wall Street or any fund and with zero academic respect or PhD credentials, it seemed perfectly appropriate to create the first trend following website.

And I did.

Loaded with original content, that rudimentary-looking site, turtletrader.com, generated millions of views, millions of dollars, and—unbeknownst to me at the time—respect among legions of beginner and professional traders alike.

I have noticed that everyone who ever told me that the markets are efficient is poor. Larry Hite

The essence of trend following has been effective beyond my wildest dreams, and for me it has been more risky to diversify away from it than to embrace it wholeheartedly.

David Harding

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Six years into that website, I decided it was time for a book—or maybe the book decided it was time for me. Larry Harris, the finance chair at the University of Southern California, randomly e-mailed me. He wanted me to review his new book because I was driving more interest in his whitepaper, *The Winners and Losers of the Zero-Sum Game*, than anyone else.

Without skipping a beat I said sure to a review of his book, but asked for an introduction to his publisher, since I was writing a book, too. He obliged and connected me even though my book at that moment was conceptual.

After two years of starts and stops, *Trend Following* was finally ready. And when the first edition hit the streets in April 2004, I had no idea whether *it* would sell 10 or 10,000 copies. But immediately the book made an under-the-radar splash, landing in Amazon's top 100—of all books. In fact, that first edition was so expected to fail by my first publisher you could only get it online—initially no bookstore.

It went on to sell over 100,000 copies with translations into German, Korean, Japanese, Chinese, Arabic, French, Portuguese, Russian, Thai, and Turkish. Its success led to four more books and the opportunity to direct a documentary film over the course of 2007 to 2009.

I never expected an obscure *trading* book first written 13 years ago would lead me to conversations with five Nobel Prize winners or face-to-face learning from trading legends Boone Pickens, David Harding, Ed Seykota, and literally hundreds more. This journey also led me to the world's top behavioral economists and psychologists from Daniel Kahneman and Robert Cialdini to Steven Pinker. And it opened the door to my podcast, which has run since 2012 and now has over five millions listens. My podcast has further featured guests ranging from Tim Ferriss to paleontologist Jack Horner of *Jurassic Park* fame—all connected philosophically to trend following thinking (at least in my mind).

Yet this wild ride has been far more than one-on-one conversations. The serendipity of *Trend Following* has led me around the world before live audiences in Chicago, New York City, Beijing, Hong Kong, Kuala Lumpur, Macau, Shanghai, Singapore, Tokyo, Paris, Vienna, and São Paulo. A speaking gig in front of 1,500 native German speakers at the Hofburg Palace, the former imperial palace in Vienna, Austria—that happened.

And it kept going. Audiences with China Asset Management to Singapore's Sovereign Wealth Fund GIC to regular investor audiences Most big startup breakouts are where people aren't paying attention.

Bill Gurley¹⁸

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If you're chasing the masses, you're almost certainly heading the wrong direction. The masses are ignoring you. It's the weird who are choosing to pay attention, to seek out what they care about.

Seth Godin

It is necessary for you to learn from others' mistakes. You will not live long enough to make them all yourself.

Hyman G. Rickover

with well over a thousand people—everyone from new investor to pro who wanted to learn more about trend following, all allowed me to come into their world.

But I recall my first public presentation in support of *Trend Following*—fall 2004 at Legg Mason's headquarters in Baltimore, where their chief market strategist had invited me to lunch. Afterward, I was escorted up a flight of stairs to a nondescript door. Upon entering the room, I found it filled with young bankers listening to a speaker. Michael Mauboussin, then Legg Mason's chief investment strategist, motioned for me to sit. I instantly recognized the speaker as Bill Miller, then the fund manager of Legg Mason Value Trust. At the time Miller had beaten the S&P 500 index for 14 straight years—and was easily one of Wall Street's most successful and famed players.

Miller then introduced me to the audience. Until that moment I had no idea I was up next. For the next hour, Miller from one side of the room, and Mauboussin from the other side, alternately peppered me with questions about trend following, risk management, and the TurtleTraders.

After the presentation I thanked Miller for the opportunity to make my case, but wanted to know how he learned about *Trend Following*. He said, "I surf Amazon for all types of books. I came across yours, bought it, liked it, and told all my people at Legg Mason they should read it."

At that moment I knew *Trend Following* might be catching on a little—at least in some very rarified circles. Forget sales—which were very good—I knew that if *Trend Following*'s message had struck a chord with Miller, who was not trading as a trend follower, I might be on to something life changing.

However, now it is time to bring this living work forward to 2017 and a whole new audience and generation for I have barely dented the broad consciousness of global investors. Roughly \$80 trillion of investable assets sit squarely at the mercy of EMT inside buy and hold and/or passive index funds with only a quarter of 1 percent of assets in trend following strategies. Almost everyone's savings and retirement monies are literally a slave to wobbly economic theory that leaves the masses unprepared for the next smack down.

That *slavery* is why I have yet again opened up the chest cavity on *Trend Following*. Not outpatient surgery to correct typos, but open-heart surgery to add thousands of details—big picture to minutia that bulk up

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the original to a new and improved *Schwarzenegger-on-steroids* edition. For starters, *Trend Following* is now divided into three sections:

- 1. Trend Following's original chapters and principles, updated and extended.
- 2. Trend following interviews (new): Seven interviews from pros illuminate trend following's big picture with the requisite finer details.
- **3.** Trend following research (new): Research contributions that add to the trend following conversation for average investors, professionals and scholars.

because it can't think.
Richard Kenney

The river meanders

This is my most radical and extended volume. Content changes and additions are everywhere. It's now three books in one. I have added material in a way where you can take small steps or go for the deep dive—starting on almost any page. The tone is different, too. Toned down in some areas, toned up in others. Some of my younger blank and vinegar was expunged and reformulated to a new mature version, while staying true to the heart and soul of my origins. Last, some might complain there is too much information, too much content, and I am throwing the kitchen sink at the subject. If so, I will be happy with that criticism. Guilty as charged.

Now, if you're looking for guru secrets or easy money riches—please head on back to that OxyContin bender. There is no such thing. If you're in the mood for outlandish predictions, stories about the ultimate *gut* trader, or what it's like to work inside a Wall Street bank, or if you want to complain life is unfair and beg for the government to save you with a bailout—no one can help you on your path to irrelevance. Or, worse yet, if you maintain faith in EMT, steadfastly refusing to consider overwhelming contradictory evidence, maybe you can burn me in effigy along with Bouchaud and Harding. If you fit any of these problematic profiles, there is a good chance my words, and my politically incorrect perspective, will give you an aneurysm. Turn me off now.

In the alternative, if you want outside-of-the-box *different*, the truth of how out-sized returns are made without any fundamental predictions or forecasts, this is it. And if you want the honest data-driven proof, I expect my *digging* will give everyone the necessary confidence to break their *comfort* addiction to the box they already know and go take a swing at making a fortune in bull, bear, and black swan markets.

—Michael W. Covel

"Trend" synonyms: tendency, movement, drift, swing, shift, course, current, direction, progression, inclination, leaning, bias, bent.