A Guide to Better Financial Decisions

Victor Haghani
James White

Foreword by
Emmanuel Roman, CEO of PIMCO

WILEY

Praise for *The Missing Billionaires*

This is a marvelous book that importantly extends the literature on financial decision-making. The authors creatively weave together the essence of practical considerations with insightful academic theory. One of a small handful of books that is timeless and should be read and reread over a lifetime for enjoyment and substance.

—Gary P. Brinson, CFA, Author, and
Founder of Brinson Partners

The missing billionaires in the book's title allude to the difficulty of keeping already-made fortunes. Believing that nobody should get rich twice, Victor and James arm investors with lessons galore, drawn from their long practitioner careers. Yet the core lessons come from academia, and this wonderful book gives the best shot for Expected Utility and lifecycle models to finally become widely used in real-world investment decision-making. Uniquely, this book puts position sizing in the center, showing through many illustrations how "too much of a good thing" can be just too much.

—Antti Ilmanen, Principal at AQR Capital,
Author of *Expected Returns*

The Missing Billionaires addresses a topic that gets far too little attention in the investment community: how much to invest. The book is a terrific blend of theory, practice, and stories from the front lines. This is must-reading for anyone seeking to invest and spend wisely.

—Michael Mauboussin, Author and Head of
Consilient Research, Morgan Stanley

I enjoyed and learned from Victor and James' book on incorporating uncertainty directly into making better financial decisions. Rightly so, for them, risk is front and center. This book is a great education for all of us, seamlessly marrying sophisticated theory with applications, demonstrating the beauty of a risk architecture that combines specificity with illuminating implementations into the lifetime wealth management problem.

—Myron S. Scholes, Frank E. Buck Professor of Finance,
Emeritus, Stanford Graduate School of Business,
Nobel Laureate in Economic Sciences

THE MISSING BILLIONAIRES

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A GUIDE TO BETTER FINANCIAL DECISIONS

VICTOR HAGHANI

JAMES WHITE

WILEY

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To my mother and father, Lucille and Moosa, for their love and for bringing me into the world at the best possible time. To my three children, Josh, Jess, and Mark, for giving meaning to everything I do. And to my wife, Celeste, for your love and boundless understanding.

VJH

Contents

Foreword *xiii*
Preface *xvii*
About the Authors *xxi*
Acknowledgments *xxiii*

Chapter 1: Introduction: The Puzzle of the Missing Billionaires **1**

SECTION I: INVESTMENT SIZING **13**

Chapter 2: Befuddled Betting on a Biased Coin **15**

Chapter 3: Size Matters When It's for Real **27**

Chapter 4: A Taste of the Merton Share **41**

Chapter 5: How Much to Invest in the Stock Market? **49**

Chapter 6: The Mechanics of Choice **67**

Chapter 7: Criticisms of Expected Utility Decision-making **103**

Chapter 8: Reminiscences of a Hedge Fund Operator **117**

SECTION II: LIFETIME SPENDING AND INVESTING **127**

Chapter 9: Spending and Investing in Retirement **129**

Chapter 10: Spending Like You'll Live Forever **149**

Chapter 11: Spending Like You *Won't* Live Forever 165

SECTION III: WHERE THE RUBBER MEETS THE ROAD 173

Chapter 12: Measuring the Fabric of Felicity 175

Chapter 13: Human Capital 193

Chapter 14: Into the Weeds: Characteristics of Major Asset Classes 201

Chapter 15: No Place to Hide: Investing in a World with No Safe Asset 235

Chapter 16: What About Options? 245

Chapter 17: Tax Matters 265

Chapter 18: Risk Versus Uncertainty 275

SECTION IV: PUZZLES 285

Chapter 19: How Can a Great Lottery Be a Bad Bet? 287

Chapter 20: The Equity Risk Premium Puzzle 291

Chapter 21: The Perpetuity Paradox and Negative Interest Rates 297

Chapter 22: When Less Is More 303

Chapter 23: The Costanza Trade 309

⋆ ⋆ ⋆ ⋆ ⋆ ⋆

Chapter 24: Conclusion: U and Your Wealth 319

Bonus Chapter: Liar's Poker and Learning to Bet Smart 327

Cheat Sheet 335

A Few Rules of Thumb 340

Endnotes **343**

Suggested Reading *357*
References *359*
Index *373*

Foreword

In the first pages of this excellent new book by Victor Haghani and James White, you are going to meet Cornelius "Commodore" Vanderbilt. The name is of course familiar and a quick search on the internet will tell you that he died in 1877, leaving his eldest son, Billy, more than a hundred million dollars, the largest fortune in the world at that time. The family grew and expected to live luxuriously. Asset returns have been so strong over the past 150 years that Cornelius' heirs today should all be worth more than $1 billion each. It didn't turn out that way for the Vanderbilts. By the 1950s, there was not a single descendant of Cornelius who was a millionaire, let alone a billionaire. The Vanderbilt family tree is a conspicuous, but not unusual, example of the "billionaires manqués" that highlight the importance, and the challenge, of making good financial decisions.

When Victor first told me this story over dinner, I suggested many explanations: war, taxes, divorce, the crash of 1929. But none of them held up to scrutiny. We settled on two: the Vanderbilts did a poor job sizing their investment risk (too much concentration) and failed to connect their spending practices to their risk-taking.

This book is profoundly novel in the personal finance literature in its focus on investment sizing rather than investment selection. Victor and James develop a logical and practical framework for thinking through these important "how much" decisions we face in our financial lives, such as how much to allocate between stocks and bonds, how much to spend, or how much capital gains tax to pay. This is especially important in a time of great uncertainty in asset prices, interest rates, inflation, taxation, and even individual longevity.

I believe this book is destined to become a Wall Street classic, to be passed down by generations of trading floor veterans who are passionate about markets and thoughtful about risk. I hope it will serve as an

antidote to the stories of wild risk-taking glorified in *Reminiscences of a Stock Operator*, a dog-eared copy of which was handed down to me when I was just starting out. I also expect *The Missing Billionaires* will become an important gift from parents to their children, and beyond.

Victor and James are skilled at explaining difficult concepts in a down-to-earth, intuitive fashion, providing a practical toolkit that readers can use to organize their financial lives. This book will benefit both financially educated readers and readers for whom all this material is quite new. It's packed with case studies and anecdotes that bring the core concepts to life. The authors combine a deep understanding of the academic finance literature with their own extensive experience as finance professionals, both as arbitrage traders and then as the principals of Elm Wealth, their multi-billion-dollar wealth management practice.

For 20 years, Victor and I hosted a regular dinner where we would discuss analytical finance problems over kebabs and decent red wine. A perfect fuel for such a dinner would have been Chapter 8, where you'll find the first inside account by an LTCM partner of the decisions faced over the short but eventful life of the much-studied hedge fund. The lessons learned apply just as much to a tech start-up deciding how much cash to hold between rounds of financing or to getting into an Uber where the driver does not look one bit like the picture on your phone (likely a bad idea). The discussion will force you to think about how to incorporate low-probability, high-consequence tail events into your decision-making. Its humility is sobering.

Finance took an unexpected turn in 1973 when Fischer Black and Myron Scholes published their now-famous paper on option pricing. For 50 years, academic researchers and practitioners have built upon their work. It is not obvious to me what good it has done for individual investors, although it has helped banks create, and profit from, many complicated derivatives (full disclosure: a long time ago, I worked in equity derivatives at Goldman Sachs).

You will learn about another seminal paper published four years earlier in 1969 by Robert Merton, about how much to put in the stock market and what fraction of your wealth to spend each year as you age. This paper has been largely forgotten outside academia, just like the 1956 paper by John Kelly on how to optimize the growth of wealth. Victor and James place the ideas of these papers at the core of the book. They will give you a framework for thinking about whether you're taking too little or too much risk and how to match your spending to the risks you're taking.

Spending from one's wealth in retirement is an important problem, one that I devote a lot of time to at PIMCO in my day job and also through my involvement with the University of Chicago's Roman Family Center for Decision Research. Taxes matter, longevity matters, spending matters, and drawdowns matter. You will find in Section II a full discussion of these topics, and in Section III some excellent unbiased advice on how to practically use these ideas to keep your financial life in order.

Adventurous readers will be rewarded by taking time to read Section IV. Here you will find a set of fascinating puzzles that can be unlocked with the key concepts of the book. This is a book you'll want on your shelf to think through thorny issues again and again. It is a must-have resource for anyone seeking to make informed and thoughtful financial decisions at any stage of life, whether you're a young investor building wealth, an entrepreneur invested heavily in your own business, or at a stage where your primary focus is investing, spending, and giving.

I started working at Goldman Sachs in New York City in July 1987 and have been lucky to ride a wonderful slow wave of strong equity and fixed income returns. But despite this very favorable backdrop, I have observed near-inexplicable financial decisions by numerous wealthy and highly intelligent people, many of whom would count in Victor and James' tally of "missing billionaires." I have also seen my own approach to financial decision-making evolve with time and experience. I am happy to say my thinking has tended to converge with the ideas of this book, but not as quickly as I wish they had. Victor and James say that they wrote this book with their younger selves in mind. They are not the only ones who would have benefited from reading this book decades ago. It is a gift I intend to give frequently!

Emmanuel Roman
CEO, PIMCO
Newport Beach, CA
April 2023

Preface

There are thousands of books on personal finance.† Unfortunately, by and large, these books do not agree with one another, leaving the seeker of sound financial advice adrift. In contrast, textbooks written for university courses on financial decision-making closely agree.[1] Given this harmony among professors writing textbooks, you'd think that when they turn their attention to writing books for a wider, nonacademic audience, they'd deliver a consistent, unified message. Alas, this is not the case. For example, one distinguished professor writes a book titled *A Random Walk Down Wall Street*, and another gives us *A* ***Nonrandom*** *Walk Down Wall Street*. We have one advocating investing heavily in *Stocks for the Long Run*, and another warning us of stock market *Irrational*

† 3,537 to be precise, according to the US Library of Congress.

Exuberance. Some tell us to only invest in low-cost index funds, while another, in *The Little Book That Beats the Market,* suggests we invest in a handful of stocks that will deliver exceptional returns. Then there are two MIT-minted professors, one who suggests we should *Risk Less* and mostly invest in safe government bonds, while the other advocates that young adults hold a two times leveraged exposure to stocks. And these are just the books by the professors.

Perhaps it's less surprising that we get diametrically opposed advice from industry titans advocating their own firm's offerings. For example, Vanguard founder John Bogle preached the benefits of index funds in *The Little Book of Common Sense Investing*, while the legendary (retired) manager of Fidelity's stock-picking Magellan Fund, Peter Lynch, encourages investors to try to beat the market by picking stocks that make products they like in his popular *One Up On Wall Street*. The cacophony of advice grows louder still, and its deviation from economic theory becomes more unsettling, when we survey the whole of the popular personal finance literature, including such titles as *Rich Dad, Poor Dad* or *The Millionaire Next Door*.[2]

One reason behind this disturbing divergence of financial advice is that most books on personal finance assume a typical reader, subject to typical circumstances, and then endeavor to tell that reader what to do. Different assumptions about who and what is typical can lead to dramatically different recommendations. In writing this book, we have been motivated by the proverb, "Give a man a fish, and he won't be hungry for a day; teach a man to fish, and he won't be hungry for a lifetime." Our intent is to give you a practical framework, consistent with the consensus of university finance textbooks, for making good financial decisions that are right for you. Good decisions will take account of your personal circumstances, financial preferences, and your considered views on the risks and expected returns of available investments.

Who Is This Book For?

This book is for anyone who feels that making better financial decisions can materially improve their welfare. You will likely get the most out of this book if you have already accumulated a decent amount of financial capital or if you are young with a healthy measure of human capital. A good number of our readers will be finance industry professionals, who we trust will find ideas in this book that they haven't encountered

in their day jobs. We focus primarily on individuals and families rather than institutional investors, although many of the concepts we discuss are relevant to all stewards of capital.

We assume the reader is familiar with common investment products (stocks, bonds, mutual funds, index funds, ETFs, options) and concepts (compound return, time value of money, yield-to-maturity, inflation). We acknowledge and respect the intelligence of our readers by refraining from giving blindingly obvious advice, such as the merit of paying off credit card debt accruing at 20% interest with cash sitting in the bank earning 2% interest, or that you should avoid paying higher fees or taxes than necessary. We also recognize that all of us wrestle with a long list of cognitive biases in our decision-making, but we trust that you are like we are in wanting to conquer these foibles and make better decisions. Indeed, there is little else we can do, once we acknowledge that not deciding is itself a decision.

For readers who want to build or refresh their knowledge of finance basics before diving into this book, we recommend taking a short, free online course such as "Financial Markets" by Robert Shiller on Coursera. Basic high school math proficiency, including comfort with ideas expressed using symbols and words, is all that's needed to fully understand every concept in this book. We have used shaded technical sidebars to give more mathematically inclined readers a deeper dive, but these can be skipped over without any loss of understanding. We have also used unshaded sidebars to tell stories from our personal adventures in finance and have included several chapters of puzzles that help illustrate key concepts. We use footnotes at the bottom of each page for interesting but nonessential musings, and we employ endnotes to give credit and references, state further assumptions, deal with technical minutiae, or expand on topics beyond the scope of the core text. Each chapter is headed with a cartoon illustration drawn by the very talented Paul Bloomfield, which we hope will help you remember the main landmarks and path of your reading journey.

The book is written from the perspective of a US individual or family, and many of the examples, particularly involving taxation and retirement products, are set in the US context. We hope this doesn't detract from the value that non-US readers can derive, as the concepts and framework we describe can be adapted to any setting.

Of course, all authors hope their books will be useful to as broad an audience as possible. Regardless of your background, we hope to persuade you through practical examples and applications that the financial

decision-making framework we describe herein is sensible and eminently practical.

Wishing you tight lines, bent rods, and full nets!

We value your feedback and would love to hear your thoughts, experiences, questions, or suggestions. We'll be keeping a running discussion of our interaction with our readers who are comfortable sharing our dialogue publicly on this page of our website, www.elmwealth.com/MissingBillionaires.

About the Authors

Victor Haghani has spent four decades actively involved in markets and financial innovation. He started his career in 1984 at Salomon Brothers in bond research. He moved to the trading floor in 1986 and shortly after became a managing director in the bond arbitrage group run by John Meriwether. In 1993, Victor was a cofounding partner of Long-Term Capital Management (LTCM). He established and co-ran its London office. His participation in the failure of LTCM was a life-changing experience that led him to question and revise much of the way he thought about the economy, markets, and investing.

Through a careful study of the academic literature on investing and many thought-provoking discussions with friends, colleagues, and investors of all backgrounds, Victor concluded that savers can and should do much better. He founded Elm Wealth in 2011 to help investors, including his own family, manage their savings in a disciplined, research-based, cost-effective manner and to capture the long-term returns they ought to earn.

In his 2013 TEDx talk, *Where Are All the Billionaires and Why Should We Care?,* Victor shared his perspective on the synthesis of active and passive investing, which forms the basis of the Dynamic Index Investing® approach offered by Elm Wealth. Over the years, Victor became fascinated with the challenge of making good decisions on broader questions about wealth and personal finances, including sound spending policies, tax decisions, and retirement choices.

Victor was born in New York City in 1962 and grew up in New York, Pennsylvania, Tehran, and London. As an adult, he has resided in New York City and London and, more recently, has been based in Jackson Hole, Wyoming. Victor graduated from the London School of Economics (LSE) in 1984 with a B.Sc. (economics). He has been a prolific contributor to the academic and practitioner finance literature.

Victor has been involved in a variety of other activities, including research and lecturing at the LSE, where he was a senior research associate in the Financial Markets Group, as well as consulting and board assignments and acting as a "name" in the Lloyd's of London insurance market. He loves the outdoors and is an avid skier, hiker, and fisherman and enjoys taking long walks with his dog Milo. He has always been fascinated by airplanes, flying model ones as a boy and full-size ones as an adult.

James White has spent two decades working in finance, covering the gamut of quantitative research, market-making, hedge fund investing, private equity investing, and wealth management. He has been the chief executive officer (CEO) of Elm Wealth since 2018, working with Victor to help friends, family, and clients sensibly and efficiently invest their wealth. After meeting through a mutual friend, James and Victor began working on research and writing together, sharing ideas, and collaborating regularly. After James built the next generation of Elm's portfolio management systems, he and Victor were talking and working together every day so joining Elm as the CEO just seemed natural.

Since then James has moved to Philadelphia to establish Elm's headquarters and has seen the business grow to serve hundreds of families and manage around $1.5 billion of their assets. He splits his time between working with clients, continuing to develop and improve Elm's systems, and research and writing.

After studying math at the University of Chicago, James lived and worked all over the world, first for Nationsbank/CRT and Bank of America, then for Citadel Investment Group, then as a partner at PAC Partners, a boutique private investment firm. His interest in optimal trade-sizing and risk-taking arose from each of these experiences and has culminated in the way Elm Wealth advises and invests for clients today.

James is an avid rock climber, classical guitarist, cook, and lover of renaissance history and music. When not in Elm's office or visiting clients, he can usually be found out climbing, hiking, eating, or traveling somewhere that nicely incorporates all three.

Acknowledgments

We owe a debt of gratitude to the many people who have contributed to our financial education, in both theory and practice, and to our professional and personal development. We have been blessed to have patient and caring teachers right from the start of our careers, including (for Victor) Bob Kopprasch, Bill Krasker, Robert Merton, Chi-fu Huang, and Myron Scholes, and (for James) Sean Becketti, Nessan Fitzmaurice, and Vladimir Piterbarg. We thank our colleagues and co-travelers who have shared so much of their wisdom and experience with us, in particular John Meriwether, Larry Hilibrand, Rob Stavis, Richard Leahy, Eric Rosenfeld, Samir Bouaoudia, Larry Bernstein, Ephi Gildor, Hans Hufschmid, Hedi Kallal, David Heatley, Lord Jacob Rothschild, and Alan Howard. We have learned so much from each of you.

Hedi Kallal first introduced us and saw that we were both on the same intellectual journey and would benefit from traveling it together. Without his inspired and fortuitous introduction, neither this book nor our friendship would have happened, for which we owe him tremendous thanks.

Our friends' generous contributions to this book have been tremendous and humbling. Thank you to Antti Ilmanen for your boundless encouragement, your introduction to our editors at Wiley, and your many valuable comments and corrections. Jeff Rosenbluth and Larry Hilibrand went far, far beyond the call of friendship in the countless hours they spent reviewing and shaping the manuscript, not to mention contributing many of the core ideas of the book. Others who gave much of their time to the development of the book include Ayman Hindy, Richard Dewey, John Glazer, Vladimir Ragulin, and John Karubian. We also received valuable comments and corrections from Jamil Baz, Bruce Tuckman, Steve Mobbs, José Scheinkman, Peter Hirsch, Saman Majd, Arjun Krishnamachar, Bill Montgomery, Ian Hall, Aneet Chachra,

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Our understanding has been shaped by many deep thinkers and writers in finance who have generously shared their insights through academic articles, lectures, and books, including John Campbell, Robert Shiller, John Cochrane, Phil Tetlock, Ed Thorp, Cliff Asness, and Howard Marks. We thank our coauthors of previous articles, which provide the foundation of several chapters of the book, including Rich Dewey, Vlad Ragulin, Larry Hilibrand, Jeff Rosenbluth, and Andy Morton. There are many people at Wiley who helped make this book a reality, and we thank them all, but in particular we must sing the praises of our publisher, Bill Falloon, whose wisdom, good nature, and patience are responsible for this book coming to life. We'd be pleased if some readers decide to judge our book by its cover art, generated by our multi-talented friend Jeff Rosenbluth.

We are grateful that our dear friend Manny Roman graciously agreed to write the foreword to the book, carving out time from his day job of running the world's largest bond investor, PIMCO. We hope he will one day write a book himself or perhaps publish a collection of his poetry for all to enjoy. We thank Michael Lewis and Matt Levine for their friendship and their inspiration, showing us that it is possible to write about finance in a manner that makes the heart race while conveying valuable and astute insights.

For those of you who have been readers of our monthly Thought Pieces over the past decade, we heartily thank you and have found your steadfast interest and feedback invaluable in spurring us on to writing this book. We are beholden to our clients at Elm Wealth for their trust and openness in giving us an opportunity to develop and test the practicality of many of the ideas we discuss in this book. Finally, we must thank all those "missing billionaires" who have helped us realize that there was a book that needed to be written about making better financial decisions.

THE MISSING BILLIONAIRES

1

Introduction: The Puzzle of the Missing Billionaires

Any fool can make a fortune; it takes a man of brains to hold onto it.
—Cornelius "Commodore" Vanderbilt

A beautiful statue of Cornelius Vanderbilt, the nineteenth-century rail and shipping tycoon, adorns the outside of Grand Central Station in New York City. It's there because "the Commodore" ordered the station's construction. Although partially obscured today by an eyesore

called the Park Avenue Viaduct, the statue sits right at the heart of midtown Manhattan, the global center of finance, regularly visible to many of today's financial titans.

When Vanderbilt died in 1877, he was the wealthiest man in the world. His eldest son, Billy, received an inheritance of one hundred million dollars—95% of Cornelius' fortune. Unfortunately, it came without even the most basic of instructions on how to invest and spend this wealth over time. Within 70 years of the Commodore's death, the family wealth was largely dissipated. Today, not one Vanderbilt descendant can trace his or her wealth to the vast fortune Cornelius bequeathed.† The Vanderbilt clan grew at a higher rate than the average American family, but even so this outcome was far from guaranteed. If the Vanderbilt heirs had invested their wealth in a boring but diversified portfolio of US companies, spent 2% of their wealth each year, and paid their taxes, *each one living today would still have a fortune of more than five billion dollars.*

What went wrong?

The Vanderbilt experience is noteworthy in scale but not in substance. The dissipation of great wealth over just a few generations is a common enough occurrence to warrant its own maxim: "from shirtsleeves to shirtsleeves in three generations." The truth of this dictum can be seen in how remarkably few of the billionaires in the news these days are the scions of old-money wealth. From these observations, we can tease out a valuable insight: the wealthiest families of the past were not equipped to consistently make sensible investing and spending decisions. If they had been, their billionaire descendants would vastly outnumber today's newly minted variety.

To get a rough count of these "missing billionaires," let's turn back the clock to 1900. At that time, the US census recorded about four thousand American millionaires, with the very richest counting their wealth in the hundreds of millions. If a family with five million dollars back then had invested their wealth in the US stock market and spent from it at a reasonable rate, that single family would have generated about 16

† Hopefully his descendants had a good time while dissipating their wealth. It brings to mind how George Best, the legendary Manchester United winger in the wild 1960s, answered a reporter's question asking how he went through all his money: "I spent a lot of money on booze, birds, and fast cars. The rest I just squandered."