NEW AND REVISED FOURTH EDITION

THE

Empowered Investor

Your Guide to Becoming Financially Secure Forever

KEITH MATTHEWS

The Empowered Investor

PRAISE FOR THE FIRST EDITION (2005)

The Empowered Investor *wisely makes no pot-of-gold promises, nor does it serve up new fads and fashions. This engaging investment guide offers something different: a refreshingly straightforward take on how to invest your money wisely.*
—Neville Nankivell, former editor-in-chief and publisher of *The Financial Post*

Keith has managed to educate our readers by supplying concrete examples and explanations that bring clarity to an often complex and hyped investment world. His work is phenomenal.
—Julien Martel, editor and publisher of *Santé Inc.*

Keith Matthews was among the very first to adopt and use Exchange Traded Funds in portfolios. His forward thinking has kept his firm, one step ahead of the competition.
—Howard J. Atkinson, CFA, CIMA, author of *The New Investment Frontier II: A Guide to Exchange Traded Funds for Canadians*

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Read it and sleep better.
—Don Macdonald, *The Montreal Gazette*

A book that should have a profound impact on Canada's investing landscape—a book that just may empower.
—Jonathan Chevreau, *The National Post*

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Unlike most investing books, The Empowered Investor *is full of timeless wisdom rather than noisy distractions.*
—Dan Bortolotti, creator of *Canadian Couch Potato*, chosen as Canada's best investment blog by *The Globe and Mail*

Read this important book to benefit from Keith's clear thinking on successful financial and investment plans.
—Gerry Rocchi, former CEO of Barclays Global Investors Canada

If you're a fan of evidence-based reasoning instead of glossy marketing brochures and sales pitches, this is a fantastic book to bring you up to speed on the world of prudent portfolio management … there are valuable lessons here for DIY investors as well as investors who work with an advisor.
—Preet Banerjee, finance commentator and author of *Stop Over-Thinking Your Money! The Five Simple Rules of Financial Success*

PRAISE FOR THE FOURTH EDITION (2019)

Keith's approach is straightforward and easy to understand. I come away feeling very financially secure. Thank you!
—Juliana Arsenault

Keith has consistently followed a transparent, client-centred philosophy and an approach based on index investing. We trust him because we know he always has our best interests at heart.
—Keith Wilcox and Judy Macarthur

The first edition of The Empowered Investor *inspired us to reach out to Keith and his team. He has helped us surpass our financial goals through an intelligent, unbiased, and transparent approach that always puts our interests first.*
—Dr. Earl and Mavis Morgan

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KEITH MATTHEWS

New and Revised Fourth Edition

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Investments and investing strategies should be evaluated based on your own objectives. Readers should use their best judgment and consult a financial expert prior to making any investment decisions based on the information found in this book.

Dedicated to our clients at Tulett, Matthews & Associates and the readers across Canada who have embraced and committed to the principles of *The Empowered Investor*

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PREFACE

The Empowered Investor in 2019

When I first set out to write *The Empowered Investor* fifteen years ago, I never imagined that I would release a fourth edition in 2019. I firmly believe that the philosophy championed in this book has the power to utterly transform your investment experience. And I firmly believe that this philosophy merits repeating using the most up-to-date evidence and data available in order to showcase its benefits to investors—benefits that endure whether the markets rise to new heights or tumble to new lows.

Since 1995, when I left my job as a bond trader to become a private client advisor, I have employed the techniques outlined in *The Empowered Investor* with my clients at Tulett, Matthews & Associates, with my friends and family, and in my own investment portfolio. I have witnessed the success of these strategies—for *all* types of investors, in *all* market conditions, whether favourable or challenging. I wrote *The Empowered Investor* to share these strategies and that success with you, with the hope of inspiring you to take action to bring clarity to your own finances.

My colleagues at Tulett, Matthews & Associates and I care about *you*, *not* just your money. We put your needs first, offering straightforward, independent advice tailored to your life, your ambitions, and your aspirations. Using the precepts described in *The Empowered*

Investor, we work with you to integrate your investment and retirement strategies so that you can see your future more clearly than ever before.

I know that the investment approach explained in the following pages will help you become financially secure forever. And I look forward to writing new editions of *The Empowered Investor* when the need arises and the time is right.

Keith Matthews
May 2019

The Empowered Investor

INTRODUCTION

Too Many Choices, Too Many Voices

You shouldn't feel in the dark about your financial future. You've worked hard to get where you are, putting money aside, sacrificing and saving today to provide for tomorrow. You want to know that you're doing the right thing with your investment portfolio and your retirement savings. But you may still be unsure. Does it feel like there are too many choices and too many voices telling you how to invest?

There are hundreds of strategies, thousands of advisors, and seemingly endless—and often contradictory—lists of do's and don'ts. In the face of so many options and opinions (see figure 1), even the thought of *trying* to plan your investments and your retirement can be daunting. It's no wonder that so many people fall prey to self-doubt or second-guessing, or that others are frustrated with or alienated by the complexity of the process. Stressed out and overwhelmed, you might put off your investment and retirement planning for a day, and then another, gradually pushing it further and further down your to-do list—from tomorrow to next weekend, to next month, to next year … until suddenly you've lost so much time and you're *still* in the dark, feeling more apprehensive than ever about what lies ahead.

Figure 1 | Too many choices, too many voices

STEP INTO THE LIGHT

You deserve transparent, conflict-free counsel that puts your interests first. You deserve access to the knowledge and insights of the sharpest minds in the financial industry. You deserve a detailed, in-depth plan for preserving and enhancing your wealth. And you deserve to stop worrying about the future.

The Empowered Investor shines a spotlight on the winning principles of evidence-based investing, an approach supported by decades of sound academic research. Dispensing with hype and hyperbole, it describes proven investment and planning methods and explains how to integrate them into a comprehensive roadmap for realizing your personal financial goals.

In reading *The Empowered Investor*, you are taking the first step to gaining control of your finances and replacing anxiety and confusion with confidence, enlightenment, and a clear path to a secure and prosperous future.

CHAPTER 1

Tune Out the Noise

Avoiding Seven Critical Investment Mistakes

If you're like most of us, money *matters*. It's what enables you to provide for and take care of yourself and your family. It contributes to your sense of security and symbolizes your success. How you spend or save your money will reflect your priorities and your values, and might be intrinsically linked to your self-image and your self-worth. With so much "invested" (so to speak) in the concept of money, it's hardly surprising that your personal finances can be an intensely emotional topic—or that emotion may significantly influence your investment decisions.

Who do you trust to guide your investments and help you manage your money? Whose advice do you heed? So many people claim to have the inside track on investing. The investment industry issues forecasts that anticipate market movements and quarterly reports that tell you how to take advantage of conditions or safeguard your investments. News outlets triumphantly proclaim "new eras" of unprecedented growth or graphically depict doom-and-gloom scenarios. Experts offer their outlook and opinions on television, in print, online, or through social media. And well-meaning family, friends, and colleagues swear that this latest "tip" or "trick" will make your fortune. Everyone is so confident. Everyone seems so reliable.

THE EMPEROR HAS NO CLOTHES: BEWARE OF NOISE FROM THE FINANCIAL SERVICES INDUSTRY

If the nutritionist you hired to help you eat healthily was being paid by McDonald's, would you swallow his or her prescription to include Big Macs in your daily diet? Of course not—it's a blatant conflict of interest.

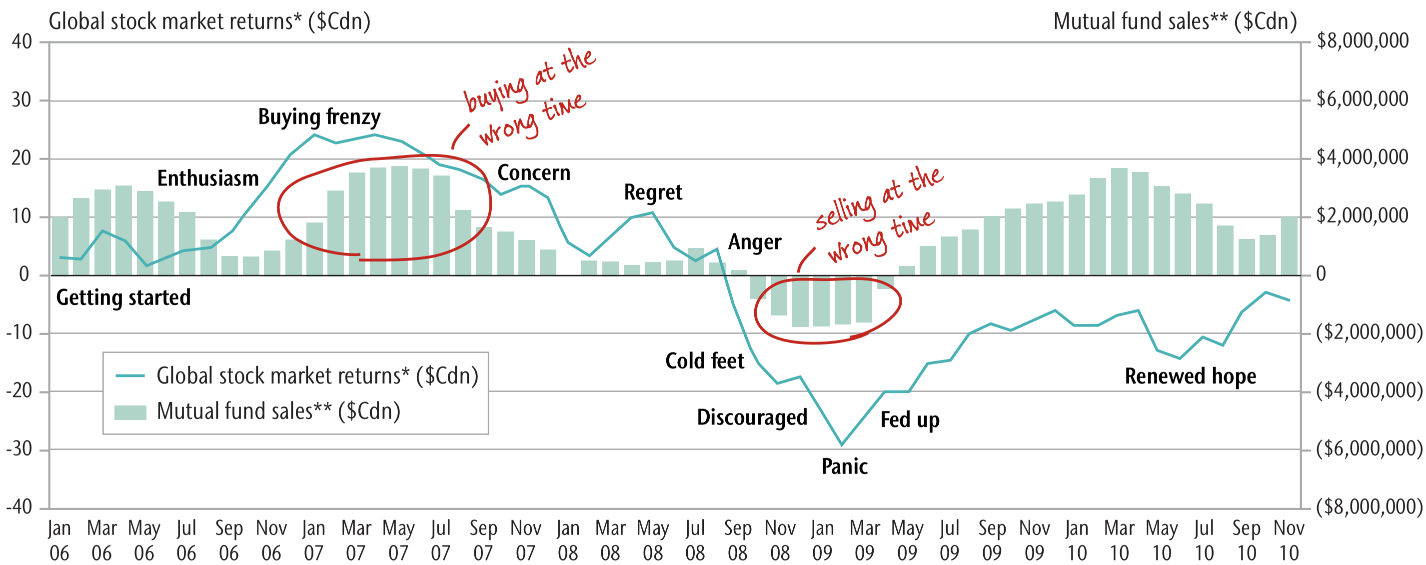
Regrettably, in the financial services industry, conflicts of interest tend to be subtle and harder to detect. In a company—whether a bank, a brokerage, or a mutual fund dealer—where retail sales drive profits, an advisor's livelihood is linked to meeting sales targets not clients' needs. This state of affairs often leads to questionable practices. In 2018, Royal Mutual Funds (a fund dealer owned by the Royal Bank of Canada) paid a $1.1 million fine to the Ontario Securities Commission for offering higher commissions to its advisors for selling the company's own proprietary mutual funds, regardless of whether those funds would truly benefit the client.

Whether in nutrition or finance, you should be able to trust the people who are advising you. Fortunately, although the most visible players in the Canadian financial services industry tend to be those driven by retail sales, there are many reputable and responsible investment management firms and financial advisors. Knowing where conflicts of interest may arise can help you ignore the marketing noise and focus on their methods to ensure that you are receiving impartial guidance.

To complicate matters further, your own feelings and behavioural biases can kick in, clouding your judgment. Wrestling with fear, hope, or despair while riding the roller-coaster of stock and bond returns can result in portfolio decisions that you'll later regret. Even emotions that are generally considered positive can hinder you in investing: abundant self-assurance may aid you in a job interview, but bravado as an investor can be disastrous.

As shown in figure 2, during the last credit crisis (2006–10), both the stock market and investors experienced wild mood-swings that

Figure 2 | Emotional investing



* MSCI World Index cumulative returns   ** Total net sales of equity mutual funds

Sources: The Investment Fund Institute of Canada and Morningstar® EnCorr® (TD Asset Management Inc.)

spurred many investors to unwise action. The line represents global stock market returns, the bars represent the amount of money added to or withdrawn from equity mutual funds each month, and the labels identify the emotions that assailed investors during this turbulent time.

The graph clearly demonstrates that, when markets were on the upswing, investors optimistically poured new money into equities despite soaring prices. When the markets took a downturn and the value of equities plummeted, investors scrambled to pull their money out. In other words, investors "bought high" and "sold low" with depressing consistency. Research confirms that this behavioural pattern repeats across different investing cycles.

TUNE IT OUT

The most fundamental lesson you need to learn as an investor is that all of the voices—all of the pointers, perspectives, and predictions—whether they originate in the financial industry, the media, your social and professional networks, or your own mind, are all just so much *NOISE*. And because listening to this noise—no matter how trustworthy the source—and allowing it to affect your emotions and your decisions, can have devastating consequences for your investments, the most essential skill you need to develop is the ability to *tune it out*.

Without this capability, the sheer volume of voices and choices can buffet and bemuse you, leaving you unable to make the most of the tried-and-tested methods discussed later in this book. Worse yet, being distracted by the hubbub heightens your vulnerability to committing one of seven critical investment mistakes that can sabotage your financial portfolio and prospects.

And although seasoned investors might consider themselves impervious to these investment pitfalls, complacency can be dangerous. The mistake of a moment may require years to fix. I can't count the number of times that an intelligent, experienced investor has admitted to me, "I resisted temptation for ten years, but last year I gave in and did something really foolish—and I'm still paying for it!" Reviewing these critical investment mistakes annually will bolster your determination not to succumb.

SEVEN CRITICAL INVESTMENT MISTAKES

1 | Not having an investment philosophy

When I talk with investors who feel uncertain about their investments and uneasy about their future financial security, I often discover that they (or their advisor) don't have, or fail to adhere to, an explicit investment philosophy. Some of them claim to buy "good deals"—which is *not* an investment philosophy but a haphazard and hazardous practice unlikely to be rewarding in the long run. These investors are attempting to hit a home run with every purchase. Baseball managers, however, don't coach their batters to swing for the fence on every pitch—sometimes the best tactic is to protect the plate and get on base.

An investment philosophy, or investment strategy, will determine which pitches you swing for and which you let pass. It's a set of principles to steer the decision-making process of an individual investor, a financial advisor, or an advisory firm, and to stipulate how your money will be managed.

Chapters 3 through 6 of *The Empowered Investor* describe the tenets of **evidence-based investing**, an all-encompassing investment philosophy that can boost your odds of long-term financial success.

2 | Not understanding the mathematics of a sustainable retirement

Do you have enough money in your investments to sustain your current lifestyle throughout your retirement? If your answer is "I have no idea!" you're not alone. Few Canadians truly understand how to implement the concept of sustainability in their lifestyle and finances.

"Sustainability" means taking proper care of your resources so that you can continue to use them in the future. In financial terms, it means setting aside enough money today for a fiscally healthy and independent retirement tomorrow. When you suspect that you're not saving enough, you're more likely to lend an ear to noisy promises of immediate and substantial gain. Anxious to recover the ground you've lost, you might take chances with your investments that have the potential to do lasting damage to your finances.

While nowadays you almost need to be an actuary to fully comprehend the consequences of living an unsustainable lifestyle, chapter 2 will explain how crucial it is for everyone to grasp the basic mathematics and features of a sustainable lifestyle and retirement.

3 | Building portfolios on predictions

Both the financial services industry and the financial media depend on predictions. To entice investors to buy their products, Wall Street, Bay Street, the brokerage industry, and the financial advisory business portray themselves as specialists at foretelling the markets. The financial media—from newspapers and magazines to web sites and blogs—use predictions and the accompanying advice, analysis, and argument to draw readers and viewers; and the more readership or viewership is up, the easier it is to attract advertisers. For the financial industry and media, predictions equal profits. For the bewildered investor, predictions are some of the loudest—and most insidious—noise.

When the financial industry and financial media urge you to build your portfolio based on their predictions and recommendations, they are implying that they have gazed into a crystal ball and foreseen not only the direction of the global economy, but also geopolitical events, changes to governmental regulations, taxes, and tariffs, environmental constraints, supply-and-demand factors, and every possible technological innovation. That's a tall order by any measure.

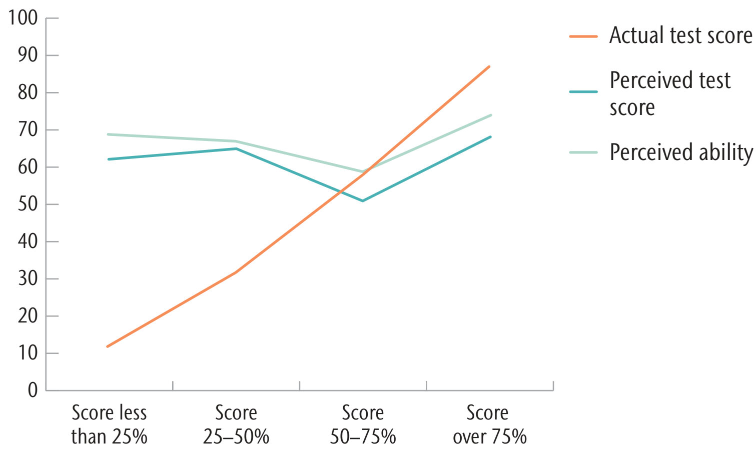
In reality, there are no crystal balls. In the first two decades of the twenty-first century alone, analysts have spectacularly failed to anticipate market events, including both the crash of 2008—one of the biggest financial crises in history—and the ensuing rebound. At the end of 2011, warnings rang of the implosion of the bond market, the demise of the Eurozone, and the death of equities, yet not one of these events

THE NOISEMAKERS: STUDYING THE PEOPLE BEHIND THE PREDICTIONS

Ironically, it turns out that the pundits with the *most* faith in their own predictions are actually the *least* likely to be good predictors.

Figure 3 graphs the results of an investigation in which researchers asked people to grade their ability (the pale blue-green line) and estimate their performance (the dark blue-green line) on a logic and reasoning test.[1] When the subjects' perceptions were compared to their *actual* test scores (the orange line), a disturbing pattern emerged: the people with the worst scores (less than 25 per cent) demonstrated unwarranted trust in their own capabilities. Not only were they unskilled, they were woefully unaware of it.

Figure 3 | Unskilled and unaware of it



1 Justin Kruger and David Dunning, "Unskilled and Unaware of It: How Difficulties in Recognizing One's Own Incompetence Lead to Inflated Self-Assessments," *Journal of Personality and Social Psychology* 77, no. 6 (1999): 1121–34.

came to pass. In January 2016, amid a slow start to the year for equities, the Royal Bank of Scotland issued a note to clients counselling them to sell everything in expectation of a 2008-style cataclysm. Instead, equities enjoyed a strong year globally. Any investor who had heeded RBS's call to sell out would have been forced to buy back into the market at higher prices.

And a study that monitored the views of experts in world politics for over a decade found that "[a]lmost as many experts as not thought that the Soviet Communist Party would remain firmly in the saddle of power in 1993, that Canada was doomed by 1997, that neofascism would prevail in Pretoria by 1994, and that the [Economic and Monetary Union] would collapse by 1997."[1] Although their predictions proved correct no more than 45 per cent of the time, these experts rated their confidence at a *minimum* of 80 per cent!

Why do people continue to listen to predictions if they are so frequently wrong? Some investors *need* to believe that the financial industry and media can foretell the future because being guided by "expert" opinion in their investments gives them a sense of security. But, *no one* knows where the markets are going and anyone who claims to is deliberately misleading you.

I am not advocating that you throw out your investment statements unread, cancel your subscription to the newspaper, turn off your TV, and ignore any and all coverage of the markets or the economy. It's your right to be informed. I merely want to emphasize that the conjecture and commentary broadcast to millions of people on a daily basis are a lot of sound with little substance and have no business changing the way you invest.

1 Philip E. Tetlock, "Theory-Driven Reasoning about Plausible Pasts and Probable Futures in World Politics," in *Heuristics and Biases: The Psychology of Intuitive Judgment*, edited by Dale Griffin, Daniel Kahneman, Thomas Gilovich (Cambridge: Cambridge University Press, 2002).

4 | Trying to outsmart the market

It may seem reasonable to try to outsmart the market—not to mention your fellow investors—by timing your entry into and exit from the equity markets. To buy when an asset class, a market sector, or the entire market is under-valued and sell when it's at its peak. But while market timing, as this practice is called, may seem sensible and straightforward in theory, it poses substantial peril in practice.

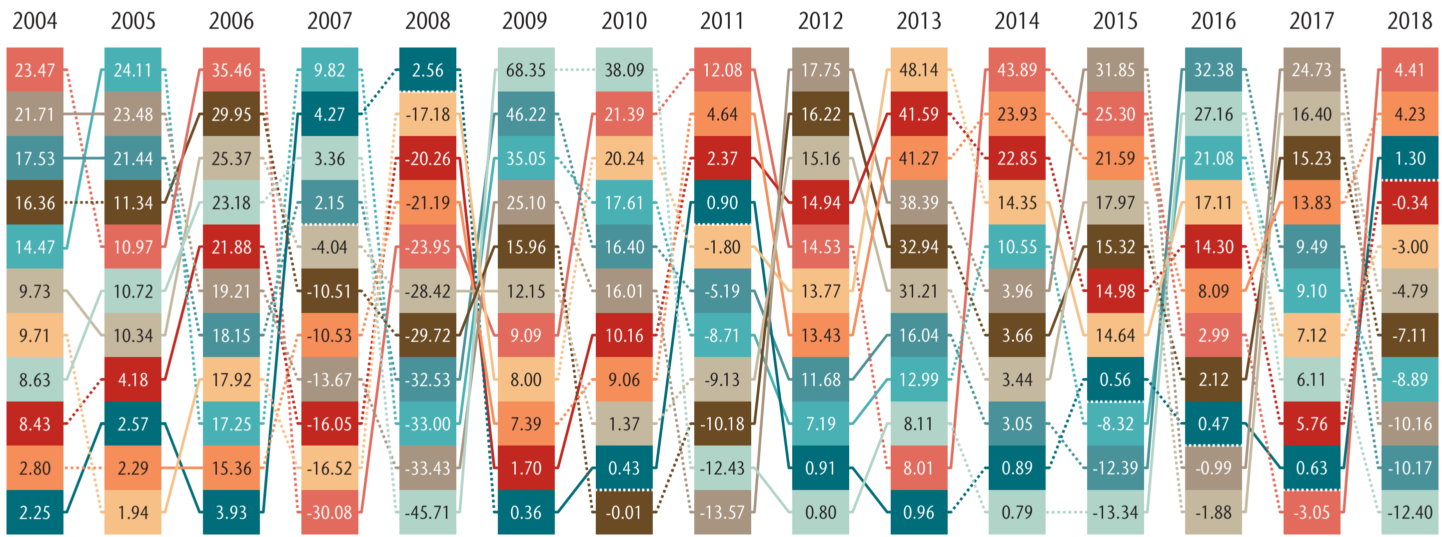
Market timing presupposes that market movements follow a discernible pattern and that future movements can be predicted on the basis of the past. But, as figure 4 proves, this assumption is entirely false. Figure 4 graphs changes in asset class prices between 2004 and 2018. As indicated in the legend, each colour represents one of eleven different asset classes. Under each year, the asset classes are stacked in order of their performance, with the best performer at the top of the stack and the worst performer at the bottom. A quick glance at the diagram suffices to see that the movements of asset classes are entirely random, with neither rhyme nor reason. The same holds true for market sectors and the market as a whole.

Market-timing, therefore, is not a forward-looking but a reactionary tactic, responding to current world events rather than future economic reality. Because of this, it can make you susceptible to noise and leave you at the mercy of your emotions. The anxiety provoked by negative headlines or lacklustre earnings reports can incite crazed selling sprees while industry accolades can prompt a feeding frenzy. And, frequently, the unfortunate outcome is that, having sold your assets, you miss out on the inevitable recovery and must buy back into the market at steeper prices.

5 | Chasing performance

Have you ever bought a "superstar" stock only to watch it dwindle by 30 per cent before you unloaded it? I have yet to meet an investor (myself included) who has not admitted to buying high and selling low at least once in his or her lifetime. Media buzz—a sizzling story behind a stock's

Figure 4 | Erratic and unpredictable – the movement of asset classes



Canadian Large Cap (S&P/TSX Composite Index)
Canadian Small Cap (MSCI Canada Small Cap Index*)
Canadian Value (MSCI Canada IMI Value Index*)
Canadian Fixed Income (FTSE Canada 30-Day T-Bill)
US Large Cap (S&P 500 Index)
US Small Cap (Russell 2000 Index)
US Value (Russell 3000 Value Index)
US Real Estate (Dow Jones US Select REIT Index)
International Large Cap (MSCI EAFE Large Cap Index*)
International Small Cap (MSCI EAFE Small Cap Index*)
International Value (MSCI EAFE IMI Value Index*)
—— value increases ······ value decreases

* gross dividends

Sources: FTSE fixed income indices © 2019 FTSE Fixed Income LLC. All rights reserved. MSCI data © MSCI 2019, all rights reserved. S&P, S&P/TSX, and Dow Jones data © 2019 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes. Past performance is not a guarantee of future results.

recent appreciation or the proclamation of a "new world" where prices can keep rising indefinitely—can spark fear or greed in your subconscious. You say to yourself, "What if I miss this amazing opportunity?" or "This is the stock that will do wonders for my portfolio!" And, before you know it, you've purchased a stock at its historic high.

Buying high and selling low is only one of the ways to chase performance. Media hype can also entice you to pursue the "hottest" fund managers or to pin all your hopes on the trendiest industry sectors and asset classes. However, as chapter 7 explains, meteoric success is never guaranteed and rarely long-lasting. As investors who bought at elevated levels in industries such as technology, pharmaceuticals, banking, real estate, consumer retail, and commodities over the last thirty years can attest, today's firecracker can be tomorrow's dud.

While a diversified, long-range portfolio should include all of the sectors mentioned above, trying to single out the next top performer is gambling with the success of your portfolio.

6 | Not diversifying properly

While bold investors, sure of their ability to pick winners, might bet big on a single stock or sector, most veteran investors are well aware that it is prudent to diversify their investments. Sadly, many people who think their investments are well-diversified actually have extremely uniform portfolios. And although narrowly-concentrated portfolios can occasionally pay off, the potential for loss far exceeds the possibility of gain.

As you will discover in more detail in chapter 4, it's not the *quantity* of your investments that counts, but the *variety*. Owning stocks in fifteen companies or investing in ten mutual funds is no guarantee of diversification if there is too much overlap between them. True diversification occurs when you invest in different asset classes, industrial sectors, geographical regions, and currencies.

7 | Letting emotions and behavioural biases hold sway

According to Warren Buffett, "Success in investing doesn't correlate with I.Q. … Once you have ordinary intelligence, what you need is the temperament to control the urges that get other people into trouble in investing."[2] Unfortunately, the human species is not hardwired to be model investors—and few of us possess Buffett's unflappable temperament. We're all too likely to be ruled by our emotions, much to the detriment of our capacity to make rational investment decisions.

Behavioural finance is a relatively new field that combines human psychology and the science of economics to study how emotions and cognitive errors influence the decision-making processes of investors.[3] It turns out that, above and beyond any technical benchmark, behaviour is central to investment outcomes. Thanks to this research, we now know that our brains have a set of filters—or behavioural biases—with critical implications for our financial well-being:

- *Herding behaviour* The desire to be part of the crowd and the assumption that the majority knows best.
- *Mental accounting* Treating some money (such as regular pay or an unexpected bonus) differently than other money.
- *Availability bias* Using the most readily available information, rather than *all* the relevant information, to make decisions.
- *Loss aversion* Basing decisions on the desire to avoid losses rather than to achieve gains.
- *Hindsight bias* The conviction that a recent unexpected event could have been foreseen ("it was obvious that a financial crisis was going to occur in 2008"), which subconsciously supports the belief that future outcomes can be predicted.
- *Confirmation bias* Looking for evidence and research to confirm existing investment beliefs and disregarding evidence and research to the contrary.

2 As quoted in Amy Stone, "Homespun Wisdom from the 'Oracle of Omaha'" *BusinessWeek* (5 June 1999).

3 Daniel Kahneman, one of the pioneers of behavioural finance, won the 2002 Nobel Prize in Economic Sciences. His research (in collaboration with the late Amos Tversky) was the first to expose how human judgment takes shortcuts that can result in poor decision-making.

- *Home bias* The idea that investing in one's own country is safer because it is more familiar.
- *Confidence bias* Overconfidence in one's assessments, partly due to the human tendency to optimistically overrate one's own abilities.

These behavioural biases help explain why clever marketing can persuade very shrewd and savvy people into making lousy investment decisions. While it's unrealistic to expect anyone to be immune to these biases—they are part of what makes us human—being aware that they exist can reduce the likelihood that they will control or sway you.

THE COMMON DENOMINATOR

In reading this chapter, you may have noticed that noise—whether generated by the financial services industry, the media, your social networks, or your own thoughts and feelings—features in all seven of the critical investment mistakes. And not only can noise lead you into temptation, it can also exacerbate the consequences, causing investment outcomes far below what you could otherwise attain.

A classic study of American investors plotted monthly cash flows in and out of mutual funds from 1987 through 2018 and illustrated the following dismal reality: over the last twenty years, the average US equity fund investor earned only 3.88 per cent annually compared to the S&P 500 return of 5.62 per cent.[4] Much worse, the average bond fund investor earned a miserly 0.22 per cent annually, falling far short of the 4.55 earned by the Barclays Aggregate Bond Index during the same period. Canadian research on investor behaviour shows similar results.

Table 1 compares the 1-, 3-, 5-, 10-, and 20-year annualized returns for the average equity and fixed income investor in the US to correspond-

4 Quantitative Analysis of Investor Behavior 2018, DALBAR, Inc. DALBAR is one of North America's leading financial services research firms.

Table 1 | Annualized returns of fund investors vs benchmark (%)

	Avg. Equity Investor	S&P 500	Difference	Avg. Fixed Income Investor	Barclays Aggregate Bond Index	Difference
20-year	3.88	5.62	-1.74	0.22	4.55	-4.33
10-year	9.66	13.12	-3.46	0.70	3.48	-2.78
5-year	3.96	8.49	-4.53	-0.40	2.52	-2.92
3-year	5.58	9.26	-3.68	-0.11	2.06	-2.17
1-year	-9.42	-4.38	-5.04	-2.84	0.01	-2.85

Source: DALBAR's Quantitative Analysis of Investor Behaviour (for the period ending 31 December 2018)

ing benchmarks and proves that both equity and fixed income mutual fund investors underperformed the market in nearly every timeframe.

If there is one lesson I hope this chapter has conveyed, it is the necessity of closing your ears to the commotion and the clamour.

CHAPTER 2

Take Control of Your Personal Financial Plan

Unifying Your Retirement and Investment Plans

Your life is the sum result of all the choices you make, both consciously and unconsciously. If you can control the process of choosing, you can take control of all aspects of your life. You can find the freedom that comes from being in charge of yourself.
—ROBERT FOSTER BENNETT*

Do you know when you want to retire and how much money you will need to do so? How much you should be squirreling away for your children's education or your dream cottage? Which planning strategies could help you save taxes? The best way to manage risk and what safety nets to put in place?

Securing your family's financial destiny—the core of becoming an empowered investor—involves more than just managing your portfolio and investments, although that is a crucial element. It means taking control of the financial planning process and developing a personal financial plan.

* Robert Foster Bennett. AZQuotes.com, Wind and Fly LTD, 2019. https://www.azquotes.com/quote/23896, accessed 22 June 2019.

A personal financial plan goes far beyond investments to look at the big picture, considering every aspect of your life from saving for retirement, debt management, and cash flow to insurance, taxes, and estate planning. It focuses on the unique circumstances of *you* and *your* family, on your dreams, your opportunities, and your challenges. Are you a business owner or an employee? Married or single? With children or without? Eager to retire early or wanting to work as long as possible? The choices you have made in the past and the aspirations you have for the future will shape your path to being financially secure forever.

In twenty-five years of guiding Canadians on the path to prosperity, I've learned that a retirement plan and an investment plan are the key components of long-term financial security. However, other areas of your personal financial plan will require additional attention during different phases of your life. Figure 5 describes how your personal financial plan will evolve as changing life phases influence your financial priorities.

Insurance, tax, and estate planning are particularly important if you have dependents or future tax liabilities—and all adult Canadians should have an up-to-date will and powers of attorney. Your insurance expert and your lawyer can advise you in these areas. As part of becoming an *empowered investor*, this chapter will focus on unifying your retirement and investment plans.

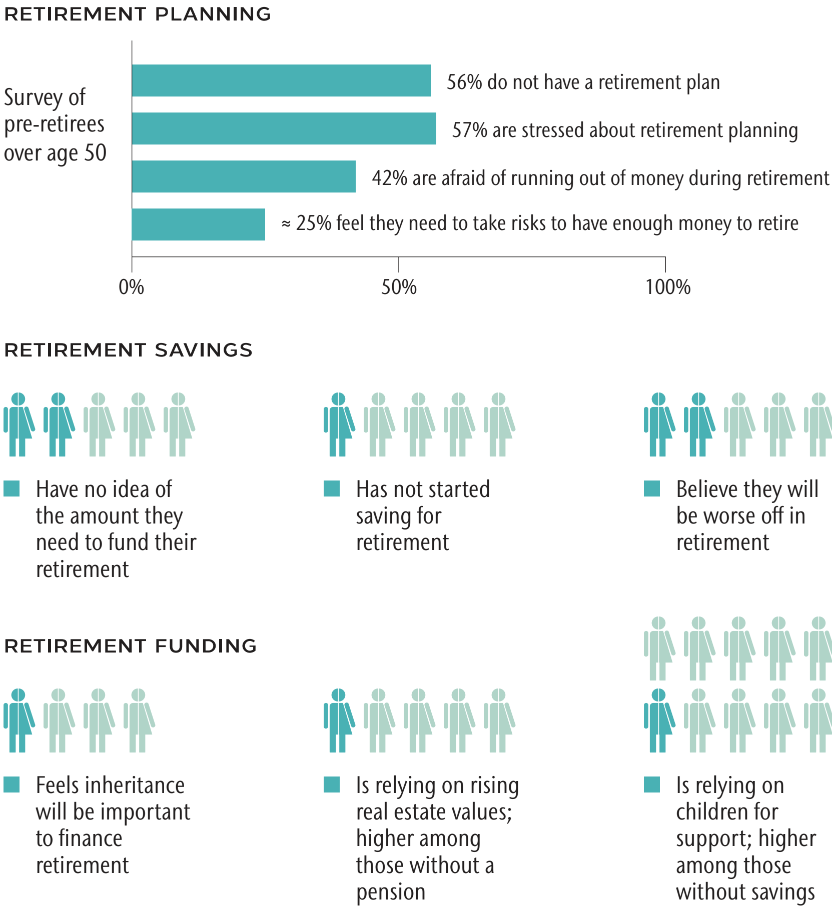
CREATING YOUR RETIREMENT PLAN

A recent survey conducted for the Ontario Securities Commission found that over half of Canadian pre-retirees over the age of 50 are stressed about retirement planning (figure 6). The fact that the same proportion of respondents admitted to *not* having a retirement plan suggests a direct link between the two. Without a comprehensive plan, it's natural to worry that you won't have enough money to fund your retirement. Like the Canadians questioned, you might be placing your faith in rising real estate values, relying on your children for support, or taking risks to increase your retirement savings. These "solutions"

Figure 5 | Your personal financial plan – evolving with you

	ACCUMULATION PHASE (age 25–50)	**PRE-RETIREMENT PHASE** (age 50–65)	**RETIREMENT PHASE** (age 65+)
RETIREMENT PLAN	· save 15–20% of family earnings · save for children's education	· increase saving rate to 20% or more of family earnings	· determine a sustainable portfolio draw-down rate
DEBT MGMT	· more important in this life phase · pay off debt	· pay off debt	
INVESTMENT PLAN	· focus on long-term growth	· focus on moderate growth	· focus on preserving capital with some long-term growth
RISK MGMT	· more important in this life phase · protect your family with insurance	· protect your family with insurance	· protect your family with insurance
TAX PLAN			· more important in this phase · minimize taxes on investment withdrawals
ESTATE PLAN	· prepare wills & powers of attorney (POAs)	· keep wills & POAs updated	· more important in this phase · wills & POAs · plan legacy · plan charitable giving

Figure 6 | Not ready for retirement



Source: Innovative Research Group, *Retirement Readiness: Canadians 50+*, report prepared for Investor Office, Ontario Securities Commission, 9 September 2016.

are dubious at best, potentially dangerous, and won't provide you with the peace of mind that you deserve to have about your financial future.

Establishing a sustainable retirement starts with an in-depth examination of where you are now, a detailed picture of where you want to go, and a clear plan for how you are going to get there. Whether you long to travel the world or hope to fill your ideal home with family and friends, whether you are anticipating new adventures or keen to have more time to pursue lifelong interests, your vision of your future will drive your retirement plan. Your financial advisor can help you place a price tag on your objectives and use the mathematics of a sustainable retirement to show you what you need to do to achieve your goals.

The mathematics of a sustainable retirement

Your retirement will be funded by the pensions you have earned over your working years, your savings, and your investments. The mathematics of a sustainable retirement is based on the following figures:

- your annual retirement lifestyle expenses (home, transportation, insurance, food, clothing, travel, gifts, and all other discretionary spending)
- your expected after-tax or net payments from your pension revenues, both private and government (all Canadians have access to government pensions, either the Canada Pension Plan, the Quebec Pension Plan, and/or Old Age Security)
- your expected after-tax accumulated retirement savings

Once you and your financial advisor have determined these amounts, you can use them to calculate your "annual retirement funding gap" by subtracting your yearly expenses from your annual pension income. Since only a very few—and very lucky!—Canadians have pensions generous enough to completely fund their retirement, it is likely that your expenses will exceed your pension income, resulting in a shortfall. To fill your retirement funding gap, you will need to turn to your retirement savings.

How much should I save? Savings guidelines

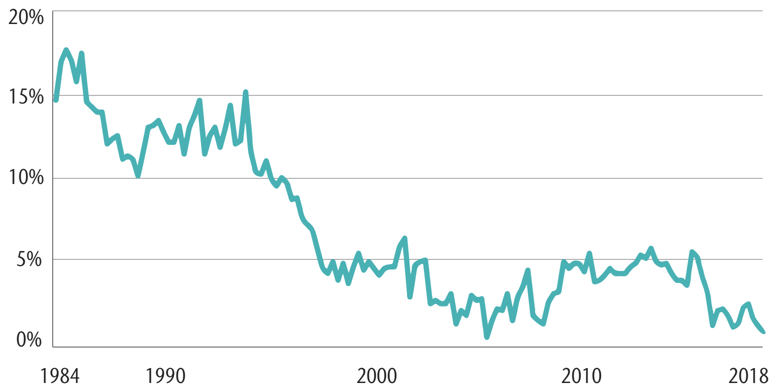
If you don't have a private- or public-sector, defined-benefit pension, an accepted savings target—regardless of your income level—is between 15 and 20 per cent of your gross family income. However, if you don't start

THE EVER-SHRINKING NEST-EGG

For many Canadians a comfortable retirement is becoming more and more of an impossibility. Younger baby-boomers and members of generations X (born between the mid-1960s and the late 1970s) and Y (born during the 1980s and 1990s) have had to contend with inflated real estate markets, large mortgages, and stagnating wages, and are experiencing a lower standard of living than their parents. Few have defined-benefit pension plans at work and many resort to lines of credit to make ends meet. In addition, Canadians are saving less than ever before. According to Statistics Canada, Canadians saved an average of 1.4 per cent of their income between the third quarter of 2017 and the third quarter of 2018. And, as illustrated by figure 7, the annuals savings rate among Canadians has been waning since the early 1990s.

The decline in the savings rate is a perfect example of short-term thinking. Our consumer-driven economy promises instant gratification and encourages us to buy things we don't need today, at the expense of financing our tomorrows. We have to stop trying to keep up with the Joneses. Because chances are that the Joneses aren't saving enough money either. In the past, Canadians saved diligently through some of the toughest financial times. An empowered investor understands the need to return to that philosophy.

Figure 7 | Canada's annual savings rate, 1984–2018



Source: Statistics Canada

saving until later in life (for example, until age 40), your savings rate will need to be higher to make up for the years you have lost.

How much can I spend? "Burn" or draw-down rate guidelines

Your "burn" or draw-down rate is the percentage of your savings you will need to withdraw each year to compensate for the shortfall between your pension income and your expenses. Since the more you withdraw, the faster you will "burn" through your savings, a sustainable retirement depends on a sustainable "burn" rate. You can calculate your probable "burn" or draw-down rate by dividing your projected retirement funding gap by your expected after-tax retirement savings and multiplying by 100 to obtain the percentage.

For example, if your expected annual funding gap is $45,000 a year and your expected net (after-tax) retirement savings are $600,000, your "burn" rate will be 7.5 per cent (45,000 ÷ 600,000 × 100). No matter how much you have stockpiled, a burn rate of 7.5 per cent will exhaust your capital in just over 13 years—not an especially long time if you plan to retire at age 65.

As a general rule, and assuming that you will have a diversified, balanced portfolio throughout your retirement, a sustainable "burn" rate for a retirement that lasts from the age of 65 to your early 90s is 3.5 to 4.5 per cent. Using the same example, if your expected net (after-tax) retirement savings are $600,000, you could sustainably withdraw $21,000 to $27,000 of your capital each year ($1,750–$2,250 per month). To fill an annual retirement funding gap of $45,000, you would need to increase your retirement savings to an expected net of at least $1 million.

While the calculations described above are an excellent place to start thinking about your retirement, retirement projections using planning software can improve the accuracy of your retirement plan. I recommend personal and family retirement projections at the ages of 40, 50, and 60, and then again just prior to your retirement. However, you can have projections completed at other ages, as long as you are exposing yourself to multiple retirement projections throughout your working years.

Once you have a retirement plan that maps out where you want to go and what you need to do to get there, you can turn to your investments and your portfolio to ensure that your money is working for your interests.

CREATING YOUR INVESTMENT PLAN

You wouldn't prepare to build a new home or renovate your existing one without refining your vision, drawing up architectural plans, selecting the right contractors and tradespeople, and planning ahead for possible budget overruns and surprises. Yet many people approach their investments without any plan at all.

An investment plan—sometimes called an investment policy statement or IPS—is a written document that you create with your financial advisor to keep you and your investments on track. A proper IPS brings discipline and structure to the investment process and is integral to your long-term investment success.

As you and your financial advisor draft your investment plan or IPS, a number of aspects will require careful thought and analysis:

YOUR INVESTMENT GOALS | Are you investing for capital preservation, long-term growth, or a mix of both? Are you currently adding new money to your portfolio or are you drawing on it for income?

YOUR RETURN EXPECTATIONS | What return are you hoping to receive on your investments? Based on the investments you have now, what return can you reasonably expect to receive in the long term? What have good and poor periods looked like in the past? What impact do inflation and taxes have on long-term investments?

YOUR TIME HORIZON | Are you investing for a child's education that will occur ten years or a retirement that could last thirty years? In gen-

THE POWER TO TURN OFF THE NOISE

There is powerful proof that an IPS can help investors tune out the noise of too many choices and voices by giving them the self-control to stick to their long-range plan through stormy market conditions. During the financial crisis of 2008–09, the Norwegian sovereign wealth fund followed its own stringent set of rules for rebalancing, buying equities while others sold in a panic. As a result, the fund boasted considerable success when the markets rebounded.[1]

While institutional investors such as large pension funds have long used investment policy statements, the defined processes of an IPS may offer even greater benefit to individual investors, given their much deeper emotional attachment to their money.

1 Andrew Ang and Knut N. Kjaer, "Investing for the Long Run," 11 November 2011. Available at SSRN: http://ssrn.com/abstract=1958258.

eral, the longer the time horizon, the more risk you can take in your portfolio.

YOUR RISK TOLERANCE | How comfortable are you with risk? What kind of risks are associated with your portfolio? IPS discussions should cover:

- *Volatility* In financial terms, volatility is the standard deviation of returns—the magnitude of the losses and gains that all portfolios will experience over time. Markets do not move in a straight line and investors should know how much downward movement they can tolerate, both financially and emotionally.
- *Financial risk* The dollar or percentage reduction you can withstand, given your need for capital preservation, income, and your overall level of wealth.
- *Emotional risk* The amount of decline you can accept without being tempted to abandon your strategy. This will vary

depending on your personality and previous experience with investments.

- *Purchasing power risk* The danger that your investment returns will not keep pace with inflation over time. Over long periods of time, this risk is typically higher for investments in bonds and GICs.
- *Longevity risk* The chance that you may outlive your portfolio. Implementing a sustainable annual draw-down is one of the best ways to manage this risk.

YOUR TAX SITUATION | What tax-efficiency practices will be used to minimize taxes in non-registered accounts?

Your investment policy statement should document the outcome of your discussions to ensure that both you and your advisor are on the same page with respect to your investor profile and your investment goals. An ongoing IPS dialogue with a trusted advisor can produce a better investment experience over the long haul by making you more aware of how markets work, allowing you to set realistic objectives and reducing the possibility of unwelcome surprises.

YOUR INVESTMENT PHILOSOPHY

The final purpose of an IPS is to define an explicit investment philosophy, a set of guidelines that will shape and inform the decision-making process of you, your advisor, and/or your advisory firm. Your investment philosophy defines how and where your money will be invested and how those investments will be managed. It provides full transparency concerning your investments and the role of your advisor or advisory firm.

In the next four chapters, I will describe the principles of **evidence-based investing**, an investment philosophy that will empower you and your advisor to set the winning conditions for long-term investment success.

CHAPTER 3

Evidence-based Investing Principle 1

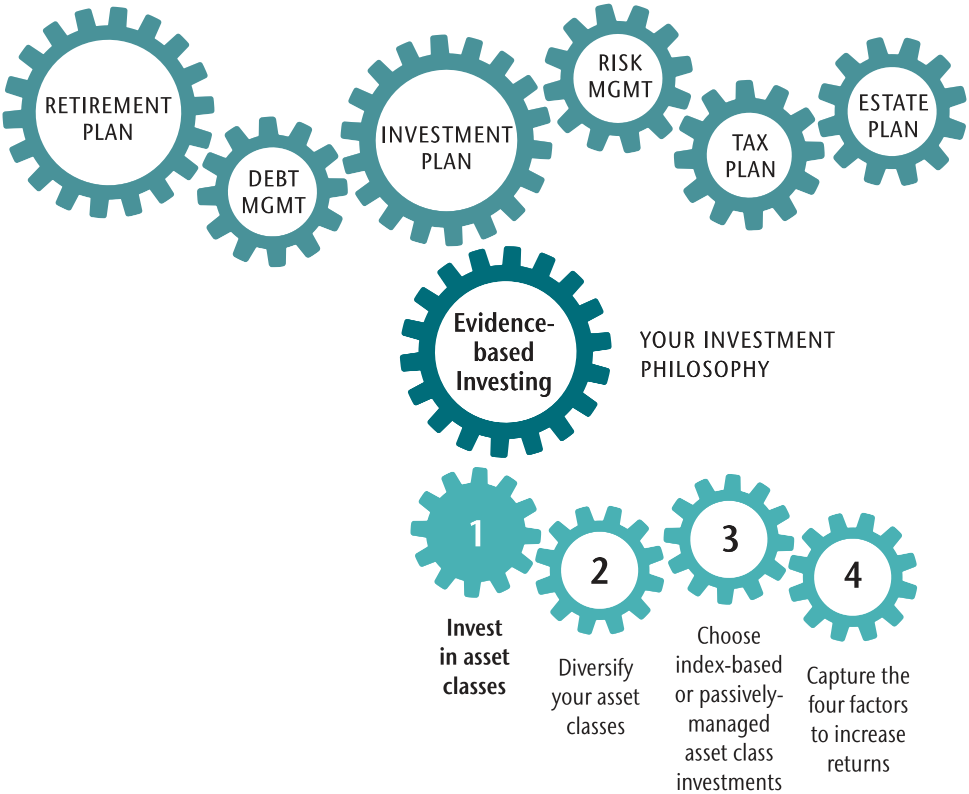
Invest in Asset Classes

Evidence-based investing is an empowering, farsighted investment philosophy that can enhance your wealth and safeguard your financial future. Figure 8 shows how this philosophy and its four principles—which I explain in this and the next three chapters—fit into your investment plan.

There are three basic types of investing: stock picking, market timing, and asset class investing. Stock picking is an attempt to identify winning stocks and presumes that someone—whether you, your financial advisor, or the latest guru—can *consistently* unearth underpriced securities that others have failed to discover. Market timing presumes that someone can *consistently* deduce when the entire market or a specific market sector is over- or under-priced and buy or sell equities accordingly. Successful stock picking and market timing would entail the accurate prediction of future geopolitical, economic, financial, or technological events and advances. As this is patently impossible, stock-picking and market-timing recommendations tend to appeal to emotion rather than reason.

Evidence-based investing cuts through that noise. Over the past seven decades, some of the brightest minds in the economic sciences

Figure 8 | The four winning principles of evidence-based investing



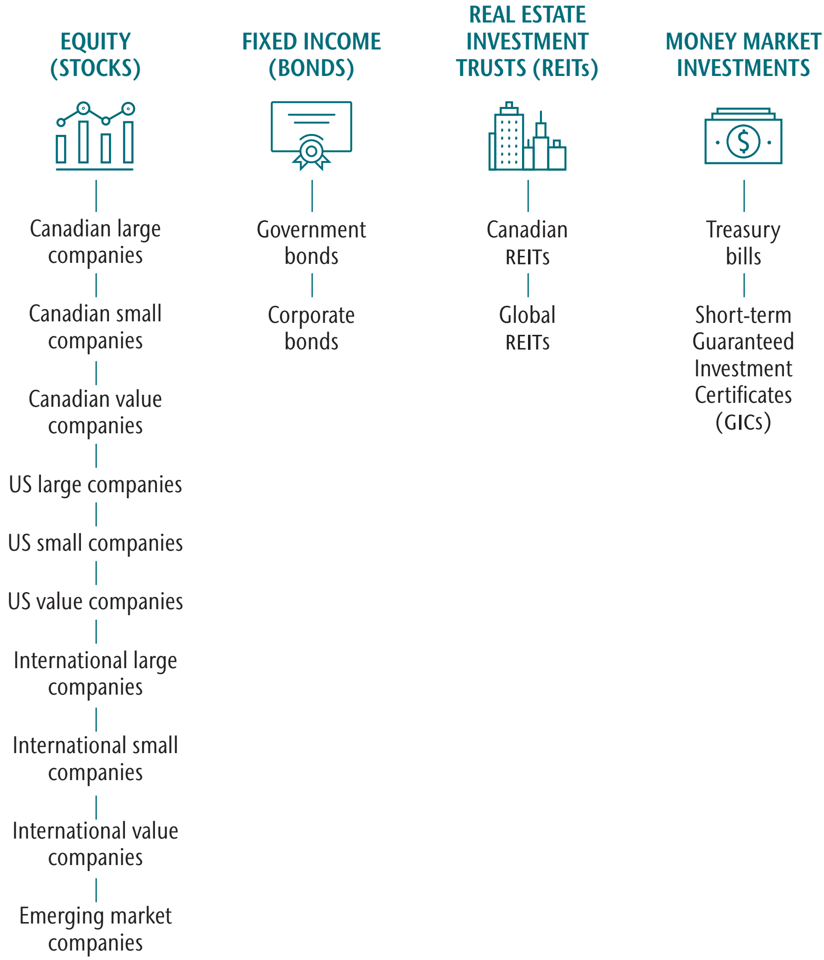
have applied scientific and mathematical methods to determine the source of investment returns. The four principles of evidence-based investing derive from this scholarly research.

PRINCIPLE 1: INVEST IN ASSET CLASSES

What is an asset class?

The first principle of evidence-based investing is to invest in asset classes. An asset class is a group of securities that share characteristics and behaviour. The four main asset classes are equities (stocks), fixed

Figure 9 | Asset classes



income (bonds), real estate investment trusts (REITs), and money market investments. Asset classes can be further broken down into another layer, depicted in figure 9.

What is asset class investing?

When you invest in an asset class, you are investing in hundreds, if not thousands, of securities within that asset class, as opposed to investing in a single or small number of securities. Although stock-picking and market-timing forecasts grab the headlines, asset class investing is a much more prudent—and *proven*—way to invest.

A research study comparing returns from a large sample of institutional portfolios demonstrated that returns from asset class investments may determine up to 96 per cent of the variation between the returns of different portfolios.[1] The returns from stock picking and market timing, on the other hand, accounted for a mere 4 per cent of the variation between returns. Asset classes thus have a considerably larger impact on your investment results than either stock picking or market timing.

Successfully implemented for decades by wealthy families and the pension funds of nearly all of Canada's largest companies and major universities, asset class investing is the healthy alternative to the fast-food fix of stock picking or market timing and the best means of securing your financial well-being in the long run.

However, despite wide media coverage in newspapers and specialized publications, asset class investing is underutilized and sometimes misapplied. Before you invest in asset classes, you should understand the characteristics of each asset class and how it has performed over time. You and your financial advisor can then discuss which asset types (government bonds, corporate bonds, Canadian stocks, US stocks, international stocks, etc.) to include in your investment portfolio and which to avoid.

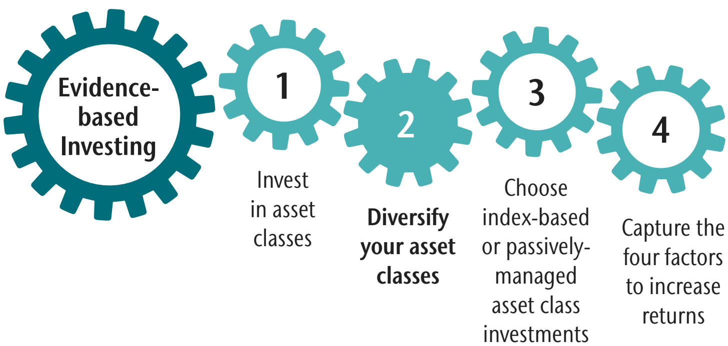
Ideally, your asset classes should be as diversified as possible to promote steady growth over time and to protect your investments from the constant fluctuations of a single kind of security. Diversifying your asset classes is the second principle of evidence-based investing and the topic of the next chapter.

1 Dimensional Fund Advisors study (2002) of 44 institutional equity pension plans with $452 billion total assets based on total plan dollar amounts as of December 2001.

CHAPTER 4

Evidence-based Investing Principle 2

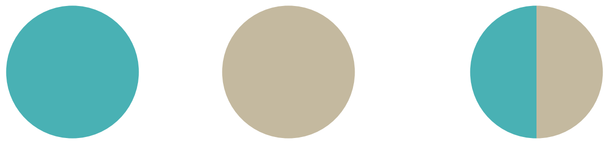
Diversify Your Asset Classes



Among all the voices telling you where to invest, there are likely quite a few admonishing you to "Diversify!" But what does this actually entail? Should you invest in the top ten mutual funds in the two trendiest sectors? In a dozen of the hottest stocks?

In the first half of the twentieth century, the answers to these questions might have been a resounding "Yes!" Most leading investment guides recommended that investors disregard all other considerations and choose individual stocks with the greatest potential. Then, in the early 1950s, Harry Markowitz, a young graduate student at the Univer-

Figure 10 | Combining asset classes



	PORTFOLIO A	PORTFOLIO B	PORTFOLIO C
	1 single asset class 100% Canadian equity	1 single asset class 100% international equity	2 asset classes 50% Canadian equity/ 50% international equity
RETURN	8.47	8.68	8.86
VOLATILITY	14.58%	15.22%	12.94%

Sources: Canadian and international equity are represented by the S&P/TSX Composite Index and MSCI EAFE Index, 31 December 1981 to 31 December 2018. Returns in $Cdn.

sity of Chicago, began to publish his research findings on the relationship between the returns of investments and their risks or volatility.

Markowitz discovered that investors could ***reduce*** portfolio risk and ***increase*** returns by combining asset classes that behave differently but have good prospects over the long term.[1] Dubbed "modern portfolio theory" at the time, this breakthrough revolutionized investing and redefined diversification.[2]

Figure 10 uses two simple model portfolios to show how diversification works. In Portfolios A and B, 100 per cent of the investment is in a single asset class: Canadian equity for Portfolio A and international equity for Portfolio B. However, when you combine Portfolios A and B into a new portfolio—Portfolio C—something magical occurs. The new

1 Harry Markowitz's landmark research was first published in a 1952 essay entitled "Portfolio Selection." He later authored a book called *Portfolio Selection: Efficient Diversification* (1959). Markowitz's work may be regarded as the foundation for applying economic analysis to portfolio management.

2 So much so that Markowitz and his colleague, William Sharpe, won the Nobel Prize for Economic Sciences in 1990 for developing the theory.

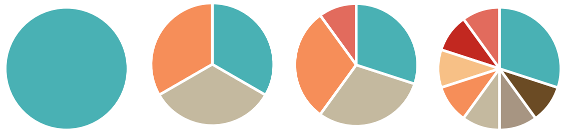
rates of risk and return are not, as one might expect, the average of their individual rates. Instead, not only is Portfolio C much *less volatile*, it also generates a slightly *higher return* than either of the original portfolios. The source of this counterintuitive magic lies in correlation.

Correlation measures the degree to which two asset classes move in similar patterns. Correlated asset classes are more likely to be in sync and to move in tandem; non-correlated asset classes are more likely to be out of sync, moving in opposition to each other. Correlation measures can be calculated between any two asset classes. If the correlation between two asset classes is less than 1 (1 indicating that the two asset classes behave in the *exact* same way), diversification benefits exist. In most cases the correlation between traditional asset classes is positive but less than 1—ranging from 0.30 for the most *dissimilar* asset classes to 0.95 for the most *similar* ones.

In the timeframe of figure 10, the actual correlation between Canadian equity (measured by the S&P/TSX Composite Index) and international equity (measured by the MSCI EAFE Index) was 0.49. With 100 per cent of your savings invested in Canadian equity, your returns would rise when Canadian stocks go up and fall when they go down. The same holds true if you invest 100 per cent of your savings in international equity: you make money when the stock price climbs and lose money when it drops. By investing in *both* Canadian and international equity, however, when one goes down, the other is quite possibly going up; therefore, when your returns are *decreasing* for one half of your investments, they could potentially be *increasing* for the other half. Thanks to diversification, your capital investment is better protected and, in the long term, you stand to attain a higher return overall.

The more non-correlated asset classes you invest in, the greater the benefits of diversification. In figure 11, Portfolio 1 represents a typical single asset class strategy with all capital invested in Canadian stocks. As new non-correlated asset classes are added to each subsequent portfolio—Portfolios 2, 3, and 4—the rates of return increase and the total risk (as measured by standard deviation) decreases. By Portfolio 4, where the investment is spread over eight different asset classes, the

Figure 11 | Diversification improves results and lessens risk



PORTFOLIO / ASSET CLASS*	1	2	3	4
Canadian large companies	100%	33.4%	30%	30%
US large companies		33.3%	30%	10%
US value companies				10%
US small companies				10%
Int'l large companies		33.3%	30%	10%
Int'l small companies				10%
Int'l value companies				10%
US REITs			10%	10%
Total	100%	100%	100%	100%
Annualized return	8.47%	9.94%	10.13%	10.60%
Standard deviation	14.58%	12.20%	11.82%	11.92%
Growth of $10,000	$202,600	$333,100	$354,900	$416,000

* These portfolios do not represent suggested or recommended allocations but are merely examples used to demonstrate the effects and benefits of portfolio diversification.

Sources for asset classes: Canadian large companies = S&P/TSX Composite Index; US large companies = S&P 500 Index; US value companies = Russell 1000 Value Index; US small companies = CRSP Deciles 6-10 Index; International large companies = MSCI EAFE Index (net div.); International small companies = Dimensional International Small Cap Index; International value companies = MSCI EAFE Value Index (net div.); US REITs = Dow Jones US Select REIT Index. 31 January 1982 to 31 December 2018.

annualized rate of return of 8.47 per cent in Portfolio 1 has risen to 10.6 per cent— 2.13 per cent more in absolute terms—while the volatility has dropped from 14.58 to 11.92 per cent. Assuming a starting investment of $10,000 in January 1982, Portfolio 4 would generate $213,400 or approximately 110.8 per cent *more* money over this 37-year period than Portfolio 1.

CHOOSING AND ALLOCATING YOUR ASSET CLASSES

Since figure 11 uses historical numbers (1982–2018), these rates of return should not be taken as projections of future rates of return for various asset class combinations. Because the asset classes in your portfolio will drive the majority of your returns, when choosing your asset classes, you and your financial advisor need to take into account the topics you discussed when putting together your investment plan in chapter 2:

- your investment goals
- your return expectations
- your time horizon
- your risk tolerance

Armed with this information, you and your advisor can then review expected rates of return, volatility, and the correlations of various asset classes—all of which your financial advisor can obtain from credible sources. To derive the most benefit from diversification, a general rule of thumb is to choose asset classes that have less than perfect (perfect being +1) correlations to each other and good long-range expected returns per unit of risk.

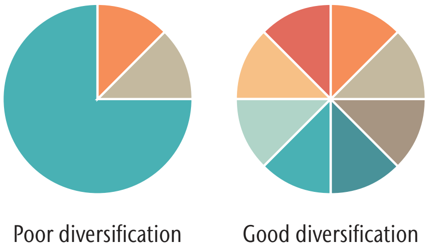
When reviewing potential candidates to include in a diversified portfolio, Canadian investors should consider the following asset classes:

Fixed income
- Government bonds
- Corporate bonds

Real Estate Investment Trusts (REITs)
- Canadian REITs
- Global REITs

Equity (Stocks):
- Canadian large companies

Figure 12 | Asset class diversification, poor vs. good



- Canadian small companies
- Canadian value companies
- US large companies
- US small companies
- US value companies
- International large companies
- International small companies
- International value companies
- Emerging market companies

Once you have selected your asset classes, you and your advisor will determine the strategic mix of your portfolio—for example, what percentage of your portfolio will be in Canadian large companies and what percentage in US large companies, what percentage in emerging markets and what percentage in international value companies, etc. Effective asset class diversification occurs when you combine multiple asset classes as shown in figure 12. Your choice of asset classes and your asset allocation should be written into your investment plan along with a strategy for rebalancing your portfolio back to the target allocation when necessary. You and your advisor should also determine and document how often you will receive statements showing your holdings, account balances, and portfolio performance.

A BALANCING ACT

Market conditions can cause your investment portfolio to become unbalanced, meaning that the percentage of your portfolio invested in each of your asset classes is off the target allocation you agreed on with your advisor. A simple example is an initial investment of $100,000 in a portfolio with a target allocation of 50 per cent ($50,000) in stocks and 50 per cent ($50,000) in bonds. If stocks plunge by 30 per cent while bonds inch up 5 per cent, the amount invested in stocks drops to $35,000 and the amount invested in bonds swells to $52,500. The portfolio allocation is now 40 per cent in stocks and 60 per cent in bonds.

How you address this imbalance will depend on your individual situation. If you are drawing income from your portfolio, you can rebalance by managing cash flows: instead of drawing income equally from both asset classes, you would instead sell off bonds until the target allocation is reached. If you are adding money to your portfolio, instead of investing equally in stocks and bonds, you would buy stocks to return to a 50/50 split. If you are neither drawing income from nor adding money to your investments, you can rebalance your portfolio by selling off bonds and buying stocks. The beauty of all three options is that you will be either selling high, buying low, or both—the very opposite behaviour to the emotion-driven investing documented in figure 2 in the first chapter of this book.

THE BENEFITS OF DIVERSIFICATION

A thoughtfully-diversified portfolio of asset class investments offers superior risk/return ratios—better rates of return for each unit of risk that you are willing to take—that are scientifically proven. In addition, the structured, logical process of building and maintaining a diversified portfolio of non-correlated asset classes can help you turn a deaf ear to the babel of the financial services industry, reducing your likelihood of committing one of the seven critical investment mistakes (see chapter 1). Diversification also contributes to your serenity by protecting both your capital and your emotions from the nerve-wracking ups and downs of the market.

Proper diversification can also protect your investments from "Black Swan" events that are, by definition, impossible to predict—and therefore impossible to prepare for. By diversifying your portfolio over a broad range of investments, however, you can mitigate the impact of a Black Swan and minimize the chances that any single event can wreak havoc on your portfolio.

BLACK SWANS

Originating in the ancient misconception that all swans were white, the term "black swan" was initially used as a metaphor for something that did not exist. But after black swans were discovered in Australia at the end of the seventeenth century, the meaning shifted to describe an impossibility that might later be disproven.

Former options trader, Nassim Nicholas Taleb extended this metaphor to the financial world and beyond to describe events with a massive impact that cannot be foreseen because they lie so far outside the realm of ordinary, realistic expectations.[1] In addition, and more importantly, Taleb stated that human nature leads us to concoct explanations after the fact so that such events appear less random and more predictable than they actually were.

Black Swan events can be positive, such as the triumphs of Facebook, Amazon, Apple, Netflix, and Google (the so-called FAANG stocks), or negative—the tragedy of 9/11 or the financial shock of the 2008 collapse of Lehman Brothers. Whether positive or negative, these events can significantly affect an investment portfolio, particularly one that is concentrated over a small number of options.

1 Nassim Nicholas Taleb, *Fooled by Randomness: The Hidden Role of Chance in Life and in the Markets* (New York: Random House, 2001) and *The Black Swan: The Impact of the Highly Improbable* (New York: Random House, 2007).

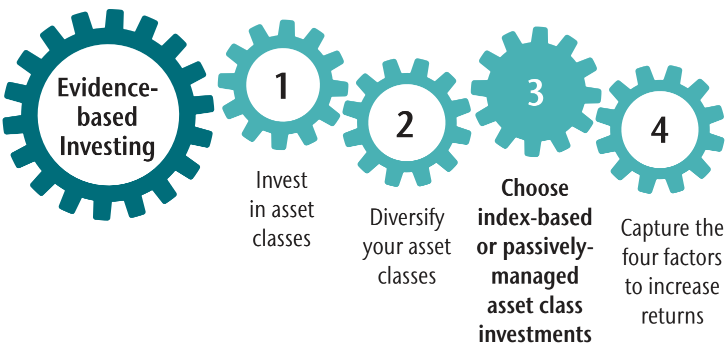
Finally, the benefits of diversification are available to all investors—large or small, it doesn't matter—everywhere in the world. Very few things in the investment world are free. The benefit of diversifying your asset classes is one of them.

In the next two chapters, you will discover how index-based and passively-managed asset class investments and the inclusion of small companies, value companies, and highly profitable companies—also known as the small cap, value, and profitability factors—among your asset classes can further improve your odds of investment success.

CHAPTER 5

Evidence-based Investing Principle 3

Choose Index-based or Passively-managed Asset Class Investments



You've decided to invest in asset classes. You and your advisor have carefully identified non-correlating asset classes to take advantage of the benefits of diversification. You're ready to put your plan into action. What is the most effective way to execute your strategy? Should you choose individual stocks to represent each of the asset classes you have selected? Invest in actively-managed funds—whether public mutual funds from banks or other financial services companies or proprietary funds offered by investment management firms—that provide exposure to one or more asset classes? Or should you choose index-based or passively-managed asset class investments?

The first option—selecting individual stocks to represent your asset classes—is ultimately just another form of stock picking. Taking this route makes it harder to resist the impulse to try to "pick the winners" or time the market, practices that only amplify the noise from the finance industry, the media, your social networks, or your own emotions. There's a strong chance that you may be persuaded in undesirable directions, ending up with a portfolio that is considerably less diversified than you intended.

Of the two remaining choices, as the rest of this chapter details, index-based and passively-managed asset class investments will deliver solid long-term results with less risk, less cost, more transparency, and better tax efficiency than actively-managed funds can offer.

WHAT ARE INDEX-BASED AND PASSIVELY-MANAGED ASSET CLASS INVESTMENTS?

Stock market indices were originally designed by companies such as Dow Jones, S&P (Standard & Poor's), and Morgan Stanley as measuring sticks for gauging the performance of actively-managed investments. An index is typically a weighted average calculated from the prices of selected stocks in a sector defined by country, region, industry, and/or asset class.

An index-based investment avoids the inefficiencies associated with stock selection by "tracking" a particular index to replicate or mimic the performance of that index. Some index funds purchase stocks in the companies that make up a particular index, in proportion to how those companies are weighted in the index. In the simplest terms, an index-based investment is an investment that aims to deliver the average return of a market sector or of the stock market as a whole. Index-based asset class investments track the index of a specific asset class and can be said to represent the entire asset class.

Because their aim is to achieve the average return, index-based asset class investments do not require an active manager to continually buy and sell securities in an attempt to outperform the market. They are, by their very nature, passively managed. However, not all passively-managed asset class investments are index based. There are also funds that represent entire asset classes by investing in that asset class according to a set of rules of ownership that are held constant, regardless of market conditions.

The past twenty years have witnessed impressive growth and innovation in index-based and passively-managed asset class investments for individual Canadian investors. In my experience, the two best index-based or passively-managed asset class investments available to the empowered investor today are Exchange Traded Funds (ETFs) and DFA Asset Class Funds.

Exchange Traded Funds (ETFs)

An ETF is a diversified fund that trades as a stock on the stock exchange and tracks a specific asset class or an index such as the S&P/TSX Composite Index, the S&P 500 Index, the MSCI EAFE Index, the MSCI Emerging Market Index, or a variety of Canadian bond market indices. The ETFs offered by iShares (managed by Blackrock Inc.—originally Wells Fargo and later Barclay's Global Investors) have the longest track record in Canada. Other early ETFs available to Canadian investors were also created by institutional money managers, including the Vanguard Group and State Street Global Advisors. Today approximately thirty-three sponsor firms offer ETFs to Canadian investors. According to the Canadian ETF Association (CETFA), as of 30 November 2018, there were close to 655 ETFs (totalling Cdn$161 billion) trading on the TSX, with many more trading on the US exchanges.

Very recently, some companies have begun to offer actively-managed ETFs, as well as ETFs that invest in micro-industries. Both of these developments run counter to the principles of evidence-based investing and the latter, in particular, does not provide proper diversification.

THE PIONEERS OF INDEX-BASED AND PASSIVELY-MANAGED INVESTING

When we picture the great innovations of the twentieth century, we tend to focus on tangible events such as the implementation of the assembly line or the invention of the personal computer. In the world of finance, however, the birth of index-based and passively-managed asset class investments was just as revolutionary.

The origins of index-based asset class investments can be traced back to the early 1960s when Professor Eugene Fama at the University of Chicago Booth School of Business first conceived the efficient-market hypothesis (EMH).[1] According to the EMH, the constant competition between fund managers and stock analysts searching for securities that will surpass the market is so effective that any new information about a company is very quickly reflected in its stock prices, making it extremely difficult for investors to find incorrectly-priced stocks. This concept laid the foundation for the development of index-based investment vehicles.

In 1971, Jeremy Grantham and Dean LeBaron of Batterymarch Financial Management pitched their idea of an index-based investing strategy for institutional pension funds. Their fund would comprise the entire market by purchasing stock in companies and weightings identical to the established index. Since it would not require an entire department of stock analysts and active portfolio managers, the fund would be able to charge low fees. It took two years for Grantham and LeBaron to attract their first investors and—when they did get their fund off the ground—they were given the "Dubious Achievement Award" by *Pensions & Investments Magazine*. Clearly there were many skeptics in the industry.

In 1973, John McQuown and David G. Booth of Wells Fargo and Rex Sinquefield of American National Bank (the three would eventually work together at Dimensional Fund Advisors) founded the first fund that tracked the S&P Composite Index. At this time, index-based investment funds were available only to institutional investors, many of whom were located in the United States.

Also in 1973, Burton Malkiel presented academic findings in an accessible format in his book, *A Random Walk Down Wall Street*. Noting that most mutual funds failed

1 In 2013, Fama received the Nobel Prize in Economic Sciences for his work on the EMH.

to beat the market indices, Malkiel wrote: "What we need is a no-load, minimum management-fee mutual fund that simply buys the hundreds of stocks making up the broad stock-market averages and does no trading from security to security in an attempt to catch the winners. Whenever below-average performance on the part of any mutual fund is noticed, fund spokesmen are quick to point out 'You can't buy the averages.' It's time the public could."[2]

Index pioneer John Bogle answered Malkiel's call. A graduate of Princeton University, Bogle had centred his senior thesis on the theory that active mutual fund managers could not claim superior performance over the broad market averages. In 1975, Bogle established the first index fund available to individual investors, the First Index Investment Trust. Competitors derided the fund—calling it "un-American"—and the investment industry dubbed it "Bogle's folly," convinced that investors would shun a strategy that only promised *average* market returns. Investors proved them wrong and Vanguard, the company Bogle founded, today manages approximately $6.1 trillion in assets.

Index-based and passively-managed investment funds only truly began to flourish in the 1980s and four firms—Vanguard, Dimensional Fund Advisors, State Street Global Advisors, and Wells Fargo (which later became Barclay's Global Investors and is now BlackRock Inc., the manager of iShares)—have made the world of index-based and passively-managed investing what it is today.

These pioneers—Bogle, Booth, Fama, Grantham, LeBaron, McQuown, and Sinquefield—are to finance what Henry Ford, Bill Gates, and Steve Jobs are to the automotive and personal computer industries. When Bogle died in January of 2017, testimonials and tributes poured in from around the world. In a letter to Berkshire Hathaway's investors, Warren Buffett wrote that "if a statue is ever erected to honour the person who has done the most for American investors, the hands-down choice should be Jack Bogle."[3]

2 Burton Malkiel, *A Random Walk Down Wall Street: The Time-Tested Strategy for Successful Investing* (New York: W.W. Norton & Company, 1993), 226–7.

3 Warren Buffett, annual letter 2017, https://www.businessinsider.com/warren-buffett-praises-vanguards-jack-bogle-in-annual-letter-2017-2 (accessed 15 July 2019).

Dimensional Fund Advisors (DFA) Asset Class Funds

Dimensional Fund Advisors (DFA) is an institutional money manager, headquartered in Austin, Texas, that first created passively-managed asset class investment funds for institutions in 1981. DFA's passively-managed asset class funds do not track commercial indices nor do they have managers trying to pick and choose the next winners. Instead DFA funds are designed to capture factor exposures (the fourth principle of evidence-based investing and the subject of chapter 6) and the company has a tremendous reputation for its index- and factor-based research. As of 31 December 2018, DFA offered ten passively-managed asset class investments to individual Canadian investors, who must engage the services of a DFA-approved Canadian advisor or advisory firm in order to invest in DFA funds.

Before the advent of index-based and passively-managed asset class investments, Canadian investors who wanted exposure to US and international companies had few options. Only Canadian institutional accounts had the size—and thus the buying power—to gain access to institutional managers with expertise in investing in international companies. Non-institutional investors were confined to a limited selection of expensive mutual-fund or brokerage-firm "wrap" programs. Even Canada's investment counsellor community (which served Canada's affluent) did not necessarily have the in-house knowledge—or, for that matter, an investment option—to provide their clients with exposure to international equities.

Today, a wide variety of index-based and passively-managed asset class investments give Canadian investors, advisors, and portfolio managers the opportunity to capitalize on the returns of Canadian, US, international, and emerging markets asset classes and markets.

THE ADVANTAGE OF AIMING FOR AVERAGE

Just as skeptics scoffed at the idea of cars replacing horses or every household owning a personal computer, many greeted index-based and passively-managed asset class investments with doubt. Why would

FUNDS THAT FLUNK: SURVIVORSHIP BIAS

If you've ever received a letter from an investment management company announcing that one of the funds in which you've invested will cease to exist or be merged with another fund, chances are the fund had poor performance relative to the competition. Funds that flunk are not only frustrating for investors, they also contribute to survivorship bias. Survivorship bias occurs when failed mutual funds are wiped off the record and excluded from performance statistics, falsely skewing the average returns from actively-managed funds higher. According to Standard & Poor's, 51 per cent of Canadian equity funds, 29 per cent of US equity funds, and 43 per cent of international equity funds in Canada failed over the five-year period ending 30 June 2018. In other words, during this timeframe, just over one in three mutual funds flunked and was either liquidated or merged into another investment.

anyone invest in something that promised only "average" returns? Shouldn't the goal of investing be to obtain *above* average returns?

As it turns out, however, average actually is *better*. The bear markets of 2000–02, the credit crises of 2008–09, and the investing challenges of the last decade should have given active managers the opportunity to shine. Active managers, it was said, would know how much cash to preserve and which stocks to sell in order to shield investors from declining markets. Instead, report after report has shown that, in general, active managers cannot outperform the indices against which they are measured.

Index-based and passively-managed asset class investments vs. actively-managed funds

Table 2 compares the average returns of actively-managed Canadian mutual funds in a number of the core asset classes to the returns of index-based and passively-managed asset class investments (iShares ETFs and DFA asset class funds, respectively). The ten-year period

Table 2 | Actively-managed Canadian mutual funds vs iShares index-based ETFs and DFA passively-managed asset class investments*

	1-Yr (%)	5-Yr (%)	10-Yr (%)
SHORT-TERM GOVERNMENT CANADIAN BONDS			
Average actively-managed mutual fund	0.36	1.33	2.03
iShares DEX Short-term Bond ETF (XSB)	0.28	1.52	2.66
DFA 5-Yr Global Fixed Income Fund (CAD hedged)	0.01	1.98	3.14
ETF advantage over actively-managed mutual fund	**-0.08**	**+0.19**	**+0.63**
DFA advantage over actively-managed mutual fund	**-0.35**	**+0.65**	**+1.11**
MEDIUM TERM FIXED INCOME BONDS			
Average actively-managed mutual fund	0.13	2.60	3.56
iShares DEX Universe Bond ETF (XBB)	0.67	3.21	4.19
DFA Global Investment Grade Fixed Income Fund (CAD hedged)	0.53	3.48	N/A
ETF advantage over actively-managed mutual fund	**+0.54**	**+0.61**	**+0.63**
DFA advantage over actively-managed mutual fund	**+0.40**	**+0.88**	**N/A**
CANADIAN EQUITY			
Average actively-managed mutual fund	8.48	8.65	3.94
iShares S&P/TSX Composite ETF (XIC)	10.38	9.16	4.08
DFA Canadian Core Equity Fund	11.33	8.43	4.56
ETF advantage over actively-managed mutual fund	**+1.90**	**+0.51**	**+0.14**
DFA advantage over actively-managed mutual fund	**+2.85**	**-0.22**	**+0.62**
US EQUITY			
Average actively-managed mutual fund	13.18	14.90	9.99
iShares S&P 500 Index ETF (IVV)	15.91	18.56	13.01
DFA US Core Equity Fund	14.45	16.55	12.04
ETF advantage over actively-managed mutual fund	**+2.73**	**+3.66**	**+3.02**
DFA advantage over actively-managed mutual fund	**+1.27**	**+1.65**	**+2.05**
INTERNATIONAL EQUITY**			
Average actively-managed mutual fund	6.60	9.16	4.14
iShares MSCI EAFE + EMG MRK ETFs (EFA + EEM)	8.08	11.66	5.26
DFA International Core Equity Fund	9.24	11.89	6.00
ETF advantage over actively-managed mutual fund	**+1.48**	**+2.50**	**+1.12**
DFA advantage over actively-managed mutual fund	**+2.64**	**+2.73**	**+1.86**

* As of 30 June 2018

** International equity is composed of 75% developed market and 25% emerging market in all above data

Source: S&P Micropal database, MSCI, Morningstar, BlackRock Asset Management (iShares), Dimensional Fund Advisors

Table 3 | Percentage of actively-managed Canadian mutual funds that *underperform* the index

Mutual fund category	Comparison index	1-Yr (%)	3-Yr (%)	5-Yr (%)	10-Yr (%)
Canadian equity	S&P/TSX Composite	93.22	90.91	89.74	88.89
Canadian small–mid-cap equity	S&P/TSX Completion	90.91	81.58	67.50	77.19
Canadian dividend and income equity	S&P/TSX Canadian Dividend Aristocrats	32.43	48.78	60.47	100.00
US equity	S&P 500 (CAD)	72.41	92.55	92.86	97.67
International equity	S&P EPAC Large–Mid-Cap (CAD)	89.16	91.67	90.00	95.38
Global equity	S&P Developed Large–Mid-Cap (CAD)	84.89	91.67	92.31	95.21

Source: SPIVA Canada Scorecard Report, 30 June 2018

includes the February/March lows of the 2008–2009 credit crisis and the unexpected recovery that followed. In *all* the major asset classes, index-based iShares ETFs and passively-managed DFA asset class funds provided higher returns.

If the numbers in table 2 had been adjusted to account for "survivorship bias" (see the sidebar "Funds that Flunk" on page 51), the average returns for actively-managed mutual funds would have been even less impressive, enhancing the advantage of the index-based ETFs and passively-managed DFA asset class investments.

Standard & Poor's Indices Versus Active (SPIVA) scorecard for Canadian funds

The SPIVA Canada Scorecard corrects for survivorship bias and measures actively-managed Canadian-based mutual funds against the relevant index. Table 3 shows the percentage of actively-managed mutual funds that have demonstrated *below*-average performance over 1-, 3-, 5-, and 10-year periods.

SPIVA scorecard for US funds

The SPIVA US Scorecard makes the same comparison for actively-managed US-based mutual funds. Even in the American market—the most competitive market with the lowest fees for active management—the results for actively-managed mutual funds across all styles (broad market, value, and growth) and capitalizations (large, mid-, and small cap companies) are just as disappointing as those in the high-fee Canadian marketplace. Table 4 shows the percentage of US funds that have underperformed their respective indices over 3-, 5-, 10-, and 15-year periods.

Actively-managed US mutual funds in SPIVA's fourteen fixed-income categories showed very similar underperformance in contrast to the indices.

Other SPIVA scorecards

Standard and Poor's also prepares SPIVA scorecards for the markets in Japan, India, South Africa, Europe, Latin America, and Australia. In all asset classes, within all regions, the results are almost identical—around the globe, active management consistently lags behind index management, even in areas (such as small cap companies or emerging markets) that active managers have touted as inefficient and ripe for stock picking.

WHY DO ACTIVE MANAGERS UNDERPERFORM THE INDICES?

Two circumstances explain why, as a group, active managers tend to underperform the indices.

1 | *Because public capital markets are reasonably efficient and tend to price securities fairly correctly over long periods of time, there is little opportunity to "outsmart" the market*

As the EMH states, public capital markets are efficient thanks to the collective contributions of the tens of thousands of hard-working,

Table 4 | Percentage of actively-managed US mutual funds that *underperform* the index

Mutual fund asset class and type	Comparison index	3-Yr (%)	5-Yr (%)	10-Yr (%)	15-Yr (%)
All domestic funds	S&P Composite 1500	82.12	80.13	85.93	83.76
All large cap funds	S&P 500	78.64	76.49	89.15	92.43
All mid-cap funds	S&P Mid-Cap 400	83.28	81.74	92.68	95.13
All small cap funds	S&P Small Cap 600	93.59	92.90	93.36	97.70
All multi-cap funds	S&P Composite 1500	82.42	81.01	90.07	88.26
Large cap growth funds	S&P 500 Growth	66.67	66.31	91.54	92.82
Large cap core funds	S&P 500	89.67	88.10	94.01	92.68
Large cap value funds	S&P 500 Value	68.73	75.08	76.21	83.05
Mid-cap growth funds	S&P Mid-Cap 400	81.13	73.08	94.08	94.05
Mid-cap core funds	S&P Mid-Cap Growth	88.98	91.06	93.33	96.81
Mid-cap value funds	S&P Mid-Cap 400 Value	87.93	87.88	87.37	95.40
Small cap growth funds	S&P Small Cap 600 Growth	86.60	86.49	90.40	98.76
Small cap core funds	S&P Small Cap 600	99.15	99.56	95.15	98.56
Small cap value funds	S&P Small Cap 600 Value	93.16	100.0	96.97	94.57
Real Estate Funds	S&P US REIT	74.12	67.09	77.19	82.76

Source: SPIVA US Scorecard Report, 30 June 2018.

intelligent stock market analysts, investment managers, institutional pension funds, researchers, and individual investors who spend countless hours trying to find and buy incorrectly-priced securities. To surpass the index, an active manager would have to see something that all other analysts, managers, and investors missed. While this may happen occasionally, there just aren't that many incorrectly-priced securities left in the public markets for active managers to identify and buy.

2 | *To outperform the market, active managers not only have to beat the index, they have to overcome the high fees and costs of active management*
In most consumer-oriented industries, there are examples where spending a little more on a premium product or service delivers superior or longer-lasting quality. Unfortunately, the poor performance of actively-managed mutual funds compared to index-based and passively-managed asset class investments does not justify the heftier price tag for active management. That price tag poses a huge hurdle for active managers to overcome in order to generate net returns that outperform the indices.

ADD IT UP: THE COSTS OF INVESTING

Figure 13 illustrates the multiple layers of direct and indirect costs—from largest (MERs) to smallest (opportunity costs)—associated with all investment funds, whether actively-managed mutual funds, index-based asset class ETFs, or passively-managed DFA asset class funds.

MANAGEMENT EXPENSE RATIOS (MERs) | The Management Expense Ratio or MER is the most well-known annual fee charged by investment counsellors, mutual funds, or portfolio "wrap" programs to their investors. An MER usually covers a combination—but not necessarily all—of the following expenses: the selling agent, the servicing advisor, and the portfolio manager; TV, radio, and print advertising; all other promotional events; and accounting and record keeping.

TRADING COMMISSIONS | Fund managers must pay trading commissions to the brokerage industry for actively buying and selling investments inside the pool of capital being managed.

MARKET MAKER SPREAD COSTS | Market makers—generally banks or large brokerage companies—provide liquidity in the stock market by committing to buy or sell securities and other assets at a firm bid or ask price throughout the trading day. Market maker spread is the difference

Figure 13 | Investment Costs

between the bid price—the price the market maker will pay for a security—and the ask price—the price at which the market maker will sell the security. The market maker keeps this difference as compensation for the risk of providing liquidity in the market. Market maker spreads are usually larger for more volatile or less liquid stocks, where the bank or brokerage firm is more exposed to adverse price movements.

MARKET IMPACT COSTS | Market impact cost is the difference between the listed price of a security and the actual price at which a trade is executed. The highest market impact costs occur when a very large block of shares comes onto a market with low liquidity or high volatility.

OPPORTUNITY COSTS | Opportunity cost is the cost of choosing one investment over another—the difference in returns between the investment you chose and the one you passed up.[1]

1 For more information and examples of opportunity costs, see https://www.thebalancesmb.com/opportunity-cost-definition-393313.

For actively-managed investments, depending on the type of service and strategy offered, management expense ratios (MERs) can range from 0.5 to 3.0 per cent of the total amount of the investment. Index-based and passively-managed asset class investments—which don't require large stock-picking research teams—typically have lower MERs: from 0.05 to 0.80 per cent of your total investment for index-based ETFs, and from 0.31 to 0.49 per cent for passively-managed DFA F-Class funds.[2] If you engage a financial advisor, advisory firm, or portfolio manager, you will have to pay an advisory or portfolio management fee—generally averaging between 0.5 and 1.5 per cent, depending on the size of your portfolio and the services rendered—over and above the MER.[3]

Whereas active managers constantly buy and sell securities in an attempt to time the market, index-based and passively-managed asset class investments use a "buy-and-hold" approach and don't take major trading positions. Since active managers trade more frequently and in larger quantities, trading commissions for actively-managed funds range between 10 and 30 basis points (basis points are 1/100 of a per cent), whereas those for index-based and passively-managed asset class investments typically average between 1 and 3 basis points. On balance, the trading commissions and market maker spread, market impact, and opportunity costs of index-based and passively-managed asset class funds will be one twentieth (1/20) of the costs associated with actively-managed strategies. Which means that more of your money will be working for you, and not for the financial services industry.

EMBRACING THE "AVERAGE" ADVANTAGE

Empowered investors who choose index-based asset class ETFs or passively-managed, factor-based DFA asset class funds will receive the

2 For information on DFA's A, F, H, and I-Class funds, see DFA's Annual Information Form, available through their website (https://ca.dimensional.com/en/funds/).

3 As noted earlier, to invest in DFA asset class funds, Canadian investors must work with a DFA-approved Canadian advisor or advisory firm.

benefits not only of superior performance for reduced costs, but also of diversification, consistency, transparency, and tax efficiency.

DIVERSIFICATION | Actively-managed funds cannot compete with the diversification relative to an asset class that index funds attain because index funds hold all of their securities in their target indices.

CONSISTENCY | Actively-managed mutual funds are vulnerable to "manager drift"—when an active manager deviates from the stated strategy of the fund to dabble in other asset classes. Manager drift can, without your knowledge or permission, transform your well-diversified portfolio into one in which you are overexposed to certain asset classes.

TRANSPARENCY | Index-based and passively-managed asset class funds are precisely designed to accomplish an explicit objective: to track the performance of a specific index or asset class. While active management strategies can be unclear and may startle you with results that do not meet your expectations, with an index-based or passively-managed asset class investment, you will always know how your money is being invested.

POTENTIAL FOR TAX EFFICIENCY | Tax efficiency in portfolio management involves minimizing and deferring the tax you are required to pay on the distributions—interest, dividends, and capital gains—you receive from your taxable investment portfolio. By reducing your capital gain distributions, you can create a deferred capital gain within your portfolio, letting you keep your taxes invested and working for you, rather than immediately paying them out to the government. In essence, you receive an interest-free loan from the government. Over ten years or more, you can enjoy compound returns on your deferred taxes *and* keep your share of the gains on those deferred taxes—small amounts that, over a 10-year period, can add up to between 0.5 and 0.8 per cent of additional returns.

Not only are these extra returns real but, in a low-return environment, they will represent a larger proportion of your total returns,

TAX EFFICIENCY AND TURNOVERS

A 1993 US inquiry on managing taxable portfolios concluded that taxes have a substantial negative impact on relative returns and found that strategies with lower turnovers were considerably more tax efficient.[1] The study, which remains well regarded, sparked a debate on tax-efficient investing within the US investment management community where, previously, no one had spared a thought for tax-managed portfolios. A quarter-century retrospective of this study published in June 2018 reconfirmed all the initial findings and further demonstrated that, over the 10-year period ending in 2017, in comparison to active management, index-based investment strategies provided an additional 0.6–0.7 per cent to after-tax returns.[2]

In 1996, the first Canadian study on tax-efficient portfolio management came to essentially the same conclusions as the original US study: over the long term, it is difficult to beat index strategies for taxable accounts.[3]

These investigations proved that, all pre-tax returns being equal, investors who use tax-efficient strategies will have more money in their taxable trading accounts after paying their taxes than investors who use traditional high-turnover mutual funds or trading-oriented investment counselor offerings.

In fact, both studies concluded that actively-managed pools of capital with lots of internal trading would need to consistently surpass their indices—after all their fees—by 100 to 200 basis points just to equal the after-tax returns of the lower-turnover index benchmarks.

1 Robert H. Jeffrey and Robert D. Arnott, "Is Your Alpha Big Enough to Cover Its Taxes?" *The Journal of Portfolio Management* 19, no. 3 (Spring 1993): 15-25.

2 Rob Arnott, Vitali Kalesnik, and Trevor Schuesler, "Is Your Alpha Big Enough to Cover Its Taxes? *A Quarter-Century Retrospective," The Journal of Portfolio Management* 44, no. 5 (Spring 2018): 78–102.

3 Mike Thorfinnson and Jason Kiss, "The Overlooked Piranha," *Canadian Investment Review* (Fall 1996): 17–21.

making it even more critical that you take advantage of tax-efficient strategies. Since their buy-and-hold approach entails fewer trades, index-based and passively-managed asset class investments usually have lower "turnovers"—realizing and distributing less in capital gains—than actively-managed mutual funds, which makes them the more tax-efficient investment option.

Finally, perhaps the biggest advantage of index-based and passively-managed asset class investments is that they work in any kind of market—up, down, or sideways. Like the proverbial tortoise, index-based and passively-managed asset class investments grow slowly and steadily, outpacing actively-managed strategies where it matters most—in your investment returns.

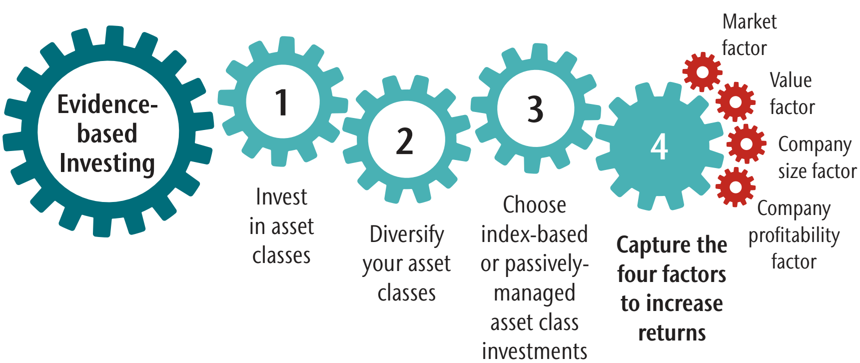
Yet many Canadians have never heard of index-based and passively-managed asset class investments, lagging behind global investors who have transferred billions of dollars out of active management. A shortage of independent advisory firms allows banks, insurance companies, and large mutual fund companies to dominate the Canadian investment industry. Prioritizing their own bottom lines over their clients' best interests, these firms unflaggingly promote their high-fee, actively-managed investment offerings, often paying employees a premium to sell their proprietary funds—regardless of whether or not those products are right for their clients.

However, as more and more index-based and passively-managed asset class investments become available to Canadians, and more and more money makes its way from active to passively-managed funds, empowered investors in Canada are starting to demand investment services and solutions that put their interests first.

CHAPTER 6

Evidence-based Investing Principle 4

Capture the Four Factors to Increase Returns



In chapters 3, 4, and 5, I explored the first three principles of evidence-based investing and explained how to construct a diversified portfolio of index-based and passively-managed asset class investments. The fourth and final principle of evidence-based investing involves maximizing your returns by capturing four investment factors in your asset class choices and portfolio weightings.

THE "FAB FOUR"

What is an investment factor?

An investment factor[1] is an attribute that drives higher returns in the securities that possess it. To be considered a factor, research must prove that an attribute is sensible and pervasive across markets, persists across time periods, and can be captured cost-effectively in well-diversified portfolios.[2] The four equity factors that meet these criteria are:

- **Market factor** Stocks have higher expected returns than bonds
- **Company value factor** Low-priced "value" stocks have higher expected returns than high-priced "growth" stocks
- **Company size factor** Small company ("small cap") stocks have higher expected returns than large company ("large cap") stocks
- **Company profitability factor** Companies with a high gross profitability have higher expected returns than companies with a low gross profitability

WHY DO FACTORS WORK?

The relationship between risk and return

Investors need to feel that the expected *return* on their investment in a company justifies the *risk* they will take in making that investment: the riskier the investment, the greater the return needs to be to satisfy the investor. In the Fama-French three-factor model, stocks (equities) are riskier than fixed-income bonds (*market factor*), small compan-

1 Another term for factor is "premium." To prevent confusion, I will use "factor" exclusively.
2 Marlena I. Lee, "From Premium to Dimension: Raising the Bar on Research," Dimensional Fund Advisors, June 2013, 2.

FINDING THE FACTORS

Rolf Banz of the University of Chicago Booth School of Business first identified the "small company effect" in 1981 by analyzing NYSE companies from 1926 to 1975. He concluded that, over long periods of time, small companies behave differently than larger companies and have higher expected returns.[1]

In a 1992 study of stock market returns dating back to 1927, Eugene Fama (father of the Efficient Market Hypothesis or EMH) and his colleague Kenneth French not only confirmed Banz's findings—what they called the **company size factor**—they also determined that two additional factors produce variation in portfolio returns: the **market factor** and the **company value factor**.[2]

Fama and French's "three-factor model"—as it became known—was further refined in 2012, when Robert Novy-Marx discovered the **company profitability factor**. A professor at the University of Rochester's Simon Graduate School of Business, Novy-Marx proved that, when predicting expected returns, a company's *gross profitability* has roughly the same weighting as—and is complementary to—the value factor.[3]

1 Rolf W. Banz, "The Relationship between Return and Market Value of Common Stocks." *Journal of Financial Economics* 9, no. 1 (1981): 3–18.

2 Eugene F. Fama and Kenneth R. French, "The Cross-Section of Expected Stock Returns," *The Journal of Finance* 47, no. 2 (June 1992): 427–65. Like Banz, Fama was a professor at the University of Chicago Booth School of Business. His collaborator, French, conducted research at Dartmouth College.

3 Robert Novy-Marx, "The Other Side of Value: The Gross Profitability Premium," *Journal of Financial Economics* 108, no. 1 (2013): 1–28. For this paper, Novy-Marx won the 2012 AQR Insight Award Distinguished Paper Prize, the 2013 Fama-DFA Prize for the best capital markets/asset pricing paper in the *Journal of Financial Economics*, and the 2014 Whitebox Advisors Selected Research Prize for outstanding contribution (published the year prior) to the art and science of investing.

ies are riskier than larger companies (*company size factor*), and "out-of-favour" companies are riskier than "growth" companies (*company value factor*). In all three cases, investors will expect higher returns to compensate for the increased risk.

HOW CAN FACTORS EXIST IN AN EFFICIENT MARKET?

As the originator of the Efficient Market Hypothesis, Eugene Fama believes that it is very difficult to beat the stock market because, by and large, it calculates security prices remarkably well. So how can he and French also say that value company and small company stocks will have higher expected returns relative to other segments of the market over long periods of time?

According to Fama and French, the company value and size factors exist *because* the market *is* so efficient: value and small company stocks represent riskier investments, so the market is, quite properly, pricing them accordingly. If investing in riskier value and small companies *didn't* ultimately provide a greater return relative to investing in safer companies, no one would invest in riskier companies in the first place.

IMPROVE YOUR PORTFOLIO

Capture the market factor

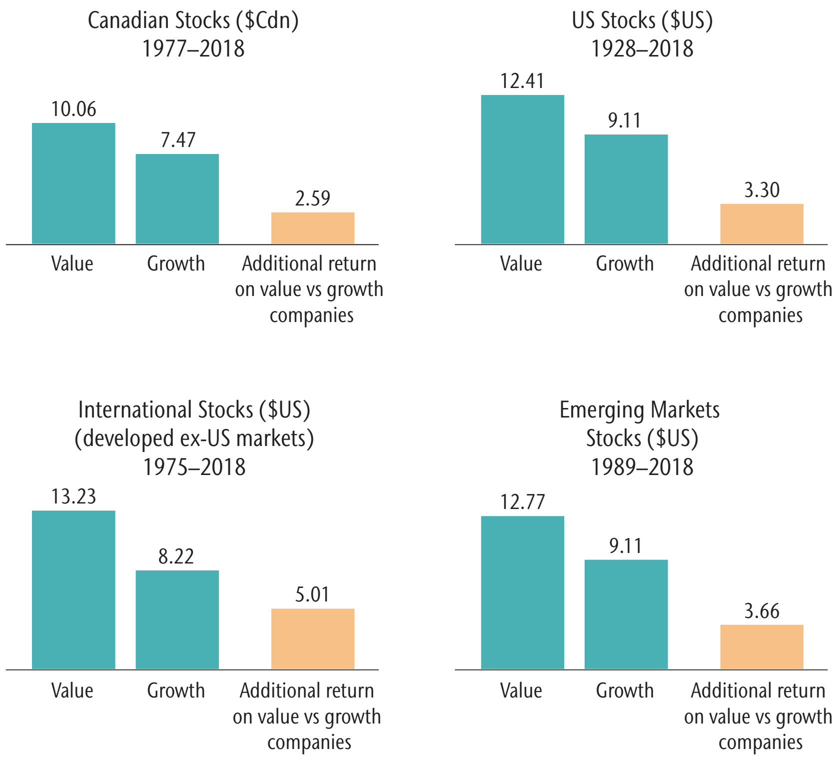
Of the four factors, the market factor is the easiest to capture—simply invest a bigger proportion of your savings in equities than in bonds. Your financial advisor can help you determine which allocation is right for your circumstances.

Capture the company value and size factors

Value investing[3] involves looking for "out-of-favour" stocks—stocks whose price has decreased even though the company's underlying book value remains unchanged. Such neglected or distressed stocks are customarily called "value" stocks, in contrast to their opposites, "growth" stocks. Fama and French's research confirmed that, over long periods of time, "value" stocks generate higher returns, outperforming both the broad market *and* growth stocks.

3 Value investing is sometimes called "contrarian investing" or "bargain hunting."

Figure 14 | Value company stocks outperform growth stocks*

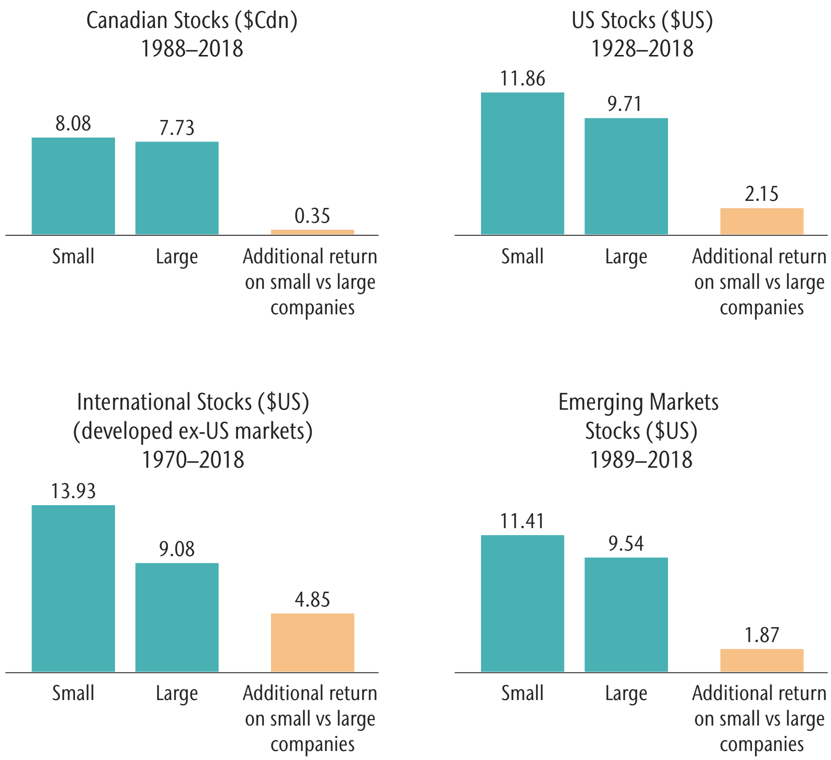


*Information provided by Dimensional Fund Advisors LP.

Sources: Fama/French Canada Value Index minus Fama/French Canada Growth Index; Fama/French US Value Research Index minus Fama/French US Growth Research Index; Fama/French International Value Index minus Fama/French International Growth Index; Fama/French Emerging Markets Value Index minus Fama/French Emerging Markets Growth Index.

A company's stock can become a value stock for a number of reasons: an overall decline in the industry sector, a challenging situation, or a fall from favour. Both modest and significant changes in an industry can cause concern about the future and provide opportunities for investors to pick up investments with higher expected returns. Using Fama and French's indices for value and growth stocks, figure 14 shows

Figure 15 | Small company stocks outperform large company stocks*



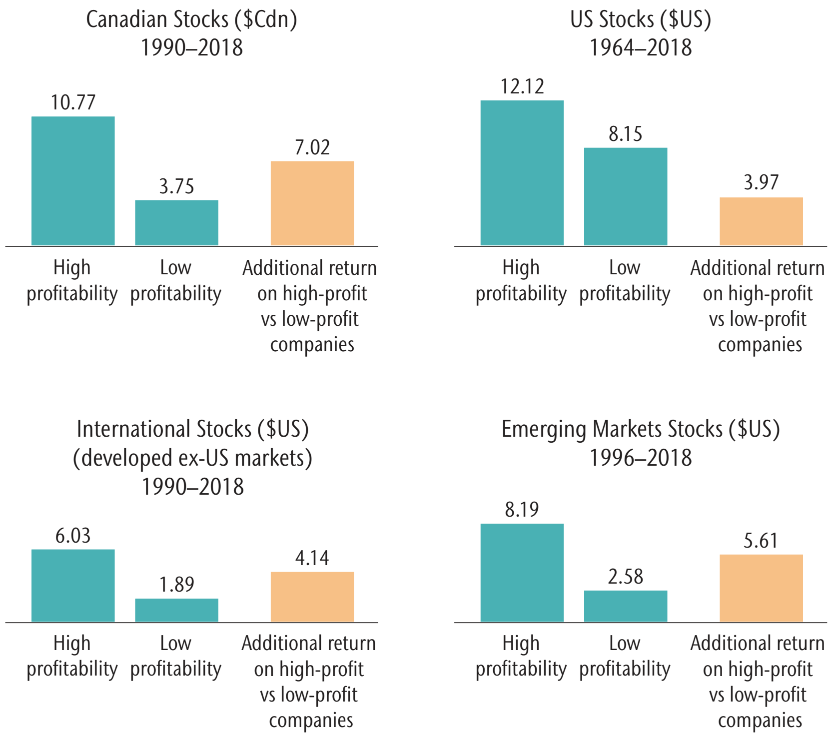
*Information provided by Dimensional Fund Advisors LP.

Sources: Dimensional Canada Small Index minus S&P/TSX Composite Index; Dimensional US Small Cap Index minus the S&P 500 Index; Dimensional International Small Cap Index minus the MSCI World ex-US Index (gross dividends); Dimensional Emerging Markets Small Cap Index minus MSCI Emerging Markets Index (gross dividends). S&P and S&P/TSX data © 2019 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. MSCI data © MSCI 2019, all rights reserved.

the higher returns that value stocks can generate in all major global markets.

Figure 15 demonstrates that the same premise holds true for the company size factor: worldwide, over the long term, smaller companies provide higher returns than their larger rivals.

Figure 16 | High-profit company stocks outperform low-profit company stocks*



*Information provided by Dimensional Fund Advisors LP.

Sources: Dimensional Canada High Profitability Index minus Dimensional Canada Low Profitability Index; Dimensional US High Profitability Index minus Dimensional US Low Profitability Index; Dimensional International High Profitability Index minus Dimensional International Low Profitability Index; Dimensional Emerging Markets High Profitability Index minus Dimensional Emerging Markets Low Profitability Index. Profitability is measured as operating income before depreciation and amortization minus interest expense, scaled by book.

You can capture the company value and size factors by overweighting these stocks in your diversified portfolio. Again, your financial advisor can assist in determining which percentage of your entire investment should be allocated to these factors. But remember, in the short term both factors will be unpredictable and will exhibit a significant degree of variability. Investing in small and value companies is adding risk to your portfolio—that's the nature of these factors—and that risk will play out differently over various economic cycles.

Capture the company profitability factor

When Robert Novy-Marx initially discovered the profitability factor, his research also noted two interesting aspects: 1) profitability proved just as useful as the value factor when it came to forecasting returns; 2) taking the profitability factor into account when constructing a portfolio augmented the benefits of diversification, especially in a portfolio of value stocks. Novy-Marx realized that the profitability factor and the value factor have low correlations to each other, making them ideal components to be combined in a multi-factor portfolio.

Figure 16 uses indices from Dimensional Fund Advisors to show how highly-profitable companies outperform less profitable companies across global markets.

EXECUTING YOUR FACTOR-BASED INVESTING STRATEGY

Any diversified portfolio can capture the four factors by investing in Canadian, US, international, and/or emerging market stocks and then including the company value, size, and profitability factors in its allocations. When capturing factor exposure, remember to

- invest in a diversified basket of securities rather than choosing a few companies that have value, small company, or high-profitability characteristics.
- invest for the long haul and stay the course. Value and small companies will go in and out of favour. Capturing these factors requires discipline and a commitment of 10 years or more.
- use index-based or passively-managed investments (discussed in chapter 5) that offer exposure to these factors. Dimensional

Fund Advisors (DFA) is the global leader of passively-managed factor-based investing.[4]
- combine the profitability factor with your value and small company exposures to maximize returns.

As an empowered investor, you now have the knowledge to implement the four winning principles of evidence-based investing, an investment philosophy that will bring structure, discipline, and transparency to the investment process. It will shield your investments from market turmoil, insulate you from the noise of the financial industry, and provide a stable foundation on which to forge a secure and prosperous future for yourself and your family.

4 Eugene Fama and Kenneth French are directors at DFA and Robert Novy-Marx provides research to the firm as well.

CHAPTER 7

Starstruck?

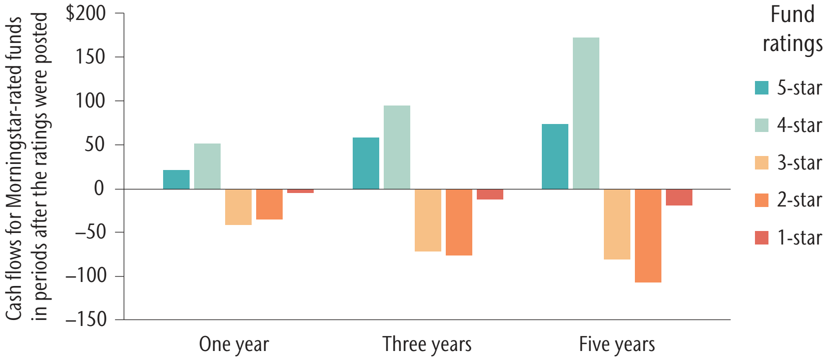
Stop Chasing Performance

Whether they shine on the stage and screen, the hockey rink, the basketball court, or the floor of the stock exchange, there's something mesmerizing about a superstar—something "larger-than-life" that seduces our attention. In the world of finance, you might see marquee fund managers lauded in the press as "the ones to watch," their achievements catalogued and celebrated. You may long to share their success. You might hope to emulate their results. You may, in short, become a bit starstruck.

It's a natural reaction that, according to a recent study of animal behaviour, has quite possibly been part of our DNA since our simian ancestors were swinging through the treetops.[1] Celebrity allure can be so potent—they don't call it star *power* for nothing—that it can blind us to our idols' failings or distract us from the facts. I've outlined the four principles of evidence-based investing to prospective clients only to have them say, "That's amazing, Keith, I'm totally on board. Do what

1 Sally Hogshead, "Science Explains Obsession with the Kardashians, Oprah, and Elon Musk (and How Your Business Can Use It)," www.inc.com, 26 January 2018.

Figure 17 | Cash flows to top managers (1992–2012)



Source: 2013 Vanguard white paper, "Vanguard's Principles for Investing Success."

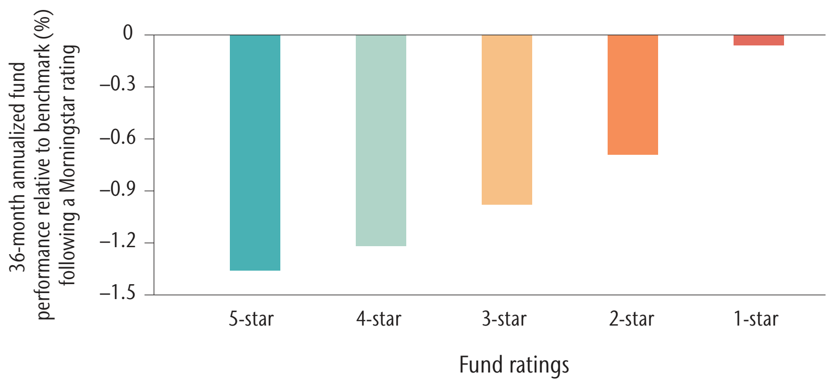
you think is right. But make sure you invest with …" before they name the latest hotshot.

And, hey, I get it. Evidence-based investing isn't fronted by a famous name or face; it's sensible rather than sexy. But, if you recall the statistics in chapter 5, you'll remember that, in the long run, the majority of active managers—including the wizards and the whiz kids—will *under*perform their respective benchmarks. Moreover, what sometimes appear to be superior returns due to manager performance are, in fact, superior returns from asset class factors.

The folks selling actively-managed funds would rather you didn't know this. They'd like to convince you that they can spot the next Sidney Crosby or Lebron James of active money management. But, in reality, no matter how stringent their hiring process or requirements, financial services companies have no means of distinguishing which managers will surpass the average.

A 2013 white paper from Vanguard supplies some interesting observations with respect to manager ratings and subsequent investments with those managers. Figure 17 charts 20 years of cash flows to and from mutual funds rated between 1 and 5 stars (with 5 stars being the best). The graph reveals that investors routinely removed their money

Figure 18 | Star manager performance relative to benchmark



Source: 2013 Vanguard white paper, "Vanguard's Principles for Investing Success."

from poorly-rated funds to re-invest with the top-rated fund managers. Although this seems rational, Vanguard found that within just three years of receiving a 5-star rating, these funds were *under*performing their benchmarks by a larger margin than any of the lower-rated funds (figure 18).[2] Mutual fund companies may promise better results and insist that their managers are the brainiest of the bunch, but the evidence belies the sales pitch.

Star managers can hit a slump for a number of reasons. Perhaps their fund's asset class has peaked. Maybe their management style is maxed out. Or it might just be that it's unreasonable to expect anyone—regard-

2 Vanguard calculated the median manager performances versus benchmarks. First, they assigned each fund to a representative benchmark for each 36-month period since June 1992. Morningstar funds were grouped according to their star ratings and then Vanguard computed the median relative return versus the style benchmark for the subsequent 36-month period. Data are through December 2012. Data on cash flows, fund returns, and ratings were provided by Morningstar. Index data to compute relative excess returns were provided by Thomson Reuters Datastream. More information is available in the Vanguard research paper "Mutual Fund Ratings and Future Performance" (Philips and Kinniry, 2010).

less of talent or qualifications—to be capable of picking 100 per cent of the winners, 100 per cent of the time.

The futility of manager selection isn't limited to retail mutual funds. Even at the most sophisticated level of investing—the institutional pension fund—where expensive consultants and heavyweight boards of directors lavish time, money, and energy headhunting active managers, research indicates that the selection of one manager over another adds no value.

Amit Goyal and Sunil Wahal examined the hiring and firing decisions of 3,400 institutional pension funds in the cutthroat US institutional marketplace between 1994 and 2003.[3] They concluded that institutional plan sponsors typically "hire investment managers after large positive excess returns, but that this return-chasing behaviour does not deliver positive excess returns thereafter." According to Goyal and Wahal, the funds would have done equally as well if, instead of recruiting a new "superstar" manager, the plan sponsors had left the fired manager in place. North America's leading experts in manager selection aren't any better at finding major-league managers than individual investors, their advisors, or their advisory firms.

Identifying A-list managers is even trickier for Canadian investors who, in addition to being heavily influenced by American investment news and trends, are also subject to the turbulence of the resource-based and cyclical Canadian equity markets—and all the hyperbolic marketing that goes with it.

In the 1990s, Canadian investors were exhorted to place their faith—and their savings—in the hands of news-making managers, first in junior resources and mining, then in the booming US consumer-brand companies and, finally, on the new frontier of Internet technology. Managers in global pharmaceuticals, finance, and technology dominated headlines in 2000, while those in real estate investment trusts (REITs) and income trusts stole the spotlight in 2002 and 2004, respectively.

3 Amit Goyal and Sunil Wahal, "The Selection and Termination of Investment Management Firms by Sponsors," *Journal of Finance* 63, no. 4 (2008): 1805–47.

2007 saw Canadian investors come full circle as attention returned to fund managers in Canadian oil, gas, and other natural resources. Now, with US stocks at an all-time high and Canadian oil and gas back in the doldrums, Canadian investors are once again riding the coattails of up-and-coming tech managers and overloading their portfolios with companies like Amazon and Google.

But chasing star managers is just as chancy and, ultimately, ineffective as switching between asset classes (as illustrated by figure 4 in the first chapter). A far worthier practice is to ignore the accolades and applause in favour of the philosophy of evidence-based investing. The final chapter reviews the four principles of this proven approach and summarizes the profile of the empowered investor.

CONCLUSION

One Voice, One Choice

When you began to read this book, you may have felt paralyzed by the number of choices and the number of voices telling you how to invest. No one—no matter how smart, how savvy, or how successful—is perfectly immune to the noise of the modern investing world. Sales forces from banks, brokerages, and mutual fund firms constantly pitch new programs and products. Media pundits, business gurus, and stock analysts foretell market conditions and offer contradictory advice on how best to ride the bull or battle the bear. Earnest friends, family, or colleagues solemnly swear they've spotted the next recording-setting IPO or hippest stock or sector. So many voices, all so confident that they—and they alone—have the inside scoop on successful investing.

Even if you have been working with a financial advisor, you may have been discouraged by an investment process that seemed to be out of your control. You might have had no way of knowing how your money was being managed and no way of figuring out why your advisor would recommend one investment over another. You may have been unaware of the conflicts of interest at play in the financial services industry or unsure of how to navigate them.

Investment returns that were smaller and fees that were bigger than you were promised might have made you apprehensive that you wouldn't be able to realize your personal investment goals in time for your retirement. In fact, you might not even have known what those goals should be: how much money should you save? How much can you spend? The uncertainty may have tempted you to make impulsive investment purchases for a portfolio that is increasingly disorderly and disorganized.

But whether you're a professional with a rewarding career in full swing, a busy executive with little time to manage nitty-gritty details, an entrepreneur absorbed in translating your passion into a profit, or a retiree ready for life's next challenge, you deserve to be free of financial stress, to know that your future is taken care of and that your investments will sustain your retirement for all the years to come. You deserve to exchange confusion and concern for the clarity and confidence that come from being an empowered investor.

For an empowered investor, there is only ***one voice***—your personal financial plan—and ***one choice***—the philosophy of evidence-based investing. By listening to that voice and making that choice, the empowered investor takes control, achieves success, and is transformed.

Figure 19 illustrates how your **personal financial plan** unifies investment and retirement planning, risk and debt management strategies, tax planning, and estate planning, and reiterates the four key principles of **evidence-based investing**: 1) invest in asset classes; 2) diversify your asset classes; 3) choose index-based and passively-managed asset class investments; and 4) capture the four factors (market, value, company size, and company profitability) to increase returns.

A comprehensive roadmap that continues to evolve as life's different phases alter your priorities, your personal financial plan allows you to see your financial future more clearly than ever before. It employs the mathematics of a sustainable retirement and retirement projections to show you what you need to save to enjoy the comfortable retirement you envision.

Through a detailed and in-depth investment policy statement (IPS), it brings structure, discipline, and transparency to the investment process, steering you safely through conflicts of interest in the financial services industry and leaving you confident in the knowledge that your money is working for *your* interests.

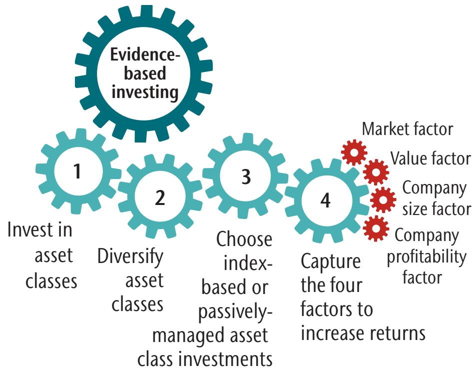
Figure 19 | The empowered investor

HAS ONE VOICE

Has a comprehensive personal financial plan that unifies

- retirement planning
- debt management
- an investment plan
- risk management
- tax planning
- an estate plan

HAS ONE CHOICE



TAKES CONTROL

- Understands the mathematics of a sustainable retirement
- Has a retirement projection
- Has a savings plan to fund a comfortable retirement
- Has a detailed Investment Policy Statement (IPS) that covers investment goals, return expectations, time horizon, risk tolerance, and tax situation
- Uses strategies to minimize tax consequences

ACHIEVES SUCCESS

- Recognizes and steers clear of conflicts of interest in the financial services industry
- Avoids making any of the seven critical investment mistakes (including stock picking, market timing, chasing performance, and basing portfolios on predictions)
- Obtains full transparency regarding investments and role of a financial advisor
- Is protected from the ups and downs of the markets
- Realizes higher and more consistent returns over the long term
- Incurs lower investment fees and trading costs
- Has improved the odds of being financially secure forever

IS TRANSFORMED

- Is better able to tune out **noise**
- Feels more in control of and has more confidence in plans
- Has less stress and anxiety regarding investment and planning
- Has the freedom to dedicate more time and energy to the things that matter most: family, friends, and retirement
- Enjoys peace of mind

The four winning principles of the philosophy of evidence-based investing constitute a scientifically-proven strategy that I believe is the optimal method for preserving and enlarging your wealth both today and tomorrow. With your investments safeguarded against market upheaval and with the prospect of higher overall returns in the long term, you're better able to tune out the frenzy and furor of the modern investment world.

As an empowered investor, you'll enjoy the serenity and peace of mind that comes from the certainty of having improved your odds of being financially secure forever. And you'll attain the freedom to dedicate your time and energy to the things that matter most: your family, your friends, and your retirement.

For over 25 years, Tulett, Matthews & Associates has helped hard-working Canadians with straightforward, easy-to-understand investment advice. If the approach described in these pages appeals to you, or if you simply want more information, please feel free to give me a call at (514) 695-0096, extension 106, or visit the Tulett, Matthews & Associates website: www.tma-invest.com.

ACKNOWLEDGMENTS

It is a great pleasure to thank the many people who made this book and its fourth edition possible.

I owe special thanks to our incredible clients at Tulett, Matthews & Associates—together we have embraced and stayed committed to these principles in our quest to become empowered investors. Their curiosity and insightful questions have challenged me to deepen my knowledge of these strategies and to strive to communicate these ideas as best I can. My colleagues and I are honoured to guide our clients on the path to a secure financial future and I am so grateful for the opportunity to work with them.

A profound thank you to all my current and former professional colleagues who, through their collective efforts and collaboration, have fostered a strong sense of independence in my thoughts on investment philosophy and strategy. Without their support and encouragement, I would not have found the conviction necessary to promote these concepts in a Canadian financial industry dominated by banks and tied selling strategies. From the few dozen Canadian advisors I knew in the mid-1990s who shared this investment approach to the few hundred who follow these methods today, I have had the pleasure of meeting many wonderful Canadian and American advisors. I owe so much gratitude to these dedicated professionals; our shared learning experiences have contributed to the story of *The Empowered Investor* in myriad ways.

This book would not have been possible without the openness and generosity of the academic investment community across North America. Over the years, I have been privileged to meet both Canadian and American researchers whose work has been genuinely inspirational and whose published research reports, investment conference papers, web sites, personal communications, and much more have enlightened and educated me. More importantly, their contributions have empowered me to empower others, and I commend them for sharing their ideas and best practices with like-minded colleagues in the industry.

This fourth edition of *The Empowered Investor* also marks its debut in French as *L'investisseur transformé*. I am thrilled by this opportunity to reach a truly pan-Canadian audience and would like to express my gratitude to Julie Bourbeau for the initial translation. And I am deeply indebted to my colleagues Ruben Antoine and Julie Desrosiers for their extraordinary care in finetuning the translation to ensure that *L'investisseur transformé* conveys the message of *The Empowered Investor* with passion and precision.

Finally, much credit is owed to the editorial and creative team behind this book. Connor McRae was my right-hand man throughout this fourth edition. He was responsible for editing, researching, and adding tone and additional commentary. Garet Markvoort offered additional perspective and wordsmithing, revamped, revised, and recreated the figures, and designed and typeset the book cover and interior.

The Empowered Investor truly was a team effort.

Thank you all,
Keith Matthews

ABOUT THE AUTHOR

For over 25 years, Keith Matthews has dedicated himself to spreading the message of winning investment principles and the benefits of passive investing. Through his client advisory business, Keith helps his clients build better wealth management strategies to reach their long-term goals. This fourth edition of *The Empowered Investor* is a Canadian guide to the philosophy and principles he has championed throughout his career.

In 1993, while working as an institutional bond trader, Keith purchased Toronto 35 Index Participation Units (TIPs)—his first Exchanged Traded Fund (ETF)—in his personal RRSP account, sparking his interest in asset class investment strategies and launching the research that continues to this day.

As a partner and portfolio manager at Tulett, Matthews & Associates, Keith works closely with his clients, using the same planning and investment principles described in this book. He believes wholeheartedly in listening and showing empathy both in guiding his clients and in working with his team. As Tulett, Matthews expands, Keith is enthusiastic about the opportunity to train the next generation of financial guides in this philosophy, these principles, and his caring approach.

Keith has an MBA from the Richard Ivey School of Business at the University of Western Ontario and is a Chartered Investment Manager. His articles on asset allocation strategies, portfolio management tools, and trends in the financial services industry have frequently appeared in a variety of Canadian media sources and he has shared his views at numerous industry conferences.

Married and the father of three adult children, Keith Matthews lives in Beaconsfield, Quebec, and enjoys squash, skiing, sailing, and watching all three of his children play rugby.

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