HOW TO INVEST

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HOW TO INVEST

Navigating the brave new world of personal investment

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Words and phrases that appear in **bold** within the text are explained in the Glossary on pages 207–21.

Introduction: We're all investors now

"MY FATHER CALLS ME LAST WEEK. 'I need your help, son. My golf buddies have been trading Robinhood. I just opened an account. What do I buy?'"[1]

Robinhood, a low cost and user-friendly online stock trading platform, was a high-profile US success story from the early days of the covid-19 pandemic when it made an impressive leap towards its avowed mission to "democratize finance for all".

Most new investors on retail trading platforms do not have a smart financial adviser in the family to ask for guidance. Instead, during the pandemic large numbers tuned in to social media. In 2020, Robinhood and its competitors spawned the phenomenon of the crowd-promoted "meme stock". This was the name given to equities that attracted followers on social media leading to widespread purchases, with apparently little attention to the reasonableness of the price being paid.

Easy to use, instantly available, inexpensive stock trading platforms have become an unmissable feature of personal investing in recent years. But how do new investors decide to what to buy and how much? And should they join the reported 100 million-plus worldwide who have ventured into buying cryptocurrencies, and if so, which cryptocurrencies? These are archetypal 21st-century investment challenges for individual investors. This book provides signposts to help steer though the fog, and sometimes the excitement, that clouds the way through.

It is easy to miss how fast the world of personal investing has changed. Love it or loathe it or just not interested in it, tens of millions are now directly involved in investment markets to a degree not known by earlier generations. This includes many millions who now have personal pension accounts and personal responsibility for pension savings and their retirement income in a way that was largely unknown in the last century. The shift of financial accountability from employers to employees has been breathtaking. Many, though, have probably gone with the flow and scarcely noticed it.

And now in the second decade of the new century, fintech innovations seem on the cusp of transforming banking and payments systems and perhaps going on to change the nature of money and with it our understanding of safe assets.

This comes after years of loose monetary policy, low interest rates and seemingly expensive stock markets. In combination with ready access to the new trading platforms and financial sector innovation, we are facing a situation that, in all likelihood, makes sudden financial crises more likely. All investors have been challenged by cautious investments that offered little secure income and the prospect of losses in value when interest rates and inflation rose. In our opinion, these are compelling reasons to keep investments simple and not get carried away by the prospect of making easy money. There is, we believe, simply no such thing.

The aim of our book is to help investors navigate this new world. As markets are transformed, investors need to be able to think beyond dodgy online chatter and to challenge investment company salesmen who will be motivated to recommend the latest new financial product.

Instead, we offer 18 key principles that will help investors make sensible decisions when they feel tempted that they "ought to be able to do better". For example, our first chapter is called "Where's the beef?", a reminder to us all that we should only make an investment if we find the investment case convincing. The investment principles that underpin the book will help investors reduce the chance of making major investment mistakes. They are:

1. Always look for the substance in any investment proposal (Chapter 1)
2. When investing, take time to decide, then do it (Chapter 2)
3. The glory of compounding accrues most easily to those who adopt a sensible strategy and add regular contributions to it over long periods (Chapter 3)
4. Expensive fees are a dead weight that drag down living standards in retirement (Chapter 3)
5. If you see easy money to be made in the stock market or anywhere else, you have not looked hard enough (Chapter 4)
6. Star managers don't walk on water (Chapter 4)
7. Most stocks underperform the stock market (Chapter 4)
8. Be modest in your expectations for investment returns, and over time compounding will look after you (Chapter 4)
9. When investing for the long term, it is better to be a tortoise than a hare (Chapters 1, 4 and 5)
10. We don't believe anyone knows where interest rates and inflation will be in 15 years' time, and this matters (Chapter 5)
11. You will not be able to avoid the surprising bad times in the years ahead so you should know how you and your savings will cope with them (Chapter 5)
12. Investing in a global equity tracker fund can be a surprisingly sensible way to invest in equities (Chapters 6 and 8)
13. If adjusting your investments to reflect environmental, social and governance priorities, remember to keep your investments well diversified (Chapter 8)
14. In times of acute crisis, government bonds are still the investor's best friend. But over time, they are always vulnerable to inflation (Chapters 4, 5 and 9)
15. In bad times, corporate bonds always show their intrinsic and unhelpful link to stock market volatility (Chapter 9)

16. Property is at the heart of everyone's finances and well-being

17. Patient individual investors in real estate investment trusts can be in a stronger position than many institutional investors to benefit from investing in real estate (Chapter 11)

18. Investing in things you enjoy owning or supporting gives you more than just monetary rewards (Chapters 8 and 12).

Look out for these principles throughout the book.

Investment controversies

There are many popular investment books, but few provide a dispassionate up-to-date review of the controversies that surround the management of personal savings and wealth in the 21st century. How safe are government bonds and could crypto assets (and especially that subset of crypto assets called **stable coins**) provide an attractive alternative? How should the threat of man-made climate change affect investing? Is **index investing** (buying an index fund that looks to replicate the performance of a chosen stock or bond market, also known as passive investing) compatible with good governance? How much do we know about future inflation and interest rates? Is a global approach to investing best or should we have more in our home markets? These are some of the controversies that are explored in this book.

There is no need for investors to reconcile competing arguments, or to align strongly with either side of a dispute; instead, they need to think through how unresolved debate influences the uncertainty that accompanies their investment strategy. That is what this book seeks to do, in a way that is intended to be of practical use.

No investor, however large or small their wealth, needs to feel bamboozled by advisers into adopting a complicated strategy they do not understand. The book does discuss more sophisticated ways of investing, but any investor can always sit back and say, "No, I want to keep things simple but appropriate."

There is always a suitable strategy for any investor that simply combines cash, well-diversified equities and government bonds. Investment managers will almost always recommend a more expensive and more complicated strategy and they often suggest that diversification now requires an allocation away from the stock and bond markets to private markets. Private markets carry high fees, are less transparent than they sound, less flexible and normally require longer-term commitment. The arguments in favour of private market investing are less persuasive than they sound. Our book gives investors the knowledge and vocabulary they need to understand and, if necessary, challenge strategies that complicate how their money is invested.

Despite the revolution in online trading platforms, financial markets should be seen as a place to protect and grow wealth. But it is not a reliable place to grow wealthy. It is an environment in which the patience of the tortoise can compound investment returns on regular generous pension contributions into a decent pension or savings pot. The skittishness of the hare, however, is most likely to end in disappointment. Most who try their luck as full-time day traders soon conclude that it is not a sustainable career choice.

Some basic investment terms

The world of investment is full of terminology that can feel intimidating for personal investors. Here's an explanation of the some of the most common terms that will appear throughout the book. The glossary at the back of the book provides another reference, with the terms explained there shown in bold in the text on first mention.

Equities, also known as **shares** or **stocks**, represent part ownership in a company.

Fixed income or **bonds** are investments that have a predetermined schedule of interest payments (also called fixed-interest coupons) and a fixed redemption value at maturity. They represent lending to governments and companies. Creditworthy governments are expected to honour the payment terms of their debt, so government debt such as US **Treasury bonds** bear minimal credit risk and are described as "safe harbour" investments. Companies may, and sometimes do, fail to meet their payment obligations and so corporate bonds are considered to be risk assets. A **credit portfolio** is a portfolio that gives exposure to corporate and other bonds.

Cash represents investments that could earn interest as bank deposits, holdings in money market funds or in shorter maturity government issued paper (such as **Treasury bills**). **Money market funds** are professionally managed funds that invest in cash and lower risk cash-like investments.

Safe-harbour assets are expected to provide shelter against a storm and can include cash and government bonds. The protections against different risks (including loss of capital and exposure to inflation) provided by different types of government debt are discussed in Chapter 4.

Risk assets are exposed to various underlying risks and include equities, corporate bonds (and portfolios exposed to credit risk), and real estate.

Public investments are usually **listed** or **quoted** investments for which prices are regularly quoted on a formal stock exchange at which, or close to which, transactions can be completed.

Private markets refer to unlisted or unquoted investments for which price quotations are generally not readily available.

Leverage is an indication of the extent to which an investment, and thus its performance and risk, is geared or multiplied through the level of debt embedded in it.

Short selling arises when investors sell an investment that they do not own, either through selling futures or borrowing it (by providing collateral to the stock lender). In contrast, a long position is an investment that is owned.

Financial derivatives are investment contracts that are designed to replicate risk and return of direct investment in, for example, the stock markets, bond markets or foreign exchange markets.

Multi-asset funds are investment vehicles that invest across multiple types of investments, strategies and fund managers.

Hedge funds are best understood as private entrepreneurial investment companies that operate with few constraints using their own research to identify opportunities to target high returns.

Investment managers work at firms that provide investment management services. **Consultants** and **advisers** are professionals who assist investors on a broad range of financial and investment issues ranging from individual pensions, financial planning to selecting investment managers.

Road map of the book

The book unfolds over twelve chapters.

Chapter 1: Where's the beef?

We begin by emphasising the importance of seeking out the substance behind any investment proposal. Investing has become much less expensive and much more accessible so far this century. The covid-19 pandemic provides a perfect illustration of the difference between uncertainty (which we cannot measure) and risk (which we can try to measure). It's a reminder that the most common measure of investment risk – the **volatility** of investment value – is only ever a partial measure.

We also discuss the importance of financial literacy as a safeguard against fraud and betrayal and the different indicators of risk tolerance (used by advisers) and risk aversion (used by economists). The risks that matter for an investor often cannot be measured and those that might be measured often are not. The key question is, "How much risk can you tolerate?"

Chapter 2: Know thyself: can I trust my own advice or do I need an adviser?

Do investors need advisers? Investors can often be their own worst enemy when they take decisions on their own; even self-confident investors can benefit from the much broader financial planning advice from a compatible adviser. A reasonable financial plan for the future in 2022 should seem disappointingly modest compared with past market experience. We emphasise the importance for both the investor and adviser to feel that the fee rate is commensurate with the service provided.

We also explore how economics says investors ought to invest and behavioural finance's explanation of how investors invest in practice. We contrast investor preferences (which should be respected) with investor biases (which frequently lead to investment mistakes). In so doing we discuss how behaviour can help and hinder people as they invest their savings.

Chapter 3: The personal pension challenge

A defining feature of the new world of individual investing is the personal pension fed by automatic payroll deductions. We illustrate the pernicious impact on living standards of even modest inflation during retirement. We encourage those nearing retirement to explore options to delay and so increase entitlement to inflation-linked state pensions and social security. Often, this will be the most competitively priced old age insurance available. We also discuss the likelihood of incurring substantial care costs in old age and different approaches to drawing down a pension pot.

Chapter 4: What drives performance?

One of the features of personal investment during the pandemic was "herding" towards specific stocks and, at least for a time, driving their performance. We put this in the context of the returns to be expected over time from stock markets. We suggest that it is normally better to go with a less exciting, well-diversified off-the-shelf investment strategy. Counter-intuitively, new research shows that any typical stock is likely to perform worse than the market, because the exceptional performance of a very few lifts the whole market with them.

Chapter 5: Inflation, interest rates, booms and busts: is anything safe?

Many have opinions, but no one knows where interest rates and inflation will be in the decades ahead. This matters for investors.

One consequence is that the fair value of government bonds is questioned and with it the fair value for the stock market. This is just the type of environment to encourage many to look for secure premium returns. These do not exist. We discuss whether other forms of diversification and would-be safe harbours for an investor's wealth, including gold and cryptocurrencies, are useful alternatives to government bonds. In our view, they are not, but extreme political conditions might justify such investment decisions. Nevertheless, we readily recognise that the growth of cryptocurrencies and its associated block-chain record of transactions are likely to lead to an epoch-defining change in banking and in how wealth is kept secure and verified.

We also look at the recurring pattern for stock and credit markets to alternate between extended periods of deceptive calm, lasting years, and dangerous shorter episodes of manic disruption.

Chapter 6: Will model allocations help me invest better?

We suggest that a simple model allocation – or benchmark – for dividing assets between equities, bonds and cash makes sense for investors. Model allocations are used by investors large and small all around the world. The most aggregated allocations impose discipline on investment decision-making and risk-taking, even though the volatility in markets, and thus the risk of loss in investor strategies, can still fluctuate alarmingly.

We also look at how models say investors *should* invest and show summary data for how they actually *do* invest.

Chapter 7: Liquidity risk: in bad times, cash is king

An inability to turn investments into cash quickly without incurring a significant loss is known as illiquidity. This has been described as the most dangerous and least understood financial risk. Ironically, it encourages two notable heresies. One is that investors can take comfort from the reported low volatility of infrequently traded investments. The other is that if an investment is illiquid, it will offer a premium rate of return to compensate for its inflexibility. Both are misplaced.

The next four chapters examine the place of risk assets in an investor's strategy.

Chapter 8: Risk assets: global equity markets

There are currently two defining trends for equity investing. One is the enormous rise in index matching or tracking equity strategies. The other is the rise to prominence of environmental, social and governance issues.

We look at different styles of investing in stock markets, and in particular how much to invest abroad, and whether international investments should be **hedged** to manage currency risk. We conclude that an **unhedged** global approach to investing is usually the practical best approach for individual investors, as equities are risky whether or not they are hedged. However, there are exceptions and there are arguments for some home-country bias in allocating investments.

Chapter 9: Risk assets: global credit

We look at the role of corporate bonds and other types of debt. We explain how the pricing of these credit portfolios varies with stock market volatility, which is why they are properly considered to be risk assets. In times of crisis, government bonds are still the investor's best friend.

Chapter 10: Multi-asset funds and alternative investments

Multi-asset funds can be one-stop shops to meet all an investor's needs. They include simple combinations of index funds of equities, bonds and cash. More often they provide access to a wide variety of alternative investments which are not otherwise available to most individual investors. At their best, actively managed multi-asset funds have industry-leading risk management, using leverage and short selling to optimise their chances of outperforming while managing the scope for underperformance. More complex funds usually come with a much higher burden of fees than their keep-it-simple index fund competitors. But they can give access to streams of revenue and risk not otherwise easily accessed by private investors.

Chapter 11: Home ownership and real estate

Everyone needs a home, and for many the wealth committed to their house is their most valuable investment. Housing is different because it meets the need for shelter and so can be low risk, even if its price is volatile. There is often an emotional attachment to housing which echoes the appeal of art and other treasured possessions.

Investing in commercial real estate is different. This is a market that has been upended by the covid-19 pandemic. Personal investors usually invest through real estate investment trusts. They enable investors to gain the advantages of real estate investing more flexibly than institutional investors, such as pension funds and insurance companies, who directly own buildings. In the UK, traditional property funds which rely on less volatile surveyors' valuations are a less efficient way for individuals to invest in commercial property.

Chapter 12: Art and investments of passion

Plenty of people have collections of paintings, or treasured possessions items such as stamps, rare books, watches or classic cars, on which they have expended significant amounts of money. The prospect of earning an emotional, not financial, dividend from owning a beautiful work of art is invariably the catalyst for a decision to buy. This is just as well. Others have noted soberly that almost all paintings that are bought will eventually be thrown away.

Technology has transformed the making, buying and recording of ownership of much art this century. This has made the markets for fine art and treasured possessions much more efficient. We discuss how art prices appear positively correlated with income inequality and wealth.

*

If there is one overriding message we want readers of this book to absorb and reflect upon, it is the importance of always asking of any investment proposal, "Where's the beef?" Allied to this is the message that if something has gone up in price and many are buying it, that alone does not make it a worthwhile investment.

Peter Stanyer, Masood Javaid, Stephen Satchell
October 2022

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Where's the beef?

Always look for the substance in any investment proposal

Isaac Newton, widely recognised as one of the greatest mathematicians and physicists of all time (and "presumably rational"), should have trusted his first answer to the question in this chapter heading. Instead, his greed got the better of him in the get-rich-quick speculation of his time, now known as the South Sea Bubble. Having already made a substantial profit in the early months of this early 18th-century mania, he risked three times as much, at the top of the market, and lost it all.

In the 17th century, the apocryphal speculative buyers of Dutch tulips probably saw a beautiful answer to a question that runs repeatedly throughout this book: why do you think you are making a worthwhile investment? Crypto investors should keep asking it too. Without asking that question, investors in funds that fed the enormous fraud of Bernie Madoff didn't stand a chance, whereas those who did ask, not seeing a convincing answer, steered clear.

Financial excess has repeatedly generated periods of widespread frenzied attention, as individuals think they have found a shortcut to get rich. But frenetic activity in a well-hyped, fashionable investment opportunity does not, by itself, justify involvement by more thoughtful individual investors.

Modern investing

The development of online trading and wealth management platforms this century has made easy-to-access investment accounts widely available at impressively low cost. With interest rates close to zero for years, previously solid income from bank accounts became a distant memory of older investors. A combination of easy money, financial liberalisation and, thanks to technology, unprecedented declines in transaction costs, has provided a fertile environment for innovation and, seemingly, bubbles and speculation.

These changes have also paved the way to low-cost investment strategies for modest regular savings. It is a safe bet that many large institutional funds with billions to invest struggle to perform as well as the simple index tracking strategies that are now available to individual investors with a few hundred dollars, euros or pounds to invest each month. An individual with modest savings may be unable to access sophisticated but expensive investment opportunities favoured by institutions, but despite their seemingly meagre funds, they are no longer at a clear performance disadvantage.

As we've seen, the US stock trading platform Robinhood has been the poster child for this new era of open access investing. Pioneering a now widespread US business model with no commissions, no minimum account size and a user-friendly website, individual investors seized the easy opportunity to trade. From its start in 2013, Robinhood had attracted 2 million customers by 2017 and 18 million by 2021.

At times there appeared to be a frenzy of stock trading, with internet chat rooms and message boards providing a breeding ground for market gossip and share tipping, helped in 2020 by the receipt of the $1,200 covid economic stimulus cheques sent to US citizens.

This is a different world from the late 20th century when buying an equity or an investment fund for the first time was expensive and time-consuming and frequently involved sending letters and application forms by post. That was a time when most large employers in the United States and the UK enrolled their employees in pension plans in which entitlements automatically grew with length of service and level of earnings. That world has disappeared.

Objectives, risk and uncertainty

In this new world, investors' objectives are much the same as they have always been. People save to fund expenditure in the future. This might be for their retirement, or to fund a deposit on a house purchase, a holiday, a wedding or a child's education. Or it might be to build up reserves for an unexpected rainy day, or any other purpose. In doing this, we always confront a myriad of risks and uncertainties.

The most important risks threaten the achievement of our goals. We might, for example, harness time and the prospect of superior but risky returns from patient investing. Time certainly allows superior performance to compound, but at the risk of falling increasingly short of objectives. In practice, the volatility of investments (that is, the annualised **standard deviation** of monthly investment returns) is used as a proxy for risk in investment discussions. This is often a useful indicator and is used as a guide to the likely extent of disappointing returns. It can, however, be misleading.

Often, the volatility of past investment returns is the only readily available data, but it's crucial to know how and when to qualify their use. A low number for volatility can in some predictable circumstances sugarcoat risk by suggesting, incorrectly, a low risk of extreme negative returns. We'll return to this in Chapter 4, where an illustration of this is given, though the issue is widespread and is discussed throughout the book.

To complicate matters, there is an important distinction between risk and uncertainty. Gambling on tossing a fair coin constitutes risk as the outcomes and their probabilities are fully known, even though the actual result of the coin toss is not. Being hit by meteorites, abducted by aliens and other such phenomena are different as we cannot fully describe the outcomes or their probabilities. The covid-19 pandemic reminds us that there are plenty of uncertainties that we know exist, but we cannot currently hope to model: yesterday's uncertainties are tomorrow's risks.

Risk and uncertainty: the covid-19 pandemic

The covid-19 pandemic struck out of the blue – or did it? After SARS, HIV-AIDS and swine flu, humanity did not need reminding that epidemics of deadly disease are a known threat to society and have been since the dawn of time. Experts knew this but they would not have been able to say how likely a pandemic was or when it might hit. It was a known unknown, a bad event that might strike. In the event, the adverse economic impact from covid-19 for most arose from government policy reactions to the pandemic, and especially the restrictions on social mixing and the business lockdowns, and not from its direct health consequences. This was an occasion when the benefits of holding rainy day reserves in cash proved valuable, not necessarily for seeing right through the pandemic, but at least for buying some extra time (see Chapter 6). It was also an occasion when in most countries, the government stepped in as insurer of last resort, at huge costs to their national debts. Some have suggested that the risk of further pandemics and climate change means that governments should prepare to be insurers of last resort more often in the decades ahead. This would have major implications for government debt, interest rates and perhaps inflation during the remainder of this century (see Chapter 5).

In the past, risk managers have sometimes described extreme market developments as one-in-a-million-year events, as if they could not reasonably have managed that risk because whatever happened was so unlikely to have happened. More likely, they should have known in advance that their risk model was incomplete, even if it used all the available data. Risk can be measured; uncertainty cannot.

A separate issue is the need to distinguish between threats to future income, which is a concern to a pensioner or someone saving for a pension, and threats to the value of investments, which matter more to a short-term investor who may need to have resources readily available. The volatility of investment returns and the short-term risk of losing money are relevant for the short-term investor but potentially misleading for pension savings (see Chapter 3) and inadequate as a general measure of risk. Being cautious means different things to different investors and this highlights the importance of questions being framed appropriately by advisers.

The pattern of investment returns through time matters to investors, and their perception of the risk of a bad outcome will be increased by disappointments along the way, not just the final return at some date in the future. Investors naturally revise their expectations and understanding of risk as time evolves and as their own experience (and everyone else's) grows. This focus on the risk of suffering unacceptable losses at any stage before the investor's target date (for example, when they hope to retire) has highlighted the dangers of mismeasuring risk (see Chapter 6).

Risk is about bad outcomes, and a bad outcome that might arrive at a bad time is especially damaging and requires particularly attractive rewards to compensate for facing that risk. As discussed, investment advisers typically judge the riskiness of an investment by its volatility, but in the words of Antti Ilmanen not all volatilities are equal, and the timing of bad outcomes matters for risk as much as the scale of those bad outcomes.[1]

A theme throughout this book is that personal investors should think about how investments might perform in bad times as the key to understanding how much risk they are taking. There is little discussion of what constitutes a bad time, which will vary from investor to investor, but it is best captured by Ilmanen, who defines it as a time when an extra dollar of ready cash feels especially valuable.

One way to help manage the risk of being wrong-footed by bad times is to reflect on risk-taking during the good times, when inappropriate risk-taking often gets rewarded, not called out. This theme is captured by a photograph at the front of Frank Sortino and Stephen Satchell's book *Managing Downside Risk in Financial Markets*. It shows Karen Sortino on safari in Africa, petting an intimidating rhino. The caption reads, "Just because you got away with it, doesn't mean you didn't take any risk."

As we'll see in Chapter 4, this may be a matter of being seduced by a seemingly exceptional manager performance which may hide embedded risk of exceptional negative returns. In any event, there is an increasingly recognised need for financial education. This is reflected in the number of universities and schools that run courses for their students to prepare them for looking after their financial well-being. The rise of self-investing and personal responsibility for pension provision puts a premium on financial literacy.

Financial literacy: well worth the effort

Individuals who do not have basic numeracy and financial literacy skills can easily be disadvantaged in this new environment of flexible working, portable pension pots and online trading. This is a significant issue because around the world tens of millions have become investors. In recent years international survey evidence has consistently found high levels of financial illiteracy.

This is shown by a poor understanding of three core financial concepts:

1. the compounding of interest payments
2. the impact of inflation
3. the benefits of risk diversification.

Any investor needs some understanding of these, and they are also especially important for this book and our core investment principles. The recognition of their importance has led to a growing focus on financial literacy and investment principles among schoolchildren and the publication of age-appropriate books to address these challenges early on.[2]

Financial literacy is different from numeracy. Being numerate does not ensure that you are financially literate, or that you have an intuitive feel for the important difference between risk (which can be measured) and uncertainty (which cannot).

Company-sponsored defined-contribution retirement funds, such as 401(k) plans in the United States, typically reduce the burden of decision-making imposed on employees by having default funds into which the overwhelming majority of employee contributions flow. Default plans outsource decision-making for retirement saving to simple structures designed by investment professionals.

Increasingly these default funds are target date funds, where the sole decision needed from the contributor is their expected retirement date (but see Chapter 3). Contributors should seek reassurance about whether the default contribution rates are likely to support their hoped-for standard of living in retirement; it is most likely they will need to contribute more each month. Given the target retirement date, the default strategy is designed to evolve automatically over the years as recommended by the company's advisers.

Default funds may nudge employees towards better patterns of retirement saving, but financial literacy is still needed to avoid pitfalls in financial management. One finding from research, which may have worrying implications for the future, is the poor appreciation of the impact of even modest inflation on the standard of living (see Chapter 3). This seems to be a particular issue in countries that have had little recent experience of rising prices. The importance of allowing for the impact of inflation on living standards has been highlighted by much higher worldwide inflation in the early 2020s.

Other aspects of financial illiteracy include a widespread failure to understand investment concepts (such as **stocks** and bonds) that are routinely used by financial advisers. Research has also shown that education is not necessarily a good proxy for financial literacy, and that women are on average less financially confident and less financially literate than men.

Conversely, individuals with better financial literacy were more likely to plan for retirement, better able to withstand unexpected financial shocks, and to feel more financially secure. Investing in financial literacy may lead to better financial outcomes and educational courses have been shown to lead to higher levels of regular pension contributions.

Another strategy for investors who readily admit to finding financial concepts challenging is to err towards professionally designed simple investment strategies, which are easier to understand.

Fraud and betrayal

At the end of November 2008, the accounts of the clients of Bernard L. Madoff Investment Securities LLC, an investment adviser registered by the US Securities and Exchange Commission (SEC), had a supposed aggregate value of $64.8 billion invested in the allegedly sophisticated investment strategy run by Bernie Madoff. But it was a fraud. His deception had started sometime in the 1970s. It lasted until December 11th 2008 when he was arrested and his business was exposed as a huge scam, probably the largest securities fraud the world has ever known.

The amounts that Madoff's investors thought they owned were inflated by fictitious investment performance. The amount that Madoff actually controlled was further reduced because early investors, who then withdrew money, were paid their inflated investment values with billions of dollars provided by later investors. The court-appointed liquidator has estimated the actual losses to investors of money they originally invested to be around $17.5 billion.

Nevertheless, at one stage, investors believed that they had assets – which, unknown to them, were mostly fictitious – worth almost four times as much. By June 2022, the liquidators had recovered or entered into agreements to recover, often from early beneficiaries of the fraud, $14.5 billion or about 83% of the estimated losses of amounts originally invested with the firm. Although the trustee for the liquidation has recovered much more than was initially feared, distributions to investors represent only 21% of the aggregate inflated value reported by Madoff before it collapsed. Investors have been left nursing huge losses from what they had believed was their wealth.

If risk is about bad outcomes, to be a victim of fraud is a particularly bad outcome. But when investors look after their own savings and investments, they are often their own worst enemies. Many people expect savings and investments, in which they have no particular fascination, to be a difficult subject that they do not expect to understand. They are often tempted to take a shortcut and, in the words of Daniel Kahneman, a Nobel laureate in economics, "think fast", which can lead to avoidable mistakes, rather than "thinking slow", which requires some concentration and effort.

Our lazy inclination to think fast is readily exploited by fraudsters who are attracted to our money and to our behavioural weaknesses like bees to a honey pot. The enormous Madoff fraud provides salutary lessons for both individual and professional investors. It is a mistake to think "it couldn't happen to me". It could, and do-it-yourself investors are probably particularly vulnerable. Professional advisers who expect to be able to find outperforming investment managers (see Chapter 2) are also susceptible to being misled. Fraud in financial markets is depressingly common.

Bernie Madoff's investment strategy seemingly offered the attractive combination of a long-run performance comparable to the stock market but with little volatility, supposedly thanks to clever use of financial **derivatives**, such as **options**, which were said by Madoff and his often-unwitting sales teams cleverly to provide insurance against stock market setbacks, while benefiting from market appreciation.

Marketing material from fund distributors presented the track record of Madoff's fraud showing the seductive combination of apparently low risk and high, but perhaps not outrageous, returns. But an experienced adviser or investor should immediately recognise that Madoff's track record looked odd. It is always safe to assume that there are no low-risk routes to returns well above the return on cash.

Madoff's strategy was a simple **Ponzi scheme**, whereby a fraudulent rate of return is promised, seemingly verified in this case by the experience of those early investors who had been able to withdraw inflated amounts. So long as only a few investors demand their money back, they can be paid what they have been told their investment is now worth. But what they had been told was a lie, and the inflated returns were delivered to a few by redirecting cash from the most recent investors. As with any Ponzi scheme, Madoff relied on robbing Peter to pay Paul.

These scams always collapse as soon as the demands of investors who want to sell their investments outweigh the cash provided by new investors. The Madoff fraud grew so large because it survived many years. Its undoing was the credit squeeze of 2008 when too many investors, who were presumably happy with Madoff's reported investment performance, had to withdraw funds to meet losses elsewhere. This caused the Madoff house of cards to collapse.

The victims were mostly based in the United States, but there were also many from around the world. Many were introduced to his fund through personal, investment adviser or wealth manager recommendations. These would have stressed his respectable community and business pedigree as a former chairman of the NASDAQ stock exchange and philanthropist.

Madoff's investors included wealthy individuals, charities, some wealth managers but, interestingly, relatively few institutional investors. Their analysts were unable to find a plausible explanation for Madoff's apparent excellent performance. It is safe to say that this was not because they identified it as fraudulent but because they could not understand it.

A large part of the problem of fraud is that it's easy for people to be seduced by the belief that they have found a low-risk way of performing surprisingly well. And yet, surprisingly good investment performance *always* involves risk.

Madoff was not an isolated example of large-scale fraud or suspected fraud, even though its scale was unprecedented.

These episodes provide important lessons for investors and for their advisers. Some of Madoff's investors were following the recommendations of investment advisers, who appeared to take pride in their professional diligence in identifying outperforming investment managers. The advisers could then often point to the name of one of the leading accountancy firms as the auditor of the third-party feeder fund that was the conduit to Madoff Investment Securities. However, this provided no protection for the investors themselves.

How was someone who had followed the recommendation of an adviser or a friend supposed to identify the risks? Ten old lessons emerge.

1. The old and seemingly trivial saying that "if it looks too good to be true, it probably is" remains one of the most valuable pieces of investment advice anyone can give.
2. Returns in excess of the return offered by the government can be achieved only by taking risk.
3. Risk is most obvious when an investment is volatile and is least obvious when a risky investment has not yet shown much volatility. This is rarely mentioned in books on investment.
4. Investors should question an adviser who recommends a low volatility investment that offers superior returns.
5. Do not invest in something you do not understand simply because a group of your peers is doing so. A desire to conform can explain many decisions that you would otherwise not take.
6. Whatever your adviser says, make sure that your investments are well diversified. But keep in mind that diversification is most difficult to assess when risky investments are not obviously volatile.
7. Pay particular attention if an adviser gives you inconvenient cautious advice, such as a recommendation to avoid something

that you would like to invest in or advice to sell a hitherto well performing investment.

8. Social status may not be a good indicator of honesty.
9. Do not assume that because an investment firm is regulated that the regulators have been able to check that everything is all right.
10. The ability to rely on good due diligence by investment managers is the key to minimising exposure to risk of fraud. An authoritative post-mortem report on the Madoff affair is called "Madoff: A Riot of Red Flags". Most private investors would not spot these red flags, but it was not by chance that only a few institutional investors lost money with Madoff. A challenge for private investors is to ensure that they also have access to good-quality manager due diligence.

How much risk can you tolerate?

How much risk you're prepared to take is fundamental to any investment strategy. Bear in mind that academics and advisers approach it in different ways.

Academic economists use mathematical assumptions to model risk aversion. This measures the extra compensation an investor requires to accept more risk. This may change as circumstances (such as wealth) change. Such assumptions are attractive in part because they can be used in models but also because they can be estimated empirically.

In contrast, behavioural finance stresses the importance of the asymmetry of response between gains and losses. Rather than risk aversion, this is known as "loss aversion" (see Chapter 2).

Wealth managers have traditionally used questionnaires to categorise client attitudes to risk-taking. These questionnaires may cover investors' circumstances (age, family, income, wealth, expenditure plans and so on) as well as their attitude to risk. One problem is that questions posed by wealth managers about risk may use language and concepts that are unfamiliar to non-experts.

In recent years, psychometric profiling services, typically developed with academic researchers, have become widely used by wealth managers to assess and compare attitudes to risk. This has led to a step change in the rigour of profiling. It has been accelerated by the rise of largely automated online investment services provided by so-called robo-advisers.

These services need to assess the suitability of their clients for different investment products with little direct interaction with those clients before the adviser recommends an investment. The robo-adviser needs to be satisfied that suitable investment advice is being given to the investor. One inconvenience, though, can be that clients often give inconsistent answers to related but different questions. This often calls for human intervention (rather than a machine-driven response) to iron out apparent discrepancies. In addition, robo-advisers may subsequently introduce human advisers to promote new products.[3]

The responses to one large international risk-profiling service shows some interesting patterns. The pattern of responses does not vary much by country: individuals' tolerance for risk is, on average, fairly stable over time; women tend to be more cautious than men (which is important for investing family wealth); and investment professionals tend to be more tolerant of risk than their clients (who in turn tend to be marginally more tolerant of risk than the population as a whole).

But the data do show a wide variation of responses for individuals around these average characteristics. This can matter if advisers use typical responses to make assumptions about the attitudes to risk-taking of individual investors.

It seems likely that well-designed psychometric testing helps to categorise the risk appetite of investors better than ad hoc questionnaires. It also seems that cautious people probably cannot be educated out of their disposition to be cautious. However, a single score on a risk-tolerance questionnaire, even a well-designed one, will not be an adequate guide to an investor's willingness or capacity to take risk.

Discussions of risk-taking need to reflect threats to the security of future income as much, if not more than, threats to future value of investments. The two are not the same, and in Chapter 4 we discuss how a government bond which may provide a stable income for many years will at the same time have a value that fluctuates as interest rates change.

Investors will sometimes hear advisers talk of the need to take a particular level of risk in order to meet their objectives. This may be contrasted with the investor's wish to take risk (sometimes called risk appetite) or, which may not be the same thing, ability to take risk (sometimes known as risk capacity). Investors should challenge such talk by asking if the adviser is saying that their apparently reasonable objectives are on reflection, not reasonable, but are beyond their prudent reach. This is explored further in the next chapter, which looks at how an adviser can help align people's finances with realistic objectives.

2

Know thyself: can I trust my own advice or do I need an adviser?

When investing, we can be our own worst enemies. A compatible adviser can help protect us from ourselves

Many investors feel, rightly or wrongly, that they do not need an investment adviser. At the start of an investor's journey, investing a regular savings contribution, we would recommend that the investor reflects on the 18 investment principles listed in the Introduction to this book. If, however, the investor starts by investing a life-changing sum, for example an inheritance or a retirement lump sum, we would recommend that, in addition to reflecting on our investment principles, they take time to think through reasons for seeking or not seeking advice.

One reason for seeking advice is the realisation that the advice that they might need is broader than investment advice. Even confident self-advised private investors should consider whether they need financial planning advice. Financial planning is much broader. It includes discussions about planning for retirement (however distant that might be), how much young investors should save, how best to secure a stable income, provision for old age care and for any dependants, and then issues around inheritance planning. There is also tax advice, an area in which even investment experts are not necessarily competent.

When investors reflect on these broader issues, important