GUIDE TO INVESTMENT STRATEGY

How to understand markets, risk, rewards and behaviour

Fourth edition

Peter Stanyer and Stephen Satchell

The Economist BOOKS

Published under exclusive licence from The Economist by
Profile Books Ltd
3 Holford Yard
Bevin Way
London WC1X 9HD
www.profilebooks.com

Copyright © The Economist Newspaper Ltd, 2006, 2010, 2014, 2018

Text copyright © Peter Stanyer, 2006, 2010, 2014; © Peter Stanyer and
Stephen Satchell, 2018

All rights reserved. Without limiting the rights under copyright reserved above, no part of this publication may be reproduced, stored in or introduced into a retrieval system, or transmitted, in any form or by any means (electronic, mechanical, photocopying, recording or otherwise), without the prior written permission of both the copyright owner and the publisher of this book.

The greatest care has been taken in compiling this book. However, no responsibility can be accepted by the publishers or compilers for the accuracy of the information presented.

This publication contains the authors' opinions and is designed to provide accurate and informative information. It is sold with the understanding that the authors, the publisher and *The Economist* are not engaged in rendering legal, accounting, investment planning or other professional advice. The reader should seek the services of a qualified professional for such advice; the authors, the publisher and *The Economist* cannot be held responsible for any loss incurred as a result of specific investments or planning decisions made by the reader.

Where opinion is expressed it is that of the authors and does not necessarily coincide with the editorial views of The Economist Newspaper.

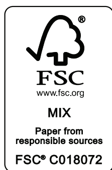
While every effort has been made to contact copyright-holders of material produced or cited in this book, in the case of those it has not been possible to contact successfully, the author and publishers will be glad to make amendments in further editions.

Typeset in Milo by sue@lambledesign.demon.co.uk

Printed in Great Britain by Clays, Bungay, Suffolk

A CIP catalogue record for this book is available from the British Library

ISBN 978 1 78125 915 3
eISBN 978 1 78283 384 0



Contents

List of figures xi
List of tables xiv
Acknowledgements xvi

Introduction: Back to basics, again xix

PART 1: THE BIG PICTURE

1 Setting the scene: What is risk for a personal investor? 3

Think about risk before it hits you 3
Fraud and betrayal 6
Betrayal aversion 10
How much risk can you tolerate? 11
Attitudes to risk and the financial crisis 13
Know your niche 14
War chests and umbrellas 17
Base currency 17

2 Understand your behaviour: "Hope for riches and protect yourself from poverty" 19

Insights from behavioural finance 19
Investor biases 22
Investor preferences 25
Loss aversion 26
The "fourfold pattern" of attitudes to gains and losses 27
Mental accounting and behavioural portfolio theory 28
Investment strategy and behavioural finance 29

Parameter uncertainty and behavioural finance 31
Traditional finance, behavioural finance and evolution 32

3 The personal pension challenge 35
Retirement date uncertainty 38
Life expectancy 39
It is normally dumb to self-insure big risks 41
Income uncertainty 44
How much income can I draw? 44

4 Investment returns 49
Sources of investment performance 50
Are government bonds risk-free? 52
Sovereign risk and "a country called Europe" 53
Safe havens that provide different kinds of shelter 54
Which government bonds will perform best? 56
Is the break-even inflation rate the market's forecast? 59
What premium return should bond investors expect? 63
The place of safe-harbour government bonds in strategy 64
The equity risk premium 65
Don't bank on time diversifying risk 74
Manager performance 78

5 Advice and investment strategy 82
Choosing an adviser 82
Investment beliefs 83
Conflicts of interest 84
How should investor strategies evolve? 86
Model investment strategies 86
Asset allocation models: an essential discipline 94
Risk-taking and portfolio rebalancing 96
Short-term investment strategies 96
How safe is cash? 97
Do bonds provide insurance for short-term investors? 98
How do investors invest? 100

6 Are you in it for the long term? 103

The time horizon for private and institutional wealth 103
Long-term investors 105
Financial planning and the time horizon 106
The danger of keeping things too simple 107
Declines in prices are sometimes good for you 107
Unexpected inflation: yet again the party pooper 109
"Keep-it-simple" long-term asset allocation models 109
Should long-term investors hold more equities? 110
Inflation, again 112
US municipal bonds 113
Laddered government bonds: a useful safety-first portfolio 114
What's the catch in following a long-term strategy? 116
Market timing: an unavoidable risk 117
Some "keep-it-simple" concluding messages 118
The chance of a bad outcome may be higher than you think 119

PART 2: IMPLEMENTING MORE COMPLICATED STRATEGIES

7 Setting the scene 125

A health warning: liquidity risk 125
Investing in illiquid markets 126
"Liquidity budgets" 127
Illiquidity in normally liquid markets 127
Behavioural finance, market efficiency and arbitrage opportunities 129
Barriers to arbitrage 129
Fundamental risk and arbitrage 130
Herd behaviour and arbitrage 131
Implementation costs, market evolution and arbitrage 133

8 Equities 135

The restless shape of the equity market 135
Concentrated stock positions in private portfolios 135
Stockmarket anomalies and the fundamental insight of the capital asset pricing model 136
"Small cap" and "large cap" 139

Will it cost me to invest ethically or sustainably? 143
Don't get carried away by your "style" 145
Value and growth managers 147
Should cautious investors overweight value stocks? 148
Fashionable investment ideas: low-volatility equity strategies 149
Equity dividends and cautious investors 151
Fashionable investment ideas: momentum strategies 152
Home bias: how much international? 153
Who should hedge international equities? 159
How much in emerging markets? 160
Fashionable investment ideas: frontier markets 166

9 Credit 168

Credit quality and the role of credit-rating agencies 170
Corporate bonds and stockmarket volatility 178
Portfolio diversification and credit risk 179
Local currency emerging-market debt 181
Securitisation, modern ways to invest in bond markets, and the credit crunch 182
Mortgage-backed securities 183
The role of mortgage-backed securities in meeting investment objectives 185
Quantitative investment 188
International bonds and currency hedging 190
What does it achieve? 191
What does it cost? 191
How easy is foreign exchange forecasting? 193

10 Alternative investments 195

Private equity: information-based investment returns 196
What is private equity? 198
Private equity market risk 199
Listed private equity 202
Private equity portfolios 205
Private equity returns 206

Hedge funds 208
What are hedge funds? 211
Alternative sources of systematic return and risk 211
"Do hedge funds hedge?" 212
The quality of hedge fund performance data 213
Are hedge fund fees too high? 215
The importance of skill in hedge fund returns 215
The shape of the hedge fund market 218
Hedge fund replication and "alternative betas" 218
Directional strategies 220
Global macro 220
Equity hedge, equity long/short and equity market neutral 221
Short-selling or short-biased managers 222
Long-only equity hedge funds 222
Emerging-market hedge funds 222
Fixed-income hedge funds: distressed debt 223
Arbitrage strategies 223
Fixed-income arbitrage 224
Merger arbitrage 224
Convertible arbitrage 224
Statistical arbitrage 225
Multi-strategy funds 226
Commodity trading advisers (or managed futures funds) 226
Hedge fund risk 227
Madoff, hedge fund due diligence and regulation 227
Illiquid hedge fund investments and long notice periods 228
Lies, damn lies and some hedge fund risk statistics 229
"Perfect storms" and hedge fund risk 230
Managing investor risk: the role of funds of hedge funds 232
How much should you allocate to hedge funds? 232
Real estate 234
What is real estate investing? 235
Home ownership 235
Commercial real estate 236
What are the attractions of investing in real estate? 237
Diversification 237

Income yield 238
Inflation hedge 239
Styles of real estate investing and opportunities for active management 240
What is a property worth and how much return should you expect? 240
Rental income 241
Government bond yields as the benchmark for real estate investing 244
Tenant credit risk 244
Property obsolescence 245
Private and public markets for real estate 245
International diversification of real estate investment 250
Currency risk and international real estate investing 251

11 Art and investments of passion 253
How monetary easing probably inflated the prices of fine art and collectibles 254
Psychic returns from art and collectibles 255
Wealth, inequality and the price of art 258
Art market indices 263
Price indices for other investments of passion or “collectibles” 265
Investing in art and collectibles 270
Shared characteristics of fine art and other investments of passion 273
Use of expert opinion for forecasting, valuation and risk modelling 274
Collectibles as collateral 276

Appendices
1 Glossary 279
2 Sources and recommended reading 294

Notes on sources 311
Index 315

Introduction: Back to basics, again

THE FINANCIAL CRISIS OF 2007–09 has had enormous consequences, but it has not led to major changes in the investment policies followed by institutional and private investors. One trend that has been accelerated by the crisis, and its aftermath of ultra-low interest rates, is the rapid move in various countries towards complete closure of company-sponsored salary-related pension schemes. Millions are now confronted with the challenge of building up their own pension pot to fund their retirement. Many of these, who, it is reasonable to suppose, have no particular interest in investment markets, need to be conscious of whether their savings are sufficient and "on track", and sensibly invested. This new edition is deliberately tilted to address these kinds of concerns of the private investor (see Chapter 3 on personal pensions, in particular).

Many of these concerns parallel those facing institutional funds. Since the crisis, earlier investment trends have been extended, rather than new trends emerging. There has been a growing recognition by all types of investors of the importance of globally diversified equity portfolios (Chapter 8), and although investment management fees have been squeezed by the rapid rise of inexpensive market-matching passive equity and bond funds, investment managers have been kept in the lifestyle to which they have been accustomed by continued growing allocations to high-fee "alternative" investments, such as hedge funds (Chapters 5 and 10).

Twenty-five years ago, both authors would have been confident that investment manager fees would have been under relentless pressure in the decades ahead. Time has so far shown such a prediction to have been only half-right. However, even the most modest investor can now

find easy access to reputable low-fee strategies of equity and bond investments that might suit their needs and which are comparable to those discussed in the first part of the book. Norway's oil fund (formally known as the Government Pension Fund (Global)), which is reported to be the largest fund in the world, has essentially followed such a strategy, since 1997. Warren Buffet, who has a reputation as one of the most successful professional investors, suggested in 2017 that American investors who are saving for retirement should "consistently buy an S&P500 low-cost index fund… I think it's the thing that makes the most sense practically all of the time."

As very low interest rates have persisted, stockmarkets have seemingly become more expensive. Bond markets automatically translate low interest rates, which are expected to persist, into much higher bond prices and it is widely believed that this helps to explain the buoyancy of prices for a wide range of collectibles, from works of art to classic cars (see Chapter 11). There is though, no agreement on whether the same process has left stockmarkets dangerously overvalued, or simply as having adjusted to a new reality of prolonged low interest rates. Most investors have responded as if they are not sure how to read signs that markets may be expensive (see Chapter 5).

The stockmarket will always be intrinsically volatile, but at the time of writing, stockmarket volatility was as low as it has been in recent decades. Chapter 9 explores the close relationship between the higher yield offered on corporate bonds compared to that on government bonds (the spread). In late 2017 this spread was as low as it has been since 2007. This seems to be explained in part by (what were at the time) tranquil stockmarkets. The message is to expect bond yields to adjust if and when stockmarket volatility increases.

The suggestion that markets might be expensive sounds like a good reason to delay investing. The difficult subject of market timing when markets seem expensive or cheap is discussed in Chapters 5 and 6. When markets seem expensive, and also when they are volatile, the best strategy is normally to continue with a long-term strategy of making regular contributions to a pension savings accounts or to maintain balance in whatever strategy is being followed. Chapter 6 (Are you in it for the long term?) emphasises that some declines in prices are good news for investors. If bond prices (or the stockmarket) do decline

from their current levels, that is unambiguously positive news for anyone saving for a pension, as they can now buy more pension with each monthly contribution. For those enrolled in company-sponsored DC pension plans, inertia is most likely (as in 2008) to keep regular contributions flowing unimpeded by all the noise and commentary from TV pundits. Those who already have a fund of investments, the best protection against ill-considered responses to news is a diversified investment strategy whose rationale has been thought through and agreed in advance with an adviser.

As with the previous editions of this book, the first part of the book describes the design of such "keep-it-simple" strategies of stocks, bonds and cash. Chapter 1 starts with the distinction between risk (which can reasonably be measured) and uncertainty (which cannot reasonably be measured and so is not captured by risk models, but is still important). It emphasises the importance of thinking how vulnerable our investments and savings are to bad times (because they do happen every now and again, and most probably will arise at some stage during your retirement).

The book is divided into two sections: Part 1 provides a framework for thinking about the different aspects of risk and how savings and investments might be allocated to meet investors' reasonable expectations. While keep-it-simple is a theme of this book, Part 2 provides more detail on equity and bond markets, giving an introduction to more complicated hedge fund and private equity investments, and more widely held real estate investments, including housing (Chapter 10), and ending with a focus on collections (however modest) of art and other investments of passion (Chapter 11).

The authors would welcome any feedback and can be contacted at the following email addresses:

Peter Stanyer: peter@peterstanyer.com
Stephen Satchell: ses999@yahoo.co.uk

Peter Stanyer
Stephen Satchell
December 2017

PART 1

The big picture

1

Setting the scene: What is risk for a personal investor?

Think about risk before it hits you

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. Investors and their advisers have typically judged the riskiness of an investment by its volatility, but in the words of Antti Ilmanen, author of *Expected Returns: An Investor's Guide to Harvesting Market Rewards*, not all volatilities are equal, and the timing of bad outcomes matters for risk as much as the scale of those bad outcomes. A theme throughout this book is that 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.

What constitutes a bad outcome is far from simple. It is typically specific to each investor. Thus, a bad outcome can vary from one investor to another and from investment to investment. If an investor is saving for a pension, or to pay off a mortgage, or to fund a child's education, the bad outcome that matters is the risk of a shortfall from the investment objective. This is different from the risk of a negative return. In Chapter 6, the distinction is drawn between threats to future income (which is of concern to a pensioner) and threats to the value of investments (which matter to a cautious short-term investor). This indicates that the short-term risk of losing money is inadequate as a general measure of risk.

As mentioned earlier, there is a temporal dimension to risk. In

practical terms, this means that a multi-period strategy gives multiple opportunities to review the strategy as time passes. Thus risk is also about the chance of anything happening before the investment matures, which undermines an investor's confidence in the future objective of the investment being met.

To complicate matters, there is a 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, while tossing the coin, brings a different dimension to the situation as we cannot fully describe the outcomes or their probabilities. The latter concept is referred to as uncertainty.

Financial decisions are a mix of risk and uncertainty. In 2017, we were in a world of low financial risk and high political uncertainty. It is clear that this uncertainty will also vary among individuals. Since those working in the investment business are uncertain about market relationships, it is reasonable for investors to be at least as uncertain. It is also reasonable for their confidence to be shaken by disappointing developments along the way, even if those developments are not surprising to a quantitative analyst.

Investors' expectations are naturally updated as time evolves and as their own experience (and everyone else's) grows. As far as the investor is concerned, the perceived risk of a bad outcome will be increased by disappointments before the target date is reached, undermining confidence in the investment strategy.

The pattern of investment returns along the way matters to investors, not just the final return at some target date in the future. This focus on the risk of suffering unacceptable losses at any stage before an investor's target date has highlighted the dangers of mismeasuring risk. An investor might accept some low probability of a particular bad outcome occurring after, say, three years. However, the likelihood of that poor threshold being breached at some stage before the end of the three years will be much higher than the investor might expect. The danger is that the investor's attention and judgment are initially drawn only to the complete three-year period. As the period is extended, the risk of experiencing particularly poor interim results, at some time, can increase dramatically.

The insights from behavioural finance (see Chapter 2) on investor loss aversion are particularly important here. Disappointing performance disproportionately undermines investor confidence. The risk of this, and its repercussions for the likelihood of achieving longer-term objectives, represents issues that investors need to discuss regularly with their advisers, especially when they are considering moving to a higher-risk strategy.

Research findings from behavioural finance emphasise that investors often attach different importance to achieving different goals. The risk of bad outcomes should be reduced, as far as possible, for objectives that the investor regards as most critical to achieve, and, ideally, any high risk of missing objectives should be focused on the nice-to-have but dispensable targets. Investors may then be less likely to react adversely to the disappointments that inevitably accompany risk-based strategies. They will know that such targets are less critical objectives.

Risk is about the chance of disappointing outcomes. Risk can be managed, but disappointing outcomes cannot, and surprising things sometimes do happen. However, measuring the volatility of investment performance, as a check on what the statistical models say is likely, can be helpful in coming to an independent assessment of risk. But it will always be based on a small sample of data. Thus we can attempt to measure the risks we perceive. Uncertainties that exist but that we neither have the imagination nor the data to measure will always escape our metrics. There are no easy solutions to the problem of measuring uncertainty. This led Glynn Holton to write in the Financial Analysts Journal in 2004: "It is meaningless to ask if a risk metric captures risk. Instead, ask if it is useful." It is worth commenting that the availability of more and better data, which is a strong feature of modern finance, does mean that some of yesterday's uncertainties may become tomorrow's risks.

More often than not, the real problem is that unusual risk-taking is rewarded rather than penalised. There are numerous investment strategies with names like Low Volatility, or Low Beta, that appear to have lower-than-market risk but higher-than-market returns (see Chapter 7). Two points can be made about this. First, we may not be measuring risk correctly. Second, we need to avoid drawing the wrong

conclusions about the good times as well as the bad times. 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 underneath reads: "Just because you got away with it, doesn't mean you didn't take any risk."

Fraud and betrayal

If risk is about bad outcomes, to be a victim of fraud is a particularly bad outcome. Yet when we look after our own savings and investments we are often our 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. Any opportunity that presents itself to take a short cut and, in the words of Daniel Kahneman, a Nobel laureate in economics, and Eugene Higgins, emeritus professor of psychology at Princeton University, to "think fast", which easily leads to avoidable mistakes, rather than "thinking slow", which requires some concentration and effort, will be tempting. Our lazy inclination to "think fast" (see Chapter 2) is readily exploited by fraudsters who are attracted to our money and our behavioural weaknesses like bees to a honey pot. The enormous Madoff fraud that unravelled in December 2008 provides salutary lessons for us all. It is a mistake to think "it couldn't happen to me". It could, and do-it-yourself investors are probably particularly vulnerable. Fraud in financial markets is depressingly common.

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 supposedly sophisticated investment strategy run by Bernie Madoff. His firm had been in operation since the 1960s and it is thought that his fraud started sometime in the 1970s. It lasted until the 11th December 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 had been inflated by fictitious investment performance ever since they had first

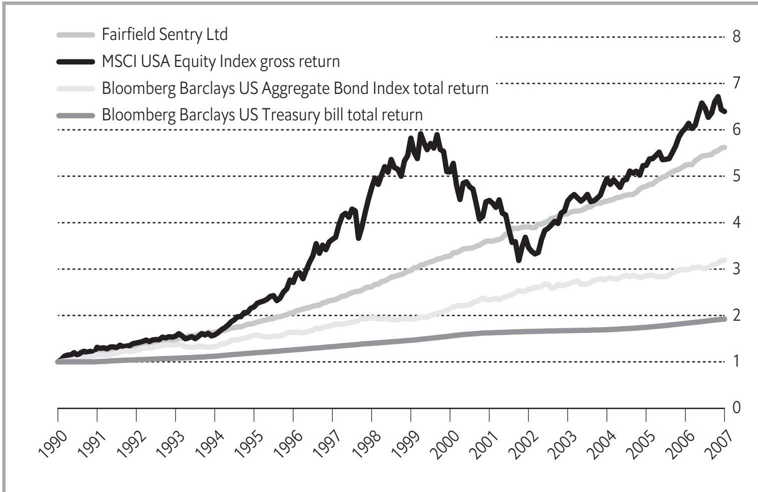
invested, and the amount that Madoff actually controlled was further reduced because early investors, who then withdrew money, were paid their inflated investment values with billions of dollars provided by later investors. The court-appointed liquidator has estimated the actual losses to investors of 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 $65 billion invested with Madoff. By October 2017, the liquidators had recovered or entered into agreements to recover, often from early beneficiaries of the fraud, $12.7 billion or 73% of the estimated losses of amounts invested with the firm, and actual distributions to investors totalled $9.5 billion. Although, it is likely that the trustee for the liquidation, Irving S. Picard, will succeed in recovering much more than was initially feared of the amounts originally invested, actual distributions to investors represent just 15% of the aggregate inflated value reported by Madoff just before his scam unravelled in December 2008. His investors have been left nursing huge losses from what they had believed was their wealth. Unless they remain alert, others are in danger of repeating the mistakes that led so many to lose so much. So how can investors protect themselves?

Madoff's investment strategy seemingly offered the attractive combination of a long-run performance comparable to the stockmarket but, supposedly thanks to the clever use of derivatives, with little volatility.

Marketing material from fund distributors presented the track record of Madoff's fraud in the way shown in Figure 1.1 for Fairfield Sentry, a so-called feeder fund, which was entirely invested in Madoff's scam. It showed the seductive combination of apparently low risk and high, but perhaps not outrageous, returns. But an experienced adviser or investor should immediately recognise that the track record shown for Fairfield Sentry looks odd. It is always safe to assume that no investment strategy can deliver such smooth returns well in excess of the guaranteed rate on Treasury bills, and 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

FIGURE 1.1 **If it looks too good to be true, it probably is:** Madoff's Fairfield Sentry fund's fictitious cumulative performance compared with market indices, Dec 1990–Dec 2007, Dec 1990 = 1



Sources: Bloomberg LP, Fairfield Sentry client reports

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.

Ponzi schemes are named after an American fraudster of the 1920s, and they are usually built around a plausible-sounding investment story. However, 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. They included wealthy

individuals, charities and a number of wealth managers, but relatively few institutional investors. Many were introduced to Madoff through personal recommendations, which would have stressed his respectable community and business pedigree as a former chairman of the NASDAQ stock exchange and philanthropist.

A large part of the problem is that so many people can 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 instance of large-scale fraud or suspected fraud, even though the 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 good managers. The advisers could often point to the name of one of the leading accountancy firms as the auditor of the third-party so-called feeder fund that was the conduit to Madoff Investment Securities, but this provided no protection for investors.

How was someone who had followed the recommendation of an adviser or a friend supposed to identify the risks? Ten old lessons re-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 be particularly questioning when an adviser 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 we 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 by the authorities they have been able to check that everything is all right.
10. The ability to rely on good due diligence on 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 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.

Betrayal aversion

The Madoff fraud puts a spotlight on the relationship between advisers and clients. Investors are at their most vulnerable in their dealings with advisers, and yet establishing a bond of trust with one or more advisers is probably the most important ingredient for the successful management of wealth. Iris Bohnet and Richard Zeckhauser, respectively professor of public policy and Ramsey professor of political economy at Harvard University's Kennedy School of Government, have found that individuals systematically require a premium return to compensate for the risk that they might be betrayed by an agent who is supposed to be working for them. This premium is greater than the premium that would be asked to accept the same probability of a poor outcome where there is no likelihood of betrayal. As Bohnet has written:

> *People care not only about outcomes, but about how outcomes came to be … that doesn't strike anyone but an economist – like me – as a surprise.*