Investment Principles

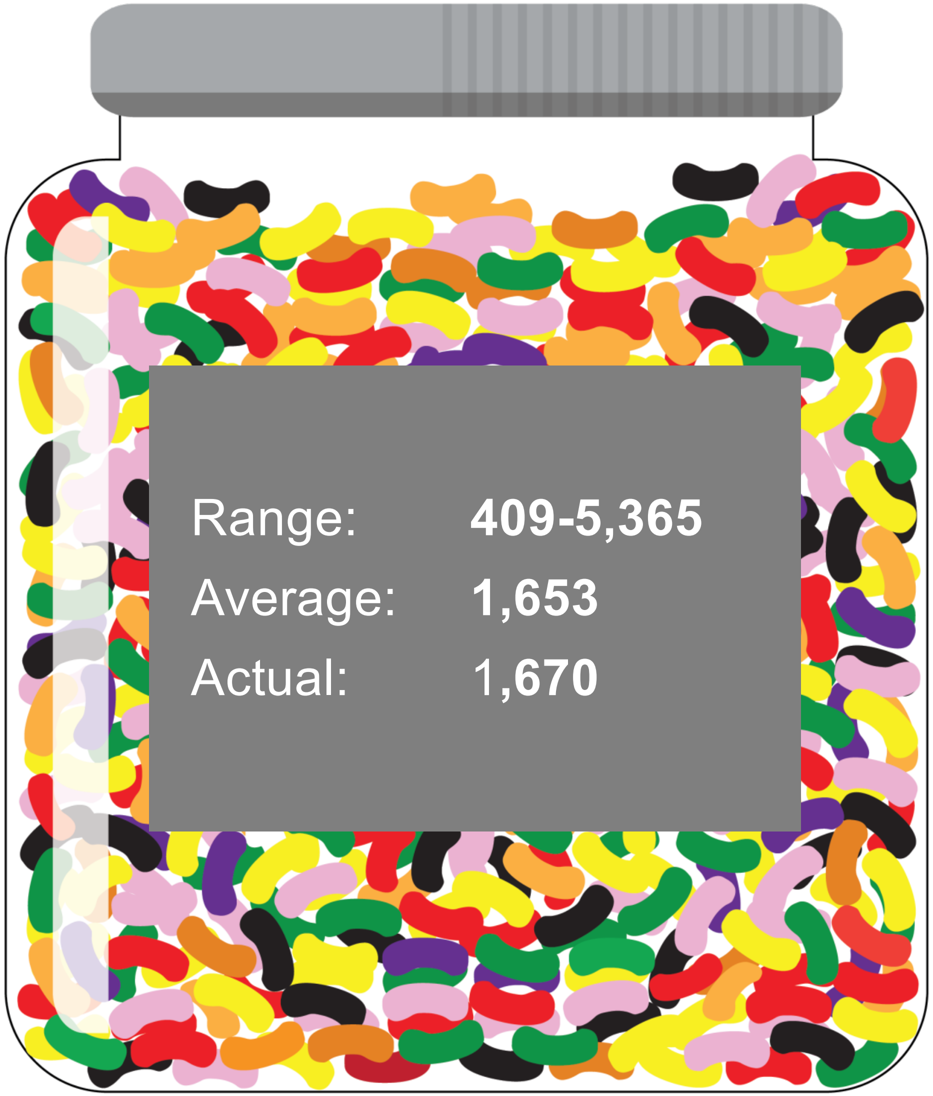
Market Equilibrium

What’s Your Guess?

Participants were asked to estimate the number of jelly beans in a jar.

The average estimate of all participants was very close to the actual count.

Together, we know more than we do alone.



For illustrative purposes only. Illustration based on voluntary participation at adviser event in August 2013. Results audited by conference sponsor.

Markets Integrate the Combined Knowledge of All Participants

The market effectively enables competition among many market participants who voluntarily agree to transact.

This trading aggregates a vast amount of dispersed information and drives it into security prices.

World Equity Trading in 2016

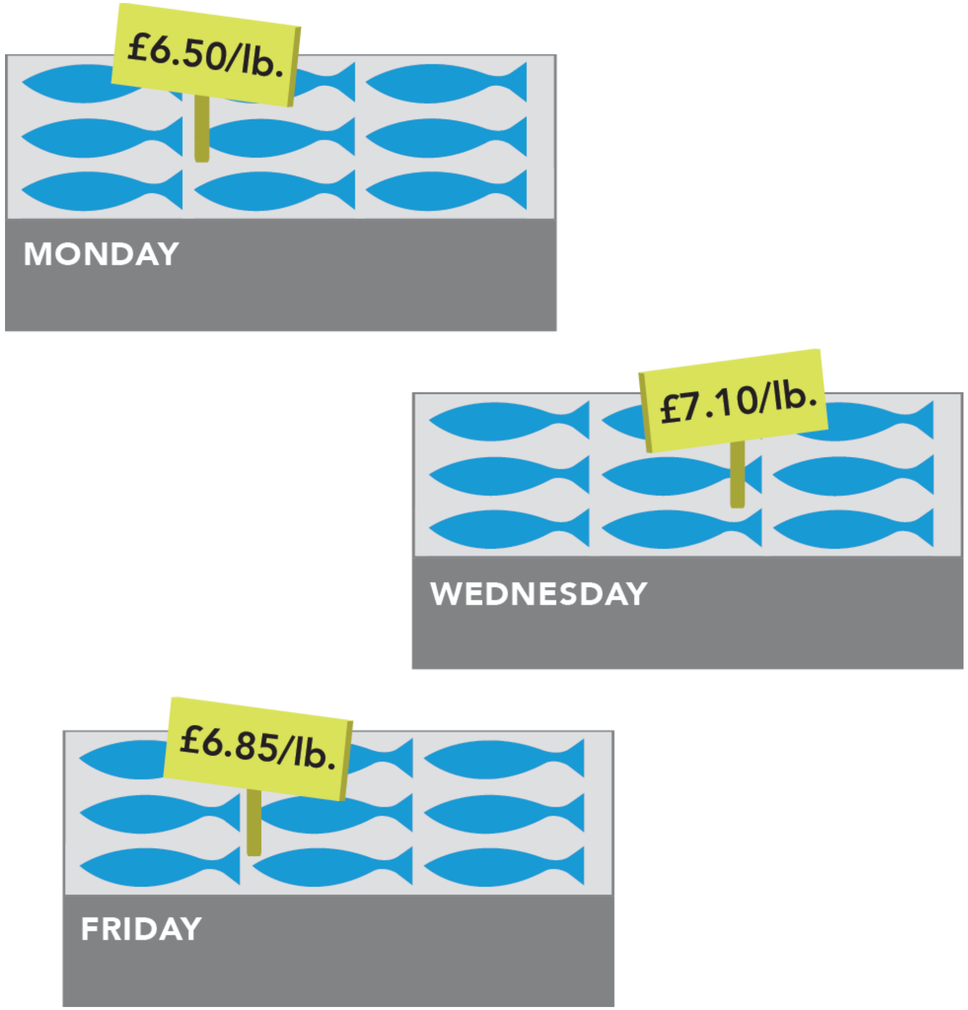
	Number of Trades	GBP Volume[1]
Daily Average	82.7 million	£280 billion

1. Year-end WM/Reuter's London Close FX rates used to convert original USD data to GBP.
Source: World Federation of Exchanges members, affiliates, correspondents and non-members. Trade data from the global electronic order book. Daily averages were computed using year-to-date totals as of December 31, 2016, divided by 250 as an approximate number of annual trading days.

People Trust Market Pricing Every Day

The daily price of fish may vary based on buyer and seller expectations of market forces. We accept the price as an accurate estimate of current value and make decisions accordingly.

The same is true of a stock price, which reflects all known information about a company.



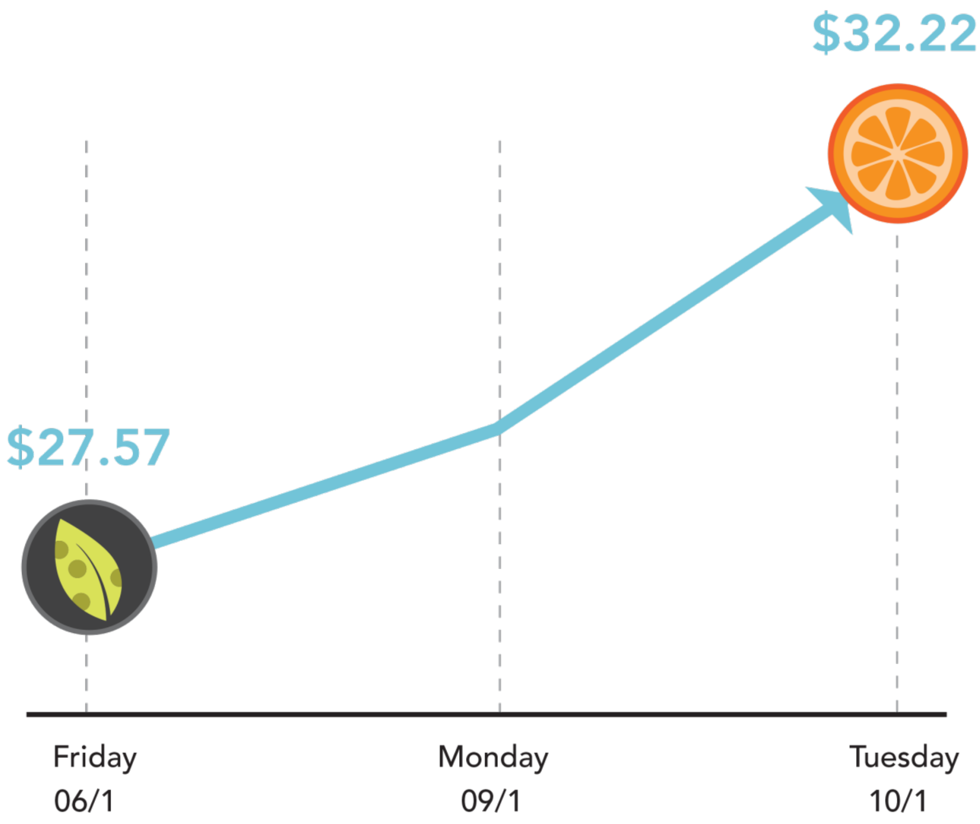
What Affects a Share's Current Price?

Given all information, a stock's current price
reflects aggregate expectations about risk and return.

Markets React to Events

"Orange juice futures surge to record on fungicide fears"
–*Reuters,* January 10, 2012

Prices adjust when unexpected events alter the market's view of the future.



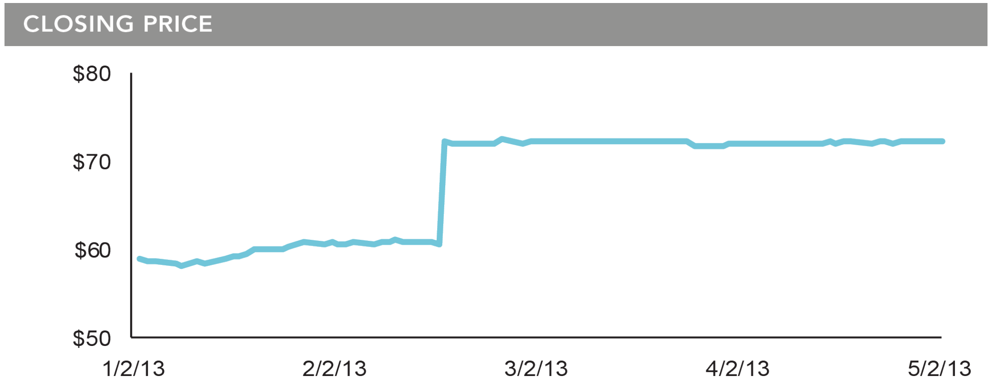
In USD.
Source: Dow Jones-UBS Orange Juice Subindex. Dow Jones data provided by Dow Jones Indices.

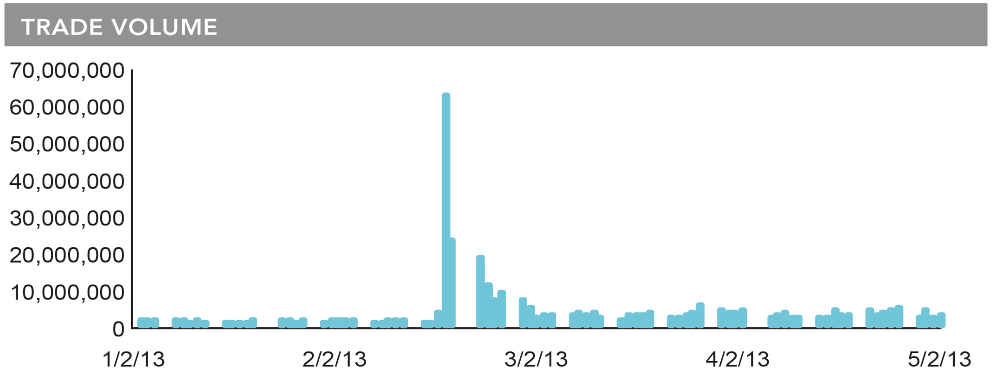
Share Prices Adjust Quickly

Heinz, 14/2/2013

"Heinz agrees to buyout by Berkshire Hathaway, 3G"
–*USA Today,* February 14, 2013

News travels quickly, and prices can adjust in an instant.

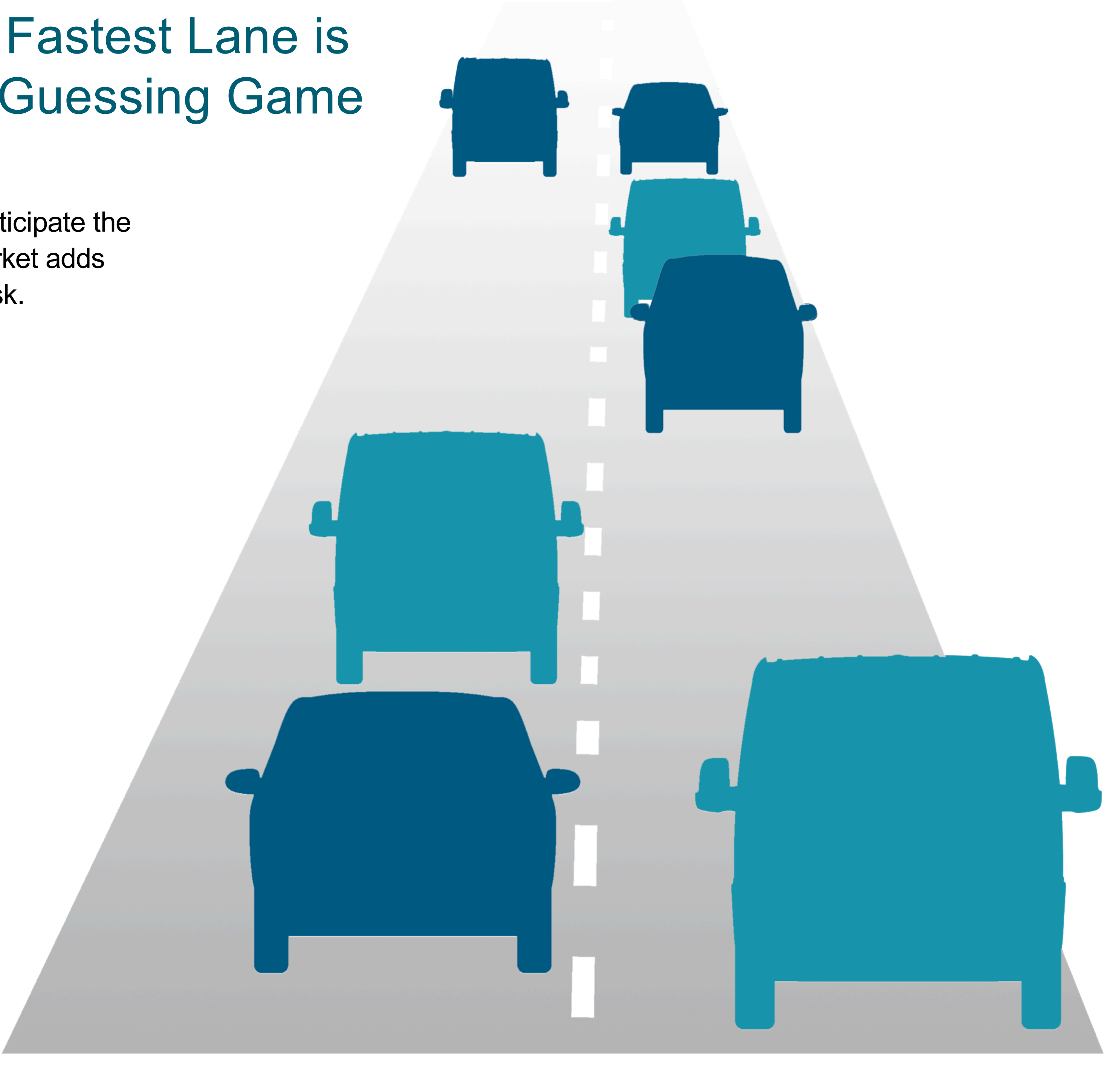




Source: Bloomberg.
In USD. The security identified is shown for illustrative purposes only to demonstrate the investment philosophy described herein. These materials are not, and should not be construed as, a recommendation to purchase or sell the security identified or any other securities. Actual holdings will vary for each client, and there is no guarantee that any client will hold the security identified.

Picking the Fastest Lane is a Stressful Guessing Game

Likewise, trying to anticipate the movement of the market adds anxiety and undue risk.



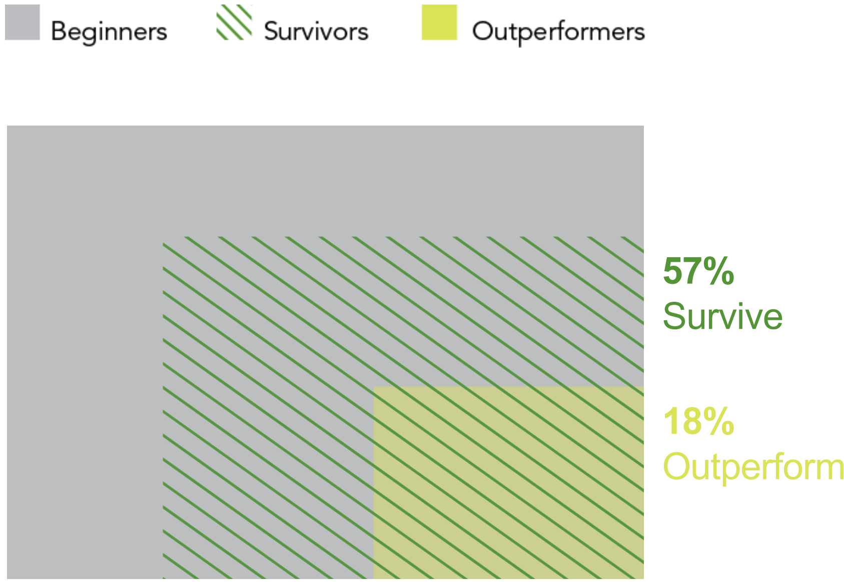
Outsmarting Other Investors is Tough

Few US mutual funds survive and beat their benchmarks, 15-yr period ending December 31, 2016

US MUTUAL EQUITY FUNDS

2,587 funds at the beginning

US MUTUAL FIXED INCOME FUNDS



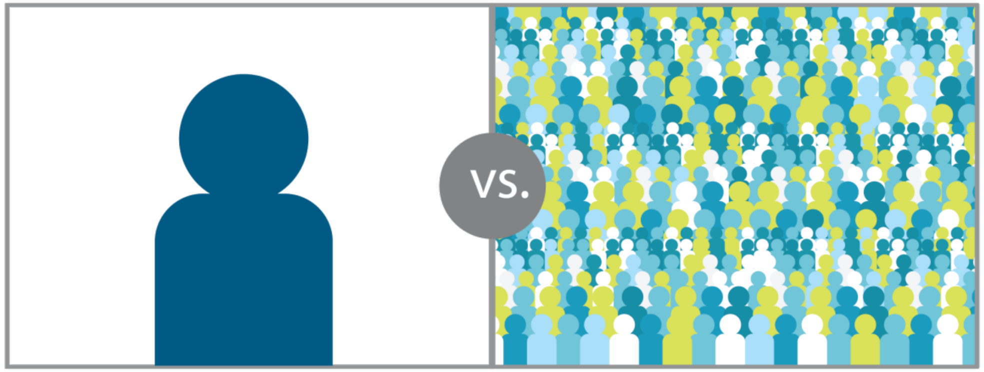
958 funds at the beginning

Past performance is no guarantee of future results.
Beginning sample includes funds as of the beginning of the 15-year period ending December 31, 2016. The number of beginners is indicated below the period label. Survivors are funds that were still in existence as of December 31, 2016. Non-survivors include funds that were either liquidated or merged. Outperformers (winners) are funds that survived and beat their respective benchmarks over the period. US-domiciled mutual fund data is from the CRSP Survivor-Bias-Free US Mutual Fund Database, provided by the Center for Research in Security Prices, University of Chicago.

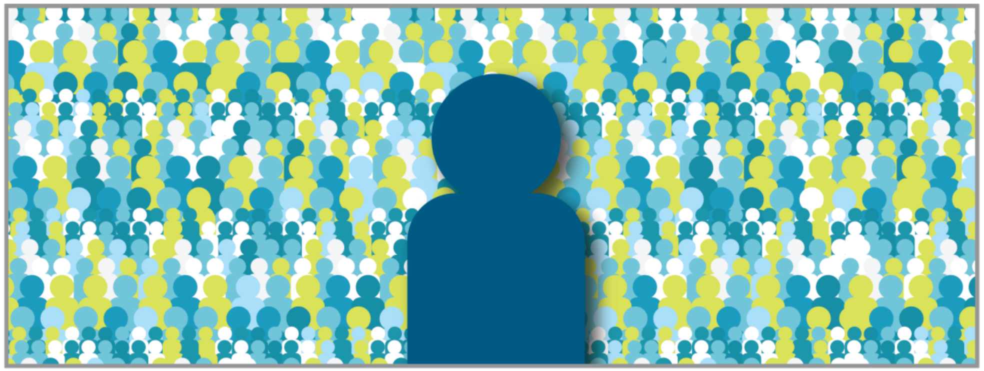
 10

Let the Market Work for You

When you try to outwit the market, you compete with the collective knowledge of all investors.



By harnessing the market's power, you put their knowledge to work in your portfolio.



Diversification

I. Diversification Helps You Capture What Global Markets Offer

II. Diversification Reduces Risks That Have No Expected Return

III. Diversification May Prevent You from Missing Opportunity

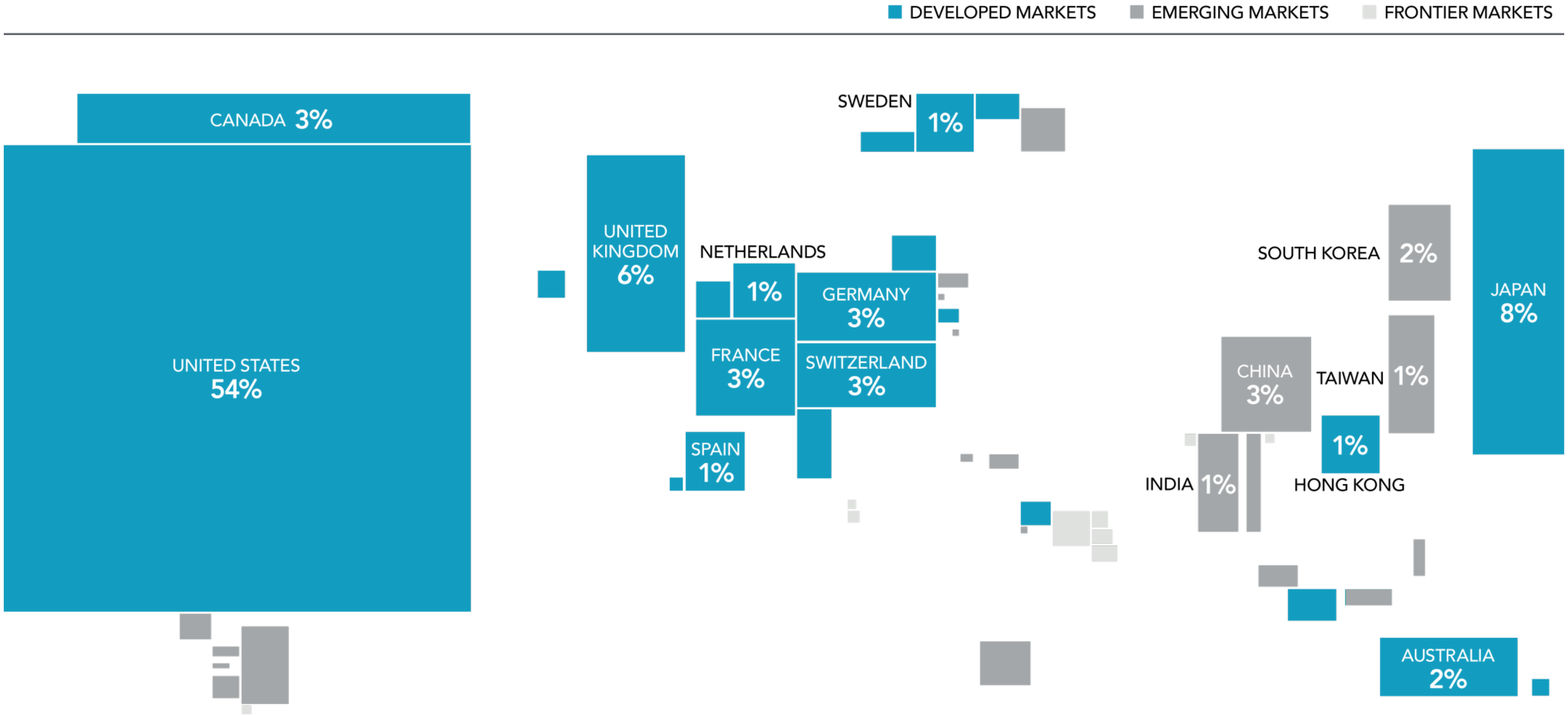
IV. Diversification Smooths Out Some of the Bumps

V. Diversification Helps Take the Guesswork out of Investing

Diversification does not eliminate the risk of market loss.

Diversification Helps You Capture What Global Markets Offer

Percent of world market capitalisation as of December 31, 2016



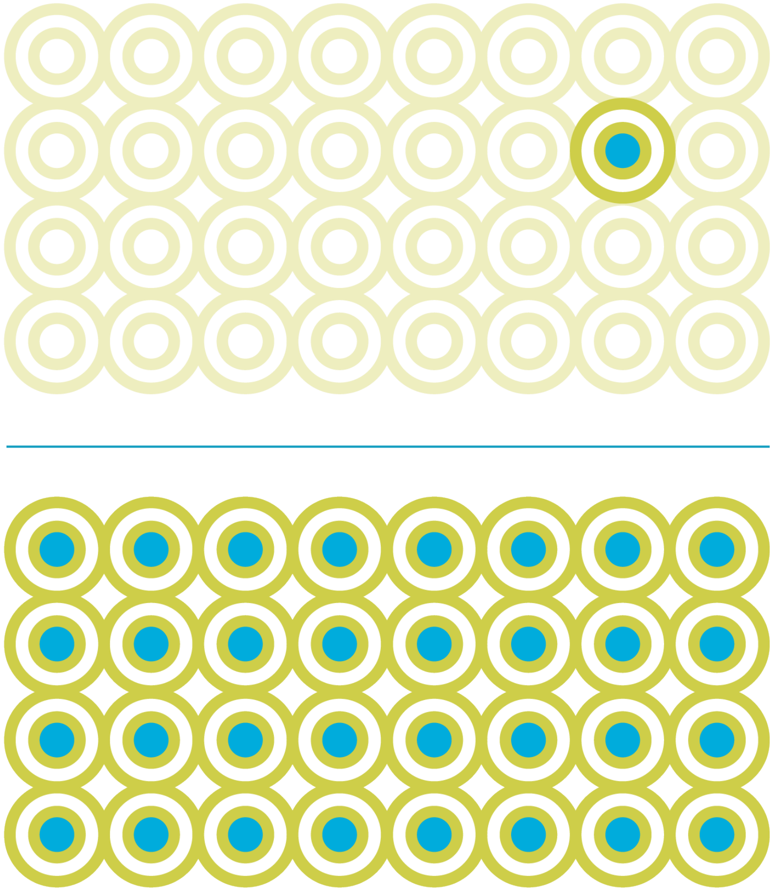
The global equity market is large and represents a world of investment opportunity.

Data provided by Bloomberg. Market cap data is free-float adjusted and meets minimum liquidity and listing requirements. Many nations not displayed. Totals may not equal 100% due to rounding. For educational purposes; should not be used as investment advice. China market capitalisation excludes A-shares, which are generally only available to mainland China investors.

Diversification Reduces Risks That Have No Expected Return

Concentrating in one share exposes you to unnecessary risks.

Diversification reduces the impact of any one company's performance on your wealth.



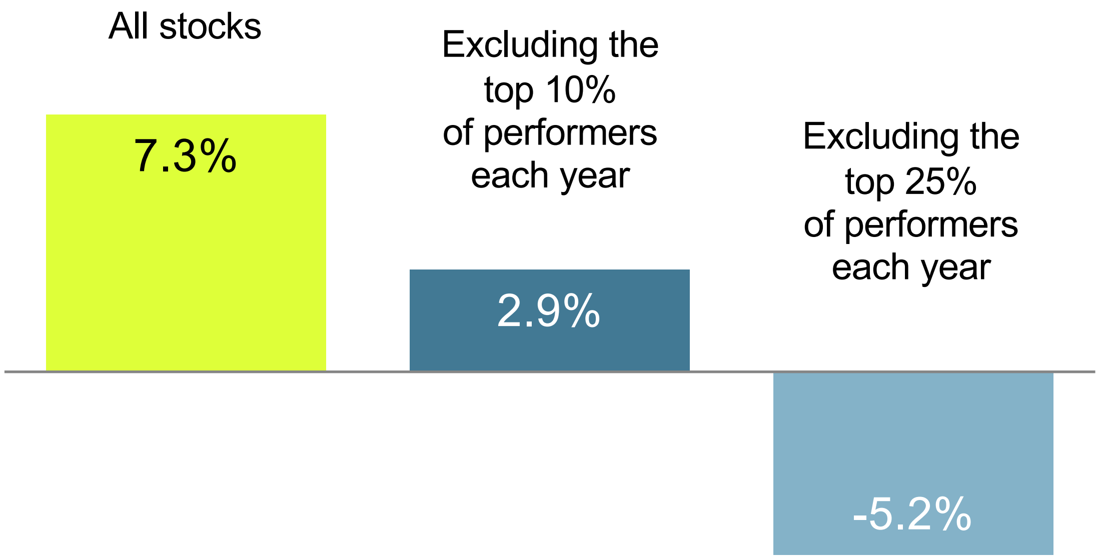
Diversification does not eliminate the risk of market loss.

Diversification May Prevent You from Missing Opportunity

Compound average annual returns: 1994-2016

Attempting to identify that group of future winners is a guessing game.

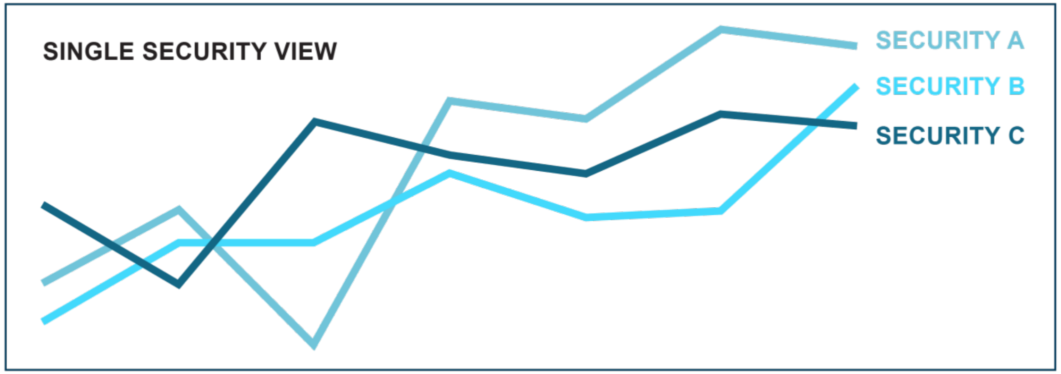
Diversification improves the odds of holding the best performers.

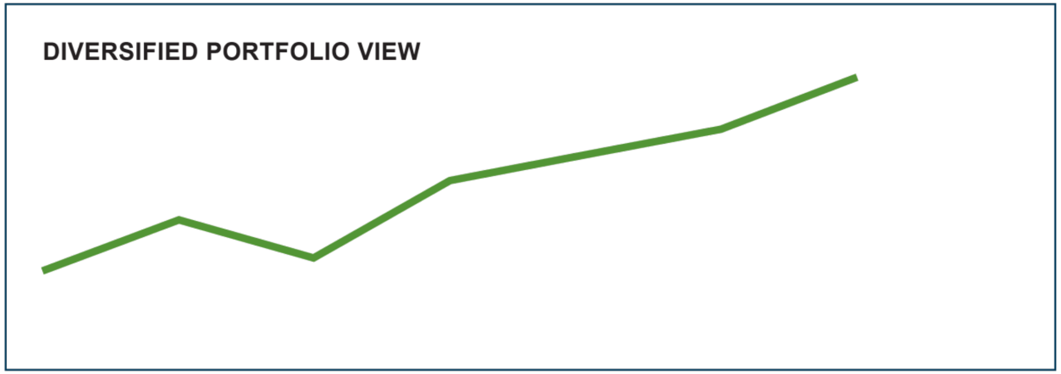


The “All stocks” portfolio consists of all eligible stocks in all eligible Developed and Emerging Markets. The portfolio for January to December of year t includes stocks whose free float market capitalization as of December t-1 is greater than $10mln in developed markets and $50mln in emerging markets and with non-missing price returns for December of year t-1. Annual portfolio returns are value-weighted averages of the annual returns on the included securities. The portfolios “Excluding the top 10%” and “Excluding the top 25%” are constructed similarly. Individual security data are obtained from Bloomberg, London Share Price Database, and Centre for Research in Finance. The eligible countries are: Australia, Austria, Belgium, Brazil, Canada, Chile, China, Colombia, Czech Republic, Denmark, Egypt, Finland, France, Germany, Greece, Hong Kong, Hungary, India, Indonesia, Ireland, Israel, Italy, Japan, Republic of Korea, Malaysia, Mexico, Netherlands, New Zealand, Norway, Peru, Philippines, Poland, Portugal, Russia, Singapore, South Africa, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Kingdom, and the United States. Diversification does not eliminate the risk of market loss. Past performance is no guarantee of future results.

Diversification Smooths Out Some of the Bumps

A well-diversified portfolio can provide the opportunity for a more stable outcome than a single security.





Illustrative examples. Diversification does not eliminate the risk of market loss.

Diversification Helps Take the Guesswork out of Investing

Annual returns (%): 2002–2016

You never know which markets will outperform from year to year.

By holding a globally diversified portfolio, investors are positioned to capture returns wherever they occur.

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Higher Return	10.7	40.5	24.8	50.5	21.7	37.5	13.6	59.4	27.3	16.9	18.3	25.0	30.4	6.4	33.1
	9.5	25.0	17.4	23.5	16.3	7.3	8.7	29.8	22.9	5.8	13.4	20.5	14.9	5.5	29.0
	7.3	20.4	12.8	22.7	16.1	6.7	7.6	19.0	15.6	2.7	12.2	0.9	12.5	1.4	27.5
	4.0	19.8	8.0	21.7	4.8	5.8	4.9	14.5	14.2	2.5	10.8	0.8	7.9	1.2	17.5
	-2.5	5.5	6.6	8.0	4.2	5.7	-16.7	5.3	7.3	0.5	5.9	0.4	4.3	0.5	10.9
	-15.0	4.4	6.4	5.8	3.7	5.4	-23.9	2.5	4.8	-3.0	2.7	0.0	2.2	0.4	3.7
	-22.6	3.7	5.8	4.7	3.3	4.7	-29.5	0.6	2.2	-5.2	2.3	-4.1	0.5	0.1	1.1
Lower Return	-28.1	2.1	4.6	4.5	0.5	-12.6	-35.2	-0.8	0.5	-17.6	0.4	-4.1	0.4	-9.7	0.4

- MSCI United Kingdom IMI Index (gross div., GBP)
- MSCI World ex UK Index (net div., GBP)
- MSCI Emerging Markets Index (gross div., GBP)
- S&P Global REIT Index (gross div., GBP)
- UK One-Month Treasury Bills
- Citi World Government Bond Index UK (hedged to GBP)
- Citi World Government Bond Index 1-5 Years (hedged to GBP)
- Bloomberg Barclays Global Aggregate Bond Index (hedged to GBP)

Diversification does not eliminate the risk of market loss. In British pounds. Chart is for illustrative purposes only. **Past performance is not a guarantee of future results**. Indices are not available for direct investment. Their performance does not reflect expenses associated with the management of an actual portfolio. Source: S&P data provided by Standard & Poor's Index Services Group. UK One-Month Treasury Bills from January 1975-present: UK One-Month Treasury Bills provided by the Financial Times Limited. Citi fixed income indices © 2017 by Citigroup. MSCI data © MSCI 2017, all rights reserved. Bloomberg Barclays data provided by Bloomberg.

Dimensions of Returns

I. Financial Capital Plays a Vital Role in Wealth Creation

II. Stocks and Bonds Are Conduits for Capital

III. The Capital Markets Have Rewarded Long-Term Investors

IV. Markets Compensate Non-Diversifiable Risk

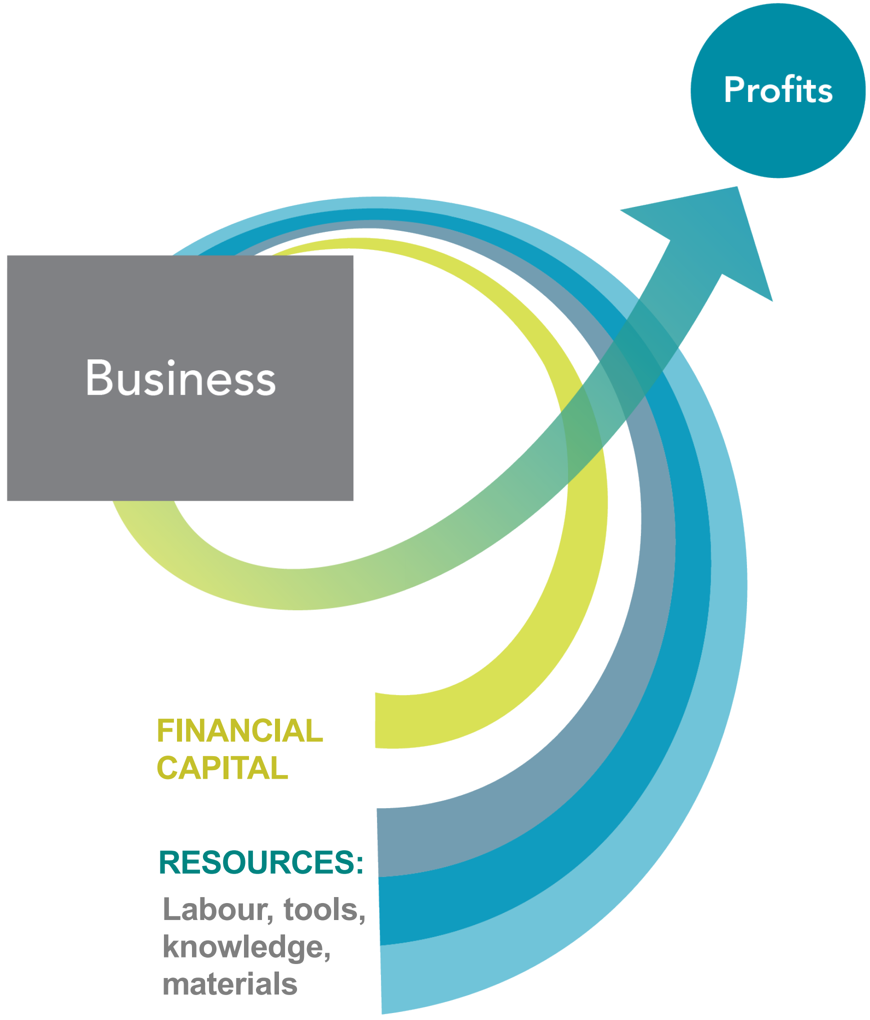
V. Dimensions Point to Differences in Expected Returns

VI. Portfolios Can Be Structured to Pursue Dimensions

Financial Capital Plays a Vital Role in Wealth Creation

Using financial capital and other resources, a business produces goods or services that can be sold for a profit.

As providers of financial capital, investors expect a return on their money.

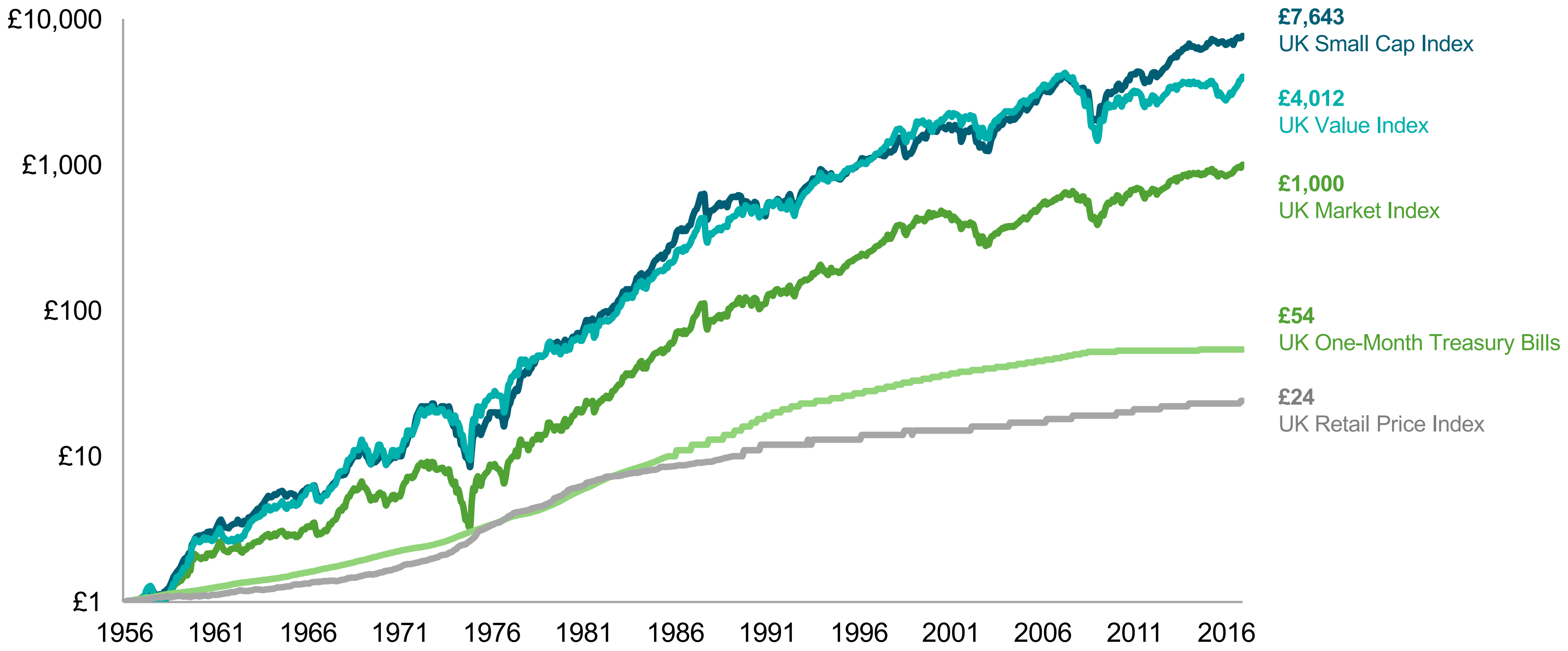


Stocks and Bonds Are Conduits for Capital

Bondholders are lenders to a company.
Stockholders are equity owners in the business.
Both expect an adequate return for the terms and risk of their investment.

The Capital Markets Have Rewarded Long-Term Investors

Monthly growth of wealth (£1), 1956–2016



The graph is for illustrative purposes only, figures presented are hypothetical and not indicative of any investment. Past performance is no guarantee of future results. In pound sterling. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. UK Small Cap Index is the Dimensional UK Small Cap Index. UK Value Index is the Dimensional UK Marketwide Value Index. UK Market Index is the Dimensional UK Market Index. T-bills, 1955–1974: UK Three-Month T-bills provided by the London Share Price Database; 1975–present: UK One-Month T-bills provided by the Financial Times. Inflation is the UK Retail Price Index provided by the Office for National Statistics. See "Index Descriptions" in the appendix for descriptions of Dimensional index data.

Markets Compensate Non-Diversifiable Risk

Risk is a complex concept—it is always present, even if it has not been realised, and it cannot be directly observed until it occurs.

The sources of return are directly observable, and decades of academic research have advanced our understanding of them.

Investors balance risk and return by incorporating their expectations and preferences into securities prices.

Dimensions Point to Differences in Expected Returns

Academic research has identified these dimensions, which are well documented in markets around the world and across different time periods.

EQUITIES

Market
Equity premium – stocks vs bonds

Company Size
Small cap premium – small vs large companies

Relative Price[1]
Value premium – value vs growth companies

Profitability[2]
Profitability premium – high vs low profitability companies

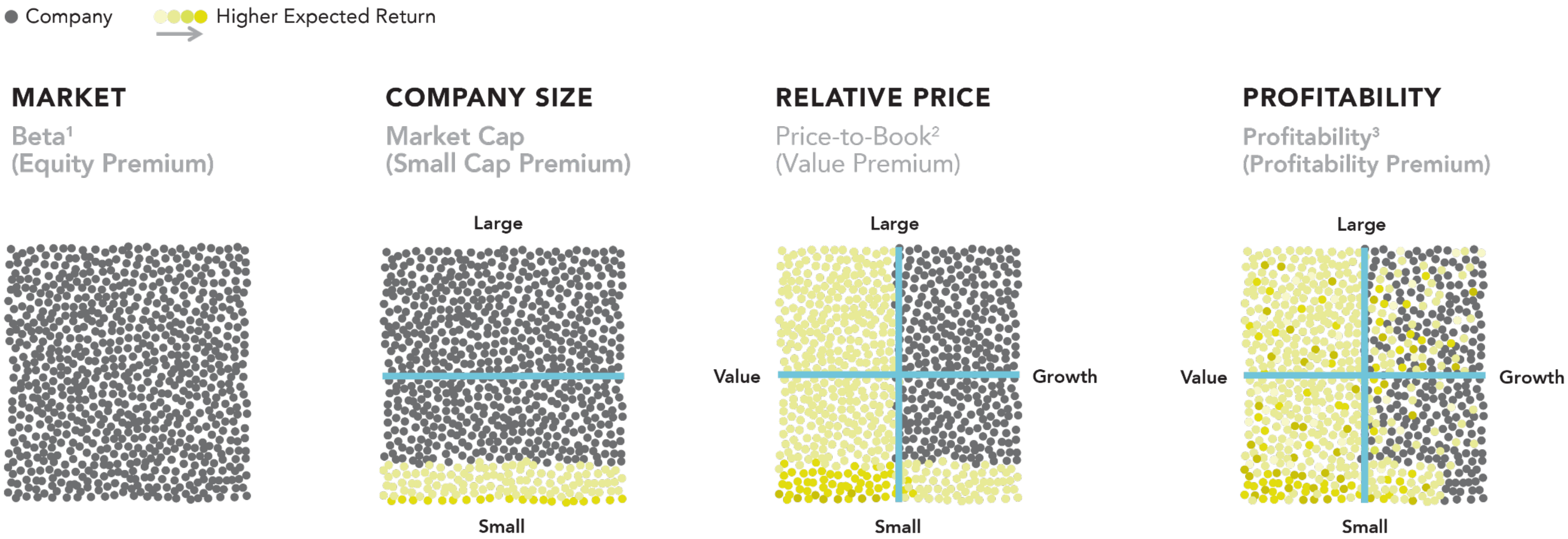
FIXED INCOME

Term
Term premium – longer vs shorter maturity bonds

Credit
Credit premium – lower vs higher credit quality bonds

Diversification does not eliminate the risk of market loss. 1. Relative price as measured by the price-to-book ratio; value stocks are those with lower price-to-book ratios.
2.Profitability is a measure of current profitability, based on information from individual companies' income statements.

Portfolios Can Be Structured to Pursue Dimensions



Investors can pursue higher expected returns through a low-cost, well-diversified portfolio that targets these dimensions.

Diversification does not eliminate the risk of market loss.
1. Beta: A quantitative measure of the co-movement of a given stock, mutual fund, or portfolio with the overall market.
2. Price-to-Book Ratio: A company's capitalisation divided by its book value. It compares the market's valuation of a company to the value of that company as indicated on its financial statements.
3. Profitability: A measure of a company's current profits. We define this as operating income before depreciation and amortisation minus interest expense, scaled by book equity.

Investor Discipline

I. Humans Are Not Wired for Disciplined Investing

II. Many Investors Follow Their Emotions

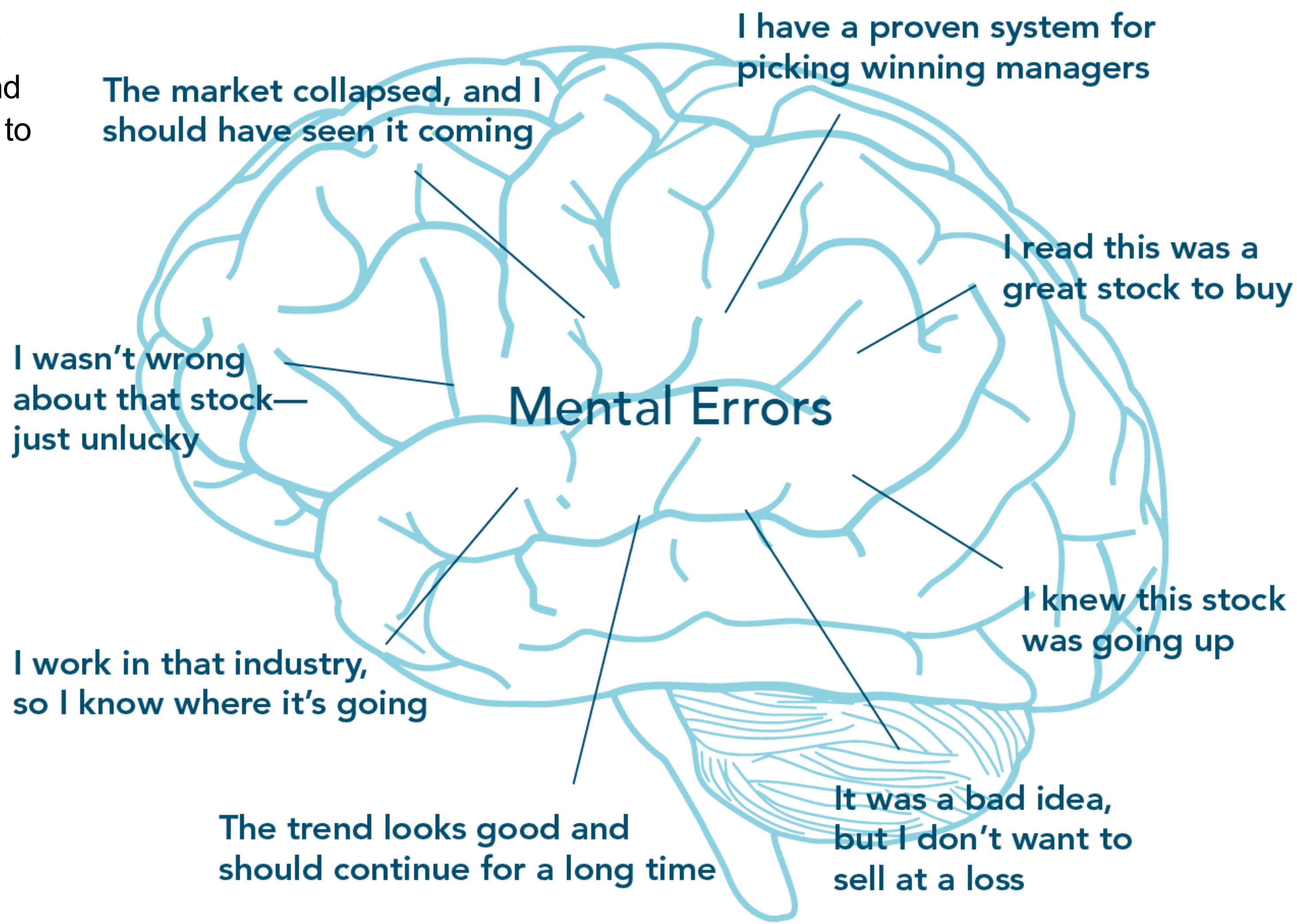
III. Reacting Can Hurt Performance

IV. Markets Have Rewarded Discipline

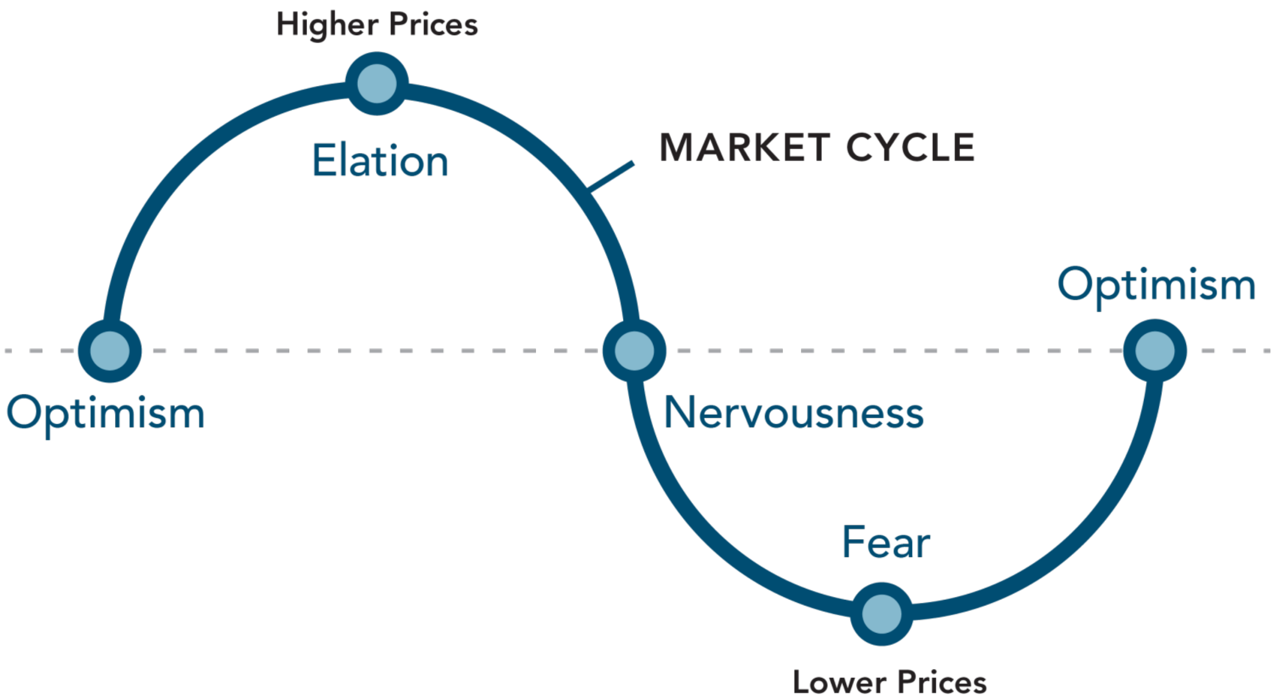
V. Focus on What You Can Control

Humans Are Not Wired for Disciplined Investing

When people follow their natural instincts, they tend to apply faulty reasoning to investing.



Many Investors Follow Their Emotions

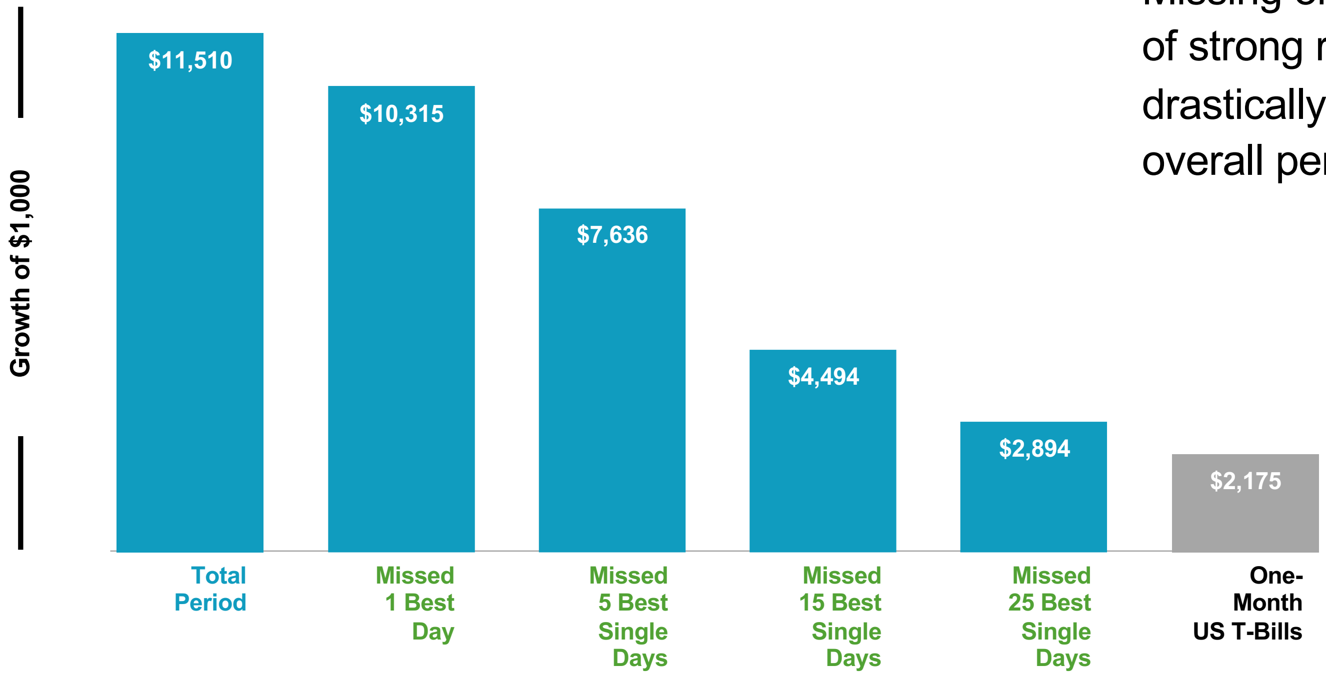


People may struggle to separate their emotions from their investment decisions.

Following a reactive cycle of excessive optimism and fear may lead to poor decisions at the worst times.

Reacting Can Hurt Performance

Performance of the S&P 500 Index, October 1989–December 2016



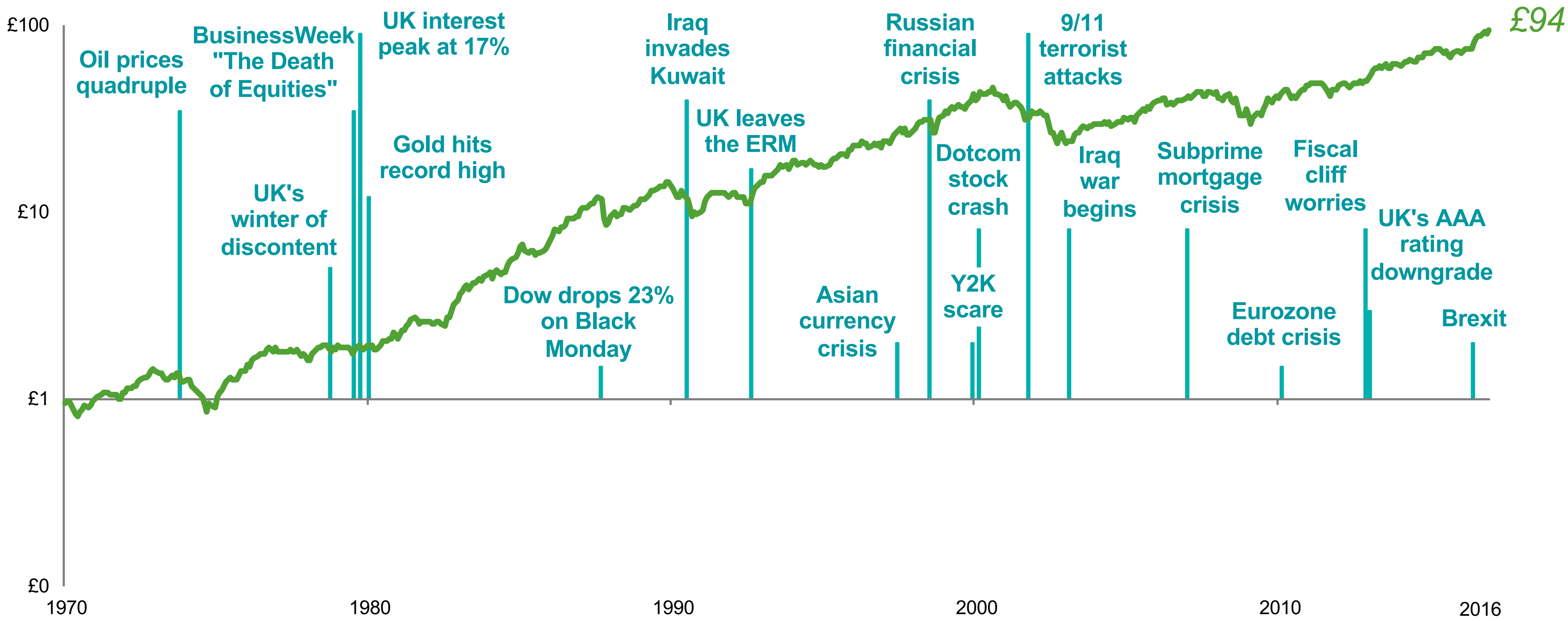
Missing only a few days of strong returns can drastically impact overall performance.

	Total Period	Missed 1 Best Day	Missed 5 Best Single Days	Missed 15 Best Single Days	Missed 25 Best Single Days	One-Month US T-Bills
Annualised Compound Return	9.38%	8.94%	7.75%	5.67%	3.98%	2.89%

In US dollars. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. **Past performance is not a guarantee of future results.** S&P data provided by Standard & Poor's Index Services Group. "One-Month US T- Bills" is the IA SBBI US 30 Day TBill TR USD, provided by Ibbotson Associates via Morningstar Direct. Data is calculated off rounded daily index values.

Markets Have Rewarded Discipline

Growth of a pound—MSCI World Index (net div), 1970–2016



A disciplined investor looks beyond the concerns of today to the long-term growth potential of markets.

In GBP. These events are not offered to explain market returns. Instead, they serve as a reminder that investors should view daily events from a long-term perspective and avoid making investment decisions based solely on the news. MSCI data © MSCI 2017, all rights reserved. **Past performance is no guarantee of future results. Indices are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio.**

Focus on What You Can Control

No one can reliably forecast the market's direction or predict which stock or investment manager will outperform.

A financial adviser can help you create a plan and focus on actions that add value.

Diversification neither ensures a profit nor guarantees against loss in a declining market.

Disclosures

The returns of indices presented herein reflect hypothetical performance and do not represent returns that any investor actually attained. Changes in the assumptions upon which such performance is based may have a material impact on the hypothetical returns presented. Hypothetical back-tested returns have many limitations. Unlike actual performance, it does not represent actual trading. Since trades have not been actually executed, results may have under-or over-compensated for the impact, if any, of certain market factors, such as lack of liquidity, and may not reflect the impact that certain economic or market factors may have on the decision-making process. Hypothetical back-tested performance is also developed with the benefit of hindsight. Other periods selected may have different results, including losses.

There can be no assurance that Dimensional will achieve profits or avoid incurring substantial losses. Data presented on slide 21 ‘The Capital Markets Have Rewarded Long-Term Investors’ charts the hypothetical growth of $1 and assumes reinvestment of income and no transaction costs or taxes. The graph is for illustrative purposes only and is not indicative of any investment. Performance may increase or decrease as a result of currency fluctuations.

Growth of Wealth Indices

Dimensional UK Small Cap Index was created by Dimensional in April 2008 and is compiled by Dimensional. January 1970–June 1981: Elroy Dimson and Paul Marsh, Hoare Govett Smaller Companies Index. July 1981–December 1993: it includes UK securities in the bottom 10% of market capitalisation, excluding the bottom 1%. All securities are market capitalisation weighted. Rebalanced semiannually. January 1994–Present: Market-capitalisation-weighted index of small company securities in the eligible markets excluding those with the lowest profitability and highest relative price within the small cap universe. Profitability is measured as operating income before depreciation and amortisation minus interest expense scaled by book. The index monthly returns are computed as the simple average of the monthly returns of four sub-indices, each one reconstituted once a year at the end of a different quarter of the year. Exclusions: REITs and Investment Companies. The calculation methodology for the Dimensional UK Small Cap Index was amended on January 1, 2014, to include direct profitability as a factor in selecting securities for inclusion in the index. Source: Bloomberg, LSPD

Dimensional UK Marketwide Value Index: January 1994–present: Compiled from Bloomberg securities data. The index consists of companies whose relative price is in the bottom 33% of their country's companies after the exclusion of utilities and companies with either negative or missing relative price data. The index emphasises companies with smaller capitalisation, lower relative price and higher profitability. The index also excludes those companies with the lowest profitability and highest relative price within their country's value universe. Profitability is measured as operating income before depreciation and amortisation minus interest expense scaled by book. Exclusions: REITs and investment companies. The index has been retroactively calculated by Dimensional Fund Advisors and did not exist prior to April 2008. The calculation methodology for the Dimensional UK Value Index was amended in January 2014 to include direct profitability as a factor in selecting securities for inclusion in the index. July 1955–December 1993: Source: Elroy Dimson, Stefan Nagel and Garrett Quigley "Capturing the value premium in the UK", Financial Analysts Journal 2003, 59(6): 35–45. Created Returns, converted from GBP to USD using the WM/Reuters at 4 pm EST (closing spot), from PFPC exchange rate.

Dimensional UK Market Index: Compiled by Dimensional from Bloomberg securities data. Market capitalisation weighted index of all securities in the United Kingdom. Exclusions: REITs and investment companies. The index has been retroactively calculated by Dimensional and did not exist prior to April 2008.

UK One-Month Treasury Bills

January 1975-present: UK One-Month Treasury Bills provided by the Financial Times Limited.
January 1955-December 1974: UK Three-Month Treasury Bills provided by the London Share Price Database.

UK Inflation: Retail Price Index

United Kingdom Retail Price Index provided by the Office for National Statistics; Crown copyright material is reproduced with the permission of the Controller of HMSO.