



# Investment Principles



# Market Equilibrium

- I. What's Your Guess?
- II. Markets Integrate the Combined Knowledge of All Participants
- III. People Trust Market Pricing Every Day
- IV. What Affects a Stock's Current Price?
- V. Markets React to Events
- VI. Stock Prices Adjust Quickly
- VII. Picking the Fastest Lane Is a Stressful Guessing Game
- VIII. Few Mutual Funds Survive and Beat Their Benchmarks
- IX. Let the Market Work for You



# Together, We Know More Than We Do Alone



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

Range: 409-5,365

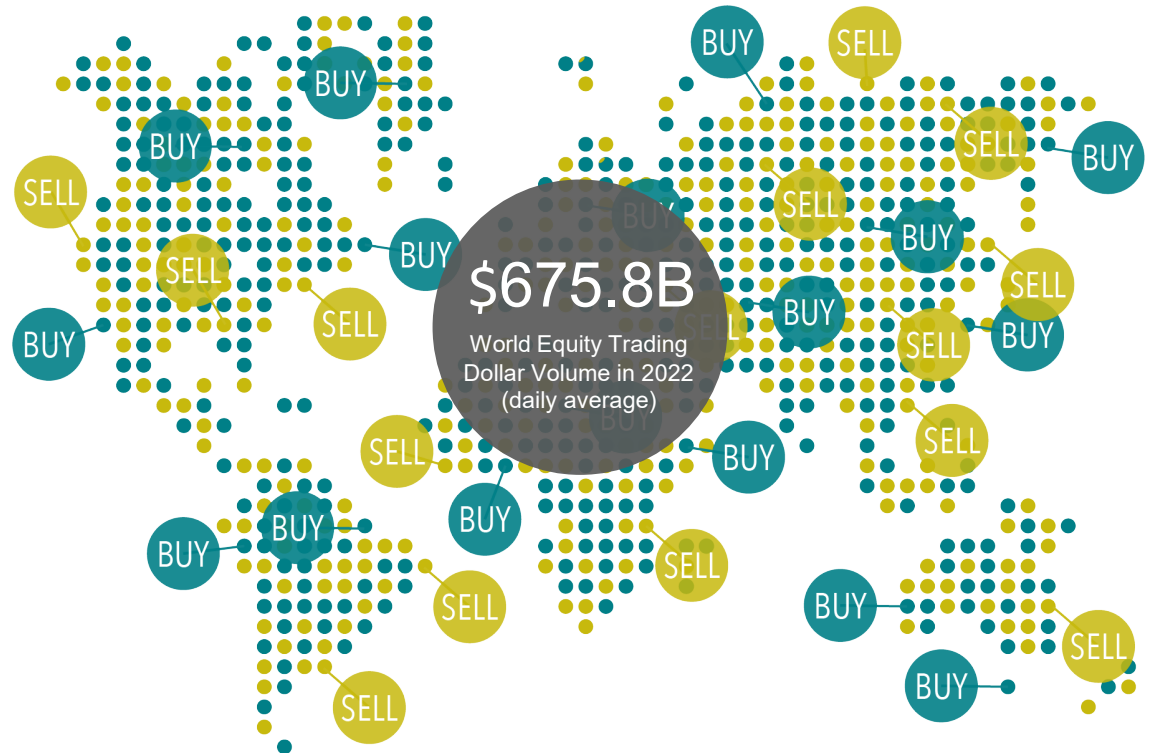
Average: 1,653

Actual: 1,670

# 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.



In US dollars. Source: Dimensional, using data from Bloomberg LP. Includes primary and secondary exchange trading volume globally for equities. ETFs and funds are excluded. Daily averages were computed by calculating the trading volume of each stock daily as the closing price multiplied by shares traded that day. All such trading volume is summed up and divided by 252 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 Stock's Current Price?



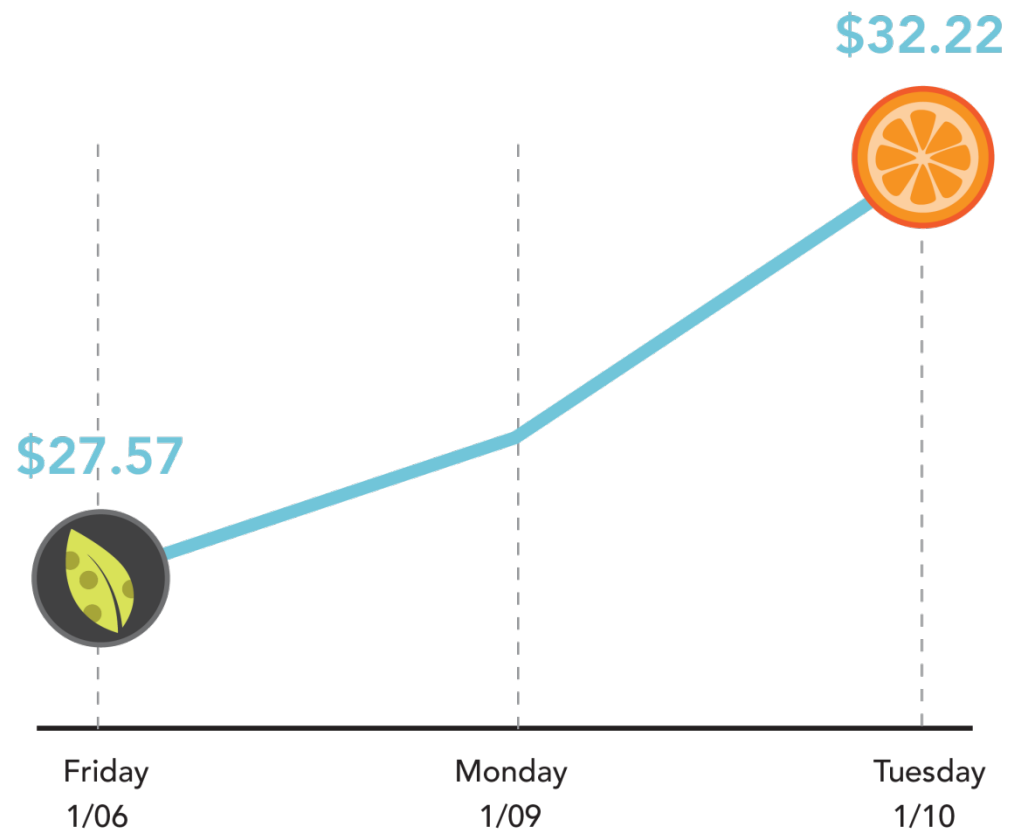
Given all information, a stock's current price reflects aggregate expectations about risk and return.

# 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.

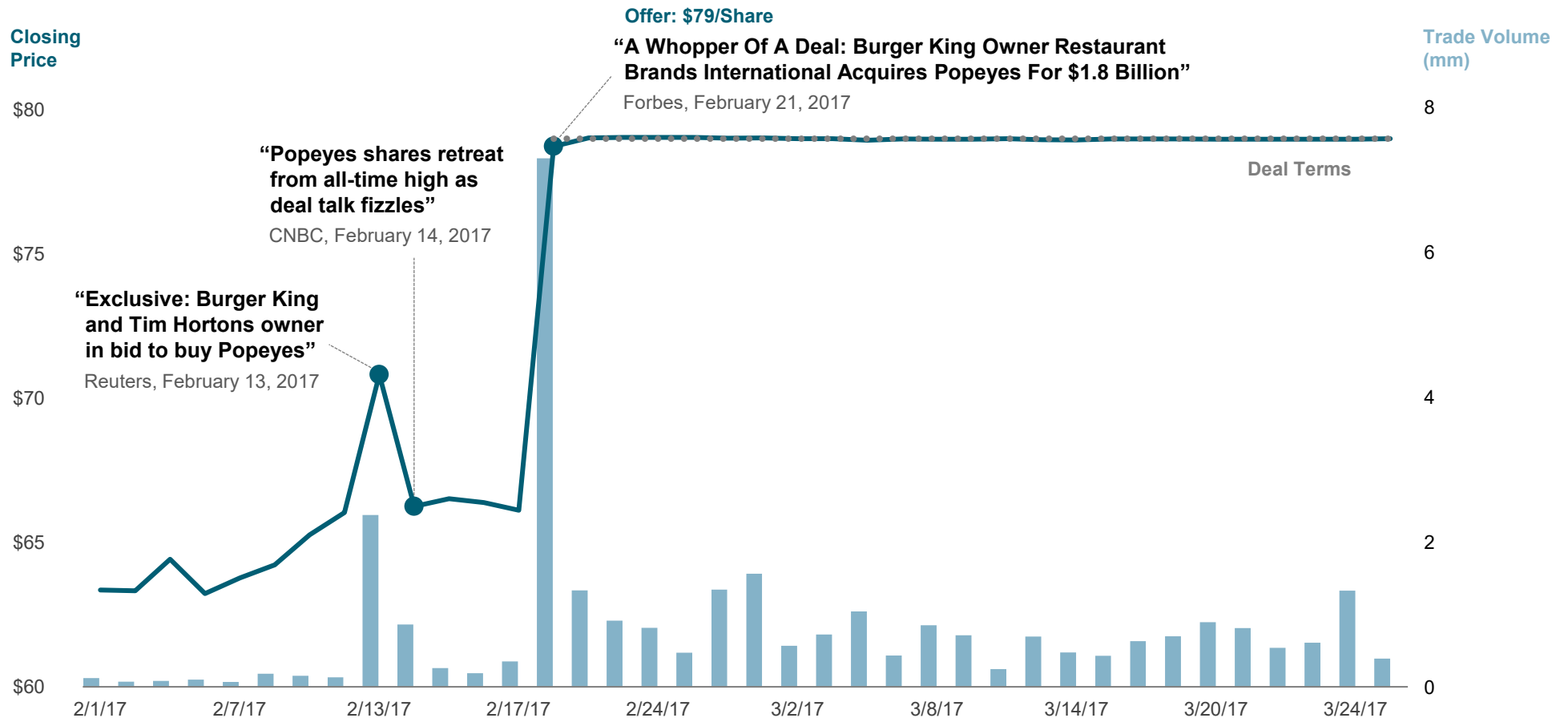


In US dollars.

Source: Dow Jones-UBS Orange Juice Subindex. Dow Jones data © 2022 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved.

# Stock Prices Adjust Quickly

Popeyes Louisiana Kitchen stock price from merger announcement until completion



Past performance is not a guarantee of future results.

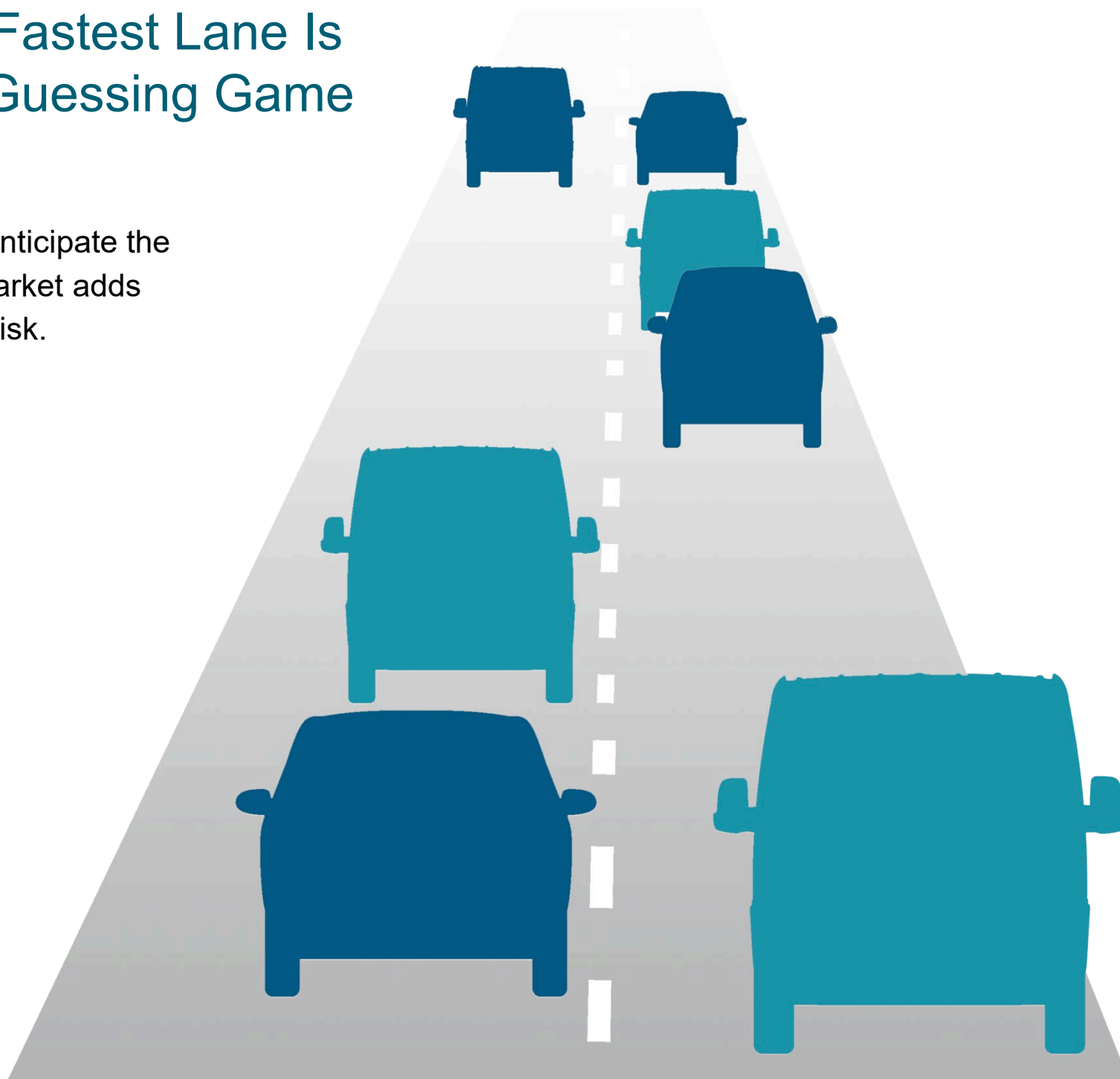
This information should not be considered a recommendation to buy or sell a particular security. The securities identified do not represent all securities purchased or sold for client accounts. It should not be assumed that an investment in the securities identified was or would be profitable. Source: data are from Bloomberg L.P. Bloomberg data provided by Bloomberg.





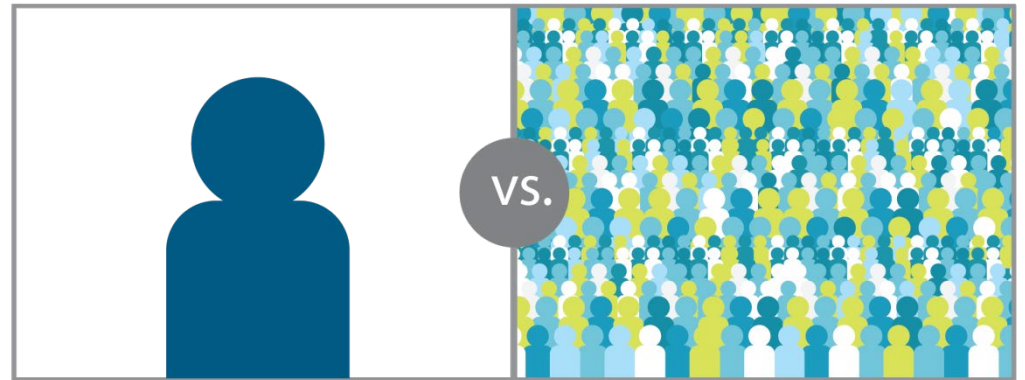
# Picking the Fastest Lane Is a Stressful Guessing Game

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

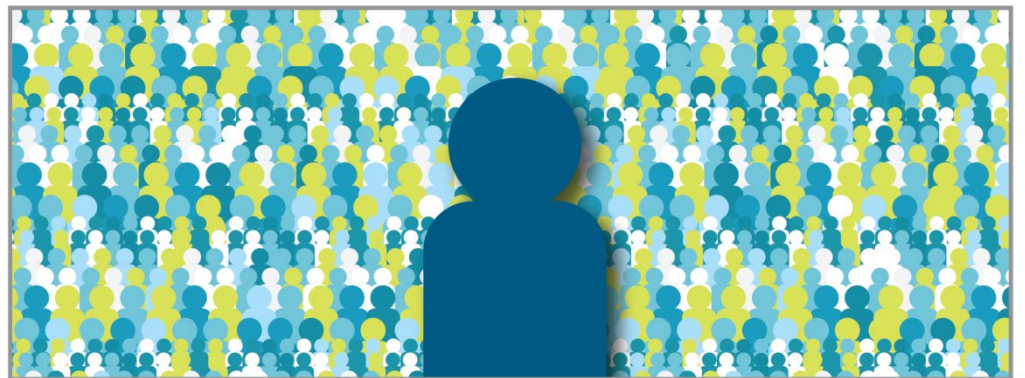


# Let the Market Work for You

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.



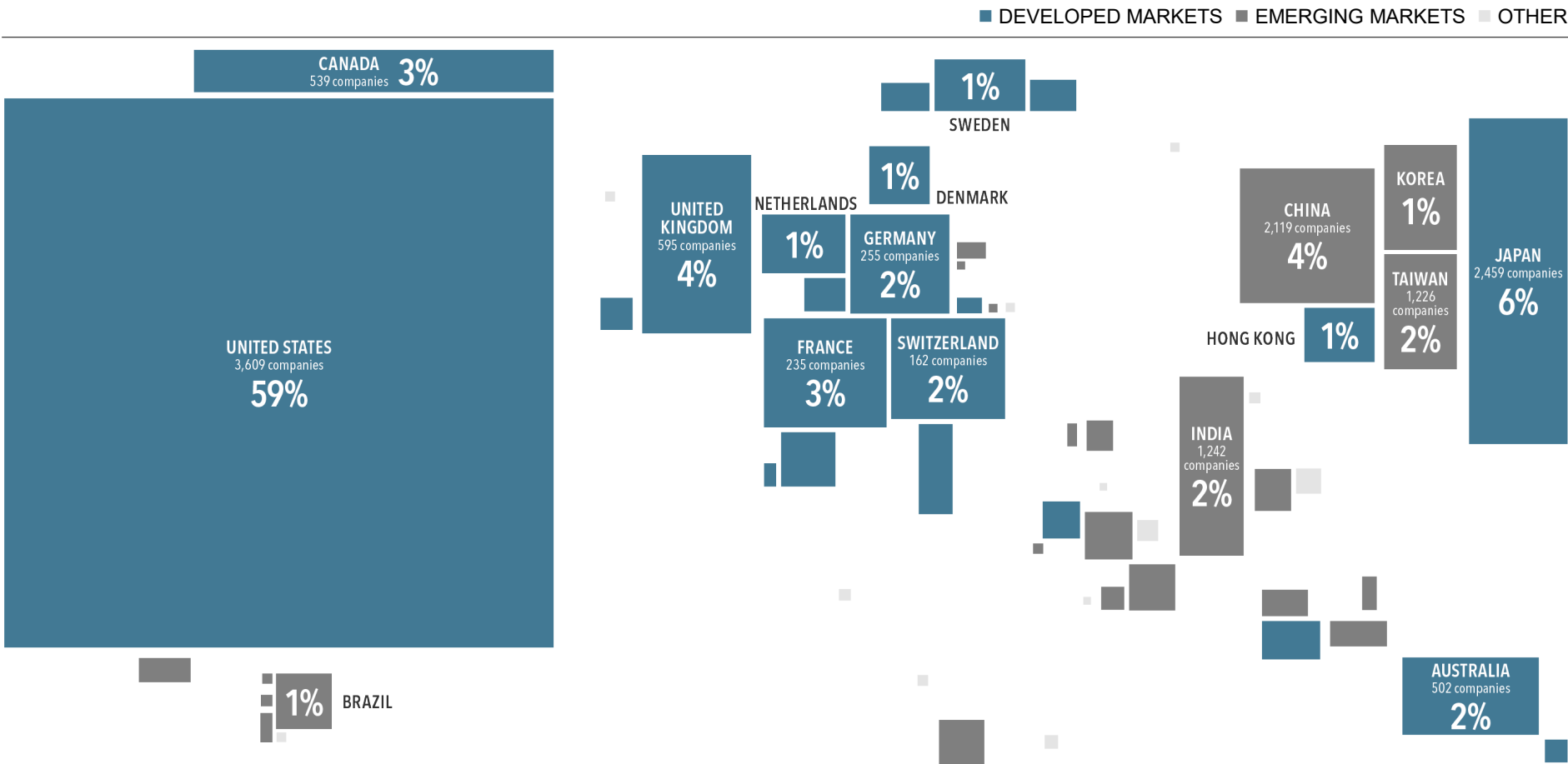
# Diversification

- 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



# There's a World of Opportunity in Equities

Percent of world market capitalization as of December 31, 2022



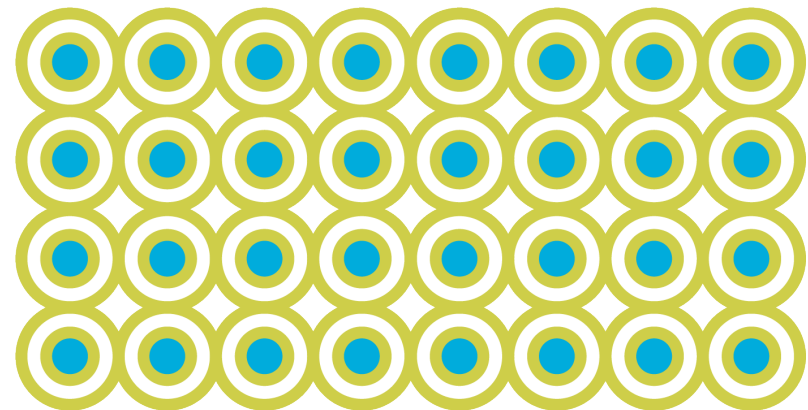
Information provided by Dimensional Fund Advisors LP.

Market cap data is free-float adjusted and meets minimum liquidity and listing requirements. Dimensional makes case-by-case determinations about the suitability of investing in each emerging market, making considerations that include local market accessibility, government stability, and property rights before making investments. China A-shares that are available for foreign investors through the Hong Kong Stock Connect program are included in China. 30% foreign ownership limit and 25% inclusion factor are applied to China A-shares. Many nations not displayed. Totals may not equal 100% due to rounding. For educational purposes; should not be used as investment advice. Data provided by Bloomberg. **Diversification neither assures a profit nor guarantees against loss in a declining market.**

# Diversification Reduces Risks That Have No Expected Return

Concentrating in one stock exposes you to unnecessary risks.

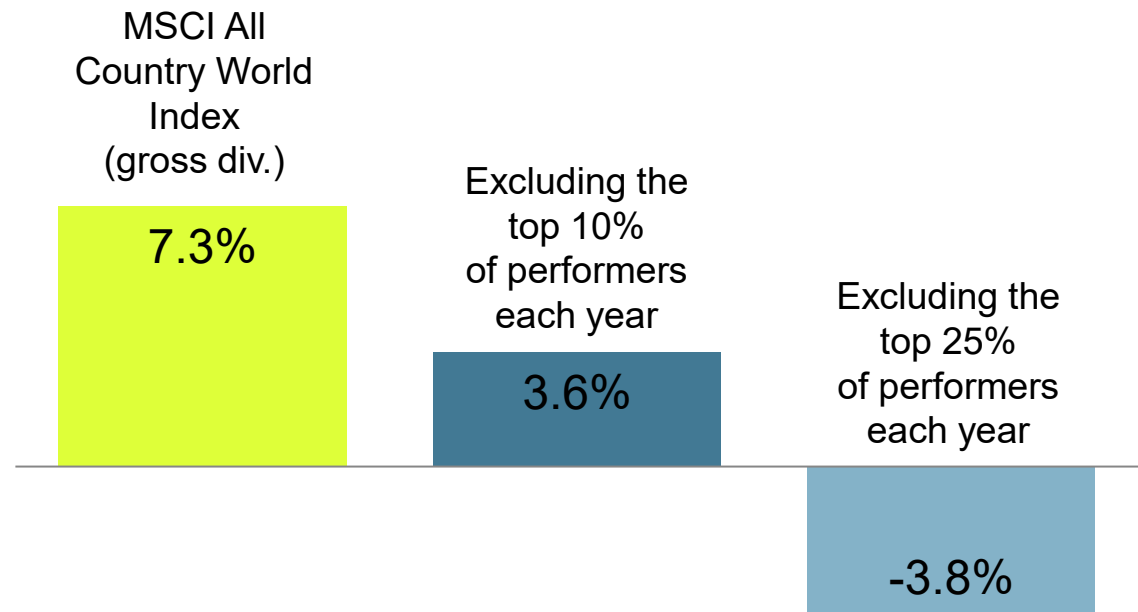
Diversification reduces the impact of any one company's performance on your wealth.



# Benefits of Diversification

Compound average annual returns: 2008–2021

Research shows there is no reliable way to predict top performers. Broad diversification helps reduce unnecessary idiosyncratic risk.<sup>1</sup>



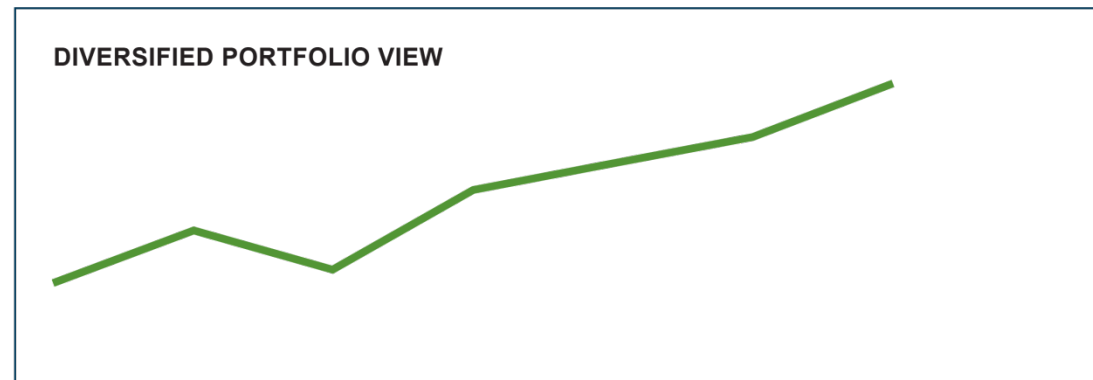
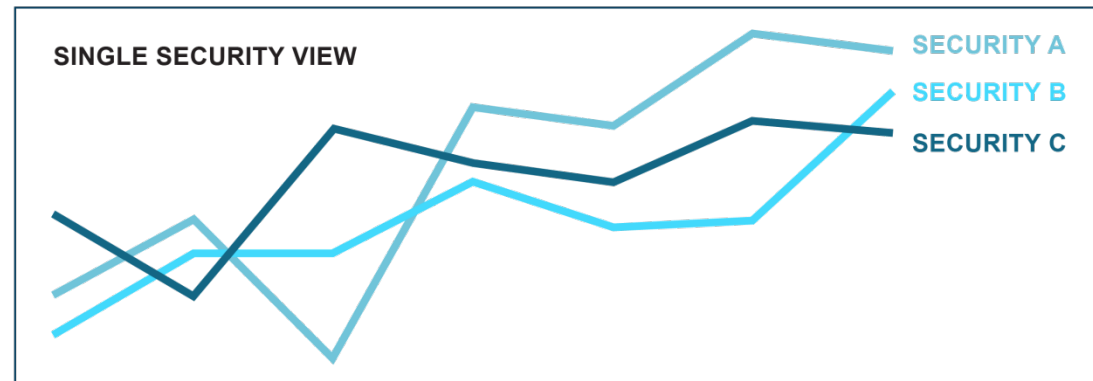
1. Idiosyncratic risk is unsystematic (diversifiable) risk associated with exposure to a single stock, sector, or country.

"Excluding the top 10%" and "Excluding the top 25%" exclude the respective percentages of stocks in the MSCI All Country World Index (gross div.) with the highest annual returns by security count each year. Individual security data are obtained from Bloomberg. MSCI data © MSCI 2022, all rights reserved. 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.



# Diversification Helps Take the Guesswork Out of Investing

Annual returns (%): 2008–2022

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.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Higher Return	8.8	79.0	28.1	9.4	18.6	38.8	32.0	5.4	21.3	37.8	2.1	31.5	20.0	45.9	-1.0
	6.6	48.8	26.9	3.4	18.6	32.4	13.7	4.5	12.0	31.7	1.9	25.5	18.7	28.7	-4.5
	4.7	28.5	22.4	2.3	17.1	27.6	4.9	1.4	11.6	21.8	1.5	24.3	18.4	14.8	-5.5
	-33.8	27.2	19.2	2.1	16.3	1.2	1.9	1.0	6.7	14.6	-4.2	23.1	11.2	13.9	-18.1
	-37.0	26.5	15.1	0.6	16.0	0.6	1.2	0.9	5.8	3.8	-4.4	18.9	4.4	-0.1	-18.8
	-39.2	2.3	3.7	-4.2	2.1	0.3	0.2	0.2	1.5	1.1	-11.0	4.2	3.2	-0.8	-19.7
	-46.7	0.8	2.0	-13.3	0.9	-0.1	-1.8	-4.4	1.0	0.7	-14.2	3.9	1.8	-1.2	-20.4
Lower Return	-53.2	0.2	0.8	-18.2	0.2	-2.3	-5.8	-14.6	0.8	0.6	-18.6	2.9	-11.2	-2.2	-26.0

	<b>S&amp;P 500 Index</b>
	<b>Russell 2000 Index</b>
	<b>Dow Jones US Select REIT Index</b>
	<b>Dimensional International Small Cap index</b>
	<b>MSCI Emerging Markets Index (gross div.)</b>
	<b>ICE BofA One-Year US Treasury Note Index</b>
	<b>Bloomberg US Treasury Bond Index 1-5 Years</b>
	<b>FTSE World Government Bond Index 1-5 Years (hedged to USD)</b>

In US dollars. Source: S&P and Dow Jones data © 2023 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes. Dimensional Index data compiled by Dimensional. MSCI data © 2023, all rights reserved. ICE BofA index data © 2023 ICE Data Indices, LLC. Bloomberg data provided by Bloomberg. FTSE fixed income indices © 2023 FTSE Fixed Income LLC. All rights reserved. See "Index Descriptions" in the appendix for descriptions of Dimensional's index data. Diversification does not eliminate the risk of market loss. 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.

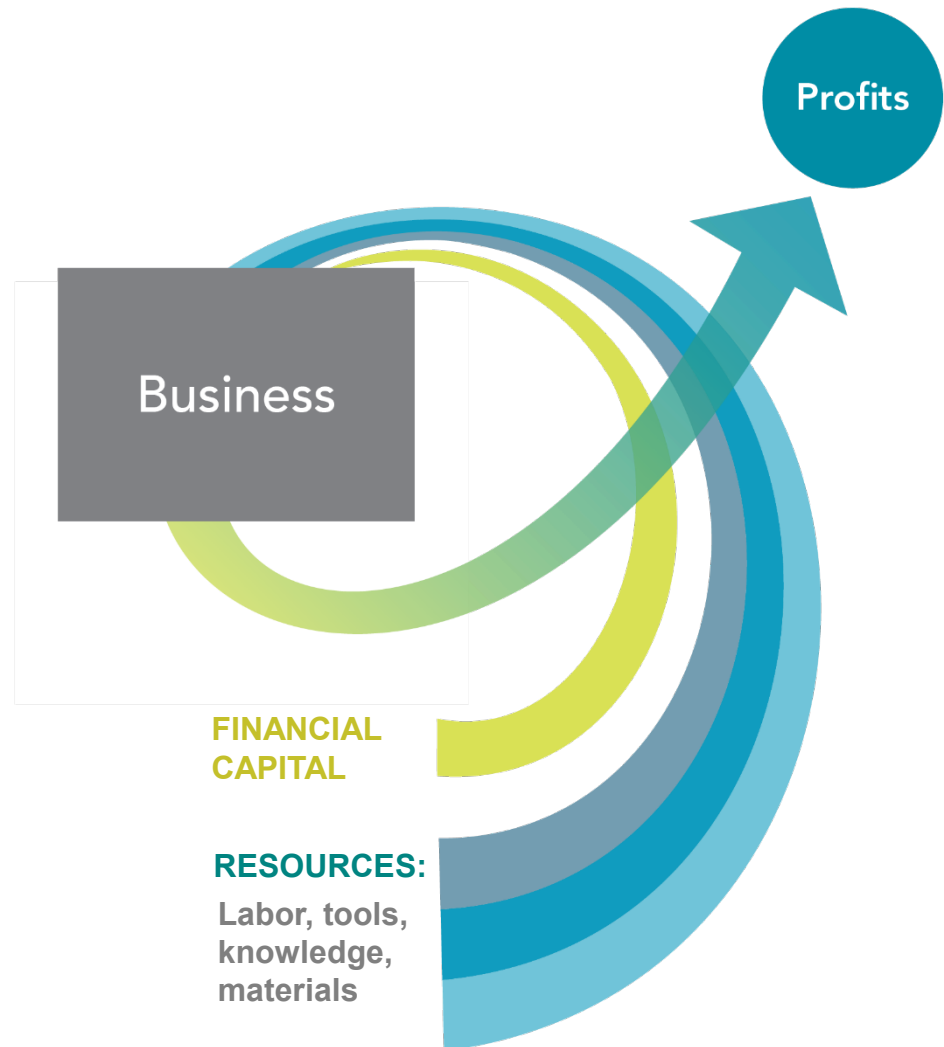
# Dimensions of Returns

- 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

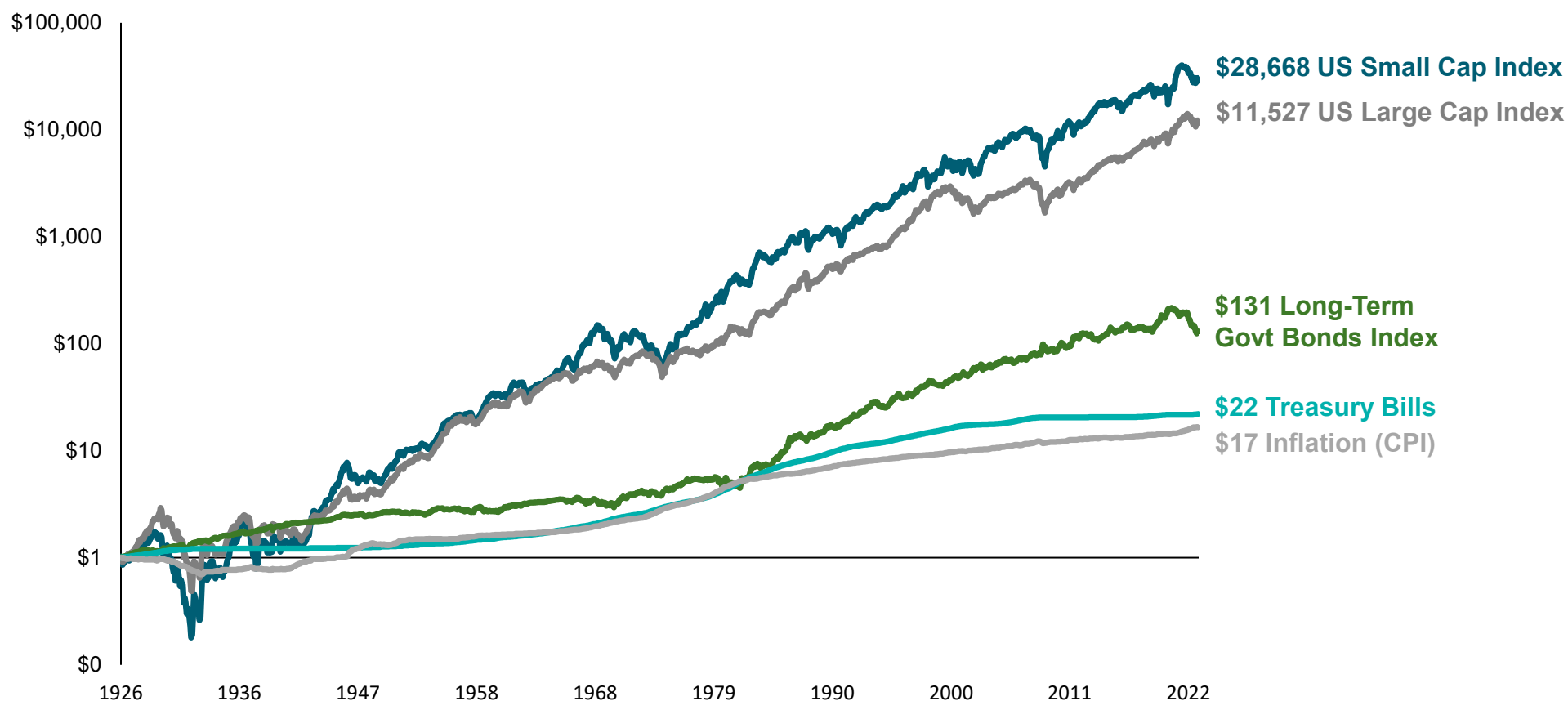


Bondholders are lenders to a company.  
Stockholders are equity owners in the business.  
Both expect an adequate return for the terms  
and risk of their investment.



# The Capital Markets Have Rewarded Long-Term Investors

Monthly growth of wealth (\$1), 1926–2022



In US dollars.

US Small Cap is the CRSP 6–10 Index. US Large Cap is the S&P 500 Index. US Long-Term Government Bonds is the IA SBBI US LT Gov't TR USD. US Treasury Bills is the IA SBBI US 30 Day TBill TR USD. US Inflation is measured as changes in the US Consumer Price Index. CRSP data is provided by the Center for Research in Security Prices, University of Chicago. S&P data © 2023 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. US Long-term government bonds and Treasury bills data provided by Ibbotson Associates via Morningstar Direct. US Consumer Price Index data is provided by the US Department of Labor Bureau of Labor Statistics. Past performance is no guarantee of future results. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio.



# Markets Compensate Non-Diversifiable Risk

Risk is a complex concept—it is always present, even if it has not been realized, 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.



1. Relative price as measured by the price-to-book ratio; value stocks are those with lower price-to-book ratios.

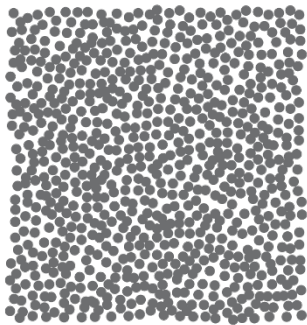
2. Profitability is a measure of current profitability, based on information from individual companies' income statements.

# Portfolios Can Be Structured to Pursue Dimensions

● Company      ●●● Higher Expected Return  
→

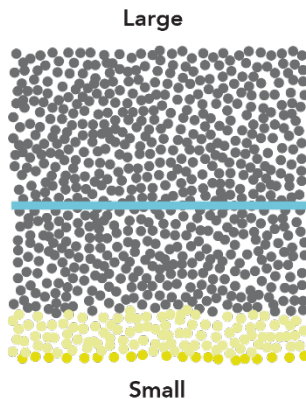
## MARKET

Beta<sup>1</sup>  
(Equity Premium)



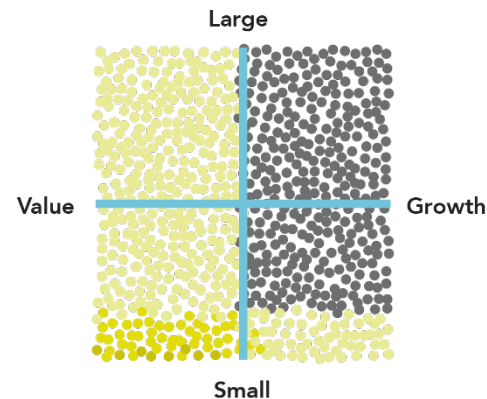
## COMPANY SIZE

Market Cap  
(Small Cap Premium)



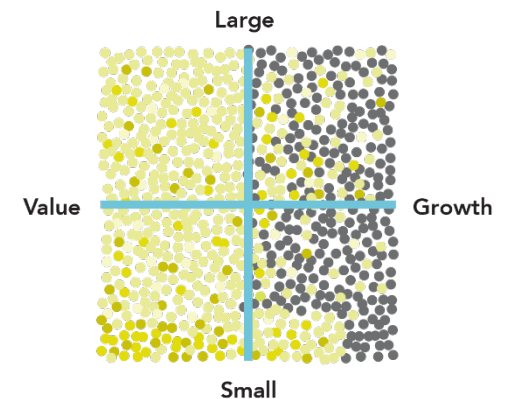
## RELATIVE PRICE

Price-to-Book<sup>2</sup>  
(Value Premium)



## PROFITABILITY

Profitability<sup>3</sup>  
(Profitability Premium)

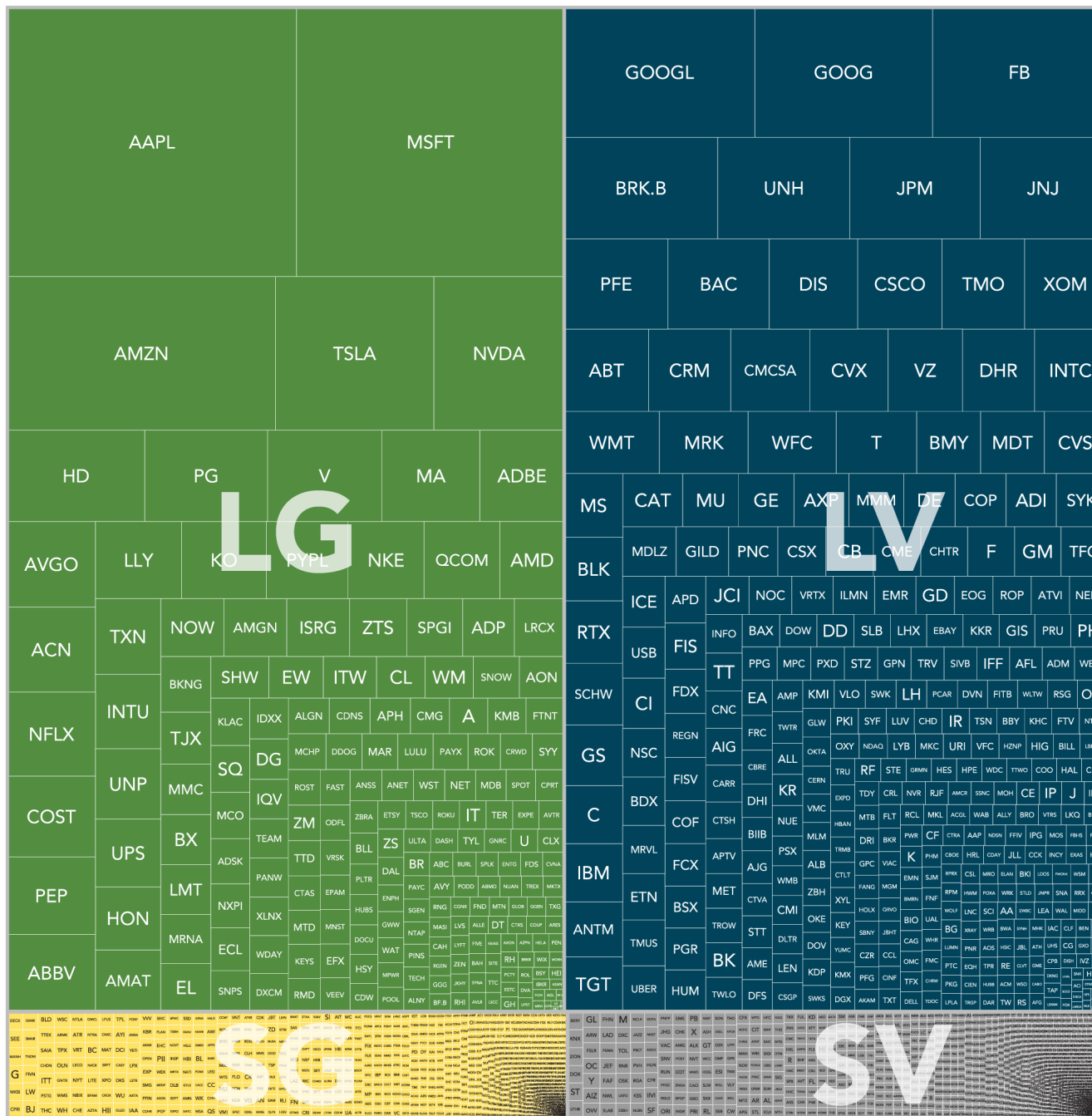


Investors can pursue higher expected returns through a low-cost, well-diversified portfolio that targets these dimensions.

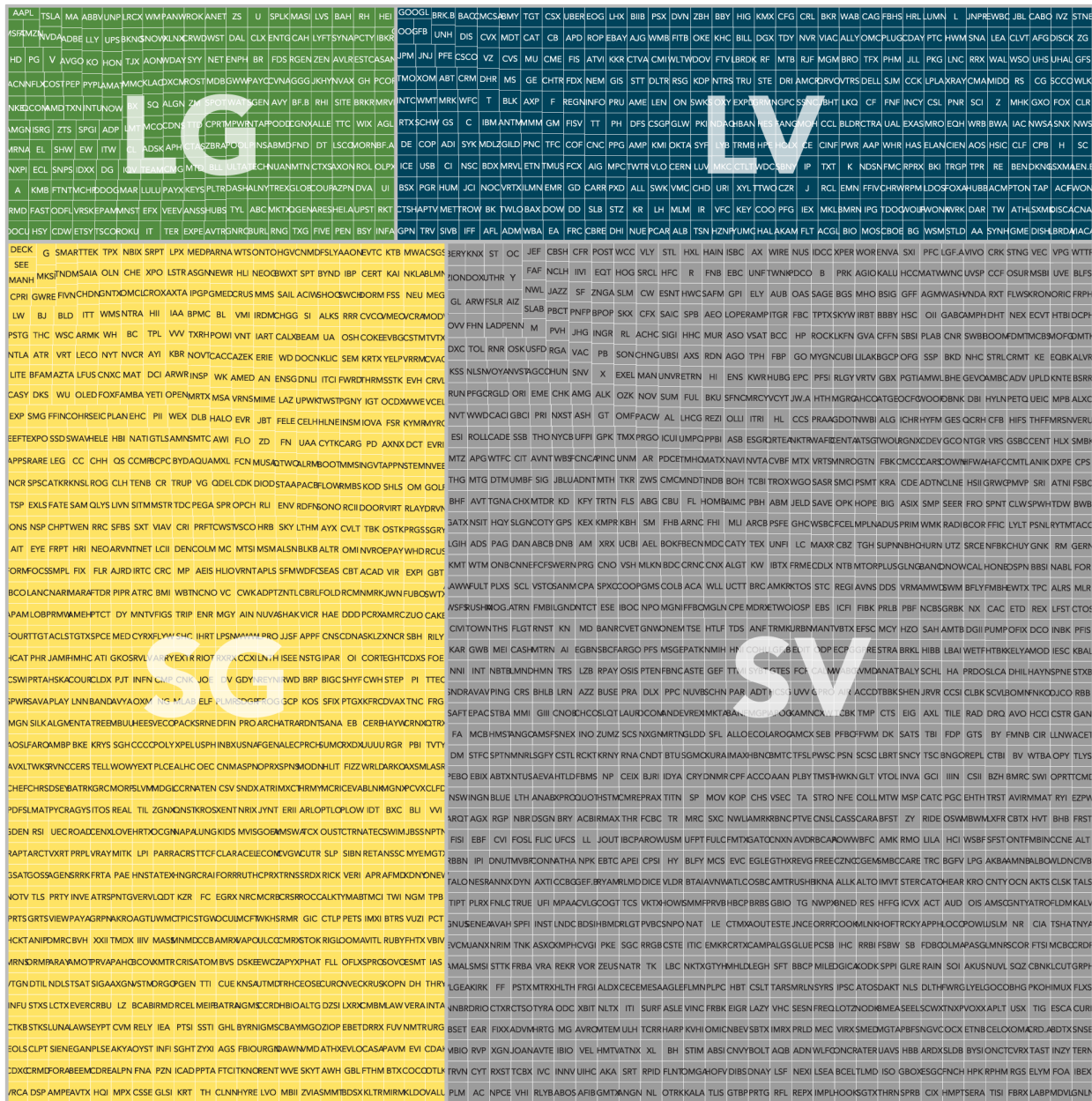
1. Beta: A quantitative measure of the co-movement of a given stock, mutual fund, or portfolio with the overall market.

2. Price-to-Book Ratio: A company's capitalization 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 amortization minus interest expense, scaled by book equity.



For illustrative purposes only. Illustration includes constituents of the Russell 3000 Index as of December 31, 2021, on a market-cap weighted basis segmented into Large Value, Large Growth, Small Value, and Small Growth. Large cap is defined as the top 90% of market cap (small cap is the bottom 10%), while value is defined as the 50% of market cap of the lowest relative price stocks (growth is the 50% of market cap of the highest relative price stocks). For educational and informational purposes only and does not constitute a recommendation of any security. The determinations of Large Value, Large Growth, Small Value, and Small Growth do not represent any determinations Dimensional may make in assessing any of the securities shown. Source: Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes.



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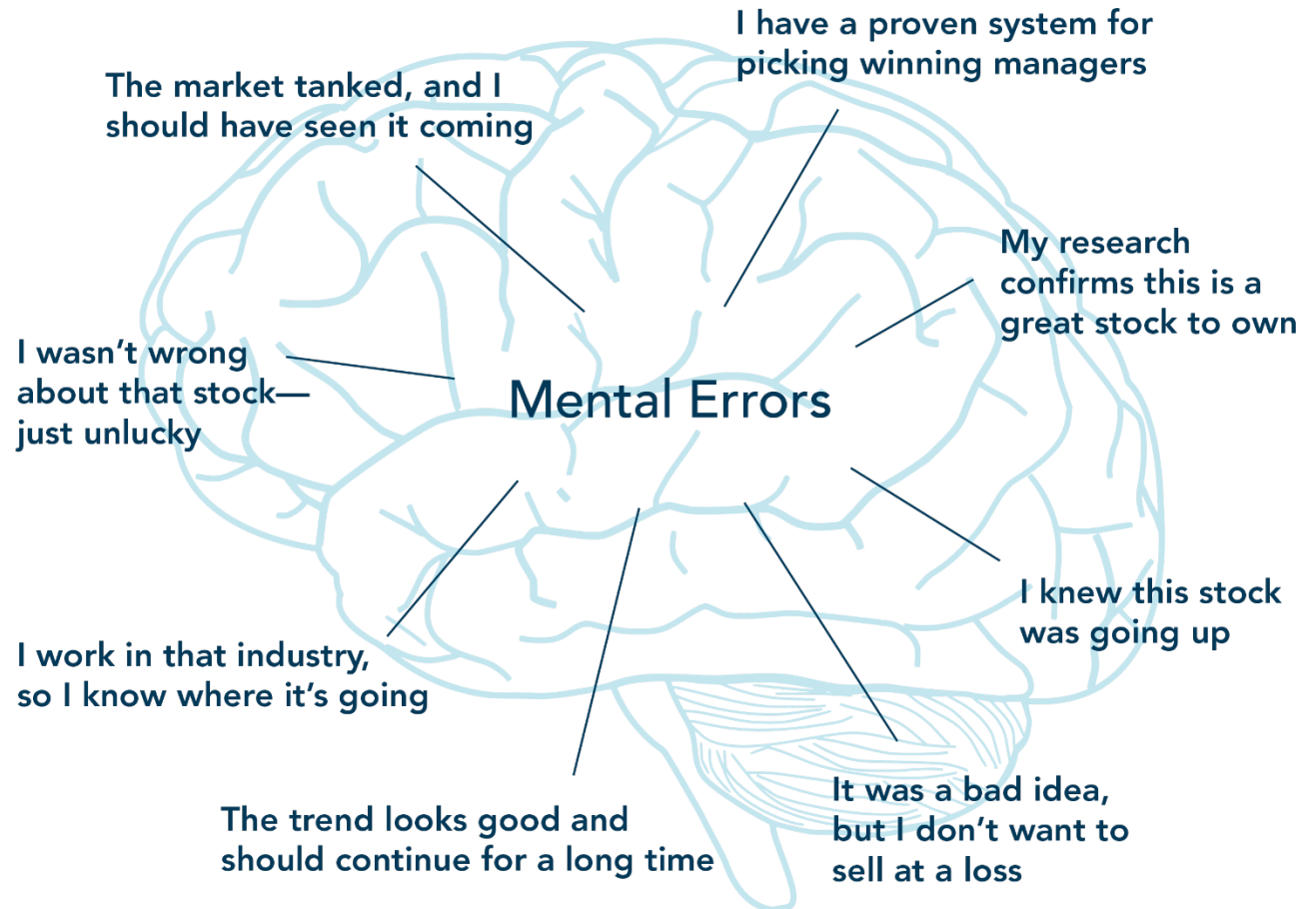
# Investor Discipline

- 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



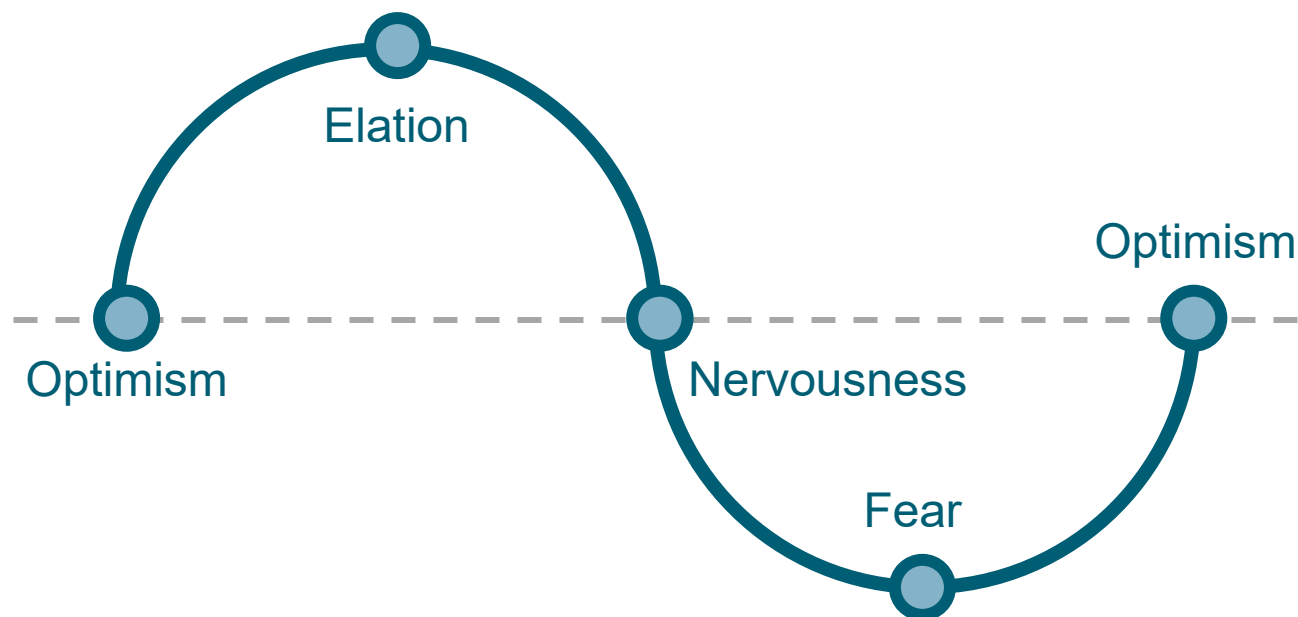
# Humans Are Not Wired for Disciplined Investing

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





# Many Investors Follow Their Emotions



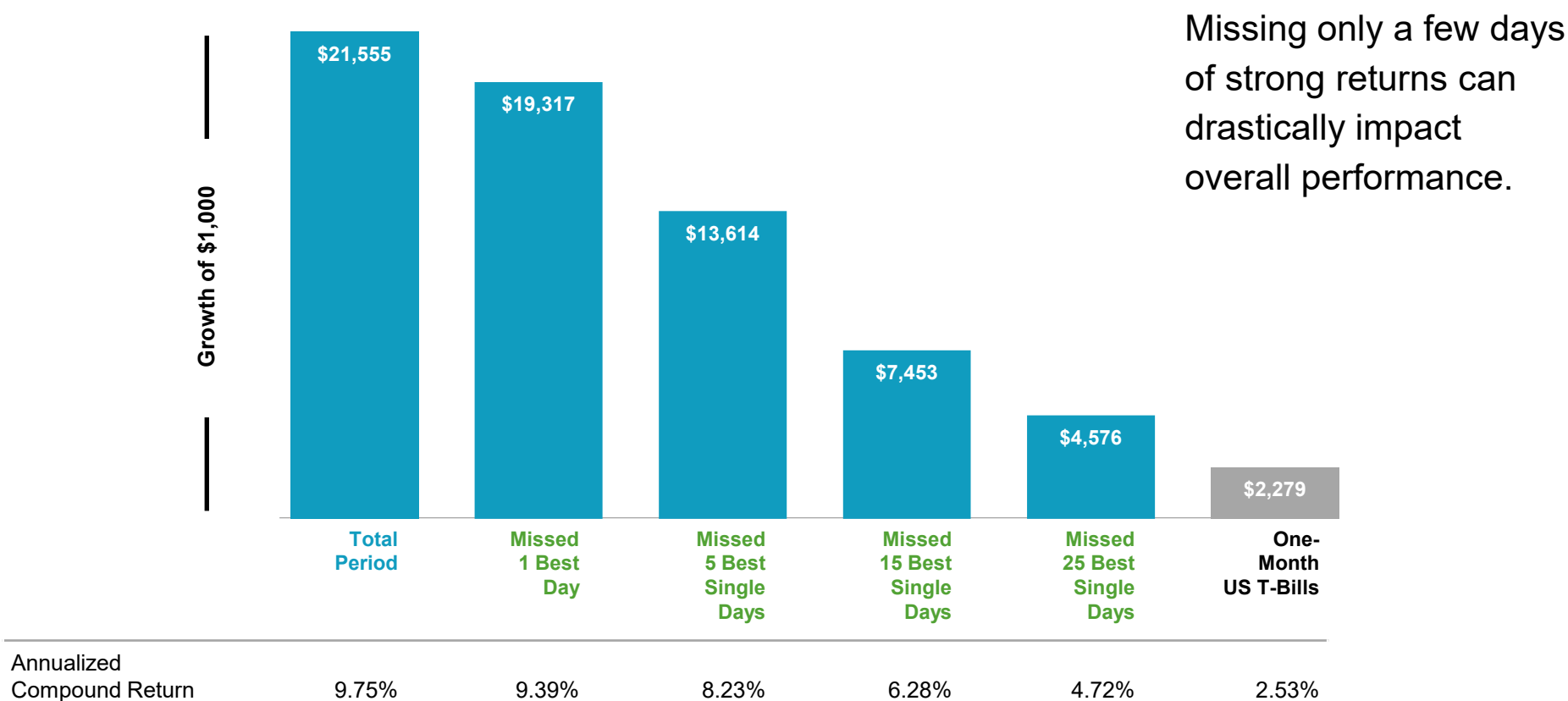
People may struggle to separate their emotions from their investment decisions.

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, 1990–2022

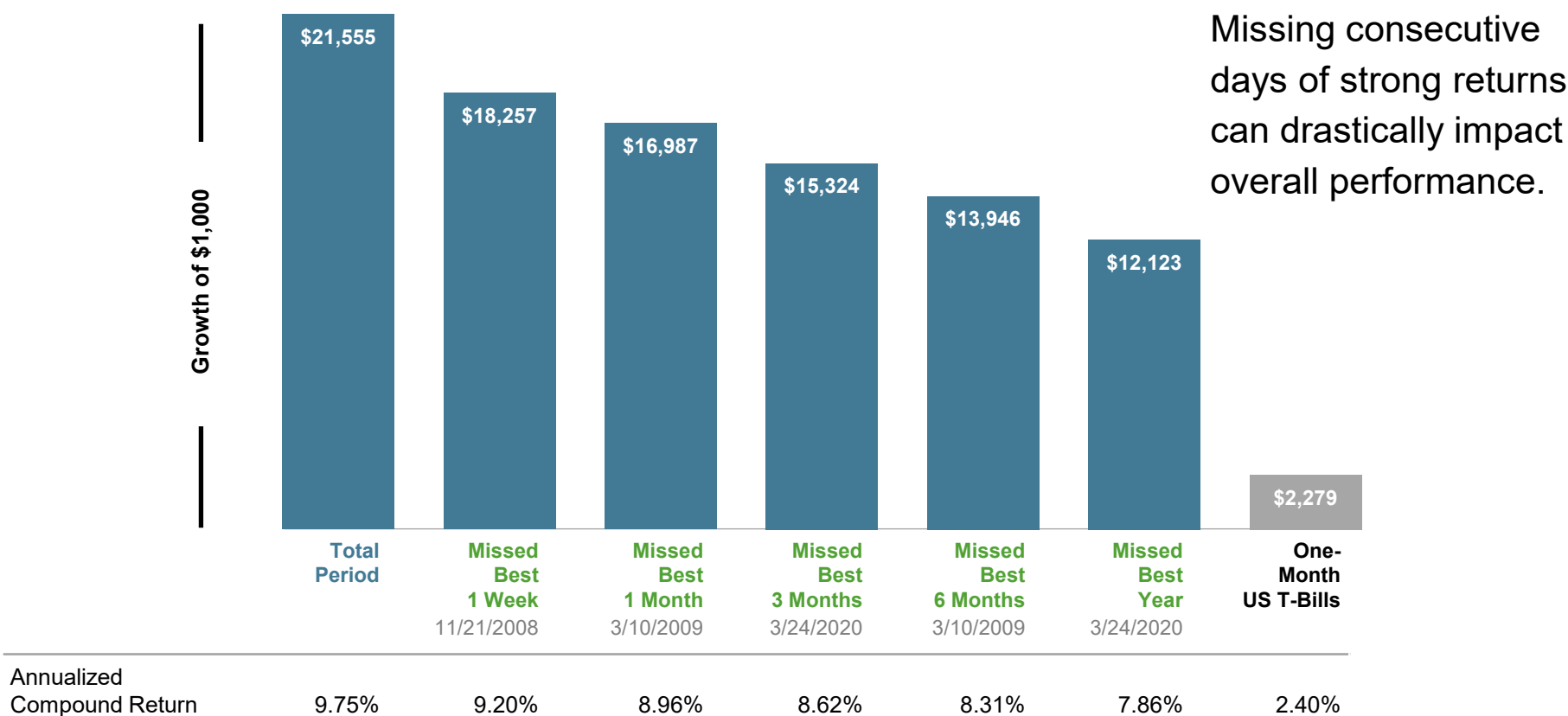


Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is not a guarantee of future results. In US dollars. For illustrative purposes. The missed best day(s) examples assume that the hypothetical portfolio fully divested its holdings at the end of the day before the missed best day(s), held cash for the missed best day(s), and reinvested the entire portfolio in the S&P 500 at the end of the missed best day(s). Annualized returns for the missed best day(s) were calculated by substituting actual returns for the missed best day(s) with zero. S&P data © 2023 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. "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.



# Reacting Can Hurt Performance

Performance of the S&P 500 Index, 1990–2022

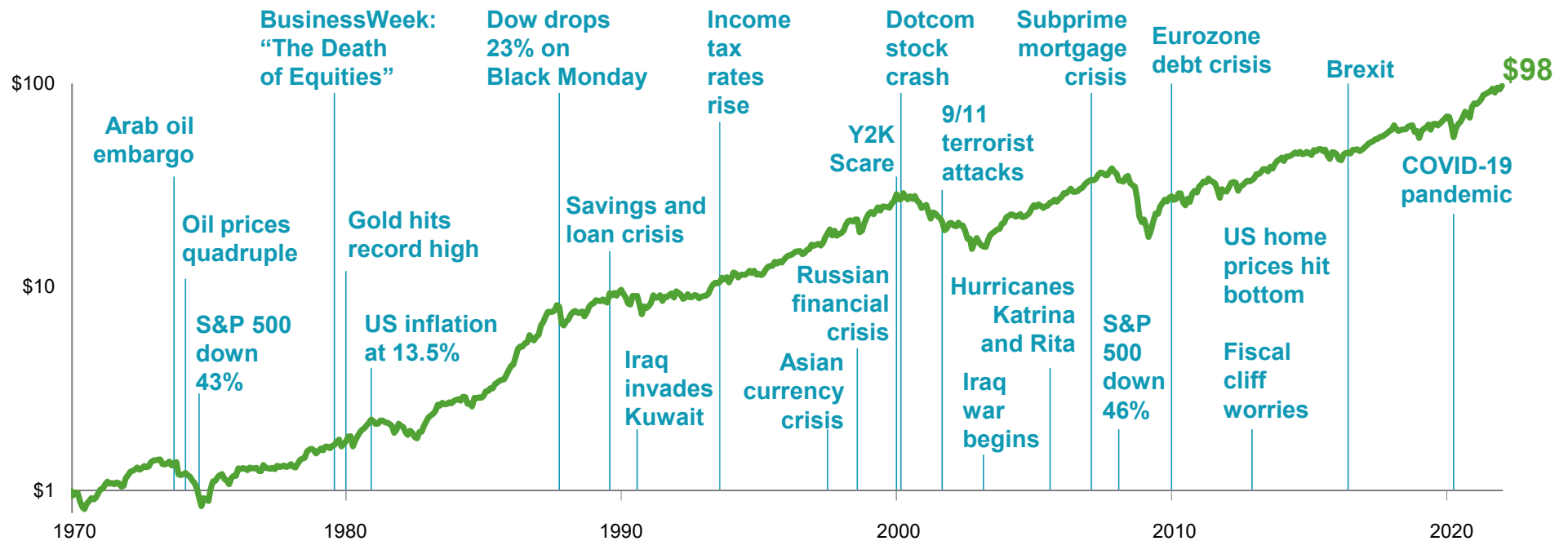


Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is not a guarantee of future results. In US dollars. For illustrative purposes. Best performance dates represent end of period. The missed best consecutive days examples assume that the hypothetical portfolio fully divested its holdings at the end of the day before the missed best consecutive days, held cash for the missed best consecutive days, and reinvested the entire portfolio in the S&P 500 at the end of the missed best consecutive days. Annualized returns for the missed best consecutive days examples were calculated by substituting actual returns for the missed best consecutive days with zero.

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# Markets Have Rewarded Discipline

Growth of a dollar—MSCI World Index (net dividends), 1970–2021



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



# Focus on What You Can Control

- Create an investment plan to fit your needs and risk tolerance.
- Structure a portfolio along the dimensions of expected returns.
- Diversify globally.
- Manage expenses, turnover, and taxes.
- Stay disciplined through market dips and swings.

A financial advisor can offer expertise and guidance to help you focus on actions that add value. This can lead to a better investment experience.



# Appendix