

# A Different Way to Invest

*Robasciotti*  

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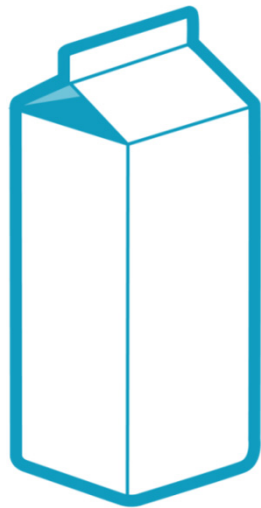
*& Associates, Inc.*

# Why Invest?

# Your Money Today Will Likely Buy Less Tomorrow

**1913**

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**\$0.09 = Quart**

**1963**

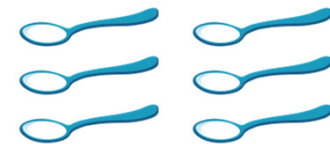
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**\$0.09 = 1 Small Glass**

**2014**

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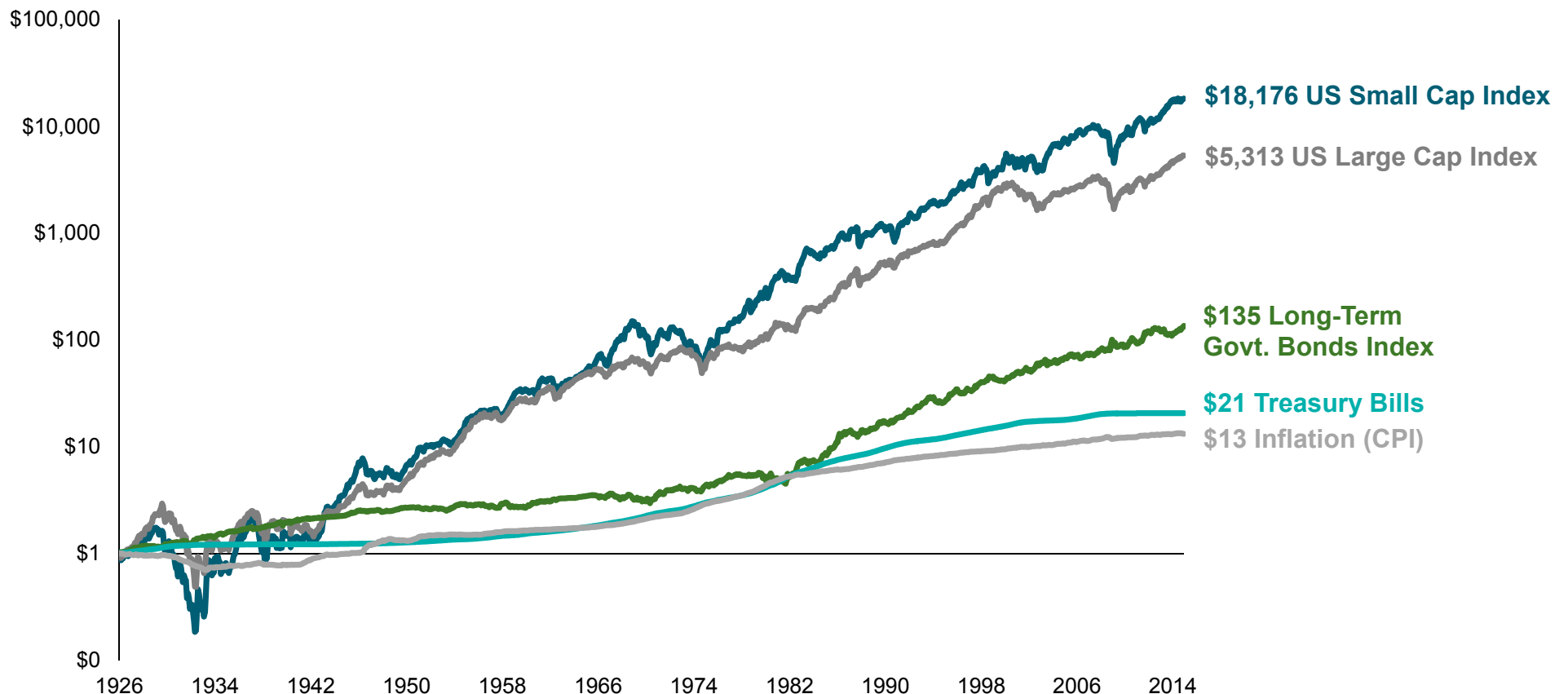
**\$0.09 = 6 Tablespoons**

Investing means taking risks.

Not  
investing means taking risks,  
too.

# Capital Markets Have Rewarded Long-Term Investors

Monthly growth of wealth (\$1), 1926–2014



Past performance is no guarantee of future results. 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. See "Growth of Wealth Indices" page in the Appendix for more information. US Small Cap Index is the CRSP 6–10 Index; US Large Cap Index is the S&P 500 Index; Long-Term Government Bonds Index is 20-year US government bonds; Treasury Bills are One-Month US Treasury bills; Inflation is the Consumer Price Index. CRSP data provided by the Center for Research in Security Prices, University of Chicago. Bonds, T-bills, and inflation data © Stocks, Bonds, Bills, and Inflation Yearbook™, Ibbotson Associates, Chicago (annually updated work by Roger G. Ibbotson and Rex A. Sinquefeld).

# How Do Many People Invest?

They invest by...

Trying to Predict the Future



Betting on  
Tips & Hunches



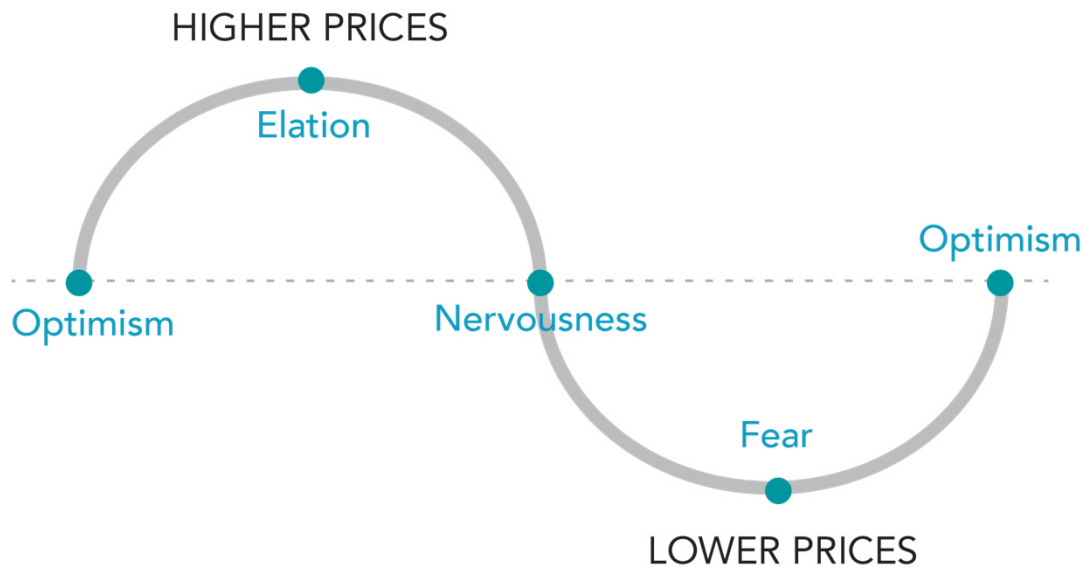
Reacting to  
Market Cycles & The Media





# What Have We Learned?

# Managing Emotions is Critical



Many people struggle to separate their emotions from investing.

Markets go up and down. Reacting to current market conditions may lead to making poor investment decisions at the worst times.

# Many of the Greatest Advancements in Finance Have Come from Academia

**1952**  
**Diversification and Portfolio Risk**

**HARRY MARKOWITZ**  
Nobel Prize in Economics, 1990

**1966**  
**Efficient Markets Hypothesis**

**EUGENE FAMA**  
Nobel Prize in Economics, 2013

**1984**  
**Term Structure of Interest Rates**

**EUGENE FAMA**

**2012**  
**Profitability**

**ROBERT NOVY-MARX**  
**EUGENE FAMA**  
**KENNETH FRENCH**

**1964**  
**Single-Factor Asset Pricing Risk/Return Model**

**WILLIAM SHARPE**  
Nobel Prize in Economics, 1990

**1981**  
**The Size Effect**

**ROLF BANZ**

**1992–1993**  
**Value Effect and Multifactor Asset Pricing Model**

**EUGENE FAMA**  
**KENNETH FRENCH**

## Together, We Know More Than We Do Alone



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

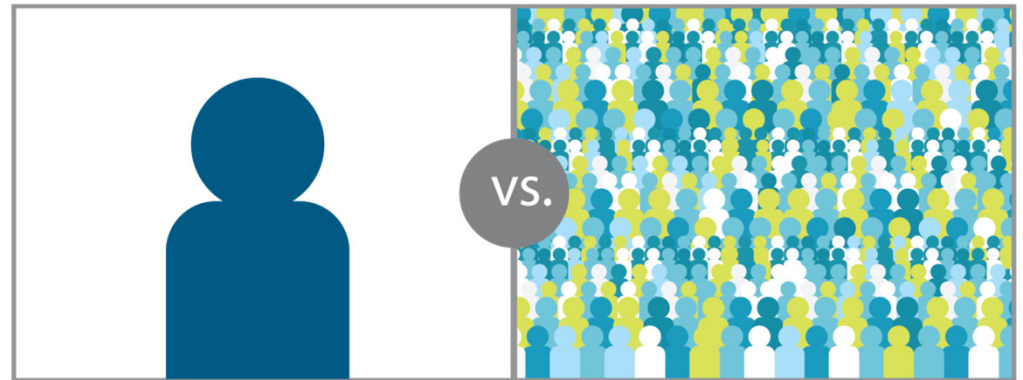
Range: 409-5,365

**Average: 1,653**

**Actual: 1,670**

## Letting the Market Work for You is Smart

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.



# What is the Best Way to Invest?

## There Are Differing Approaches

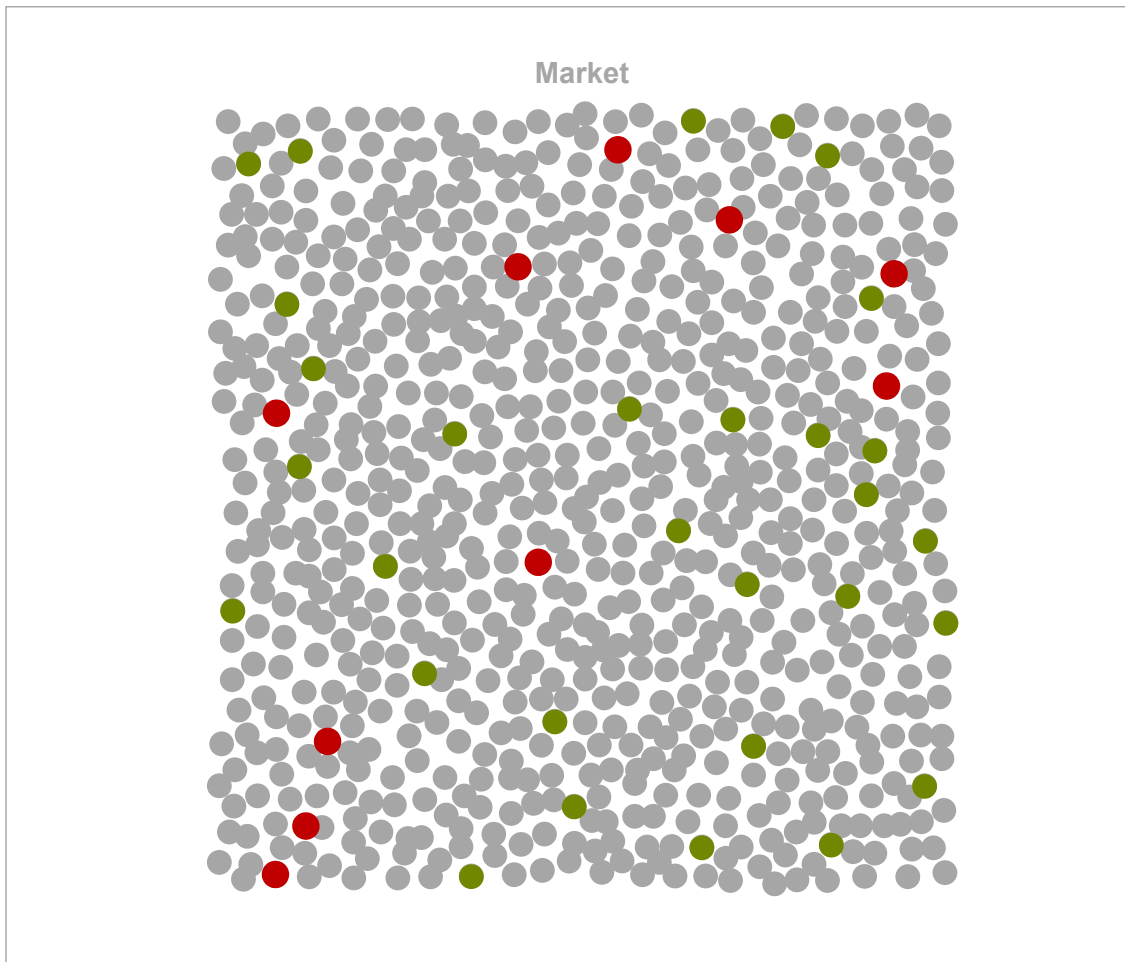
### TRADITIONAL MANAGEMENT

Attempts to identify and take advantage of **mispricing** in securities.

Relies on **forecasting** to select “undervalued” securities or time markets.

Generates **higher expenses**, trading costs, and risks.

## The Traditional Approach Attempts to Outsmart the Market



**Buys** a selection of individual securities manager thinks will outperform.

**Sells** securities when deemed overvalued.

Can lead to high turnover and excess costs.



## Traditional Investment Methods Have Low Odds of Success

Fraction of mutual funds that survived and beat their index for 15 years,  
ending December 31, 2014

Stocks

19%

A horizontal bar chart for Stocks. The bar is divided into two segments: a blue segment on the left representing 19% and a gray segment on the right representing the remaining 81%.

Bonds

8%

A horizontal bar chart for Bonds. The bar is divided into two segments: a green segment on the left representing 8% and a gray segment on the right representing the remaining 92%.

**Past performance is no guarantee of future results.** Survivors are funds that were still in existence as of December 31, 2014. Outperformers are survivors that beat their respective benchmarks over the period.

See "Data Appendix" page in the Appendix for additional information.

Source: Mutual Fund Landscape, Dimensional Fund Advisors 2015. 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.

## There Are Differing Approaches

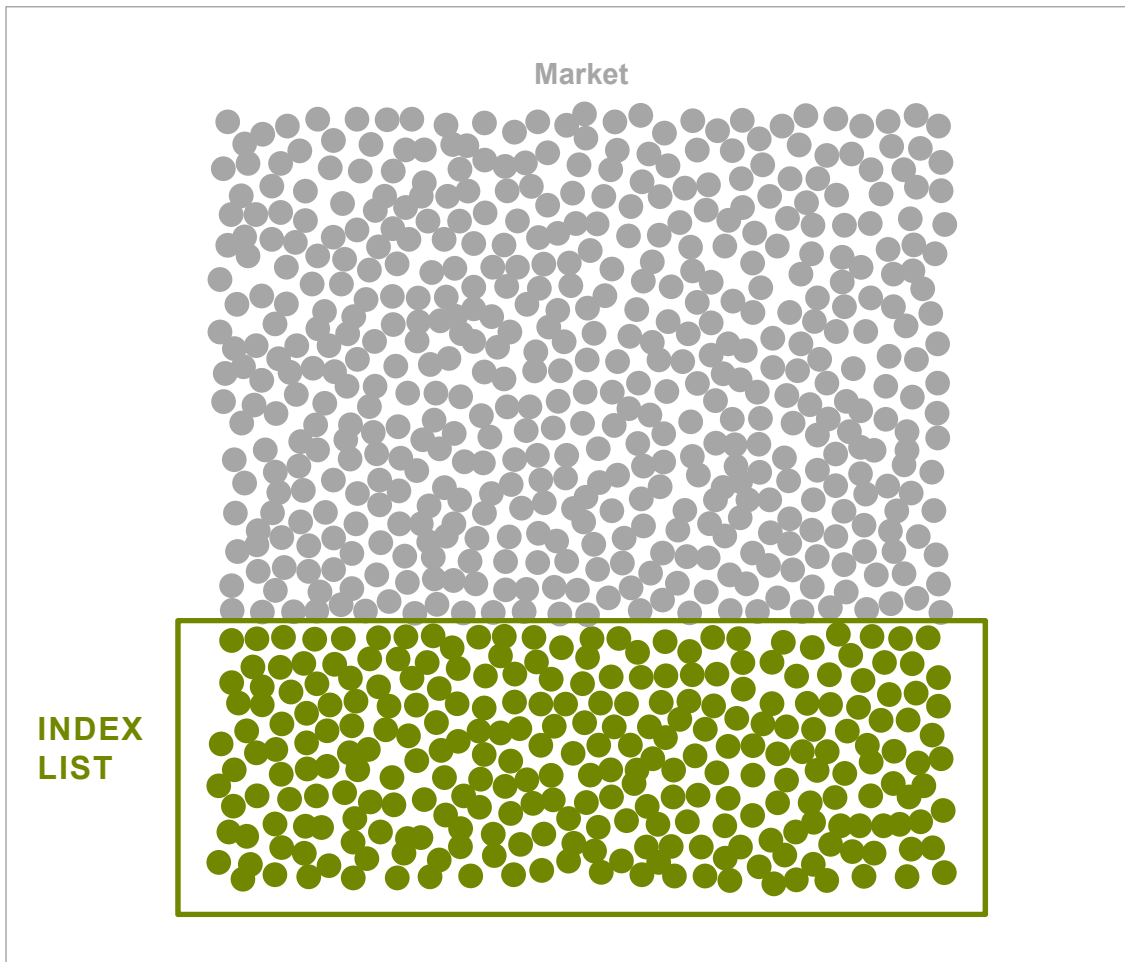
### COMMERCIAL INDEXING

Attempts to invest in large portions of the financial market, based on a widely-used **commercial index**.

Allows the index to **dictate investments**.

Attempts to match index performance, **restricting** which securities to hold and when to trade.

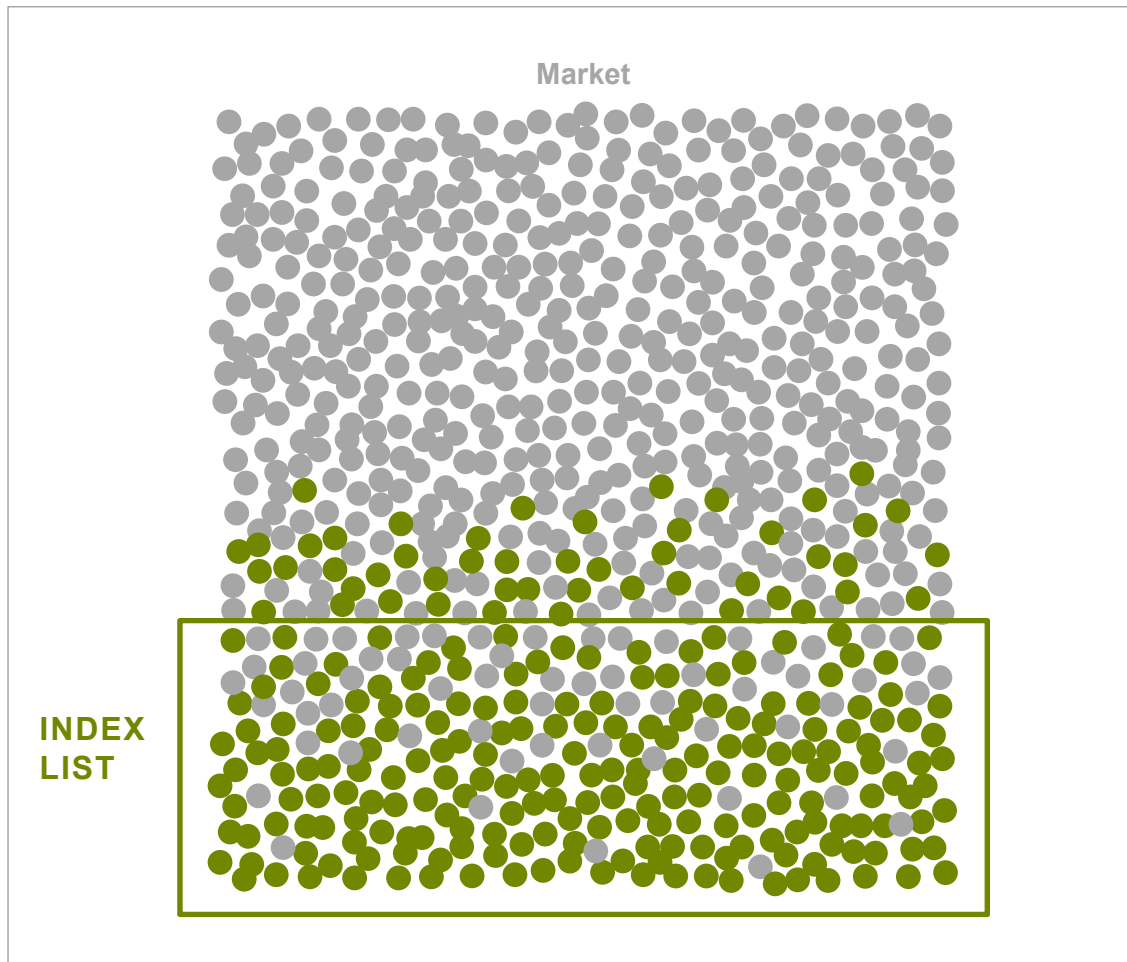
# The Commercial Indexing Approach



**Holds** a basket of securities on a commercial index that represents a portion of the financial markets.

Buys and sells the same securities at the same time as all other funds tracking the commercial index.

# The Commercial Indexing Approach



## Three months later:

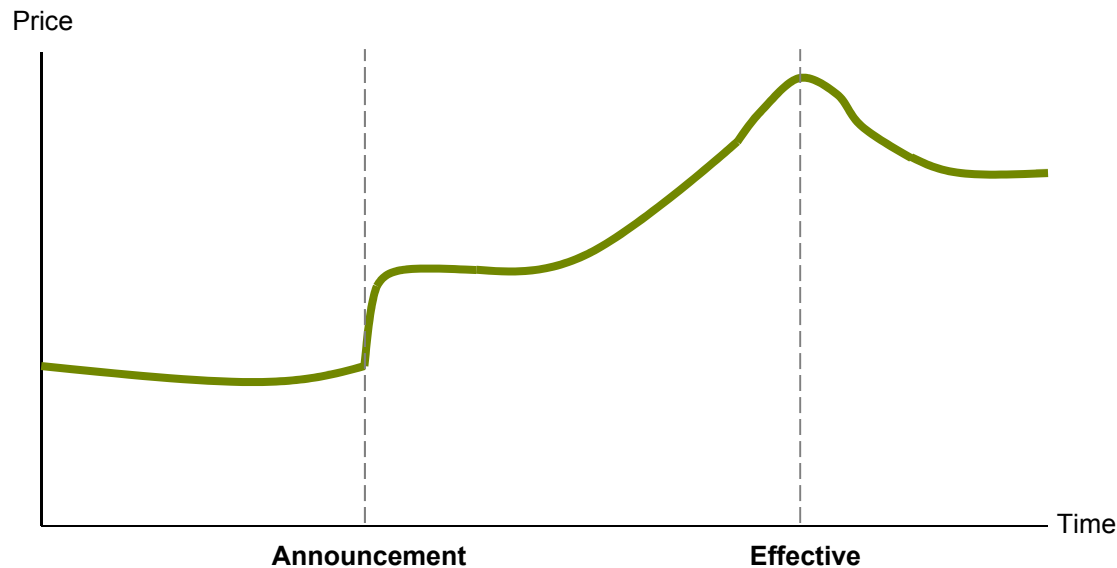
The commercial index did not respond to changes in financial markets.

Securities have moved in and out of the index's targeted range.

Your investment may have drifted. It no longer represents the intended portion of the financial markets.

The drift will only be remedied when the index is reconstituted (generally once per year).

## Hidden Cost of Commercial Indexing: The “Reconstitution Effect”



A stock price rises on announcement of inclusion in a commercial index.

Index funds are forced to buy the stock on the effective date at potentially higher prices.

Buying and selling to track periodic index changes reduces tracking error, but generates transaction costs.

	S&P 500 Index	MSCI EAFE Index
One-Day Return after Announcement (%)	3.2	3.4
Run-Up to Effective Date (%)	3.8	4.5
Decay after Effective Date (%)	-2.1	-2.6

S&P 500 data source: Anthony Lynch and Richard Mendenhall, “New Evidence on Stock Price Effects Associated with Changes in the S&P 500 Index,” *Journal of Business* 70, no. 3 (July 1997): 351-83. MSCI EAFE Index data source: Rajesh Chakrabarti, Wei Huang, Narayanan Jayaraman, and Jinsoo Lee, “Price and Volume Effects of Changes in MSCI Indices: Nature and Causes,” *Journal of Banking and Finance* 29, no. 5 (May 2005): 1237-64. For illustrative purposes only.

Past performance is not a guarantee of future results.

## There Are Differing Approaches

### INTELLIGENT INDEXING

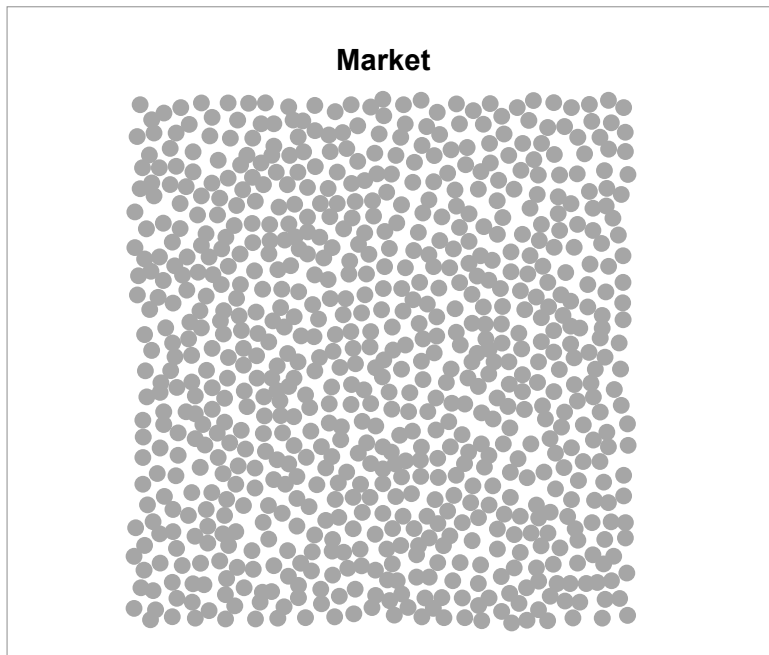
Builds **responsive indexes** to consistently represent portions of the financial markets.

Attempts to invest in **large portions of the financial market**, based on those indexes.

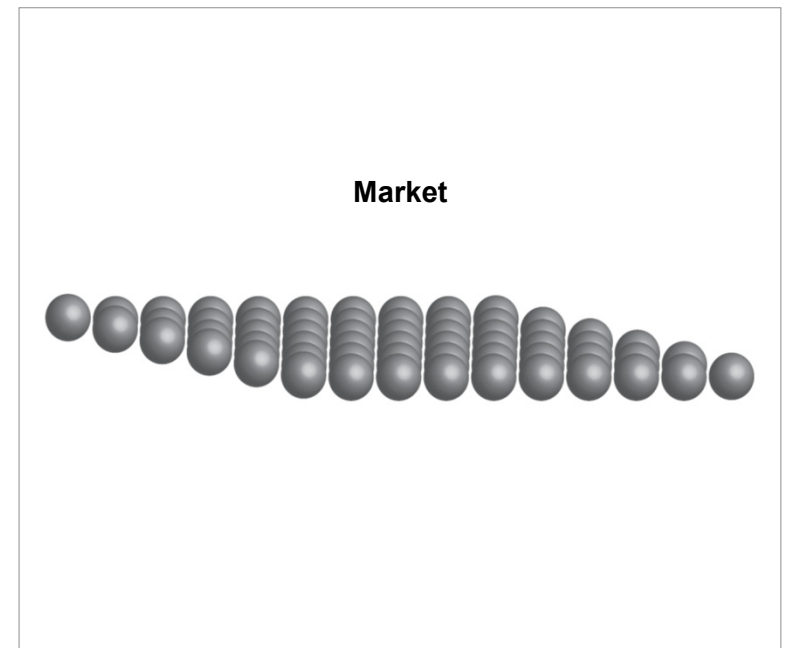
Using academic research, focuses investments on market areas with **higher expected returns**.

# Intelligent Indexing Views the Market in a Different Dimension

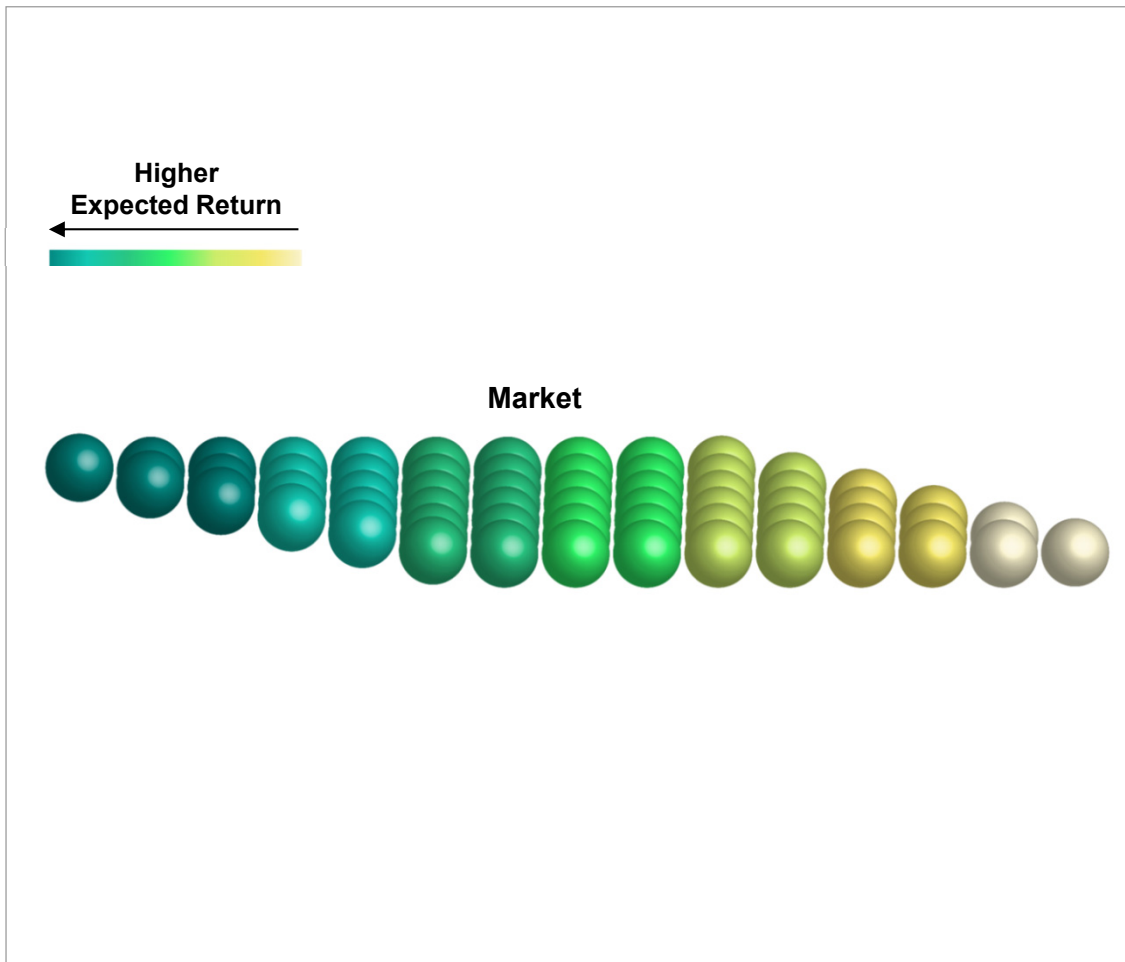
## Traditional Management & Commercial Indexing



## Intelligent Indexing



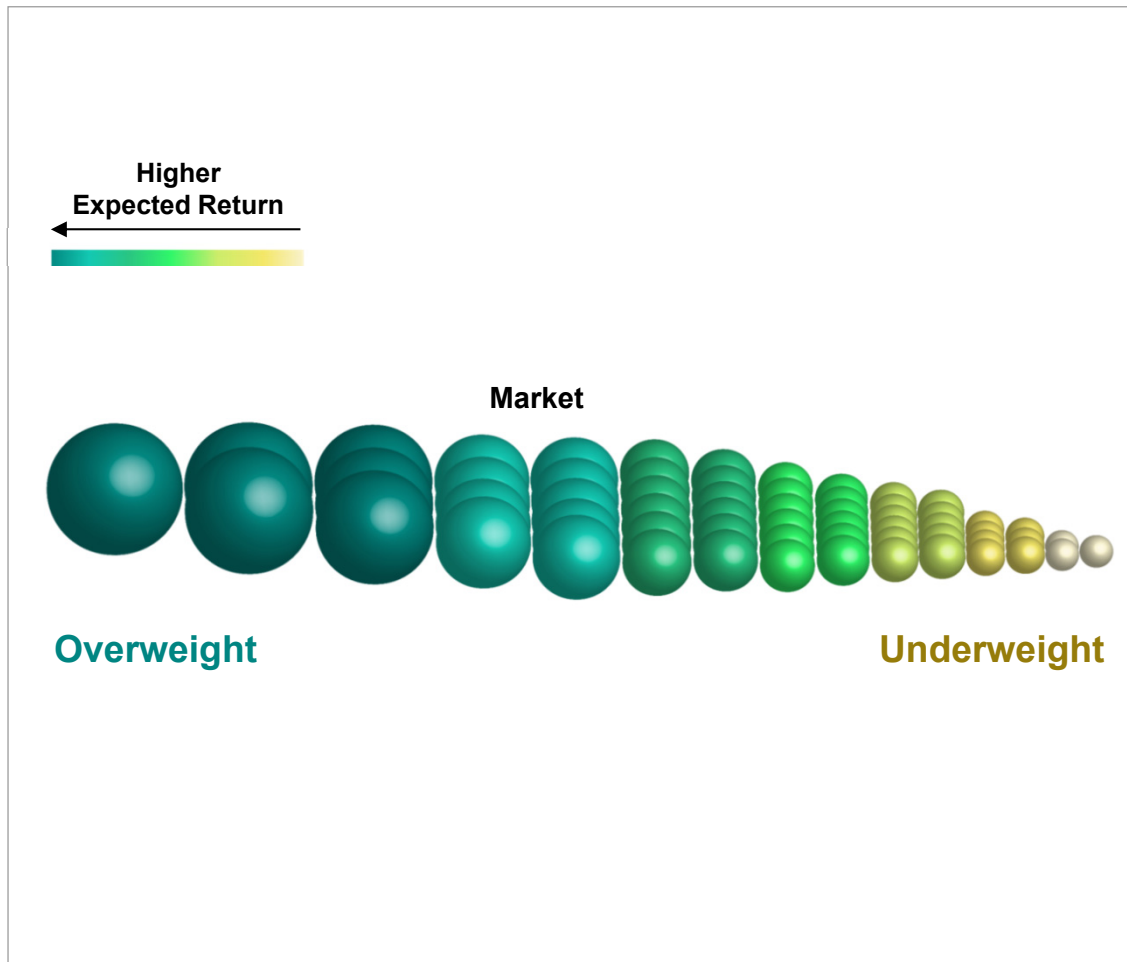
## Intelligent Indexing Views the Market in a Different Dimension



Decades of academic research have identified relevant dimensions of higher expected returns.



# Investment Portfolios Can Be Structured Along Dimensions of Higher Expected Returns



A well-diversified portfolio can emphasize market areas offering higher expected return potential.

# Dimensions of Higher Expected Returns

Academic research has identified these dimensions of higher expected returns.

They are well documented in markets around the world and across different time periods.

EQUITIES	Market Premium (stocks vs bonds)	8.15% 1928-2014
	Value Premium (value vs growth stocks)	5.10% 1928-2014
	Size Premium (small vs large stocks)	3.46% 1928-2014
FIXED INCOME	Term Premium (longer vs shorter maturity bonds)	2.55% 1928-2014
	Issuer Premium (lower vs higher credit quality bonds)	1.17% 1973-2014

Information provided by Dimensional Fund Advisors LP.

The Market Premium is the arithmetic average of the annual Fama/French Total US Market Research Index minus the annual one-month US Treasury Bill. The Size Premium is the arithmetic average of the annual Fama/French SmB factor, which is the average of the annual Fama/French US Small Value, US Small Neutral, and US Small Growth Research Indices, minus the average of the annual Fama/French US Large Value, US Large Neutral, and US Large Growth Research Indices. The Value Premium is the arithmetic average of the annual Fama/French HmL factor, which is the average of the annual Fama/French US Small Value and US Large Value Research Indices, minus the average of the annual Fama/French US Small Growth and US Large Growth Research Indices. The Term Premium is the arithmetic average of the annual Ibbotson SBB1 Long-Term Government Bonds index minus the annual one-month US Treasury Bill. The Issuer Premium is the arithmetic average of the average of the annual Barclays US Intermediate Credit A and Baa Indices, minus the annual Barclays US Government Bond Intermediate Index.

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 no guarantee of future results. Eugene Fama and Ken French are members of the Board of Directors for and provide consulting services to Dimensional Fund Advisors LP.

# What is the Best Way to Invest?

## Focus On What You Can Control



Professional investment management can help you create a plan and focus on actions that add value.



# Appendix

# Growth of Wealth Indices

Small Cap Value Index is the Fama/French US Small Value Index (ex utilities).

Small Cap Index is the CRSP 6–10 Index.

Large Cap Index is the S&P 500 Index®.

Long-Term Government Bonds Index is 20-year US government bonds.

Treasury Bills are One-Month US Treasury bills.

Inflation is the Consumer Price Index.

## Data Appendix

Research conducted by Dimensional Fund Advisors LP. 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.

Certain types of equity and fixed income funds were excluded from the performance study. For equities, sector funds and funds with a narrow investment focus, such as real estate and gold, were excluded. Money market funds, municipal bond funds, and asset-backed security funds were excluded from fixed income.

Funds are identified using Lipper fund classification codes and are matched to their respective benchmarks at the beginning of the 10-year sample period. Winner funds are those whose cumulative return over the period exceeded that of their respective benchmark. Loser funds are funds that did not survive the period or whose cumulative return did not exceed their respective benchmark. Non-survivors include funds that were either liquidated or merged.

Benchmark data provided by Barclays, MSCI, and Russell. Barclays data provided by Barclays Bank PLC. MSCI data copyright MSCI 2014, all rights reserved. Russell data © Russell Investment Group 1995–2014, all rights reserved.

Benchmark indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio.

**Mutual fund investment values will fluctuate, and shares, when redeemed, may be worth more or less than original cost. Diversification neither assures a profit nor guarantees against a loss in a declining market. Past performance is no guarantee of future results.**