Behavioral Finance

Not FDIC Insured • May Lose Value • No Bank Guarantee

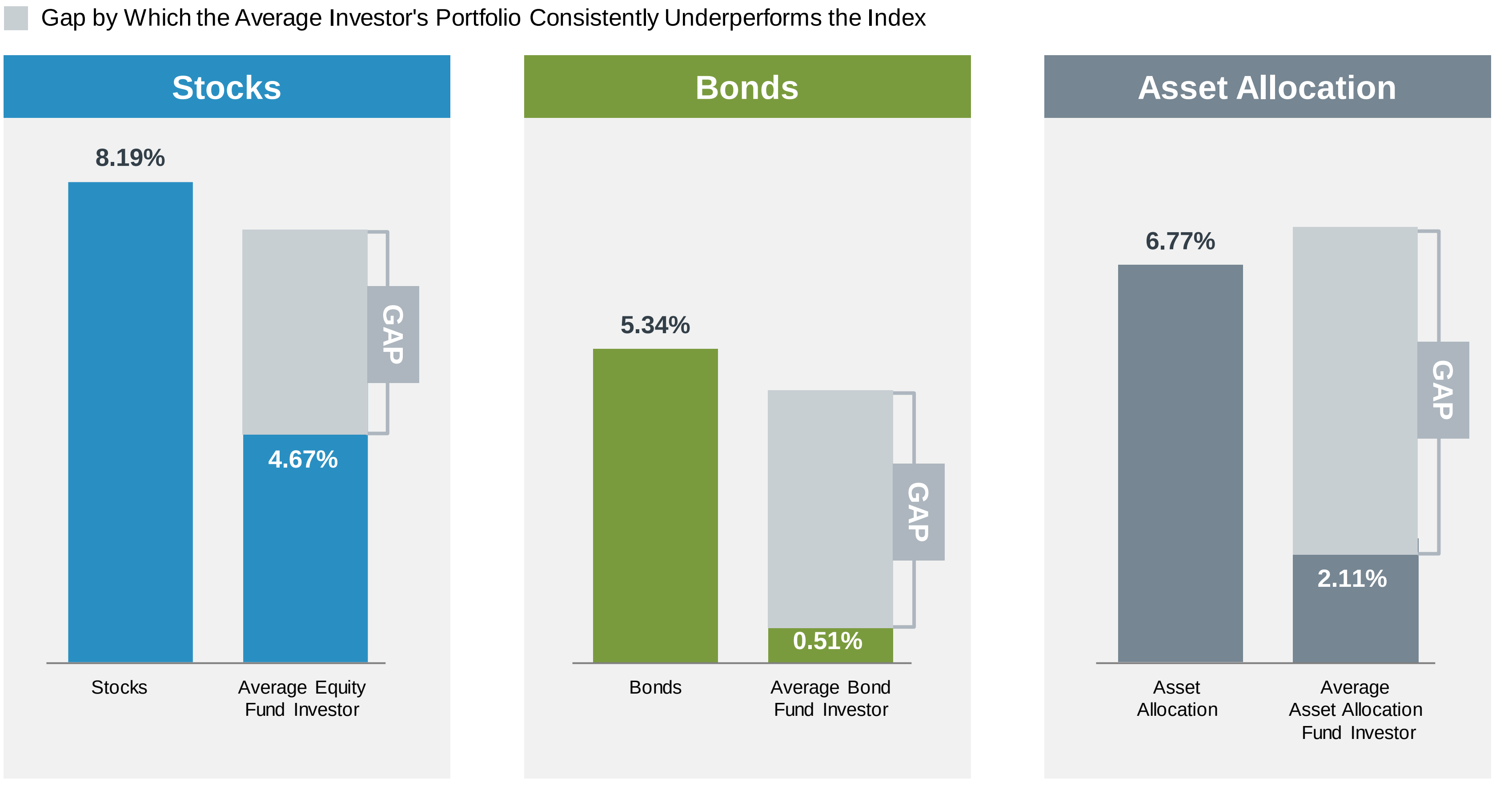
FIDELITY INSTITUTIONAL ASSET MANAGEMENT℠

Fidelity INVESTMENTS®


INVESTMENTS
IMPULSE
INVESTORS
WELCOMED
NO
A.BACALL

The Average Investor's Portfolio Consistently Underperforms

AVERAGE ANNUAL RETURNS (1996–2015)



Dalbar's Quantitative Analysis of Investor Behavior 2016. Returns are for the period ending December 31, 2015. Average equity investor and average bond investor performance results are calculated using data supplied by the Investment Company Institute. Investor returns are represented by the change in total mutual fund assets after excluding sales, redemptions, and exchanges. This method of calculation captures realized and unrealized capital gains, dividends, interest, trading costs, sales charges, fees, expenses, and other costs. After calculating investor returns in dollar terms, two percentages are calculated for the period examined: total investor return rate and annualized investor return rate. Total return rate is determined by calculating the investor return dollars as a percentage of the net of the sales, redemptions, and exchanges. Stocks are represented by S&P 500 Index; Bonds represented by Bloomberg Barclays U.S. Aggregate Bond Index; asset allocation represented by a custom benchmark of 50% of S&P 500 Index and 50% Bloomberg Barclays U.S. Aggregate Bond Index. You cannot invest directly in an index.

Possible Behavioral Influencers

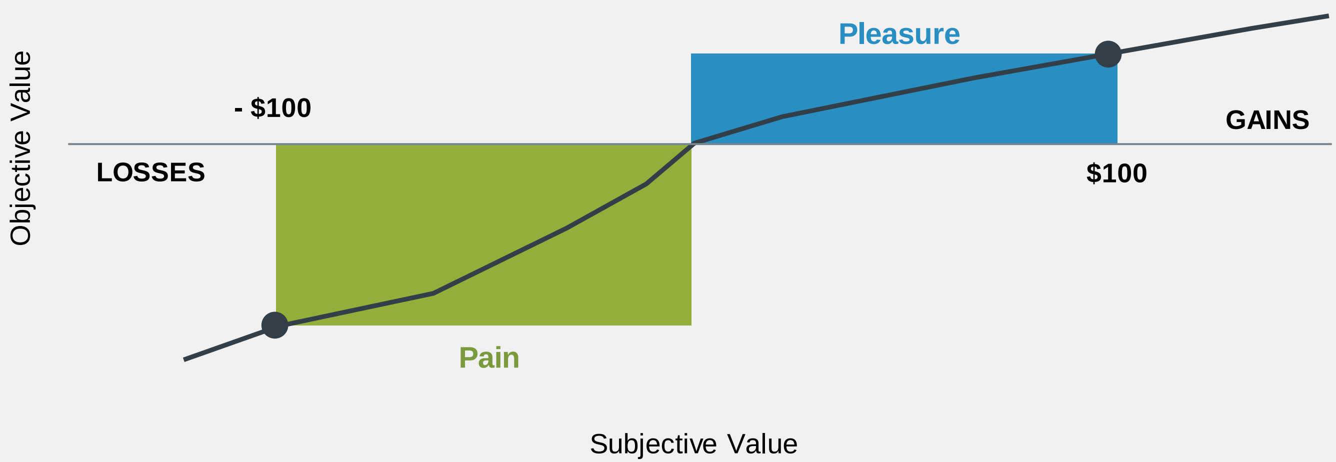
1 Myopic Loss Aversion

2 Ambiguity

3 Inactive and Active Regret

Losing Money Is Twice as Painful

MYOPIC LOSS AVERSION



Losing $100 hurts twice as much as the feeling you'd experience by gaining $100.

Studies showed that people chose to take a risk only when the potential gain is 2x greater than the expected loss.

Example based on experiment by Kahneman, Tversky, 1992.

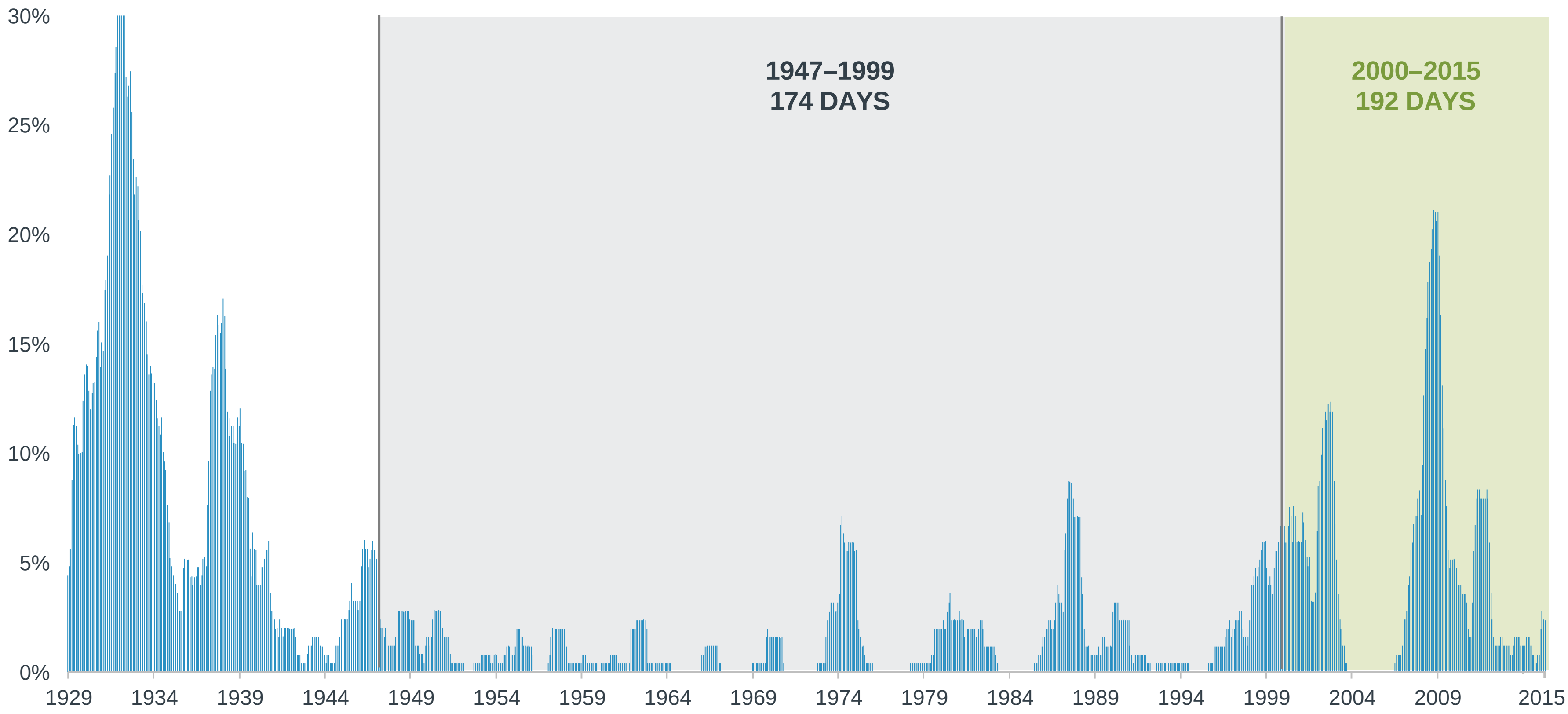
A Behavior Learned Early On

Market Volatility Exacerbates the Effects

MYOPIC LOSS AVERSION

During the past 15 years, the equity market had more days of >2% declines than the prior 53-year period.

NUMBER OF DOWN TRADING DAYS PER CALENDAR YEAR WITH DECLINES OF MORE THAN 2%



Past performance is no guarantee of future results. You cannot invest directly in an index. Index performance includes the reinvestment of dividends and interest income. EPS = earnings per share, P/E = price-to-earnings ratio. All EPS and P/E data are trailing unless otherwise noted. Standard & Poor's estimates used Q4 2013 EPS, forward EPS, and P/E. Source: Standard & Poor's, FactSet, Fidelity Investments (AART) as of 11/30/15.

Information Overload

MYOPIC LOSS AVERSION

Average person checks their cell phone
150 times each day[1]

Average user spends nearly
2 hours a day on social media[2]

240 financial apps available for
iPhones alone[3]

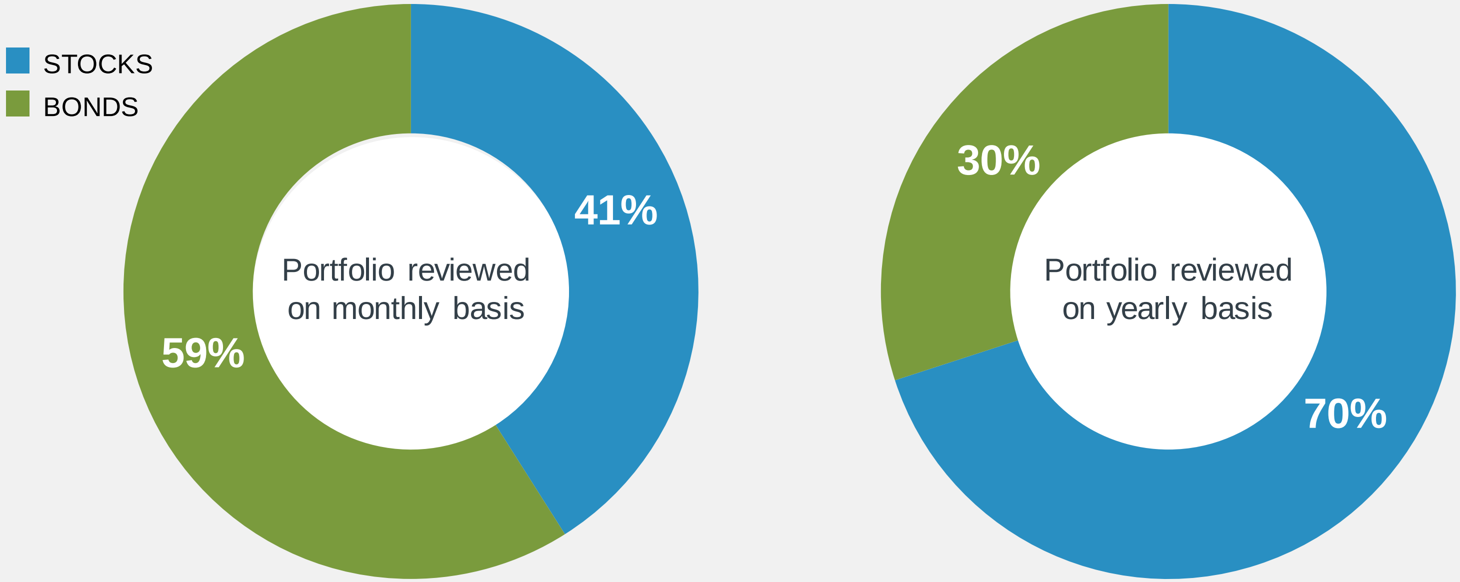
1/3 of consumers worry they made the wrong purchase decision because they had **too much information.**[4]

1. Pew Research Center, *U.S. Smartphone Use in 2015*. Cell and telephone survey of 2,002 adults in U.S. conducted by Princeton Survey Research in December 2014.
2. GlobalWebIndex survey of 170,000 Internet users (ages 16–64), 2014.
3. iTunes, 2015.
4. Newsworks. Research was conducted among 2,000 UK residents ages 18–65 who have read Newsbrands (London-based) by Flamingo and Tapestry with Dr. Nick Southgate, an expert in behavioral economics, in September and October 2015.

Frequent Portfolio Evaluation Can Lead to Risk-Averse Behavior

MYOPIC LOSS AVERSION

Constant reminders of volatility may cause investors to
seek more conservative investments –
regardless of objectives or time horizon



In the study, subjects were assigned simulated conditions that were similar to making portfolio decisions on a monthly or yearly basis. Source: Thaler, R. H., A. Tversky, D. Kahneman, and A. Schwartz. “The Effect of Myopia and Loss Aversion on Risk Taking: An Experimental Test.” The Quarterly Journal of Economics 112.2 (1997), used by permission of Oxford University Press, Fidelity Investments (AART), as of 12/31/14.

A Tendency to Avoid the Unknown

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Daniel Ellsberg Paradox:
Select a ball from either bag and guess the color.

1

50 red balls and
50 black balls

Probability
of success: 50%
Risky

2

100 balls –
red and black
mixed

Probability
of success: ?
Ambiguous

Result:

More people chose bag 1,
where there was more certainty
(50% chance of guessing correctly)

vs.

Fewer people chose bag 2,
where there was more uncertainty (ambiguity)
in the outcome

Source: Graham, Harvey, Huang, "Investor Confidence, Trading Frequency, and Home Bias," Management Science, July 2009.

Don't Get Caught Up in the Headlines

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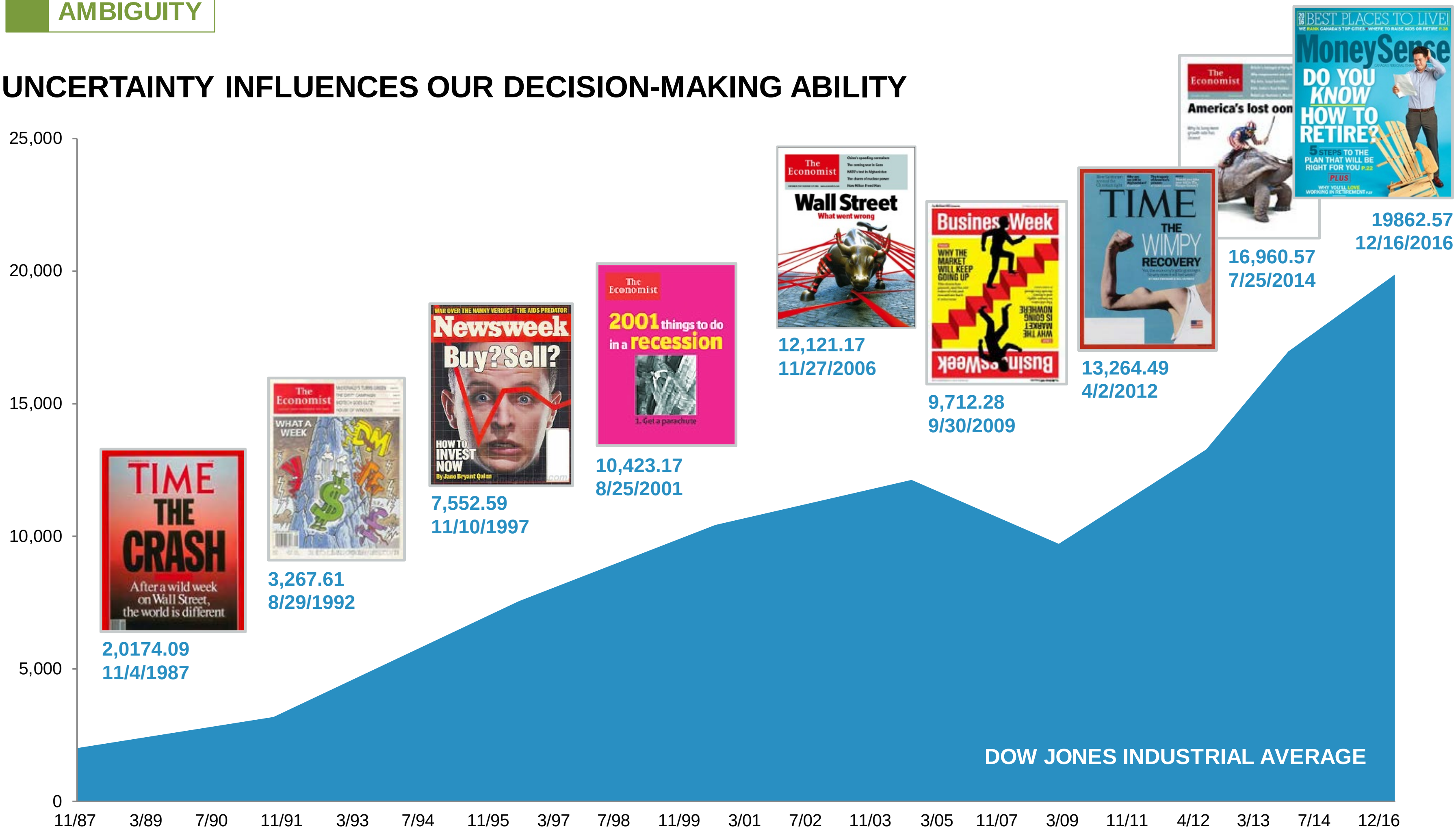
UNCERTAINTY INFLUENCES OUR DECISION-MAKING ABILITY



 The Dow Jones Industrial Average is a price-weighted average of 30 significant stocks traded on the New York Stock Exchange and the Nasdaq. You cannot invest in an index.

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Markets Are Resilient

Over the long term, the stock market has recovered from economic crises and world events.

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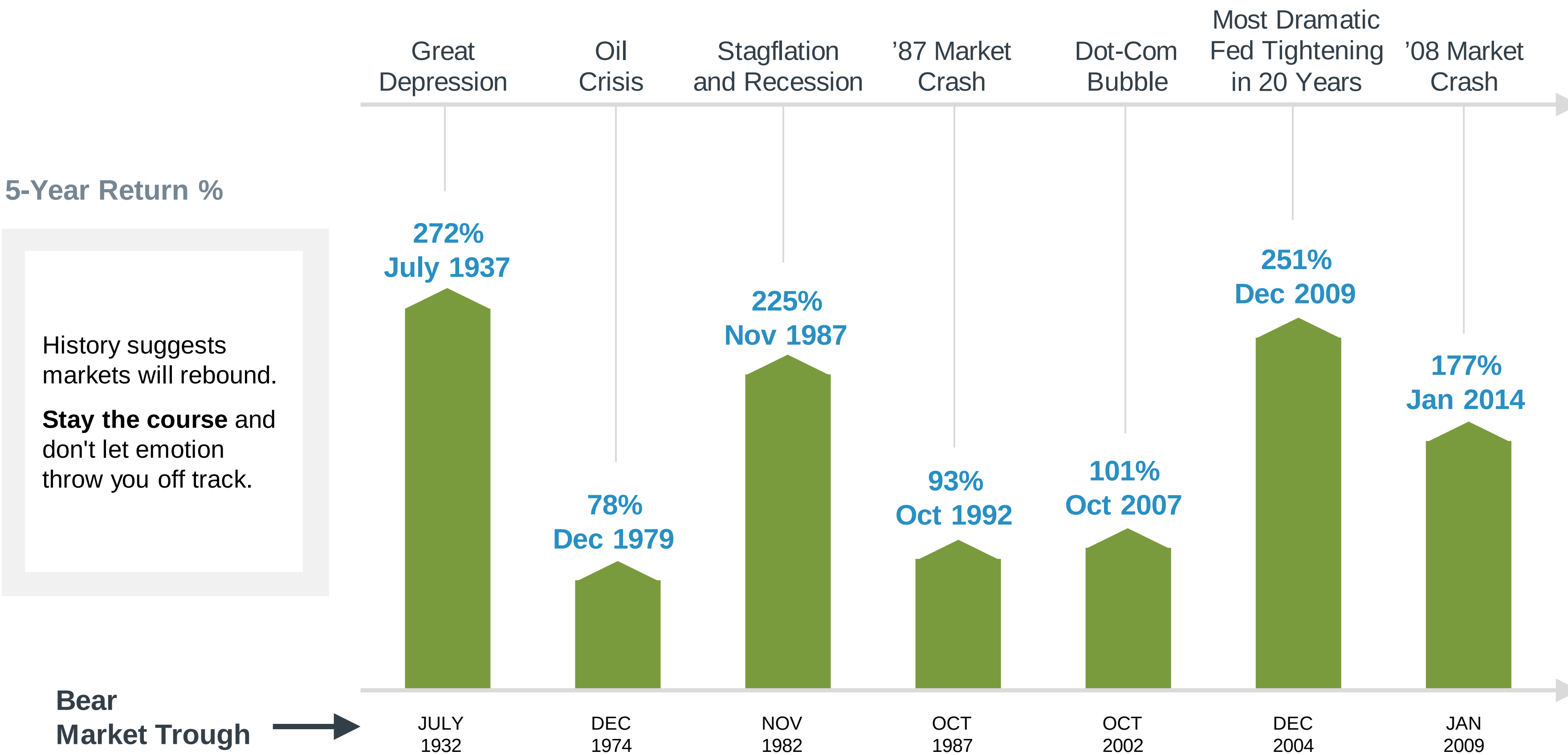
5-YEAR RETURNS FROM BEAR MARKET TROUGHS

History suggests markets will rebound.

Stay the course and don't let emotion throw you off track.



Source: Bloomberg Barclays, L.P., Fidelity Investments (AART), as of 1/21/15. Returns are cumulative.

Inaction and Action

REGRET

THE EFFECTS OF ACTION AND INACTION REGRET

	Investor	Investor
Owns	Stock A	Stock B
Decision	Switch to Stock B	Switch to Stock A
Acted?	No	Yes
Now owns	Stock A	Stock A

Stock Returns

Stock A: $0	
Stock B: $1,200	

While both investors missed out on a $1,200 gain, **those who took action had more regret.**

Who felt more regret?

Inaction regret	Action regret
8%	**92%**

Chart is for illustrative purposes only; does not represent actual or future performance of any investment option.
Source: Daniel Kahneman and Amos Tversky, “The Psychology of Preference,” Fidelity Investments (AART) as of May 31, 2013.

Help Take the Emotion out of Investing

Working with a financial advisor can be invaluable.

An advisor can help:

Tailor an investment plan
aligned to your goals, risk tolerance, and time horizon

Maximize
your retirement income potential and minimize your tax exposure

Guide you through
emotional financial decisions

62% **of investors seek advice** from a financial advisor.

***** The 2016 Fidelity® Millionaire Outlook survey was an online, blind study conducted by TNS, a third-party independent research firm not affiliated with Fidelity Investments, from January 5, 2016, to January 22, 2016. It was focused on understanding investors' attitudes, behaviors, and preferences related to investing, wealth management, and advice usage. It was held among a target sample of 1,287 respondents of all affluence levels.

Structure May Also Help Influence Behaviors

Insight gleaned from Fidelity 401(k) participants* suggests that structure may make it easier to stick with long-term investment strategies.

- Majority of participants sustained contribution rates during volatile markets
- More people stuck with their long-term strategy and remained positioned to take advantage of market recoveries
- Regular and/or systematic investing may reduce the need for frequent portfolio evaluations

- Individuals who own products such as a **401(k)**, **variable annuity**, or **IRA,** may have a higher risk tolerance for equities, providing the potential for better risk-adjusted return
- Quarterly reviews may be utilized for reallocations

Sticking to a long-term strategy takes resolve, but

may improve retirement outcomes.

***** Fidelity analyzed the actual savings practices and behavioral patterns of millions of retirement plan participants from our recordkeeping system of 12 million participants and approximately 20,000 workplace plans, as of December 31, 2015. Data consist of corporate defined contribution plans in Fidelity's recordkeeping platform. Data exclude tax-exempt plans, nonqualified plans, and the FMR LLC plan. The analysis includes data from the Fidelity Advisor 401(k) Program.

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Breaking the Behaviors: Four Strategies

1 **Get to know yourself.**
Become more aware of how your tendencies can influence financial decisions.

2 **No panic selling.**
Stay invested during times of market volatility and uncertainty.

3 **Stay focused.**
Don't dwell on the past; focus on your long-term goals and time horizon.

4 **Consult with your advisor regularly.**
Your financial advisor can help take the emotion out of investing.

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Appendix

Variable Annuities May Help to Keep Emotions in Check

Variable Annuities May Help to Keep Emotions in Check

Similar to a 401(k), a variable annuity provides structure that may help you meet your goals.

- **Greater ability to manage volatility through target volatility investment options**
- **The potential for tax-deferred contributions to grow during periods of market recovery**
- No contribution cap, unlike a 401(k) or IRA
- No required minimum withdrawal age, unlike a 401(k)
- Potential for higher returns through investment-only variable annuities
- Higher income potential if the annuity offers a guaranteed benefit
- Losses in a variable annuity are deductible

Before investing in an annuity, there are a number of factors that need to be reviewed with a licensed agent to determine product suitability. In addition to tax efficiency, there are other important considerations to take into account. It is important to keep in mind that with a variable annuity, all gains are taxed as ordinary income upon withdrawal, and a 10% IRS tax penalty may apply to withdrawals taken prior to age 59½. Also, unlike with a taxable account, your client is subject to an annual annuity charge. Investing in a variable annuity involves risk of loss. Investment returns and contract value are not guaranteed and will fluctuate.

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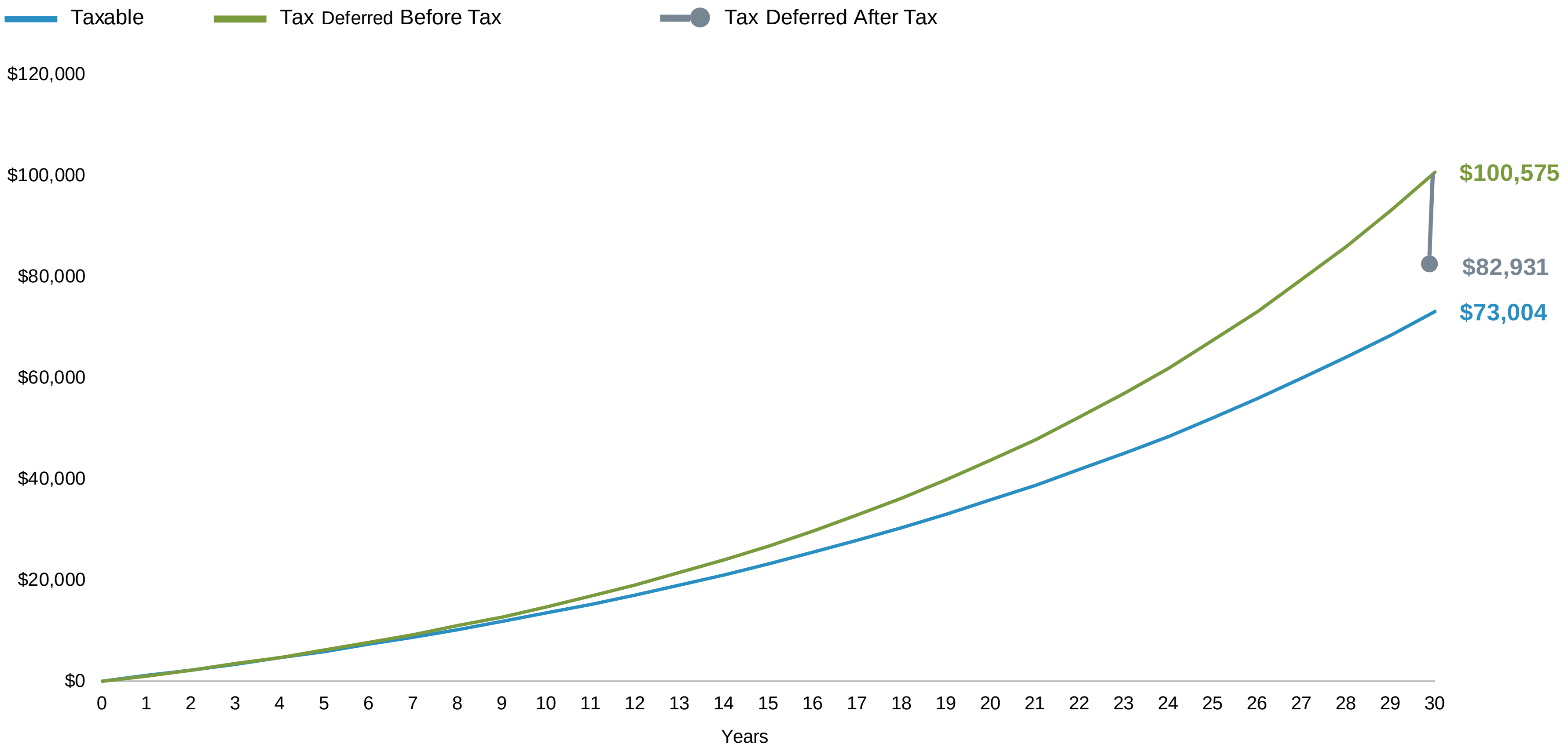
The Power of Tax Deferral

TAX DEFERRAL MAY HELP PORTFOLIOS GROW FASTER – EVEN AFTER TAXES



Assumes an annual contribution of $1,000, a tax rate of 25%, and an annual return of 7%. State and local taxes and account fees and expenses are not taken into account. If they were considered, returns would be lower. Investors may realize capital gains or capital losses in any year in which they sell fund shares within a taxable account, although this example does not take into account capital loss carryforwards or other tax strategies used to reduce taxes that could be incurred in a taxable account. Lower capital gains, dividend tax rates, or tax rates in general would make the return for the taxable account more favorable. This example is for illustrative purposes only and does not represent the performance of any security. The assumed rate of return used in this example is not guaranteed, and you may have a gain or loss when you sell. Investments that have potential for a 7% annual rate of return also come with risk of loss.

Other Potential Benefits of Variable Annuities

- Multimanager platforms allow for exchanges between fund families without concerns over break points and loads
- Ability to change allocations without current tax consequences
- May provide protection of purchase values for beneficiaries
- Asset transfers to beneficiaries may not be subject to probate if properly structured
- Creditor protection in certain states
- Greater tax control in distribution through optional annuitization

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For investors.

Not NCUA or NCUSIF insured. May lose value. No credit union guarantee.

Foreign securities are subject to interest rate, currency exchange rate, economic, and political risks, all of which are magnified in emerging markets.

This presentation is provided for informational purposes only and should not be used or construed as a recommendation of any security, sector, or investment strategy. Investment decisions should be based on an individual's own goals, time horizon, and tolerance for risk.

Investing involves risk, including risk of loss.

Neither asset allocation nor diversification ensures a profit or guarantees against loss.

All indices are unmanaged and performance of the indices includes reinvestment of dividends and interest income and, unless otherwise noted, is not illustrative of any particular investment. An investment cannot be made in any index.

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Investing in a variable annuity involves risk of loss. Investment returns and contract value are not guaranteed and will fluctuate.

Before investing, consider the funds' investment objectives, risks, charges, and expenses. Contact Fidelity for a prospectus or, if available, a summary prospectus containing this information. Read it carefully.

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