Bogleheads XV!

"The Undisputed Champion of the Long Run"
"Indexing Is Capitalism at its Best"

John C. Bogle

Philadelphia, PA

September 29, 2016

THE WALL STREET JOURNAL.

THE WEEKEND INTERVIEW with Jack Bogle | By Holman W. Jenkins, Jr.

The Undisputed Champion of the Long Run

Jack Bogle is ready to declare victory.

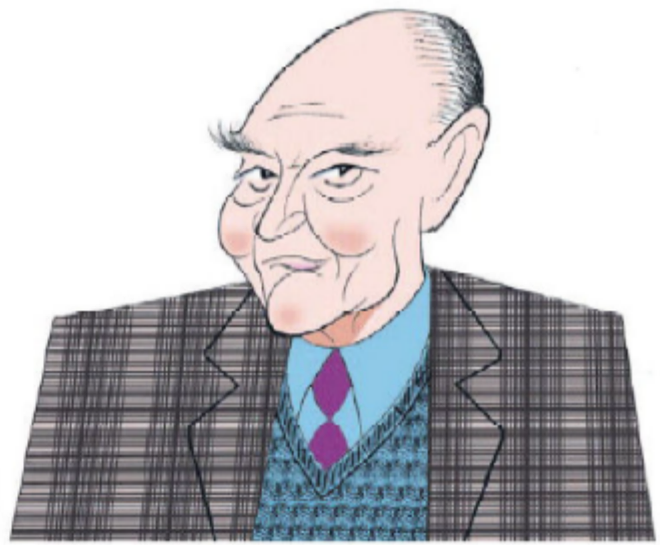
Four decades ago, a mutual-fund industry graybeard warned him that he would "destroy the industry." Mr. Bogle's plan was to create a new mutual-fund company owned not by the founding entrepreneur and his partners but by the shareholders of the funds themselves.

This would keep overhead low for investors, as would a second part of his plan: an index fund that would mimic the performance of the overall stock market rather than pay genius managers to guess which stocks might go up or down.

Thus was born the Vanguard 500 Index Fund, which this week celebrated its 40th birthday. Vanguard holds, on behalf of its 20 million investor-clients, more than $3 trillion in mostly passively managed, index-style investments. Not where we first spoke 10 years ago. This time Mr. Bogle has some hard news for investors. The basic appeal of index funds—their ability to deliver the market return without shifting an arm and leg to Wall Street's army of helpers—will only become more important given the decade of depressed returns he sees ahead.

Don't imagine a revisitation of the '80s or '90s, when stocks returned 18% a year and investors, after the industry's rake-off, imagined they "had the greatest manager in the world" because they got 14%. Those planning on a comfy retirement or putting a kid through college will have to save more, work to keep costs low, and—above all—stick to the plan.

"When the climate really gets bad, I'm not some statue out there. But when I get knots in my stomach, I say to myself, 'Reread your


KEN FALLIN

preserving my career. That's a very selfish thing."

But he's also equally realistic on the bad merger decision, which involved bringing in some go-go managers from Boston to run the then-illustrious but dowdy Wellington Fund during the 1960s stock boom. "The reality of life is, if you have a bagel shop and everybody is pouring into the doughnut shop across the street, if you want to stay in business, you start selling doughnuts. So I did."

Wall Street continues to live partly off doughnuts, of course. Hence the outcry against indexing from Mr. Ackman and Sanford Bernstein. One complaint is that passive, index-style investing distorts stock prices and the allocation of capital across the economy.

Mr. Bogle laughs this off. Suppose half of all investor money went into index funds—today it's

Bloomberg View

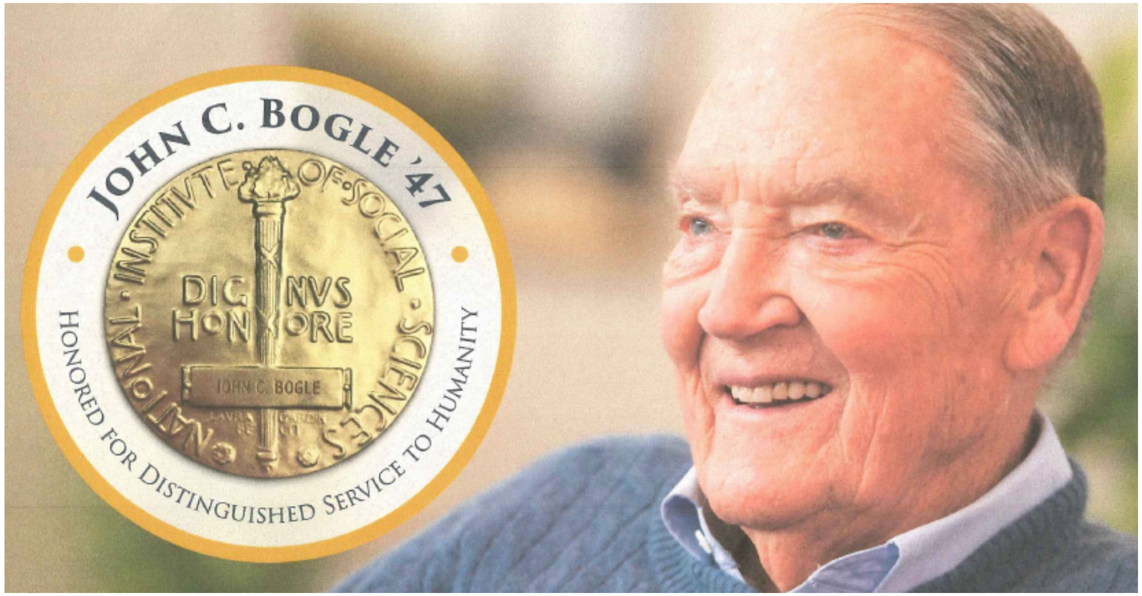
INVESTING

Indexing Is Capitalism at Its Best

20 SEP 2, 2016 6:00 AM EDT

By Clifford Scott Asness

Two Gold Medals



National Institute of Social Sciences
Gold Medal for Distinguished Service
November 19, 2015

Pennsylvania Society
Gold Medal for Distinguished Achievement
December 10, 2016

BASICALLY, FOR "SPREADING THE WORD" . . .

I. Spreading the Word

My 65-Year Career in the Fund Industry How Many Hits, How Many Eras? ("Follow the Money")

An Industry that Sells What It Makes

- **1924-59.** The mutual fund industry in its promising formative era

An Industry that Makes What Will Sell

- **1960-64.** Public ownership of advisors—The New Paradigm
- **1965-69.** The "Go-Go" Era—Equity "junk"
- **1970-74.** The rise and fall of the "Nifty Fifty"
- **1975-90.** Money market funds and bond funds—a new industry
- **1991-01.** The Information Age and the rise of technology funds
- **1995-07.** The TIF (Traditional Index Fund) Era
- **2008-15.** The ETF (Exchange-Traded Index Fund) Era

What's Next?

- **2015-25.** The return to a new normalcy—The triumph of TIF indexing

I'VE SEEN EACH ERA, AND EACH ERROR, DID MY BEST TO BUILD A BETTER INDUSTRY, AND PREACH ABOUT MY CONVICTIONS . . .

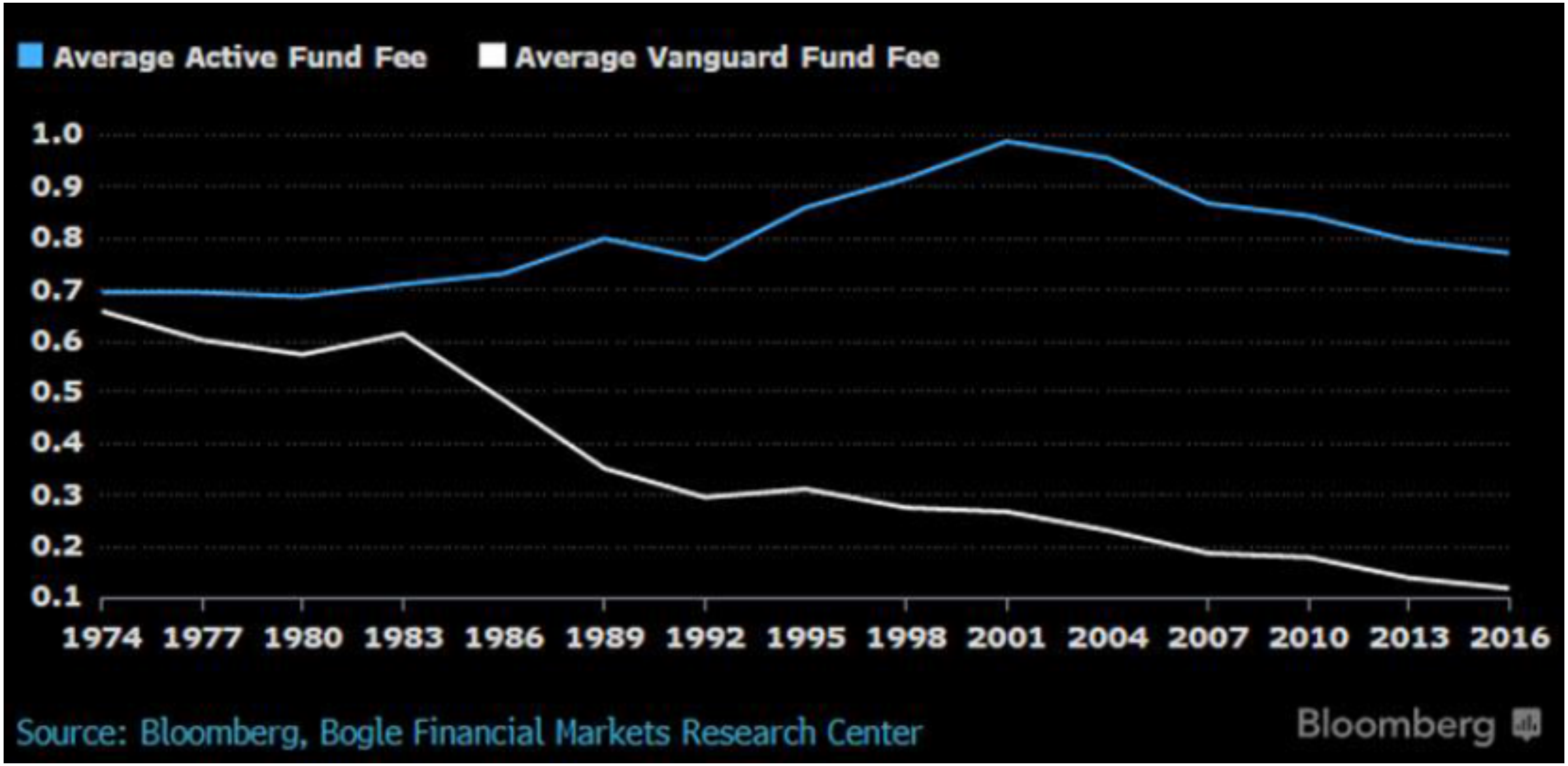
Lin-Manuel Miranda at the White House introducing his hit musical “Hamilton”

“… All in the Strength of His Writing,

He Embodies the Word’s Ability to Make a Difference”

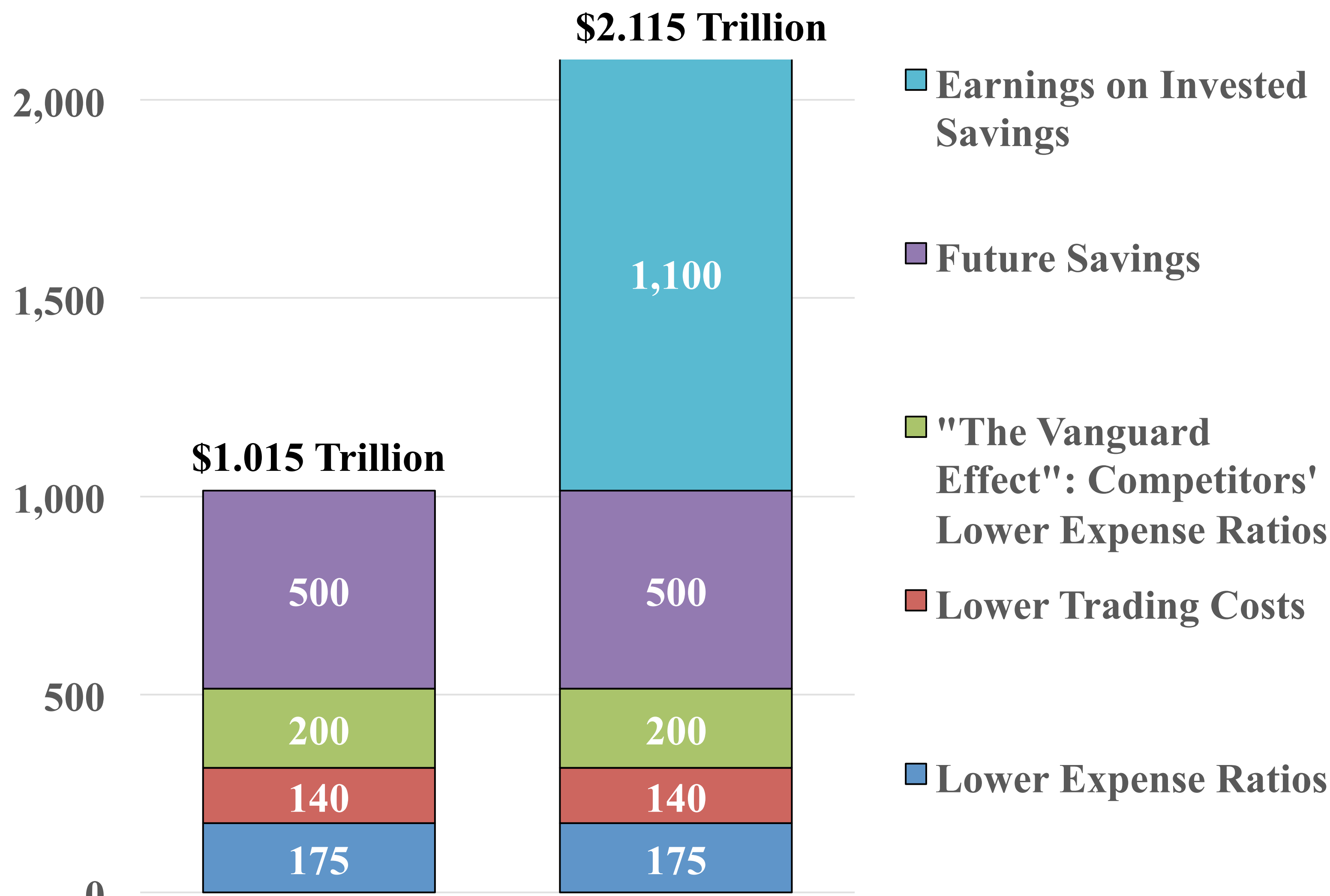
Bloomberg View

How Much has Vanguard Saved Investors? Try $1 Trillion



How Much has Vanguard Saved Investors?

Try $2.1 Trillion



SOURCE: OUR SHAREHOLDERS OWN THE NATION'S SECOND MOST IMPORTANT PRIVATE COMPANY . . .

FORTUNE **25 MOST IMPORTANT PRIVATE COMPANIES**

Fortune has long celebrated the achievements of massive publicly-held corporations in lists such as the long-running Fortune 500. Today, as even super-hot startups forgo IPOs (at least for now), and some public behemoths turn private, the time has come to recognize the hugely significant contributions of those corporations that choose not to sell their stock to the public.

2. Vanguard | Fidelity (tie)

"If the trumpet give an uncertain sound, who shall prepare himself to the battle?"

-St. Paul, First Corinthians

The Journal of Portfolio Management ← 15 JCB Papers 10 → F·A·J

Volume 71 • Number 2

INVITED EDITORIAL

Putting Investors First

JOHN C. BOGLE

WINTER 2016

David and Goliath: *Who Wins the Quantitative Battle?*

FALL 2016

VIEWPOINT

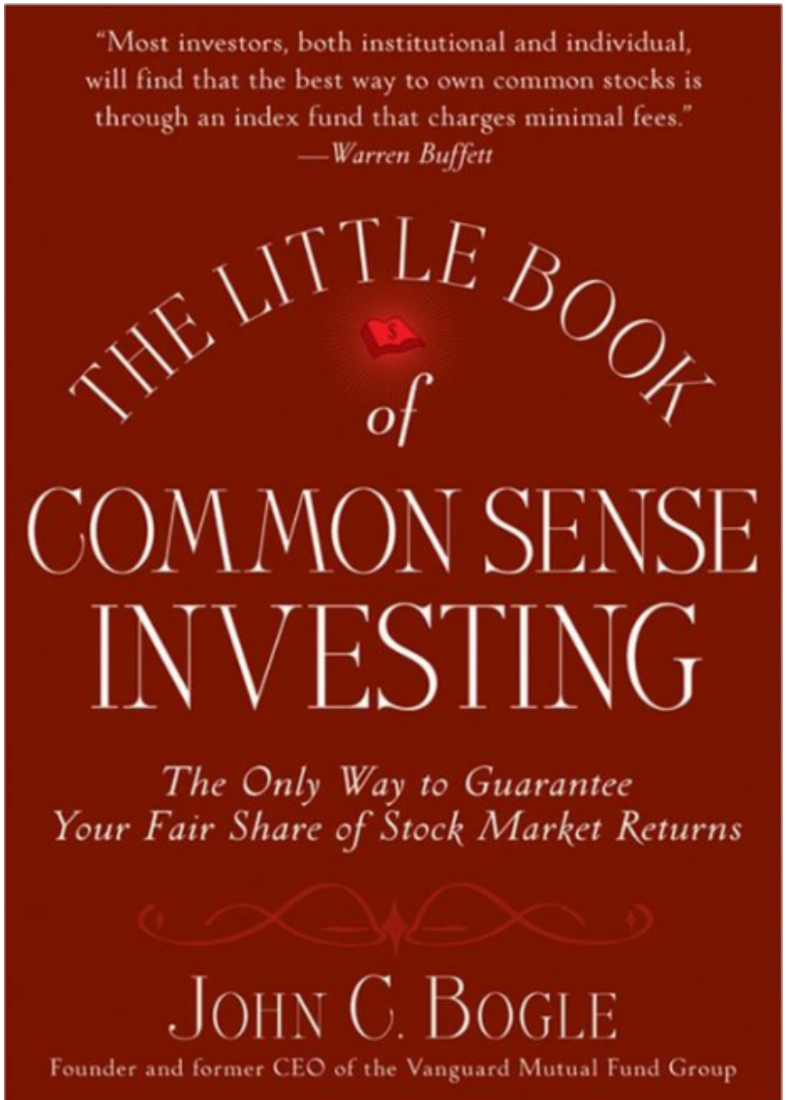
John C. Bogle
Founder and Former Chief Executive, The Vanguard Group
President, Bogle Financial Markets Research Center

The Index Mutual Fund: 40 Years of Growth, Change, and Challenge

January/February 2016

BUT MY BOOKS OVERWHELM MY ACADEMIC ESSAYS . . .

The Little Book of Common Sense Investing



The #1 best-seller on Amazon in the Mutual Funds category since its release on March 5, 2007, some 3,471 out of 3,496 days. Sales so far: 216,000

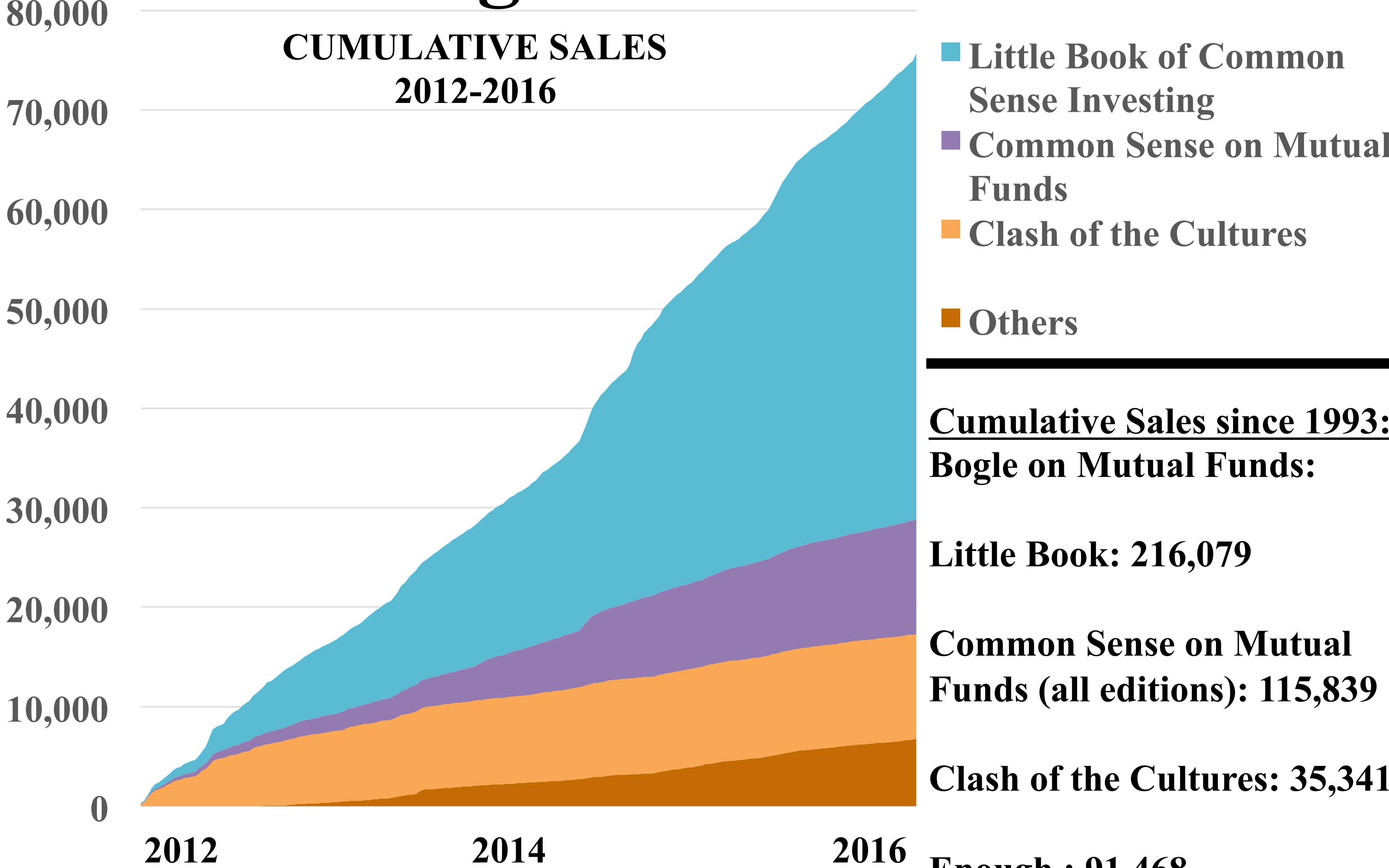
Why? Short, simple, and persuasive.

Number of Amazon Reviews: 463,
72 so far in 2016:

5 Star	**58**
4 Star	**10**
3 Star	**3**
2 Star	**0**
1 Star	**1**
Total	**72**

BUT LBCSI IS HARDLY ALL . . .

Bogle Book Sales



<u>Cumulative Sales since 1993:</u>

Bogle on Mutual Funds:

Little Book: 216,079

Common Sense on Mutual Funds (all editions): 115,839

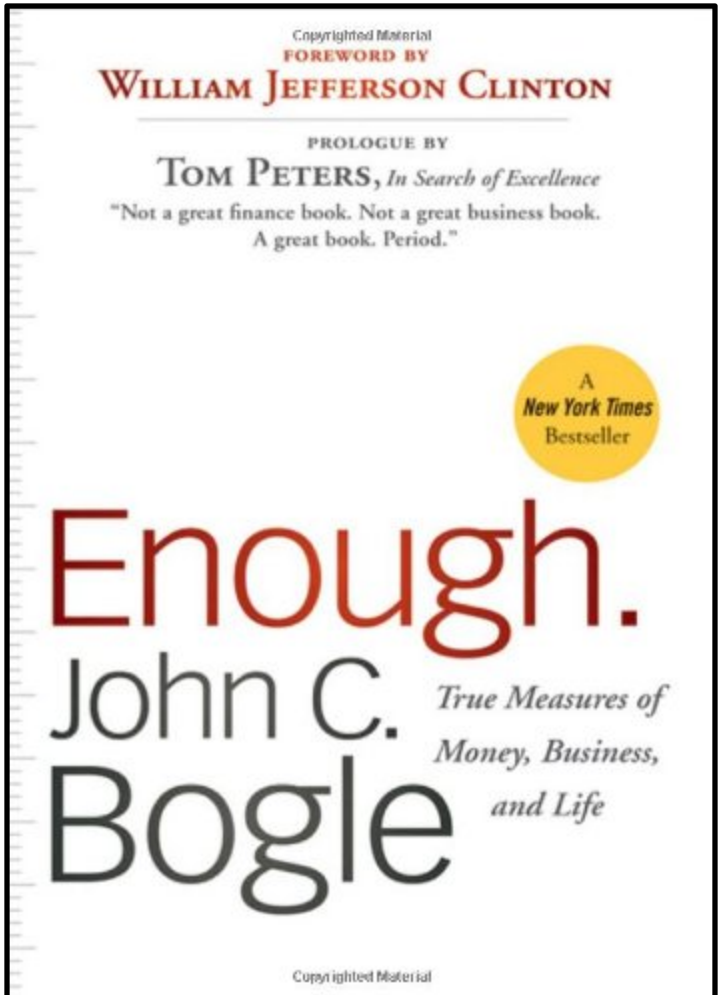
Clash of the Cultures: 35,341

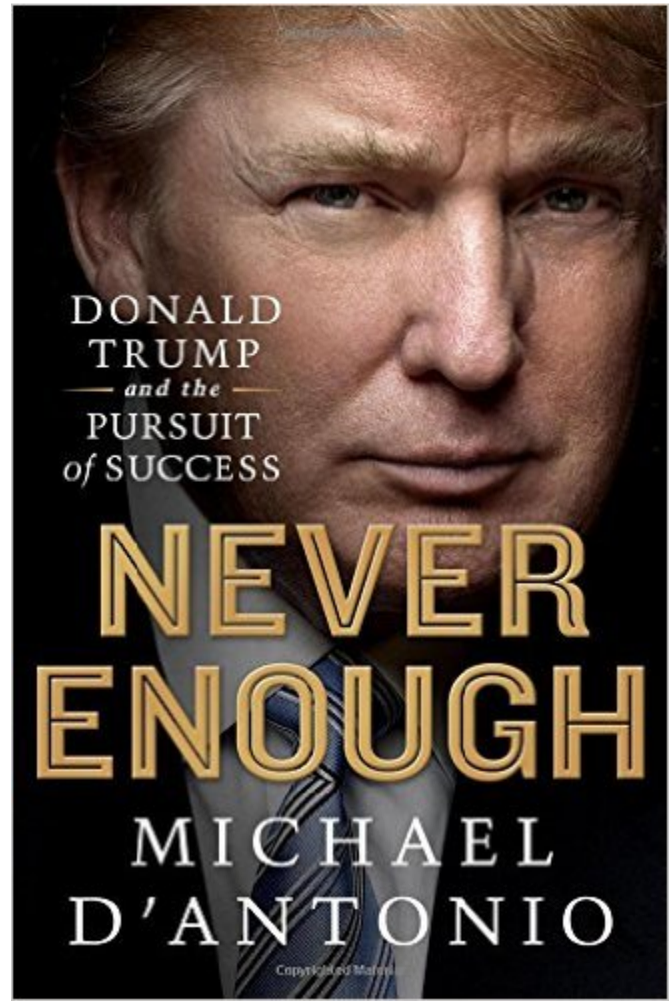
Enough.: 91,468

Bogle Books Total: 895,000

SPEAKING OF "ENOUGH" . . .

A year ago, we laughed … Today?



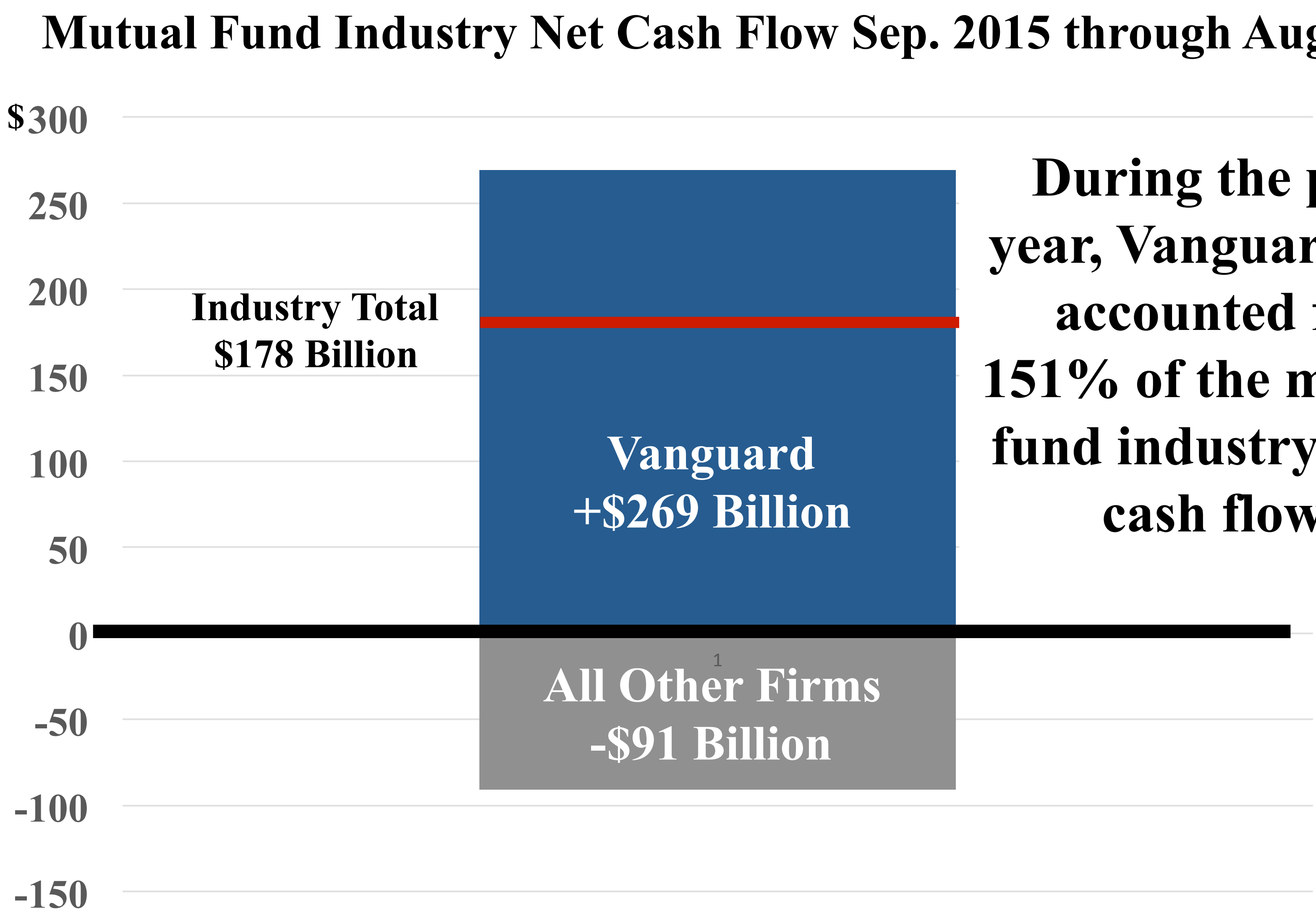


NOW LET'S TURN TO VANGUARD'S GROWTH . . .

II. The Domination of Vanguard

(And the 40th Anniversary of the IPO of "First Index Investment Trust")

Vanguard Dominates Industry Cash Flow

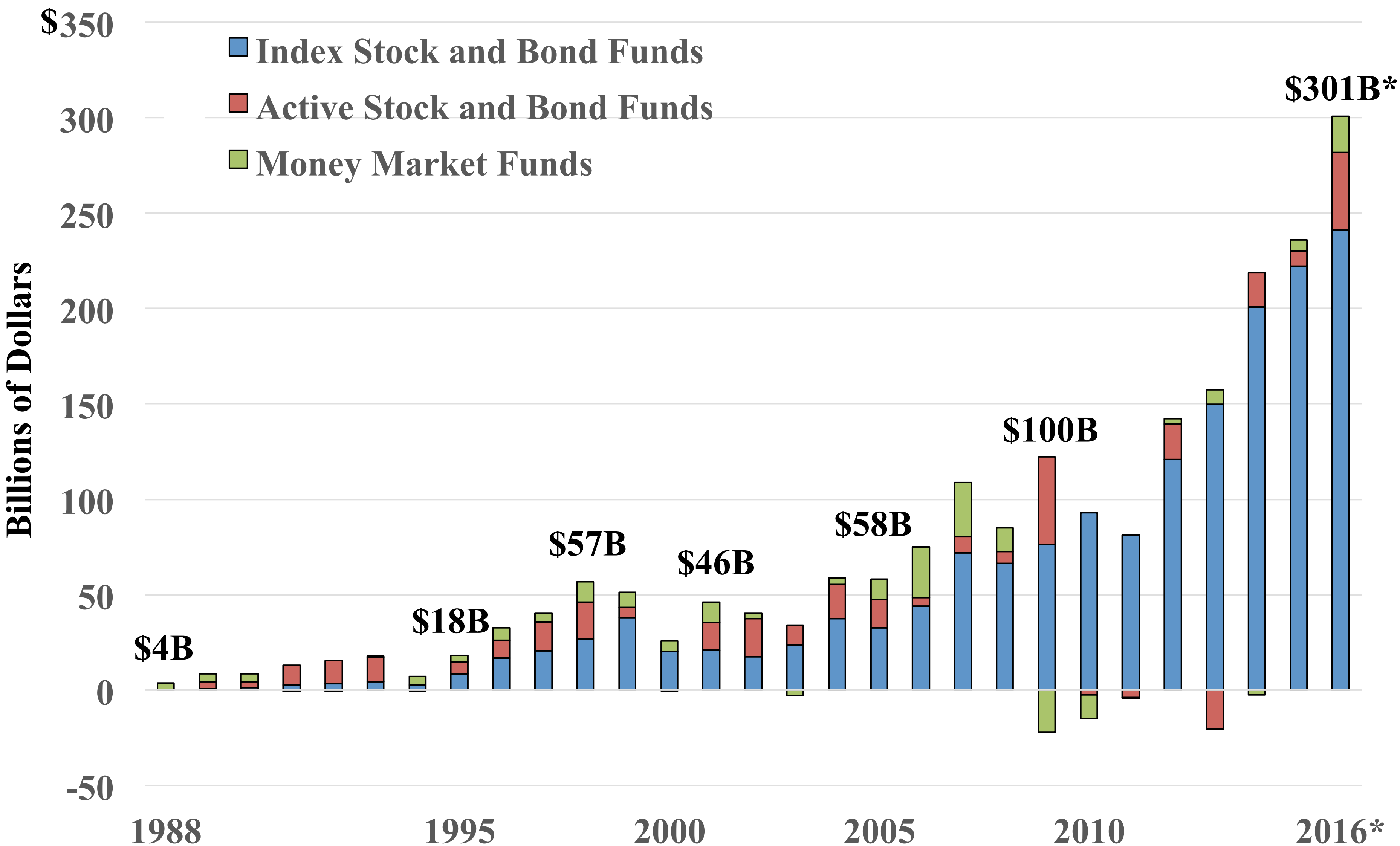


During the past year, Vanguard has accounted for 151% of the mutual fund industry's net cash flow.

RECORD CASH INFLOWS . . .

Vanguard Cash Flow, 1988 – 2015

Annually, in billions



***Annualized based on actual data through 8/2016**

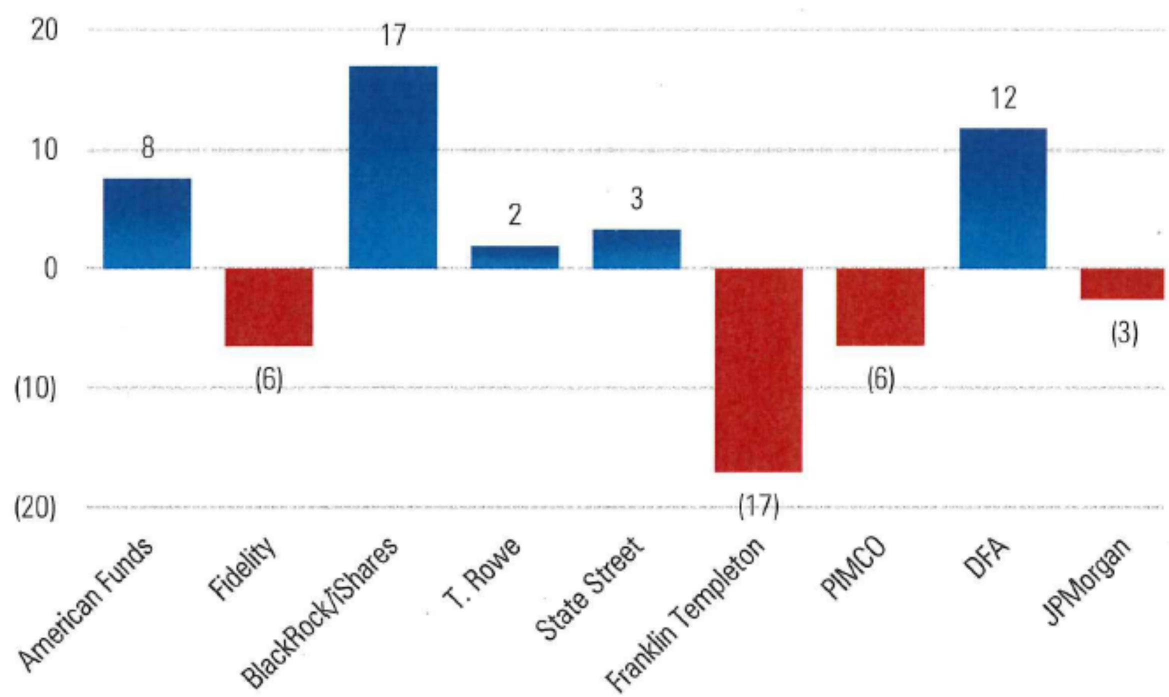
"OFF THE CHARTS"—LITERALLY . . .

Where's Vanguard?

On the active side, American Funds continued to do well in terms of flows. T. Rowe Price, State Street, and JPMorgan managed to stay positive, but just barely. On the passive side, DFA and Fidelity enjoyed healthy flows, while State Street took a hit.

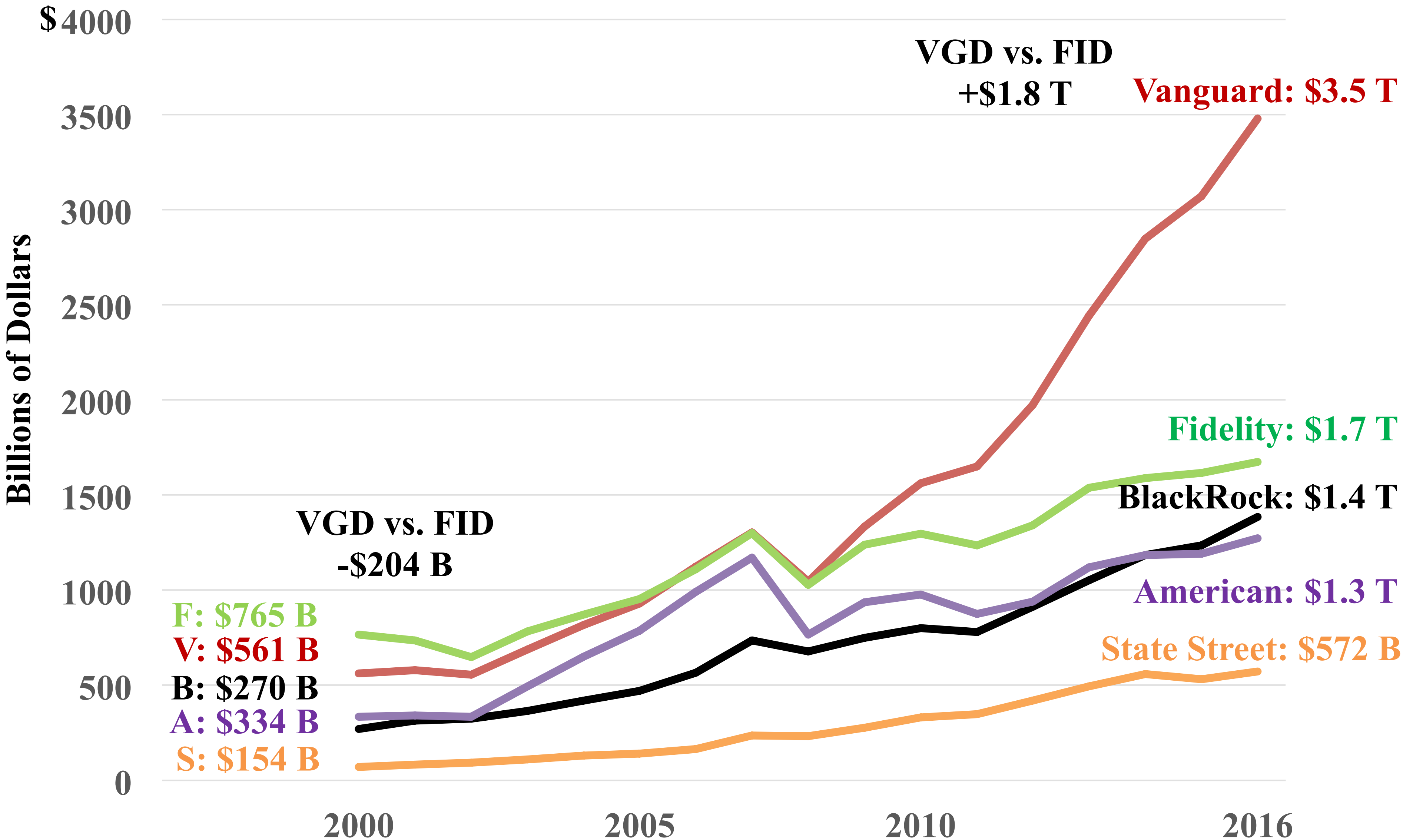
For the year to date, American Funds and T. Rowe Price are the only active companies with positive flows. Vanguard is not displayed in Exhibit 6 because it would dwarf all the other data points and decrease the chart's legibility (Vanguard's year-to-date flow is $114.7 billion).

Exhibit 6. Year-to-Date Flows, Top 10 Companies Except Vanguard ($ Billion)



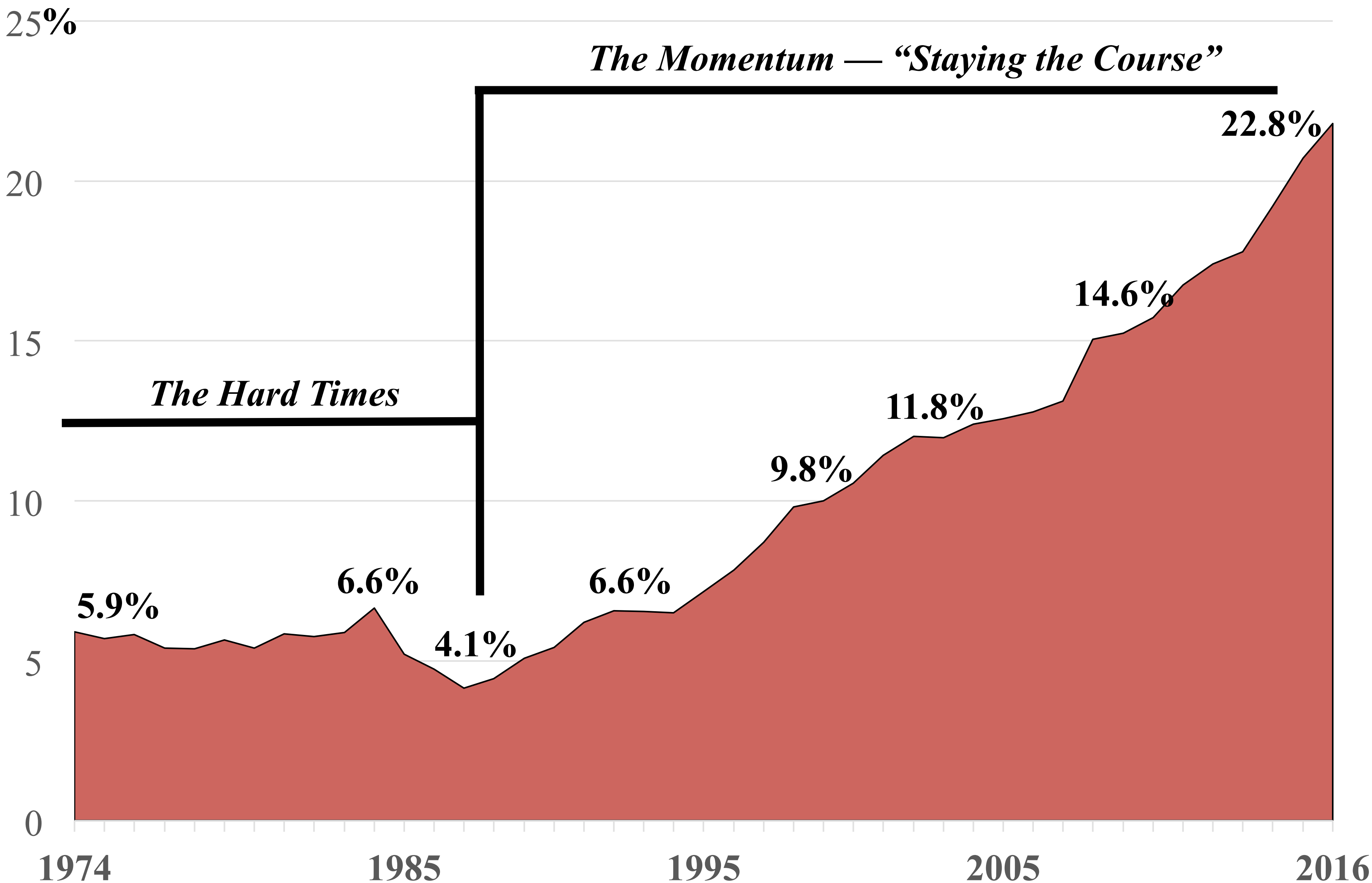
Source: Morningstar Direct Asset Flows.

The Competition
Assets of Largest U.S. Mutual Fund Managers, 2000-2016



RESULT: OUR MARKET SHARE GROWTH CONTINUES . . .

Vanguard's Market Share of Stock and Bond Funds, 1974-2016

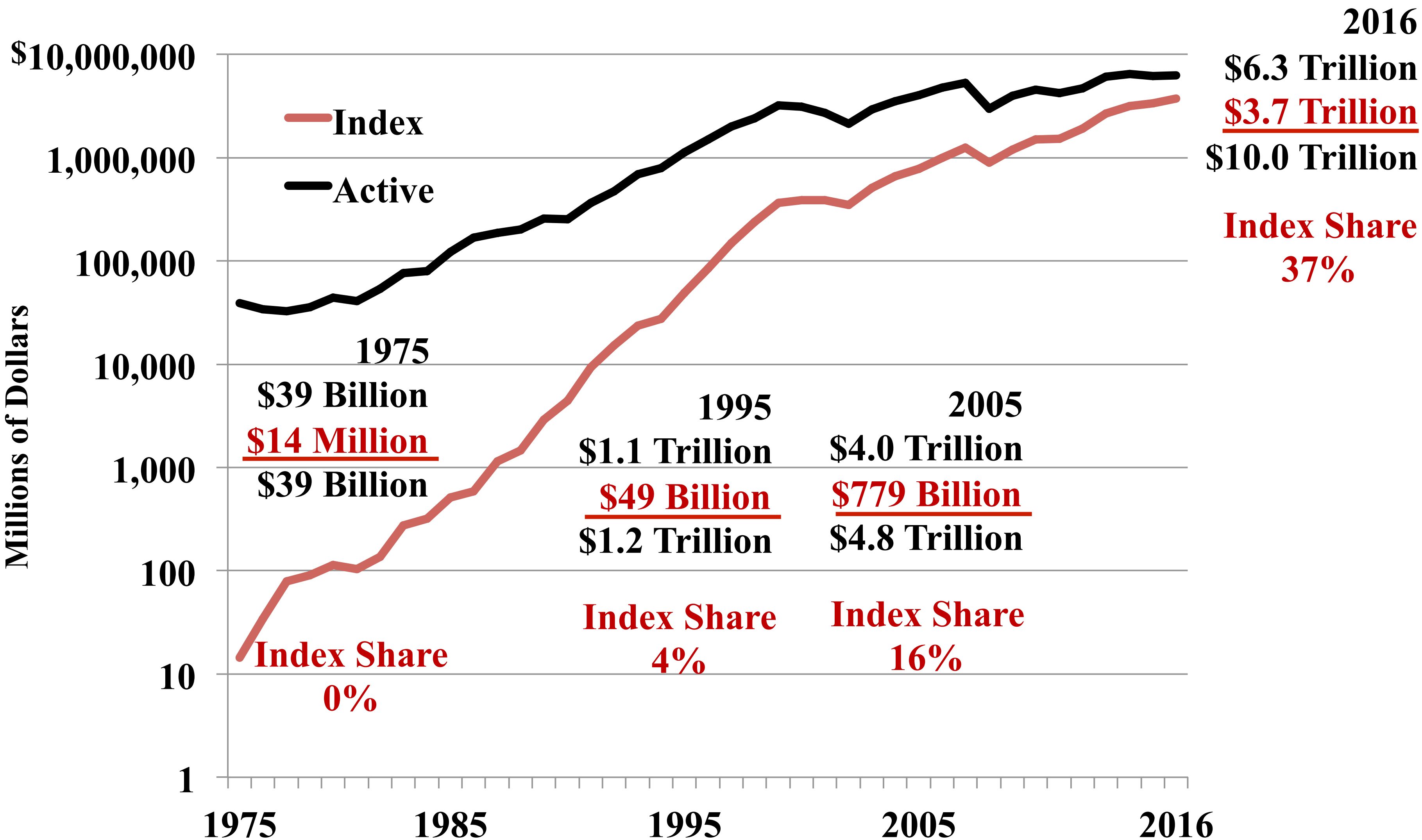


TO AN UNPRECEDENTED DOMINANCE . . .

Fund Industry Market Share Leaders

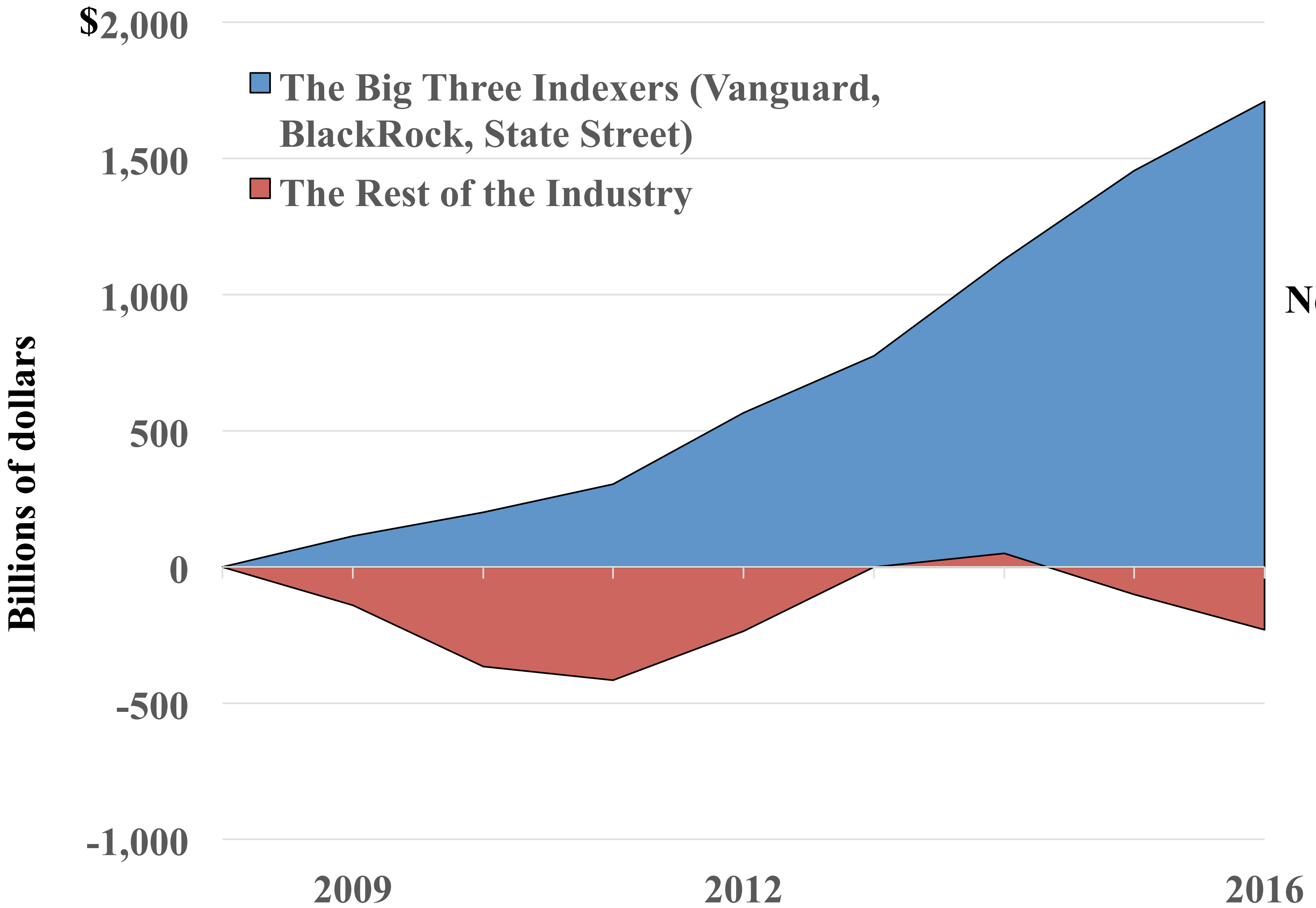
Leader	Years	Peak Assets	Peak Market Share
MFS	1935(e)-1952	$554 M (1952)	15.3% (1950)
IDS	1953-1982	$7.6 B (1972)	15.8% (1964)
Fidelity	1983-2003	$645 B (1999)	13.8% (1999)
Vanguard	2004-Present	$3.5 T (8/2016)	22.8% (8/2016)

"The Triumph of Indexing"
Growth of Equity Fund Assets—Index vs. Active



THREE FIRMS DOMINATE INDEX CASH FLOW . . .

The Triumph of Indexing: Cumulative Net Cash Flow 2009-2016



Net Cash Flow
2009-2016

$1.7 T

-$231 B

AND IT MAKES THE DIFFERENCE . . .

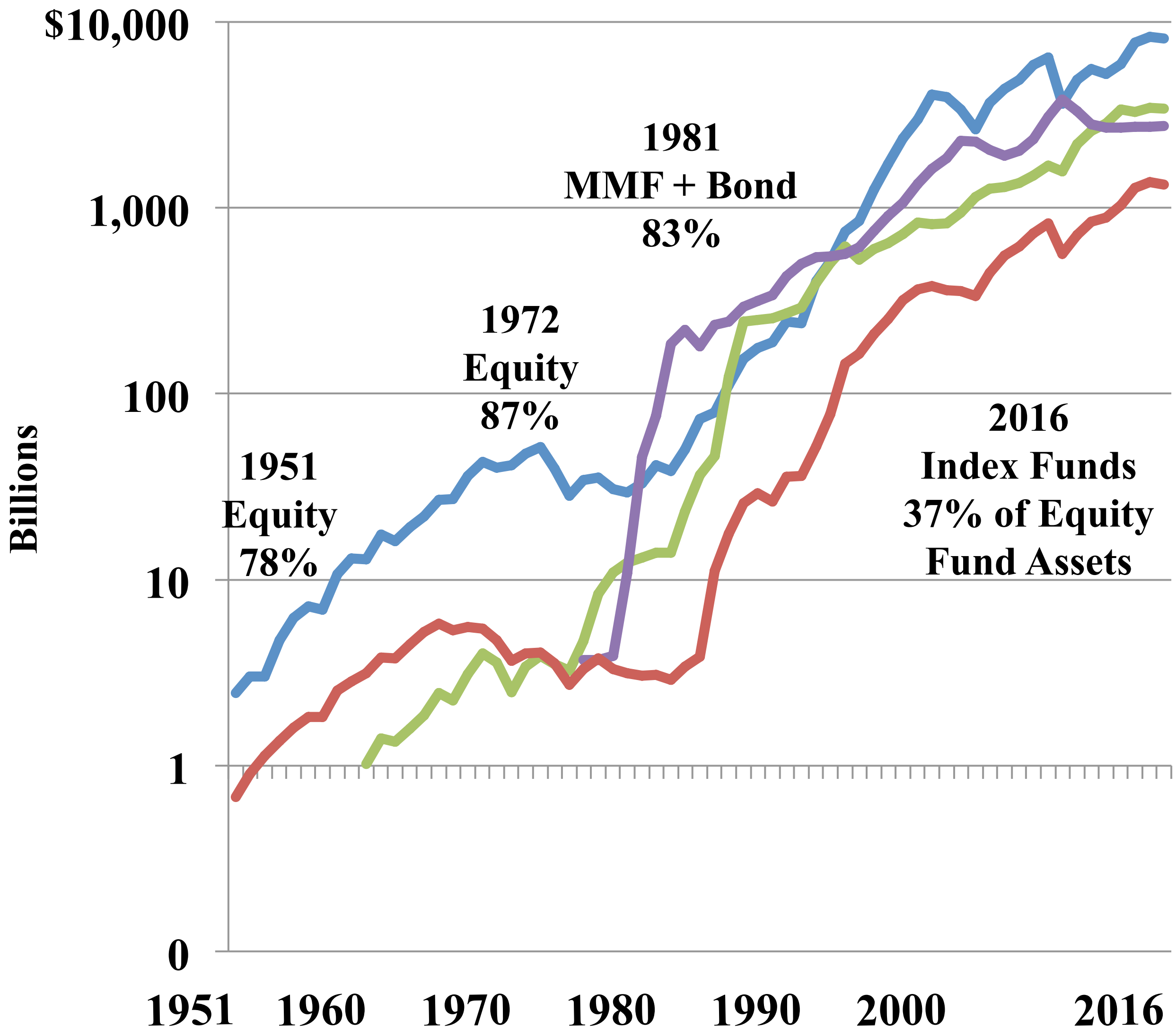
Index Funds Make the Difference

Manager	Index Assets	Active Assets	Total Assets	Index %
Vanguard	$2.4 T	$1.1 T	$3.5 T	70%
Fidelity	$236 B	$1.4 T	$1.7 T	14%
BlackRock	$936 B	$450 B	$1.4 T	68%
American	$0	$1.3 T	$1.3 T	0%
State Street	$463 B	$109 B	$572 B	81%

III. The Fund Industry Changes

(A Review of my 65th Anniversary in the Mutual Fund Industry)

"I Was There" (And I Am Here!)
A Tiny Industry Grows into a Behemoth



TOTAL ASSETS
August 2016

Equity	$10.0T	58%
Bond	4.0T	23
Money Market	2.6T	15
Balanced	715B	4
TOTAL	$17.4T	

TOTAL ASSETS
December 1951

Equity	$2.45B	78%
Balanced	680M	22
TOTAL	$3.13B	

Annual Growth Rate
1951-2016: 14%

INDUSTRY LEADERSHIP CHANGES . . .

Changes in Mutual Fund Leadership: Then and Now

Rank	1951 Fund Name	Total Assets* (Millions)	2016	Total Assets (Billions)
1	M.I.T.	$472	Vanguard	$3,479
2	Investors Mutual	365	Fidelity	1,674
3	Keystone Funds**	213	BlackRock***	1,230
4	Tri-Continental	209	American Funds	1,216
5	Affiliated Fund	209	State Street Global***	519
6	Wellington Fund	194	JPMorgan Funds***	497
7	Dividend Shares	186	T Rowe Price	493
8	Fundamental Investors	179	Franklin Templeton	480
9	State Street Investment**	106	PIMCO***	375
10	Boston Fund**	106	Dimensional ***	272
	Total	$2,239	Total	$10,236
	Percentage of Industry	72%	Percentage of Industry	60%

Total industry assets: $3.1 billion.

Total industry assets: $17.4 trillion

*Includes associated funds.
** No longer in business.
***New leaders.

DESPITE ECONOMIES OF SCALE, EXPENSE RATIOS RISE AND EXPENSE SOAR . . .

Mutual Fund Expense Ratios 1951 and 2016

	1951	2016	Change
	Conventional Industry Model		
MIT/MFS (C)	0.42%	1.24%	+195%
Investors Mutual/Columbia (C)	0.56	1.11	98
Eaton Howard/Eaton Vance (SH)	0.64	1.23	92
Putnam (C)	0.66	1.29	95
Fidelity (P)	0.63	0.89	41
T. Rowe Price (SH)	0.50	0.78	56
Affiliated/Lord Abbett (P)	0.75	1.01	35
American (P)	0.84	0.96	14
Average	0.62%	1.06%	+72%
	New Industry Model		
Wellington/Vanguard (M)	0.55%	0.15	-73%

	1951 Assets	1951 Expenses	2016 Assets	2016 Expenses
Conventional Model (above firms)	$1B	$7M	$4.0 T	$25 B
New Model	--	--	$3.5 T	$4 B

Ownership types: (C) Conglomerate, (SH) public shareholders, (P) private, (M) mutual

AN EARLY FLAW CHANGES THE CHARACTER OF THE INDUSTRY . . .

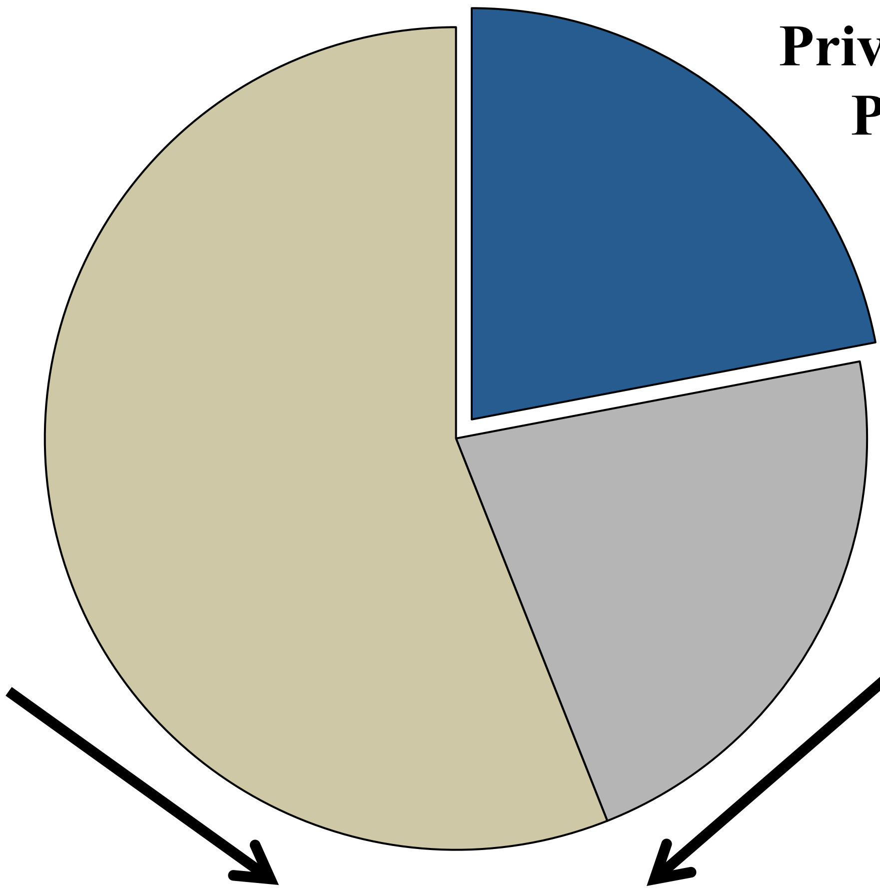
A Funny Thing Happened in 1958:
Public Ownership of Fund Management Companies

"No man can serve two masters, for either he will hate the one, and love the other; or else hold to the one and despise the other."

Luke 16-13

YET THAT'S THE INDUSTRY'S PRINCIPAL OWNERSHIP STRUCTURE . . .

Ownership of 50 Largest Mutual Fund Management Companies—2016



Privately Owned (10)
Plus Mutual (1)
11
(Includes 3 largest firms)

Conglomerate: 28

Publicly Owned: 11

Total Firms with Public Ownership: 39
Note: Firms with Public Ownership in 1951: 1

BUT LOTS OF OTHER BIG CHANGES. NONE COMPARE WITH THE RISE OF INDEXING . . .

The Rise of the Index Fund

	Equity Index Fund Assets				Annual Increase		
	1976	1986	1996	2016	1996-2008	2009-2016	1976-2016
TIFs*	$14M	$591M	$83B	$1.88T	+15%	+20%	13%
ETFs	$0	$0	$2B	$1.86T	+54%	+21%	n/a
Total	$14M	$591M	$85B	$3.74T	+22%	+21%	15%

*Traditional Index Funds

THERE IS A DIFFERENCE . . .

Yes, There Is a Difference

Traditional Index Funds vs. Exchange-Traded Funds

First Index Mutual Fund (1974)—Principles

- Own the U.S. stock market
- Diversify to the Nth degree
- Minimize transaction costs
- Tiny expense ratio—500 Index: 0.05% (Admiral)
- Bought to be held "forever" (redemption rate 10%)

Exchange-Traded Index Funds (1993)—Principles

- Pick your own index (1,900 now available)
- Diversify within sector you chose
- Lower expenses … but often not too low (0.50%)
- "Fringe" ETFs

BUT A WIDE RANGE OF ETF STRATEGIES . . .

All ETFs Are Not the Same

Assets, Institutional Ownership, and Turnover

Largest ETF Sponsors	Total Assets	Institutional Ownership	Annualized Turnover	Annualized Turnover %
BlackRock	$932 B	65%	$5,225 B	631%
Vanguard	574	43	973	201
State Street Global	462	60	9,288	2,243
Total	$1,968 B	56%	$15,486 B	898%
Most Active ETF Sponsors				
ProShares	$27 B	22%	$974	3,870%
Direxion	10	6	503	5,755
VelocityShares	4	6	357	11,445
Total	$40 B	23%	$1,833 B	4,952%

BUT IT IS THE TIF THAT PROVIDES MAXIUMUM CONSISTENCY FOR THE LONG-TERM INVESTOR . . .

Old Times or New, The Durability of Index Fund Superiority

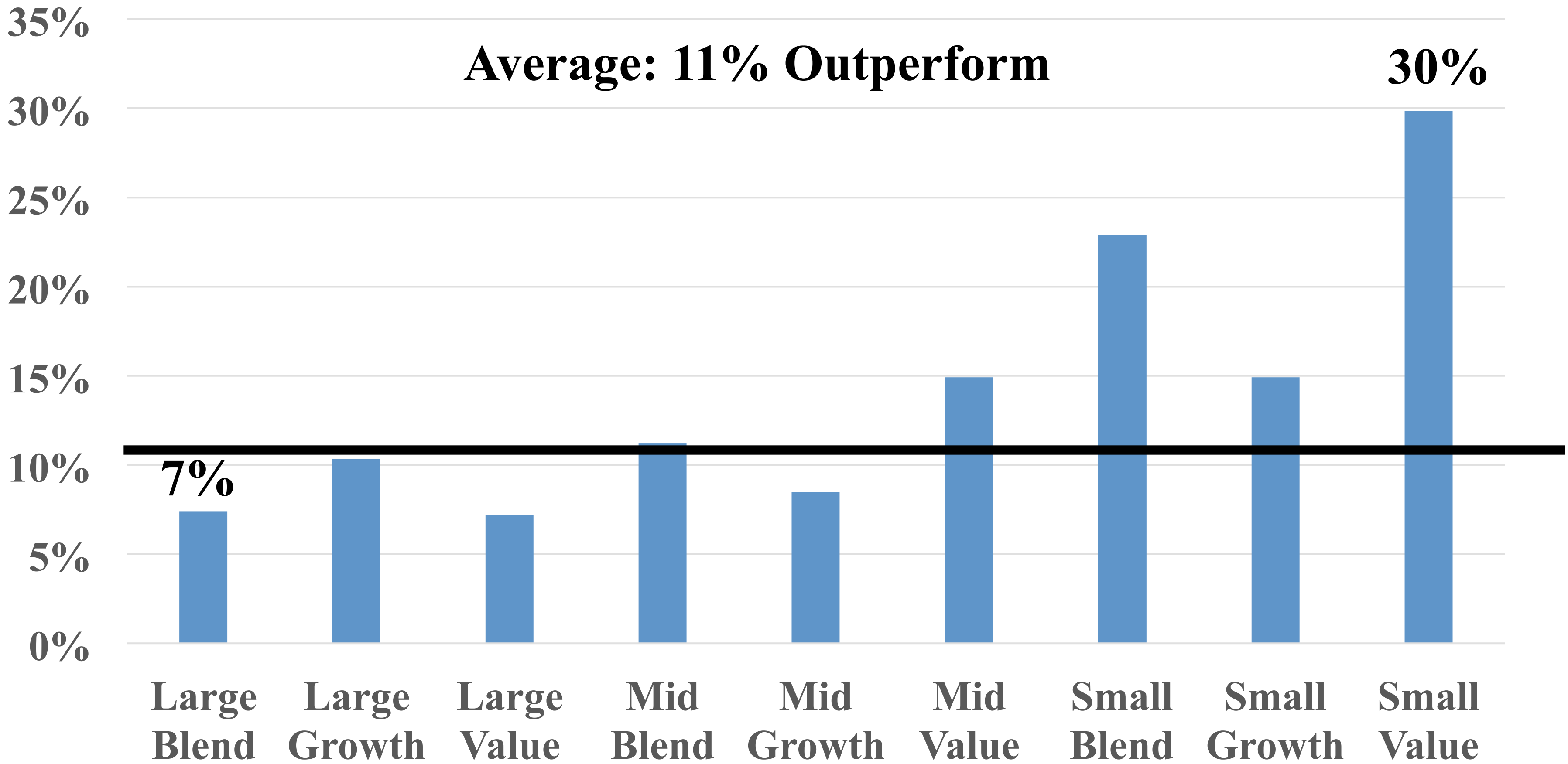
	1945-1975 Presentation to Vanguard Board September 18, 1975		1985-2015 Paper Submitted to Financial Analysts Journal September 28, 2015	
	Average Equity Fund	S&P 500 Index	Average Large-Cap Fund	S&P 500 Index
Annualized Return	9.7%	11.3%	9.6%	11.2%
Index Advantage	--	1.6%	--	1.6%
Cumulative Return	1539%	2402%	1548%	2494%
Index Advantage	---	963%	---	946%
Standard Deviation	16.4%	18.6%	16.8%	17.3%
Sharpe Ratio	0.38	0.42	0.39	0.48
R-Squared	0.96	1.00	0.99	1.00

THE PERFORMANCE EDGE OF THE TRADITIONAL INDEX FUND HAS BEEN CONSITENT. CAN YOU DO BETTER? . . .

IV. Beating the Market?

Do You Like These Odds?

Percentage of Active Funds Outpeforming Their Index Benchmarks
15 Years through 8/2016, Adjusted for Survivor Bias



Source: Vanguard, Morningstar.

"BUT I'LL JUST PICK ABOVE-AVERAGE FUNDS" . . .

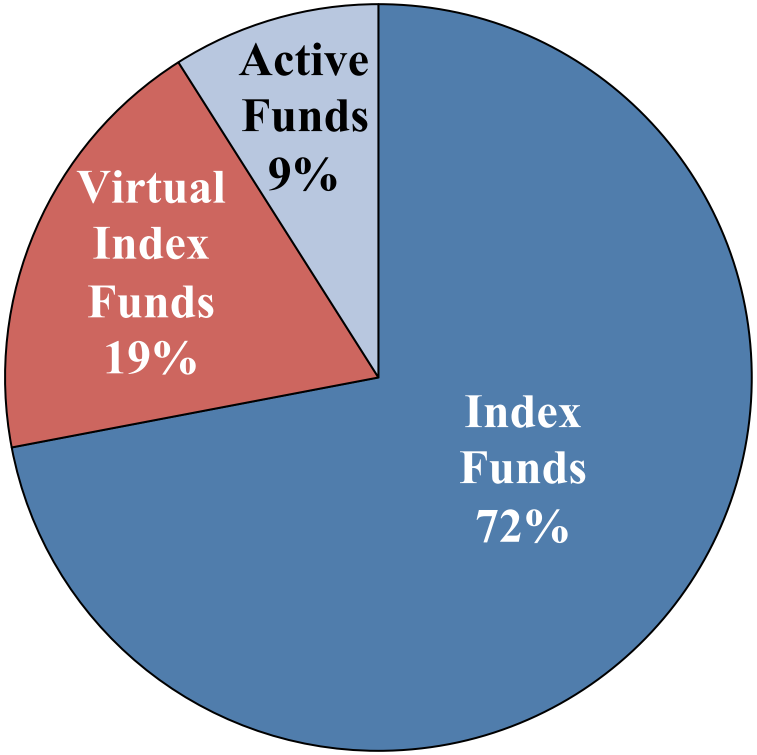
Equity Fund Returns: No, Pal, The Past Is Not Prologue. RTM

Rankings for the 5 years ending 2010			Where they ranked in the subsequent 5 years		
Quintile	5-Year Return*	Number of Funds	Highest Quintile	Lowest Quintile	Merged/ Closed
1	Highest	1,100	16%	24%	13%
2	High	1,111	15	16	17
3	Medium	1,105	13	15	25
4	Low	1,105	16	11	30
5	Lowest	1,105	15	9	40
	Total	5,526	15%	15%	25%

*Excess return vs. benchmark.
Note: Number of failed funds—1,376

"Relative Predictability" Dominates Vanguard's Asset Base

91% of Vanguard's Assets Have High Relative Predictability
(Average pre-cost returns . . . superior post-cost returns)



Note: "Virtual Index Fund" – R-Squared of 0.96 or higher relative to best-fit index.

In 1974, "Relative Predictability." Now, "High R2."

Vanguard Fund Correlations

The Triumph of Indexing (and *Virtual* Indexing)

R2: The percentage of a fund's return explained by the return of its best-fit index.

Fund Name	R2 (10-Year)
Index Funds	
Total Stock Market Index	1.00
Total Bond Market Index	0.99
Active Funds	
STAR Fund	0.99
Explorer Fund	0.99
Wellington Fund	0.98
Intermediate-Term Tax-Exempt	0.97
Windsor Fund	0.95
PRIMECAP Fund	0.93
Health Care Fund	0.93
Average Vanguard Active Equity Fund	0.96
Average Industry Active Equity Fund	0.92

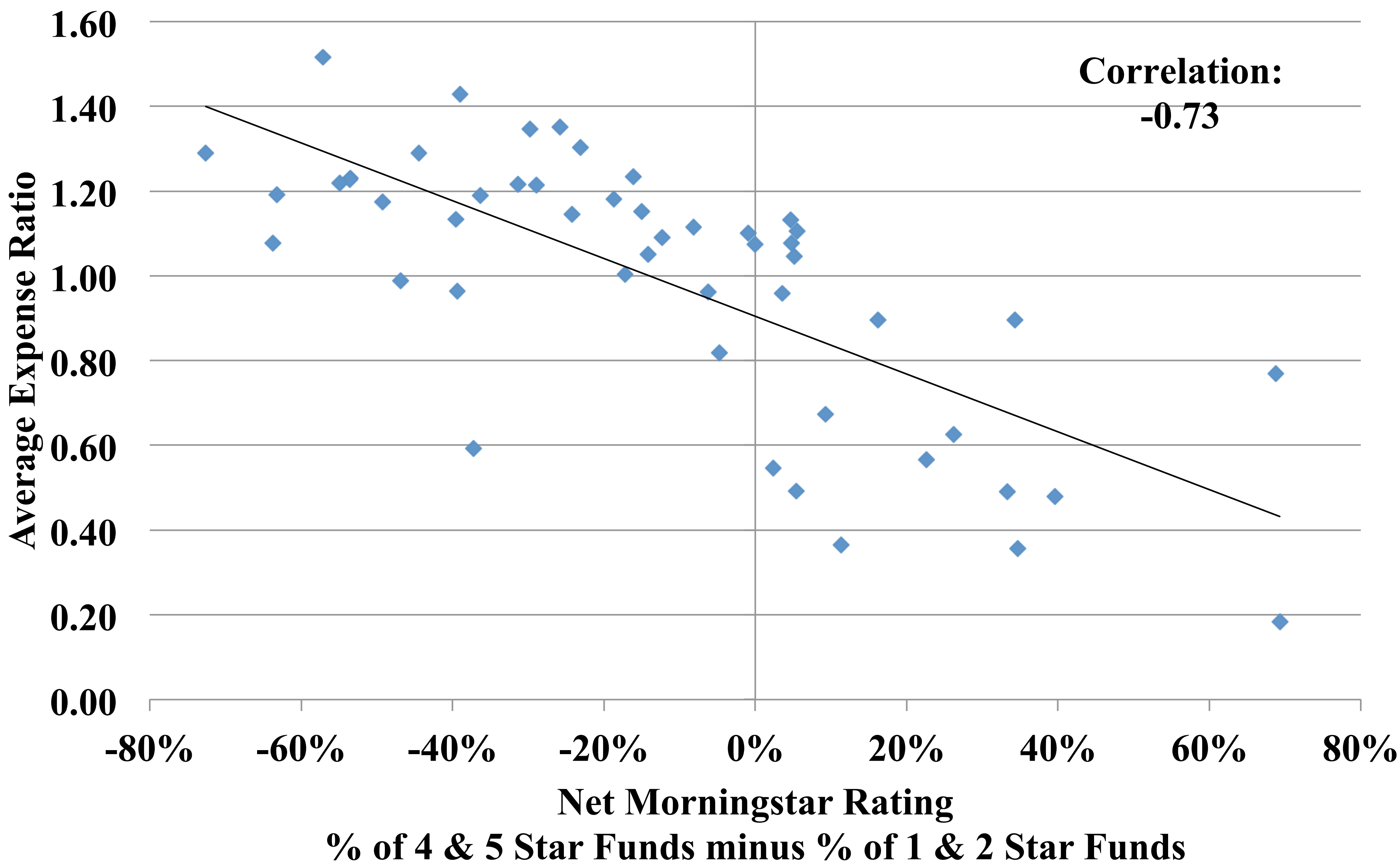
Ranking Fund Managers – April 2016

	Assets of Ranked Funds	Number of Ranked Funds	1&2 Star Funds	4&5 Star Funds	Net Star Rating	Average Expense Ratio
1 VANGUARD	$2,967	127	4%	73%	69%	0.18%
2 T Rowe Price	470	96	5%	74%	69%	0.77
3 Schwab	102	48	8%	48%	40%	0.48
4 Dimensional Fund Adv	270	72	13%	47%	35%	0.36
6 TIAA-CREF	91	30	13%	47%	33%	0.49
9 Fidelity	1,122	252	25%	42%	16%	0.90
10 State Street Global	417	124	27%	39%	11%	0.36
11 BlackRock	1,093	365	28%	37%	9%	0.67
18 WisdomTree	40	42	33%	36%	2%	0.55
19 Janus	93	36	28%	28%	0%	1.07
20 Columbia	142	102	28%	27%	-1%	1.10
22 PIMCO LLC	299	97	39%	33%	-6%	0.96
25 JPMorgan Funds	264	85	38%	24%	-14%	1.05
27 Eaton Vance	93	112	41%	25%	-16%	1.23
28 Dreyfus	73	99	39%	22%	-17%	1.00
29 AllianceBernstein	61	59	42%	24%	-19%	1.18
33 Legg Mason/Western	96	83	49%	20%	-29%	1.21
36 Oppenheimer	175	66	55%	18%	-36%	1.19
39 American Funds	1,201	33	52%	12%	-39%	0.96
43 Goldman Sachs	81	63	62%	13%	-49%	1.18
44 MFS	181	71	62%	8%	-54%	1.23
49 Franklin Templeton	391	102	70%	6%	-64%	1.08
50 Putnam	66	73	75%	3%	-73%	1.29
Total	$11,635	3,813	37%	30%	-7%	0.99%

Note: 50 largest firms with at least 25 funds rated by Morningstar.

LOWER COSTS, HIGHER RATINGS . . .

YES!
Net Morningstar Rating vs. Expense Ratio



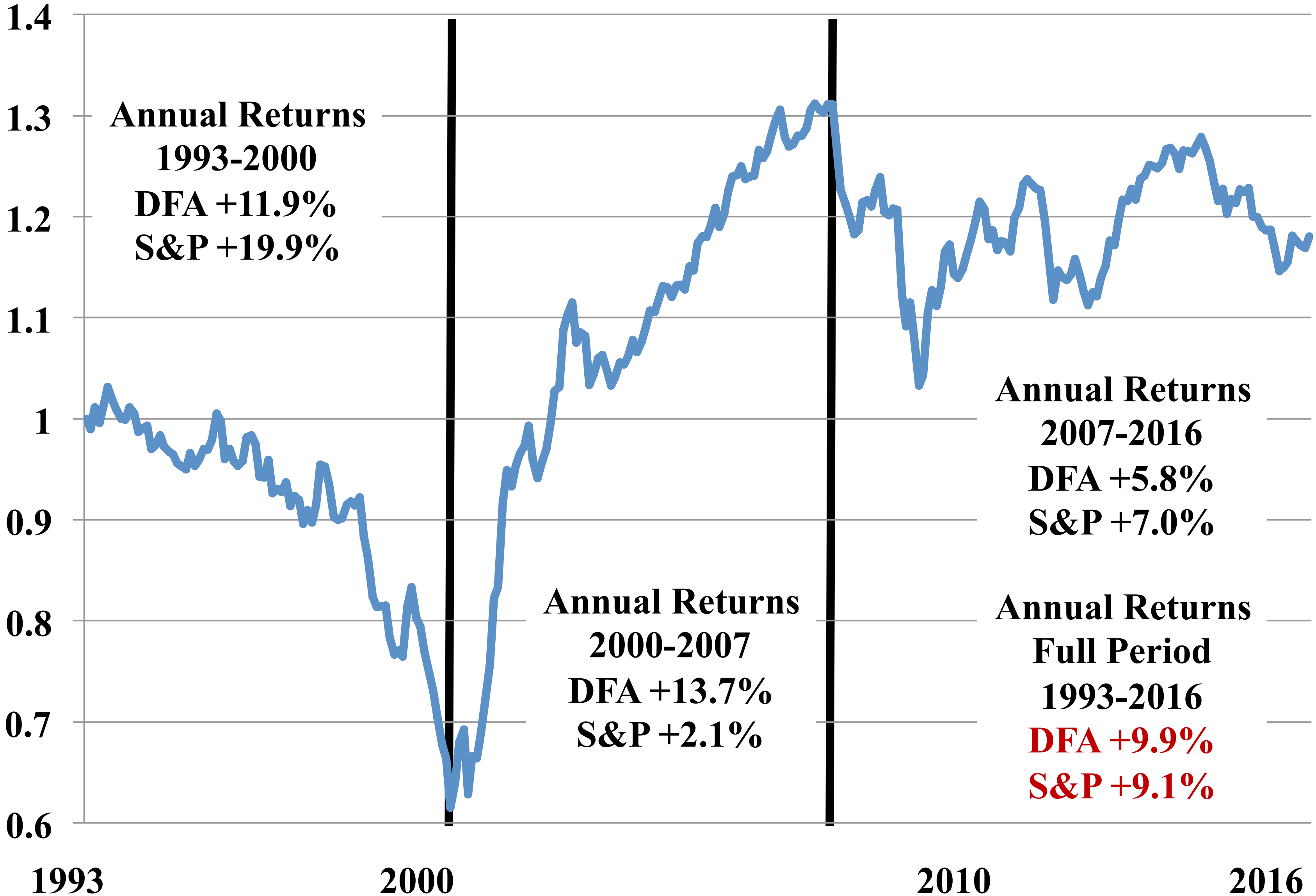
BUT HOW ABOUT AMERICAN FUNDS PERFORMANCE AND EXPENSE RATIO? . . .

Investment Company of America
Expense Ratios and Sales Loads

Share Class	Inception Year	Net Assets ($ Million)	Expense Ratio	Front-End Load	Deferred Load
A	1934	$57,317	0.58%	5.75%	
B	2000	79	1.34		5.00%
C	2001	1,682	1.39		1.00
F1	2001	1,894	0.67		
F2	2008	3,515	0.41		
R1	2002	84	1.40		
R2	2002	637	1.41		
R2E	2014	11	1.14		
R3	2002	922	0.95		
R4	2002	1,053	0.64		
R5	2002	618	0.35		
R5E	2015	0.01	0.46		
R6	2009	6,313	0.30		
American Funds Total		$1.2 T	0.96%	4.45%	0.03%

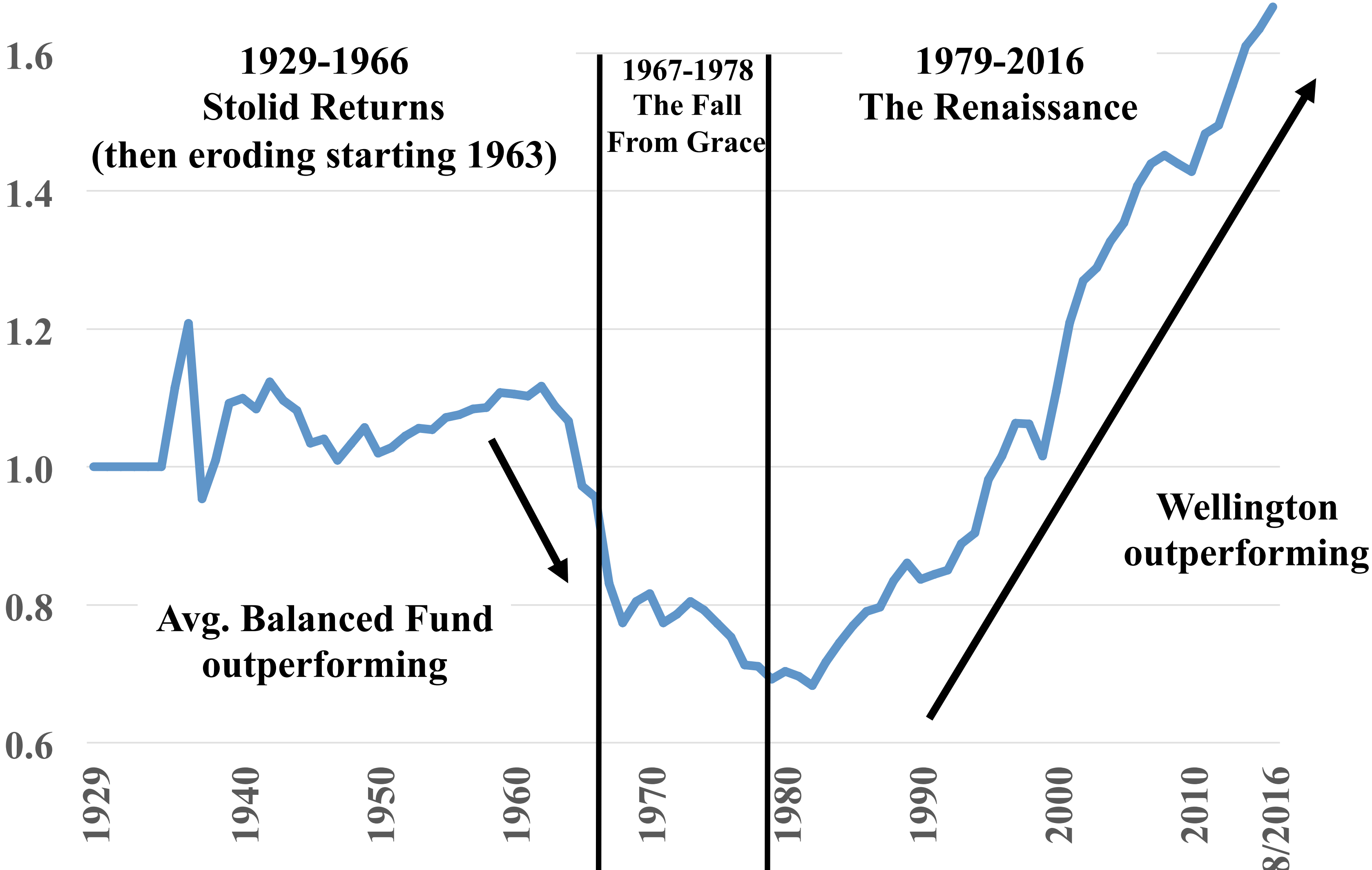
BUT I BELIEVE IN THE "VALUE" FACTOR . . .

DFA Large-Cap Value / S&P 500



MEANWHILE, BACK AT THE RANCH . . .

Wellington Fund versus Average Balanced Fund 1929-2016



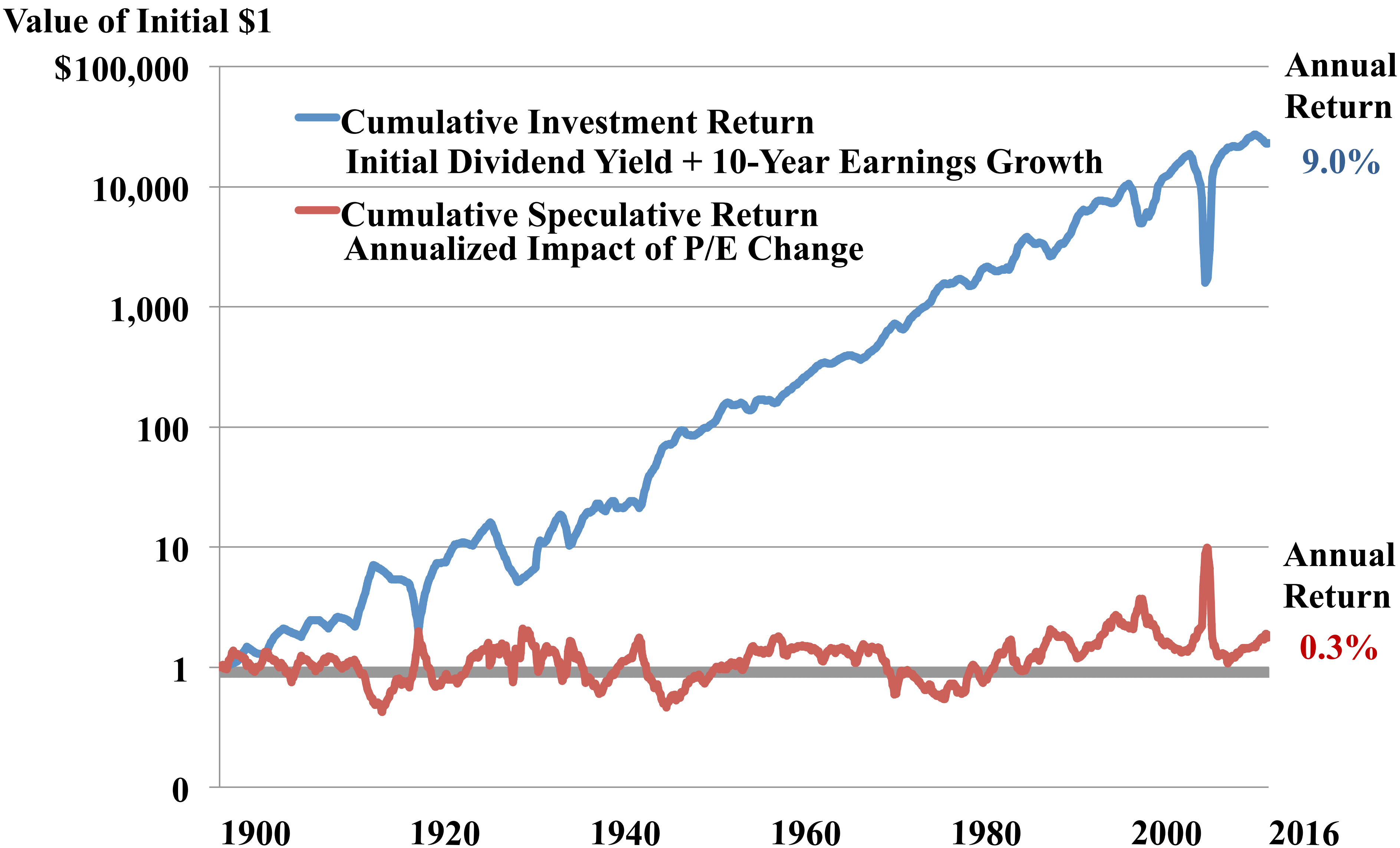
		1929-1966	1967-1978	1979-2016	1929-2016
Annual Return	Wellington	6.8%	3.8%	11.4%	8.3%
	Avg. Balanced Fund	6.9	6.4	8.9	7.7
		-0.1%	-2.6%	+2.5%	+0.6%

LET'S NOT FORGET THE FOUNDER, MY MENTOR AND FRIEND . . .

Walter L. Morgan, Founder of Wellington Management

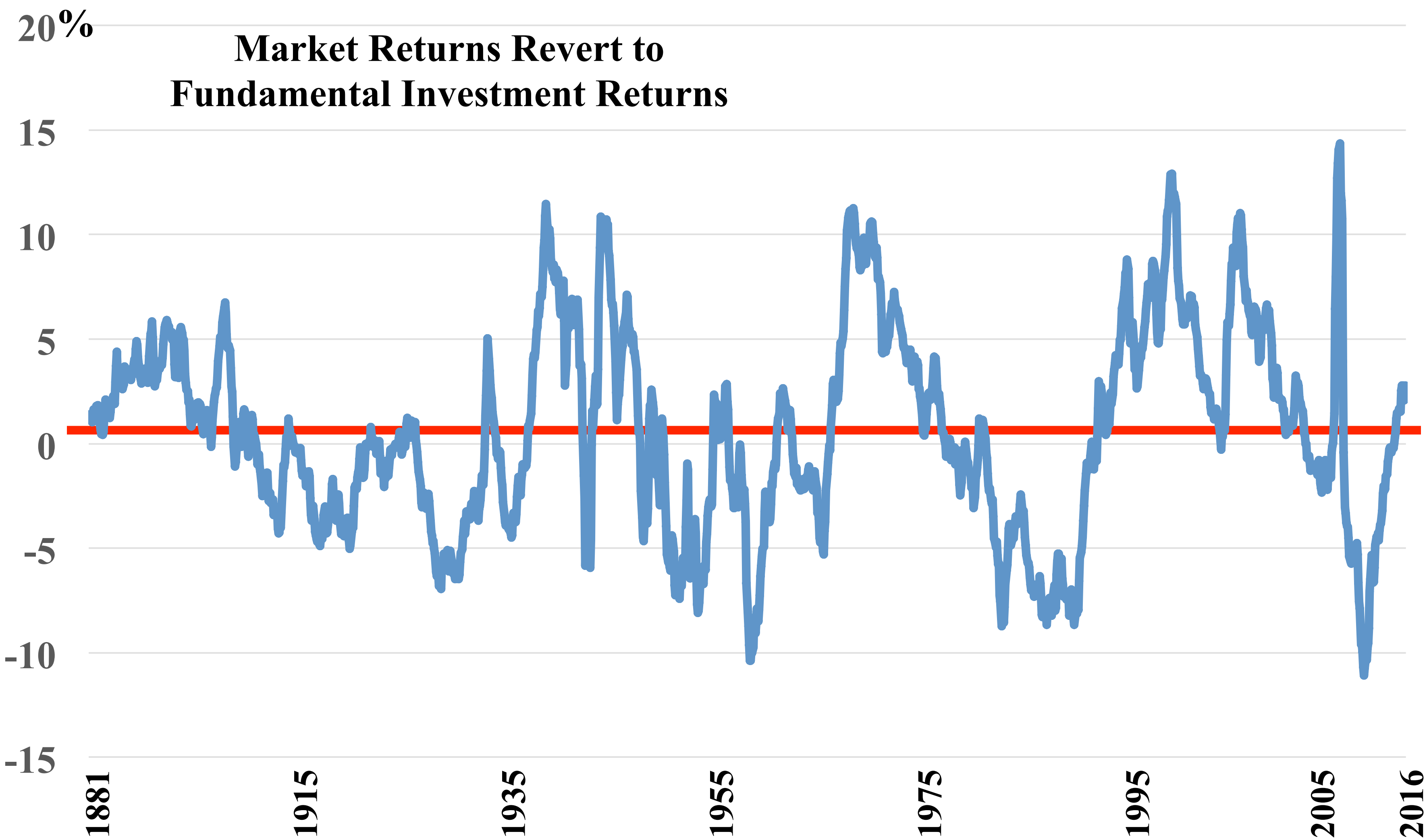
V. Looking Ahead

Looking Ahead—Perspective
Cumulative Investment and Speculative Returns, 1900-2016



IN THE LONG RUN, FUNDAMENTALS MATTER, VALUATIONS DON'T . . .

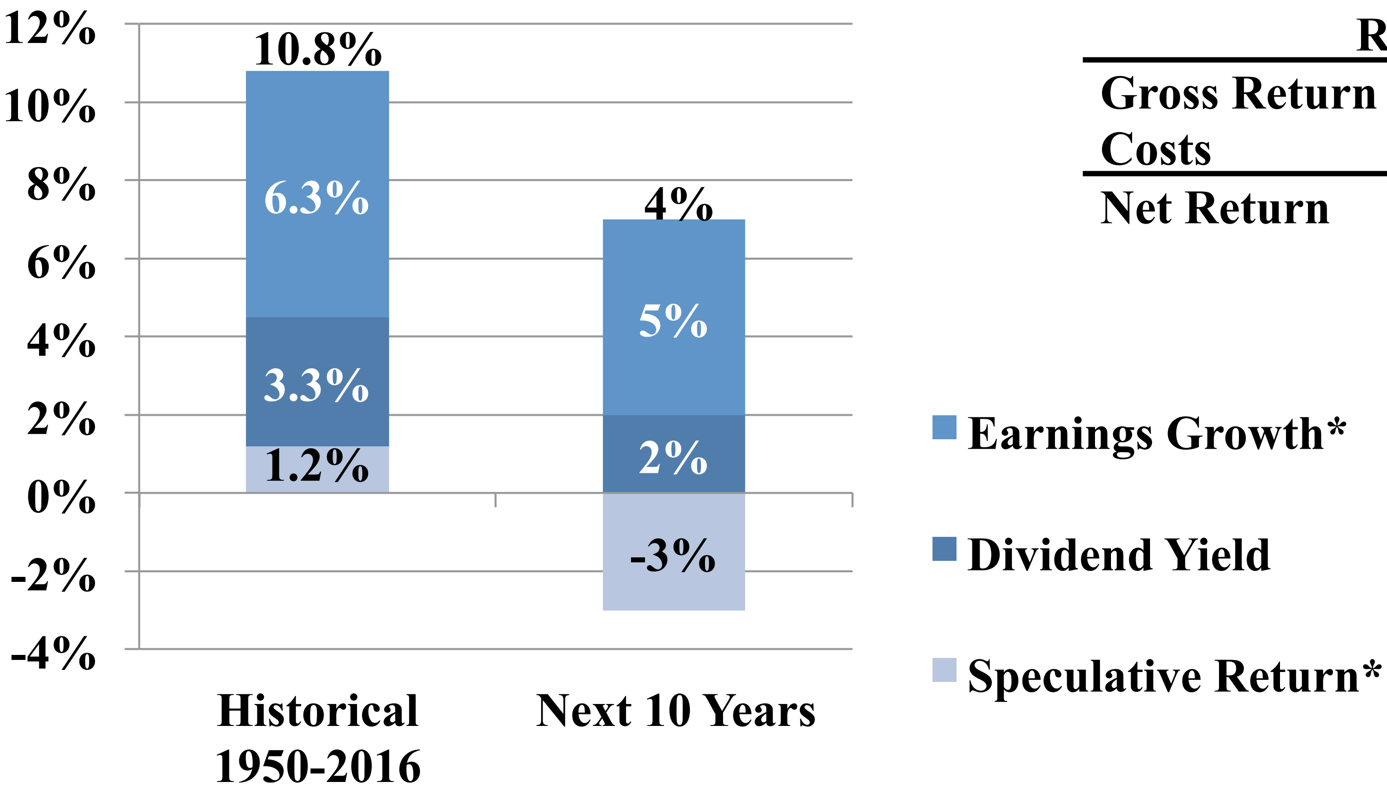
Real Returns: Stock Market* Versus Investment Fundamentals, Rolling 10-Year Periods, 1881-2016



*Stock Market Return = Investment Return + Speculative Return

Looking Ahead 1.
Reasonable Expectations for Stocks—Below Long-Term Norms

Sources of Annual Returns on Stocks



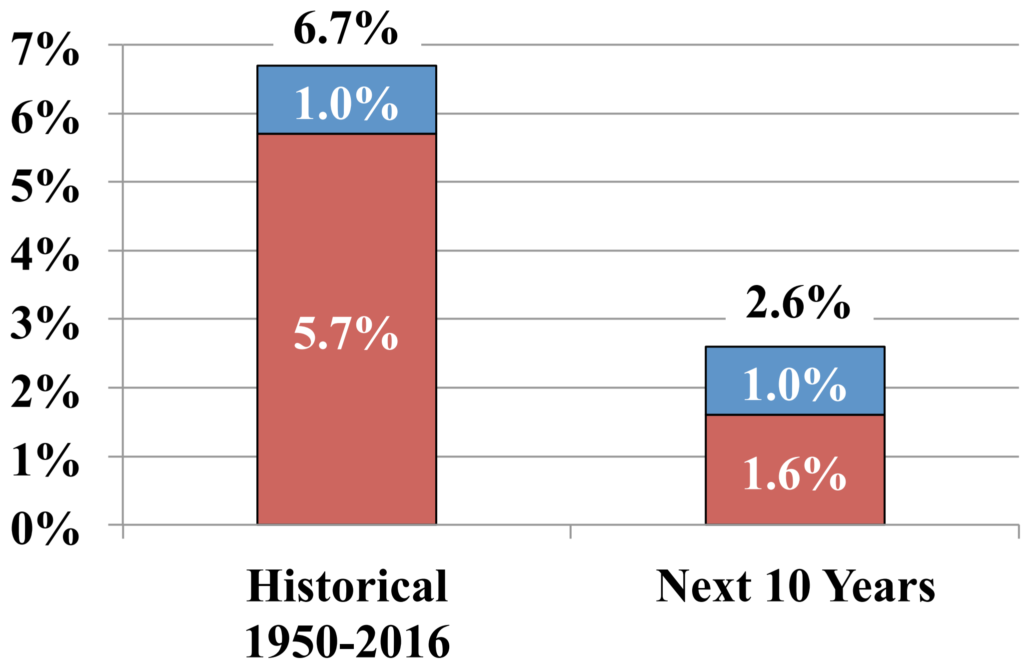
*Assumed decline in P/E from 23x to 17x

	Historical Returns	Prospective Active	Prospective Index
Gross Return	11%	4%	4%
Costs	-2	-2	-0.05
Net Return	9%	2%	3.95%

WHAT ABOUT BONDS? . . .

Looking Ahead 2.
Reasonable Expectations for Bond Returns—Below Long-Term Norms

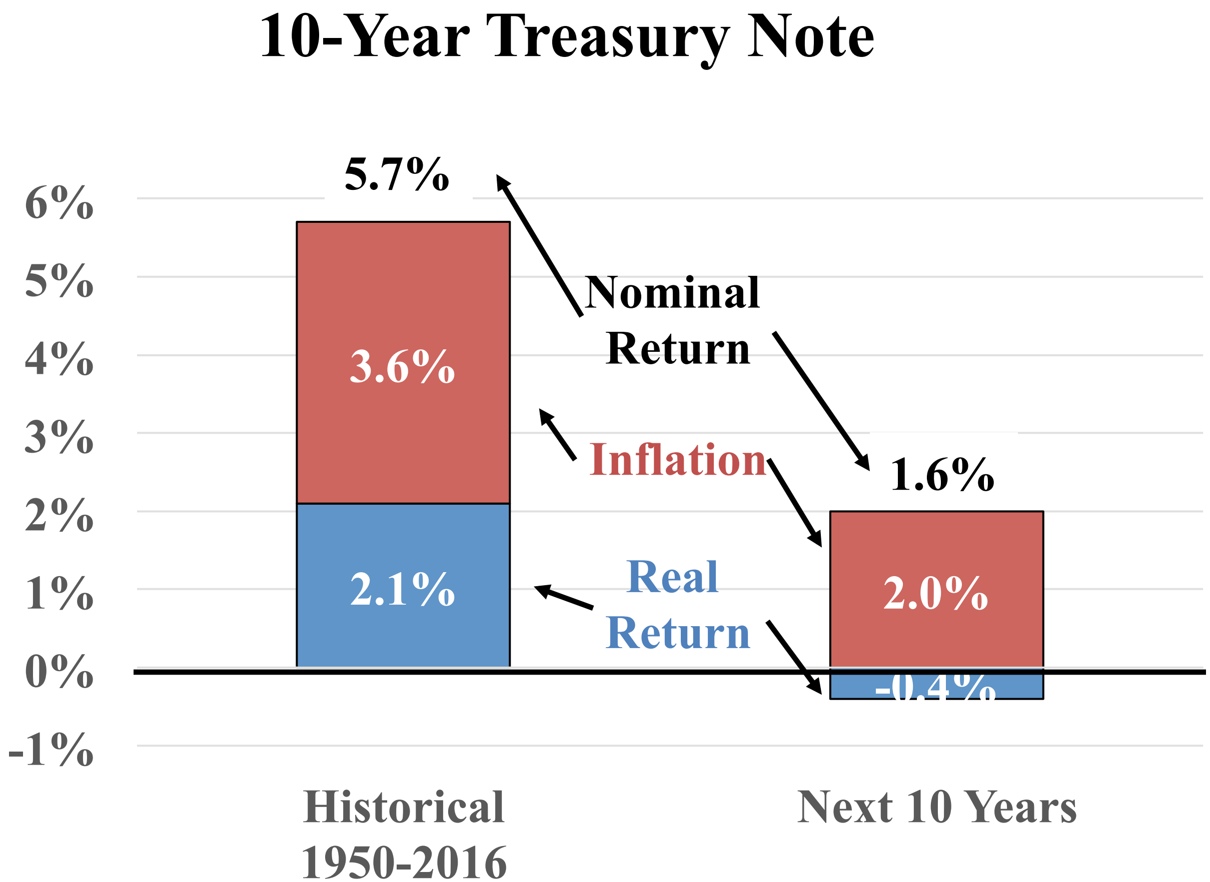
Source of Annual Returns on Bonds—Initial Yield on 10-Year Treasury and Bond Portfolio*



***Assumes accepting moderate additional credit risk and significant interest rate risk vs. the U.S. Treasury 10-year note**

YET, REAL INTEREST RATES CLOSE TO LONG-TERM NORMS . . .

But "Real" Returns on Bonds Are Not Far Below Norms



Note: Projection based on 10-year Treasury Yield September 28, 2016

PUT THEM ALL TOGETHER IN A BALANCED PORTFOLIO . . .

Looking Ahead 3.

Balanced Portfolio Returns

Below 50-Year Norm of 8.75% Nominal; 5.15%

Reasonable Expectations: Gross Returns
(50/50 Stock/Bond):
3.3%Nominal; 1.3% Real

Don't Forget These Deductions

-1.5% Active Fund Costs*
or
-0.05% Index Fund Costs

* * *

Don't Forget:
-2% Excess Taxes and
Investor Behavior for Active Funds

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*Includes transaction costs but not sales loads.

Wrapping Up

The Bad News:

Lower expected returns than history would suggest.

The Implications:

1. **Investors will have to save more.**
2. **Low costs more important than ever.**
3. **Domination of index funds continues.**
4. **DOL Fiduciary Rule favors low-cost and index funds, particularly for retirement accounts.**
5. **Greater recognition that the past is not prologue.**
6. **Skepticism about fund managers' consistency.**
7. **Reversion to the mean (RTM) becomes part of the dialogue.**

CLOSE BY REITERATING TWO QUOTES FROM BH XIV . . .

Tibble v. Edison
Unanimous ruling of the U.S. Supreme Court reaffirms fiduciary duty for retirement plans

From *The New York Times*, 2/24/2015:

Defense lawyer: "it can't be the case that companies have to 'constantly look and scour the market for … cheaper investment options,' for retirement-plan participants."

Justice Kennedy: "Well, you certainly do, if that's what a prudent trustee would do."

Adam Smith

From *The Wealth of Nations*, 1776

"The interest of the producer ought to be attended to, only so far as it may be necessary for promoting that of the consumer. The maxim is so perfectly self-evident, that it would be absurd to attempt to prove it. … The interest of the consumer must be the ultimate end and object of all industry and commerce."

Yes, the interests of fund shareholders (consumers) must, finally, triumph over the interests of fund managers (producers).

Thank you for your confidence.

"STAY THE COURSE"