

DISCLAIMER

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OUR INVESTMENT PROCESS

INTEGRATING FUNDAMENTALS AND MACRO RESEARCH

1. Idea Generation

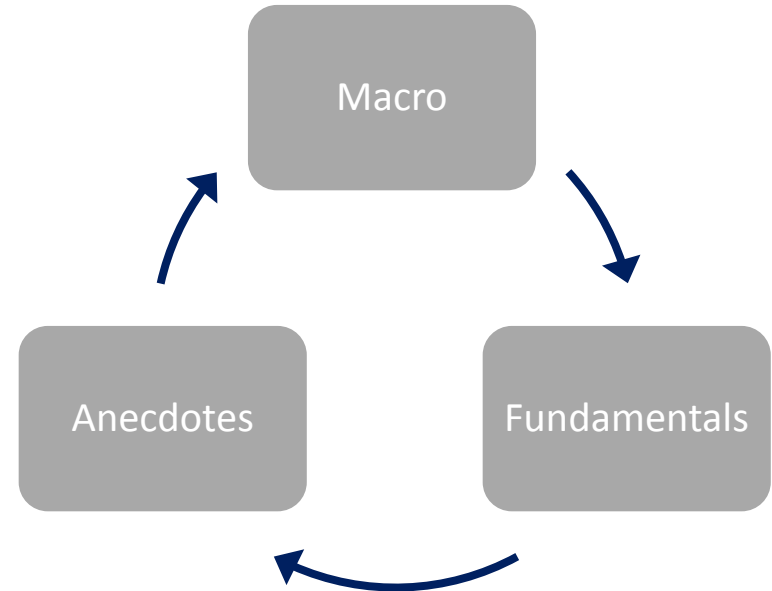
- Relative and absolute performance
- Valuation, estimate, and sentiment trends and relevance
- Battleground stocks
- Market research

2. Fundamentals

- Detailed financial models
- Identify Key Drivers
- Filings, transcripts, unstructured data, proprietary algorithms
- Professional interviews, surveys
- Multiple and sentiment forecast regressions

3. Macro Integration with Macro Monitor Database

- Database of 4000+ (and growing) curated time series data
- Automatically calculates and sorts correlations and significance
- Analyze leading and lagging relationships across multiple durations
- Identify, update, track, and chart high frequency Key Drivers



HEALTHCARE THEMES

1

#LATECYCLE

- The ACA likely steepened what is typically a late cycle recovery in medical consumption. Medical consumption trends are slow to develop and can often be confused as defensive. Its different this time...a steeper drop.

2

DEMOGRAPHIC DEFLATION

- Commercially insured working population continues to slow. The Commercially Insured US Medical Consumer has the highest revenue and margins.
- Medicare beneficiaries are growing but CMS policy will need to reduce real per beneficiary spending.

3

REGULATION / #ACATAPER

- New enrollees from exchanges and Medicaid expansion was a one-time stimulus to the medical economy.
- ACA reforms will continue to put pressure on healthcare inflation.

LATE CYCLE
Healthcare is late to slow, and late to reaccelerate.

DEMOGRAPHICS
Aging Population,
Medicare Mix Shift,
More w/Less,
Incidence

HEALTHCARE DEFLATION

#ACATaper
Pent-Up Demand
High Acuity
Normalization

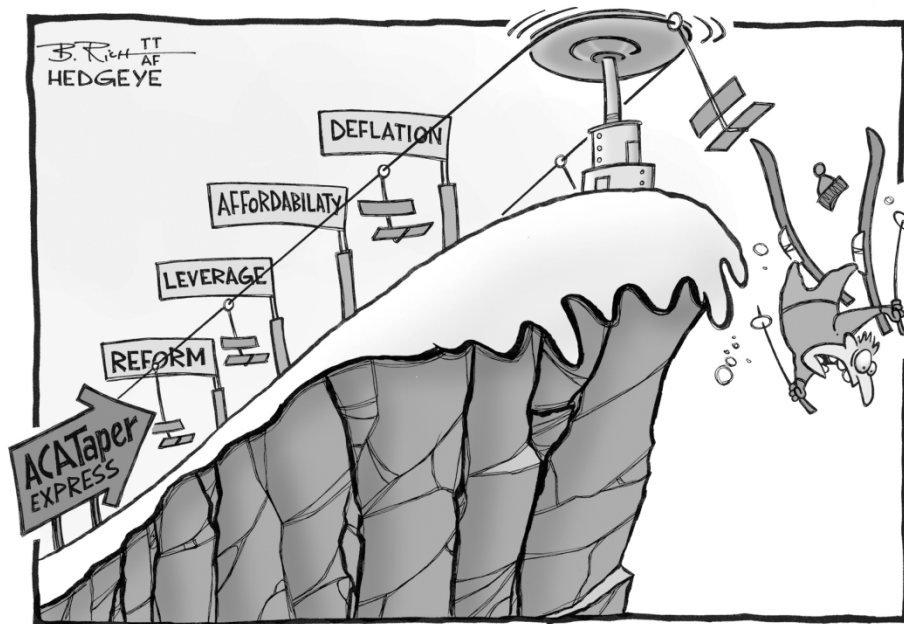
REGULATORY
ACA / HDHP / CCJR
Technology
Transparency

HEALTHCARE POSITION MONITOR

Sentiment	Investment Ideas - Longs			Trade	Trend	Tail	Sentiment	Investment Ideas - Shorts			Trade	Trend	Tail
Score ¹	LONG						Score ¹	SHORT					
6	ATHN	athenahealth, Inc.		---	✓	✓	81	HOLX	Hologic, Inc.		x	x	x
41	ILMN	Illumina, Inc.		---	✓	✓	59	AHS	AMN Healthcare Services, Inc.		---	x	x
							53	ZBH	Zimmer Biomet Holdings, Inc.		---	x	x
							33	MD	MEDNAX, Inc.		x	x	x
							17	MDRX	Allscripts Healthcare Solutions, Inc.		x	x	x
Sentiment	Long Bench						Sentiment	Short Bench					
Score ¹	LONG						Score ¹	SHORT					
6	EXAS	Exact Sciences Corporation		---	---	---	97	WOOF	VCA Inc.		---	---	---
56	EVH	Evolent Health Inc Class A		---	---	---	79	LH	Laboratory Corporation of America Holdings		---	---	---
72	CSLT	Castlight Health, Inc. Class B		---	---	---	71	ICLR	ICON Plc		---	---	---
89	CERN	Cerner Corporation		---	---	---	62	DVA	DaVita HealthCare Partners Inc.		---	---	---
							53	CRL	Charles River Laboratories International, Inc.		---	---	---
							44	MDSO	Medidata Solutions, Inc.		---	---	---
							41	HCA	HCA Holdings, Inc.		---	---	---
							36	LPNT	LifePoint Health, Inc.		---	---	---
							24	PRXL	PAREXEL International Corporation		---	---	---
							22	QSII	Quality Systems, Inc.		---	---	---
							18	Q	Quintiles Transnational Holdings, Inc.		---	---	---
							5	DGX	Quest Diagnostics Incorporated		---	---	---
							1	CYH	Community Health Systems, Inc.		---	---	---
							1	CPSI	Computer Programs and Systems, Inc.		---	---	---

¹Percentile rank within sub-sector (1 = High Short Interest, Negative Sell Side / 100 = Low Short Interest, Positive Sell Side)

Bench = Timing is not right, or research in progress.



#ACATAPER

#ACATAPER WELL ADVERTISED...

Why a Perfect Storm Is Brewing in Healthcare (UNH, HCA)

By [Tom Tobin](#) | December 21, 2015 — 9:03 AM EST

Blue Cross Plans Hit Hard By Obamacare Losses



Bruce Japsen
CONTRIBUTOR

I write about health care and policies from the president's hometown

[FULL BIO >](#)

Opinions expressed by Forbes Contributors are their own.

TWEET THIS

- nearly three dozen Blue Cross and Blue Shield companies, showed 23 had a decline in earnings and 16 had a net loss
- There were 23 Blue Cross companies that reported a "collective \$1.9 billion decline in earnings"

The nation's Blue Cross and Blue Shield plans have fared worse than publicly traded health insurance companies on the new health insurance exchanges, with many of these plans losing hundreds of millions of dollars last year on individual policies sold under the Affordable Care Act.

A new report from Fitch Ratings, which looked at earnings of nearly three dozen Blue Cross and Blue Shield companies, showed 23 had a decline in earnings and 16 had a net loss 🐦, largely related to losses from policies sold to newly insured Americans who bought subsidized individual policies on public exchanges. There were 23 Blue Cross companies that reported a "collective \$1.9 billion decline in earnings" 🐦 for the first nine months of 2015, and 16 of those companies had net losses.

UnitedHealthcare to exit most Obamacare exchanges

by [Paul R. La Monica](#) @lamonicabuzz
April 19, 2016: 3:37 PM ET

Why a major Blues carrier is still losing billions on ACA plans

By [Bob Herman](#) | March 3, 2016

[Health Care Service Corp.](#) improved its net loss in 2015, but the [Blue Cross and Blue Shield](#) conglomerate continues to hemorrhage money in the [Affordable Care Act's](#) nascent marketplaces.

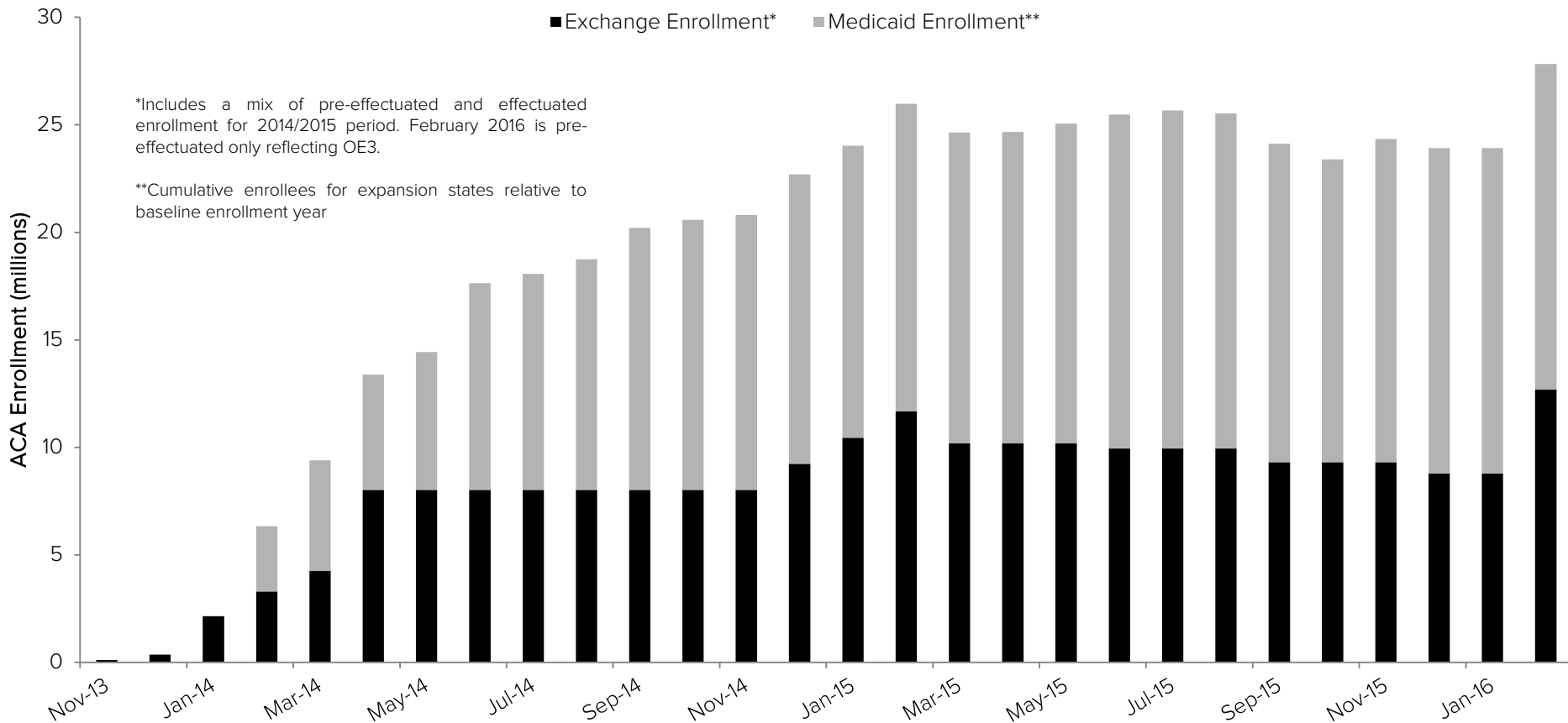
Tomorrow: Healthcare

UnitedHealth expects to lose nearly \$1 billion on Obamacare

by [Tami Luhby](#) @Luhby
January 19, 2016: 3:58 PM ET

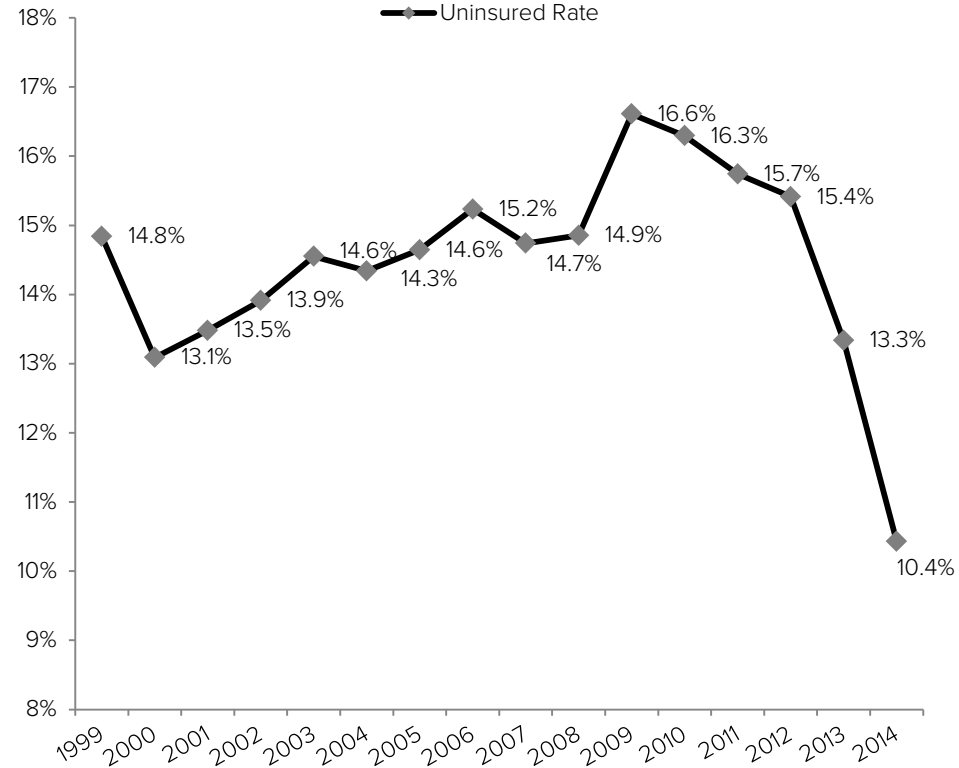
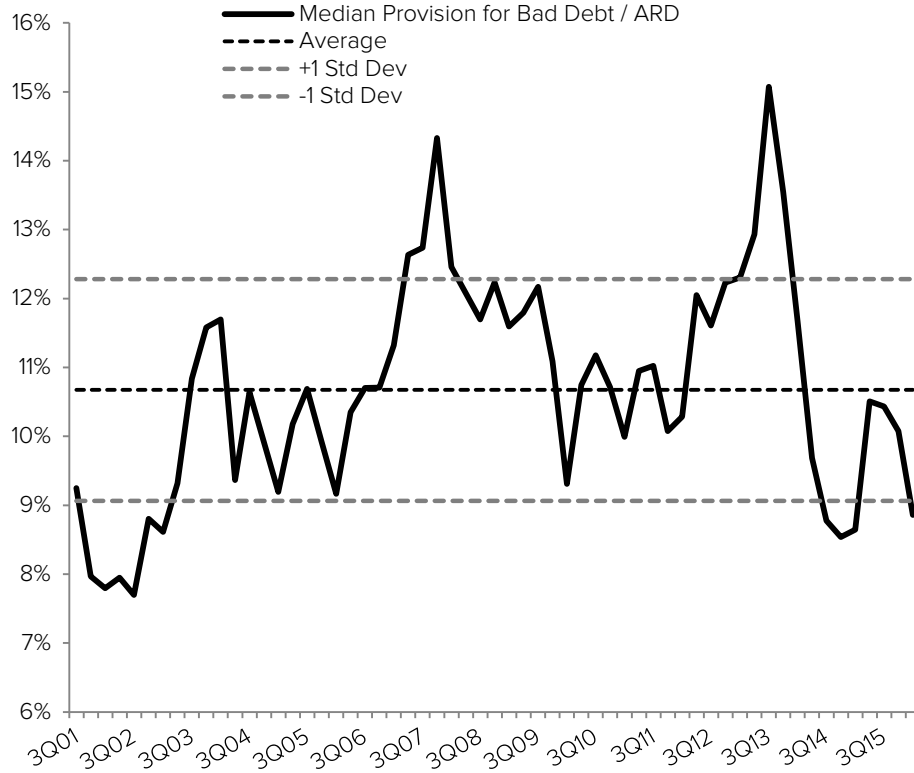
Aetna To Stop Selling Obamacare Plans In Two States And D.C. For 2016

25+ MILLION NEWLY INSURED

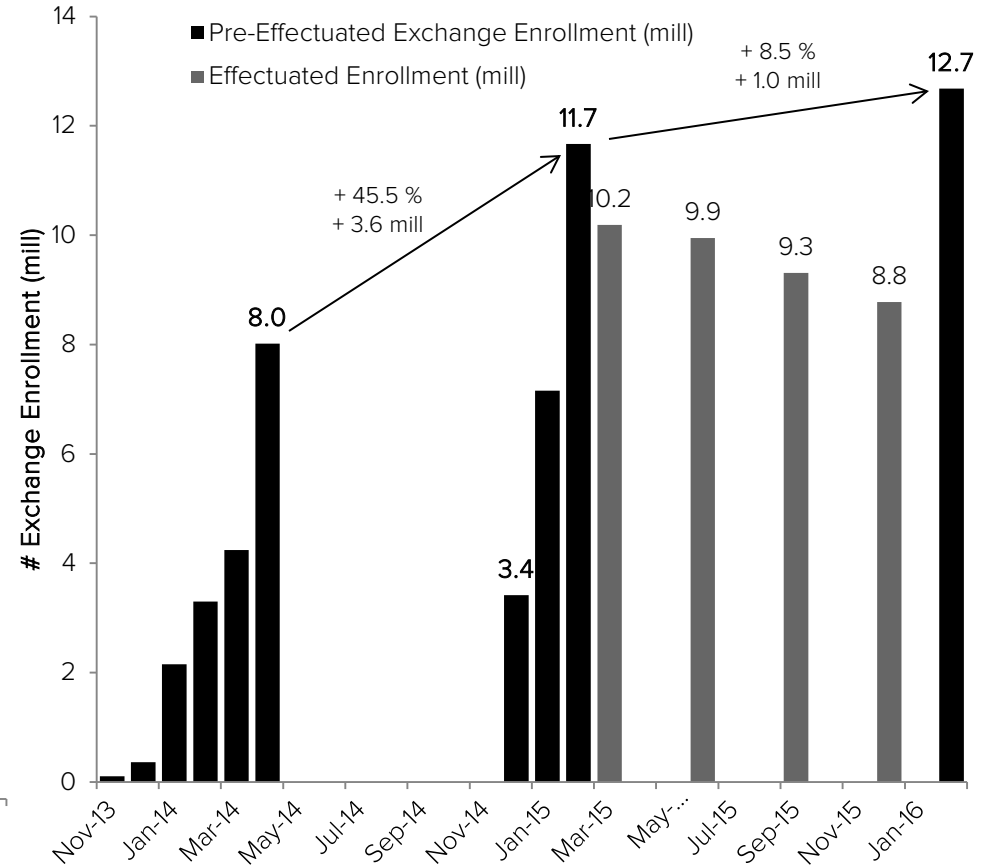
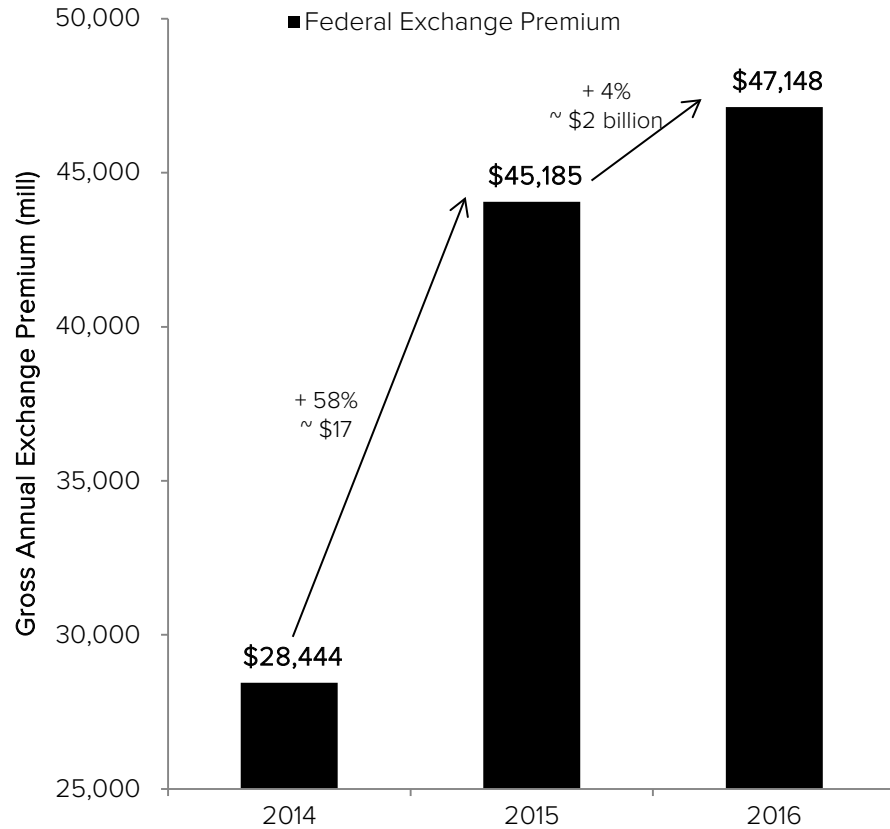


UNINSURED RATE ALL-TIME LOW

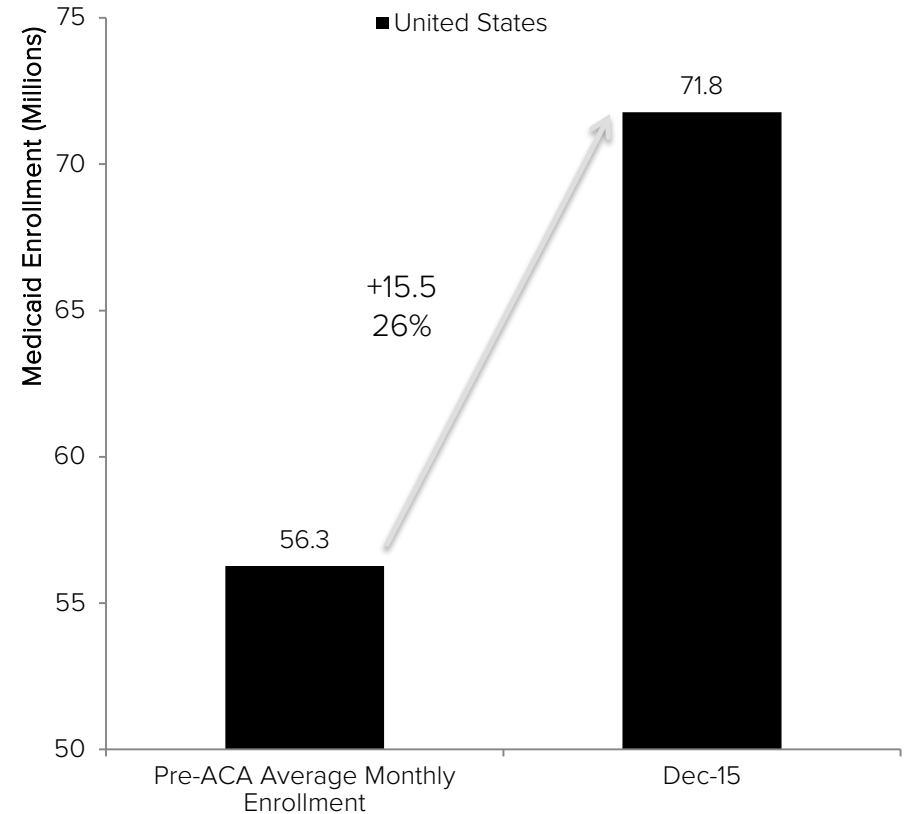
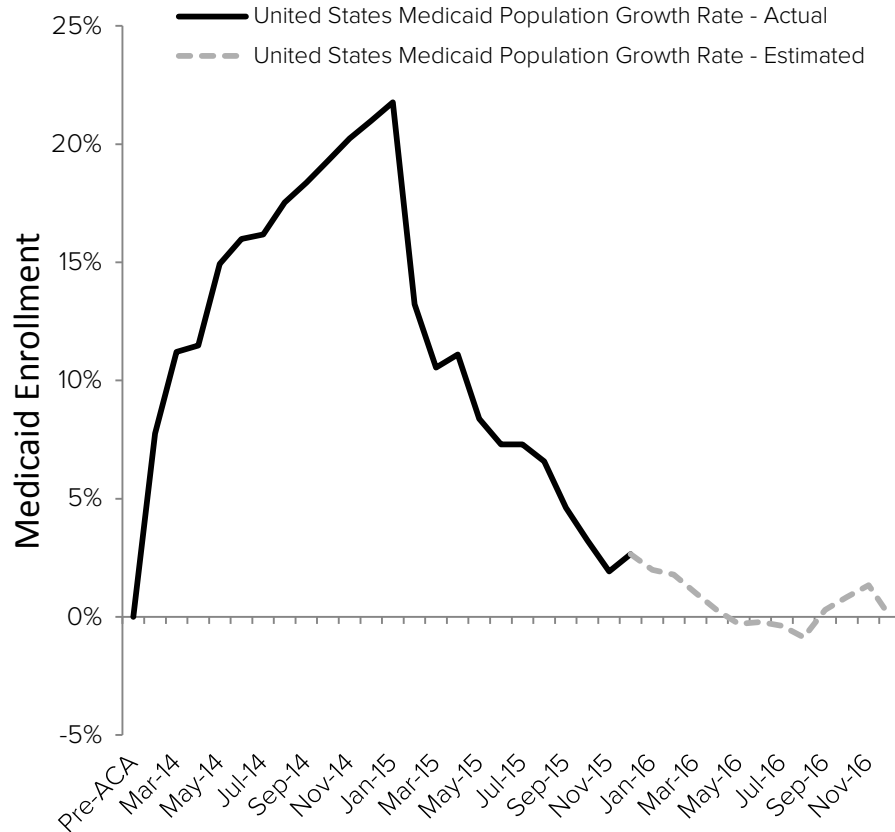
SHARP DECLINE IN HOSPITAL BAD DEBT EXPENSE



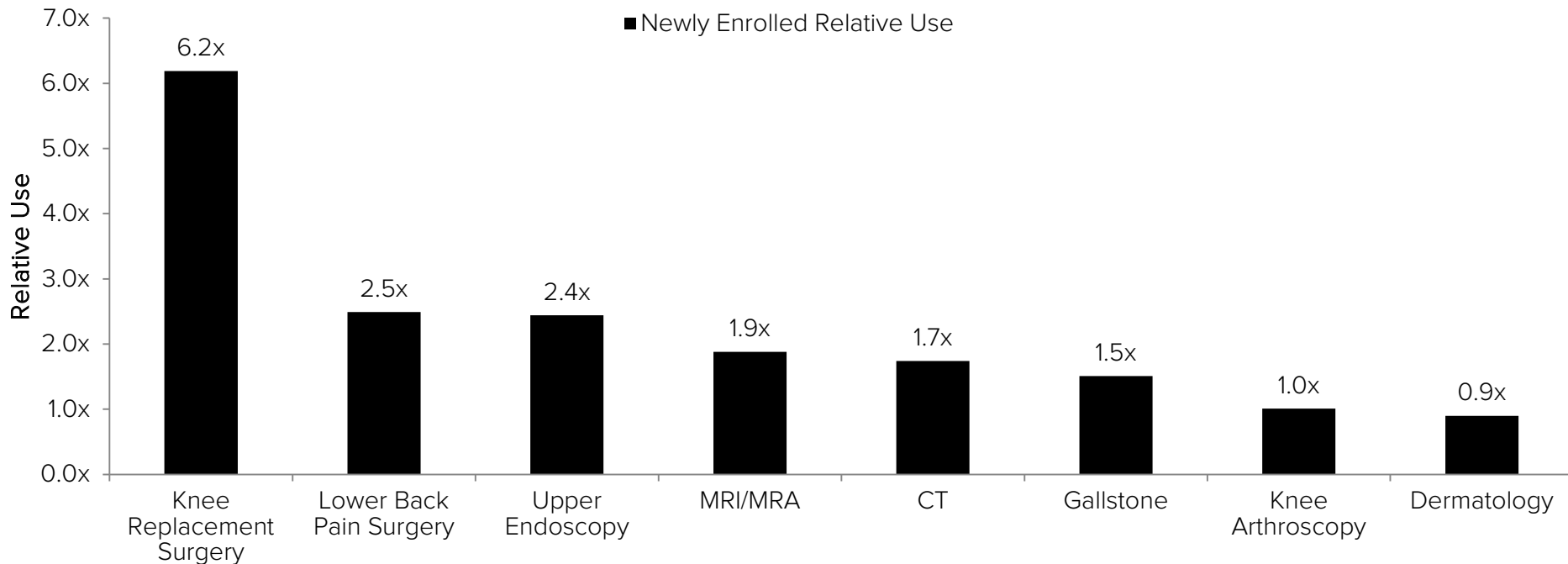
EXCHANGE ENROLLMENT SLOWING



MEDICAID ENROLLMENT SLOWING



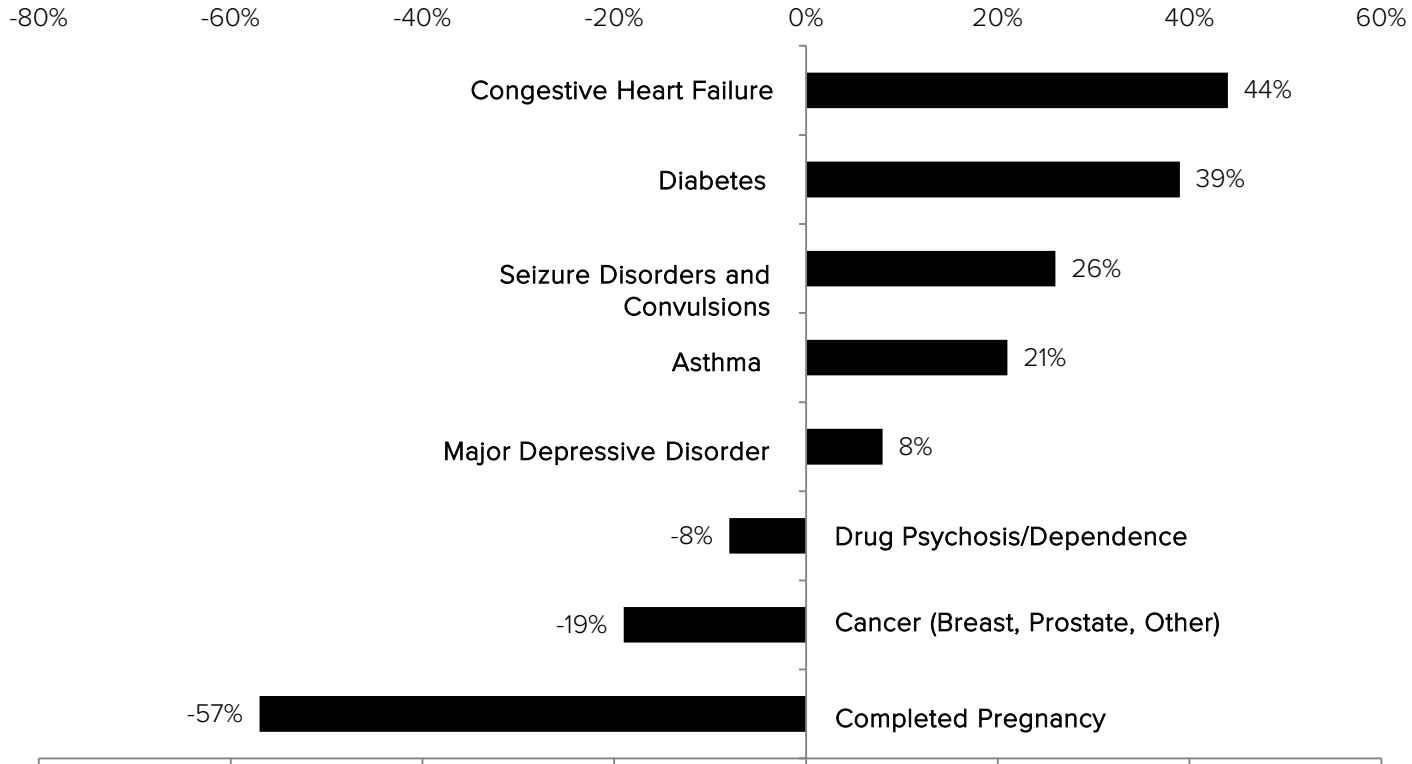
PENT-UP DEMAND NEWLY INSURED



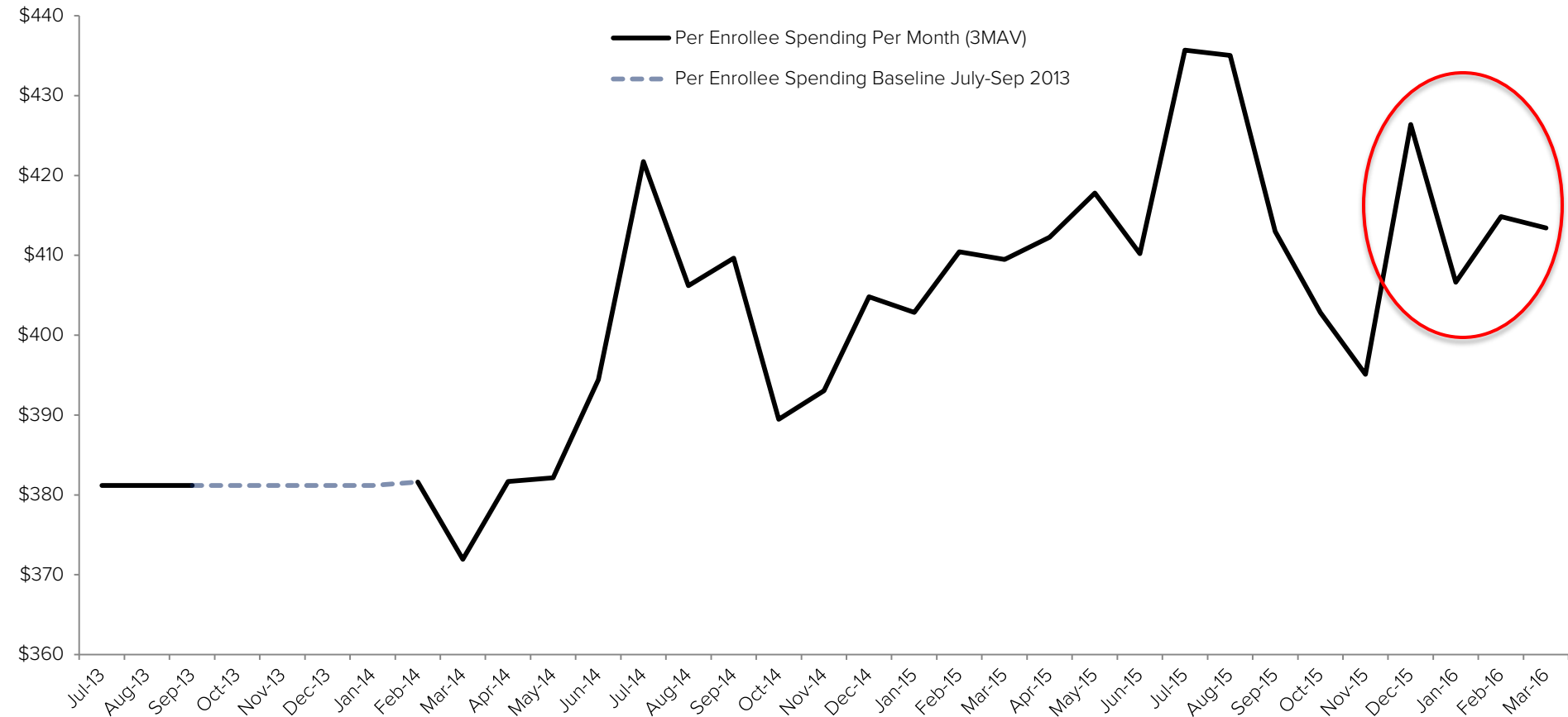
SOCIETY OF ACTUARIES ANALYSIS OF KS CLAIMS DATA

HIGHER PREVALENCE OF DISEASE

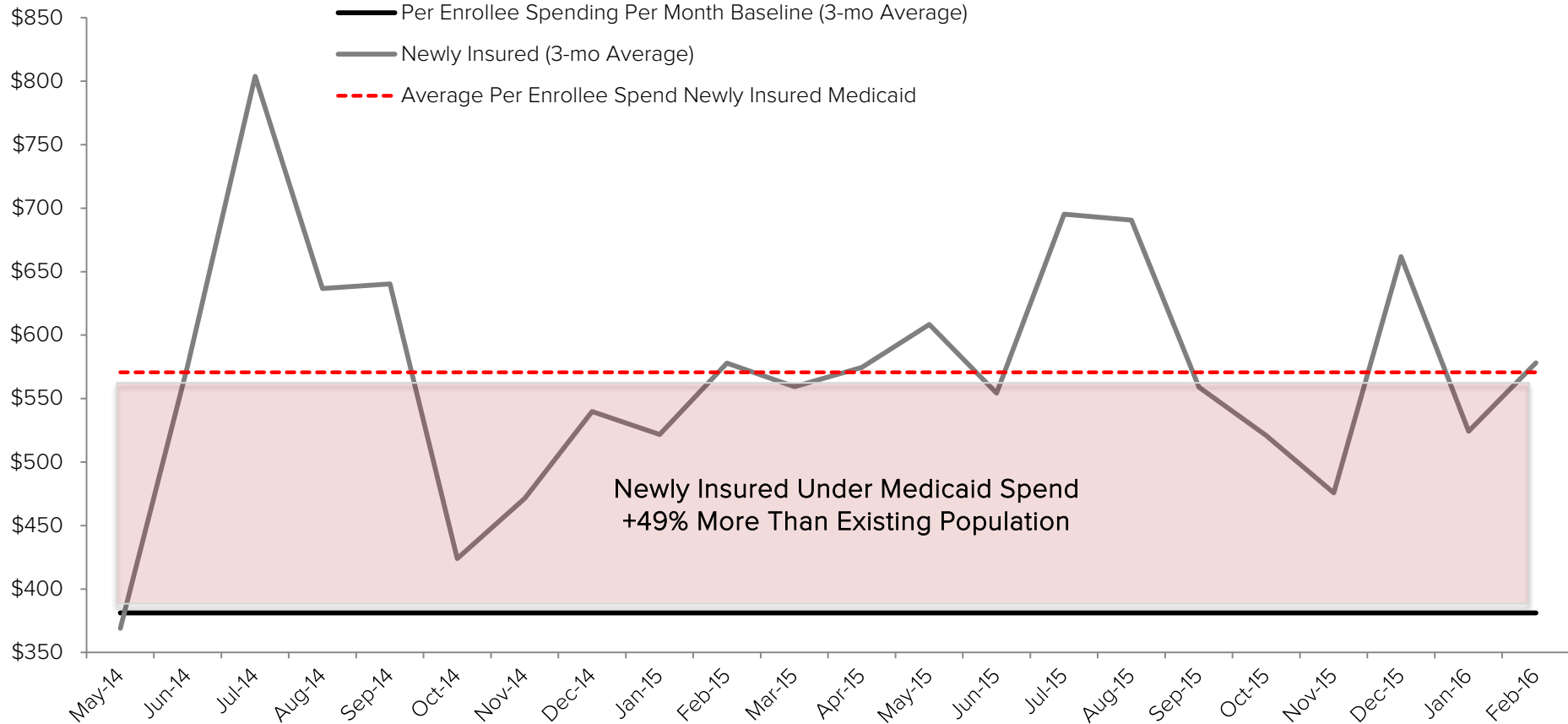
Prevalence Rates of Specific Top Conditions, Exchange Compared to



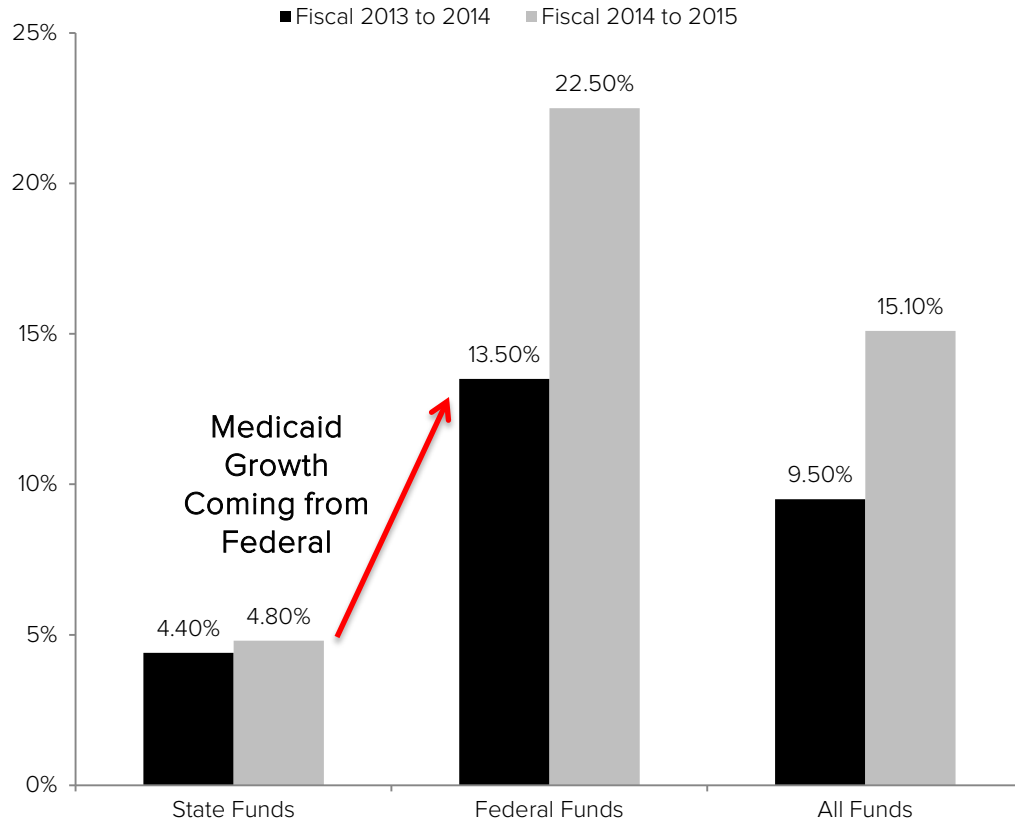
MEDICAID PER ENROLLEE SPEND



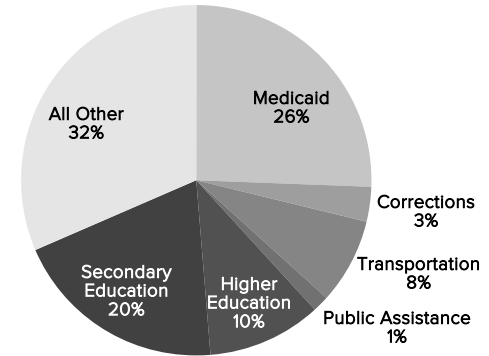
NEWLY INSURED MEDICAID SPEND



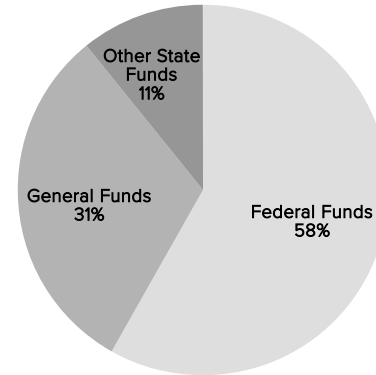
STATE SPENDING ON MEDICAID



State Expenditures by Function

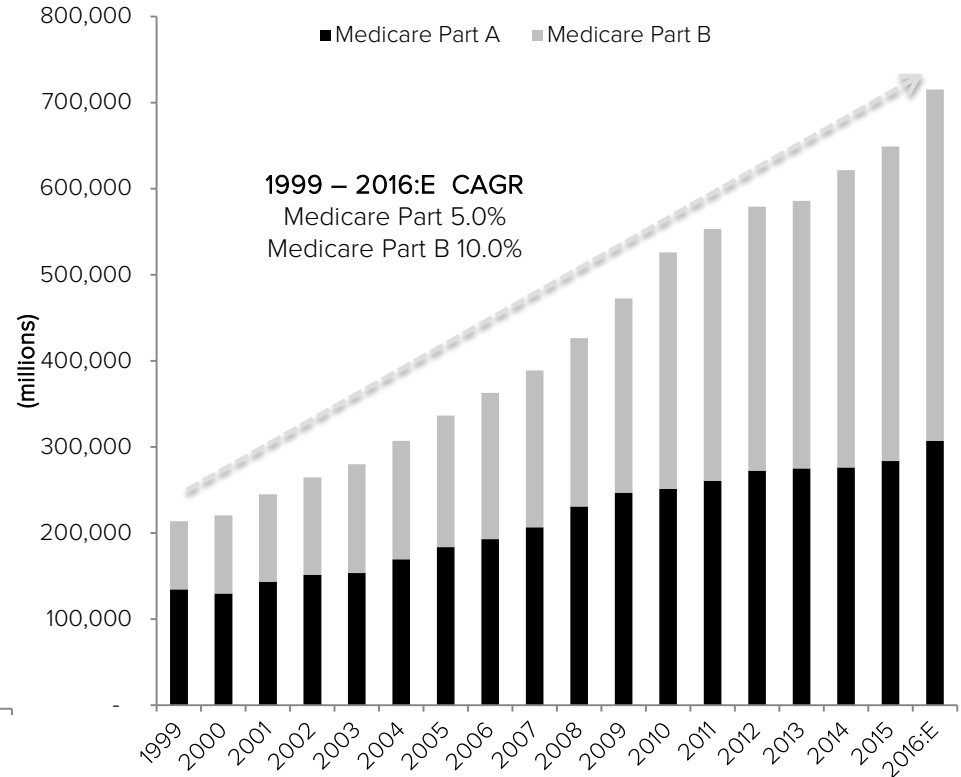
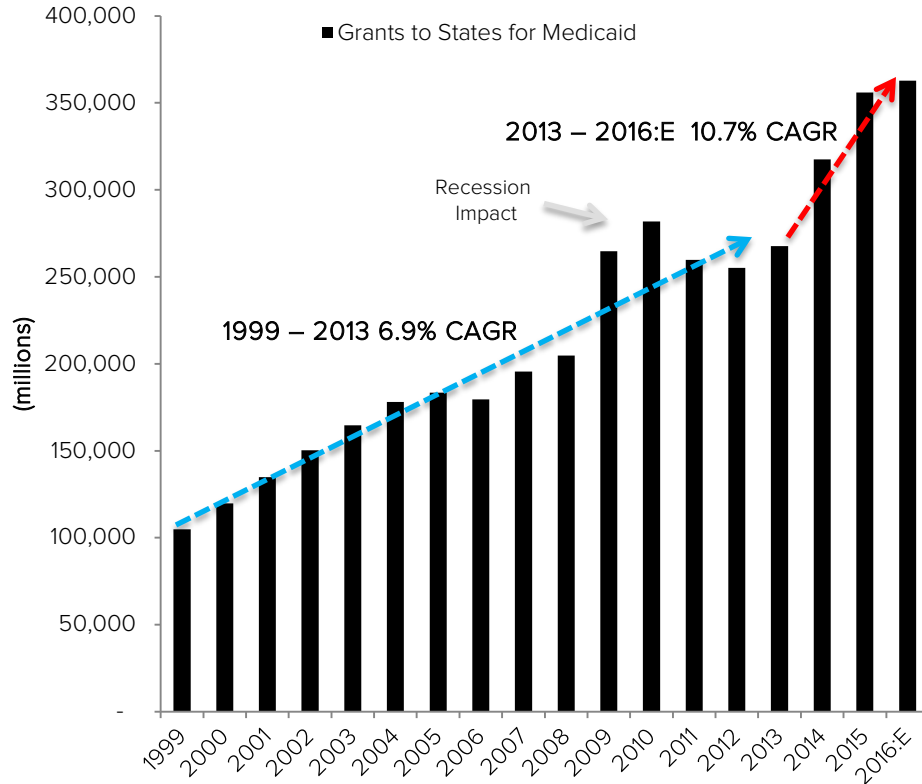


State Expenditures for Medicaid by Fund Source



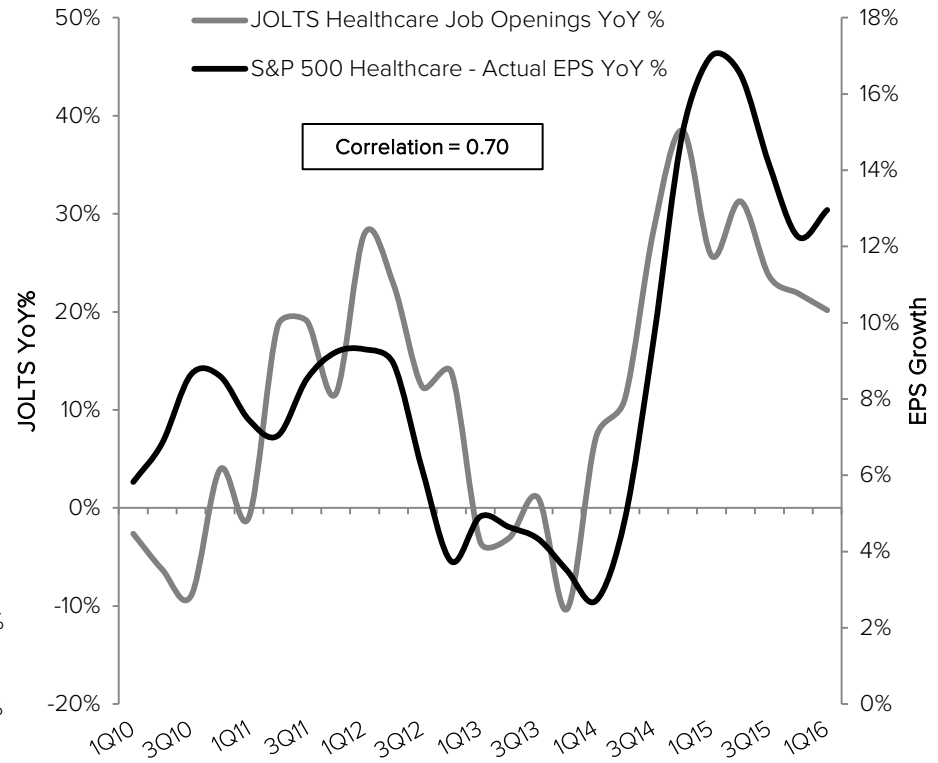
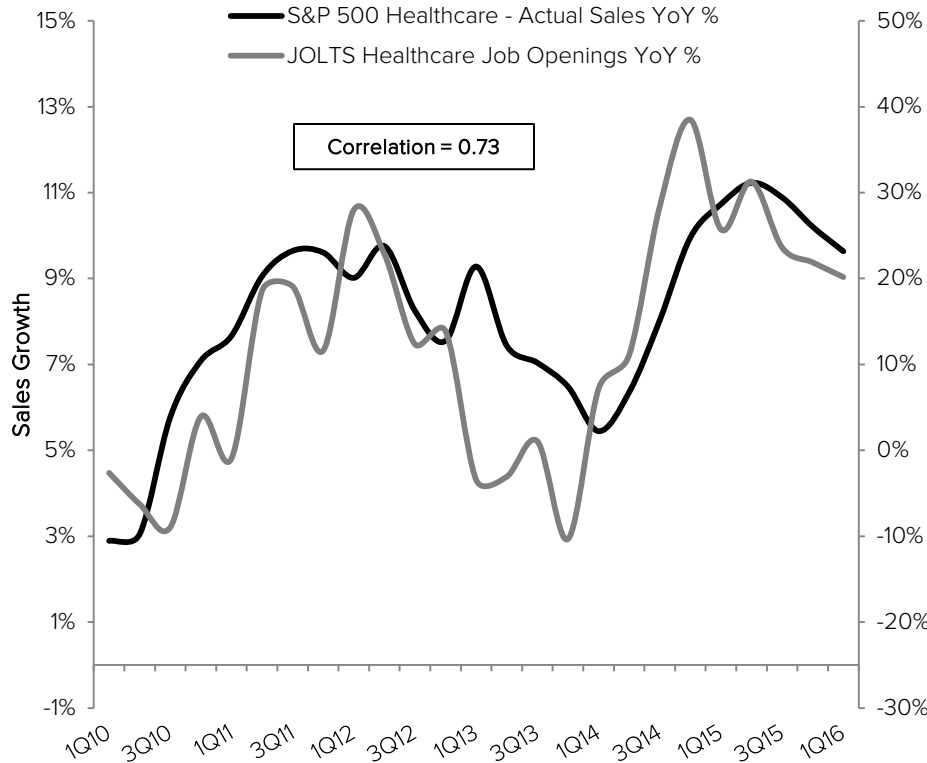
FEDERAL GOVERNMENT OUTLAYS

2013-2015 FASTEST GROWTH IN MEDICAID EX-RECESSION



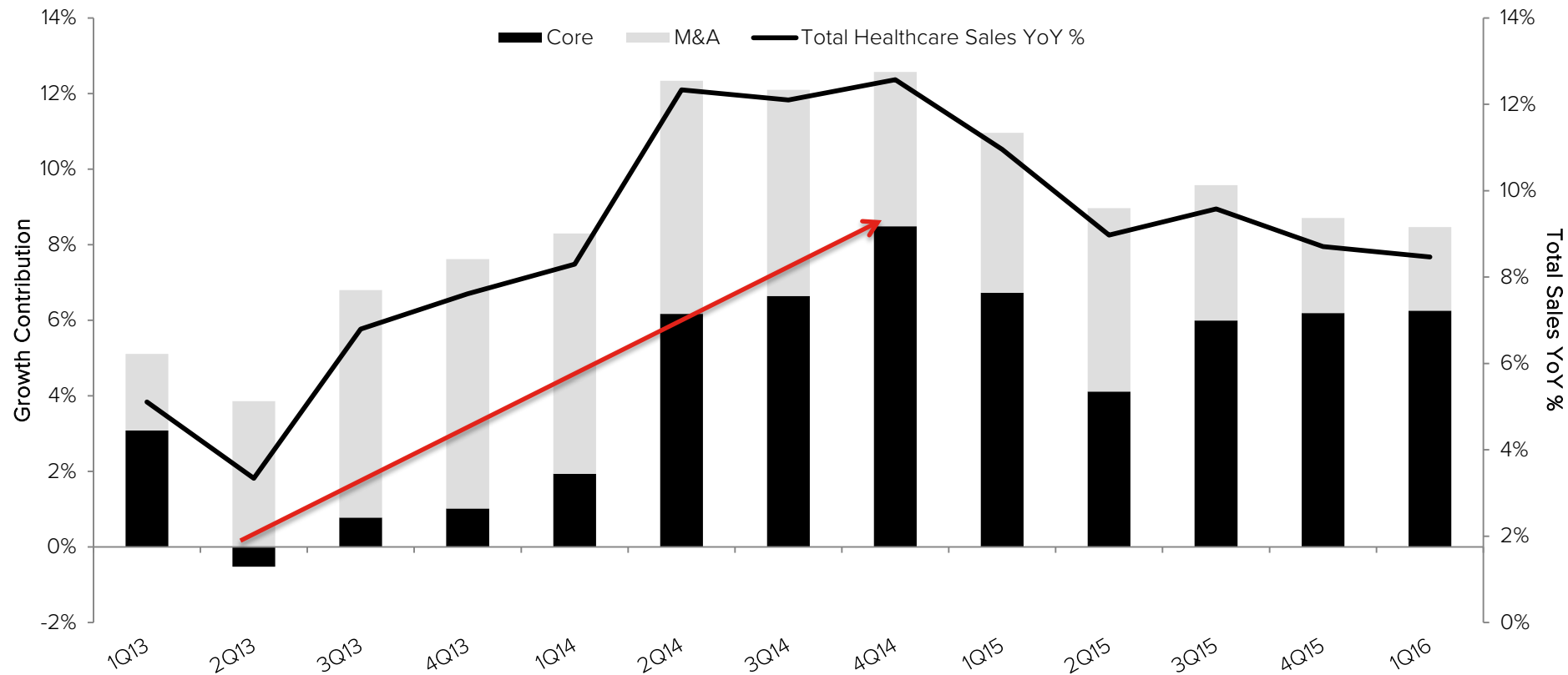
HEALTHCARE GROWTH SLOWING

XLV SALES AND EPS GROWTH TIED TO JOLTS GROWTH



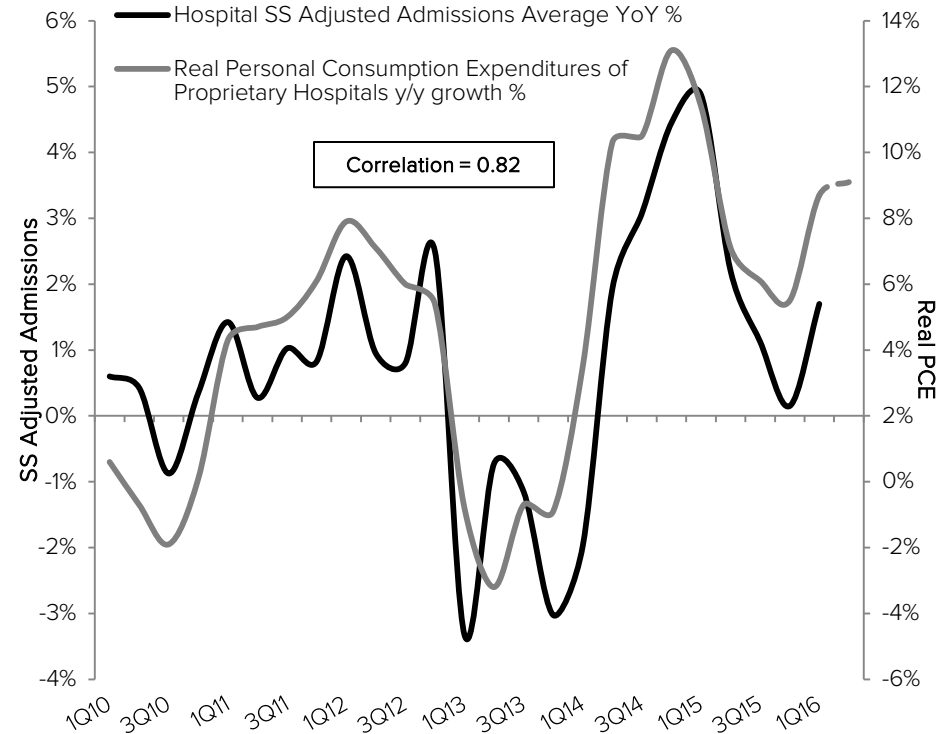
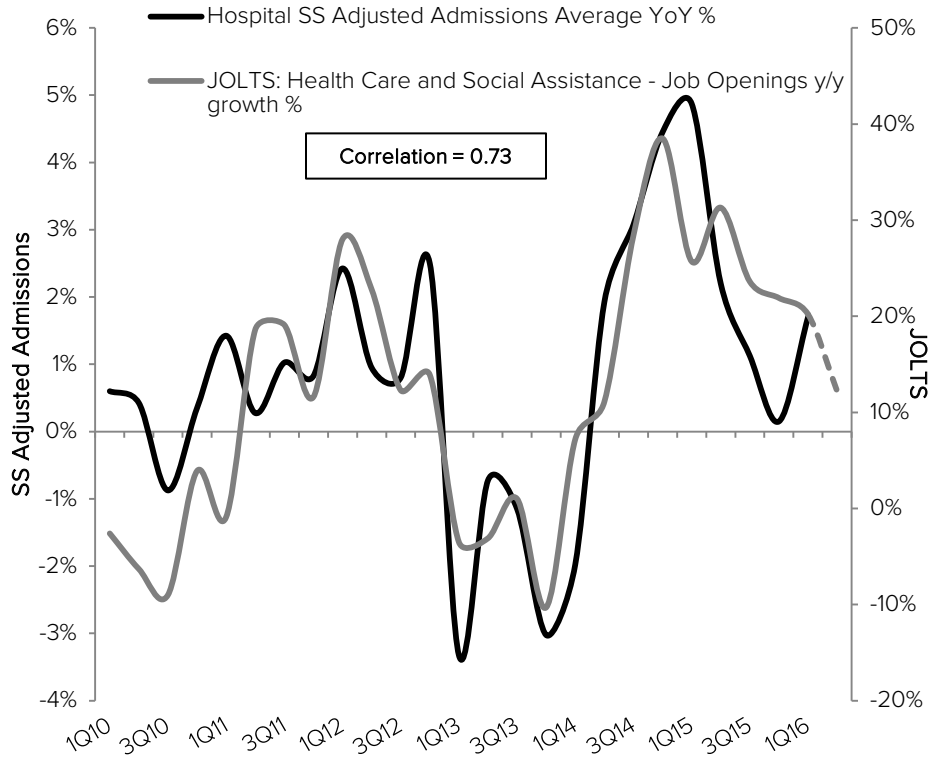
ORGANIC GROWTH EX-M&A

S&P 500 HEALTHCARE EXCLUDING DEAL STOCKS

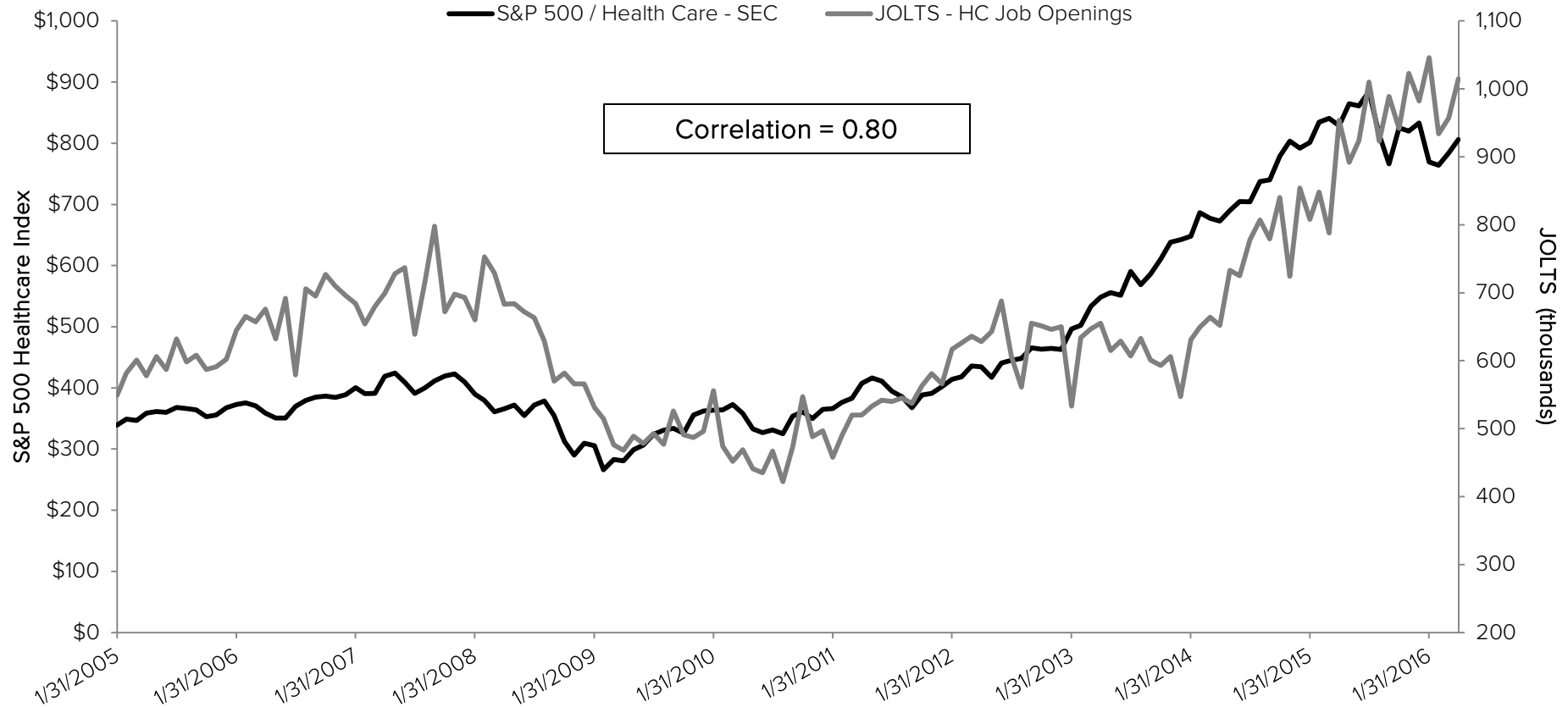


UTILIZATION AND EMPLOYMENT

INCREASE IN HIRING TO MEET NEW DEMAND

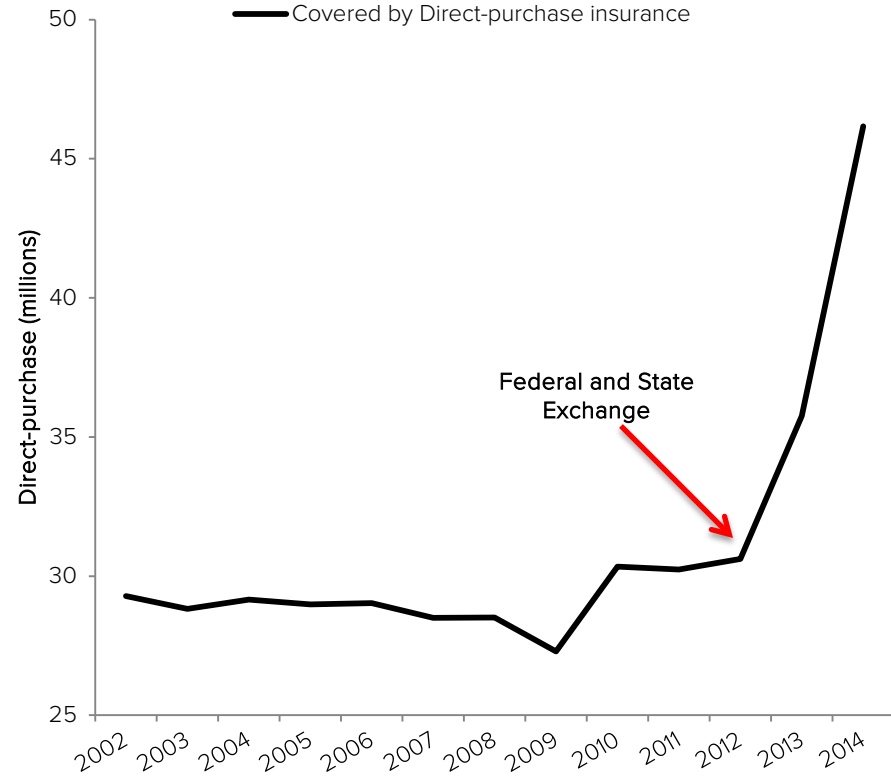
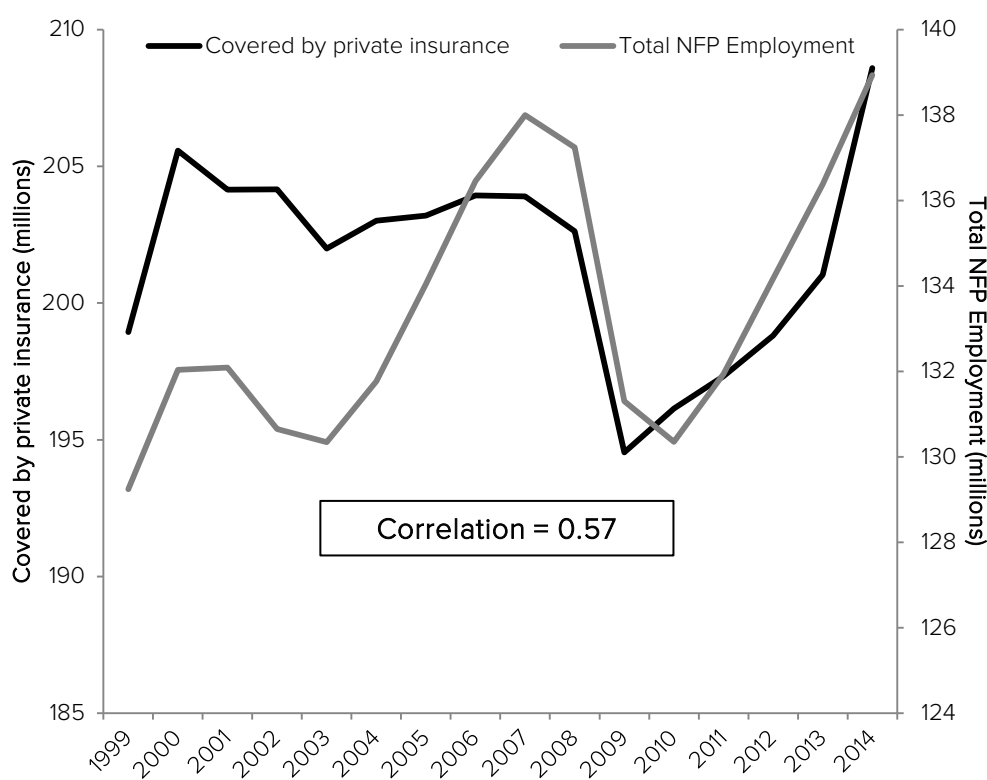


DEMAND DRIVES DEMAND...

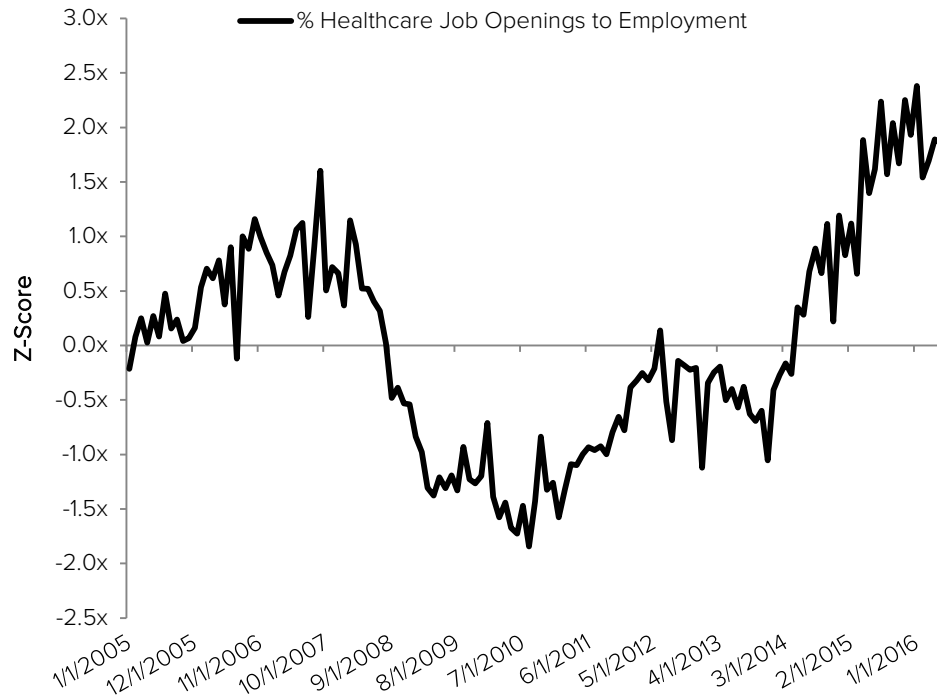
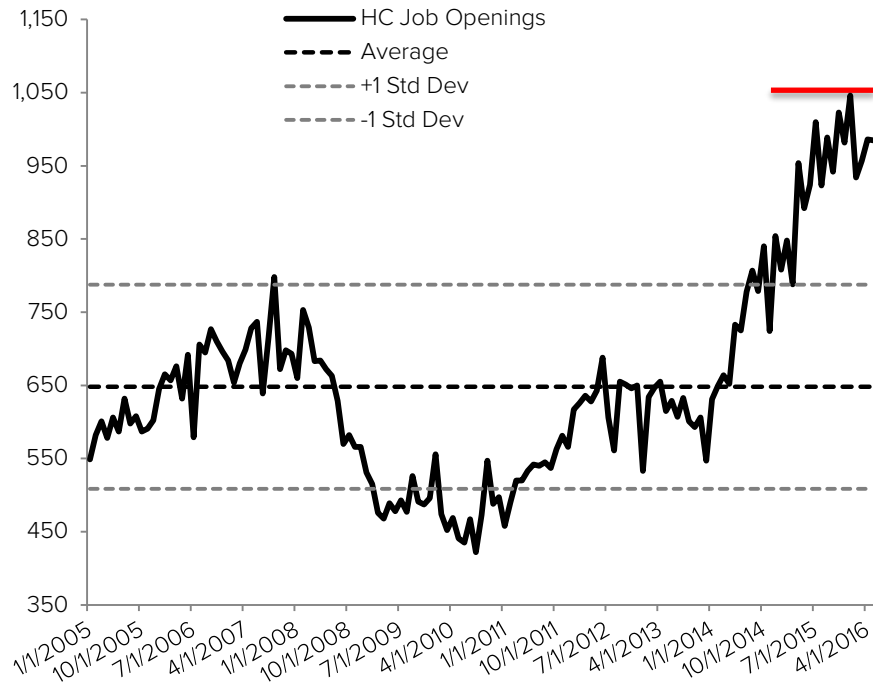


COVERED LIVES AND NFP

ACA DRIVING INCREASE IN DIRECT-PURCHASE



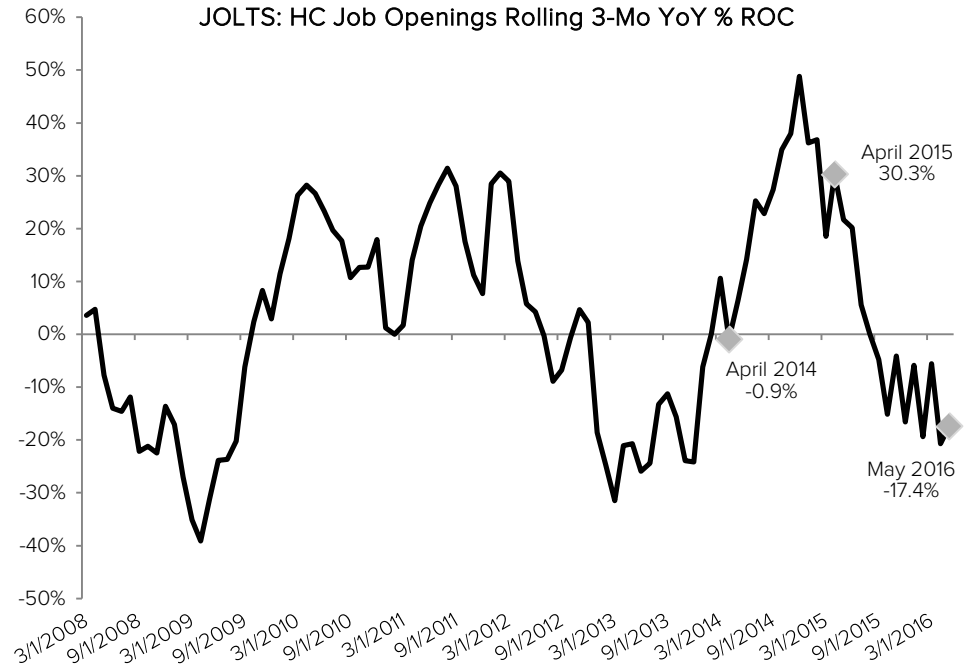
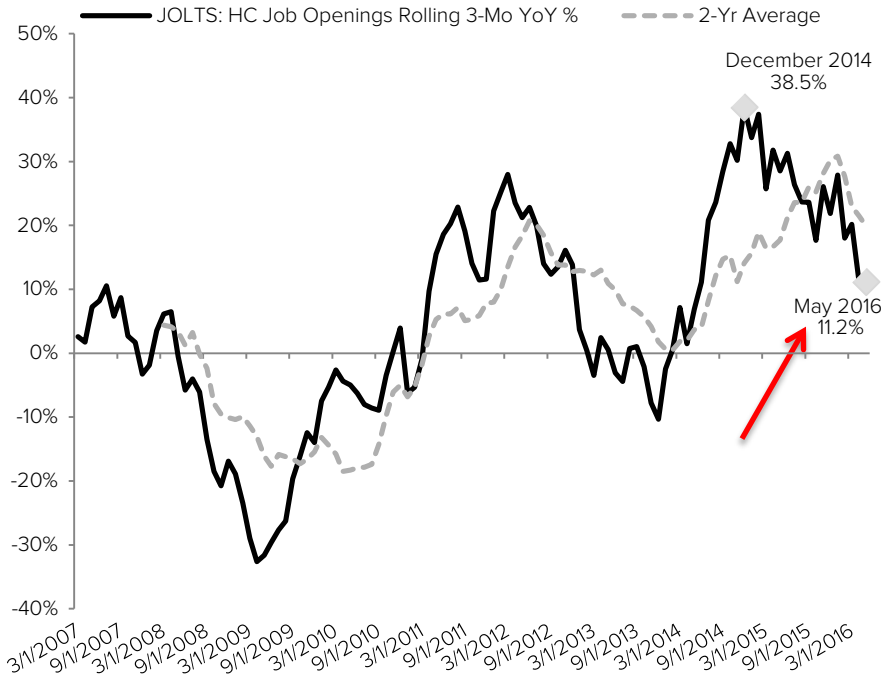
HEALTHCARE JOB OPENINGS (JOLTS)



HEALTHCARE JOB OPENINGS EXTENDED...

We have observed similar patterns across multiple metrics tied to medical consumption, enrollment, and employment suggesting that the Healthcare Economy is extended.

HEALTHCARE JOB OPENINGS (JOLTS)

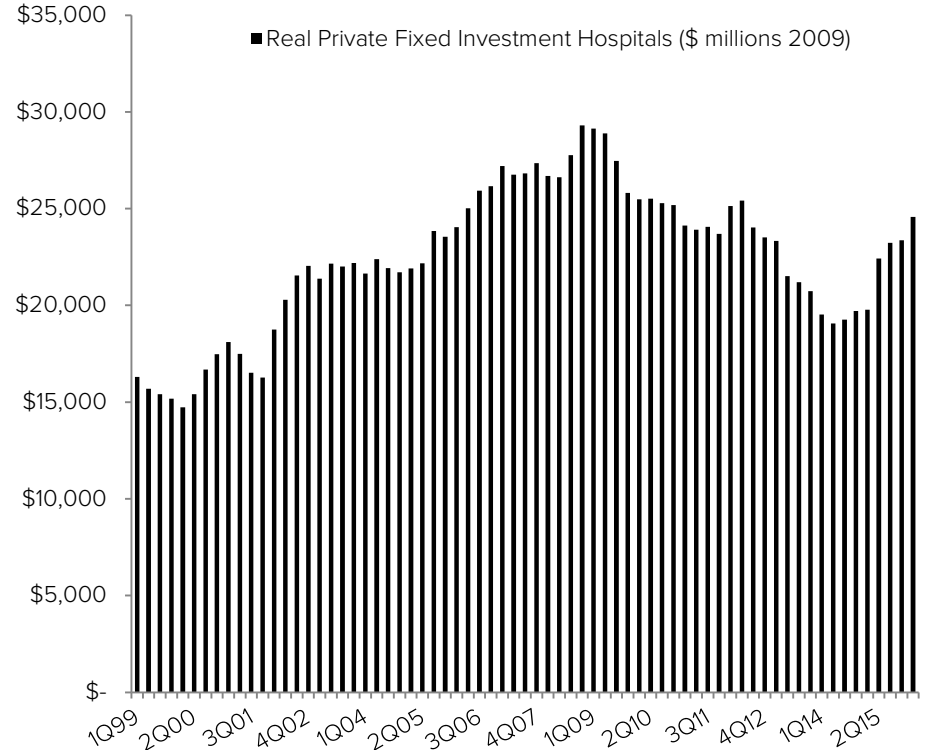
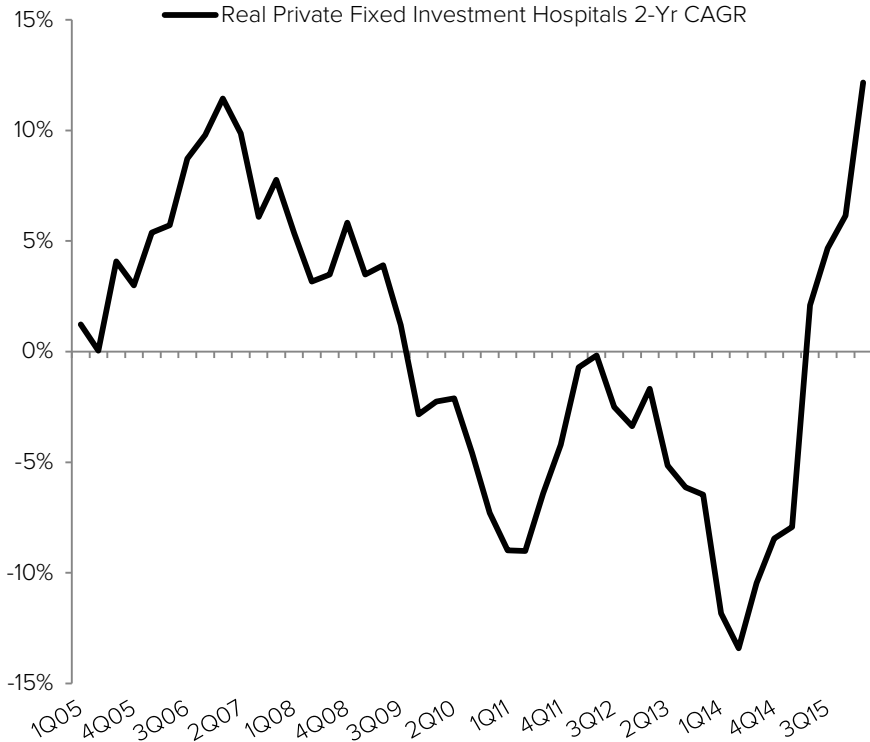


HEALTHCARE JOB OPENINGS SLOWING...

After peaking in December 2014, Healthcare Job Openings posted the slowest growth in approximately 2-years. We expect growth to slow further as we comp out of stimulus.

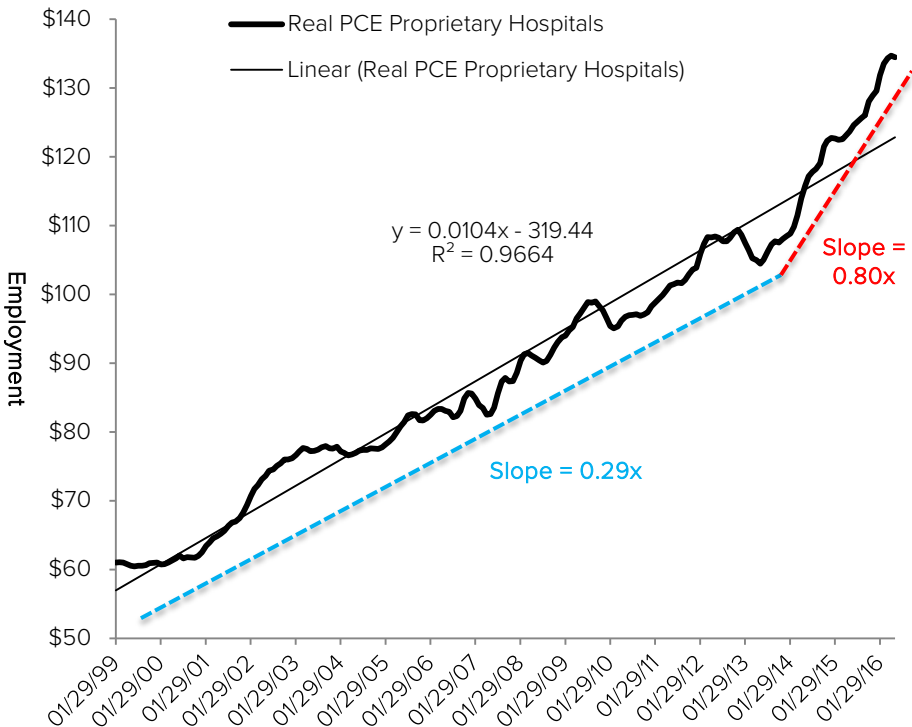
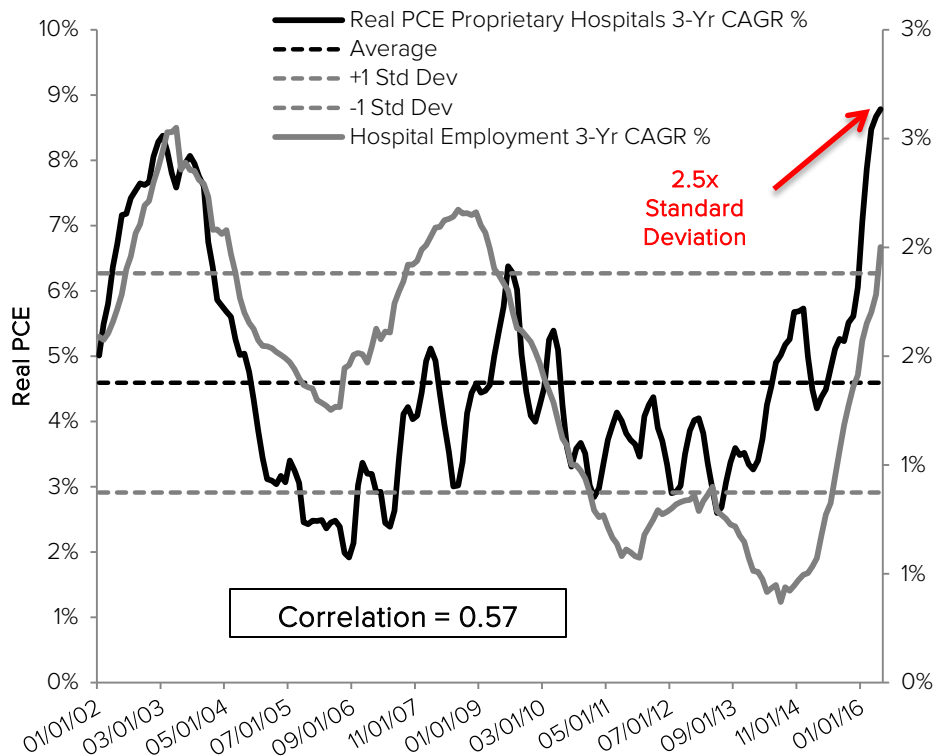
HOSPITAL PRIVATE FIXED INVESTMENT

HOSPITAL CAPEX COINCIDES WITH STIMULUS



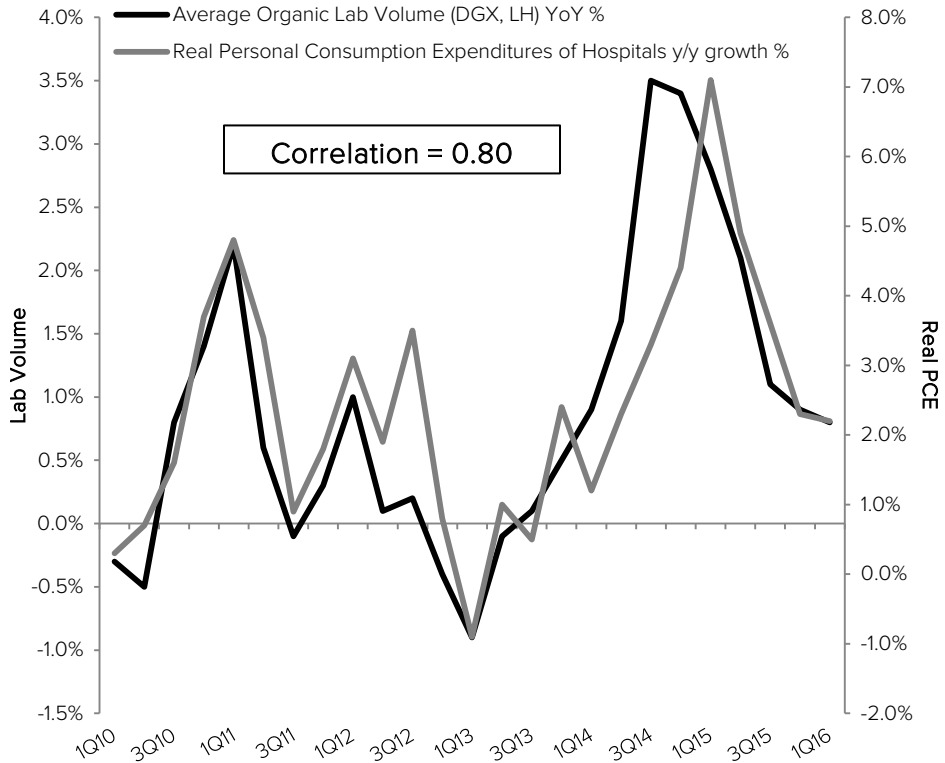
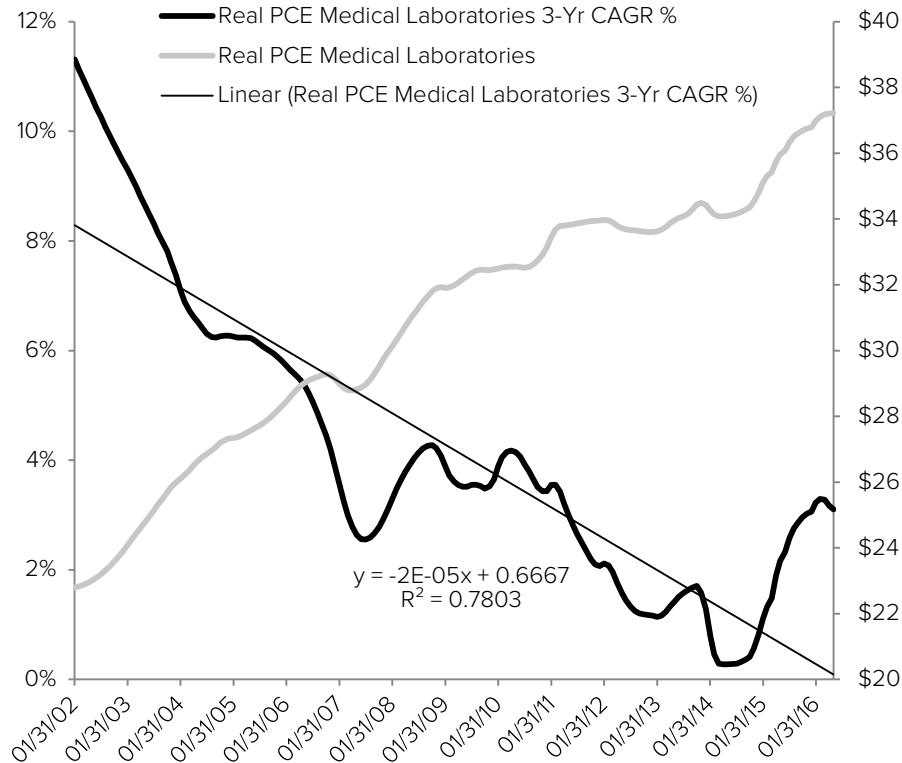
REAL PCE PROPRIETARY HOSPITALS

REAL PCE GROWTH ACCELERATED WITH NEWLY INSURED

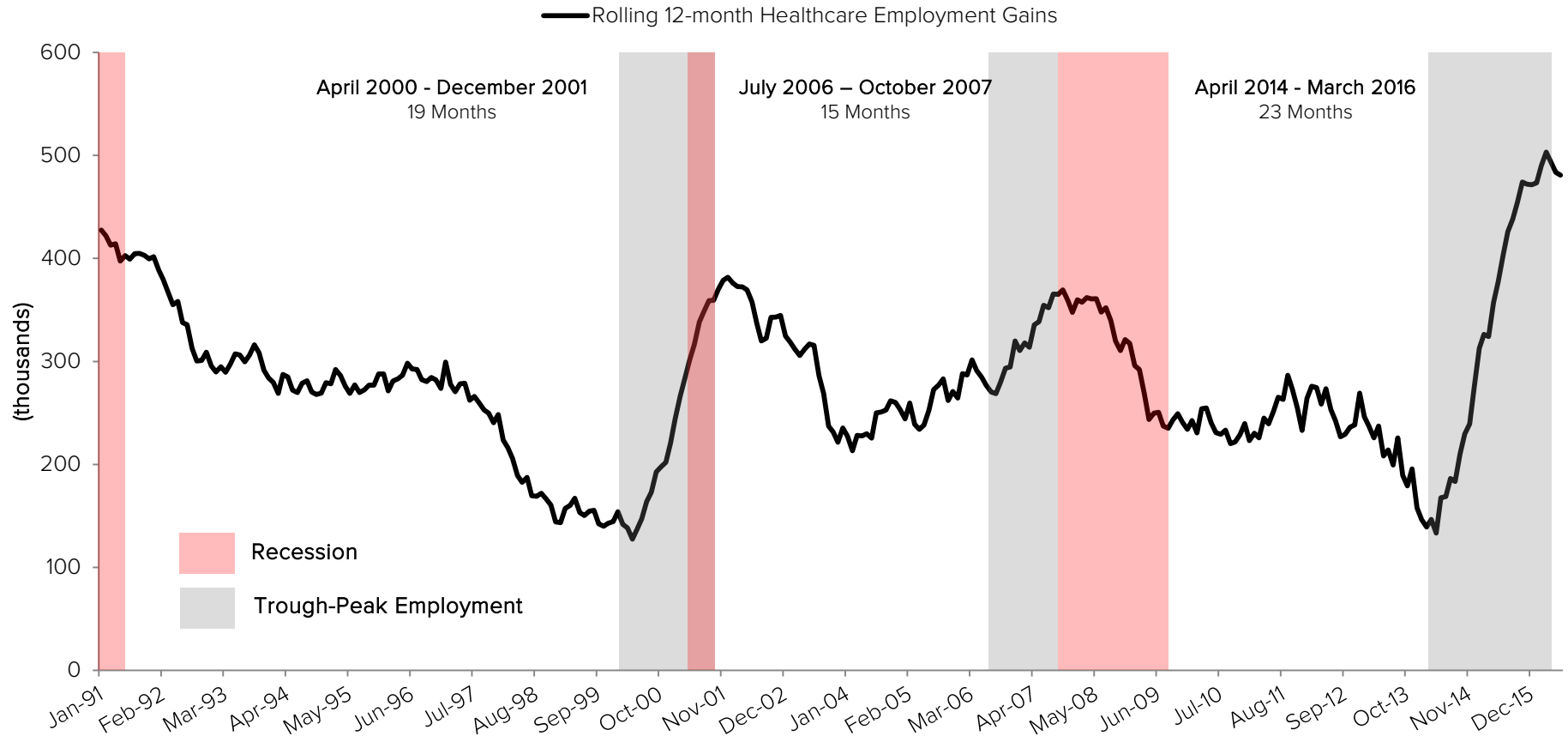


REAL PCE MEDICAL LABORATORIES

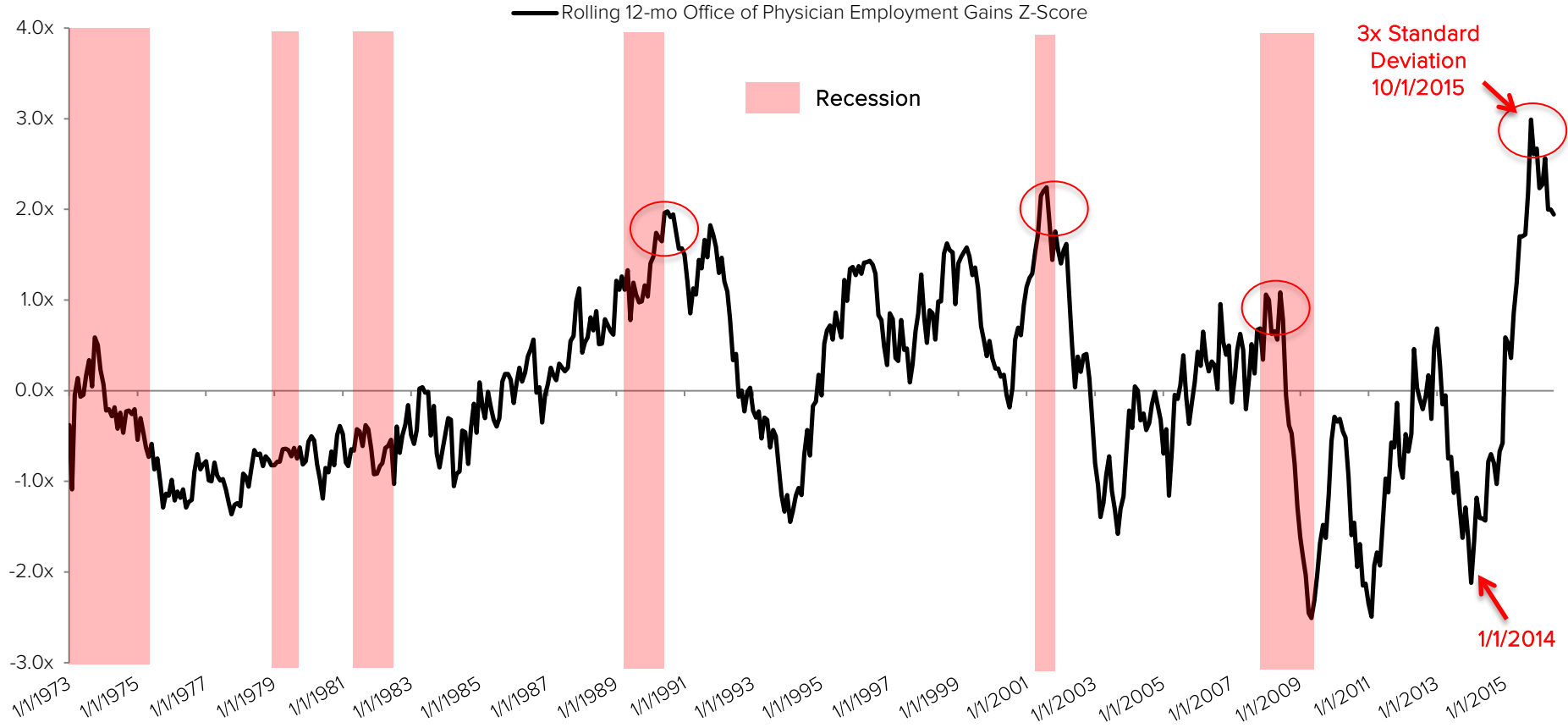
ACCELERATION IN DIAGNOSTIC TESTING GROWTH



HEALTHCARE EMPLOYMENT GAINS

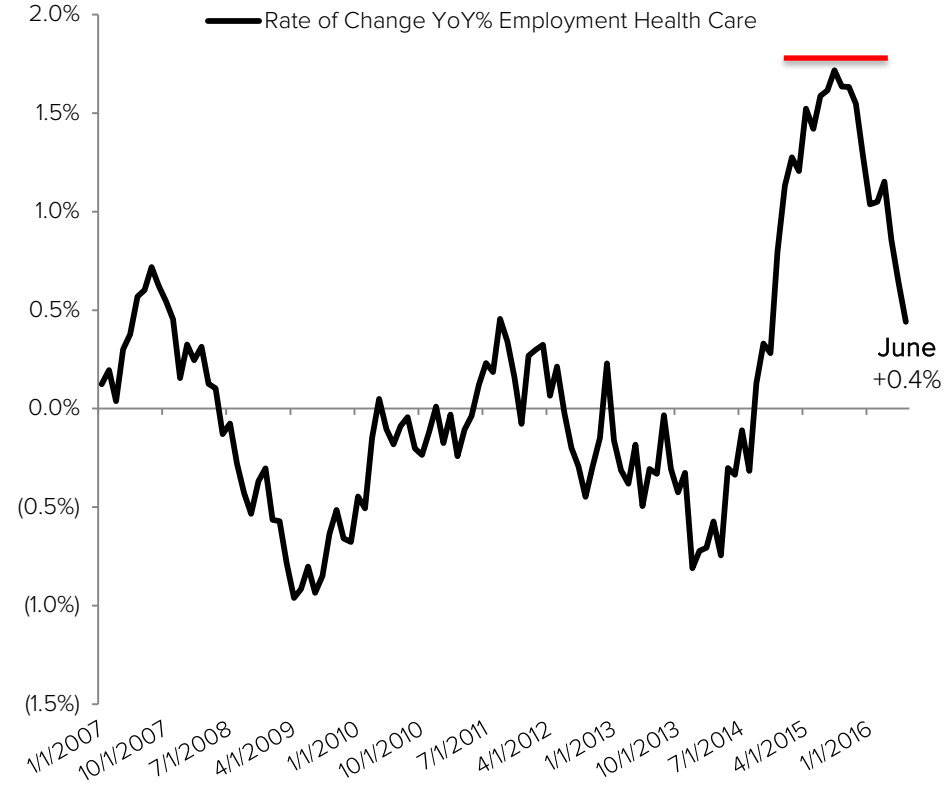
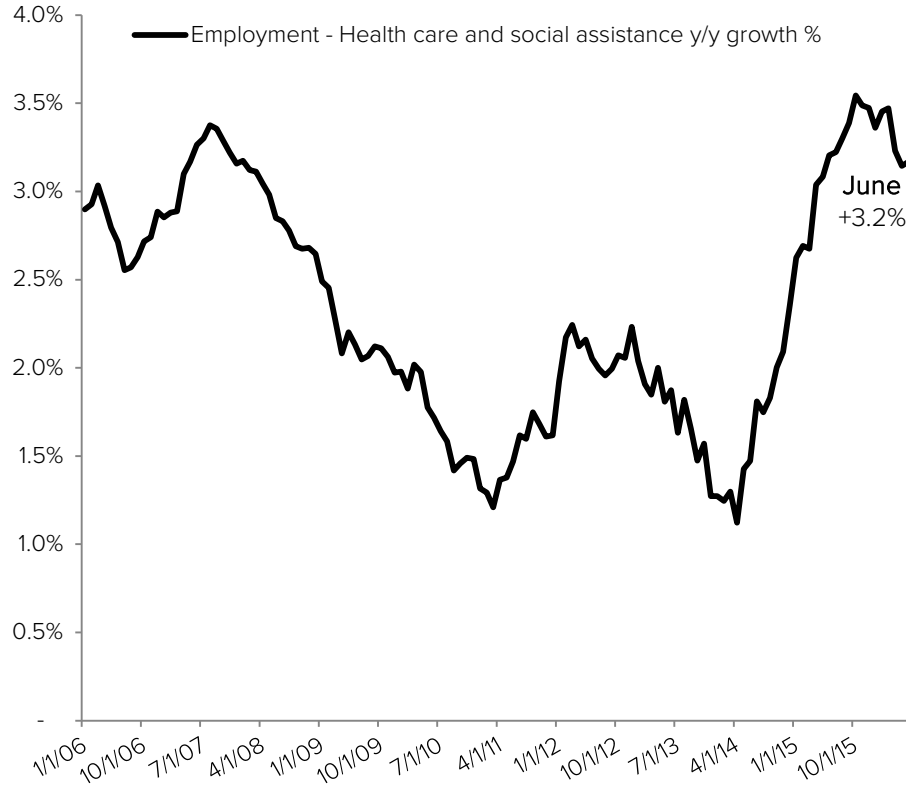


PHYSICIAN EMPLOYMENT GAINS

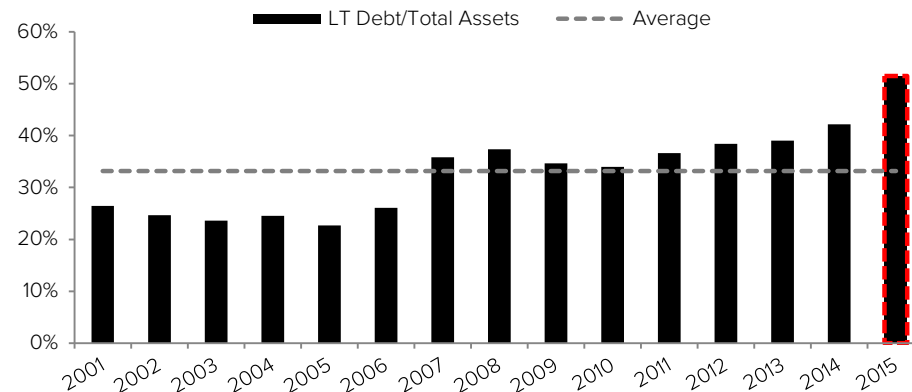
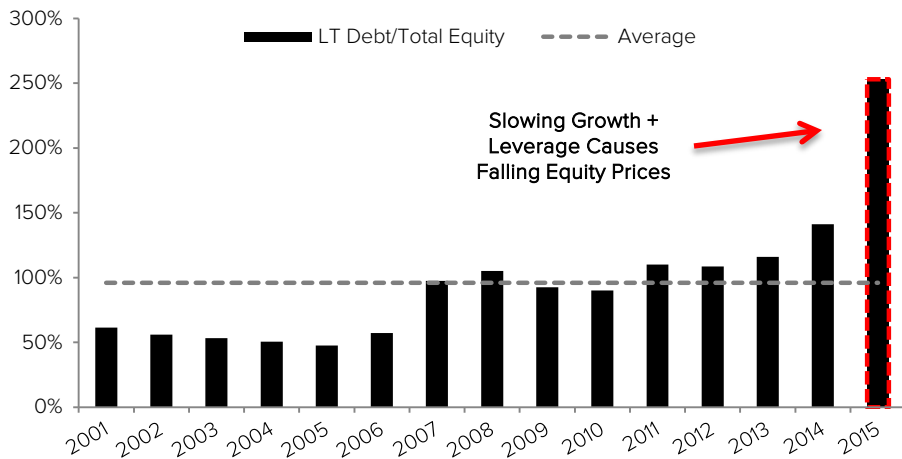
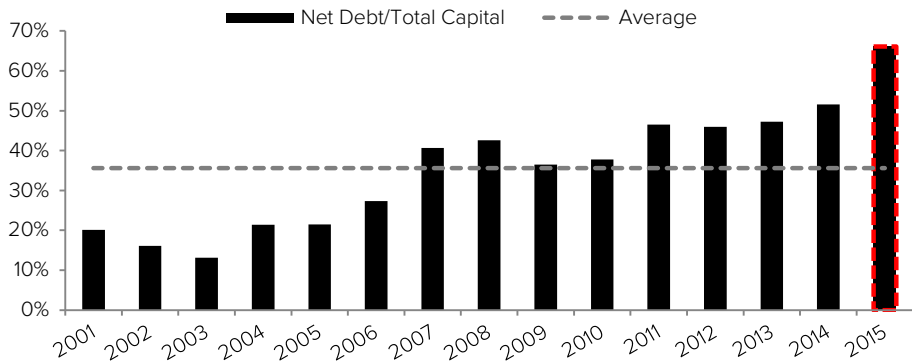
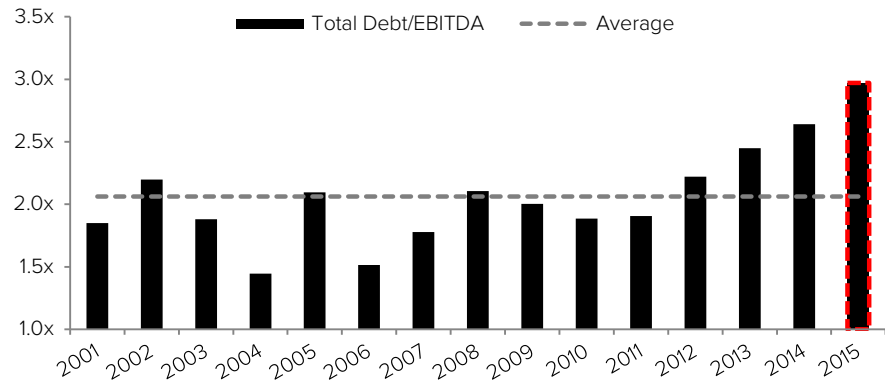


HEALTHCARE EMPLOYMENT

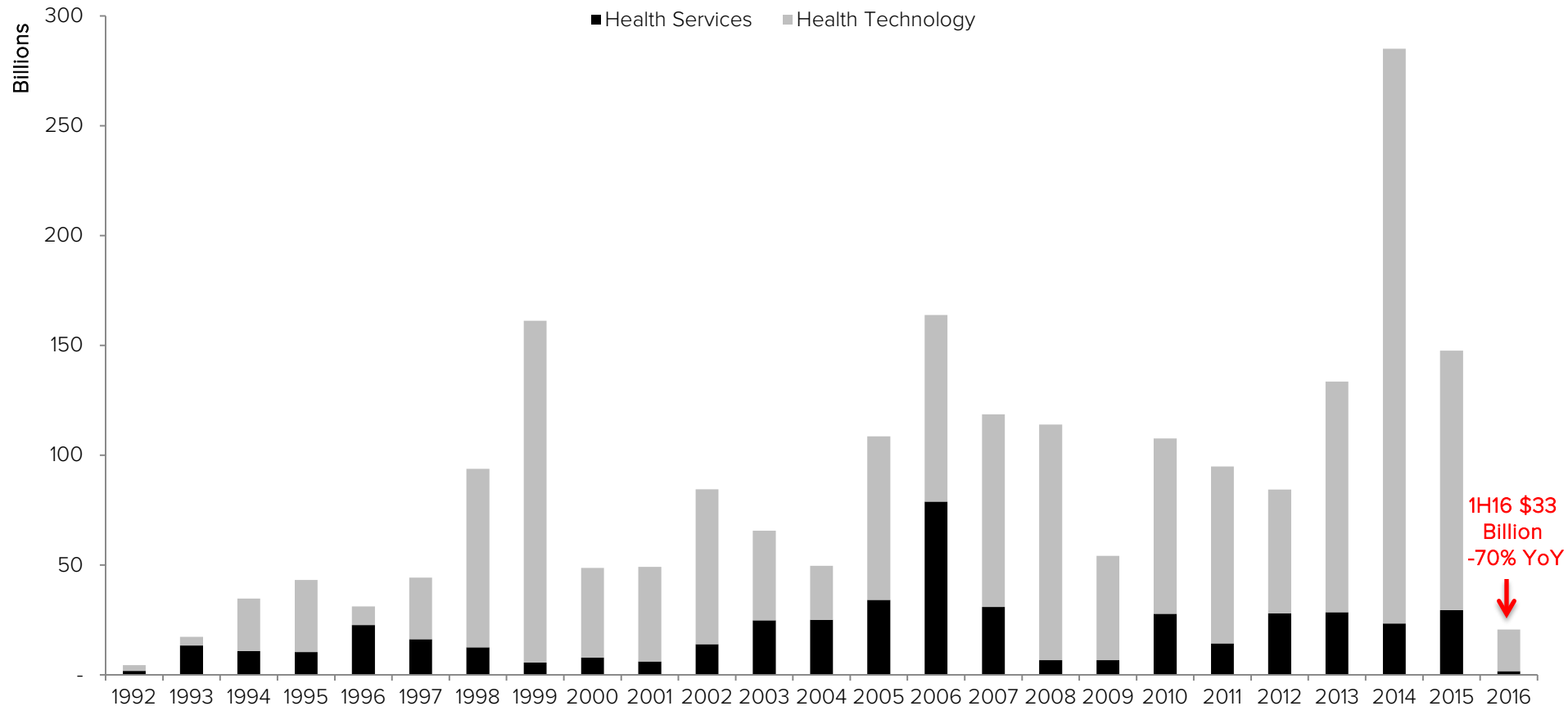
CONTINUES TO SLOW...



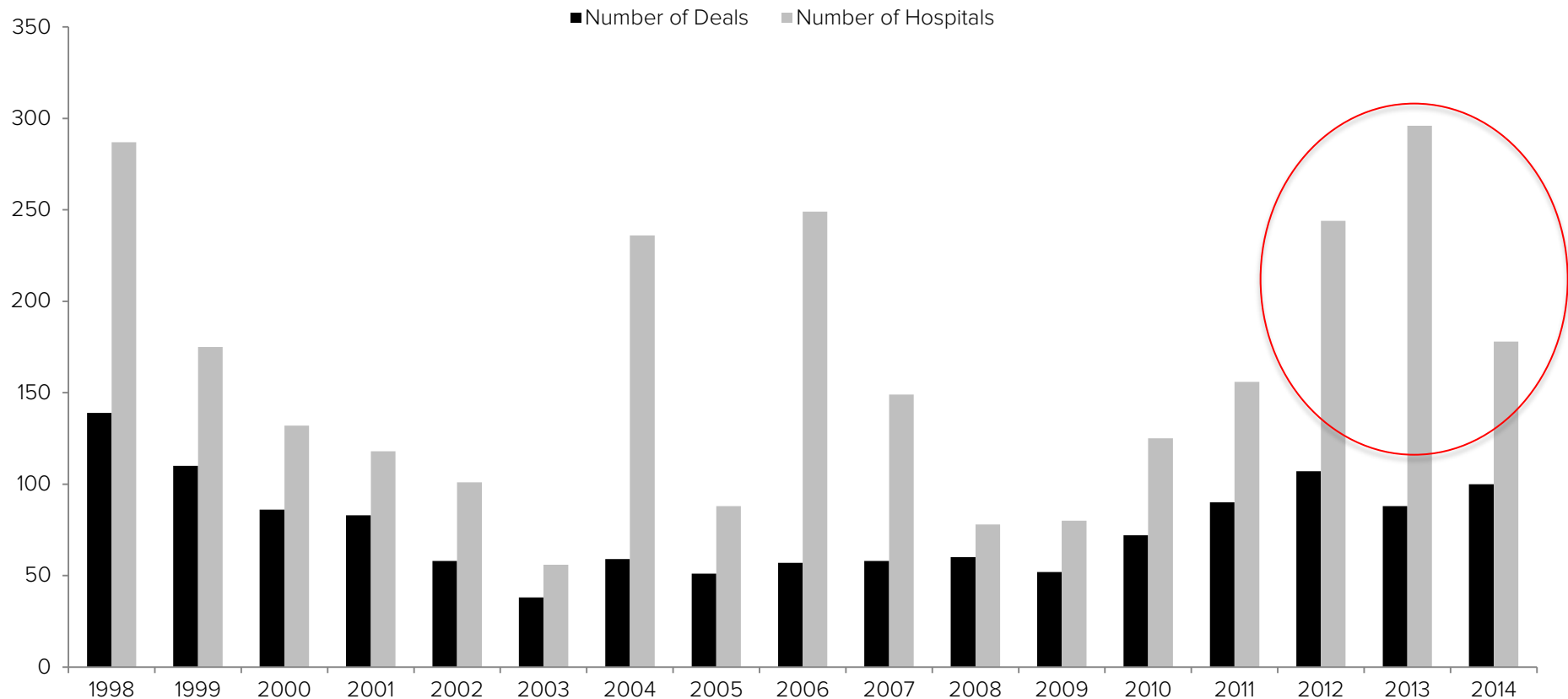
LEVERAGE AT 15-YEAR HIGH



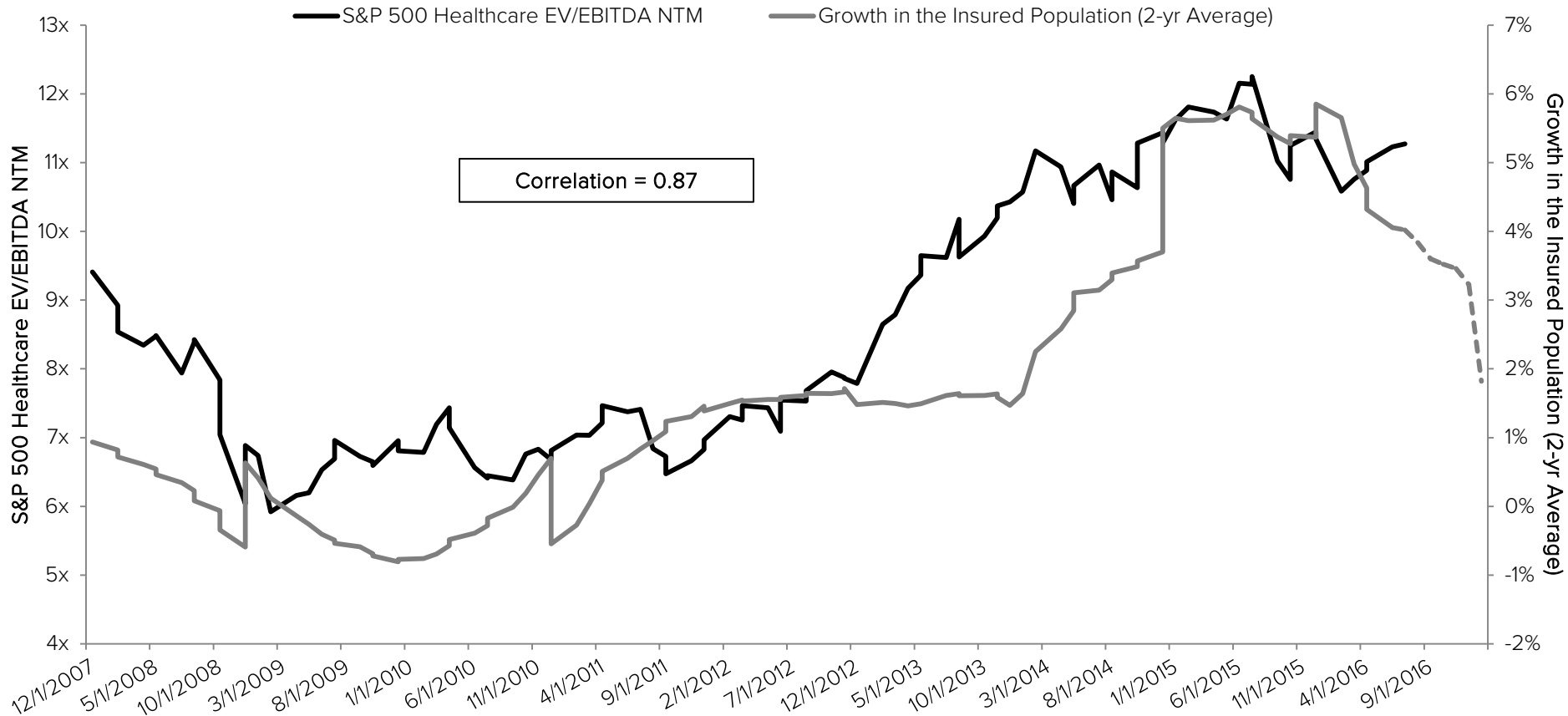
GLOBAL HEALTHCARE M&A ACTIVITY



ANNOUNCED HOSPITAL M&A

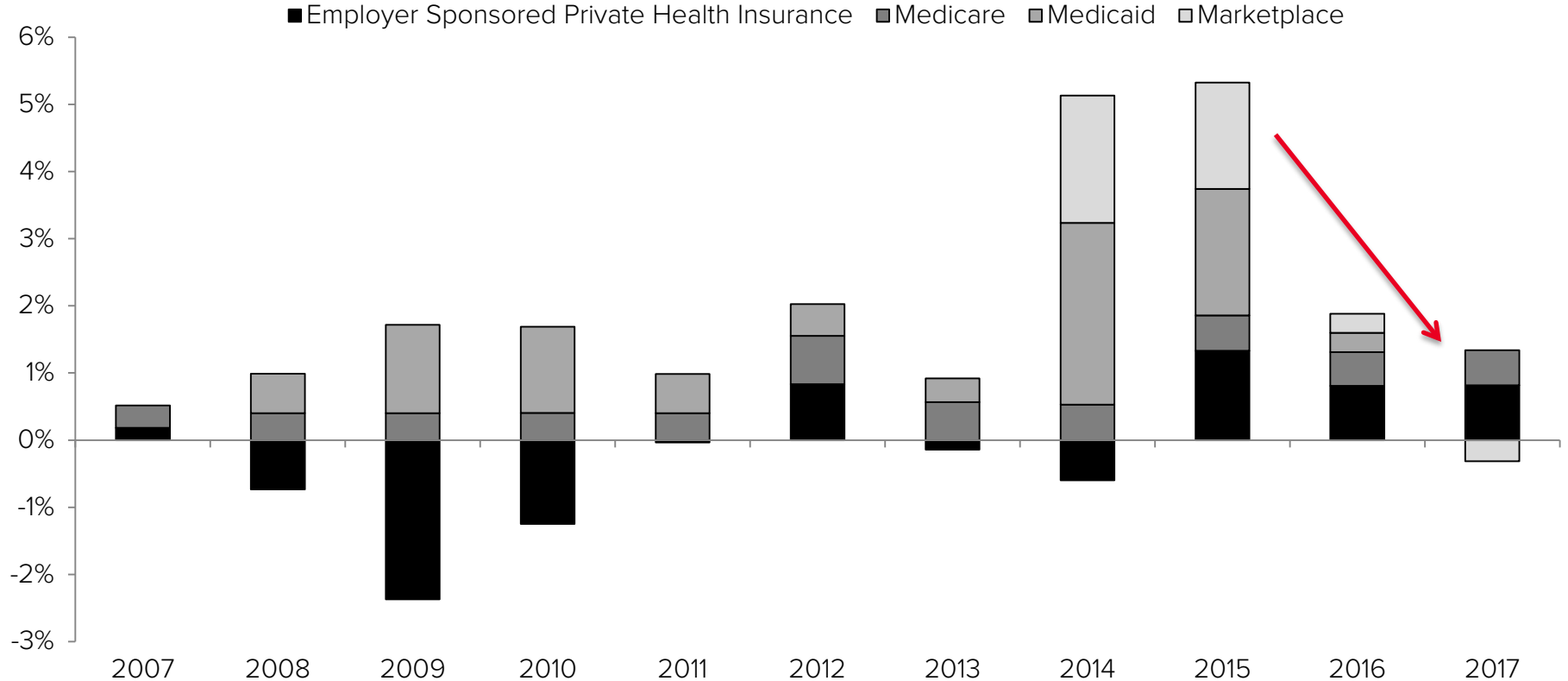


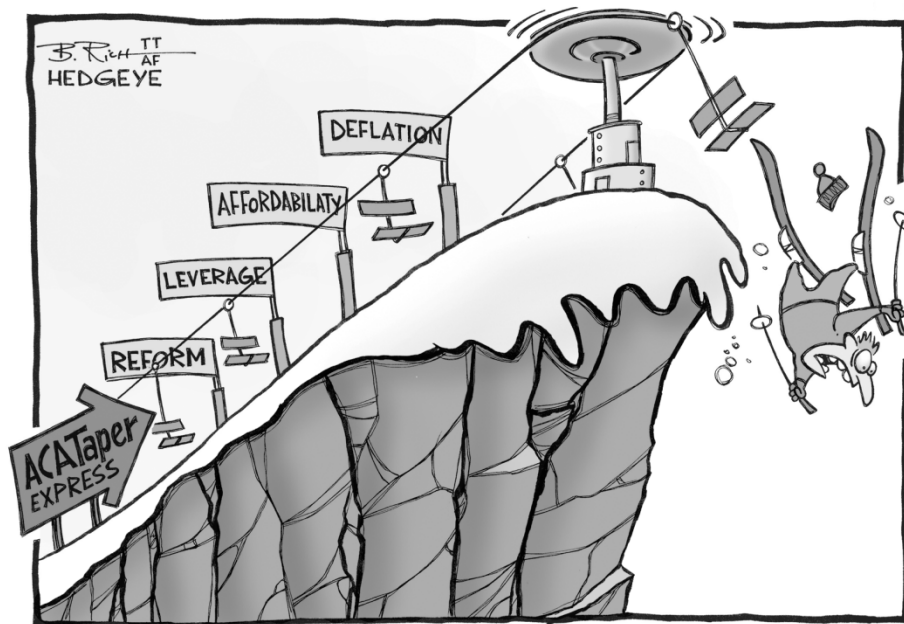
INSURED POPULATION GROWTH



WHERE TO FROM HERE?

MEDICAL CONSUMER SLOWDOWN

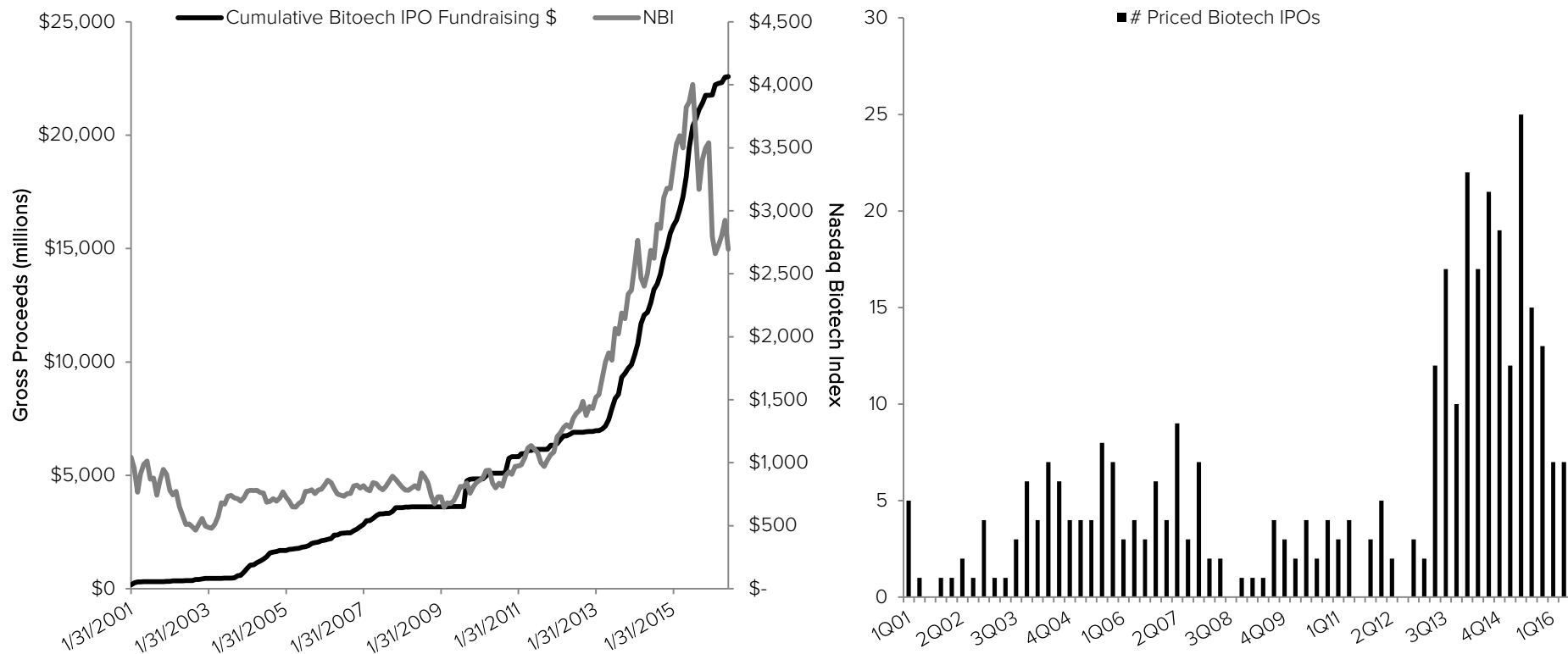




#BIOBUBBLE

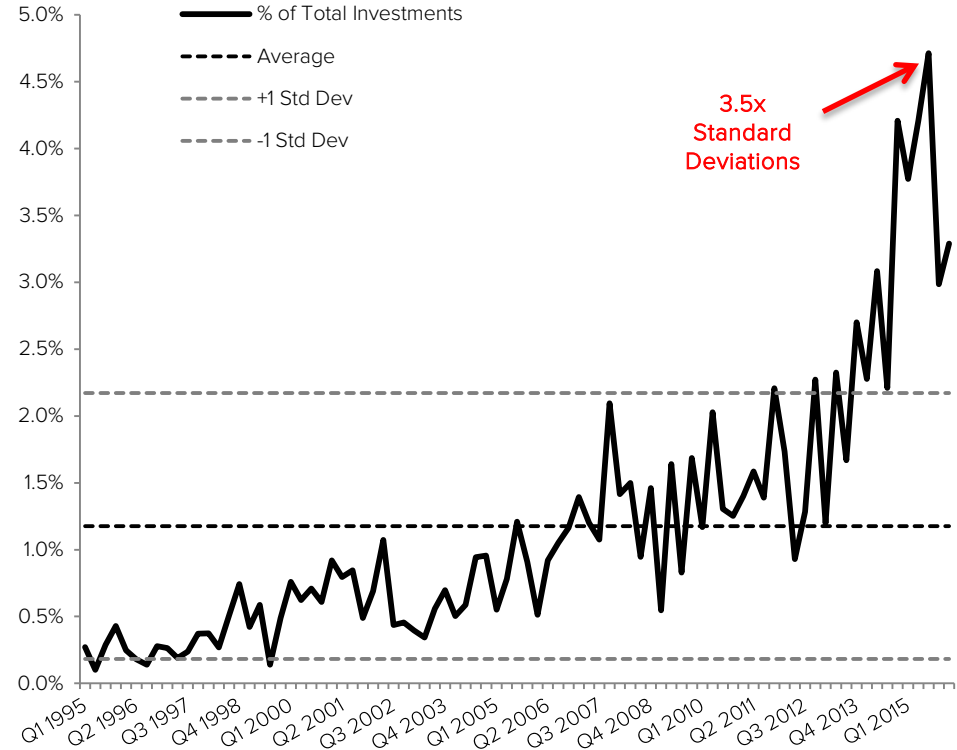
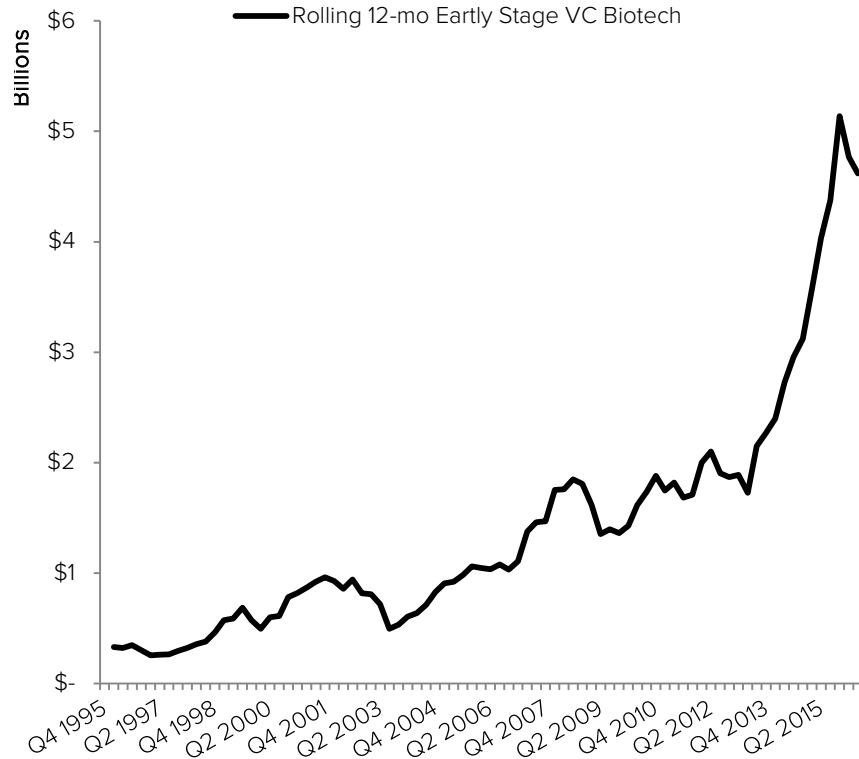
BIOTECH PERFORMANCE

IT IS ALL ABOUT THE MARGINAL FUNDRAISING DOLLAR



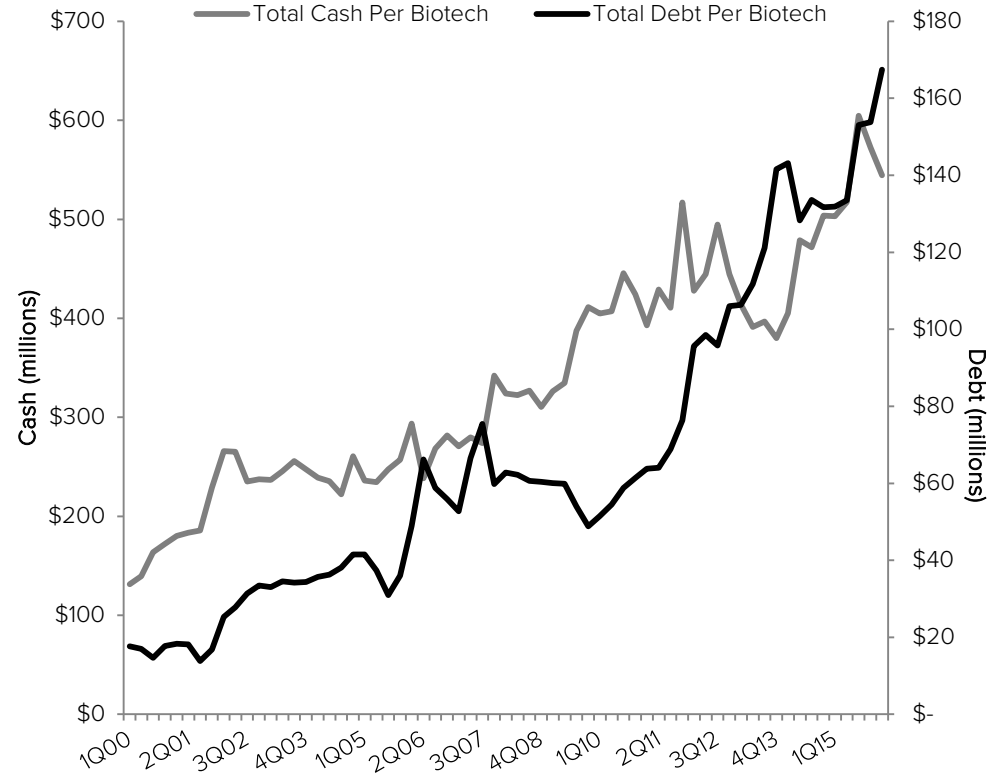
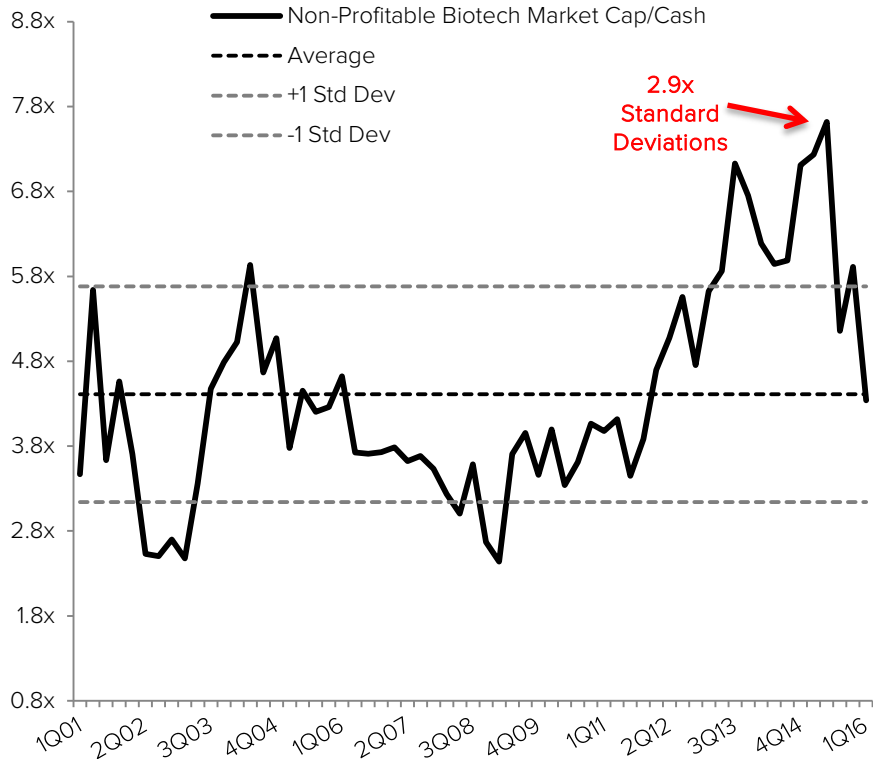
BIOTECH VENTURE CAPITAL

...IT'S NOT JUST THE PUBLIC MARKETS



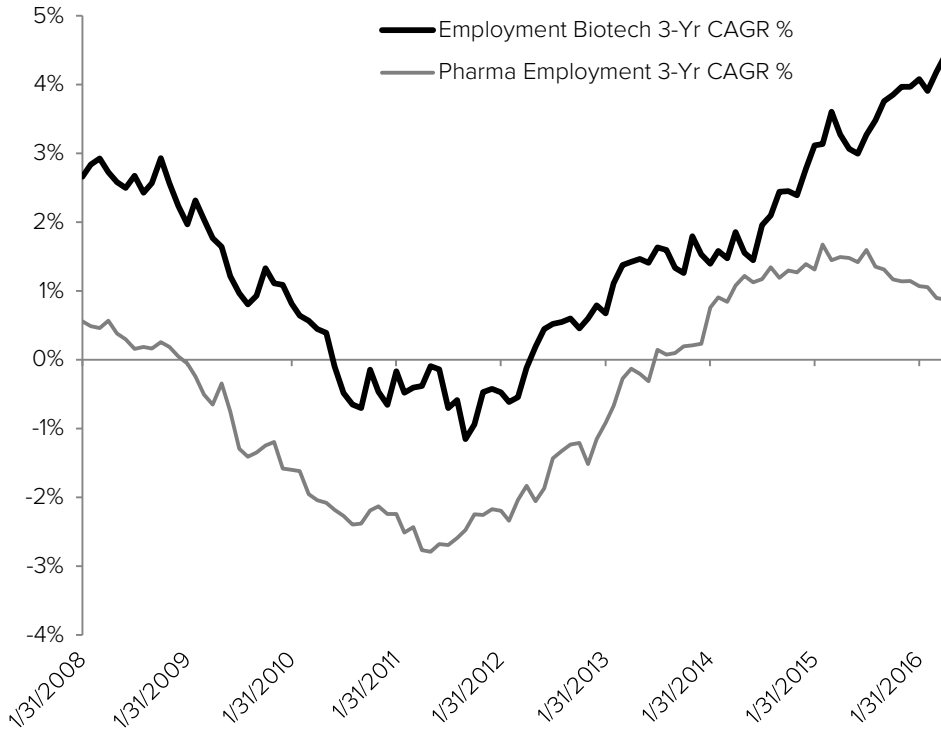
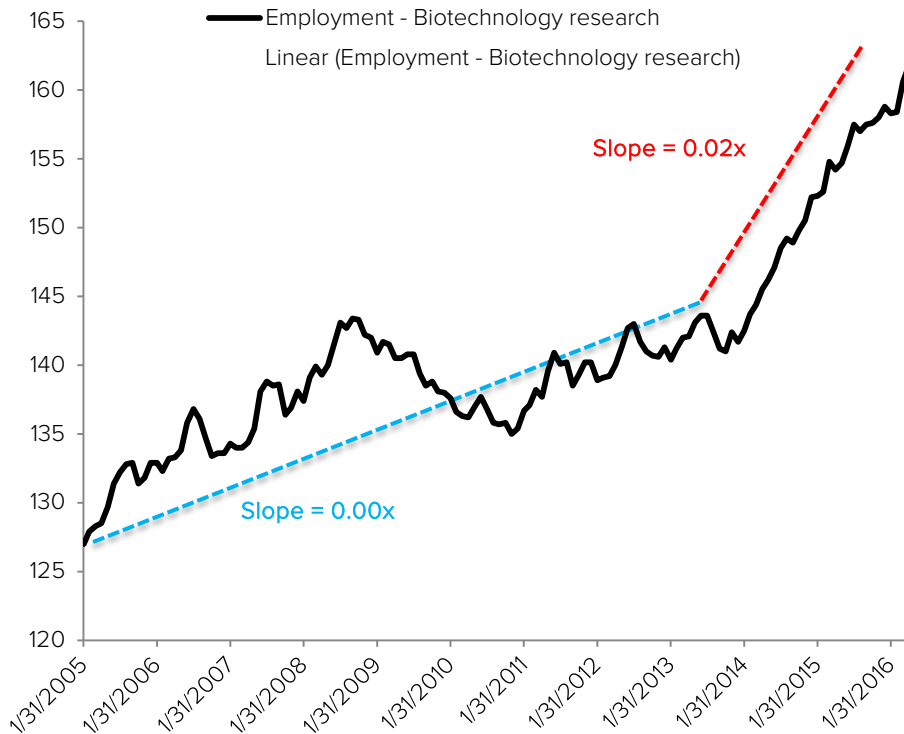
BIOTECH EQUITY-TO-CASH VALUE

STORY STOCKS NEED CASH

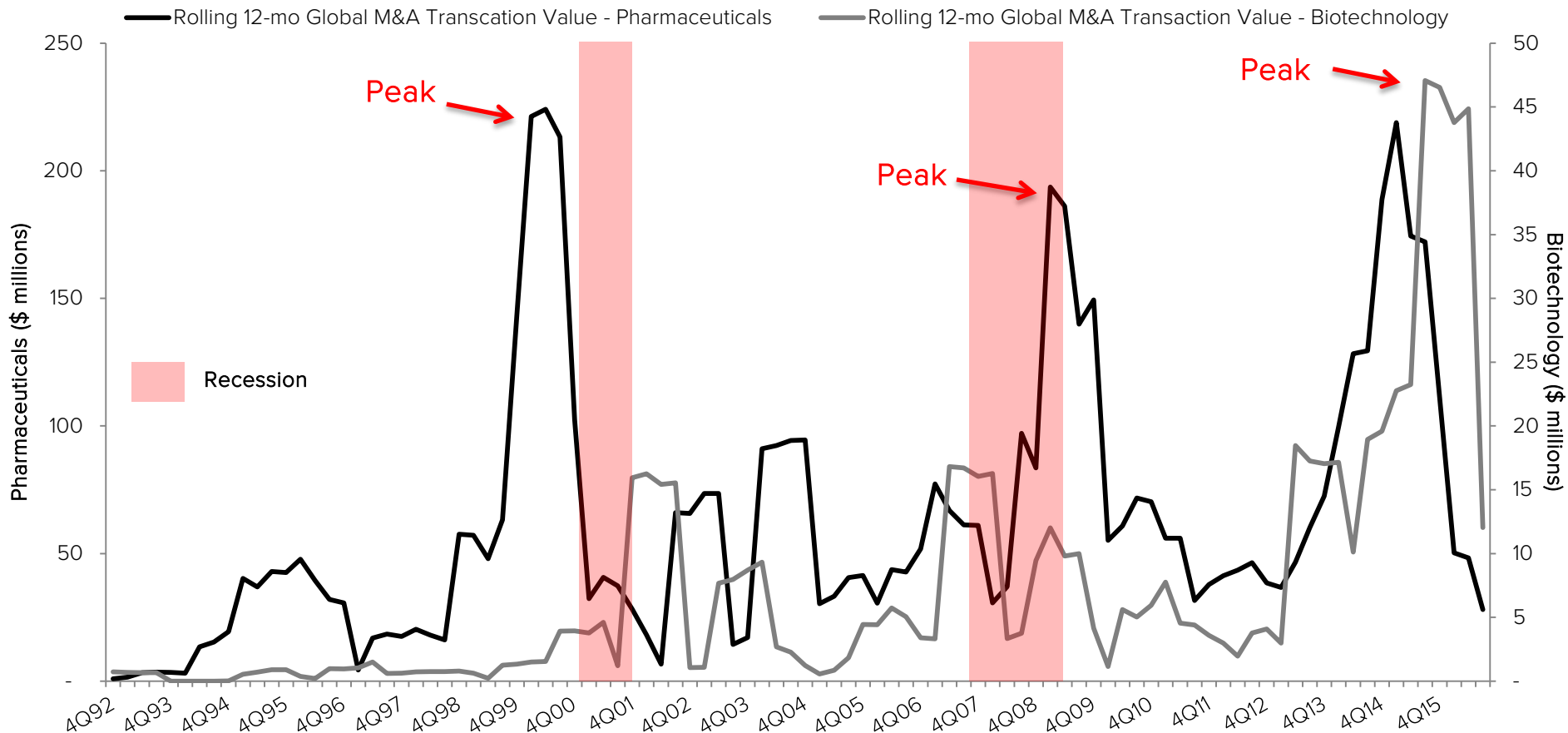


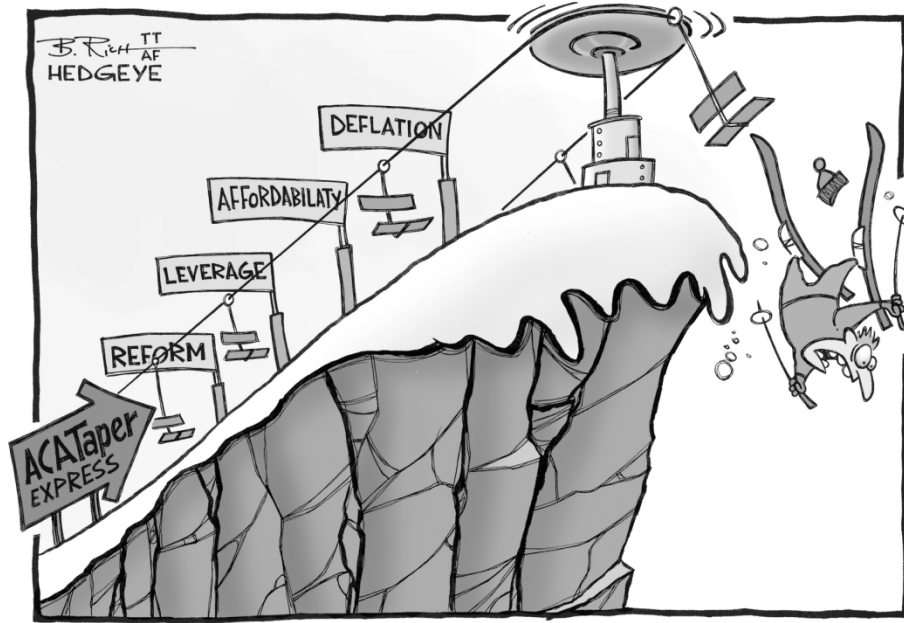
BIOTECH EMPLOYMENT

ACCELERATED 6-12 MONTHS AFTER FUNDRAISING SPIKE



M&A IS LATE CYCLE

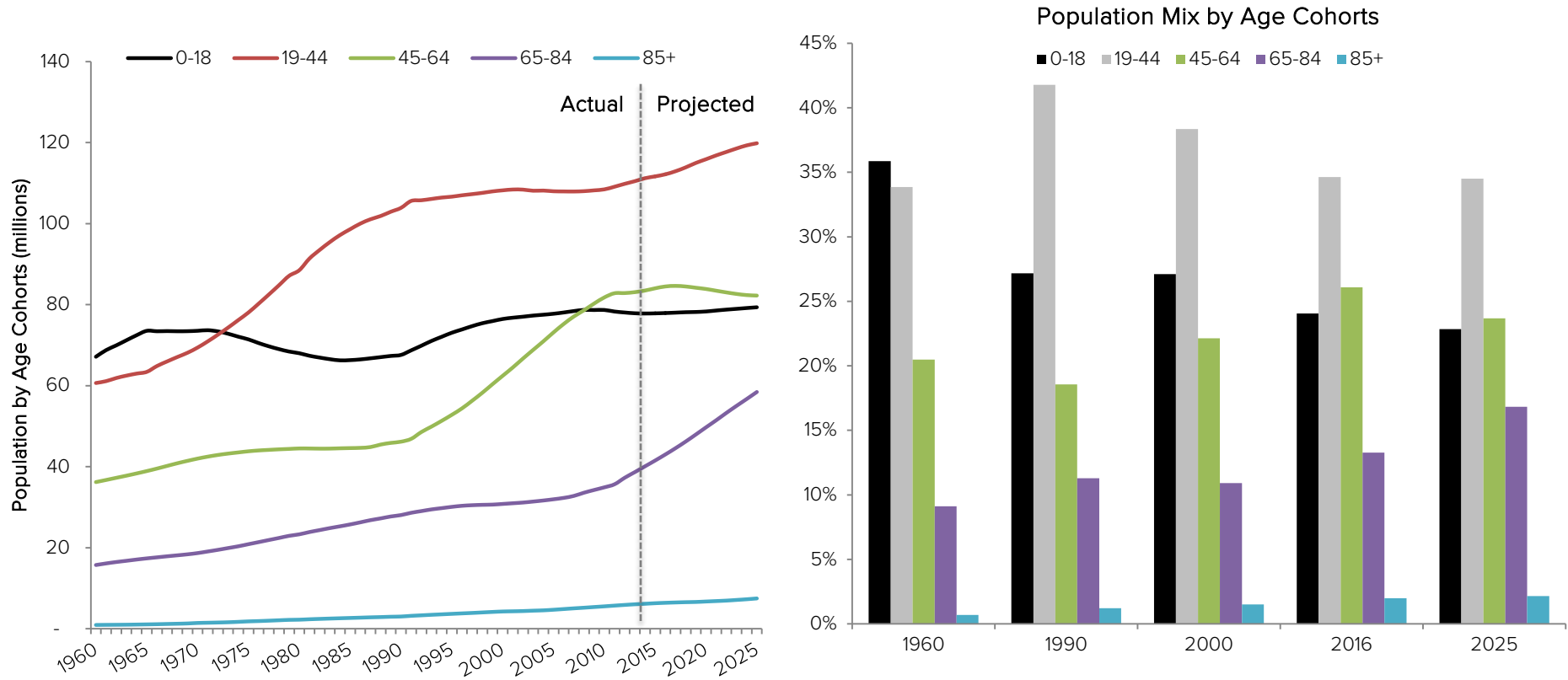




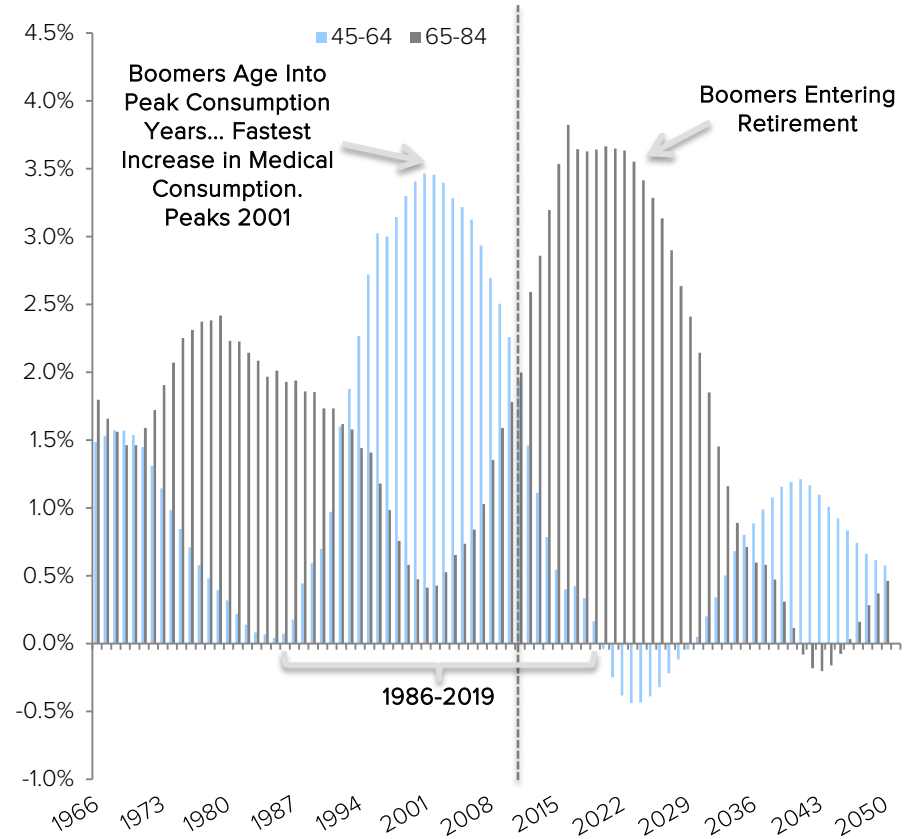
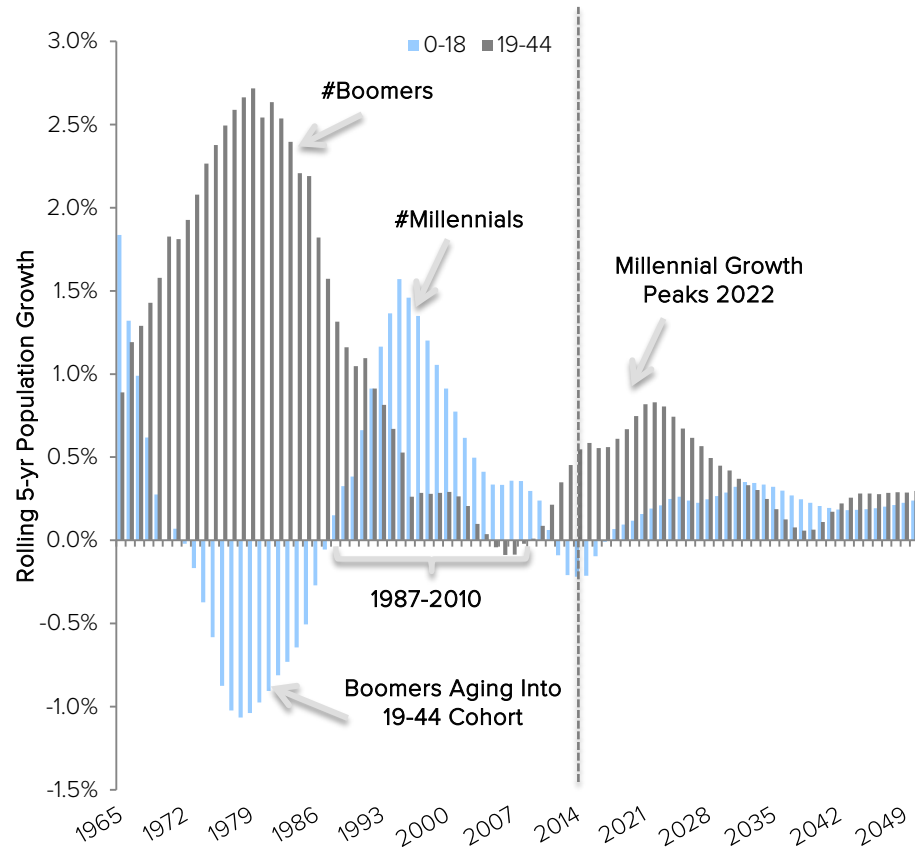
#DEMOGRAPHICS

CENSUS POPULATION ESTIMATES

“THE GRAYING OF AMERICA” IS OVERSTATED



POPULATION GROWTH OVER TIME

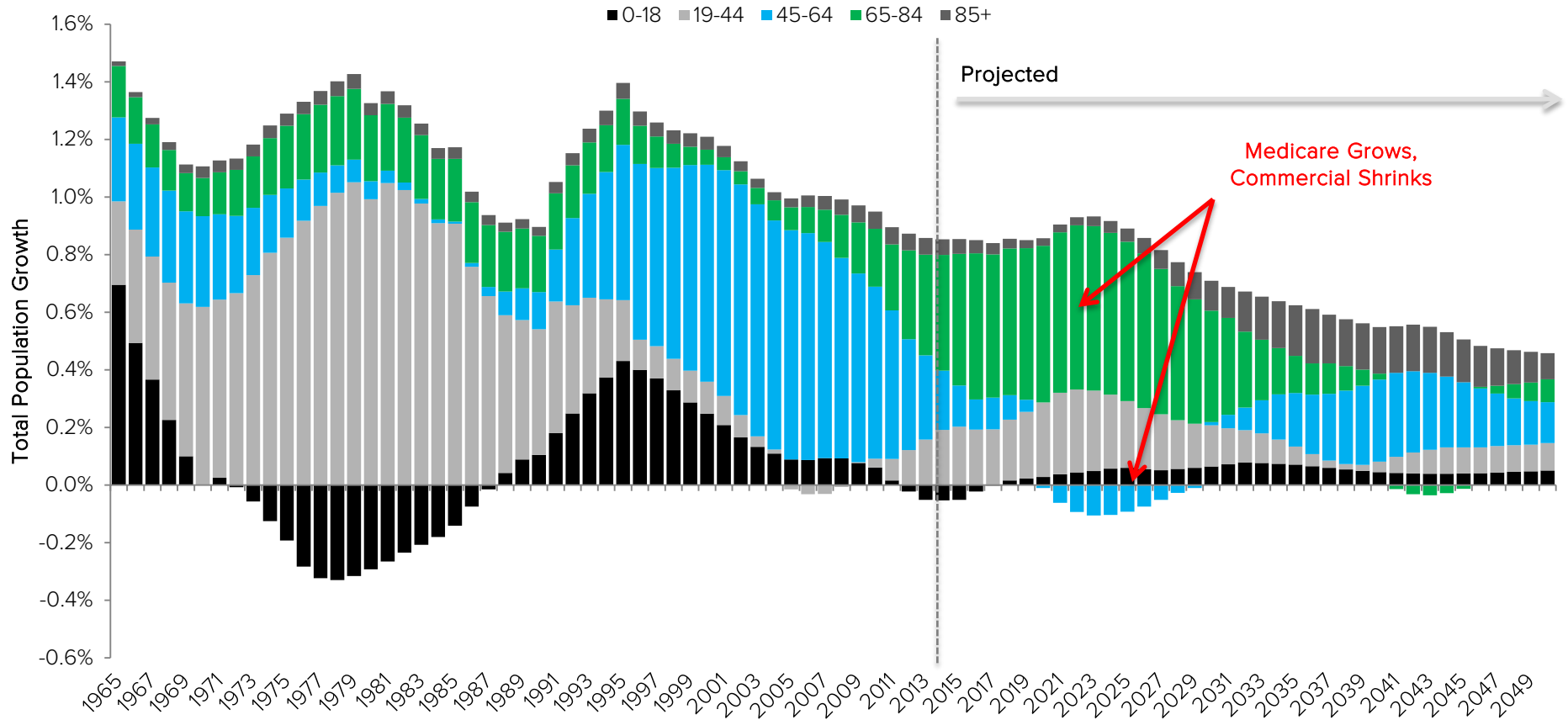


\$124K + NEEDED FOR 90% CHANCE

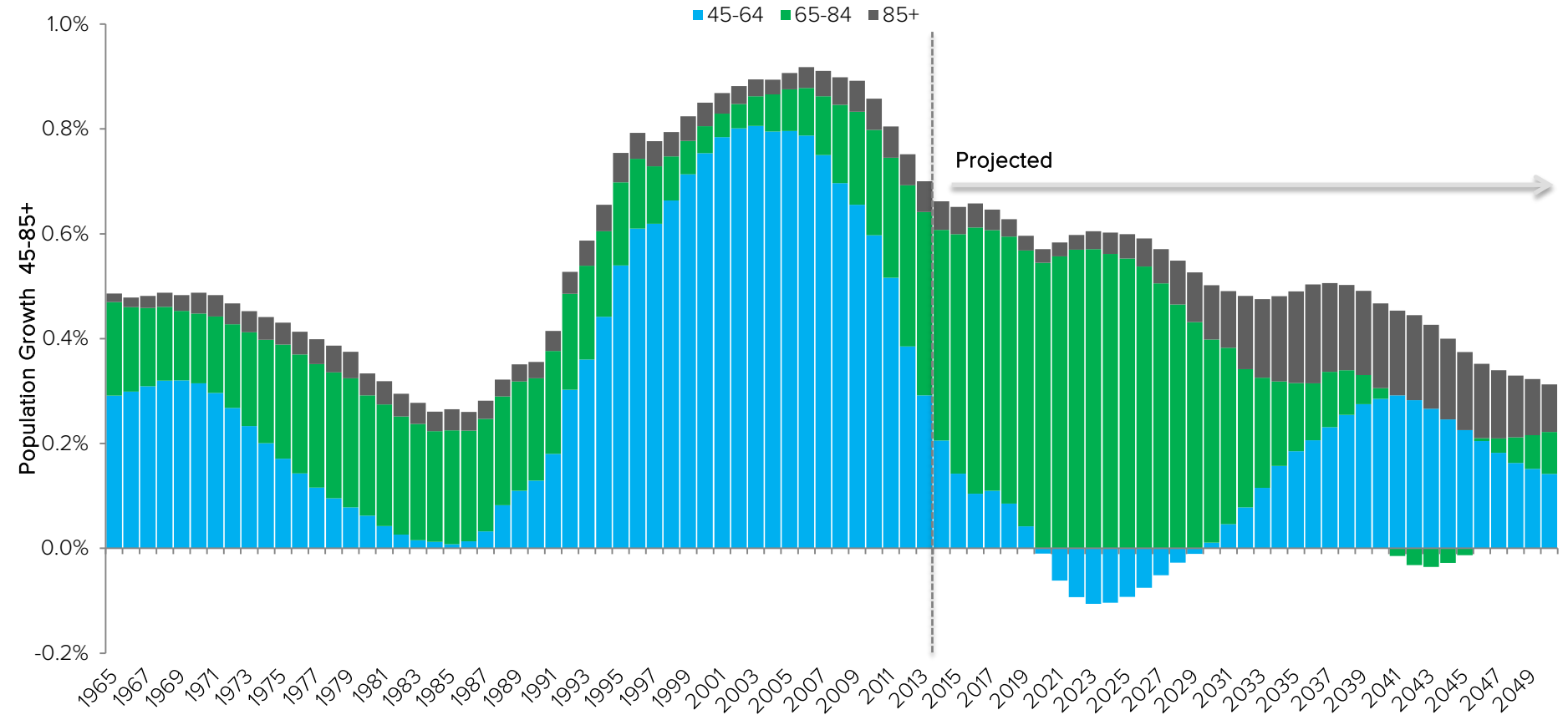
Amount of Savings Needed for Health Expenses for People Eligible for Medicare: Unlike the Last Few Years, the News Is Not Good, by Paul Fronstin, Dallas Salisbury, and Jack VanDerhei, EBRI ([Click Here](#))

- Medicare beneficiaries pay a share of their health expenses out-of-pocket because of program deductibles and other cost sharing. In 2012, Medicare covered 60 percent of the cost of health care services for Medicare beneficiaries ages 65 and older, while out-of-pocket spending accounted for 13 percent, and private insurance covered 15 percent.
- In 2015, a 65-year-old man needs \$68,000 in savings and a 65-year-old woman needs \$89,000 if each has a goal of having a 50 percent chance of having enough money saved to cover health care expenses in retirement. If either instead wants a 90 percent chance of having enough savings, \$124,000 is needed for a man and \$140,000 is needed for a woman. This analysis does not factor in the savings needed to cover long-term care expenses.
- Savings targets increased between 6 percent and 21 percent between 2014 and 2015. For a married couple both with drug expenses at the 90th percentile throughout retirement who want a 90 percent chance of having enough money saved for health care expenses in retirement by age 65, targeted savings increased from \$326,000 in 2014 to \$392,000 in 2015.

AGING POPULATION GROWTH

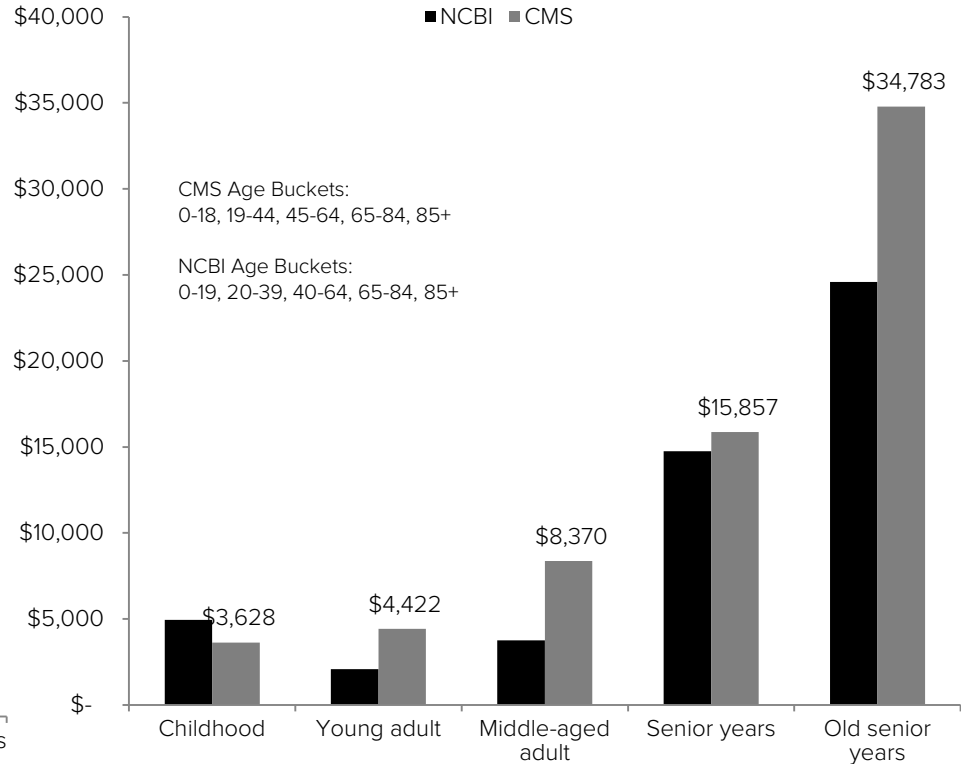
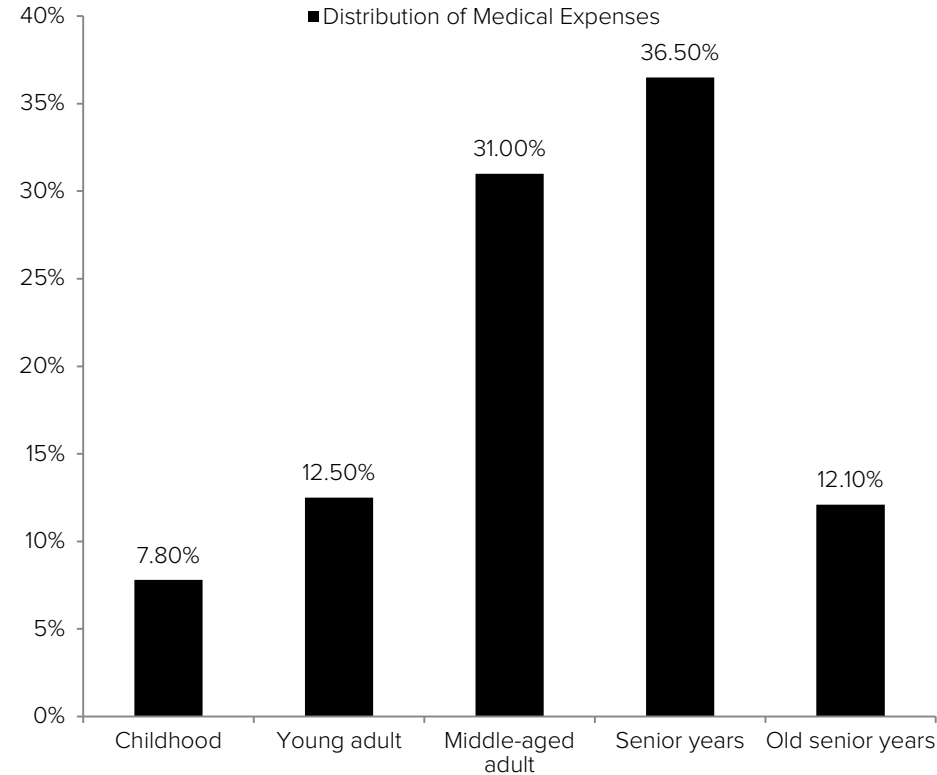


AGING POPULATION GROWTH



DISTRIBUTION MEDICAL EXPENSES

AGE 40-84 PEAK MEDICAL CONSUMPTION



DISTRIBUTION MEDICAL EXPENSES

Table 3

Age-Specific Annual and Lifetime Per Capita Expenditure. Life Table Cohort, and Survivors

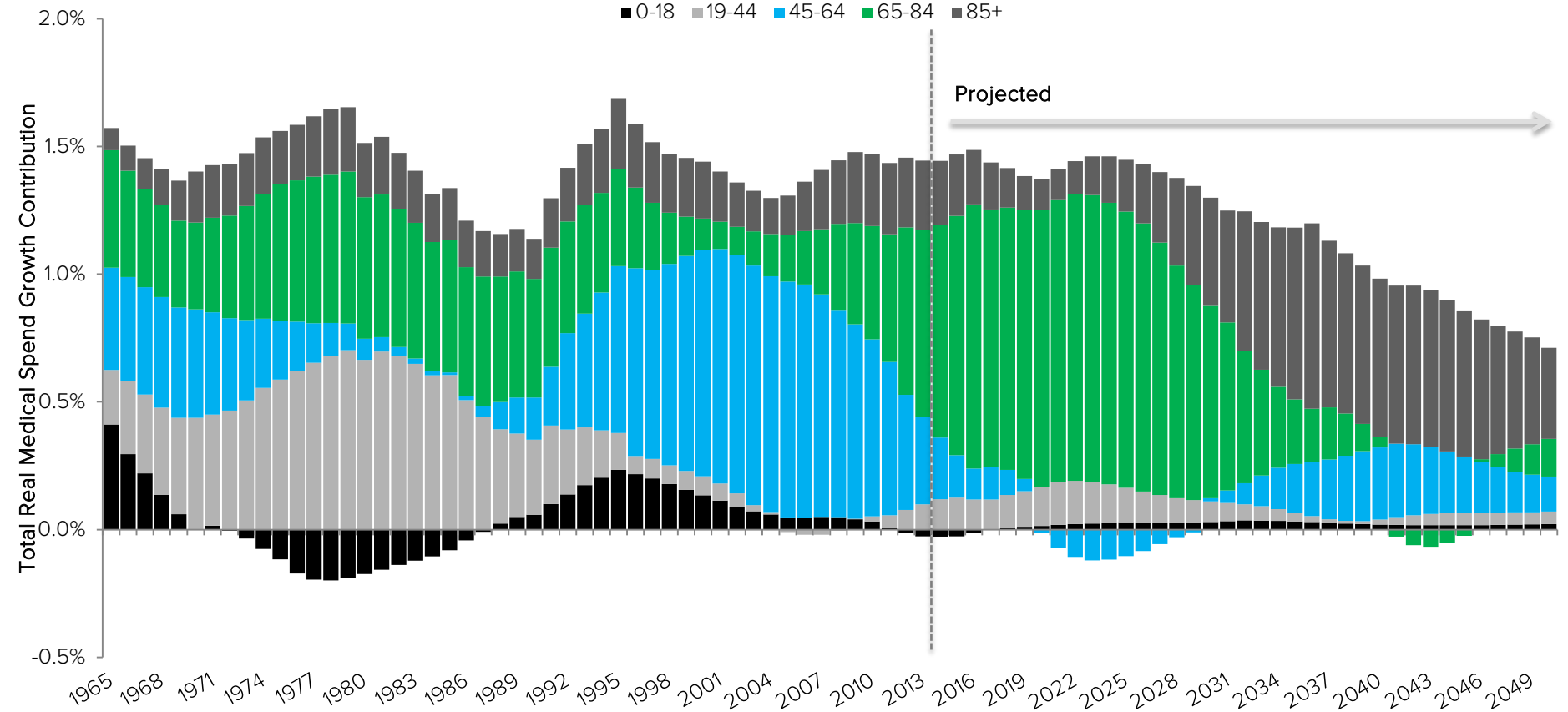
Age	Life Table Cohort			Survivors	
	Annual Per Capita Expenditure	Lifetime Per Capita Expenditure (LEba)	Relative Lifetime Expenditure (RLEba)	Annual Per Capita Expenditure	Lifetime Per Capita Expenditure
0	\$ 3,432	\$ 316,579	100.0%	\$ 2,920	\$ 316,579
20	\$ 1,448	\$ 291,745	92.2%	\$ 1,255	\$ 296,363
40	\$ 2,601	\$ 252,082	79.6%	\$ 1,929	\$ 262,124
65	\$ 10,245	\$ 153,944	48.6%	\$ 7,702	\$ 188,658
85	\$ 17,071	\$ 38,400	12.1%	\$ 7,688	\$ 113,685

Table 4

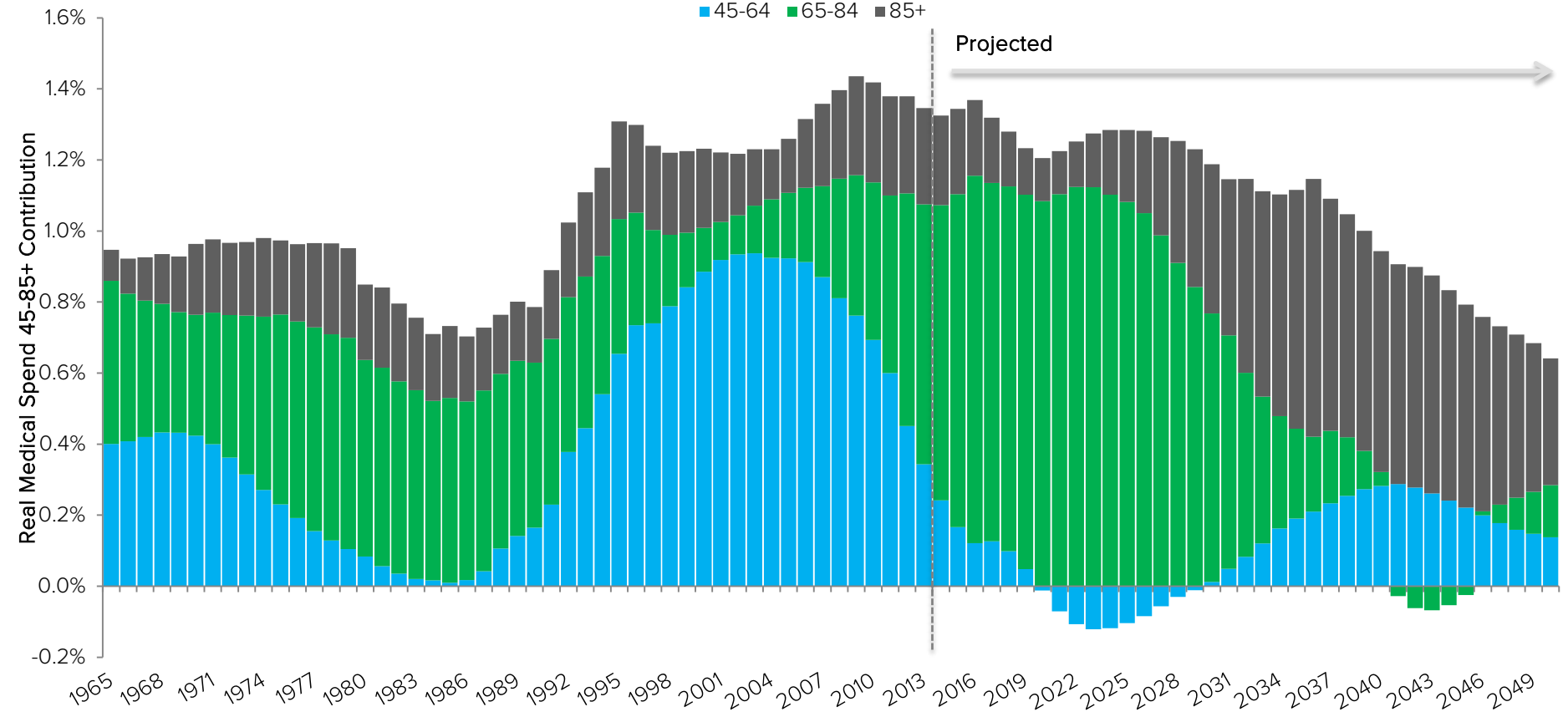
Relative Lifetime Per Capita Expenditure at Different Age Intervals, Life Table Cohort, and Survivors (Year 2000 Dollars)

Relative Lifetime Expenditure During	Life Table Cohort	Survivors
Childhood (0-19)	7.8%	6.4%
Young Adult (20-39)	12.5%	10.8%
Middle-Aged Adult (40-64)	31.0%	23.2%
Senior Years (65-84)	36.5%	23.7%
Old Senior Years (85+)	12.1%	35.9%

AGING AND MEDICAL SPEND

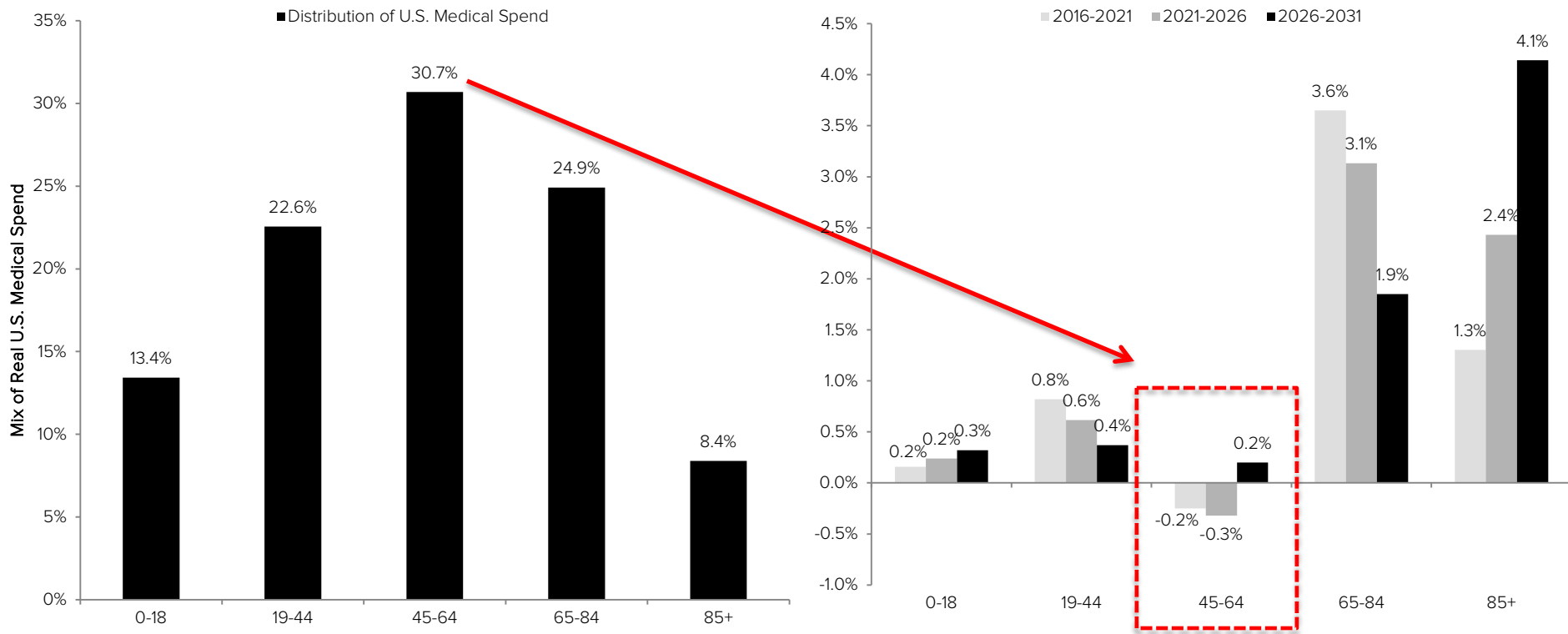


AGING AND MEDICAL SPEND



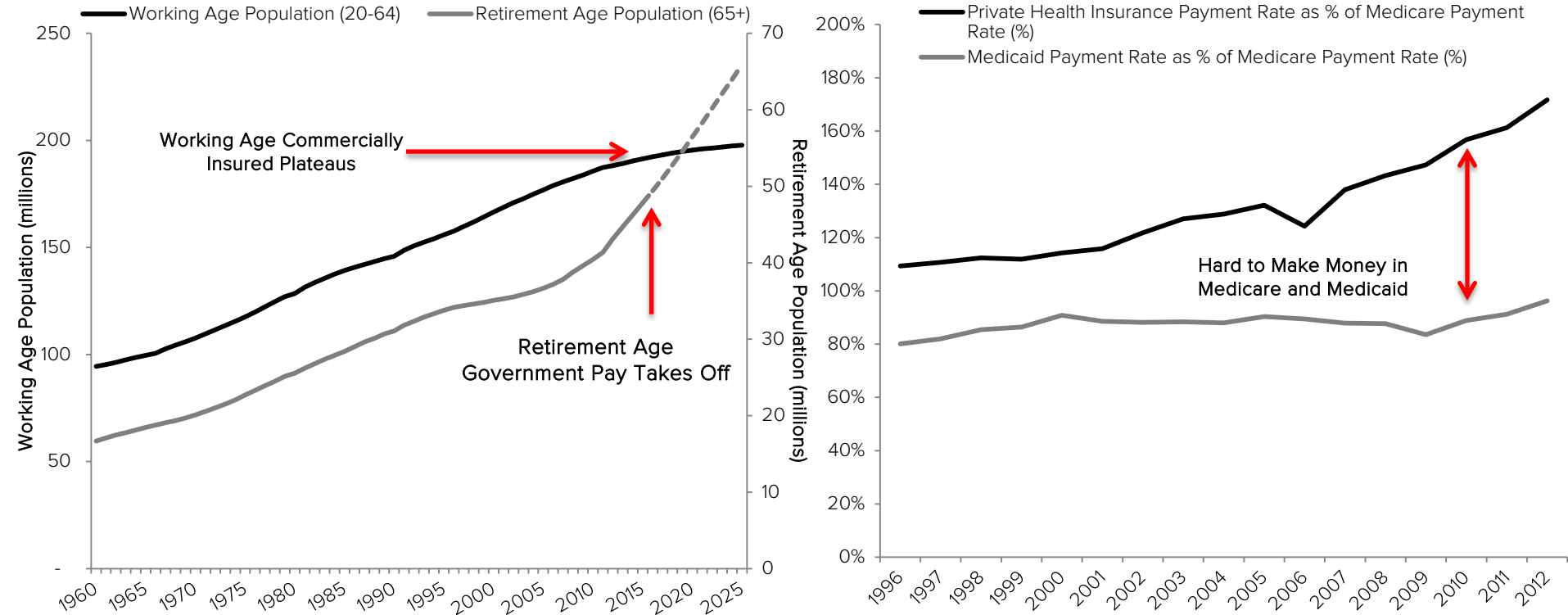
DISTRIBUTION TOTAL MEDICAL SPEND

NEGATIVE GROWTH IN LARGEST SPENDING COHORT



MIX SHIFT TOWARD GOVERNMENT PAY

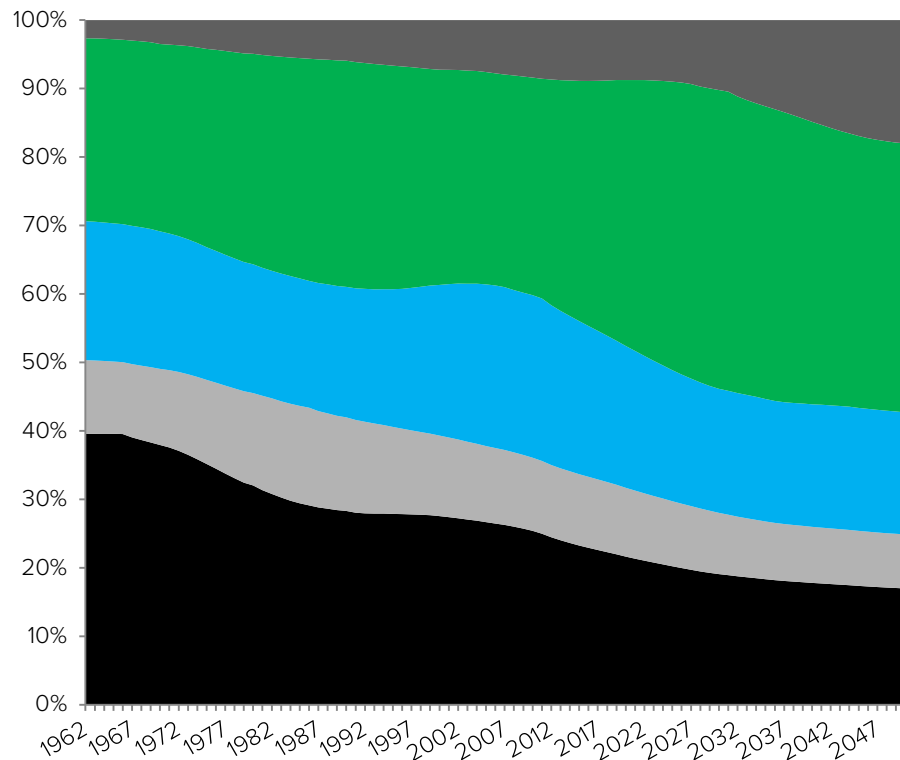
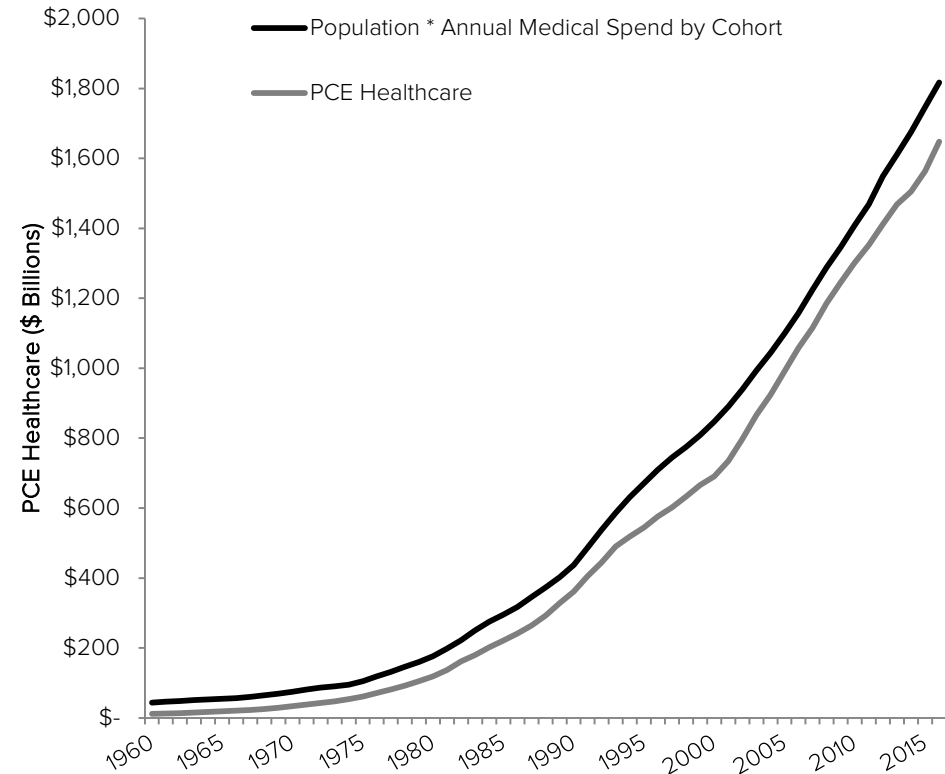
HARD TO MAKE MONEY IN MEDICARE AND MEDICAID



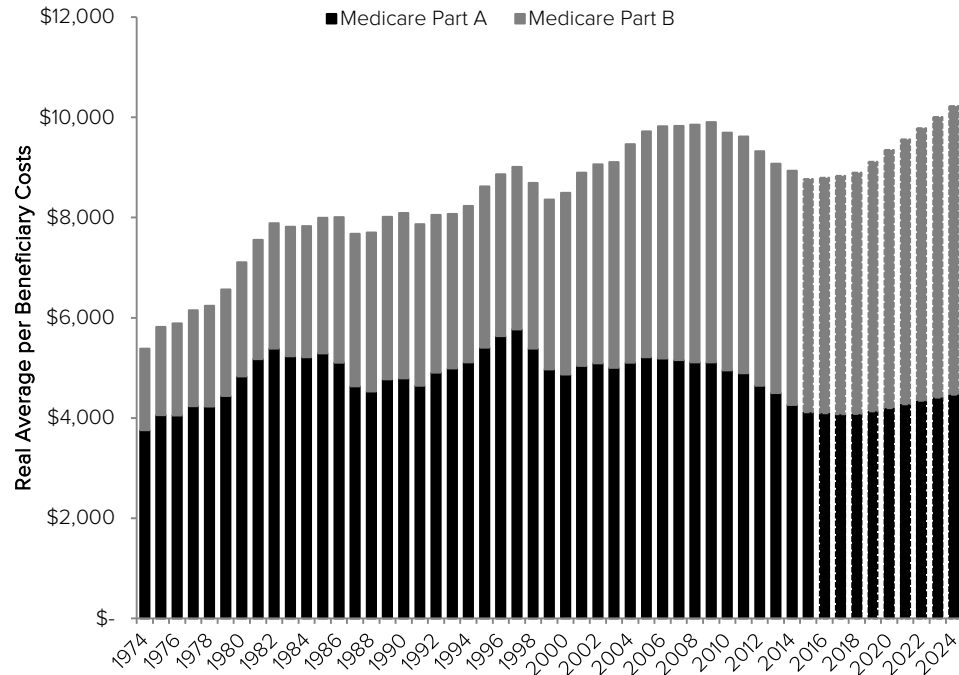
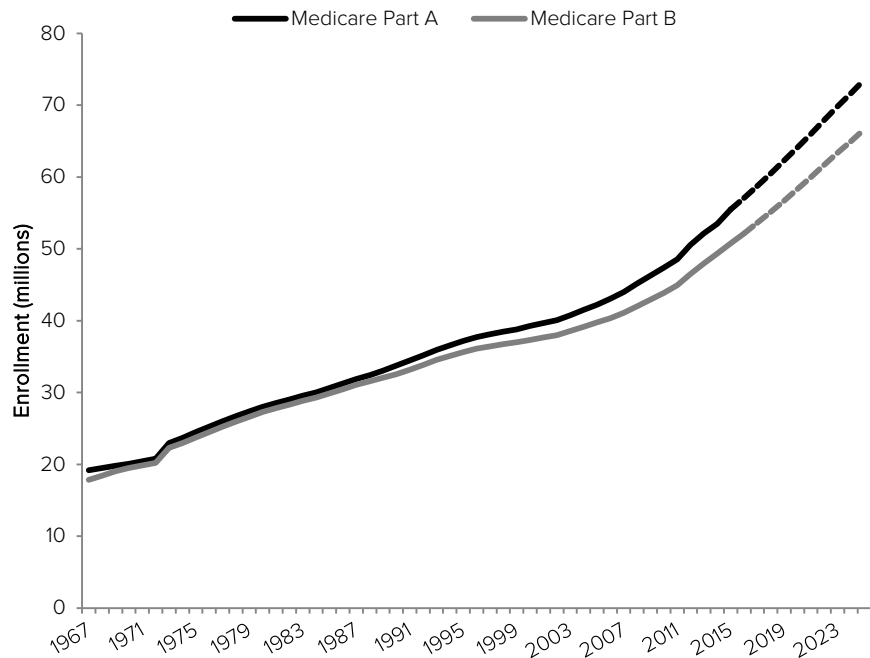
PCE AND MIX OF MEDICAL SPEND

COMMERCIALLY INSURED BUCKET SHRINKING

■ 0 - 19 ■ 20-39 ■ 40-64 ■ 65 - 84 ■ 85+



PROJECTED MEDICARE ENROLLMENT



REAL AVERAGE PER BENEFICIARY COST FLAT

While Medicare Enrollment increases, the real average per beneficiary cost is forecasted to remain essentially flat compared to 2009 peak. CMS forecasting decline in Part A expense, which is consistent with reform efforts.

CONCLUSIONS

1

COMMERCIAL INSURANCE DOLLARS SLOWING

The number and spending level in the most valuable part of the market is slowing. The annual contribution to growth from aging is too modest to offset the larger trend of population deceleration.

2

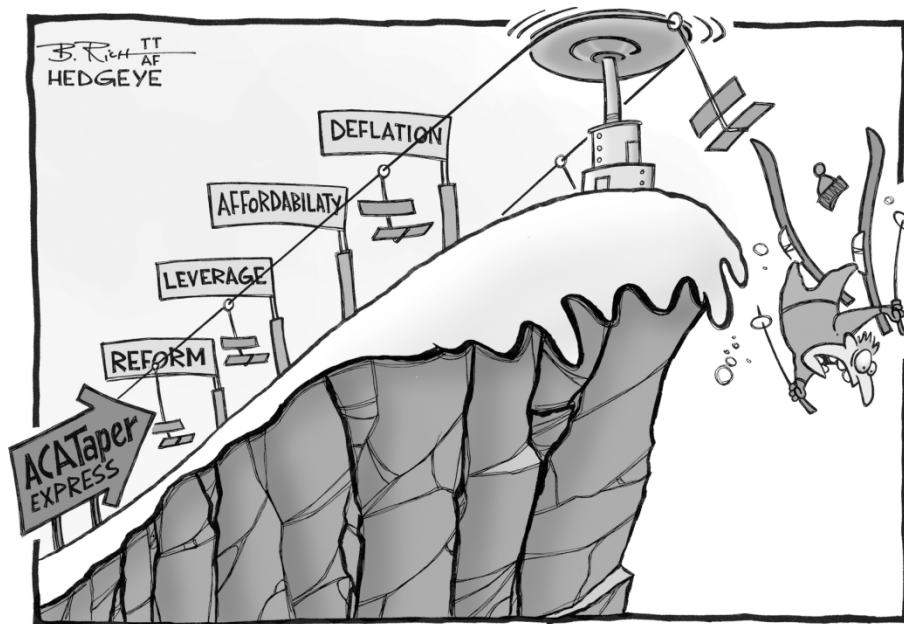
MEDICARE POPULATION ACCELERATES, BUT...

Margins in Medicare already trail privately insured reimbursements across many care areas. While the population is accelerating, it will displace higher margin business. The resulting mix will be of lower value per unit.

3

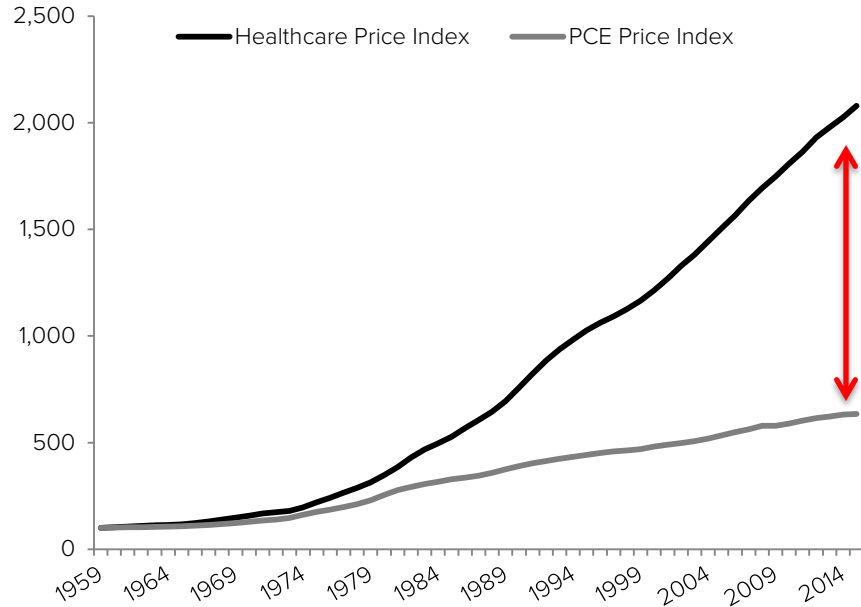
MEDICARE PER CAPITA SPENDING FORCED LOWER

As limited federal spending grows slower than the Medicare population expands, real spending per beneficiary will fall, driving efforts to curb costs for providers.



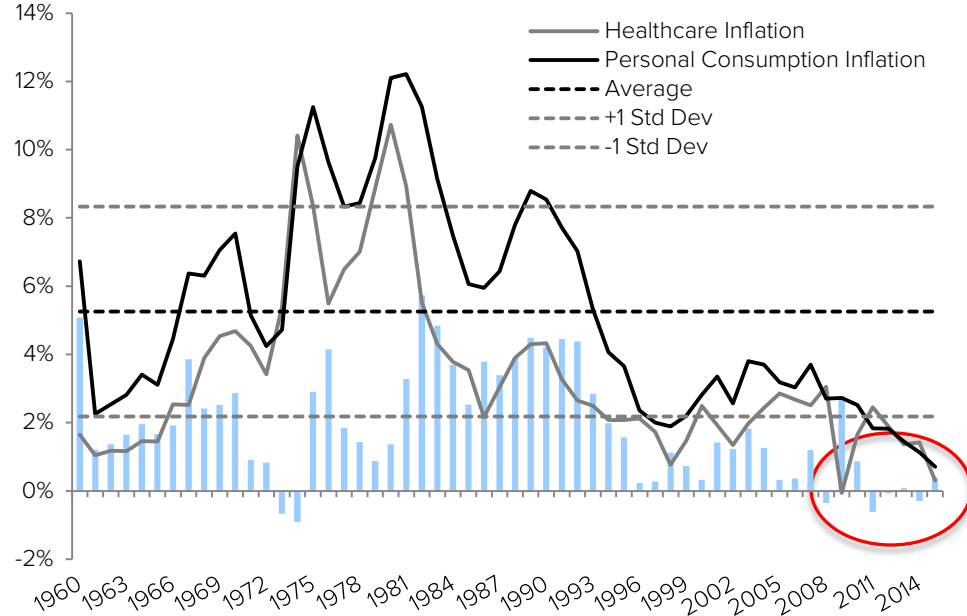
#AFFORDABILITY

LONG HISTORY OF EXCESS



400% HIGHER AFTER 50 YEARS

Healthcare inflation has exceeded broader market inflation for over 50 years with the cumulative increase now 400% higher.

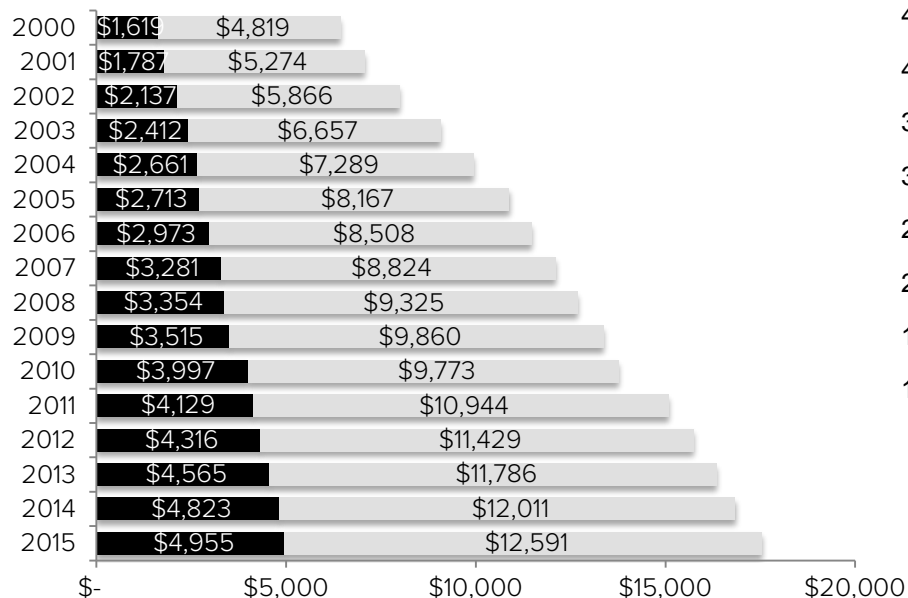


HEALTHCARE DISINFLATION

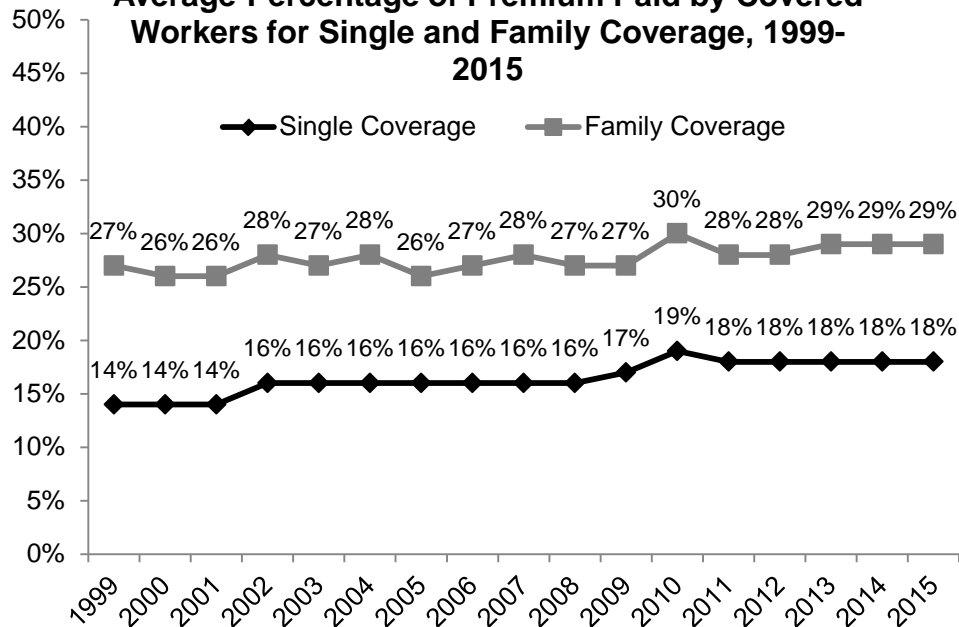
4 of the 6 years where Healthcare inflation has been **lower** than the broader market have occurred since 2008.

PREMIUM GROWTH EXCESSIVE

Average Annual Worker and Employer Contributions to Premiums and Total Premiums for Family Coverage, 2000-2015



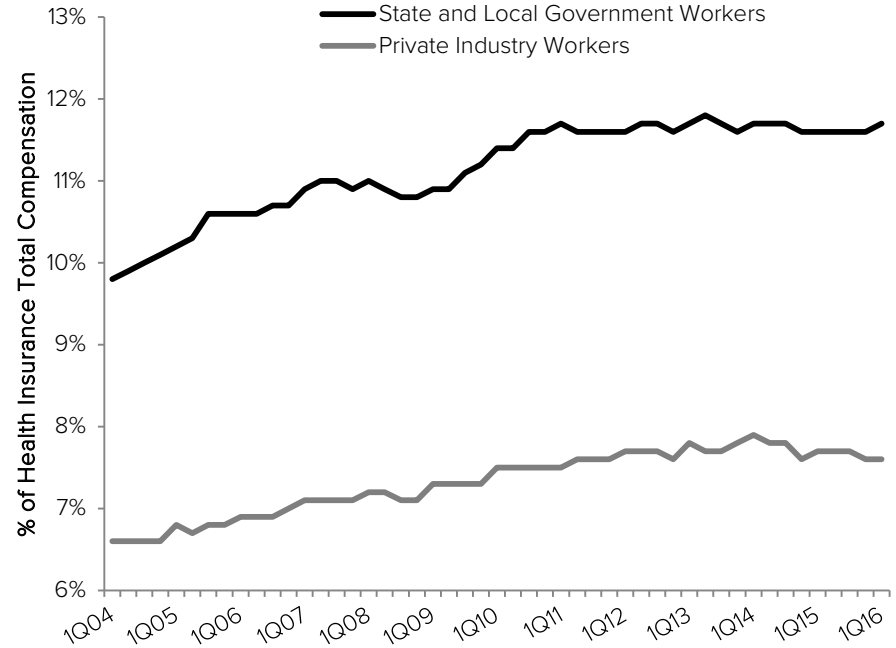
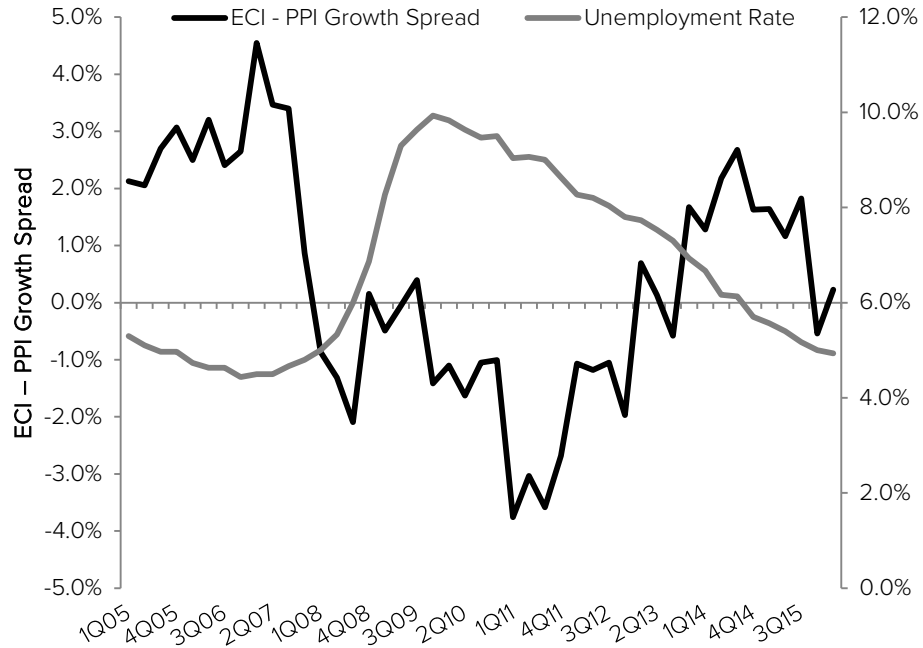
Average Percentage of Premium Paid by Covered Workers for Single and Family Coverage, 1999-2015



EMPLOYEES PAY FOR EXCESS INFLATION

Excess inflation is paid for in large part by accelerating premiums. Aging accounts for a very small part of these dramatic increases.

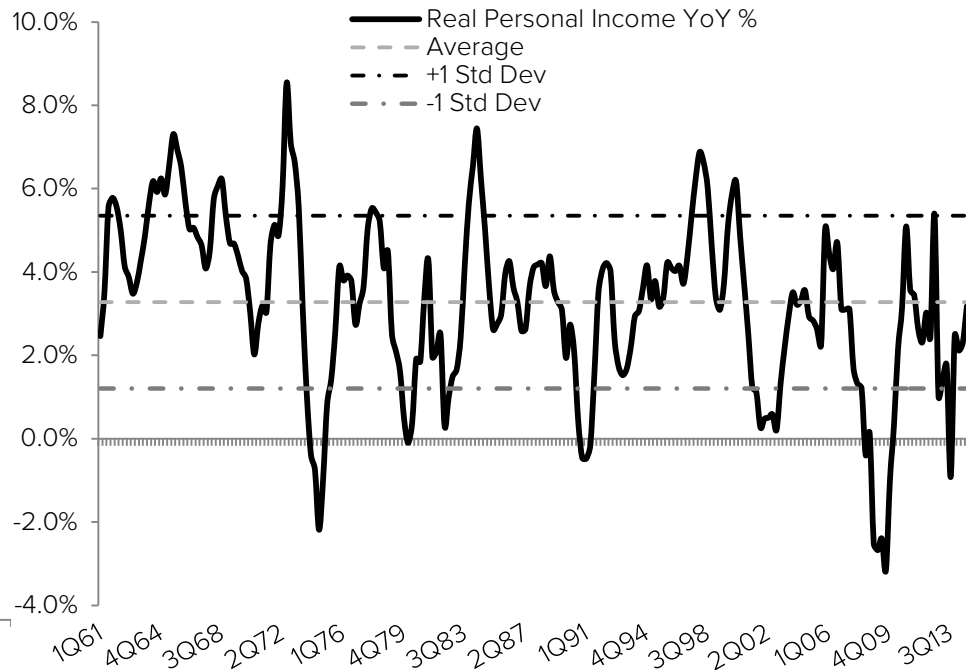
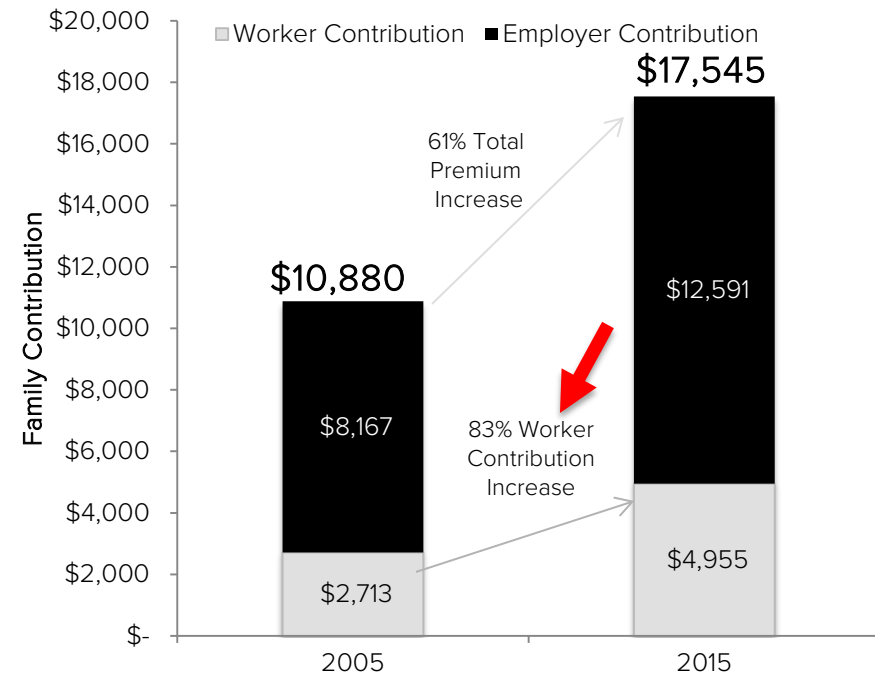
COST SHIFTING



EMPLOYEES ABSORB THE MARGINAL COST

The spread between the PPI, which includes co-pays and deductibles, and the ECI which does not is negative when unemployment is high. This means employers are shifting medical expense to employees.

EMPLOYEE PREMIUM SHARE +81%

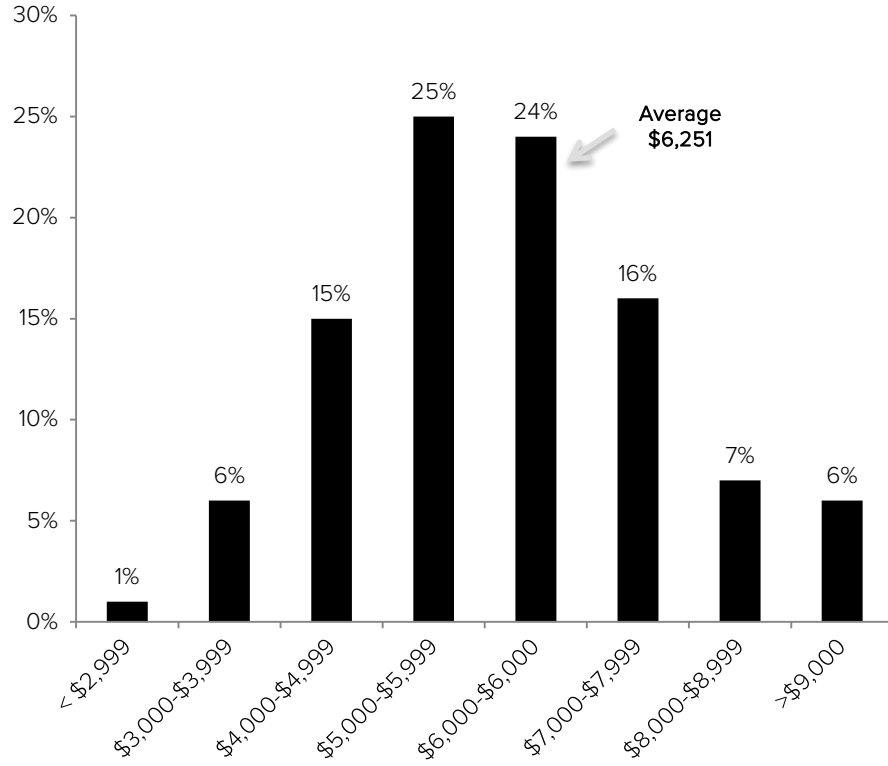


PREMIUMS HAVE GROWN FASTER THAN WAGES

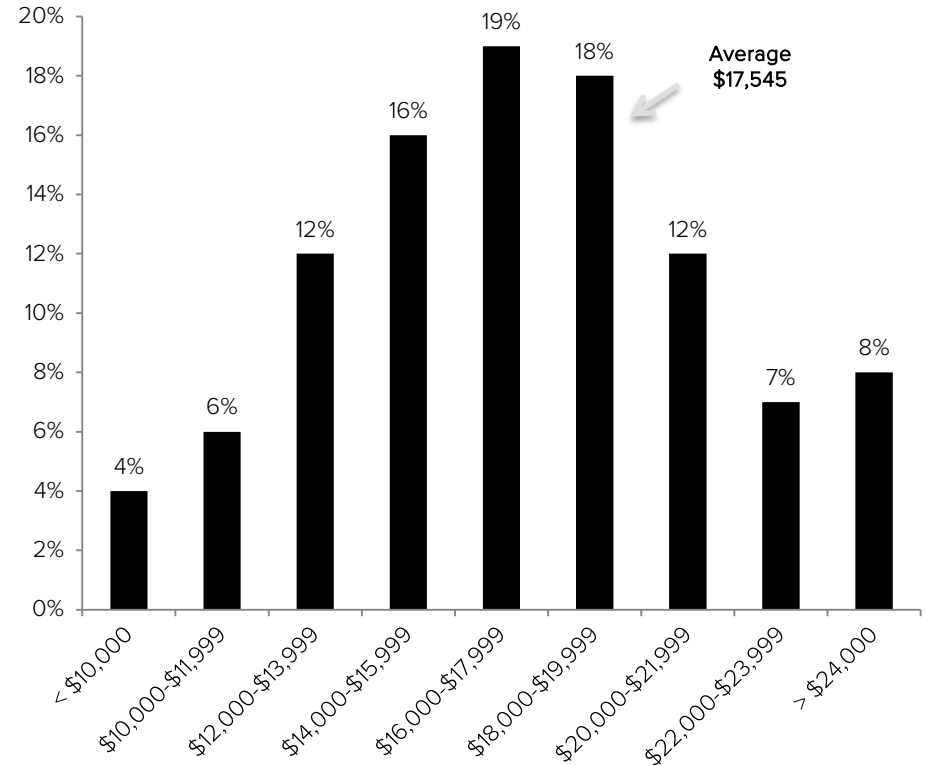
Out-of-pocket worker contribution has increased 83% over the last decade (6.2% CAGR). Real personal income growth has averaged 2-3%.

PREMIUM DISTRIBUTION BY TYPE

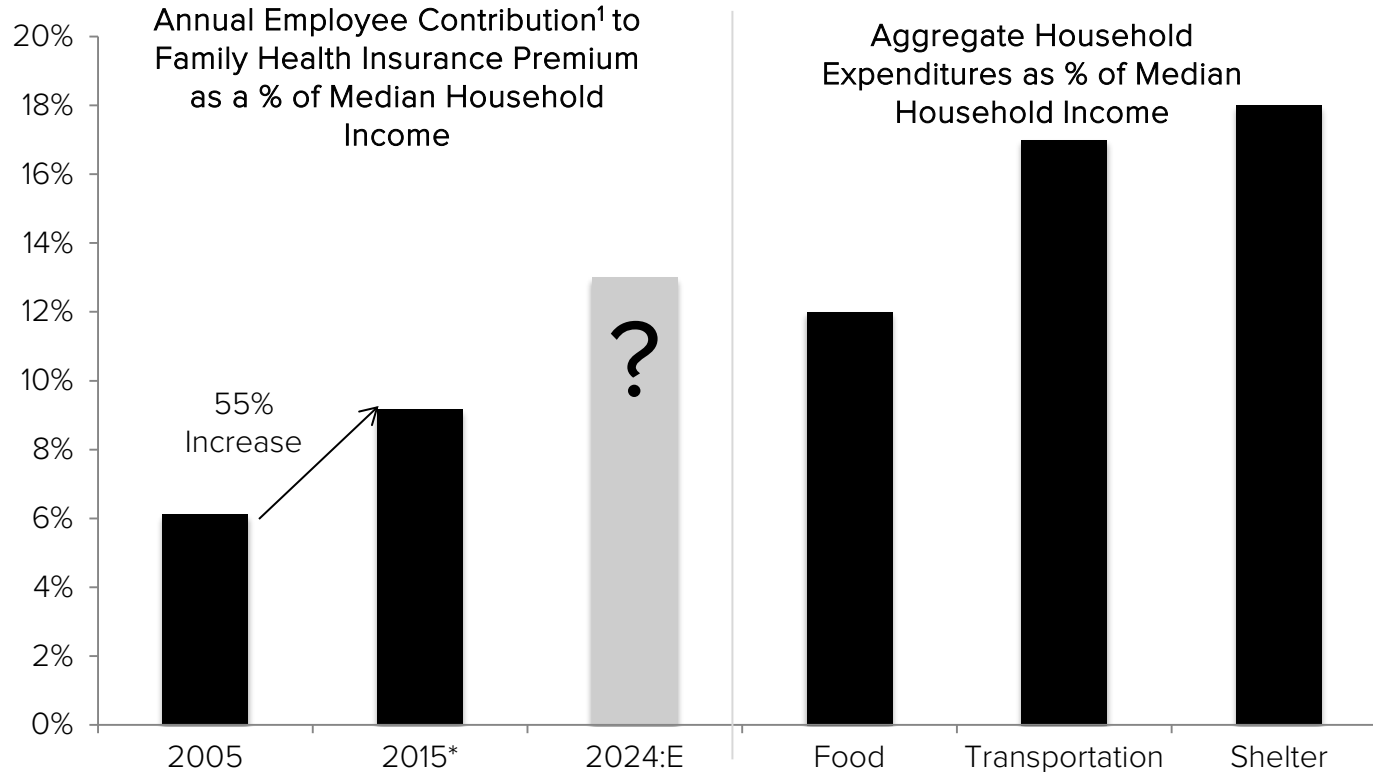
Premium Distribution for Single Coverage, 2015



Premium Distribution for Family Coverage, 2016



INSURANCE VS MAJOR EXPENSES



¹Employee Sponsored Health Plans

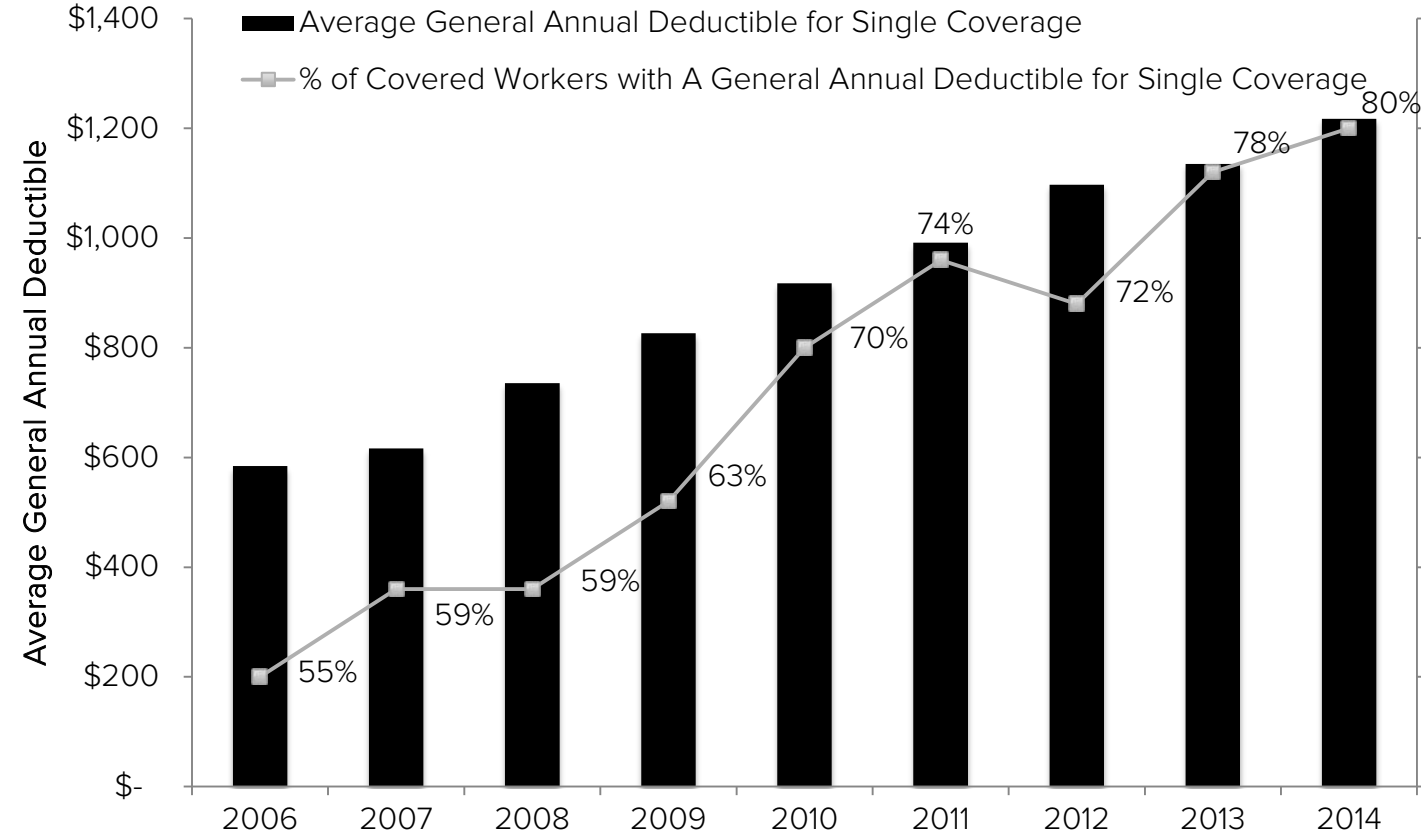
*Based on 2013 Median Household Income Rolled Forward by 2-years Inflation 2%

Data Source: Kaiser Family Foundation, St. Louis Federal Reserve and HRM Estimates

Annual employee contribution to annual premium has grown to almost 10% of Household Income. Food makes up 12%, while shelter 18%.

How much higher can it go?

DEDUCTIBLES NOW SIGNIFICANT

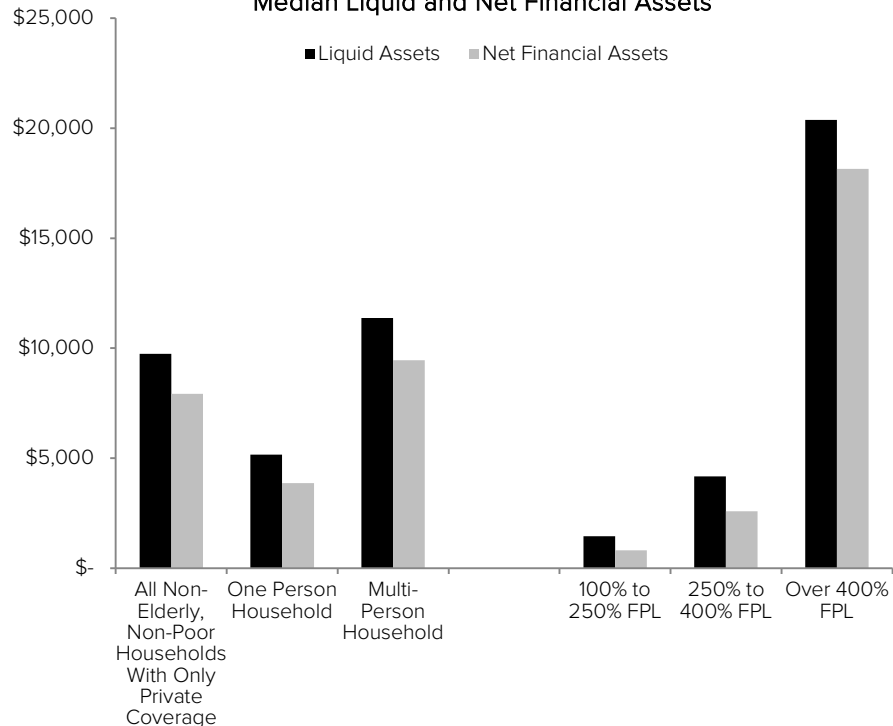


Growth in deductible prevalence, including HDHP, placing greater burden on employees.

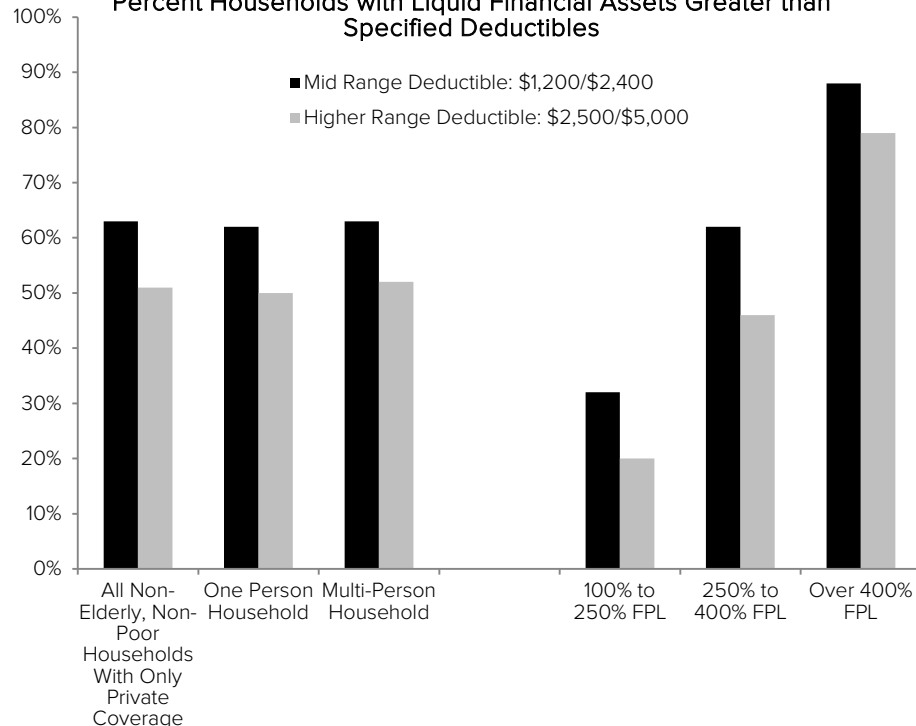
TOUGH TO COVER THE DEDUCTIBLE

LOW SAVINGS, LIQUID ASSETS

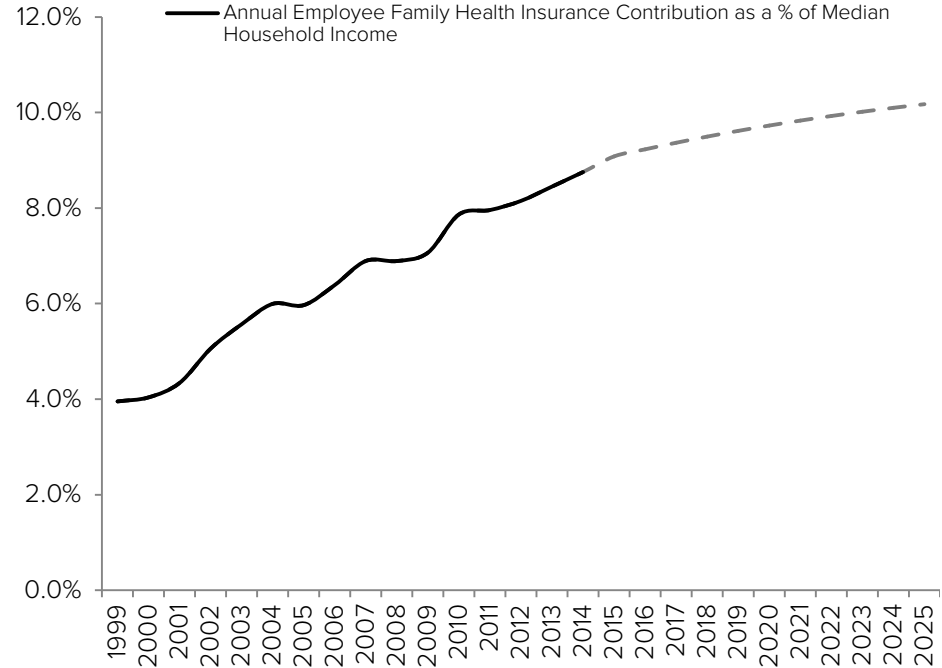
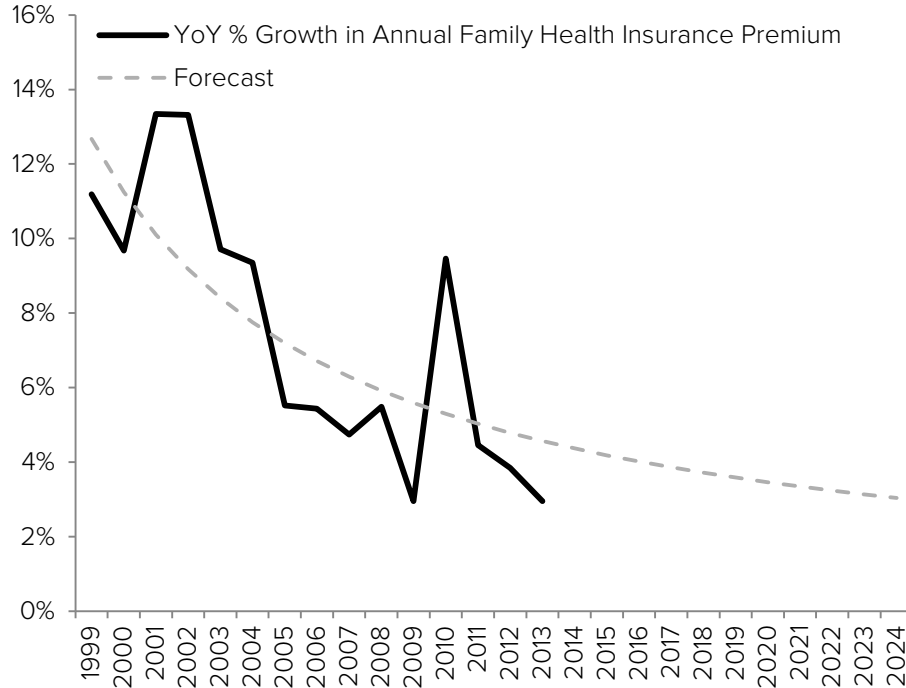
Median Liquid and Net Financial Assets



Percent Households with Liquid Financial Assets Greater than Specified Deductibles



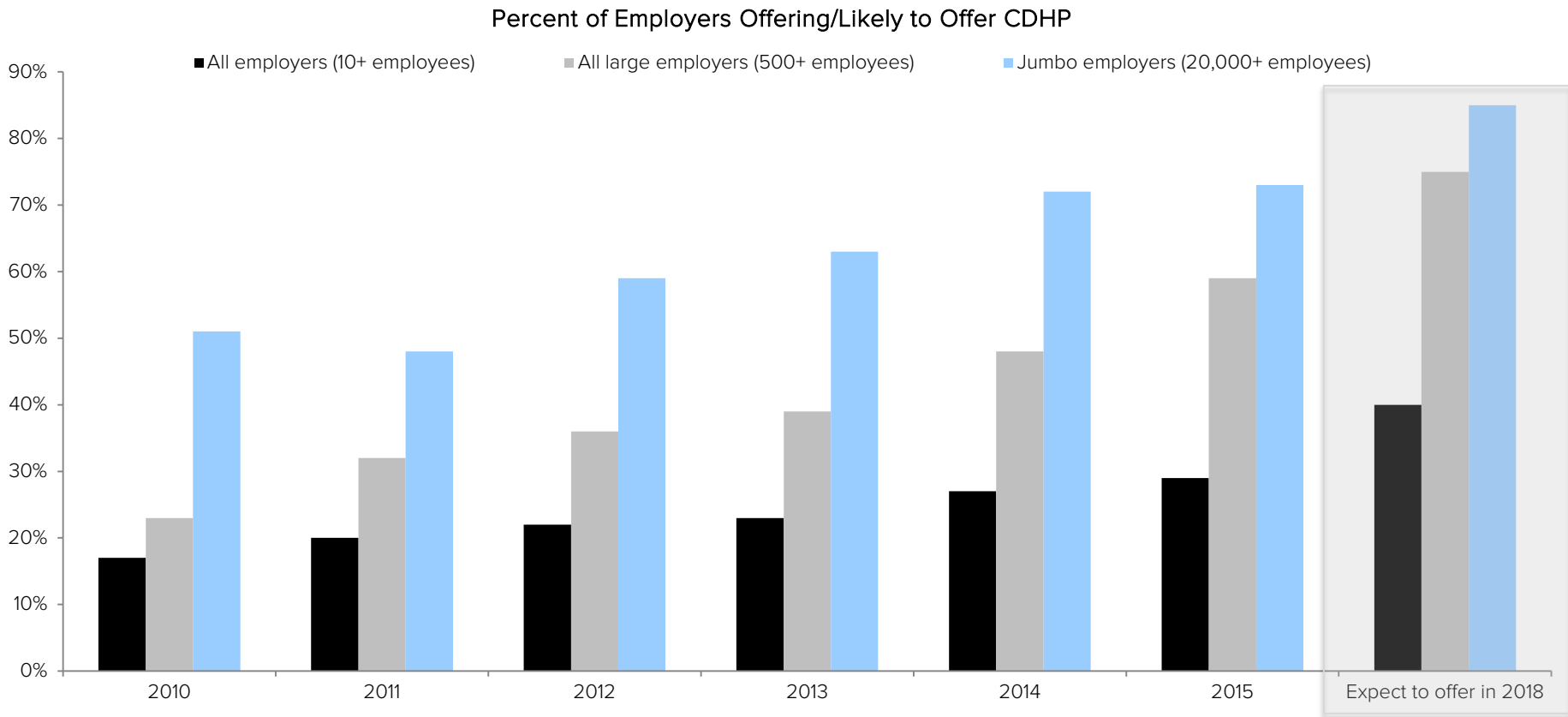
PREMIUM GROWTH SLOWING



10% OF MEDIAN HOUSEHOLD INCOME

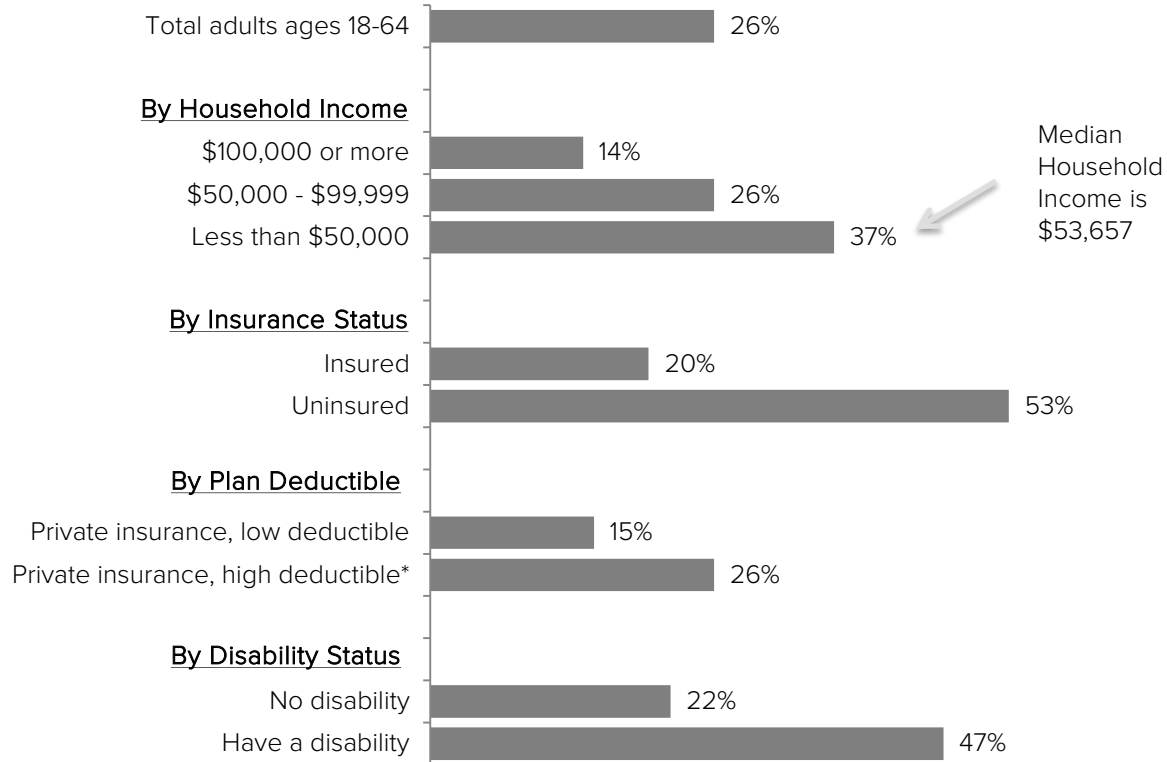
Growth in annual family insurance premium is slowing and long-term will ultimately reach parity with GDP (2-3%) and nominal household incomes.

GROWTH IN CDHP ACCELERATING

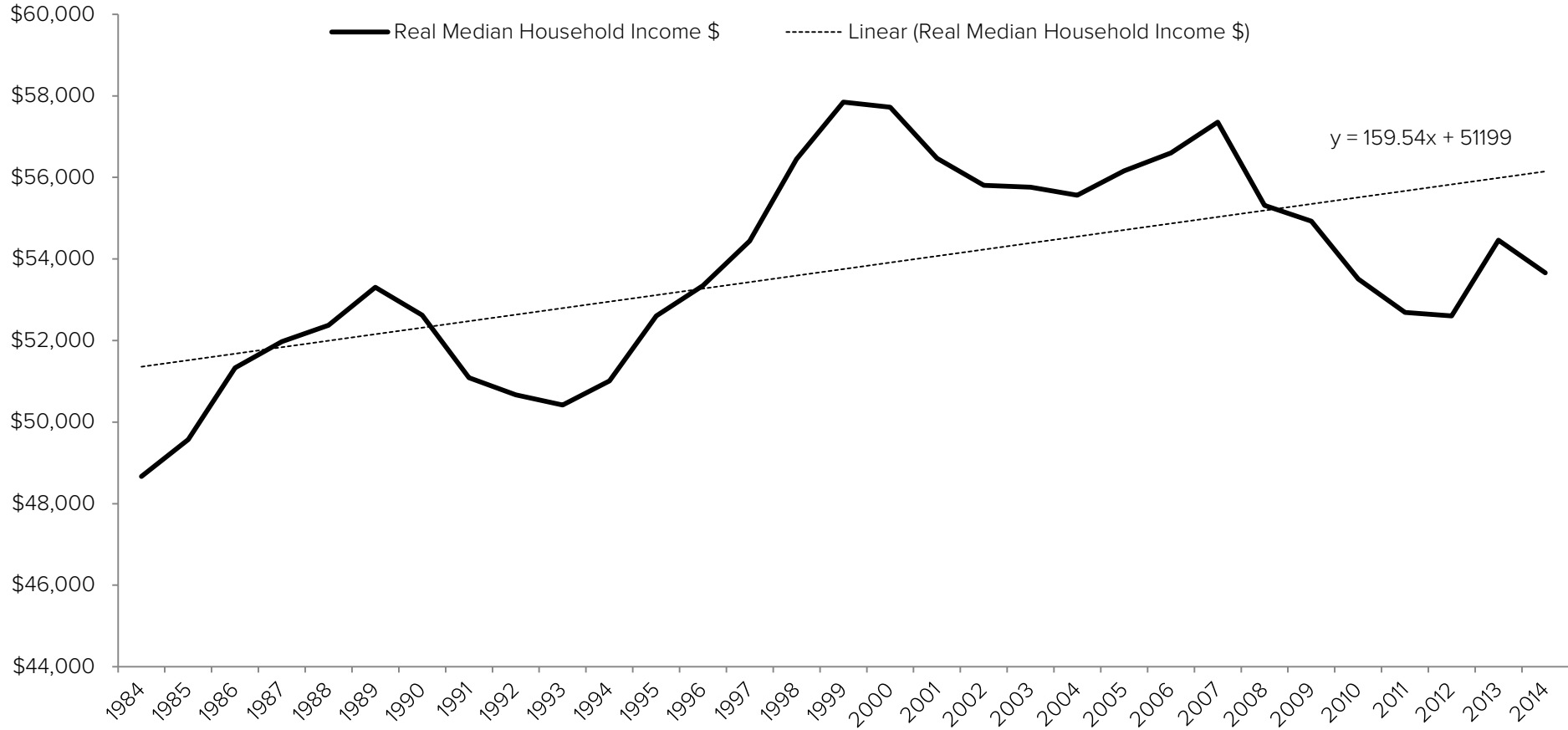


DIFFICULT PAYING MEDICAL BILLS

Reporting Problems Paying Medical Bills in Past Year (June 2016)

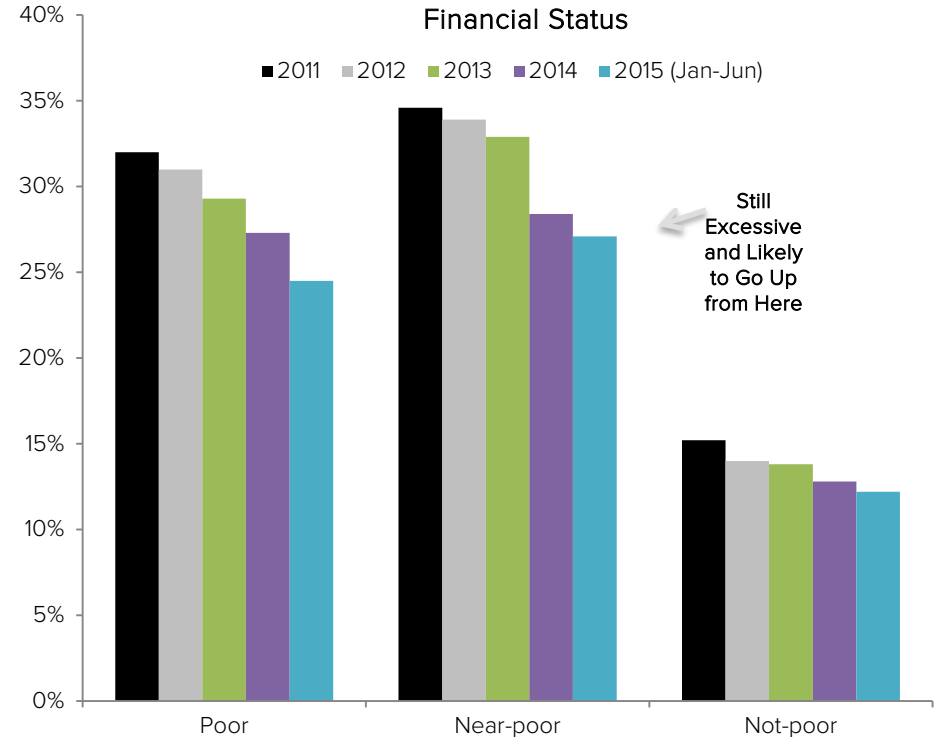
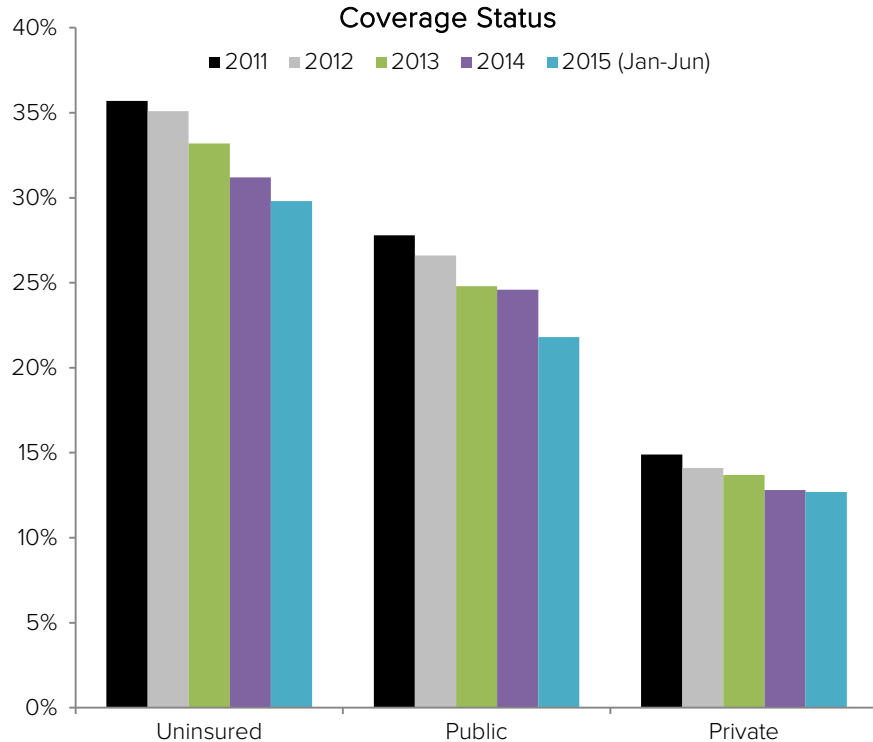


REAL HOUSEHOLD INCOME FLAT



DIFFICULT PAYING MEDICAL BILLS

Percentage of persons under age 65 who are in families having problems paying medical bills in past 12 months



EXCHANGE ECONOMIC DISINCENTIVE

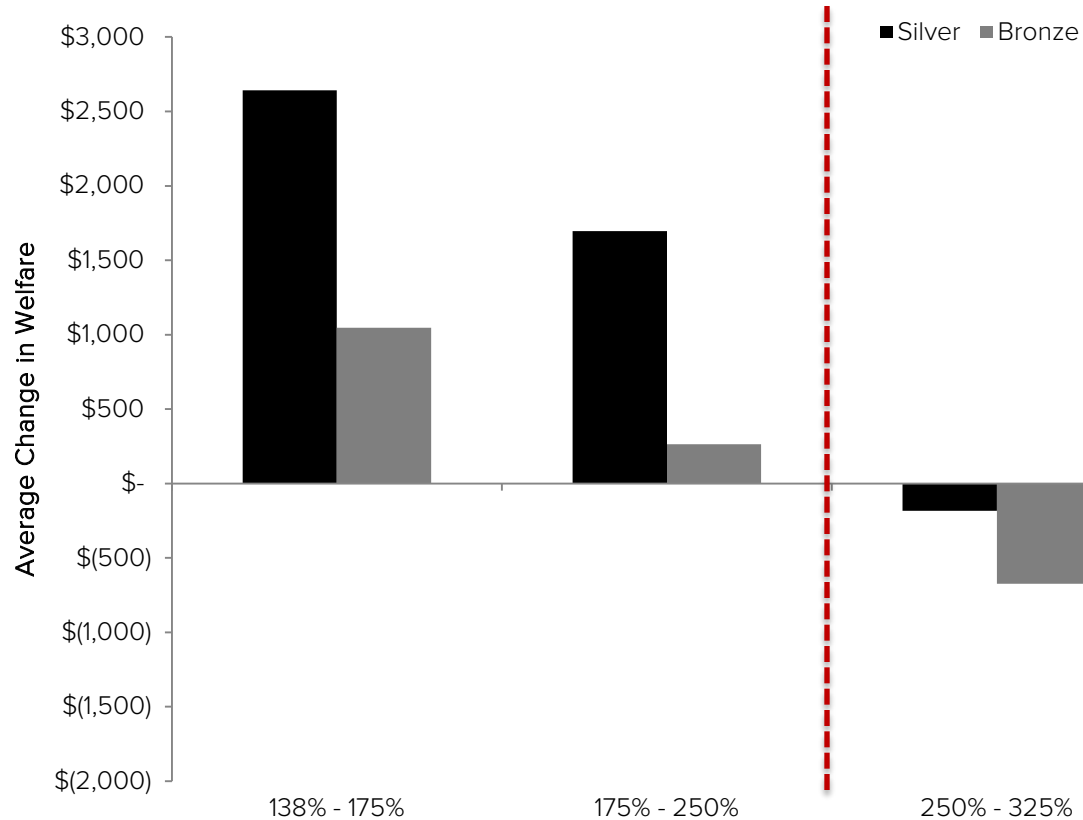


Table 8. Average change in welfare under “Best-case” scenario for alternative spending distributions (\$):

Income group (%FPL)	Silver		Bronze	
	Previous uninsured spending	Individually insured spending	Previous uninsured spending	Individually insured spending
138 – 175	-279	2,642	-725	1,046
175 – 250	-1,081	1,695	-1,358	263
250 – 325	-2,728	-183	-2,565	-674
325 – 400	-3,188	-640	-2,973	-1,087
>400	-3,832	-1,279	-3,598	-1,709
Total	-1,982	712	-2,060	-277

Note: The welfare estimates in this table assume a coefficient of absolute risk aversion $\gamma = 0.001$ and the value of additional care equals its cost. All changes are significantly different from zero at the 0.01 level based on tests from running an OLS regression of welfare change for each observation against indicator variables, clustering by age-state pairs.

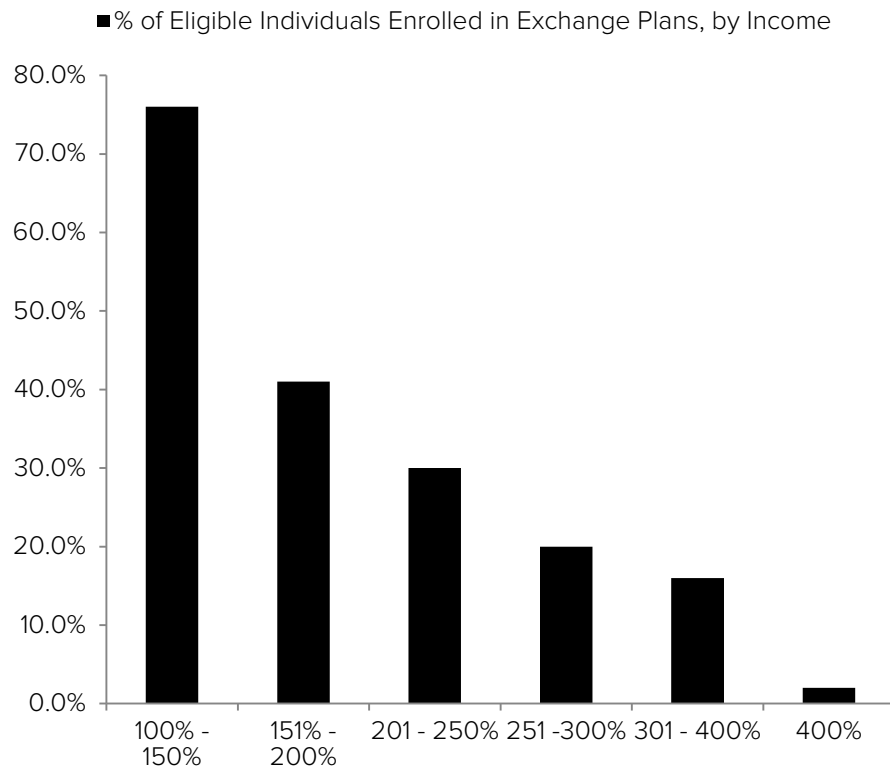
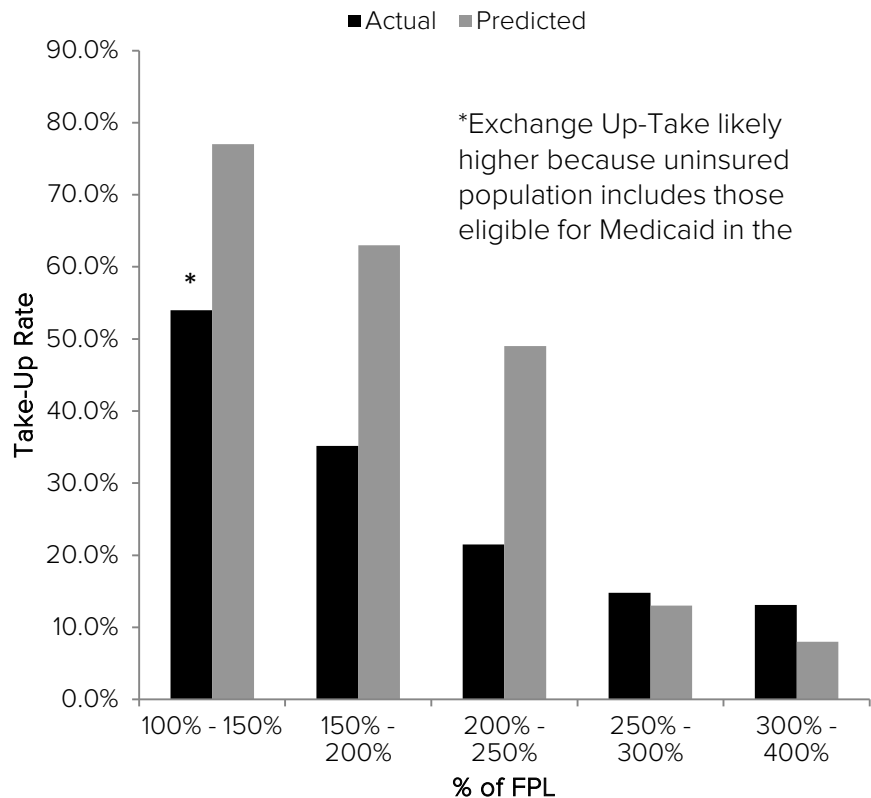
ACA PREDICTED TAKE-UP RATES

Table 9. Predicted take-up rates by income for alternative spending distributions (\$)

Income group	Previous uninsured spending		Privately insured spending		"Best case" scenario			
					Previous uninsured spending		Privately insured spending	
	Silver	Bronze	Silver	Bronze	Silver	Bronze	Silver	Bronze
138 – 175	8%	0%	75%	77%	26%	16%	100%	74%
175 – 250	0%	0%	46%	49%	16%	5%	90%	57%
250 – 325	0%	1%	7%	13%	2%	1%	53%	37%
325 – 400	1%	1%	3%	8%	1%	1%	38%	25%
>400	1%	1%	5%	5%	1%	1%	34%	21%
Total	2%	0%	32%	35%	11%	5%	69%	46%

Note: For the base scenario (columns 1-4), the coefficient of absolute risk aversion γ equals 0.0003 and the value of additional care is assumed to equal one-half its cost. For the "Best-case" scenarios, risk aversion $\gamma = 0.001$ and value of additional care equals its cost.

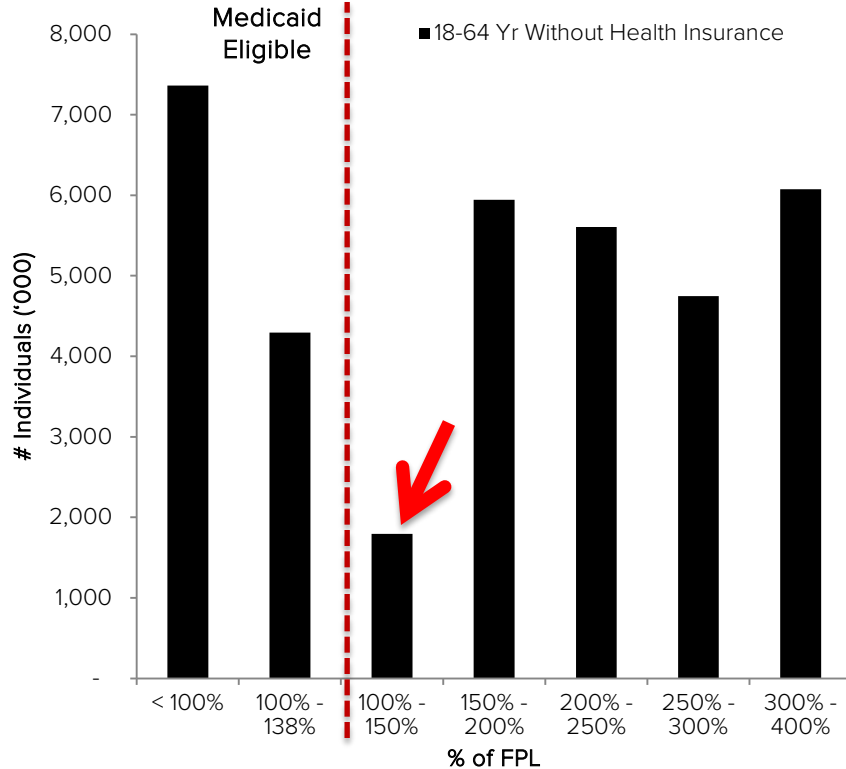
ACA GREAT IF YOU'RE SUPER POOR



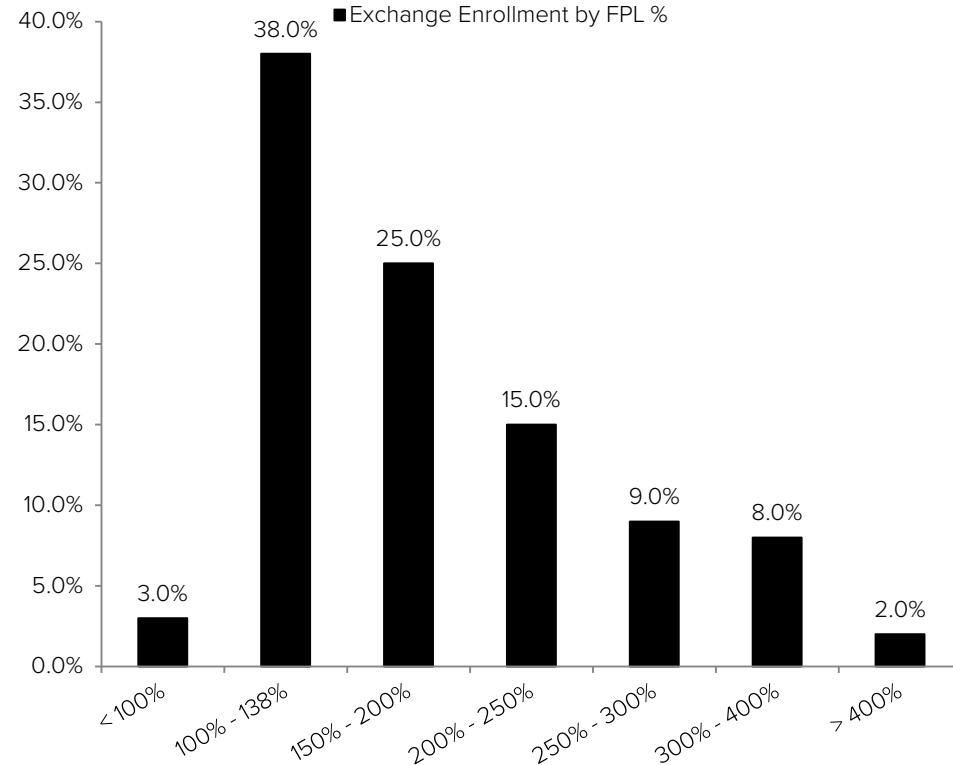
Number of potential eligible exchange enrollees determined using 2013 American Community Survey data on the Uninsured and Non-group populations prior to implementation of the health insurance exchanges. Analysis is limited to the 37 states relying on healthcare.gov in 2015.

ACA ENROLLMENT BY FPL

2013 Pre-ACA

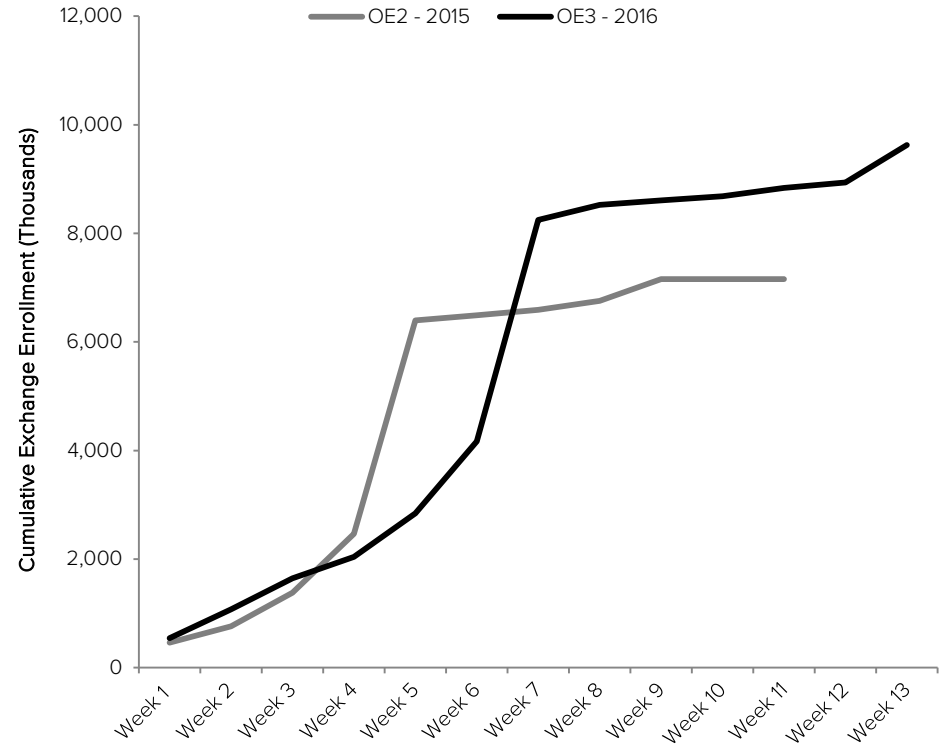
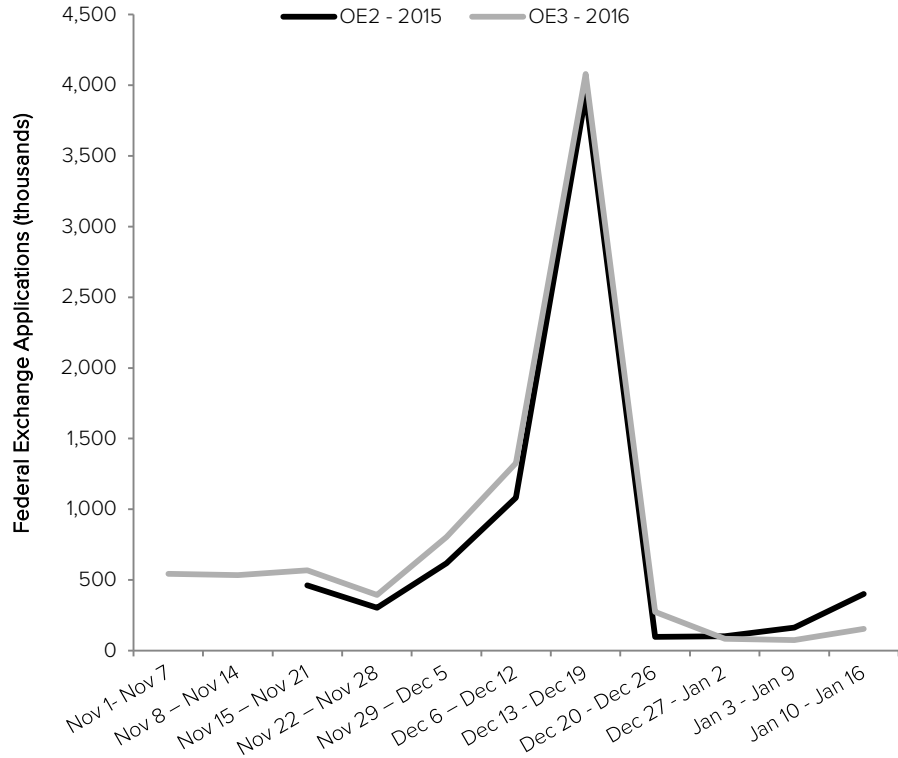


2015



FEDERAL OPEN ENROLLMENT

EXCHANGE ENROLLMENT FLOPPED





#POLICY

POLICY INFLUENCE ON #ACATAPER

1

MAGNIFIERS

Currently enabled policy, regulation or law that will enhance current slowing trend

2

MITIGATORS

Factors that may limit or alter slowing trend

3

MUDDLERS

Programs whose impact on slowing growth in health care expenditures is difficult to discern

POLICY INFLUENCE ON #ACATAPER

1

MAGNIFIERS

- Alternative payment models
- Status quo for insurance exchanges
- Recovery Audit program
- Expansion of Managed Care

ALTERNATIVE PAYMENT MODELS

1

FORGET ABOUT IPAB – CMMI HAS GOT THE POWER

- Requires certification by Office of the Actuary
- Permits testing of payment models and expansion nationwide
- All without the benefit of Congressional action
- Currently about 70 models at some stage of development

2

MACRA – PROBABLY MORE SIGNIFICANT THAN ACA

- Replaces current service specific payment system with MIPS and APMs
- Changes in payments begin in 2019

3

SPILLOVER TO COMMERCIAL PAYERS

- That refuge from government pricing recedes
- Health Care Payment and Learning Action Network
- Catalyst for Payment Reform

STATUS QUO FOR EXCHANGES

1

NO RELIEF IN SIGHT

- Two of three risk mitigation program expire this year
- Unless there is an unforeseen election outcome, the current stalemate on what to do will continue

2

NARROW NETWORKS, HIGH COST OR BOTH

- Insurers that have had success on exchanges have aggressively managed risk
- Reputation makes it poor alternative to employer-based system
- Not likely to change either

3

CONSIGNED TO SERVE LOWER INCOME PEOPLE

- Not the middle class benefit everyone thought it would be
- At risk, politically

REVIVAL OF RECOVERY AUDITS

1

LIKELY TO RETURN LATE 2016

- Re-procurement underway
- More constrained program

2

BENT THE COST CURVE

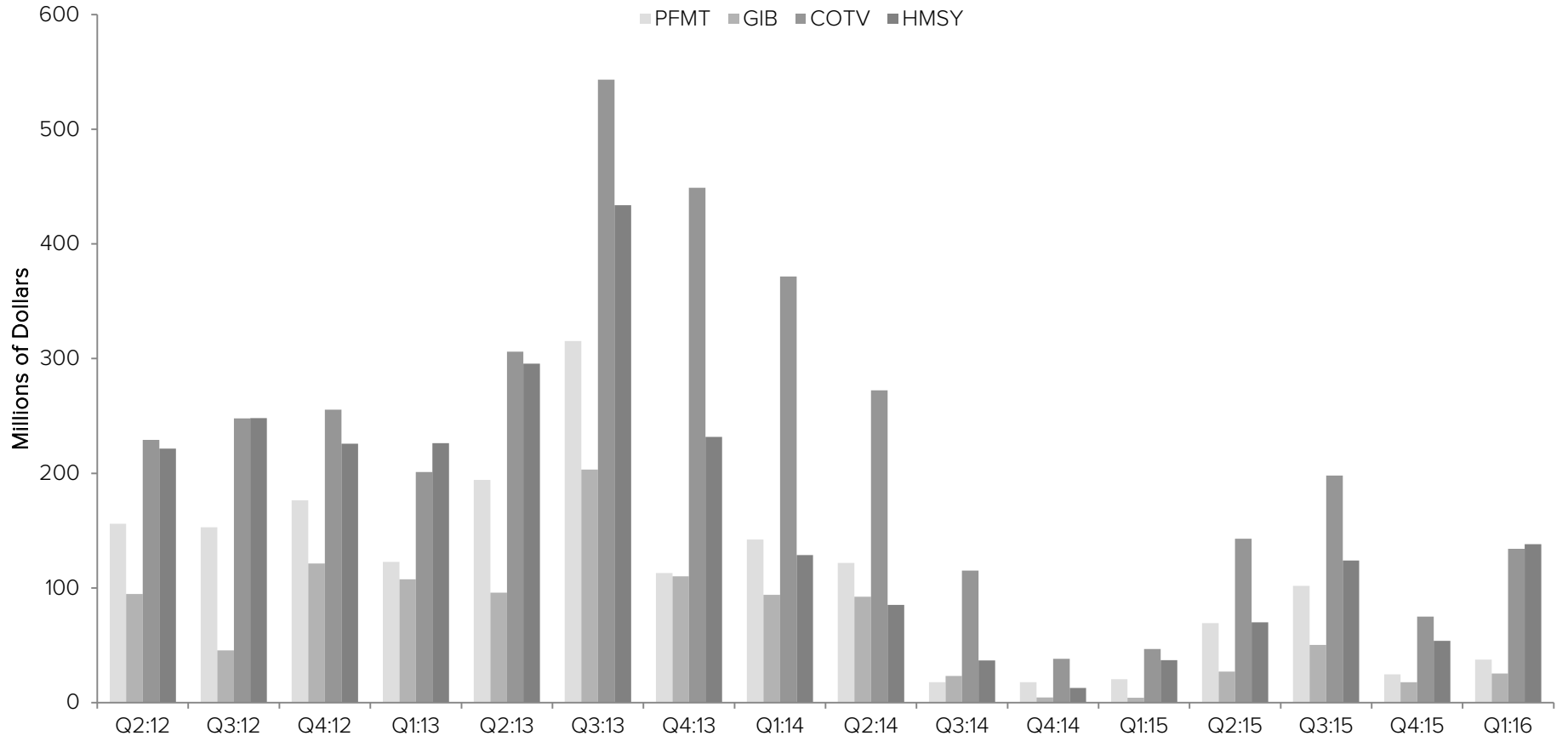
- Shift to outpatient care
- Scrutinized medical necessity of care
- Some might say rationed care

3

PROBABLY HERE FOR GOOD

- Survived number of efforts to repeal or amend
- Not likely to risk wrath of hospitals again

RECOVERY AUDITS 2012-2016



EXPANSION OF MANAGED CARE

1

MEDICARE ADVANTAGE

- Growth slowed last year but not by much
- Great concern to provider community
- Changes to risk adjustment could change trajectory

2

MEDICAID MANAGED CARE

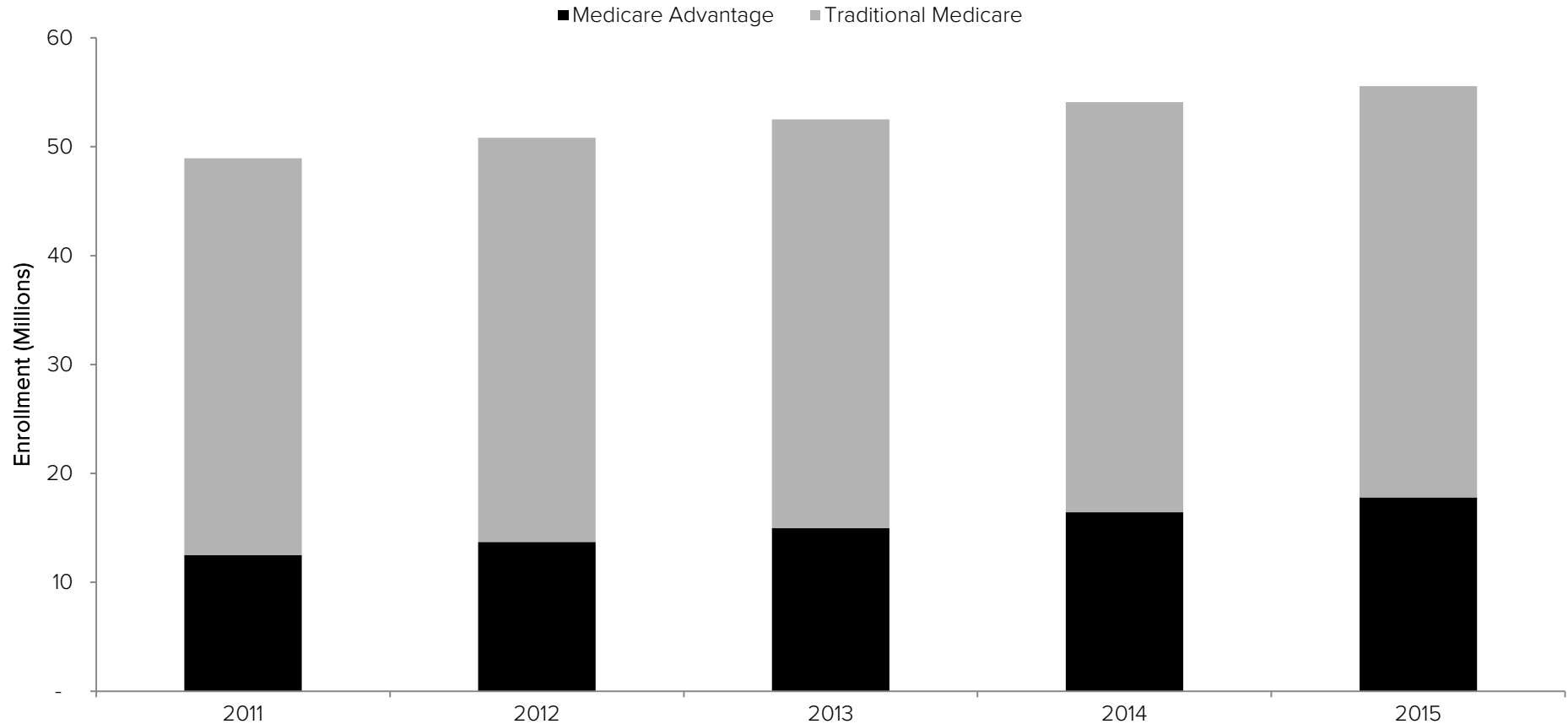
- Only two states are 100% MCO
- Most others have 50-75% penetration
- Budget crisis drive adoption

3

EMPLOYER-BASED PLANS

- Little action
- Opting instead for changes in cost-sharing

MEDICARE ADVANTAGE GROWTH



POLICY INFLUENCE ON #ACATAPER

2

MITIGATORS

- Influx of Medicare enrollees
- Expansion of Behavioral Health/SUD benefits
- Innovation in treatments especially for high cost conditions
- Medicaid expansion
- Burn-off of ACA driven reimbursement pressures

INFLUX OF MEDICARE ENROLLEES

1

10,000 PEOPLE TURN 65 EACH DAY

2

PEAK OF BOOM HITS MEDICARE ELIGIBILITY IN 2022

3

85 AND OVER SET TO DOUBLE IN 10 YEARS

EXPANSION IN BEHAVIORAL HEALTH

1

REQUIRED COVERAGE UNDER ACA

- Behavioral health, substance abuse treatment considered Essential Health Benefits
- Extension of other Congressional parity efforts

2

ACCELERATED BY OPIOID AND HEROIN EPIDEMIC

- Crisis in rural communities
- Creates bi-partisan support for coverage and funding

3

ONE OF FEW AREAS OF AGREEMENT

- Destigmatized politically
- Embraced by R's in recent years

INNOVATIONS IN TREATMENT

1

CANCER MOON-SHOT

- White House driven effort to find cures
- High profile but still mostly bully pulpit

2

21ST CENTURY CURES LEGISLATION

- Focuses on Alzheimer's, certain childhood cancers
- Designed to fast-track and fund research and innovation

3

LARGE INCREASES IN NIH FUNDING

- Research source for therapies
- Flat funding in recent years – changed in 2014

MEDICAID EXPANSION

1

NINETEEN STATES HAVE NOT EXPANDED

- No hope in high populations states of Florida and Texas; others may opt in
- Tennessee looking at alternative plan

2

EXPANSION DRIVES SOME UTILIZATION

- Hospital services especially ER
- Little impact on physician services and chronic care management

3

OVERALL RECORD IS MIXED ON ACCESS TO CARE

- Payment rates and participating providers limit impact of expansion on utilization

ACA REIMBURSEMENT CUTS EXPIRE

1 MARKET BASKET REDUCTIONS END IN 2019

- Special payment rules for hospitals, IRFs, LTCHs and Inpatient Psych

2 HOME HEALTH REBASING ENDS IN 2017

3 HOSPICE PAYMENT REFORMS LINGER

POLICY INFLUENCE ON #ACATAPER

3

MUDDLERS

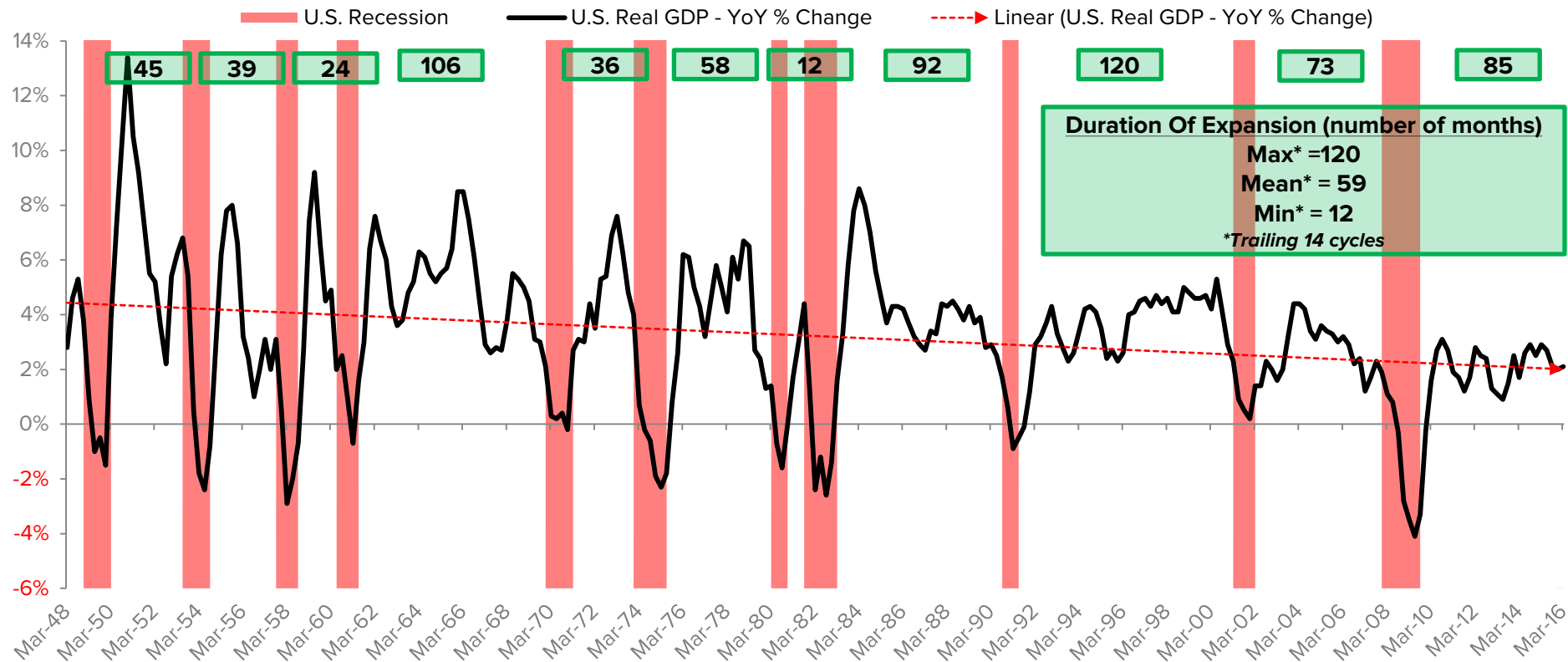
- Wage and labor rules change
- ACA Section 1332 waivers
- Stark Act, Anti-kickback law waivers



#RECESSION RISK

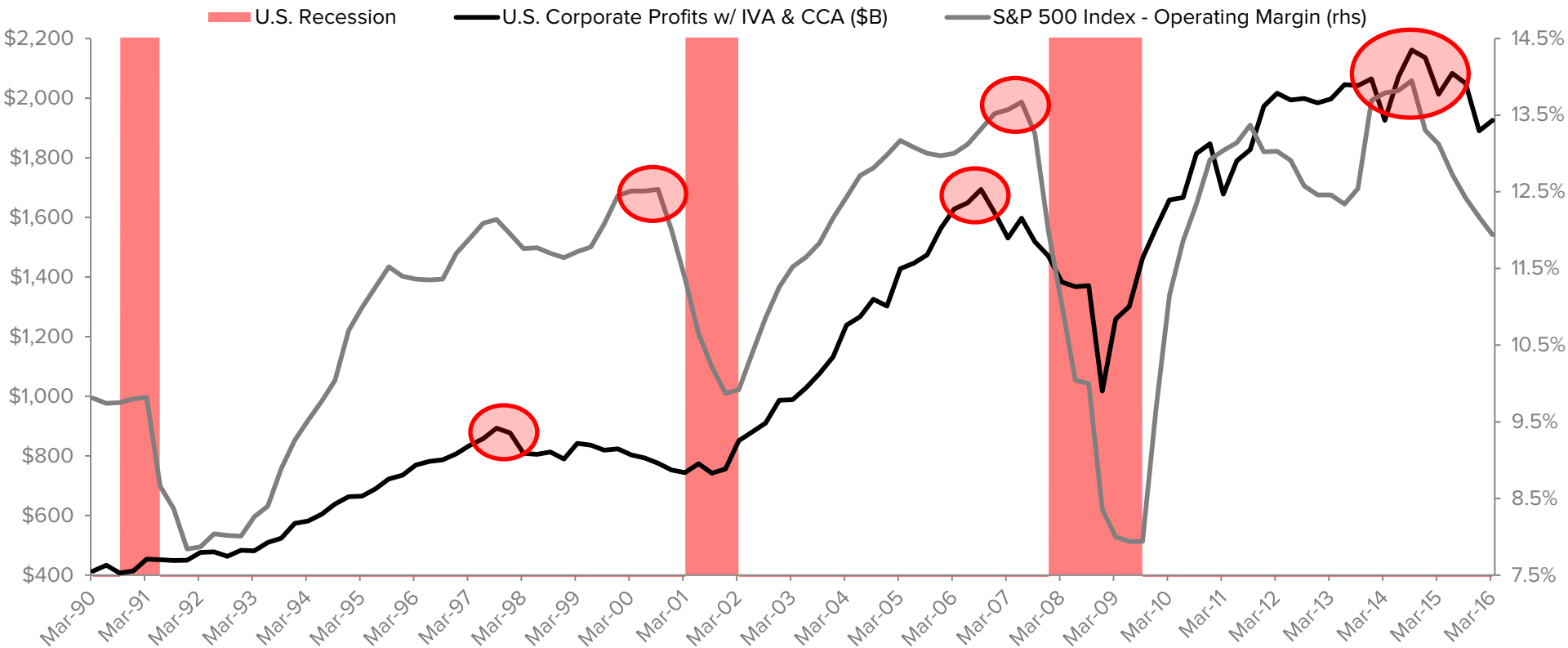
FIRST, A HISTORY OF CYCLES

OUR CENTRAL PLANNING FATHERS BROUGHT FORTH ON THIS CYCLE, A NEW PLAN, CONCEIVED IN ACADEMIA AND DEDICATED TO THE PROPOSITION THAT ALL ECONOMIC GRAVITY CAN, IN FACT, BE SMOOTHED.



#PROFITCYCLE: A FRIENDLY REMINDER

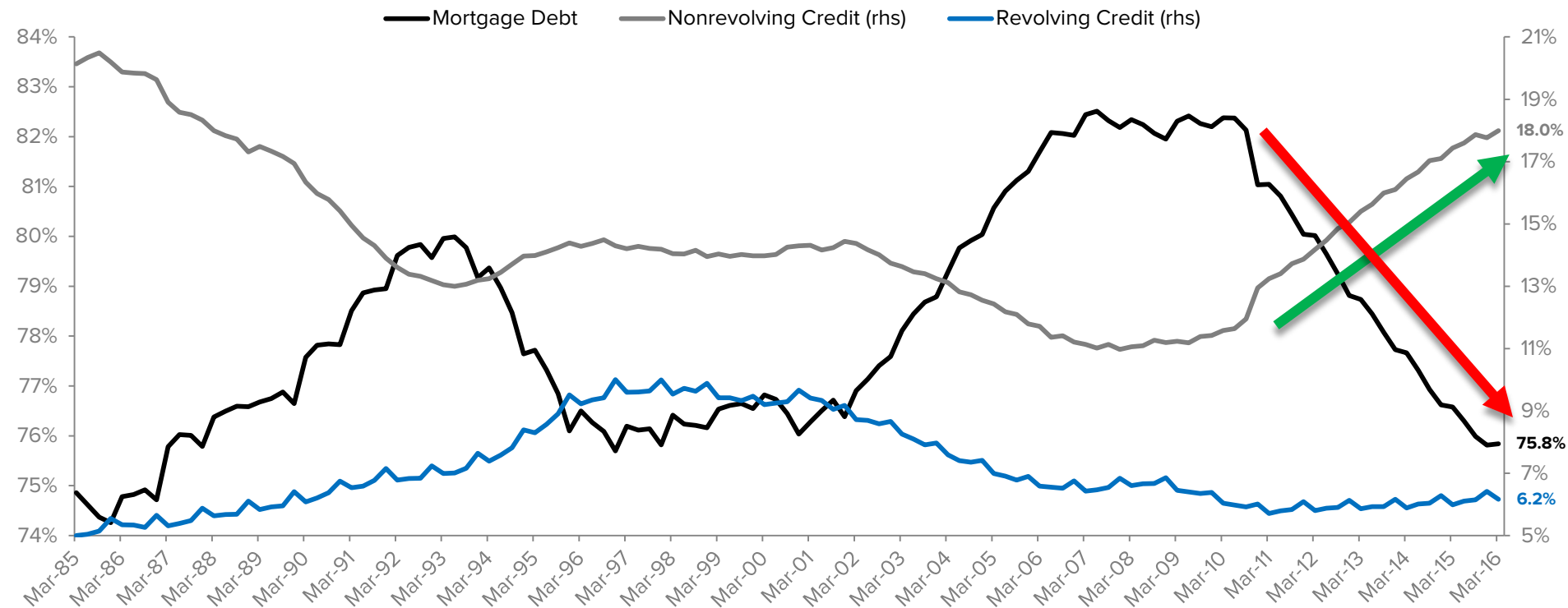
DOMESTIC CORPORATE PROFITS PEAKED IN 2H14 ALONGSIDE SPX OPERATING MARGINS AND THE RESPECTIVE DOWNTURNS REMAIN ONGOING.



REVIEWING THE SETUP: MIX-SHIFT

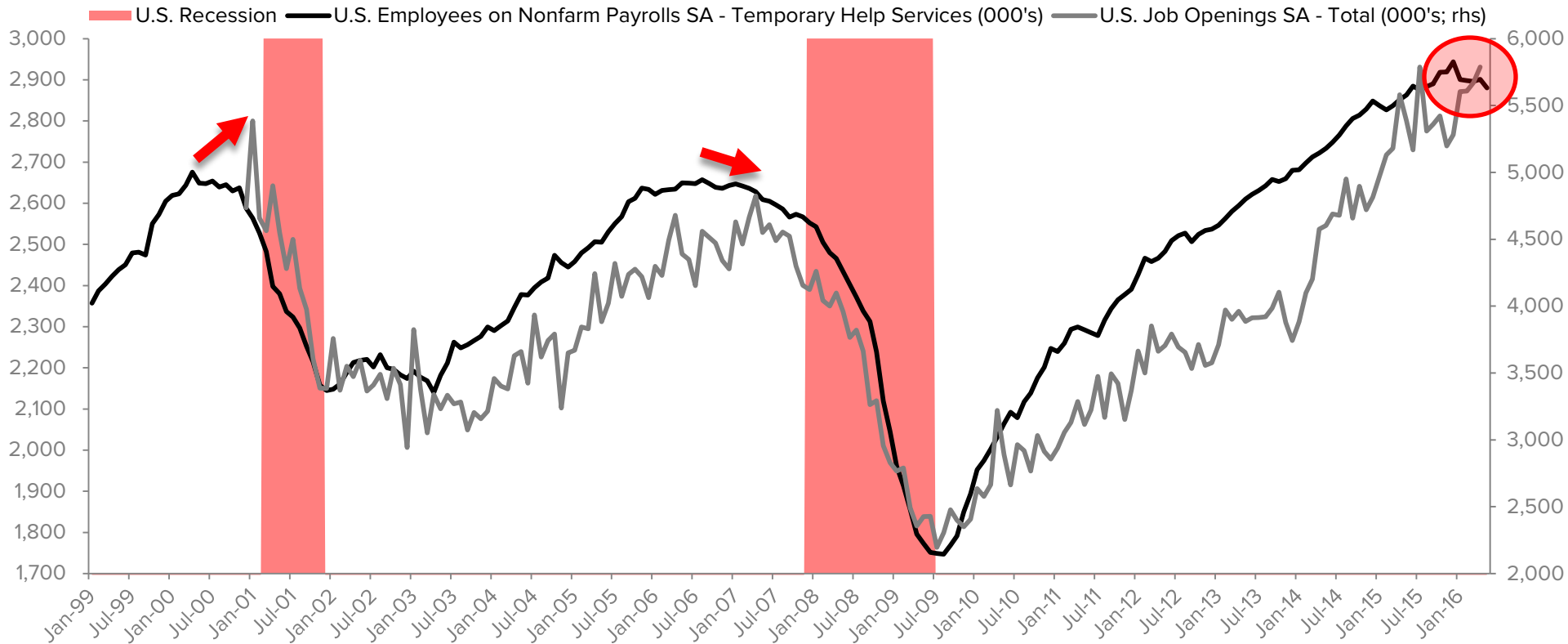
AT JUST OVER \$11 TRILLION OUTSTANDING, MORTGAGE DEBT REMAINS THE LION SHARE OF U.S. CONSUMER'S DEBT BURDENS. NONREVOLVING CREDIT (E.G. AUTOS AND STUDENT LOANS) HAS GAINED A TREMENDOUS AMOUNT OF SHARE IN THE POST-CRISIS ERA, HOWEVER.

U.S. Household Debt Outstanding NSA (% of total)



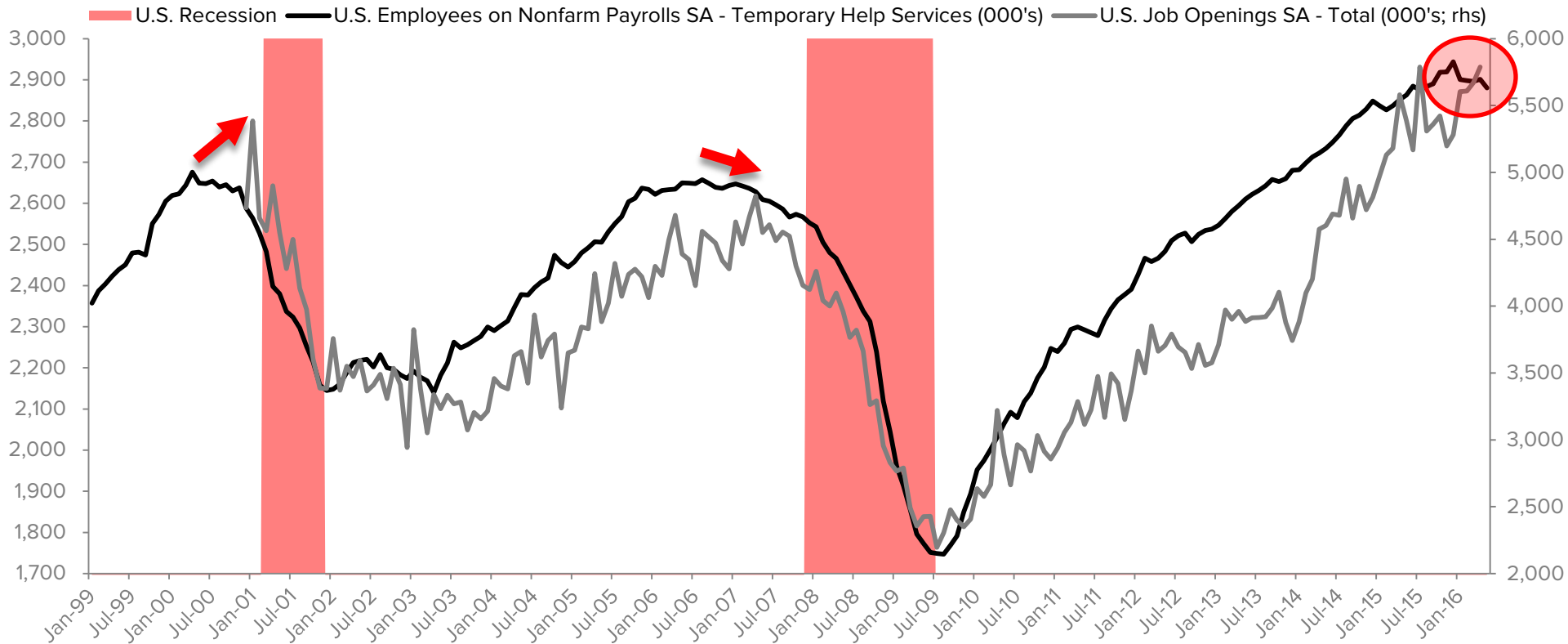
SLOWING JOBS GROWTH WON'T HELP

WITH TEMP HELP TRENDING LOWER OFF ITS DECEMBER 2015 CYCLE PEAK, INVESTORS SHOULD BE WARY OF A NEAR-TERM PEAK IN JOB OPENINGS. SPECIFICALLY, TEMP HELP HAS LEAD THE PEAK IN JOLTS BY 9 AND 8 MONTHS, RESPECTIVELY, OVER THE PREVIOUS TWO CYCLES.



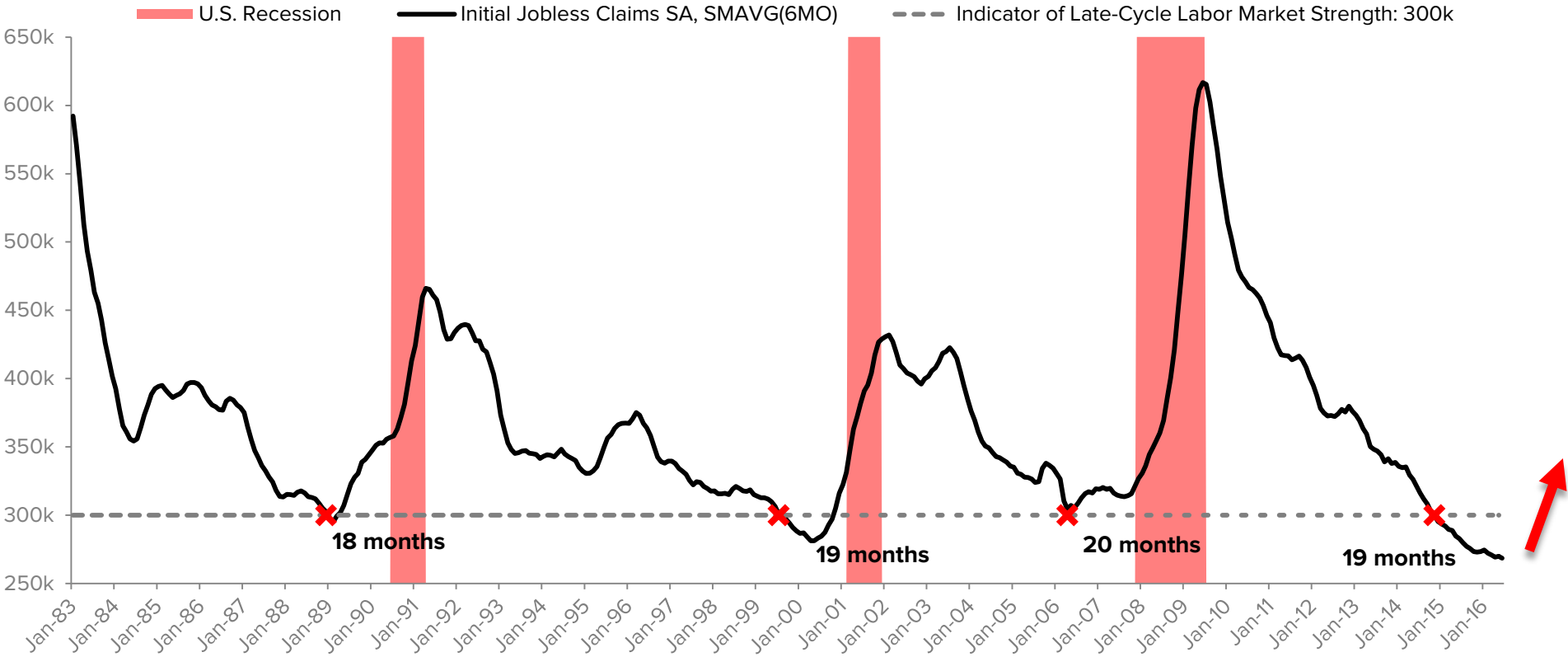
SLOWING JOBS GROWTH WON'T HELP

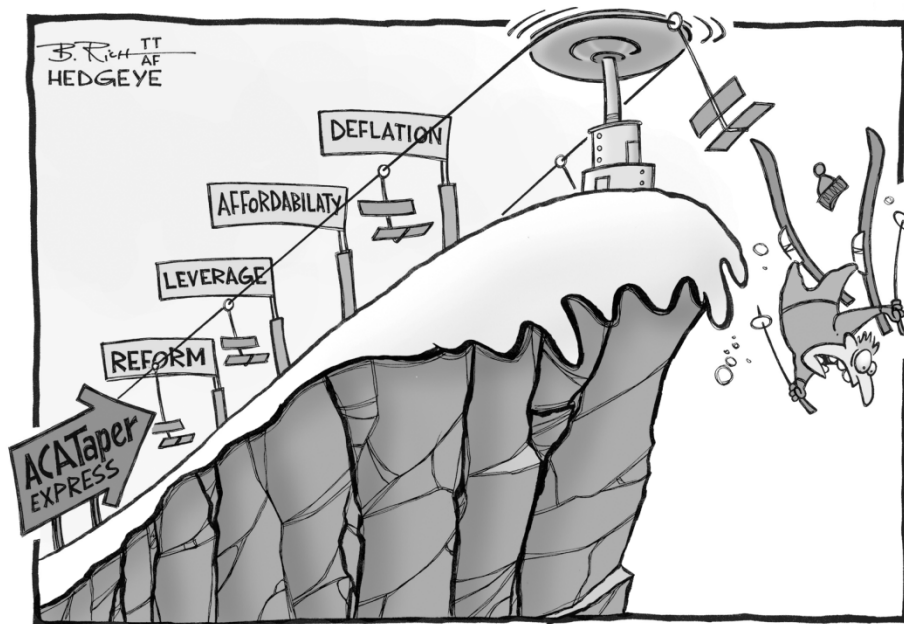
WITH TEMP HELP TRENDING LOWER OFF ITS DECEMBER 2015 CYCLE PEAK, INVESTORS SHOULD BE WARY OF A NEAR-TERM PEAK IN JOB OPENINGS. SPECIFICALLY, TEMP HELP HAS LEAD THE PEAK IN JOLTS BY 9 AND 8 MONTHS, RESPECTIVELY, OVER THE PREVIOUS TWO CYCLES.



UNEMPLOYMENT SET TO RISE?

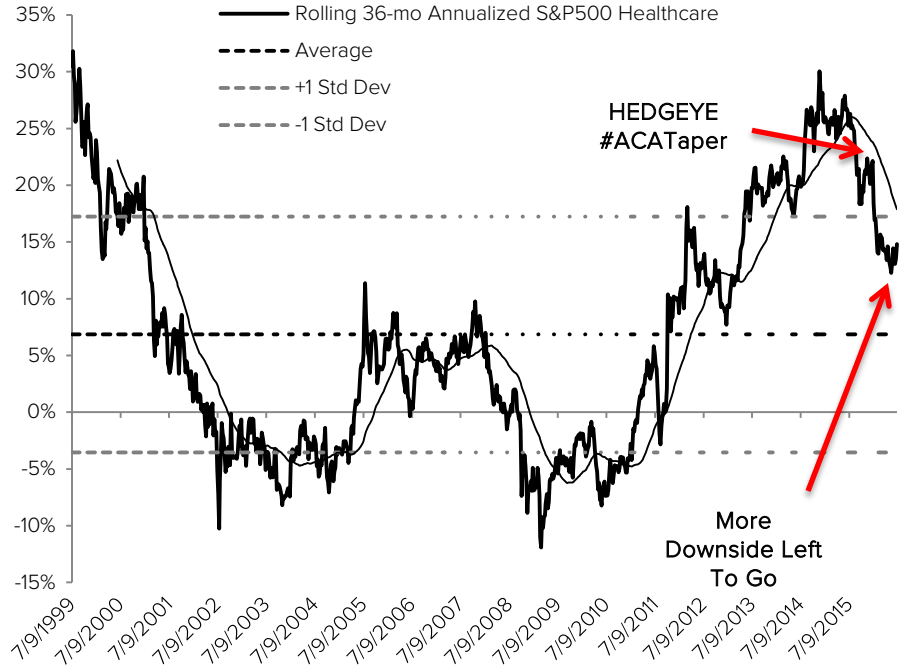
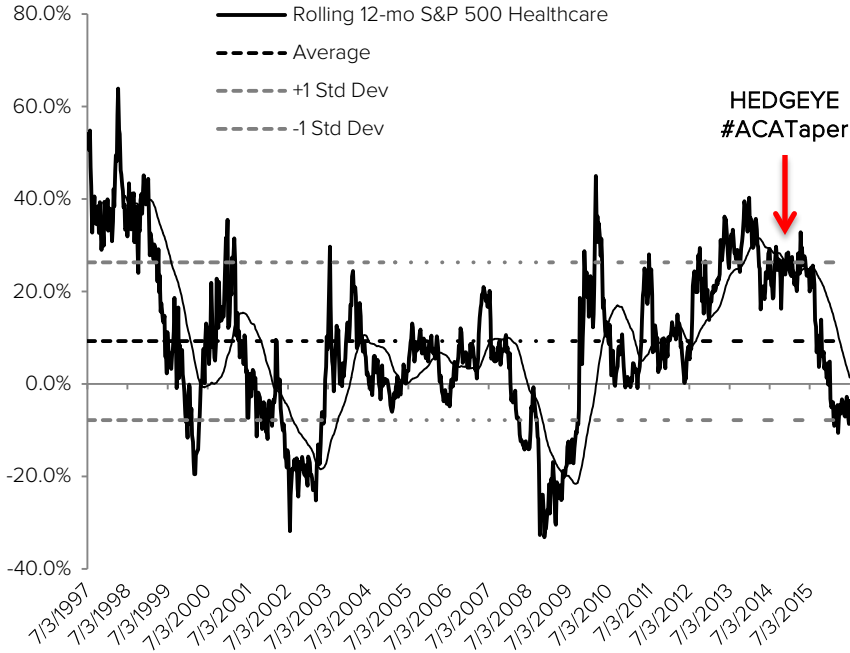
ANALYZING THE TREND IN INITIAL JOBLESS CLAIMS RELATIVE TO PREVIOUS LABOR CYCLES IMPLIES FIRINGS ARE MORE THAN LIKELY SET TO RISE MEANINGFULLY OVER THE NTM.





VALUATION, SENTIMENT AND PRICE

HISTORICAL PERFORMANCE



HEALTHCARE UNDERPERFORMANCE TO CONTINUE

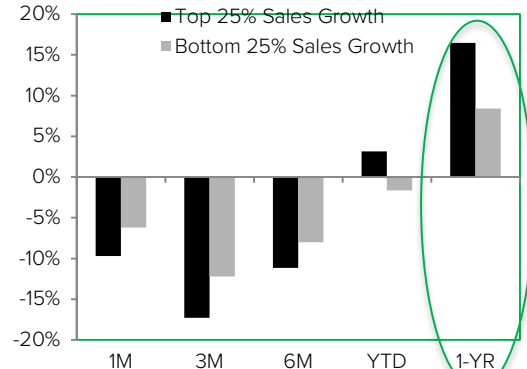
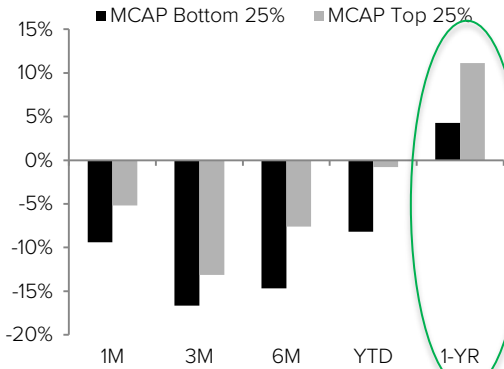
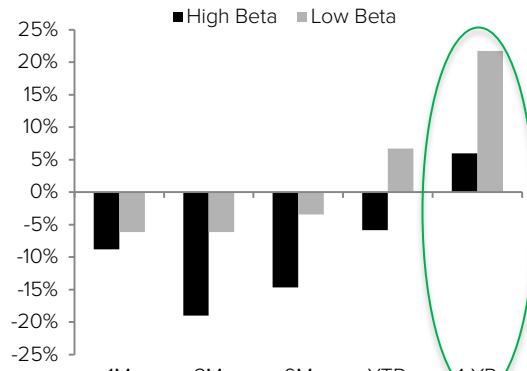
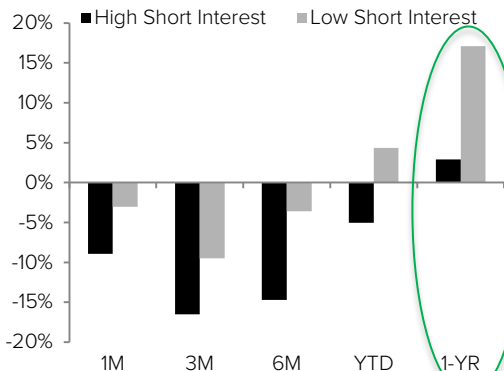
We expect Healthcare to continue to underperform due to the factors we addressed previously and that we remain extended on a 3-yr absolute basis.

STYLE FACTOR PERFORMANCE (10/8/15)

	FACTOR	1M	3M	6M	YTD	1-YR
DEBT	High Debt/EV	-7.8%	-13.5%	-8.7%	2.2%	10.9%
	Low Debt/EV	-6.9%	-13.2%	-11.4%	0.5%	13.4%
SI	High Short Interest	-8.9%	-16.5%	-14.7%	-5.1%	2.9%
	Low Short Interest	-3.0%	-9.5%	-3.6%	4.3%	17.1%
BETA	High Beta	-8.8%	-19.0%	-14.7%	-5.9%	6.0%
	Low Beta	-6.2%	-6.1%	-3.4%	6.7%	21.7%
YIELD	High Yield	-3.9%	-11.1%	-8.8%	-3.6%	7.0%
	Low Yield	-7.2%	-11.6%	-7.1%	5.0%	19.8%
VALUE	High EV/Sales	-9.3%	-18.0%	-13.9%	-0.6%	12.6%
	Low EV/Sales	-5.8%	-11.1%	-5.9%	5.2%	20.8%
MKT CAP	MCAP Bottom 25%	-9.4%	-16.6%	-14.7%	-8.2%	4.3%
	MCAP Top 25%	-5.2%	-13.2%	-7.6%	-0.8%	11.1%
Sales Growth	Top 25% Sales Growth	-9.7%	-17.3%	-11.2%	3.1%	16.5%
	Bottom 25% Sales Growth	-6.2%	-12.2%	-8.0%	-1.6%	8.4%
EPS Growth	Top 25% EPS Growth	-7.2%	-11.4%	-8.6%	5.3%	20.7%
	Bottom 25% EPS Growth	-6.9%	-13.2%	-7.3%	1.8%	13.3%

GREEN = Relative Outperformance Over Given Duration

*Percentage change reflects performance for top & bottom quartile of companies in the Universe (n=195) for the given style factor

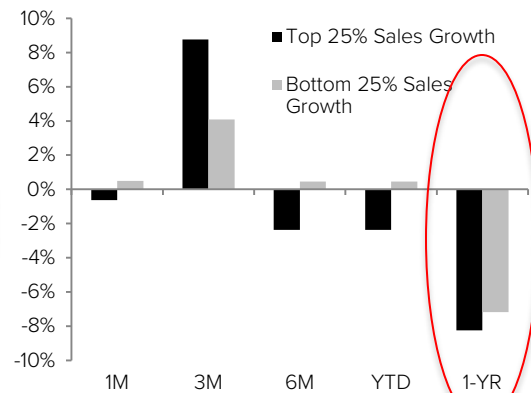
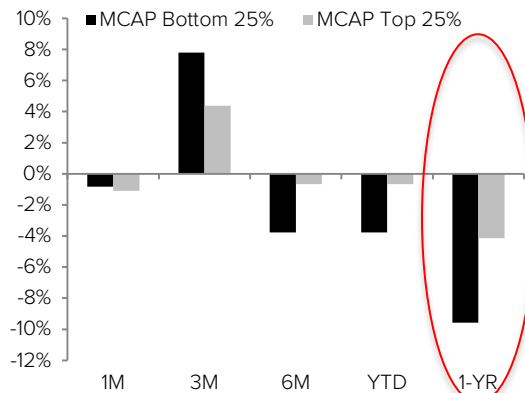
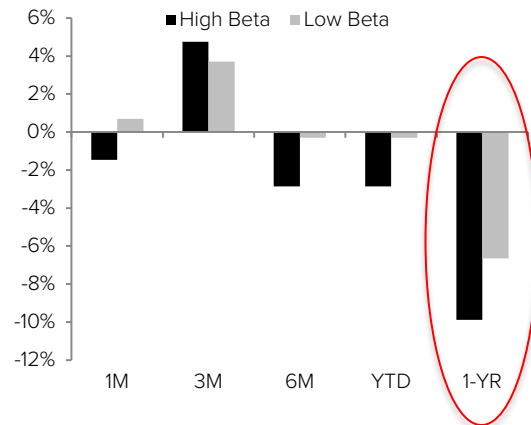
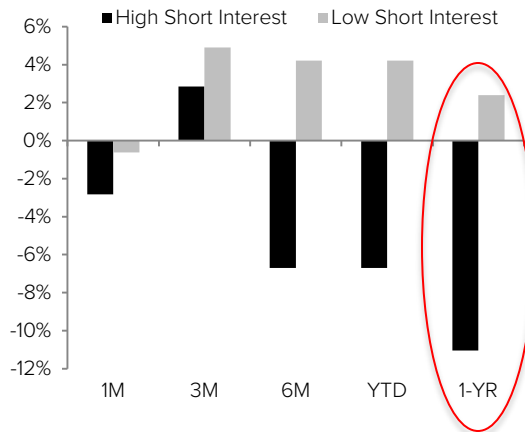


STYLE FACTOR PERFORMANCE (7/1/16)

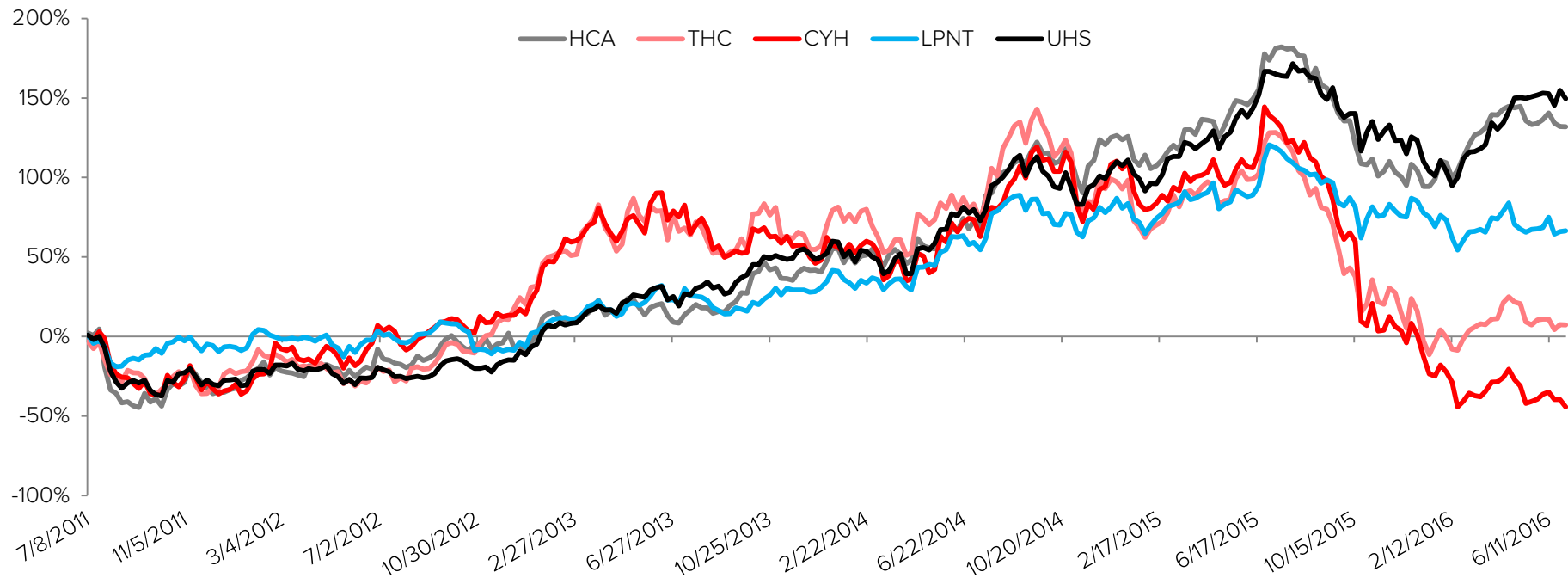
	FACTOR	1M	3M	6M	YTD	1-YR
DEBT	High Debt/EV	-2.3%	1.1%	-2.8%	-2.8%	-11.1%
	Low Debt/EV	1.2%	10.7%	-0.1%	-0.1%	-2.2%
SI	High Short Interest	-2.8%	2.9%	-6.7%	-6.7%	-11.0%
	Low Short Interest	-0.6%	4.9%	4.2%	4.2%	2.4%
BETA	High Beta	-1.5%	4.8%	-2.9%	-2.9%	-9.9%
	Low Beta	0.7%	3.7%	-0.3%	-0.3%	-6.6%
YIELD	High Yield	1.7%	5.1%	5.3%	5.3%	1.3%
	Low Yield	-0.8%	5.8%	-2.7%	-2.7%	-6.1%
VALUE	High EV/Sales	0.3%	8.1%	3.8%	3.8%	4.5%
	Low EV/Sales	-0.1%	2.8%	-1.4%	-1.4%	-7.6%
MKT CAP	MCAP Bottom 25%	-0.8%	7.8%	-3.8%	-3.8%	-9.6%
	MCAP Top 25%	-1.1%	4.4%	-0.7%	-0.7%	-4.1%
Sales Growth	Top 25% Sales Growth	-0.6%	8.8%	-2.4%	-2.4%	-8.3%
	Bottom 25% Sales Growth	0.5%	4.1%	0.5%	0.5%	-7.2%
EPS Growth	Top 25% EPS Growth	-2.0%	4.2%	-3.3%	-3.3%	-5.3%
	Bottom 25% EPS Growth	-0.6%	7.7%	-3.2%	-3.2%	-9.0%

GREEN = Relative Outperformance Over Given Duration

**Percentage change reflects performance for top & bottom quartile of companies in the Universe (n=195) for the given style factor*



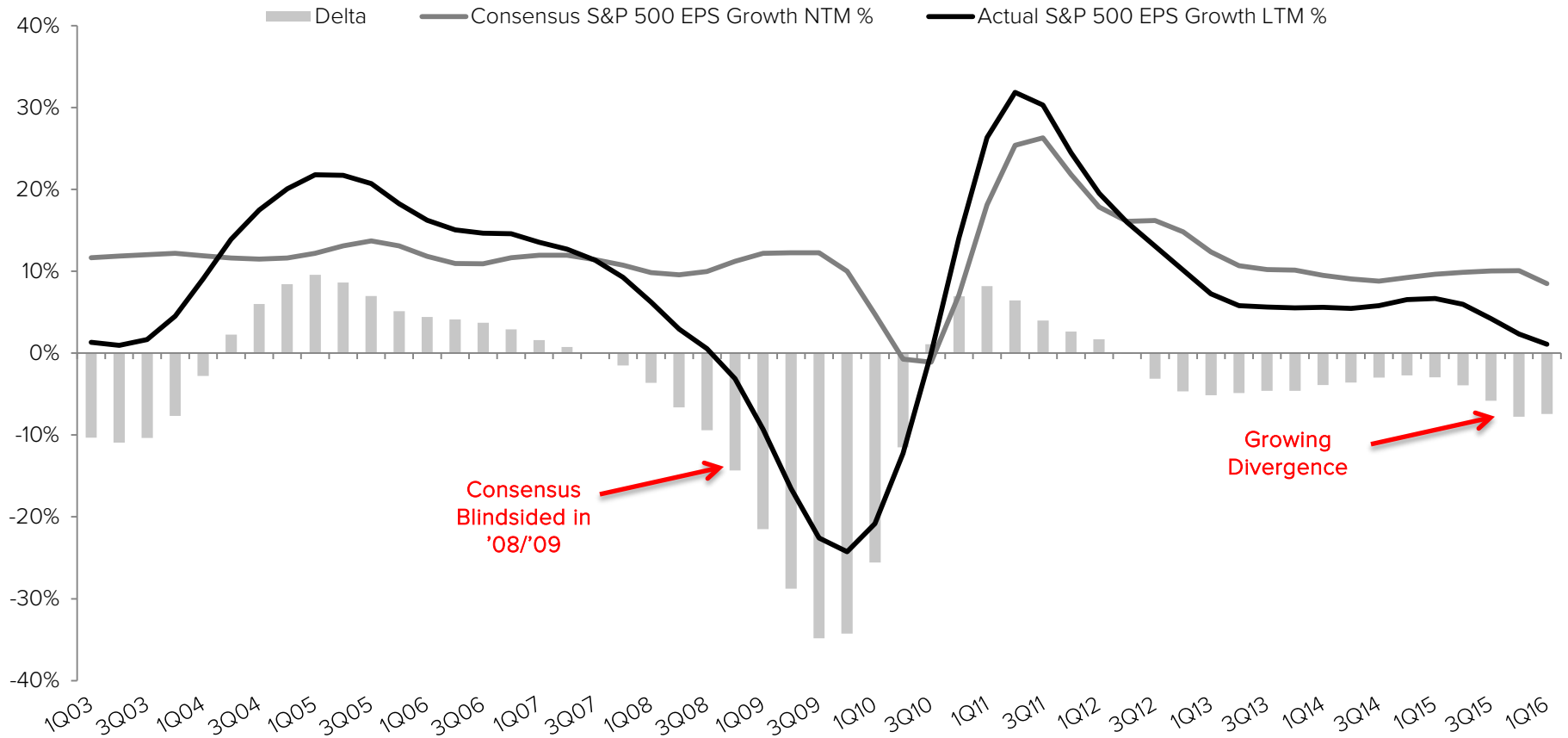
SLOWING GROWTH + LEVERAGE =



HOSPITALS GIVE UP 5-YEARS OF OUTPERFORMANCE

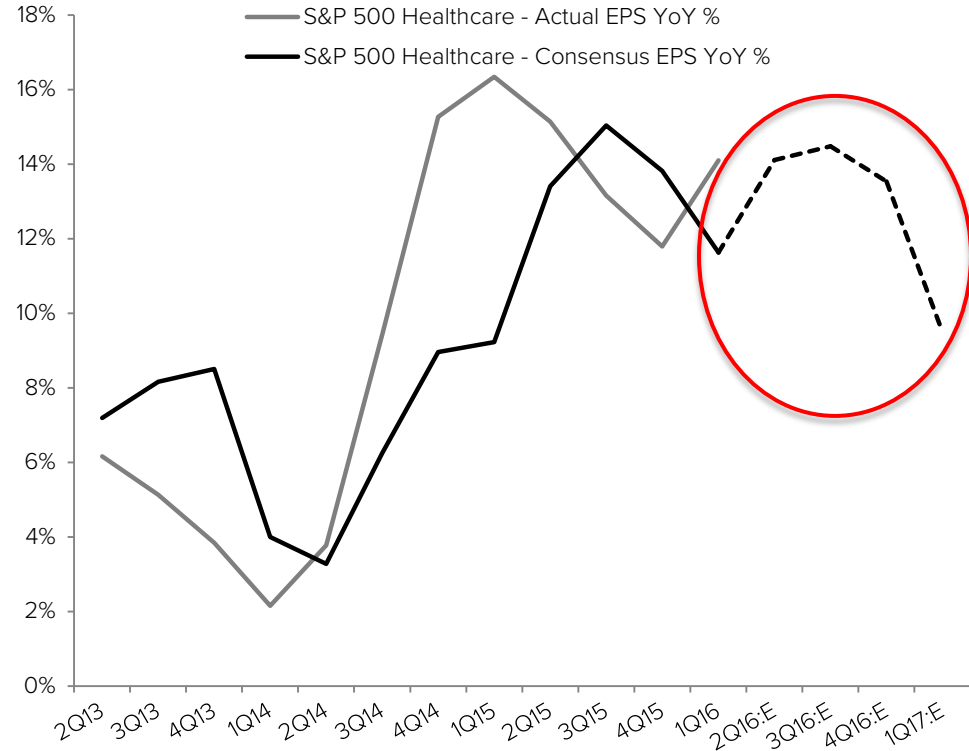
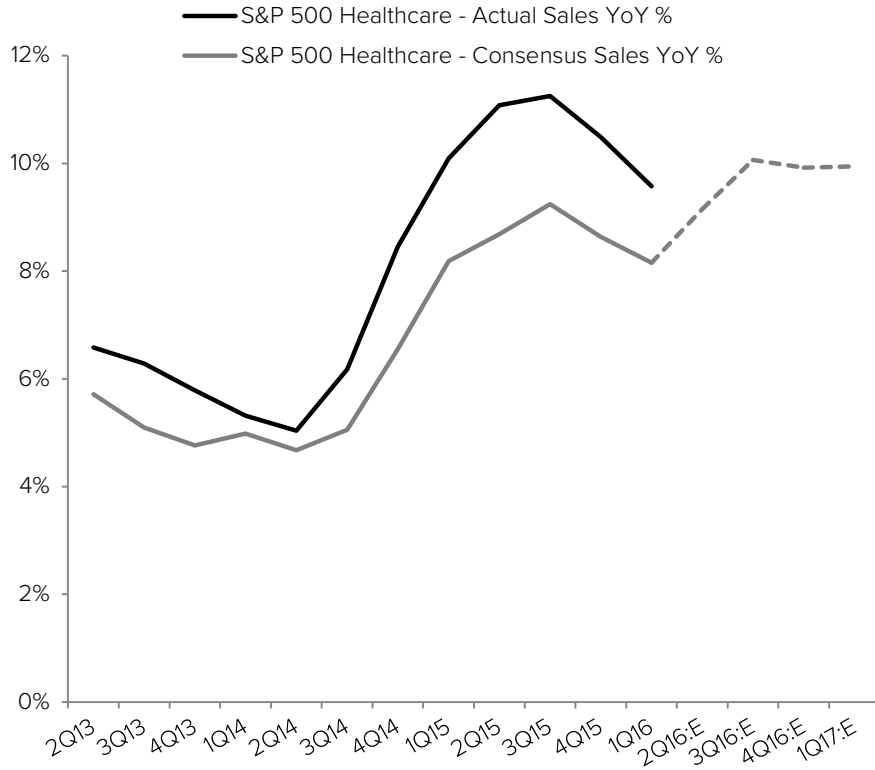
HCA and UHS hold in while highly levered CYH and THC give up all of their outperformance since 2011 due to a combination of operational issues, slowing growth and leverage.

S&P 500 GROWTH EXPECTATIONS

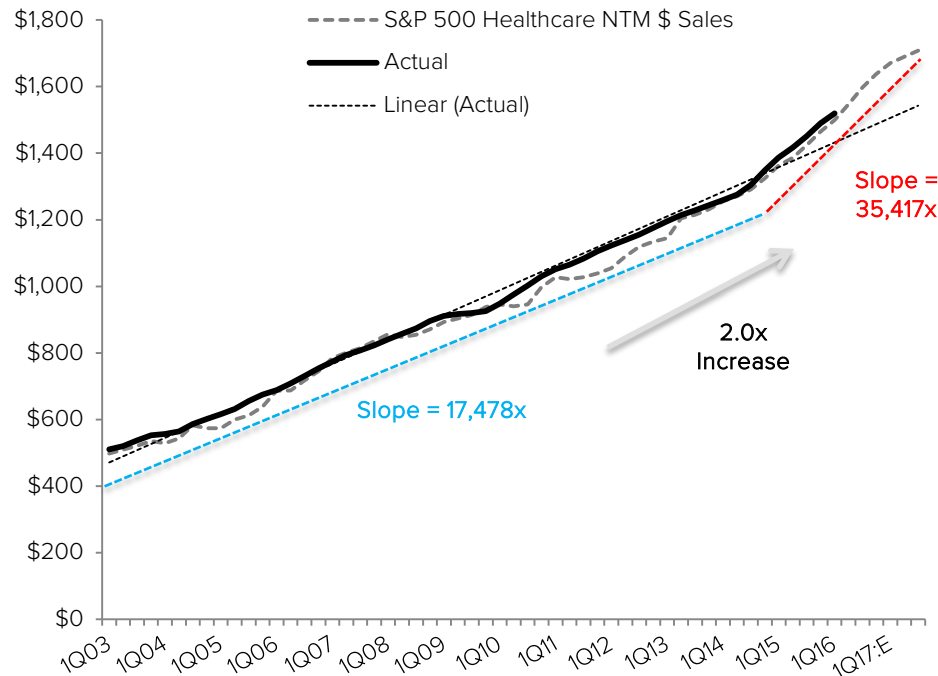
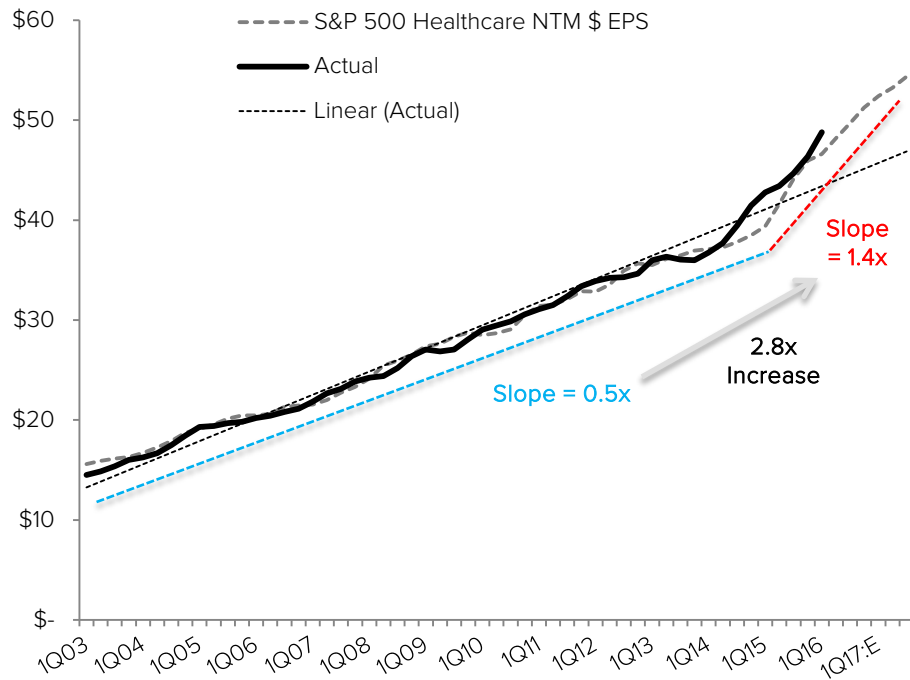


HEALTHCARE GROWTH EXPECTATIONS

CONSENSUS FORECASTING RE-ACCELERATION IN SALES



ABSOLUTE SALES AND EPS ESTIMATES



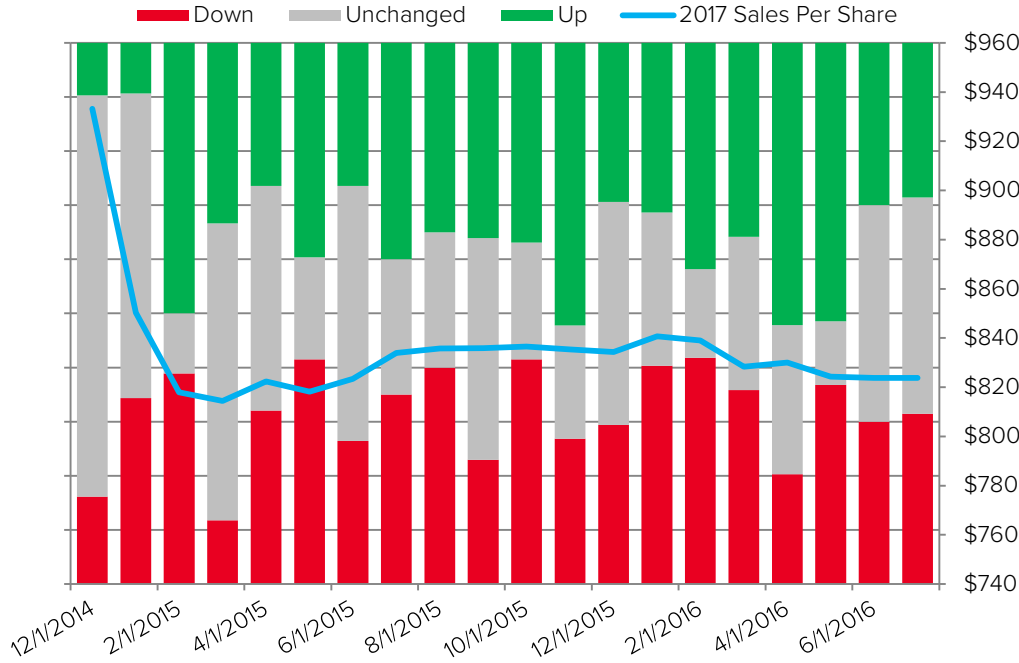
CONSENSUS DEVIATING FROM LONG-TERM TREND

Reasonable given level of M&A and Stimulus.... but likely to mean revert amid slowing growth. Rate of change significant with slope increase 2.0x for Sales and 2.8x for EPS (> Sales due to operating leverage).

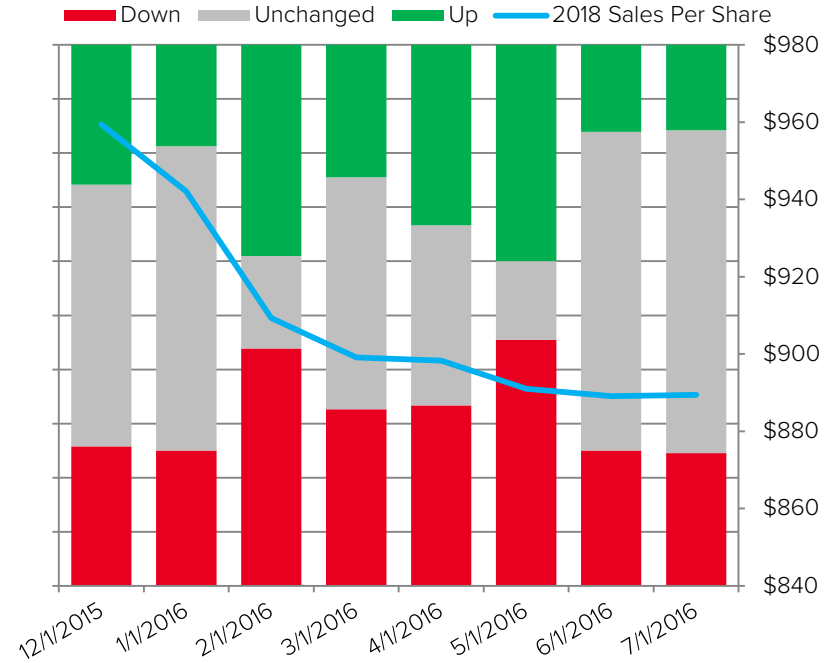
CONSENSUS ESTIMATE REVISIONS

2017/2018 SALES ESTIMATES TRENDING LOWER

2017 Sales Per Share Estimates
North American Health Services



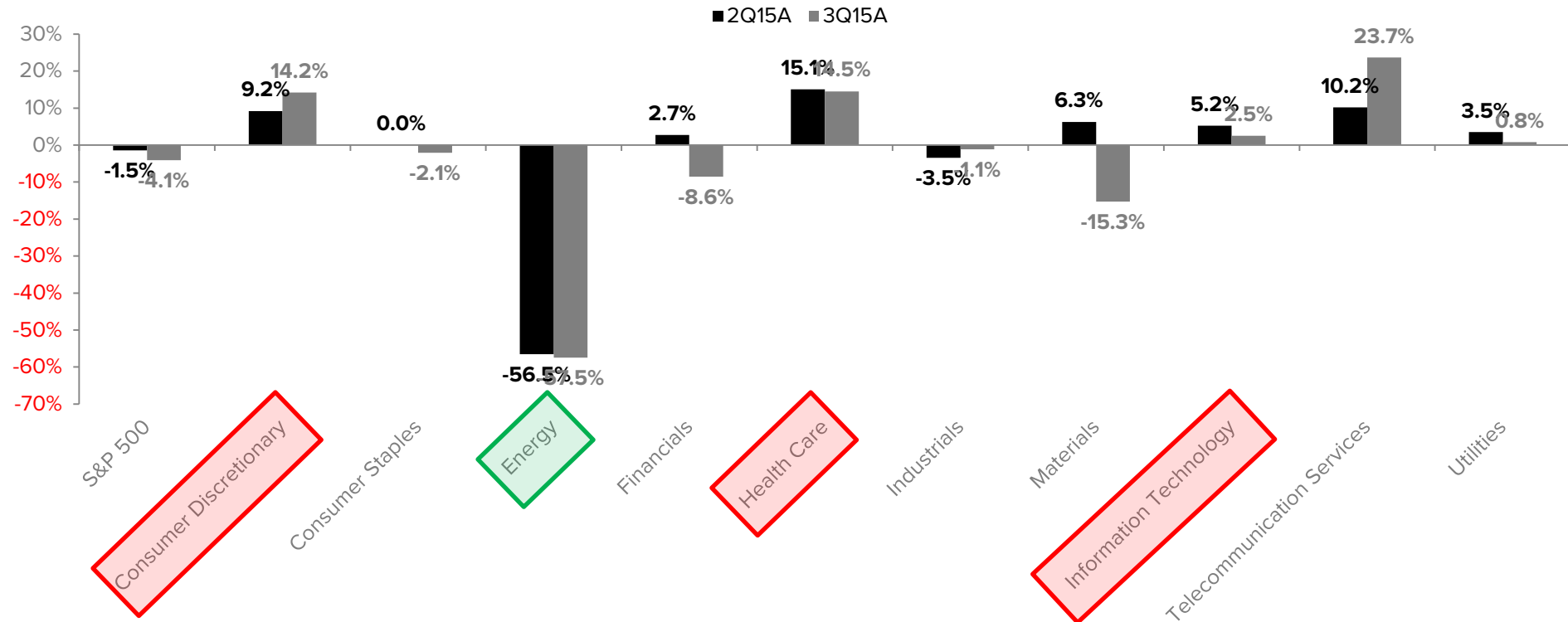
2018 Sales Per Share Estimates
North American Health Services



BASE EFFECTS FOR EPS GROWTH

COMPARES ARE DIFFICULT FOR #LATECYCLE CONSUMPTION-ORIENTED SECTORS SUCH AS CONSUMER DISCRETIONARY, HEALTH CARE AND, TO A LESSER EXTENT, TECH. ENERGY COMPARES ARE A LAYUP TO THE EXTENT CRUDE OIL PRICES CAN STAY AROUND/ABOVE CURRENT LEVELS.

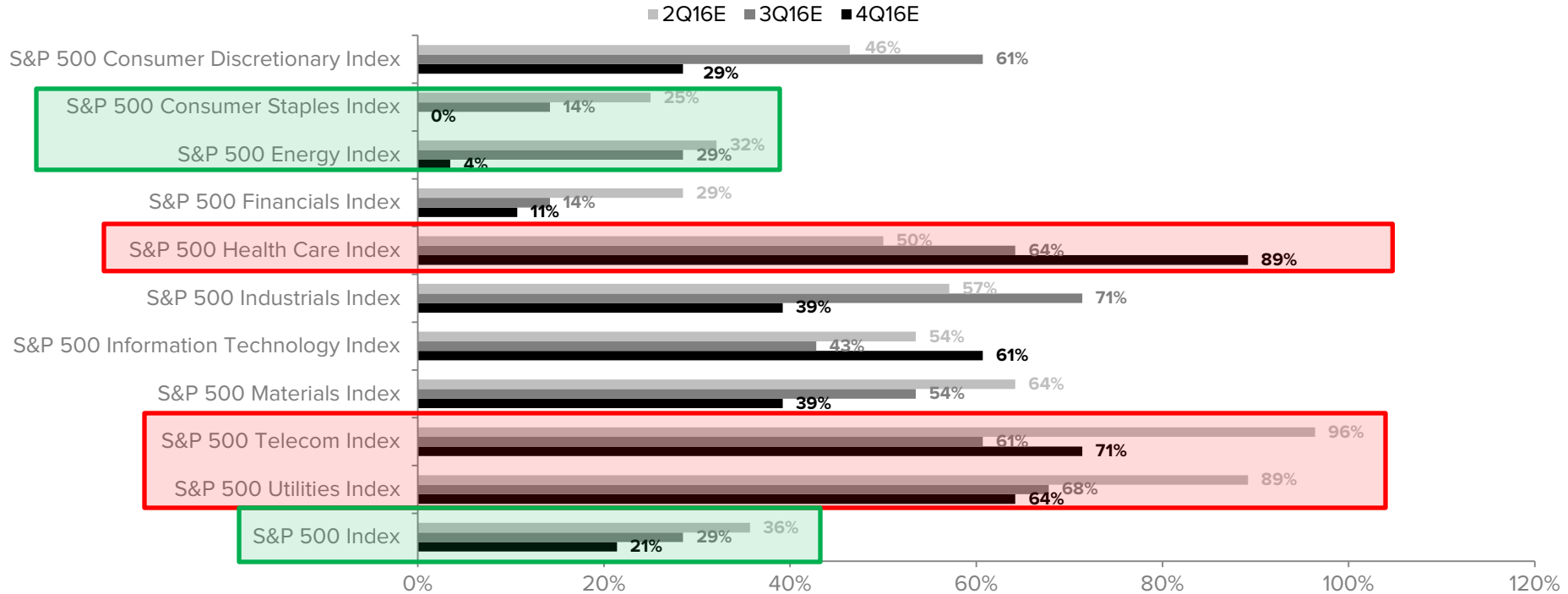
YoY % Change in EPS by S&P 500 Sector (Annual Compares)



EPS COMPARES: HISTORICAL CONTEXT

HEALTH CARE, TELECOM AND UTILITIES FACE THE MOST DIFFICULT EPS GROWTH COMPARES THROUGH YEAR-END, WHILE CONSUMER STAPLES AND ENERGY EXPERIENCE THE GREATEST TAILWINDS. BASE EFFECTS FOR THE INDEX AS A WHOLE ARE ACTUALLY QUITE MANAGEABLE.

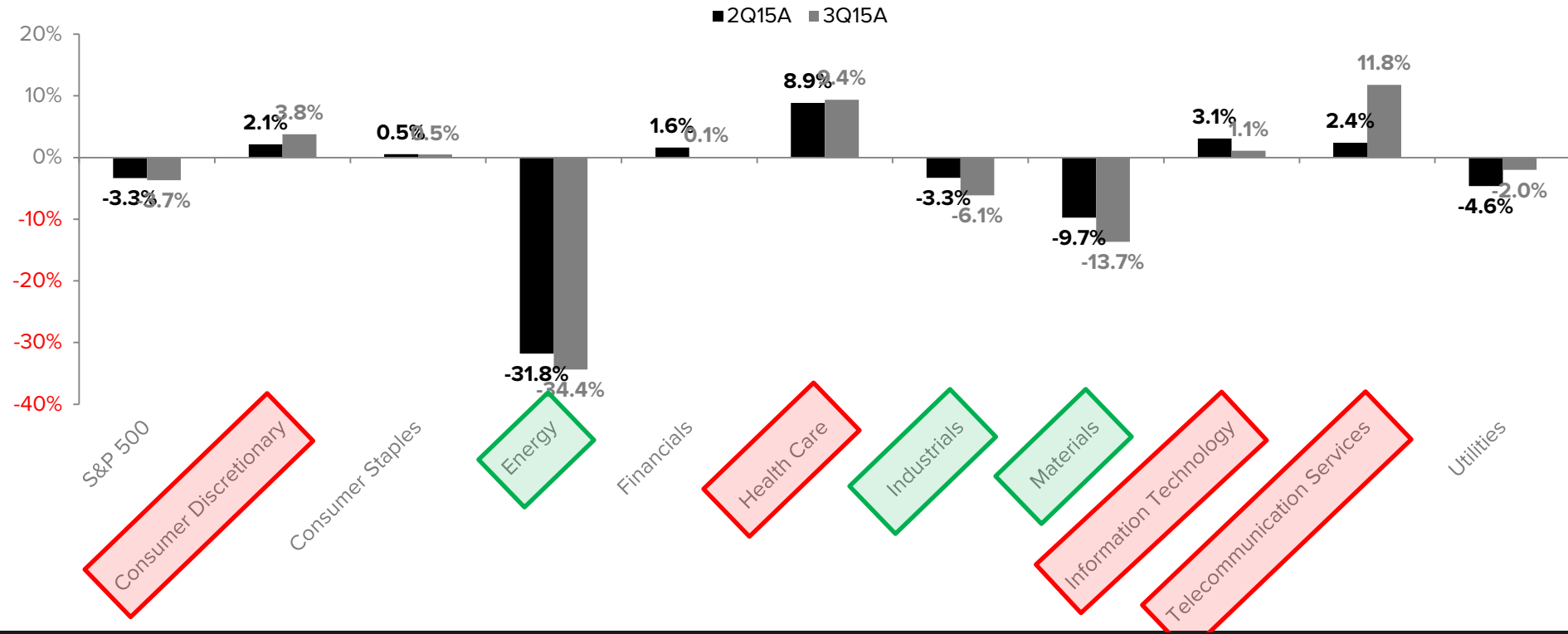
2Y Average EPS Growth Rate in the Respective Comparative Base Period
(Values Shown as a Percentile of the Respective Trailing 10Y Sample)



BASE EFFECTS FOR REVENUE GROWTH

CONSUMER DISCRETIONARY, HEALTH CARE, TECH AND TELECOM HAVE THE MOST DIFFICULT COMPARES ACROSS SECTORS, WHILE ENERGY, MATERIALS AND INDUSTRIALS HAVE EASY COMPARES.

YoY % Change in Sales by S&P 500 Sector (Annual Compares)



VALUATION MONITOR

Friday, July 08, 2016

Absolute

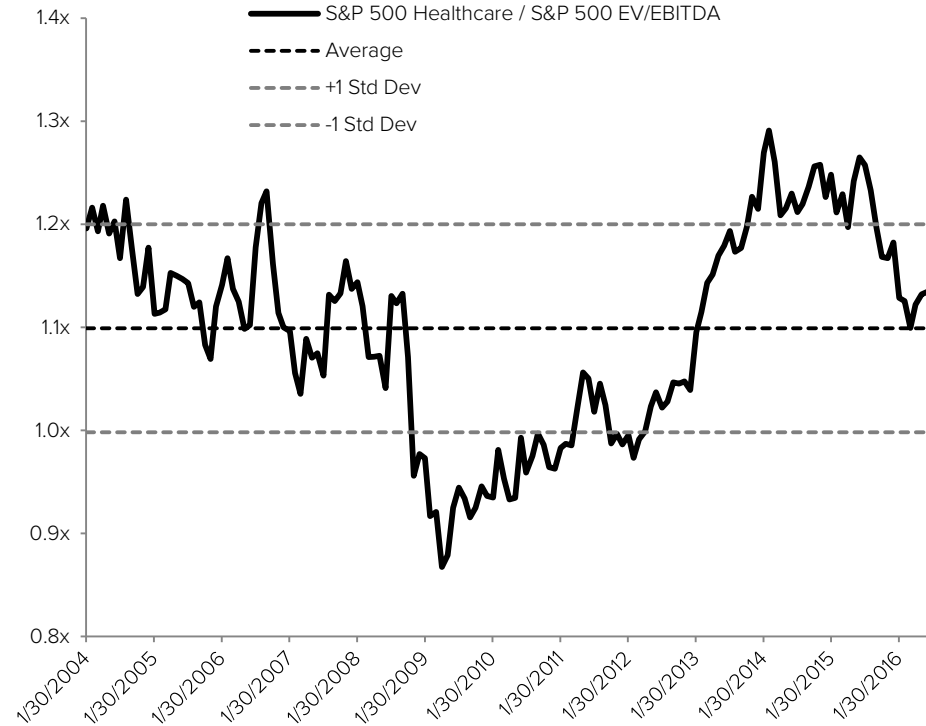
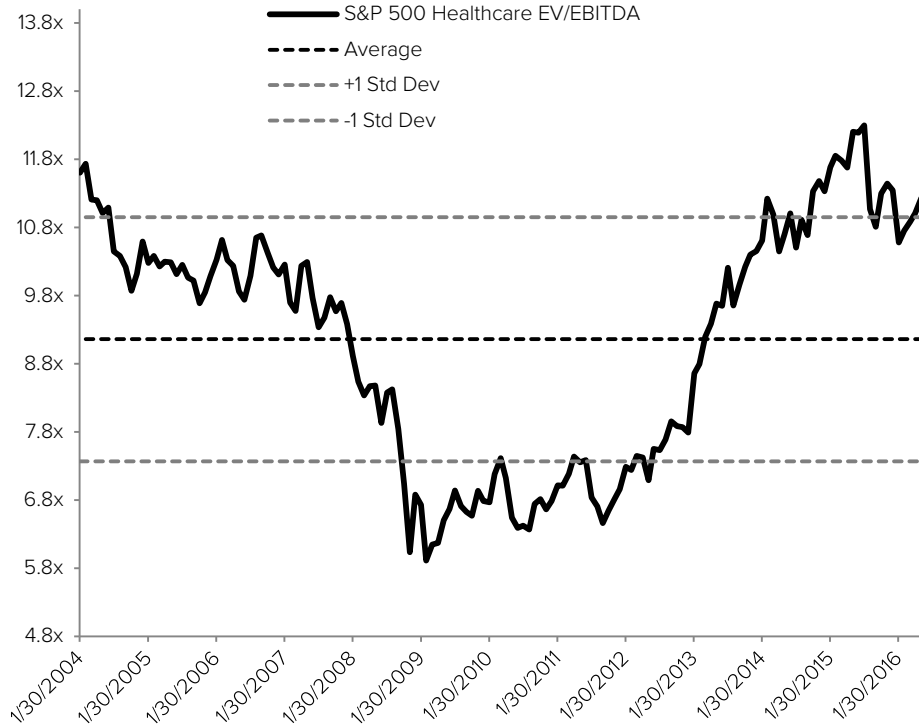
Index	Multiple Current	EV/EBITDA				Multiple Current	EV/Sales				Multiple Current	P/E			
		Z-Score					Z-Score					Z-Score			
		1 Yr.	3 Yr.	5 Yr.	10 Yr.		1 Yr.	3 Yr.	5 Yr.	10 Yr.		1 Yr.	3 Yr.	5 Yr.	10 Yr.
S&P 500	10.5x	1.7	1.7	1.6	2.0	2.4x	1.4	1.4	1.4	1.8	16.9x	1.3	1.4	1.3	1.8
S&P 500 Health Care	11.5x	0.6	0.7	1.0	1.4	1.9x	0.4	0.5	1.0	1.4	15.7x	0.0	-0.7	0.4	0.7
Industry															
Equipment & Supplies	14.0x	2.5	2.0	1.9	2.5	3.9x	2.5	2.1	2.1	2.6	20.0x	2.2	2.1	1.9	1.7
Providers & Services	9.1x	0.2	0.3	0.8	1.2	0.6x	0.2	0.1	0.7	1.0	14.5x	-0.3	-0.2	0.6	0.8
Technology	11.6x	-0.2	-1.3	-1.4	-0.1	4.0x	-0.2	-1.2	-1.2	0.2	24.1x	-0.2	-1.3	-1.6	-0.7
Biotechnology	10.0x	-0.6	-1.4	-1.0	-0.8	5.4x	-0.8	-1.7	-0.3	0.0	12.4x	-0.8	-1.5	-1.5	-1.4
Pharmaceuticals	12.7x	1.3	1.2	1.3	1.7	4.7x	1.6	1.3	1.4	1.9	16.5x	0.5	0.0	0.7	1.2
Life Sciences	16.5x	0.5	0.7	1.1	1.7	4.3x	0.4	0.8	1.2	1.9	20.8x	0.2	0.2	0.8	1.0

Relative to S&P 500

Index	Multiple Current	EV/EBITDA				Multiple Current	EV/Sales				Multiple Current	P/E			
		Z-Score					Z-Score					Z-Score			
		1 Yr.	3 Yr.	5 Yr.	10 Yr.		1 Yr.	3 Yr.	5 Yr.	10 Yr.		1 Yr.	3 Yr.	5 Yr.	10 Yr.
S&P 500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S&P 500 Health Care	1.1x	-0.5	-1.4	0.0	0.5	0.8x	-0.4	-1.2	0.0	0.7	0.9x	-0.7	-1.8	-1.6	-0.6
Industry															
Equipment & Supplies	1.3x	2.2	1.9	1.8	2.2	1.7x	2.6	2.2	2.3	2.6	1.2x	1.9	2.4	2.7	0.7
Providers & Services	0.9x	-0.9	-1.8	-1.6	-1.0	0.2x	-0.6	-1.6	-1.9	0.0	0.9x	-0.9	-1.5	-1.0	-0.5
Technology	1.1x	-0.6	-1.5	-1.9	-1.0	1.7x	-0.5	-1.3	-1.8	-0.3	1.4x	-0.6	-1.5	-1.8	-1.6
Biotechnology	1.0x	-1.0	-1.5	-1.9	-2.1	2.3x	-1.1	-1.9	-1.7	-1.3	0.7x	-1.1	-1.5	-2.0	-2.2
Pharmaceuticals	1.2x	-0.2	0.1	0.8	1.3	2.0x	0.6	1.1	1.2	1.6	1.0x	-0.5	-1.5	-0.5	0.4
Life Sciences	1.6x	-0.6	-0.3	0.6	1.1	1.8x	-0.3	0.4	0.9	1.6	1.2x	-0.7	-1.4	0.0	-0.1

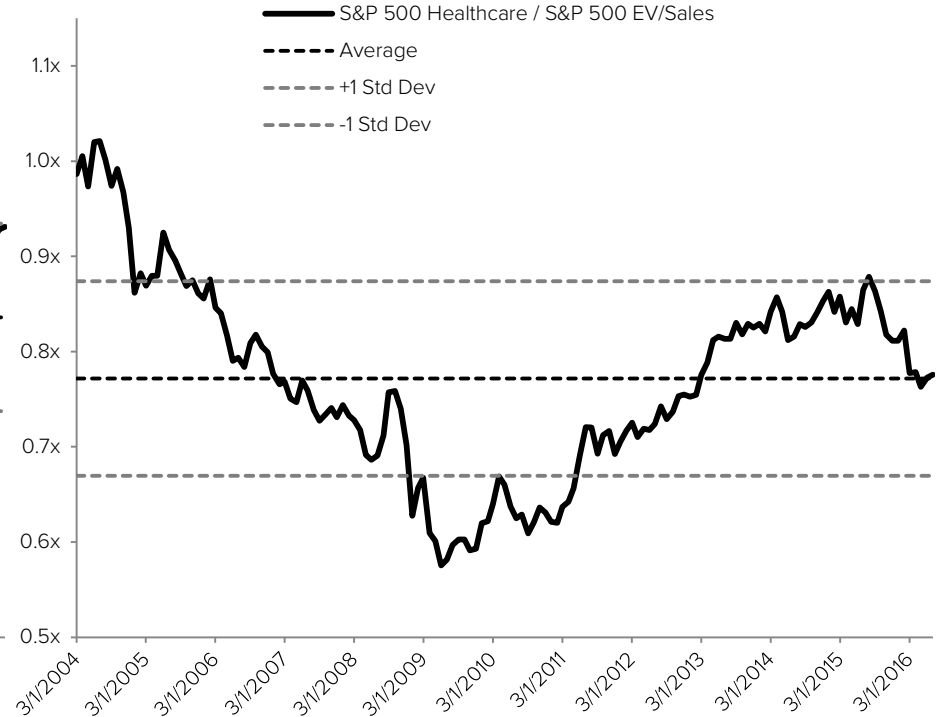
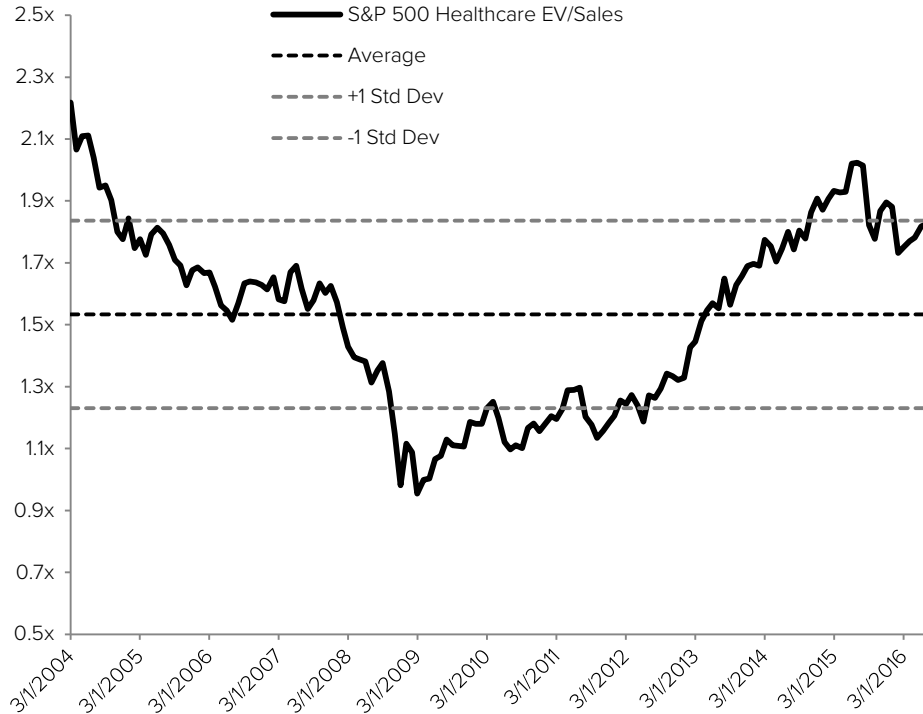
HEALTHCARE NTM EV/EBITDA

EXTENDED ABSOLUTE / IN-LINE RELATIVE



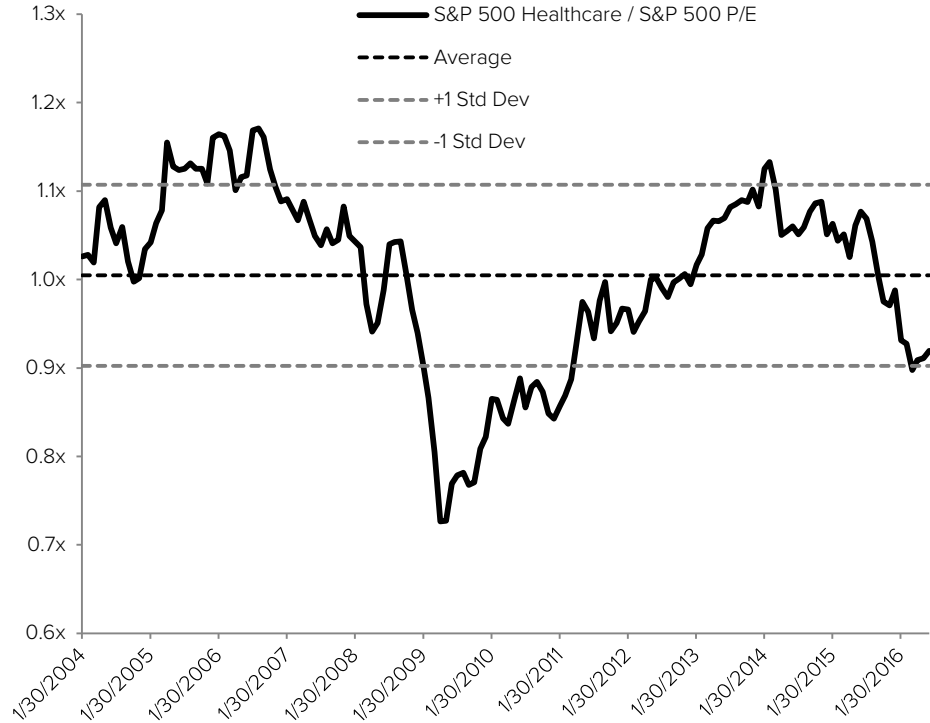
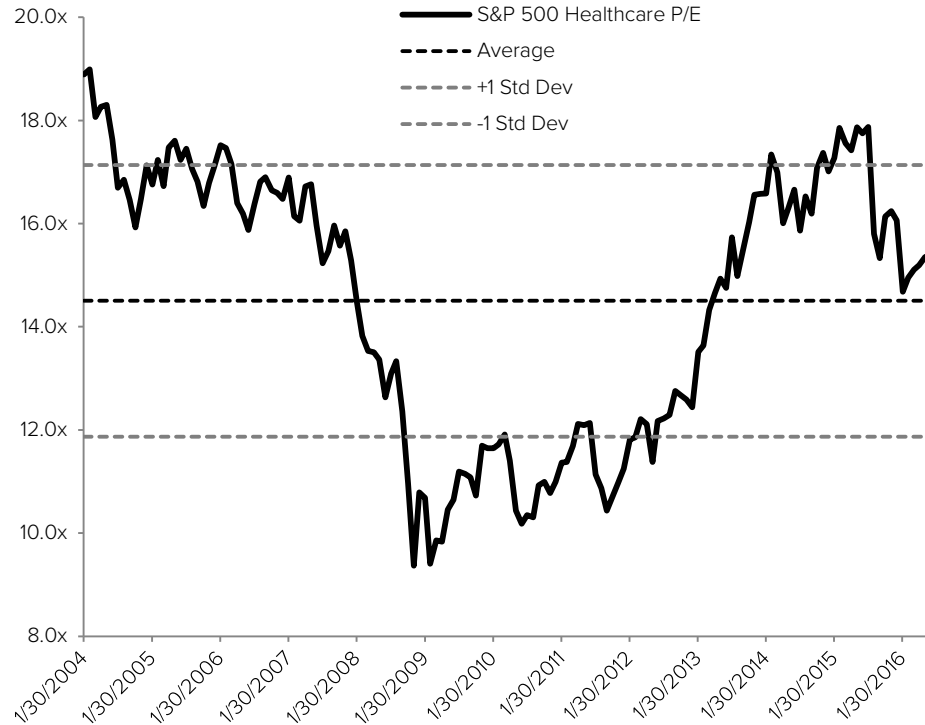
HEALTHCARE NTM EV/SALES

EXTENDED ABSOLUTE / IN-LINE RELATIVE



HEALTHCARE NTM P/E

IN-LINE ABSOLUTE / BELOW RELATIVE <- LEVERAGE HIGH



HEALTHCARE POSITION MONITOR

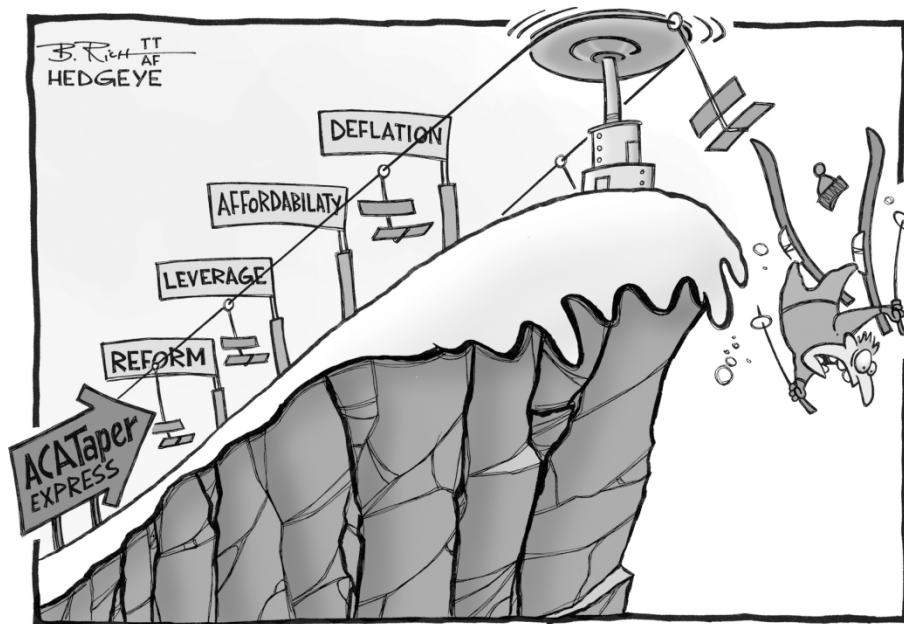
Sentiment	Investment Ideas - Longs			Trade	Trend	Tail	Sentiment	Investment Ideas - Shorts			Trade	Trend	Tail
Score ¹	LONG						Score ¹	SHORT					
6	ATHN	athenahealth, Inc.		---	✓	✓	81	HOLX	Hologic, Inc.		x	x	x
41	ILMN	Illumina, Inc.		---	✓	✓	59	AHS	AMN Healthcare Services, Inc.		---	x	x
							53	ZBH	Zimmer Biomet Holdings, Inc.		---	x	x
							33	MD	MEDNAX, Inc.		x	x	x
							17	MDRX	Allscripts Healthcare Solutions, Inc.		x	x	x
Sentiment	Long Bench						Sentiment	Short Bench					
Score ¹	LONG						Score ¹	SHORT					
6	EXAS	Exact Sciences Corporation		---	---	---	97	WOOF	VCA Inc.		---	---	---
56	EVH	Evolent Health Inc Class A		---	---	---	79	LH	Laboratory Corporation of America Holdings		---	---	---
72	CSLT	Castlight Health, Inc. Class B		---	---	---	71	ICLR	ICON Plc		---	---	---
89	CERN	Cerner Corporation		---	---	---	62	DVA	DaVita HealthCare Partners Inc.		---	---	---
							53	CRL	Charles River Laboratories International, Inc.		---	---	---
							44	MDSO	Medidata Solutions, Inc.		---	---	---
							41	HCA	HCA Holdings, Inc.		---	---	---
							36	LPNT	LifePoint Health, Inc.		---	---	---
							24	PRXL	PAREXEL International Corporation		---	---	---
							22	QSII	Quality Systems, Inc.		---	---	---
							18	Q	Quintiles Transnational Holdings, Inc.		---	---	---
							5	DGX	Quest Diagnostics Incorporated		---	---	---
							1	CYH	Community Health Systems, Inc.		---	---	---
							1	CPSI	Computer Programs and Systems, Inc.		---	---	---

¹Percentile rank within sub-sector (1 = High Short Interest, Negative Sell Side / 100 = Low Short Interest, Positive Sell Side)

Bench = Timing is not right, or research in progress.

qa@hedgeye.com

Q&A



APPENDIX

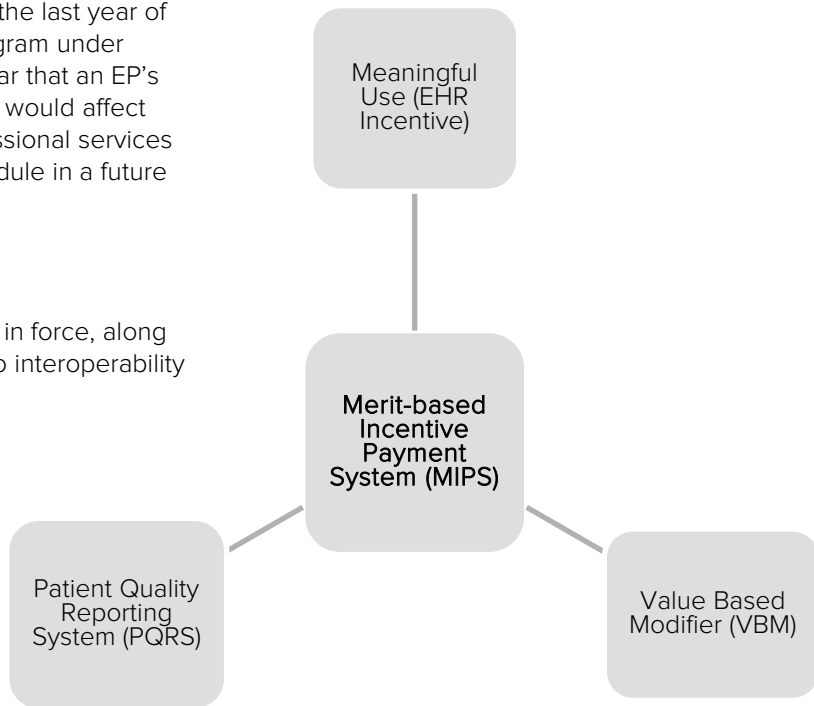
MERIT-BASED INCENTIVE PROGRAM

IMPACT ON ELIGIBLE PROFESSIONALS

- For EPs, 2016 will stand to be the last year of MU as a distinct incentive program under Medicare, and also the last year that an EP's ability to be a meaningful user would affect payment adjustment for professional services under the Physician Fee Schedule in a future calendar year (2018).

VENDOR IMPACT

- Meaningful Use Stage 3 is still in force, along with CHIT guidelines related to interoperability and API use.



All three programs merged beginning in 2019.

Payment adjustments will be determined by four performance categories:

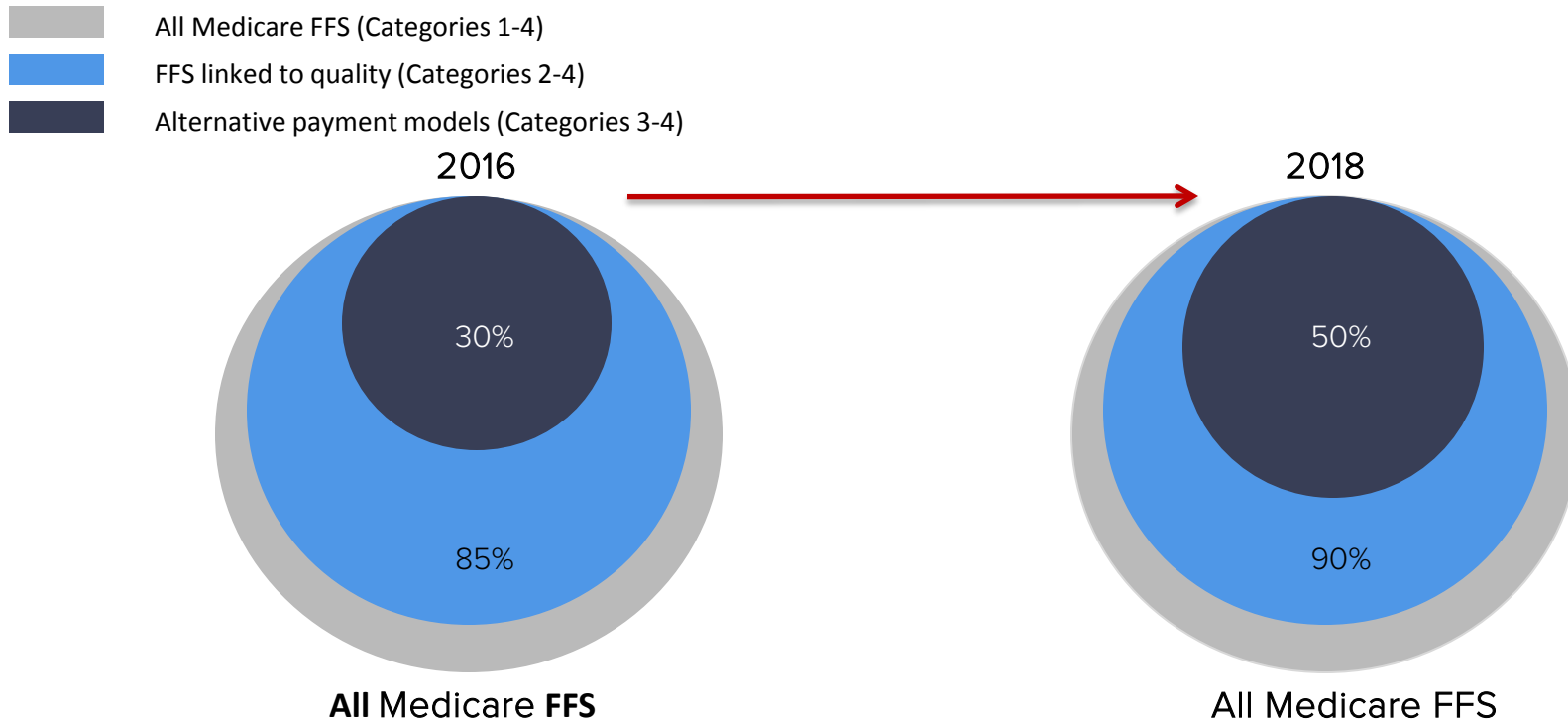
1. Resource Use
2. Quality
3. Clinical Practice Improvement Activities
4. Meaningful Use of EHR System

Physicians participating in the in program will receive a performance score of 0-100 based on their performance in each category.

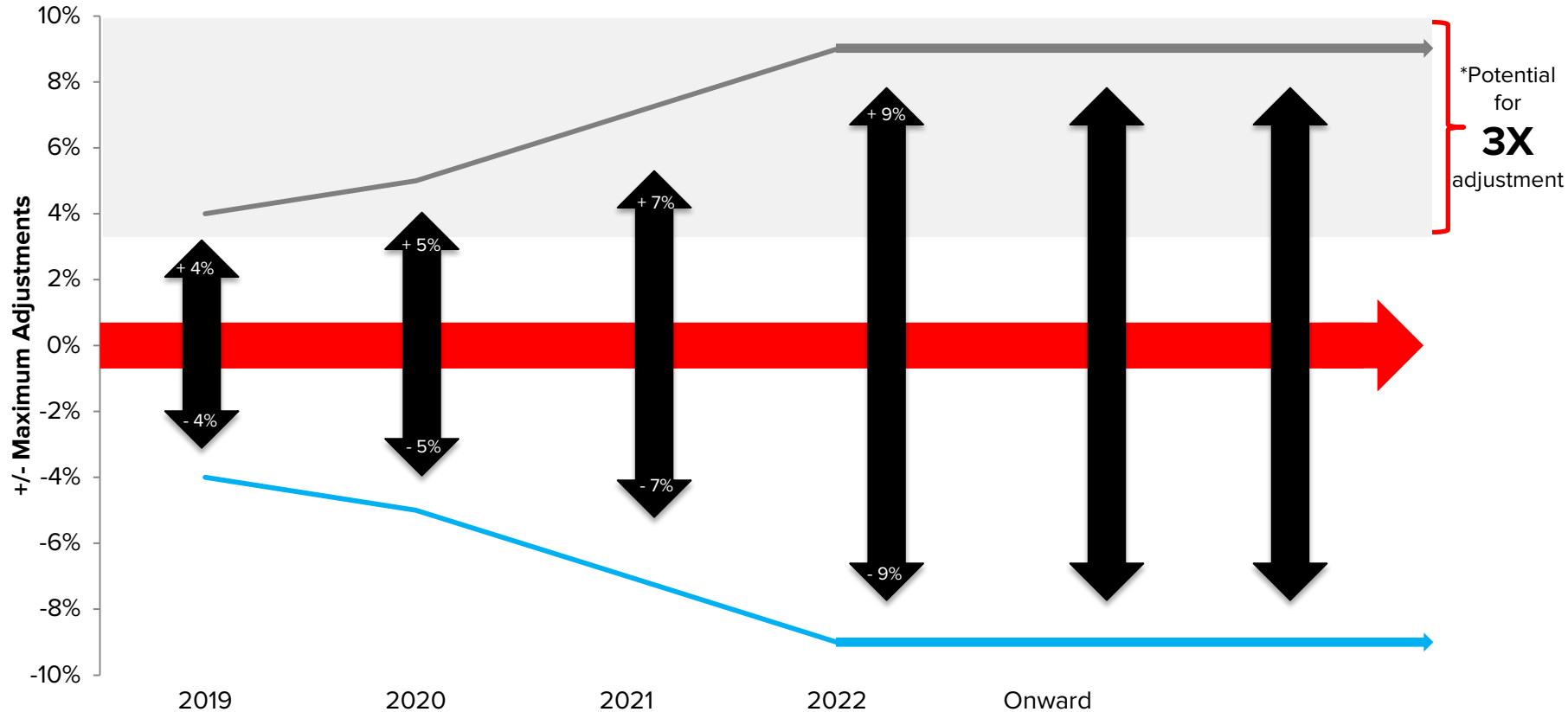
Baseline will be determined and payment adjustments will be made accordingly.

CMS QUALITY AND VALUE TARGETS

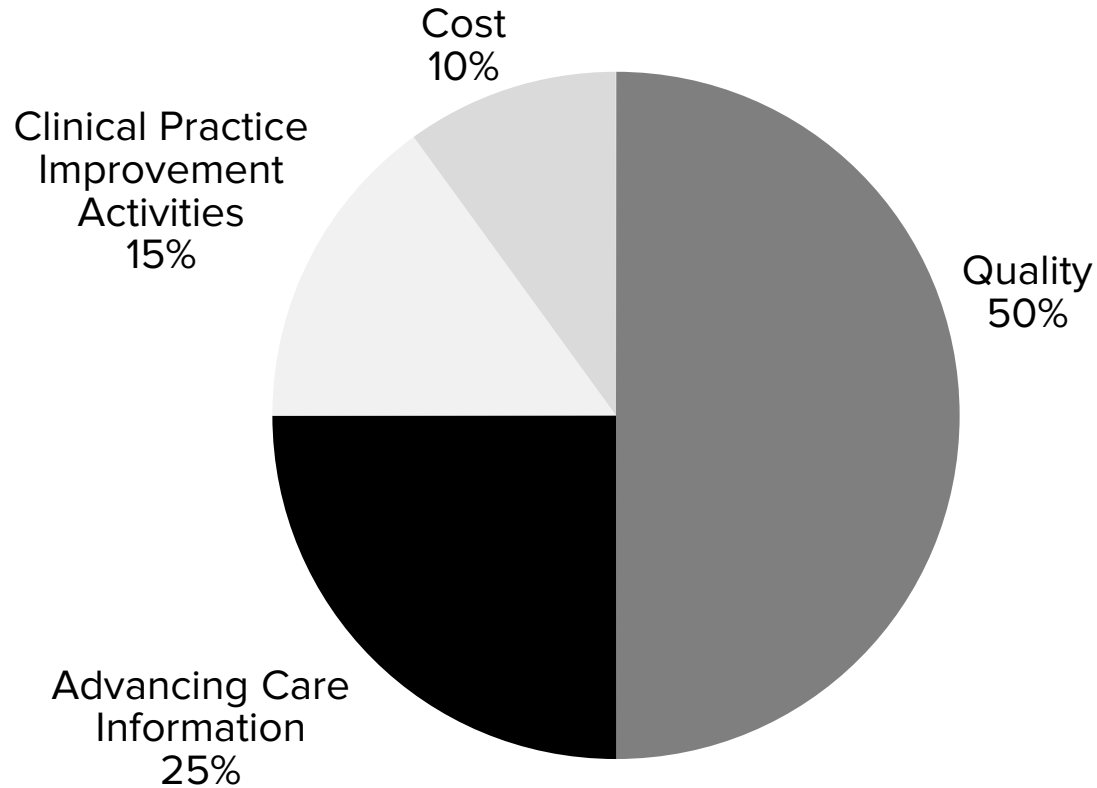
Target percentage of Medicare FFS payments linked to quality and alternative payment models in 2016 and 2018



BUDGET NEUTRAL ADJUSTMENTS



YEAR 1 PERFORMANCE FOR MIPS



ALTERNATIVE PAYMENT MODELS

Payment Taxonomy Framework				
	Category 1: <i>Fee for Service—No Link to Quality</i>	Category 2: <i>Fee for Service—Link to Quality</i>	Category 3: <i>Alternative Payment Models Built on Fee for Service Architecture</i>	Category 4: <i>Population-Based Payment</i>
Description	Payments are based on volume of services and not lined to quality or efficiency	At least a portion of payments vary based on the quality or efficiency of healthcare delivery	Some payment is linked to effective management of a population or an episode of care. Payments still triggered by delivery of services, but opportunities for shared savings or 2-sided risk	Payment is not directly triggered by service delivery so volume is not linked to payment. Clinicians and organizations are paid and responsible for the care of a beneficiary for a long period (e.g. ≥ 1 yr)
Medicare FFS	<ul style="list-style-type: none"> • Limited in Medicare fee-for-service • Majority of Medicare payments now are linked to quality 	<ul style="list-style-type: none"> • Hospital based value purchasing • Physician Value-Based Modifier • Readmissions/Hospital Acquired Condition Reduction Program 	<ul style="list-style-type: none"> • Accountable care organizations • Medical homes • Bundles payments • Comprehensive primary care initiative • Comprehensive ESRD • Medicare-Medicaid Financial Alignment Initiative Fee-For-Service Model 	<ul style="list-style-type: none"> • Eligible Pioneer accountable care organizations in years 3-5

FOR MORE INFORMATION CONTACT:

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203.562.6500