



IMN Middle-Market Multifamily Forum

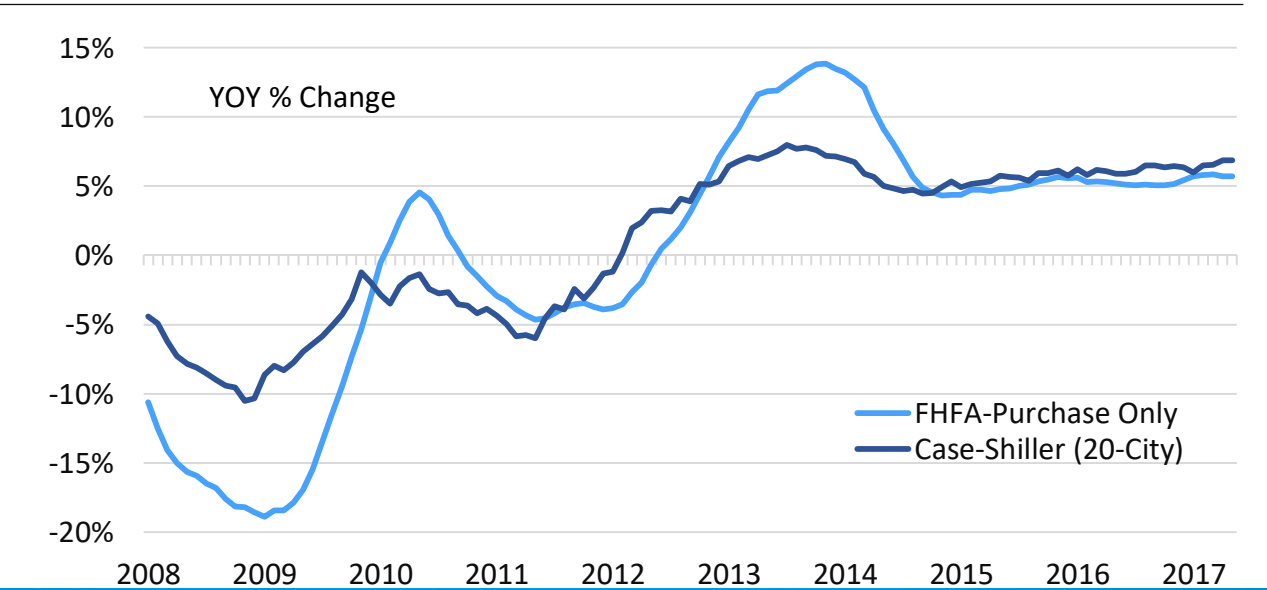
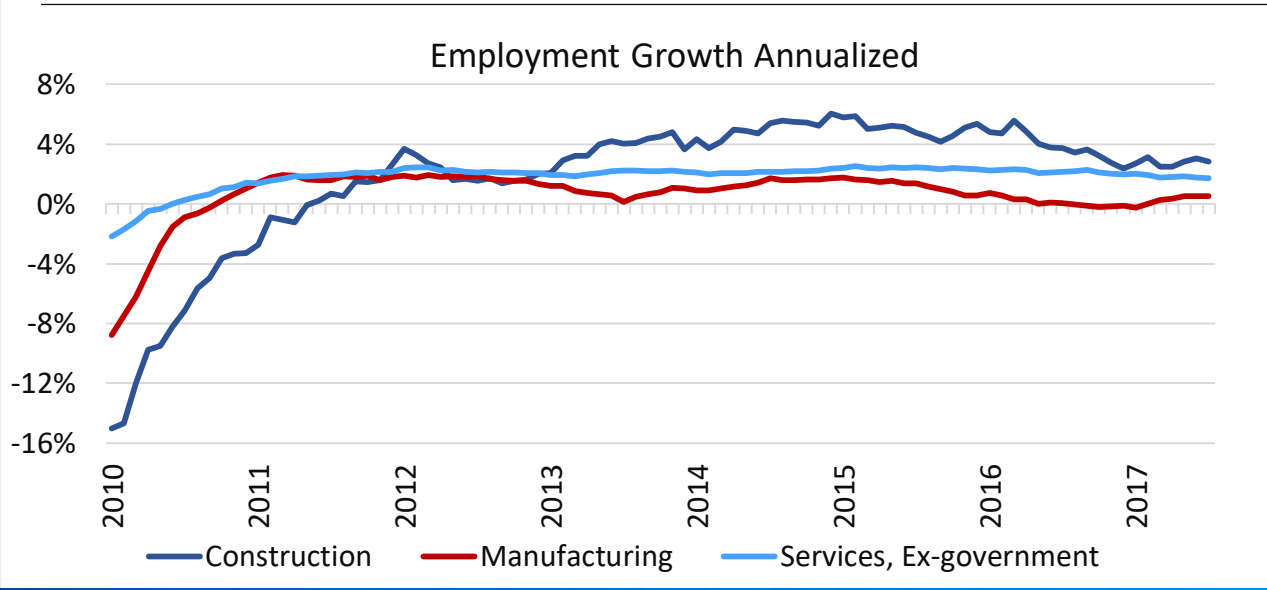
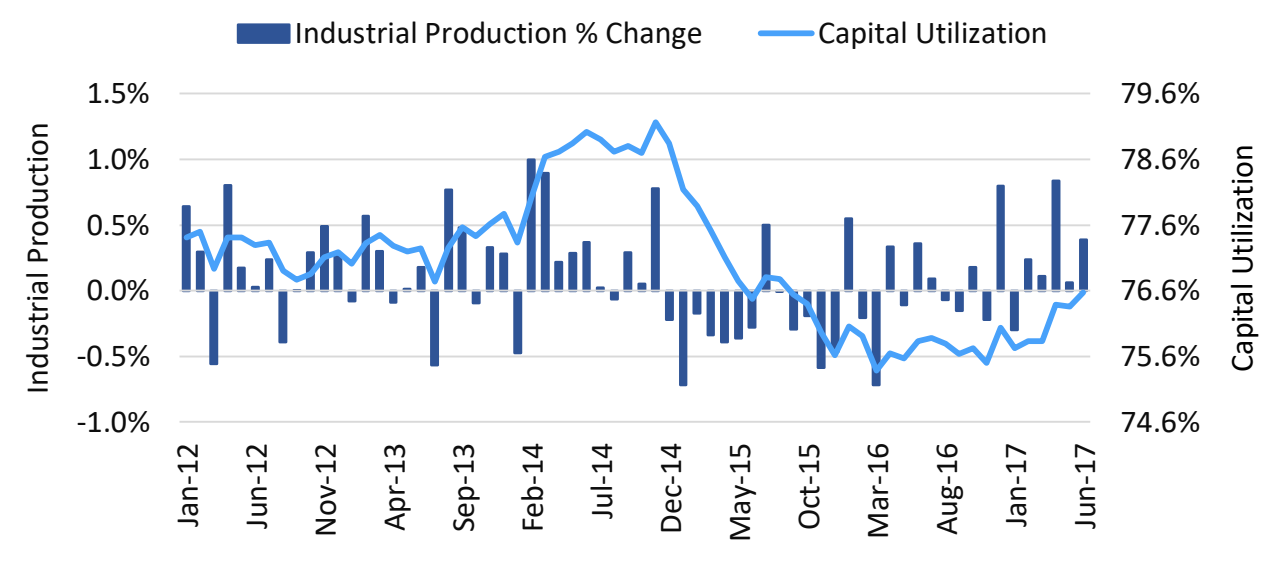
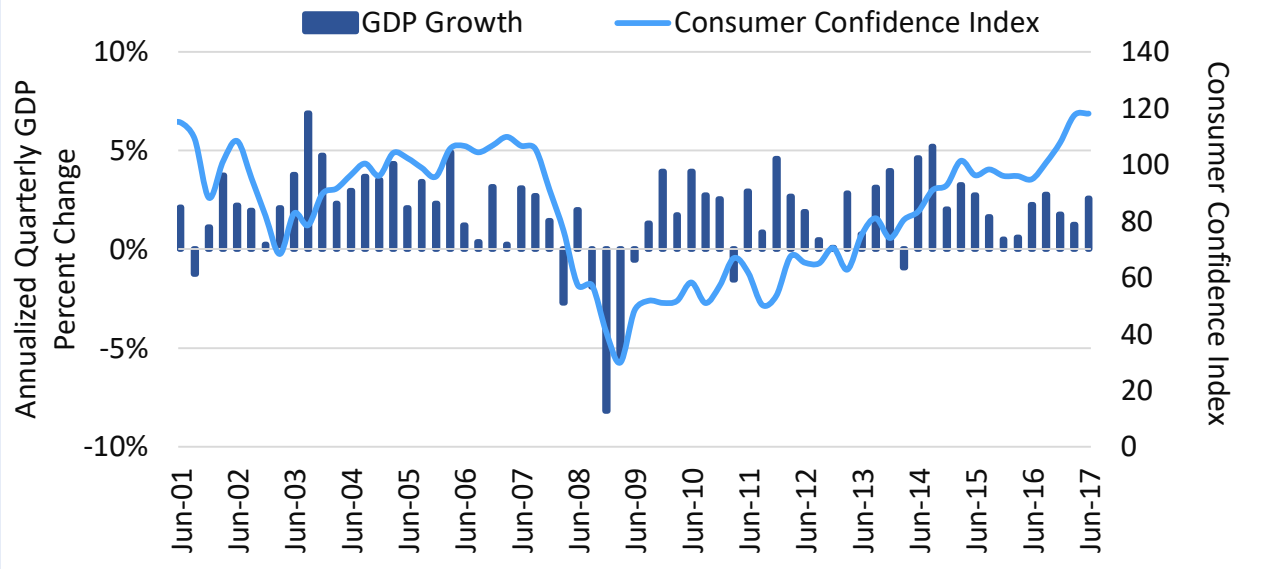
Jeff Adler

Vice President, Matrix

MACROECONOMIC OUTLOOK

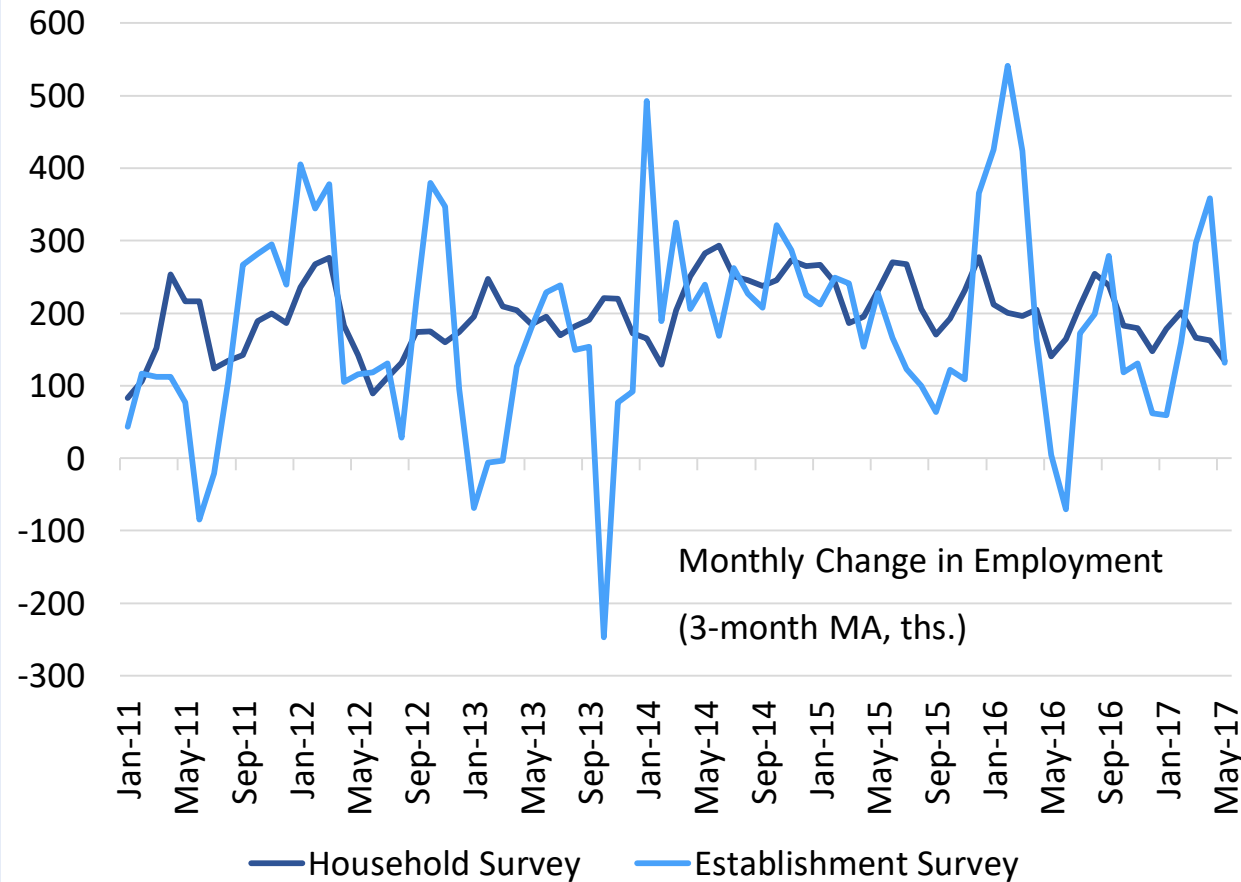


U.S. Economic Growth is OK

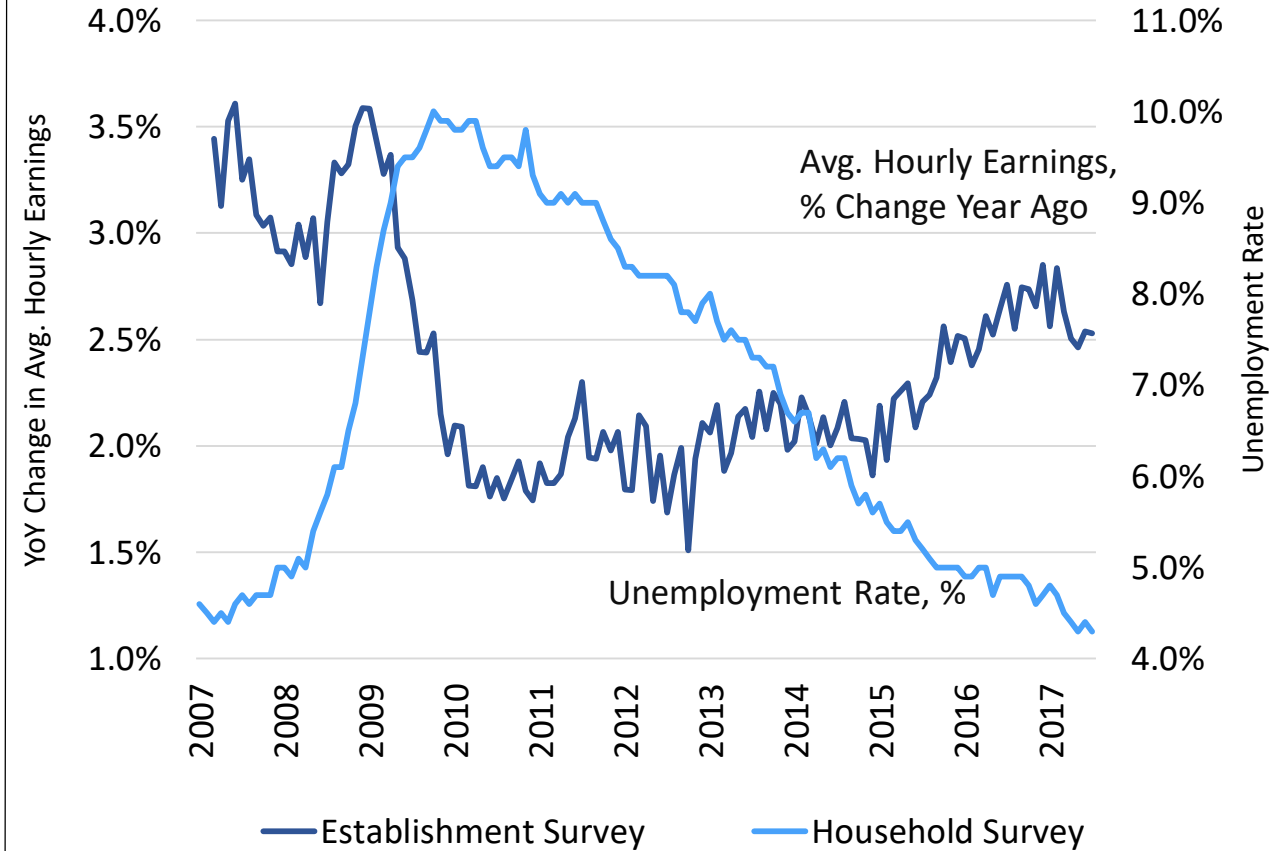


Job Growth and Wage Growth

Job formation good, but more volatile



U.S. Wage Pressure Increasing



Earnings Are Being Artificially Held Down

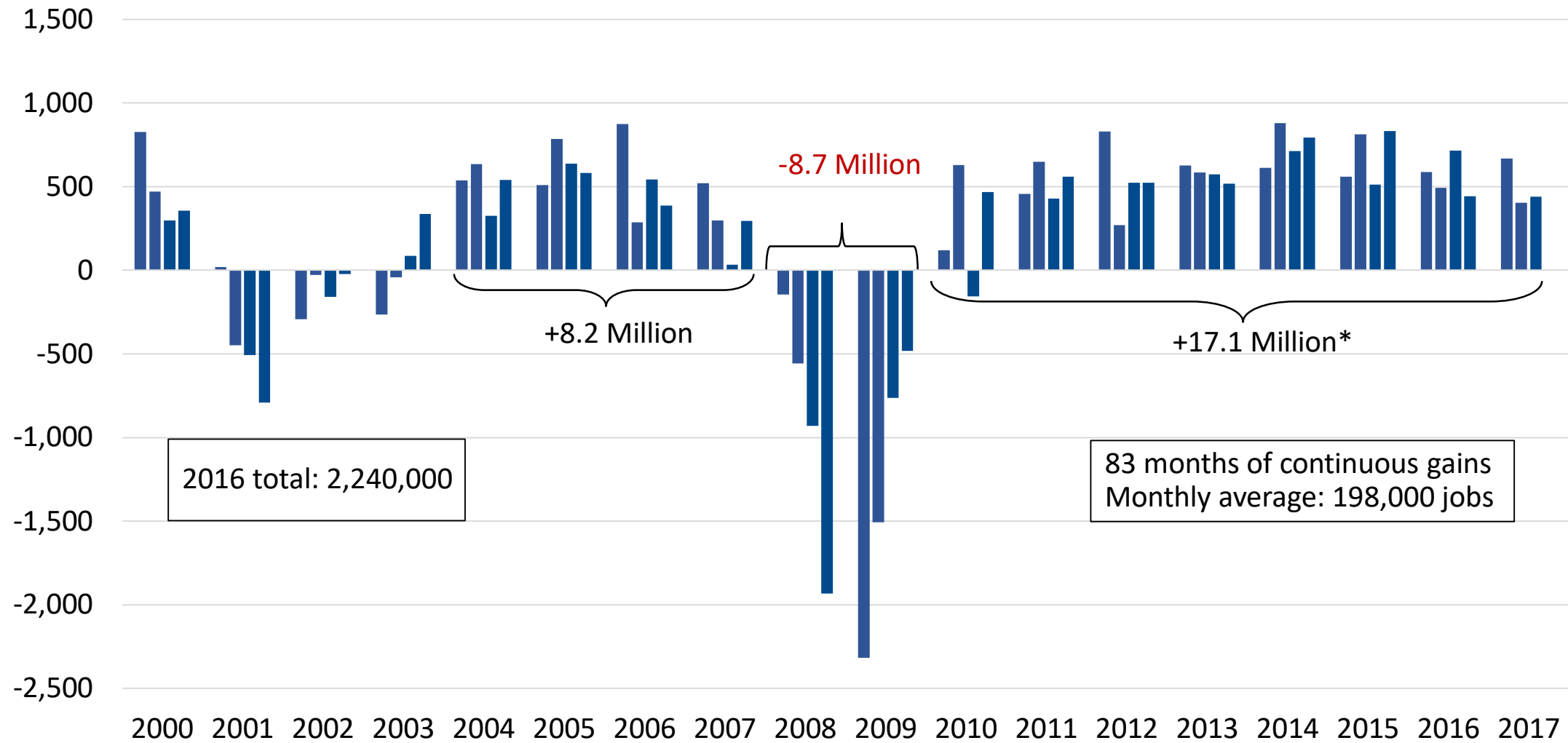
The Good News on Wage Growth

The San Francisco Fed Aug 14, 2017

The overall exchange of new workers for new retirees is holding earnings down by a little under 2 percentage points. Median weekly earnings actually rose in 2Q to +4.2% y/y, according to the U.S. Department of Labor. That's the fastest pace since 2007. Adjust for baby boomers and that would rise to +5.2%.



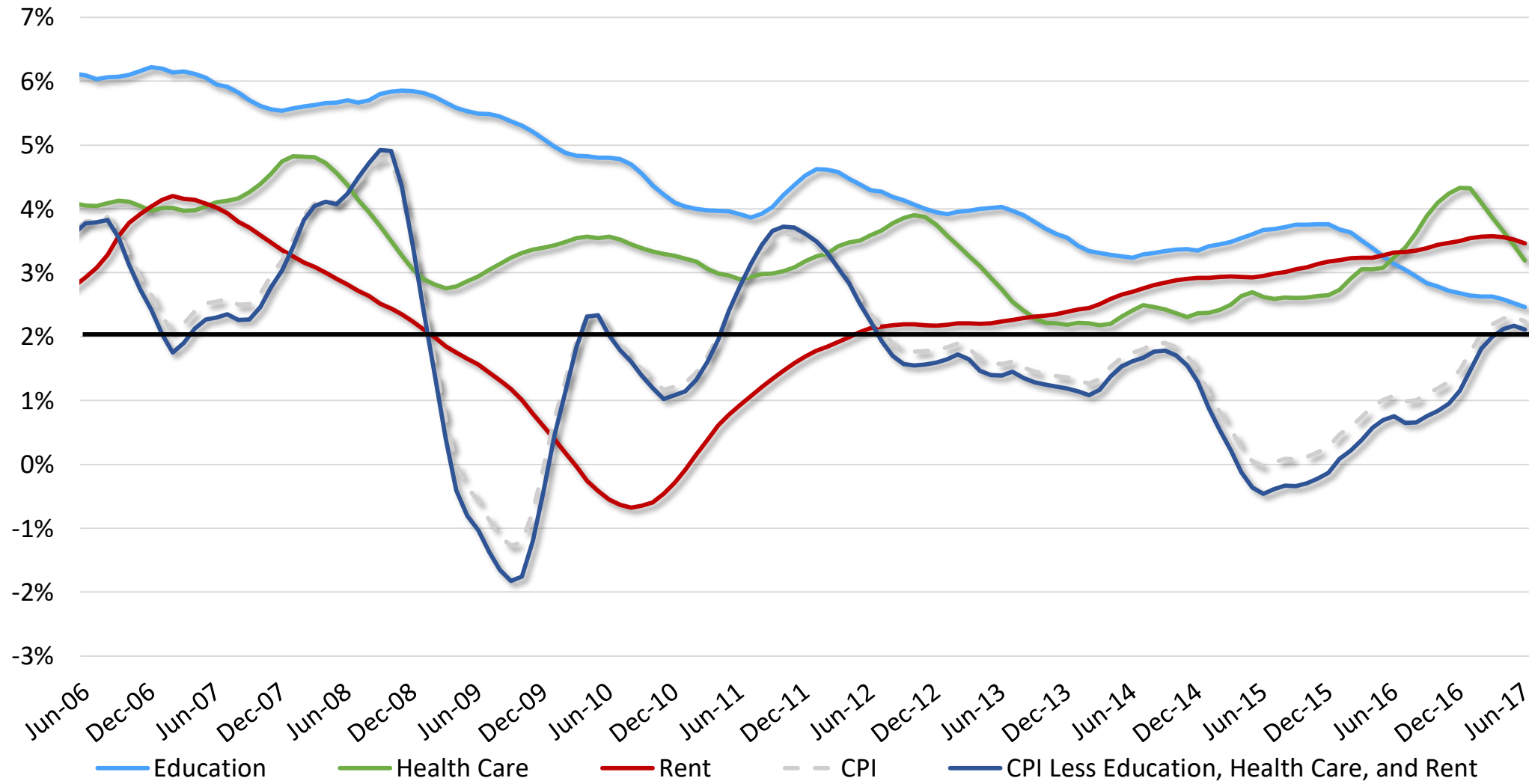
Quarterly Job Growth



*Through August 2017

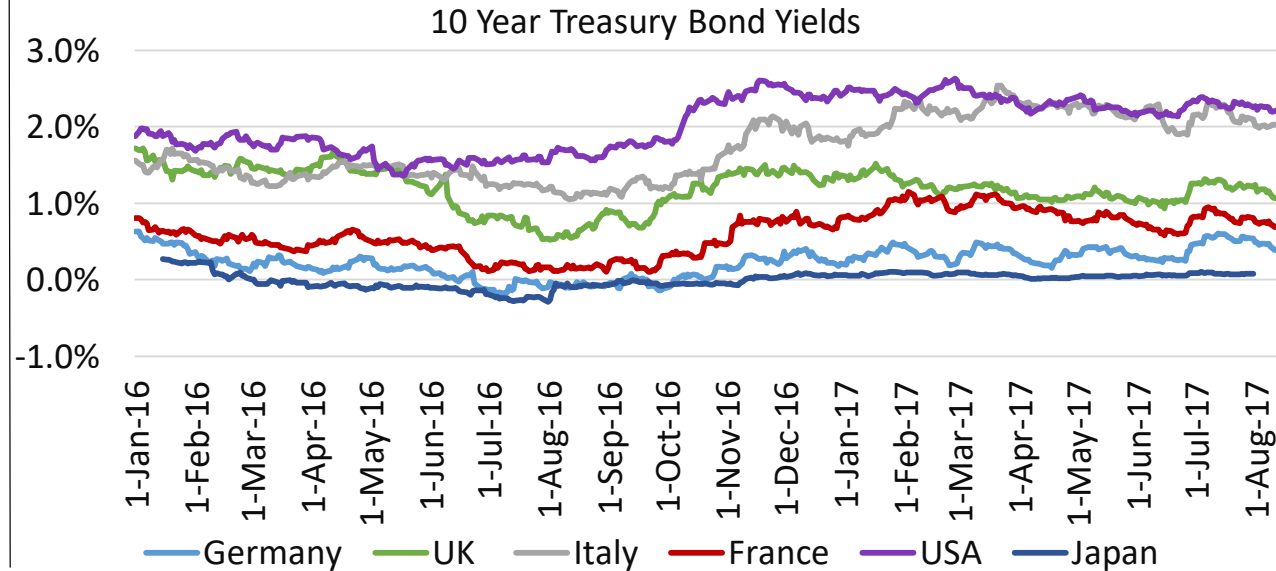
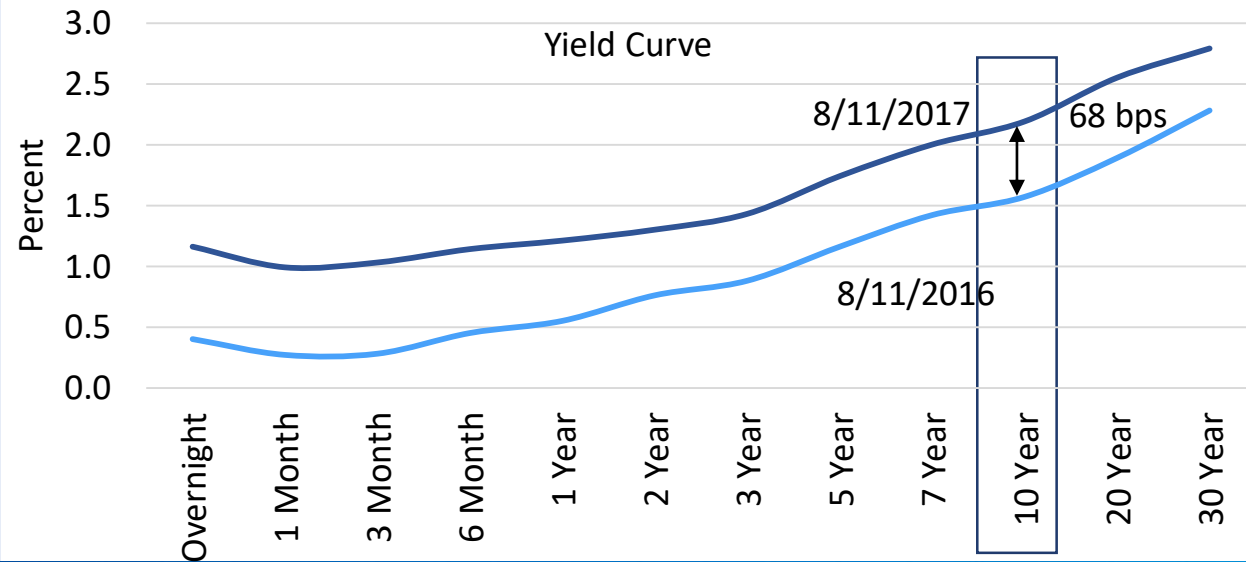
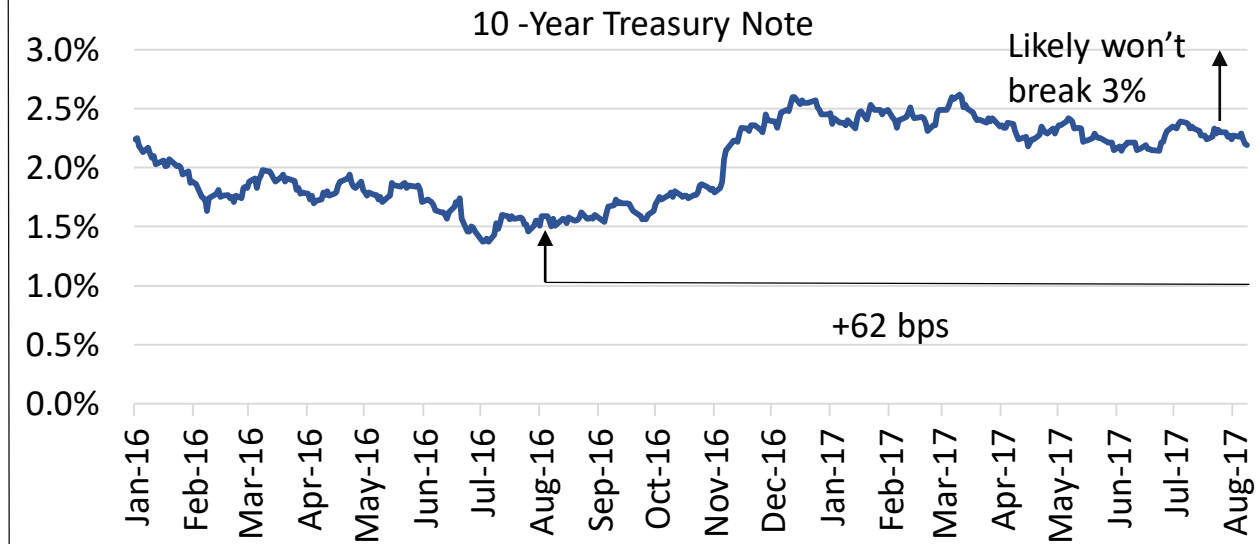
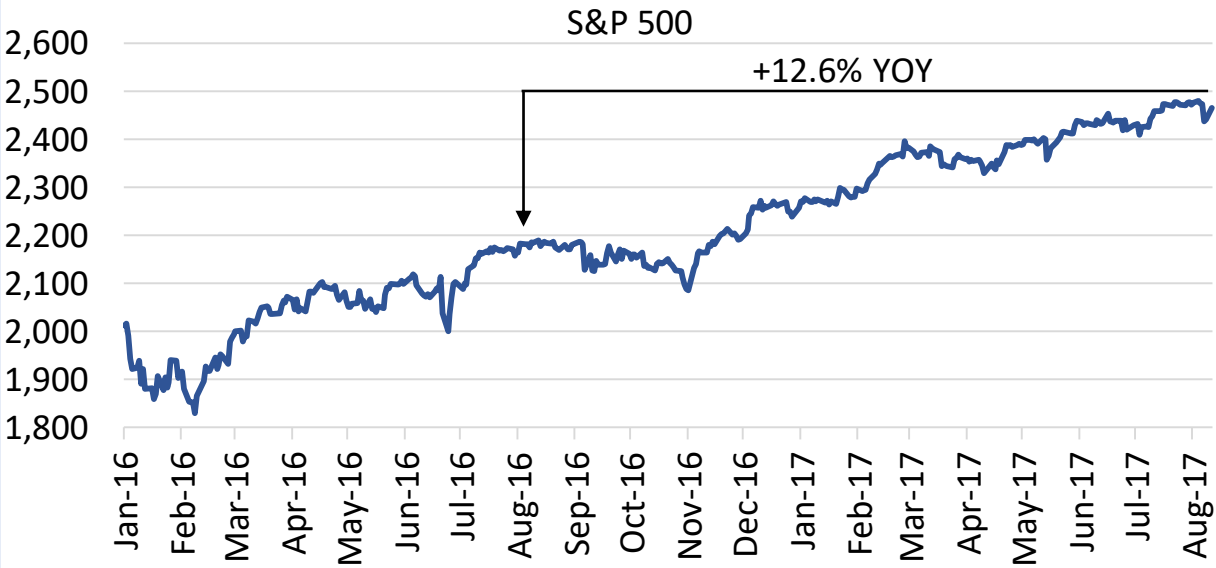
Source: Bureau of Labor Statistics (BLS)

Inflation Rising, But Unlikely to Break Out >2.5%



*Growth numbers are YOY 6 month moving averages. CPI Less Health Care, Education and Rent is an estimate using the BLS document "Math calculations to better utilize CPI data"

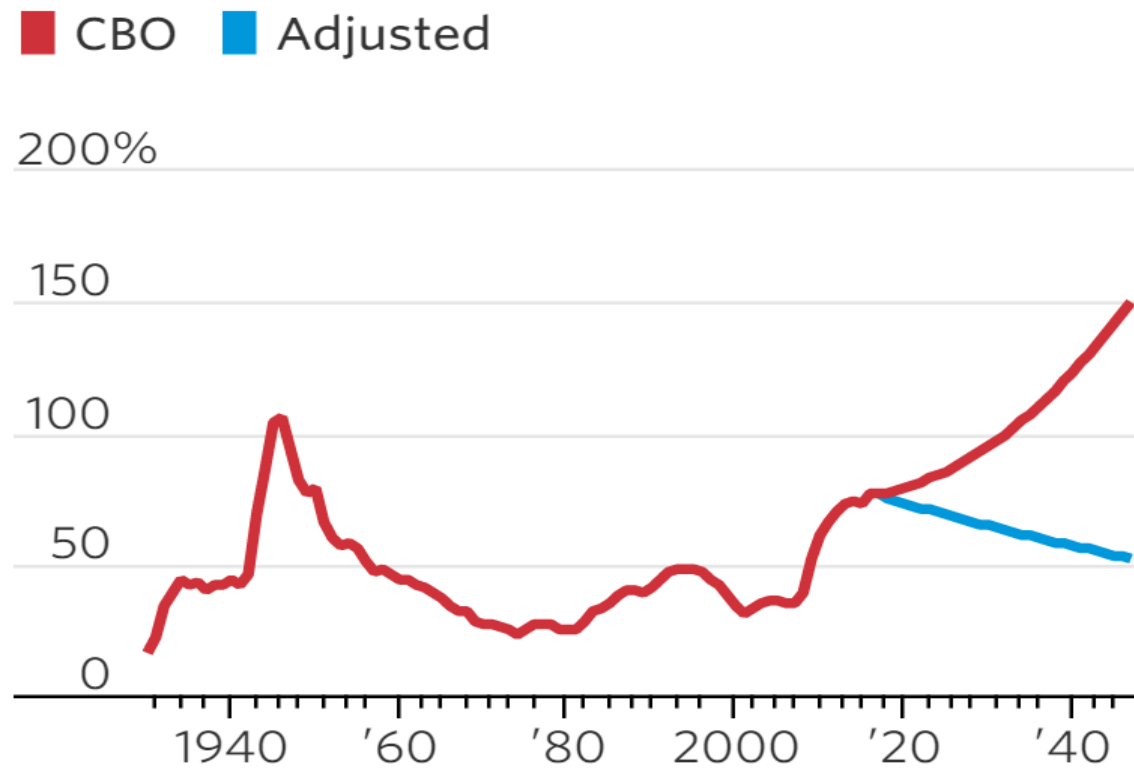
U.S. and International Financial Market



Source: Moody's Analytics; Investing.com

It's Not All Sunshine and Roses...

- Raising long-term GDP growth from 2% to 3% drives just about everything
 - US government debt, equity markets, corporate debt, etc.
 - That's what matters



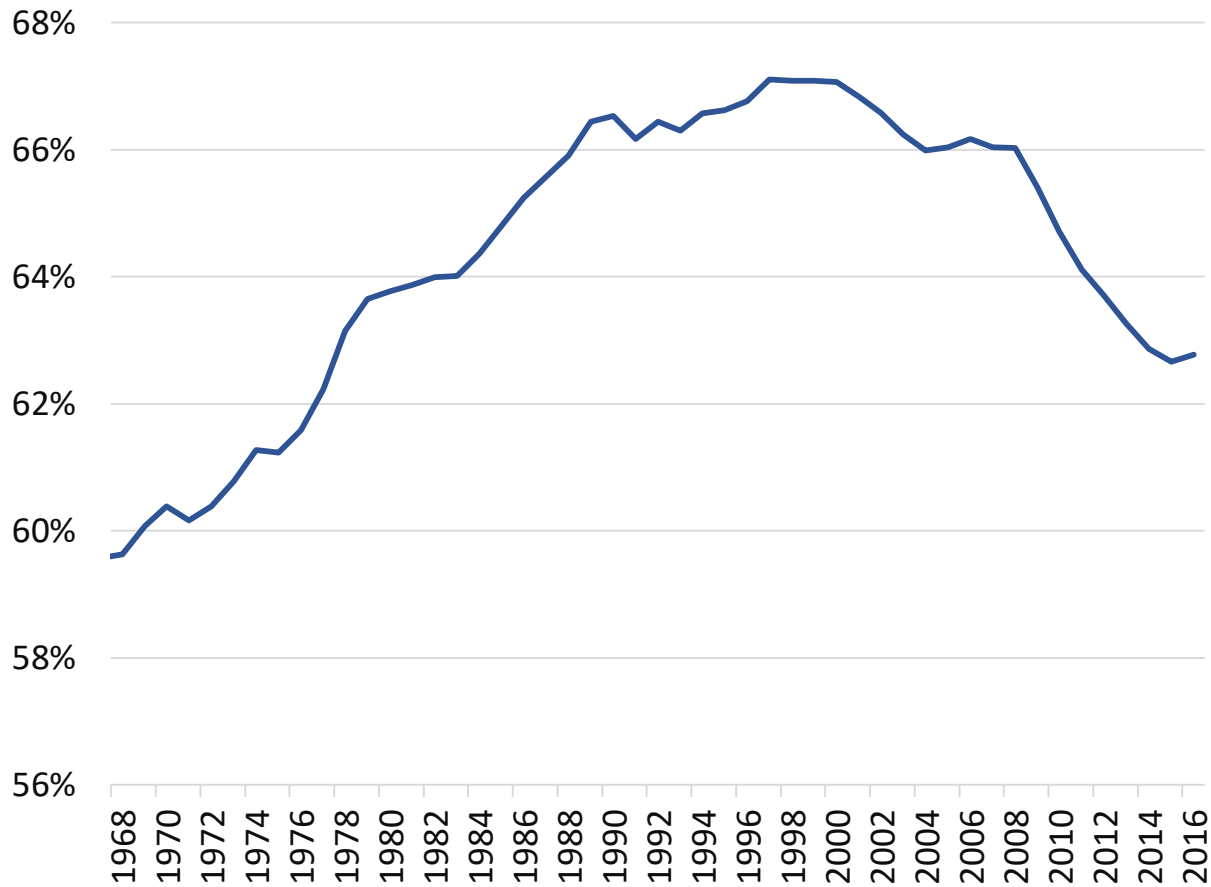
How do we get there? 3 Levers to Pull

1. Population Growth = +0.8%
 2. **Labor Force Participation Rate = +1.4%**
(if rate grows from 62.9% to 64%)
 3. Productivity Growth = +1.3%
- Real GDP Growth =>3.0%

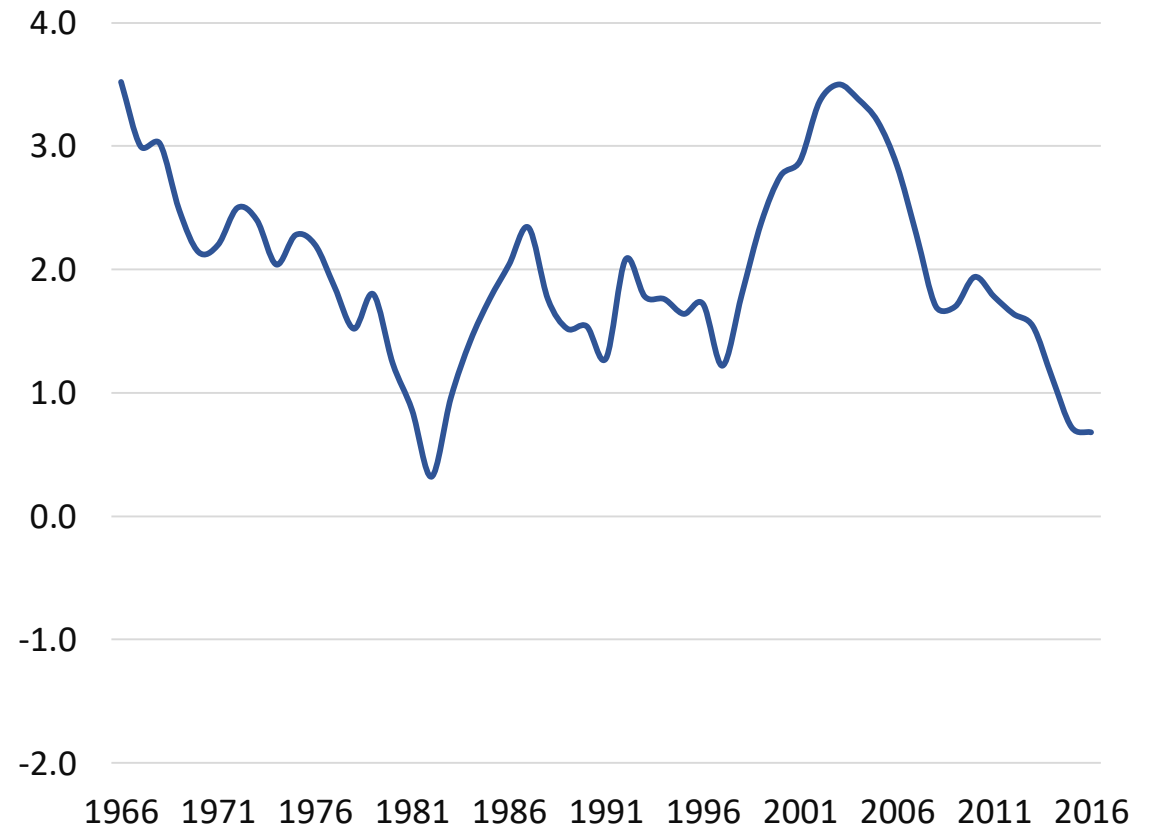
Getting U.S. GDP to Grow Means Swimming Upstream

Where will U.S. GDP growth come from?

Labor Force Participation Rate



Labor Productivity Annual Change Nonfarm Business Sector

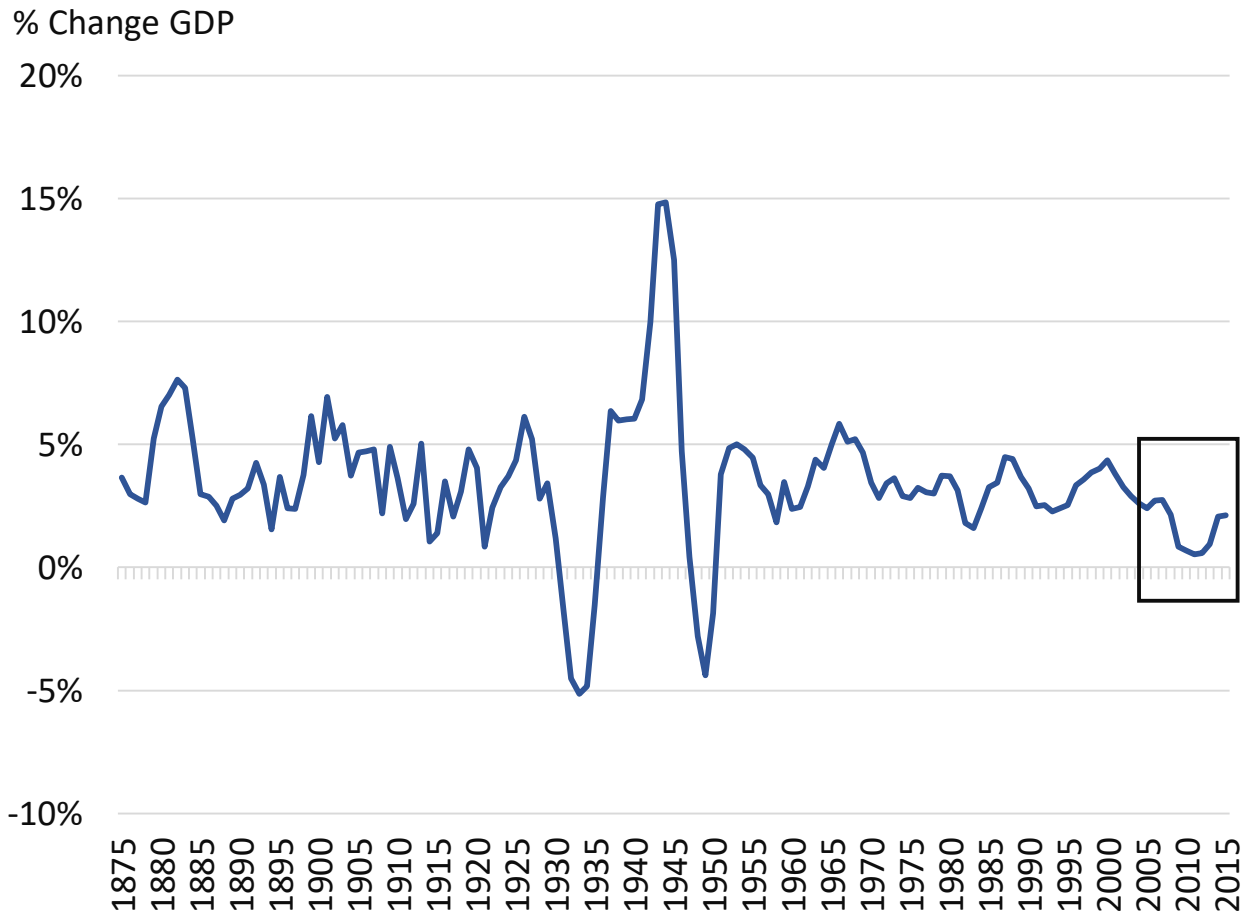


*Through December 2016

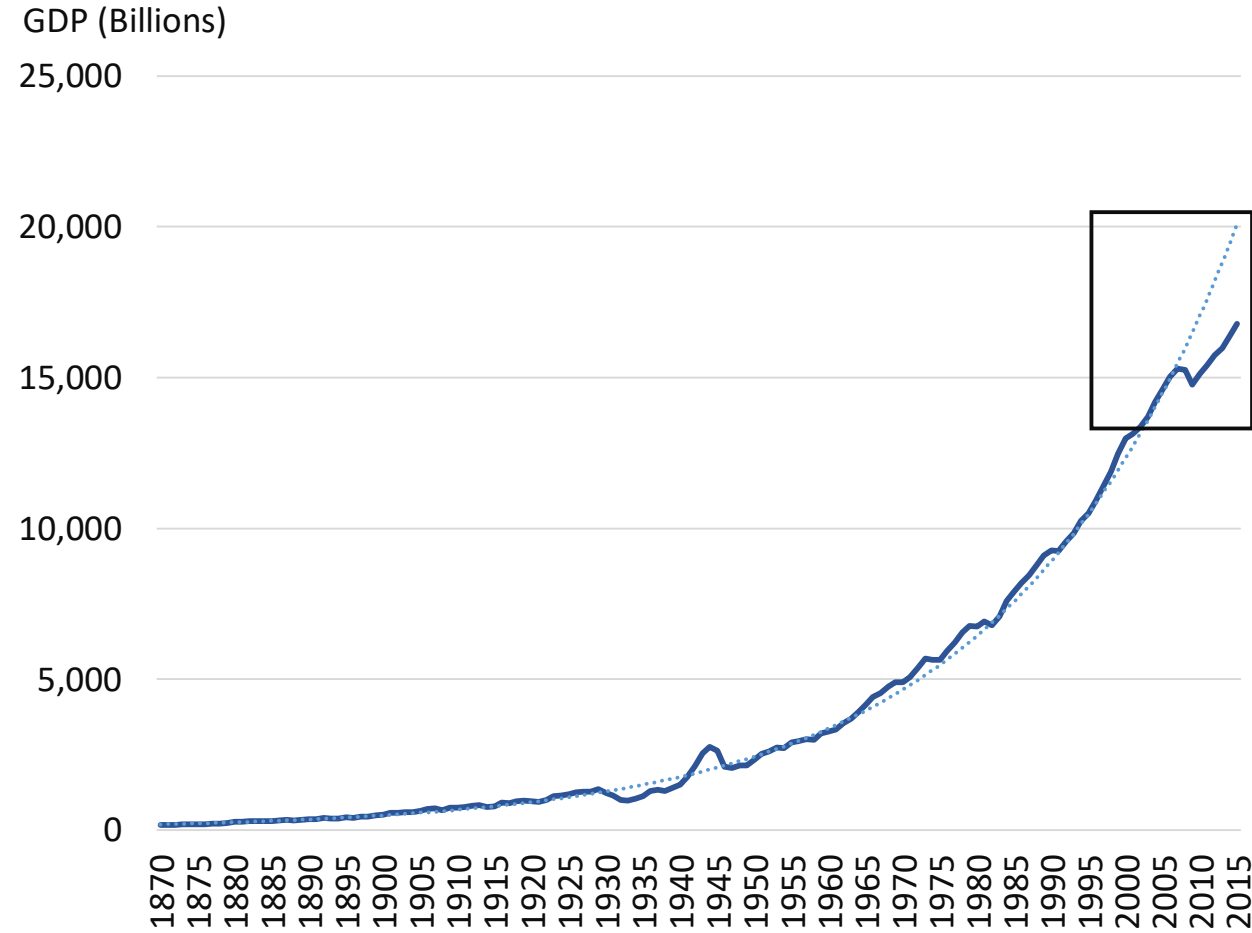
Source: Moody's Analytics; Bureau of Labor Statistics (BLS)

GDP Has Been Slow to Recover, Feels Like the 1930's

Currently in a Slow-Recovery Period



GDP Falls Short of Trend line

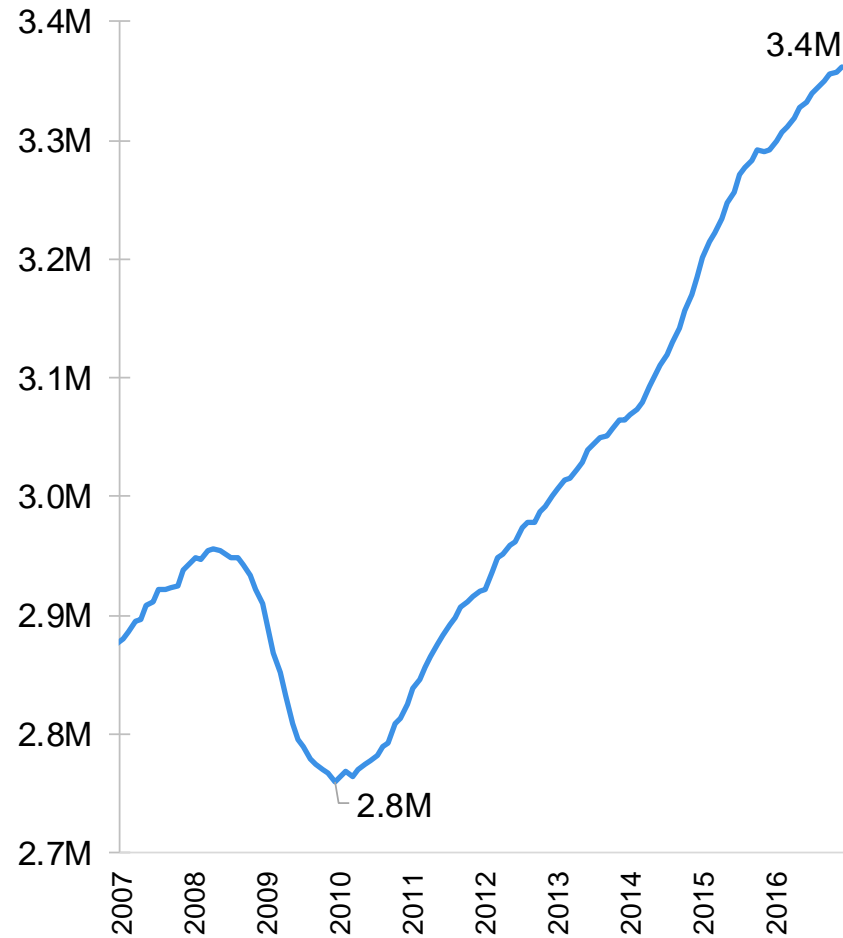


*Percent change GDP figures are YOY 5-year moving averages

Tech Employment Up, But Growth is Slowing

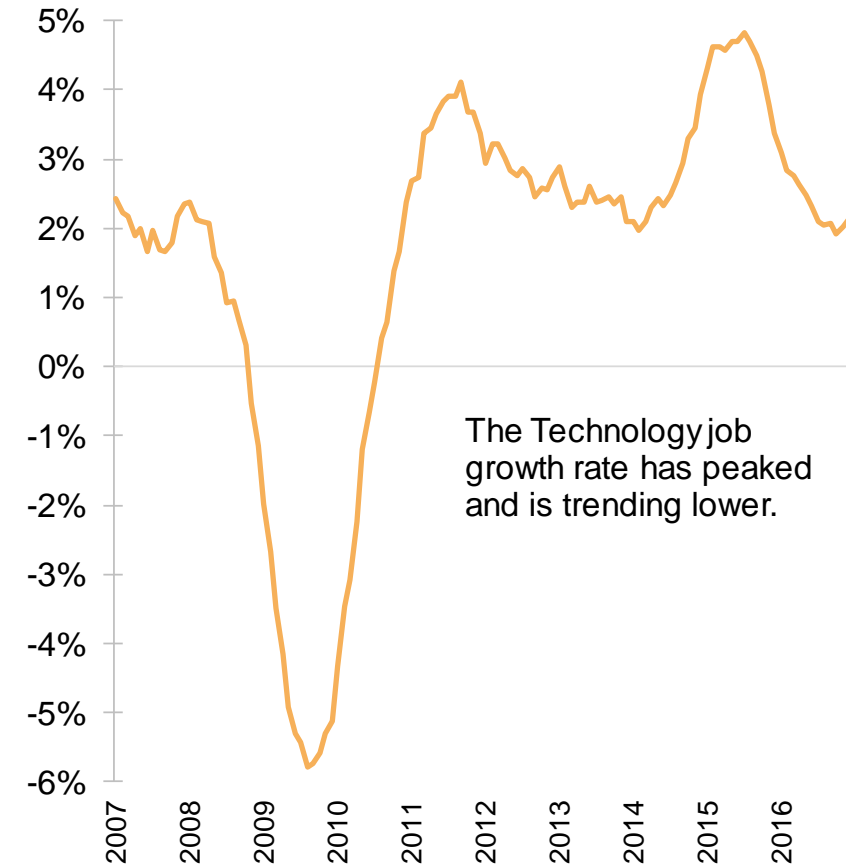
Employment up since bottoming in late 2009, but job growth is slowing

Technology Sector Employment



Technology Sector Employment

YOY growth



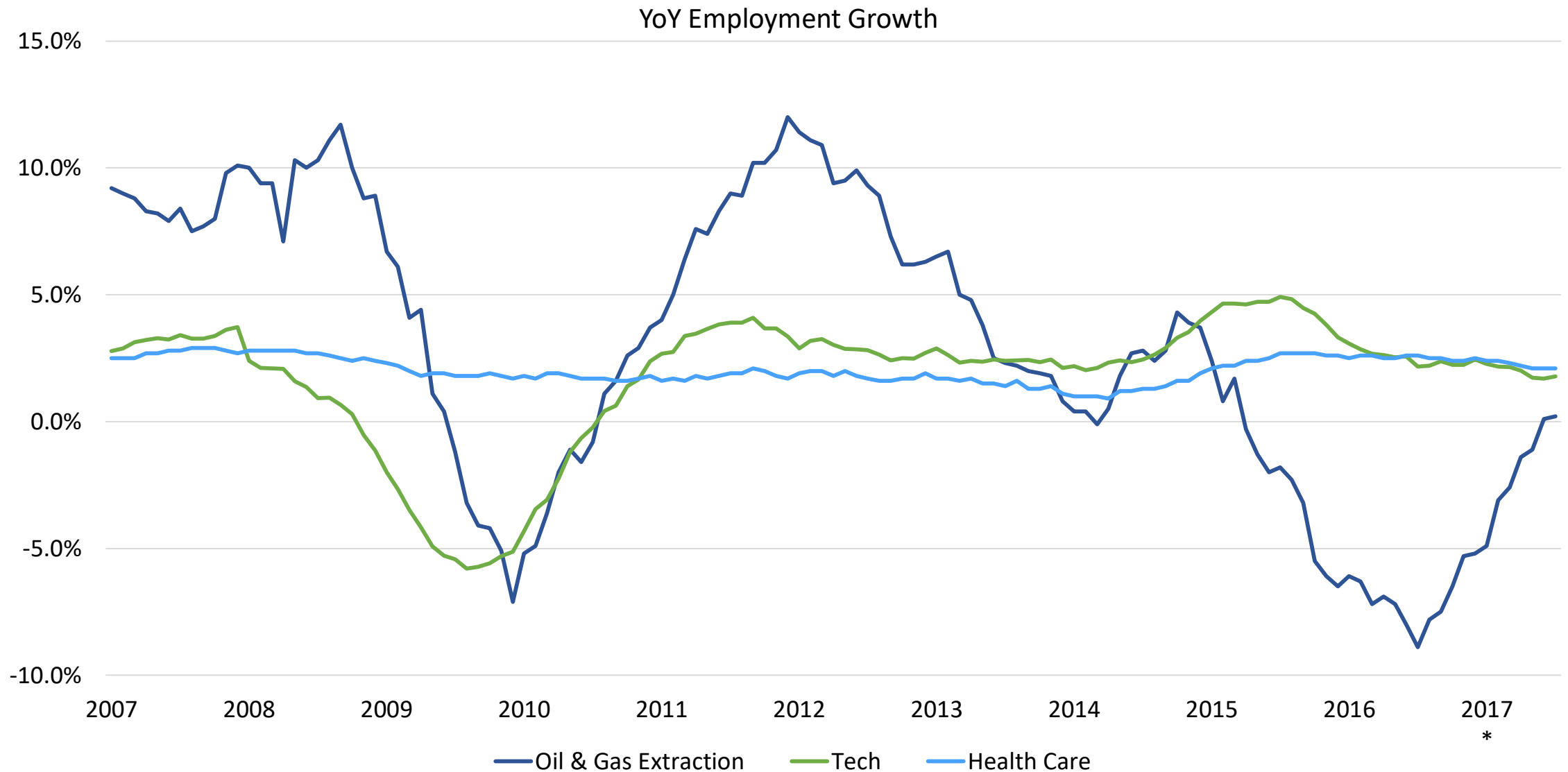
The Technology job growth rate has peaked and is trending lower.

*Technology jobs are defined as Bureau of Labor Statistics (BLS) NAICS codes:

Computer and Electronic Products, Data Processing & Hosting, Computer Systems Design and Related Services

Source: John Burns Real Estate Consulting, LLC; Bureau of Labor Statistics (BLS) (Data: Dec-16, Pub: Feb-17)

Former Engines of Expansion Rebalancing but Sustaining



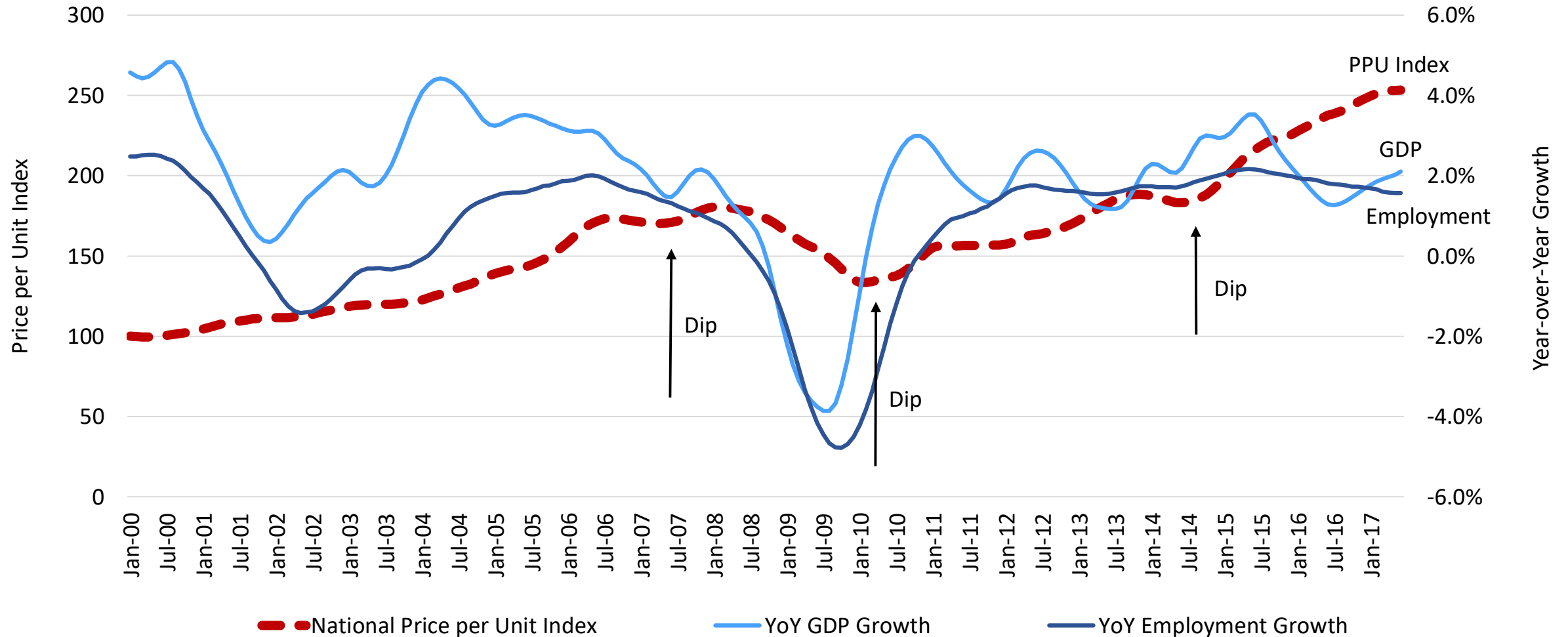
*Through July 2017

Source: Bureau of Labor Statistics (BLS)

ECONOMY'S IMPACT ON REAL ESTATE PRICES AND RENTS



GDP and Employment: Precursors to Multifamily Prices

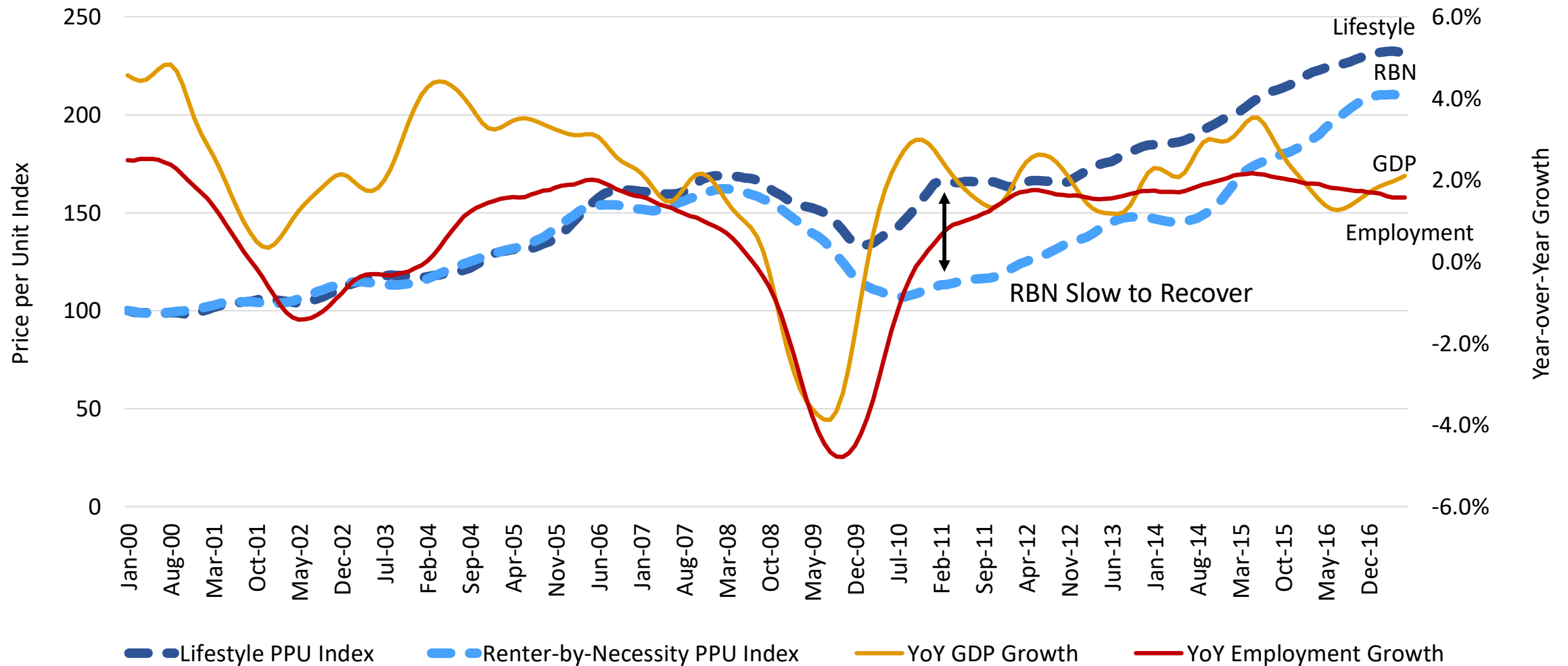


*Variables above are 6-month rolling averages

*Multifamily sales price per unit-index 2000 = 100

Source: Moody's Analytics; Yardi®Matrix

Lower Asset Classes Most Affected by Economic Factors

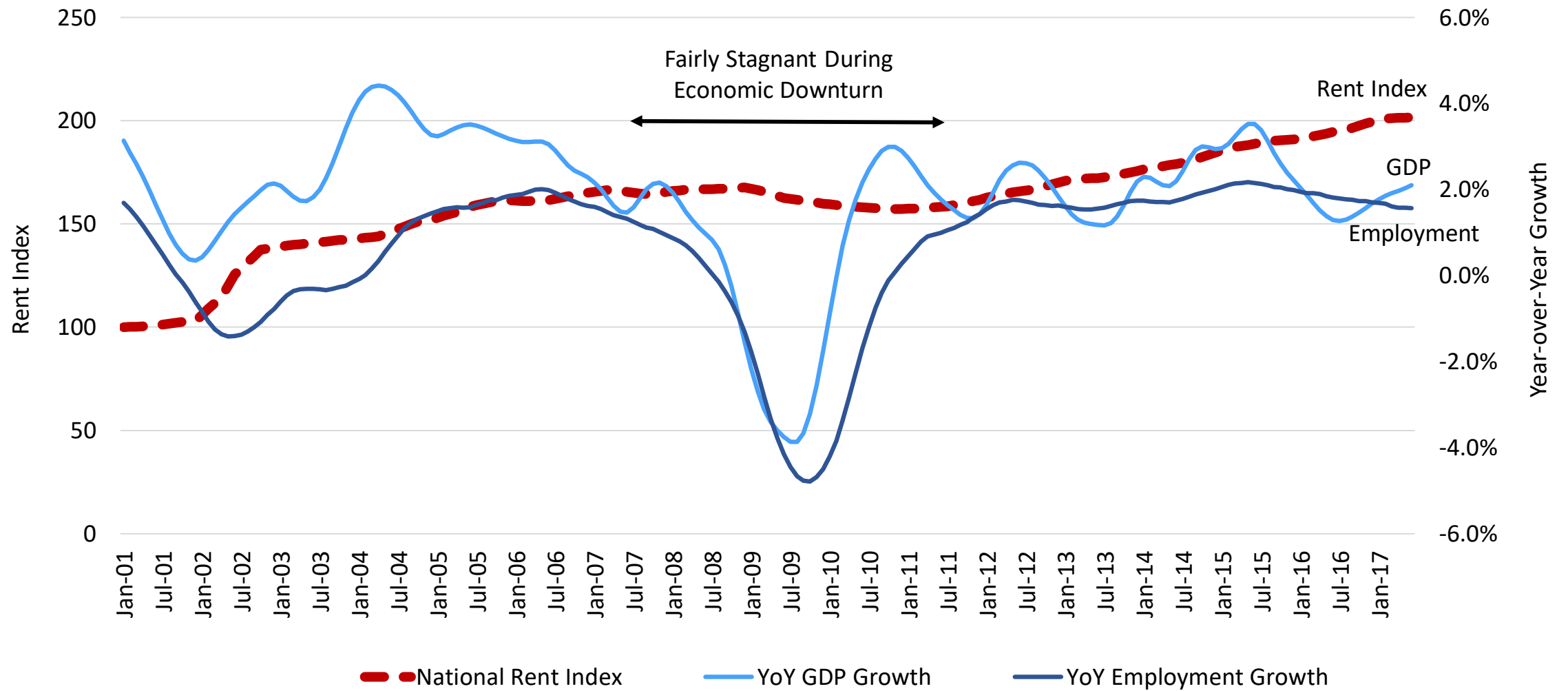


*Variables above are 6-month rolling averages

*Multifamily sales price per unit-index 2000 = 100

Source: Moody's Analytics; Yardi®Matrix

Rents Steadily Increasing Despite Economic Fluctuations



*Variables above are 6-month rolling averages

*Multifamily sales price per unit-index 2001 = 100

Source: Moody's Analytics; Yardi®Matrix

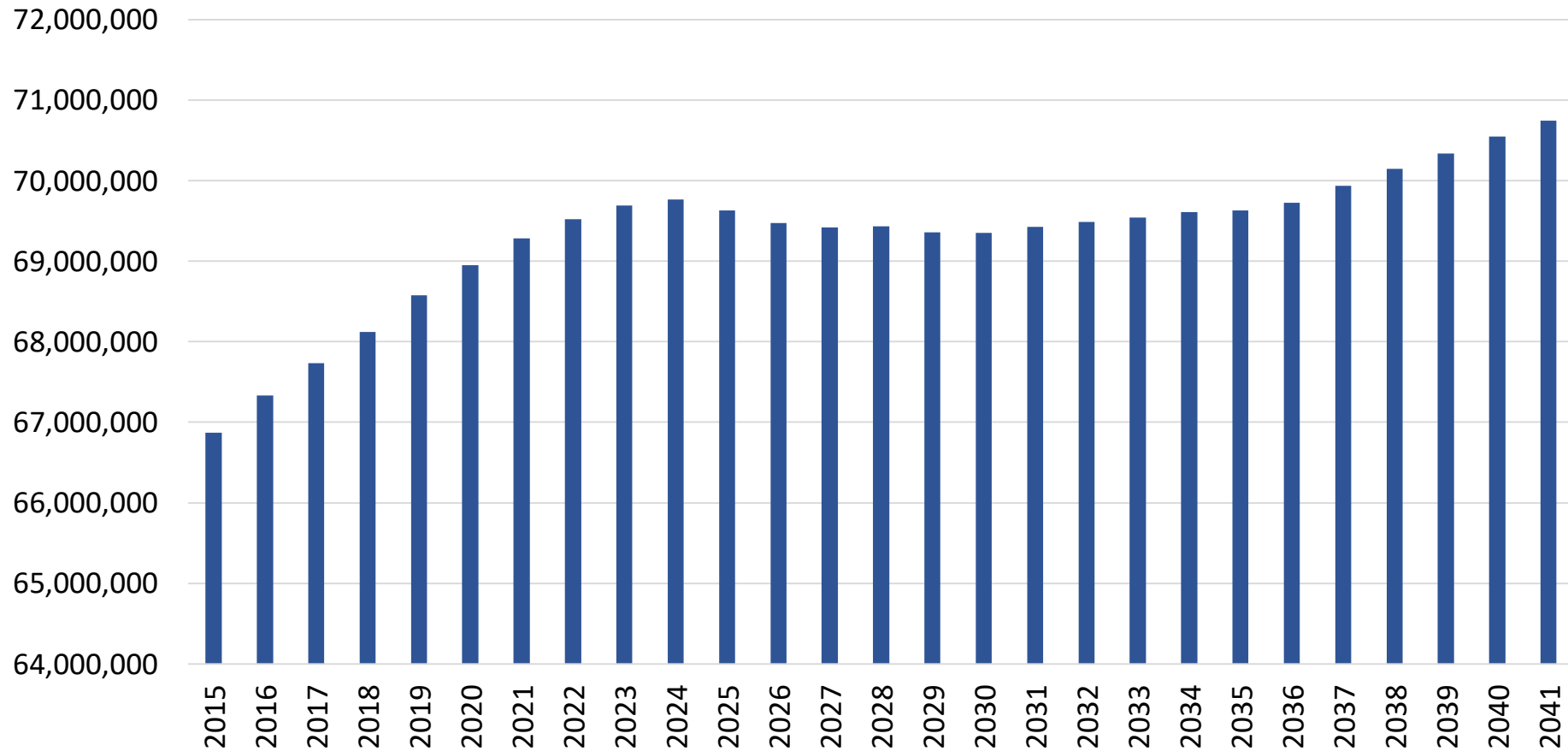
WHY HAVE RENTS REMAINED STEADY DESPITE UNFAVORABLE ECONOMIC CONDITIONS?



Renter Population is Growing

Demographics are in multifamily's favor over the long-term, especially in the younger aged cohort...

U.S. Renter Population: Age 20-34 Cohort

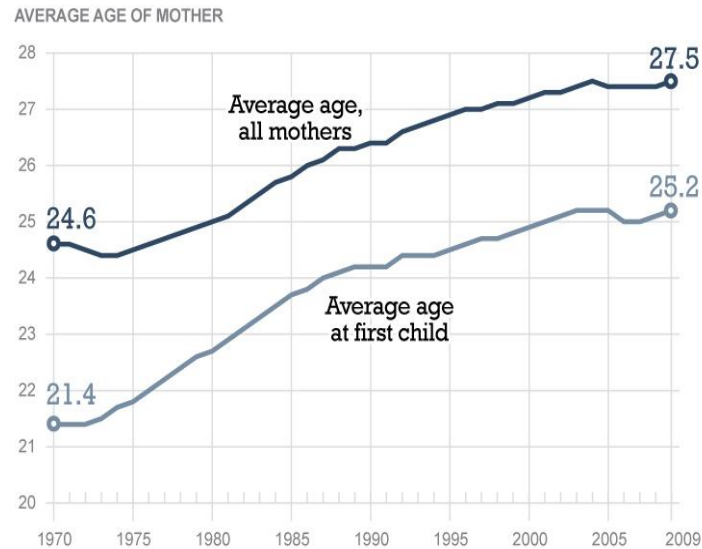


Millennial Tailwinds

FACT:

The average age of first-time mothers has steadily increased

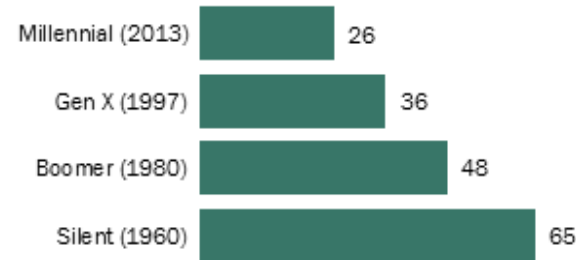
Since 1970, the average age of mothers giving birth to their first child has increased from 21 to 25. For all births, the average age of the mother has increased by about three years over this same period.



Source: National Center for Health Statistics, National Vital Statistics Reports, 2011.

The Decline in Marriage Among the Young

% married at age 18 to 32, by generation

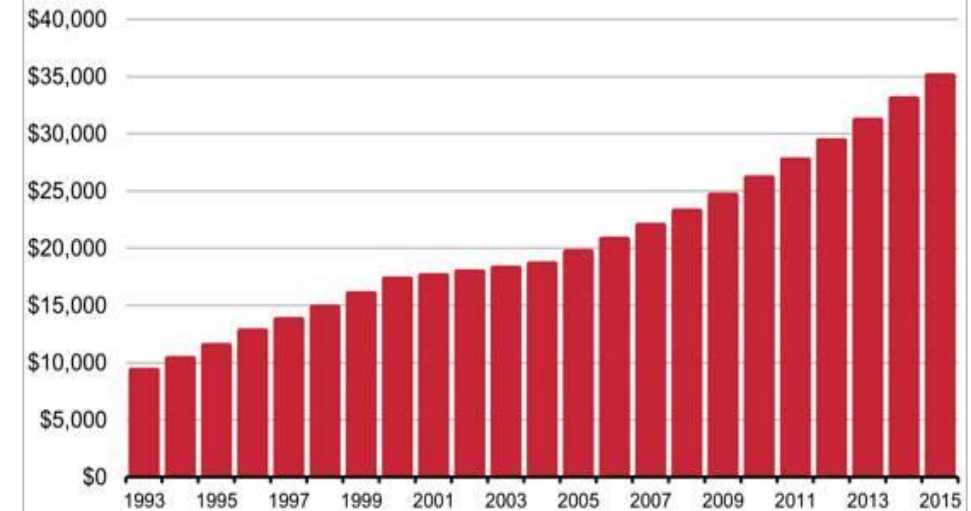


Source: Data from 1980, 1997 and 2013 are from the March Current Population Survey, 1960 data are from the 1960 Census

PEW RESEARCH CENTER

Head of the Class

Average debt per borrower in each year's graduating class



Source: Mark Kantrowitz | WSJ.com

CAGR Comparison

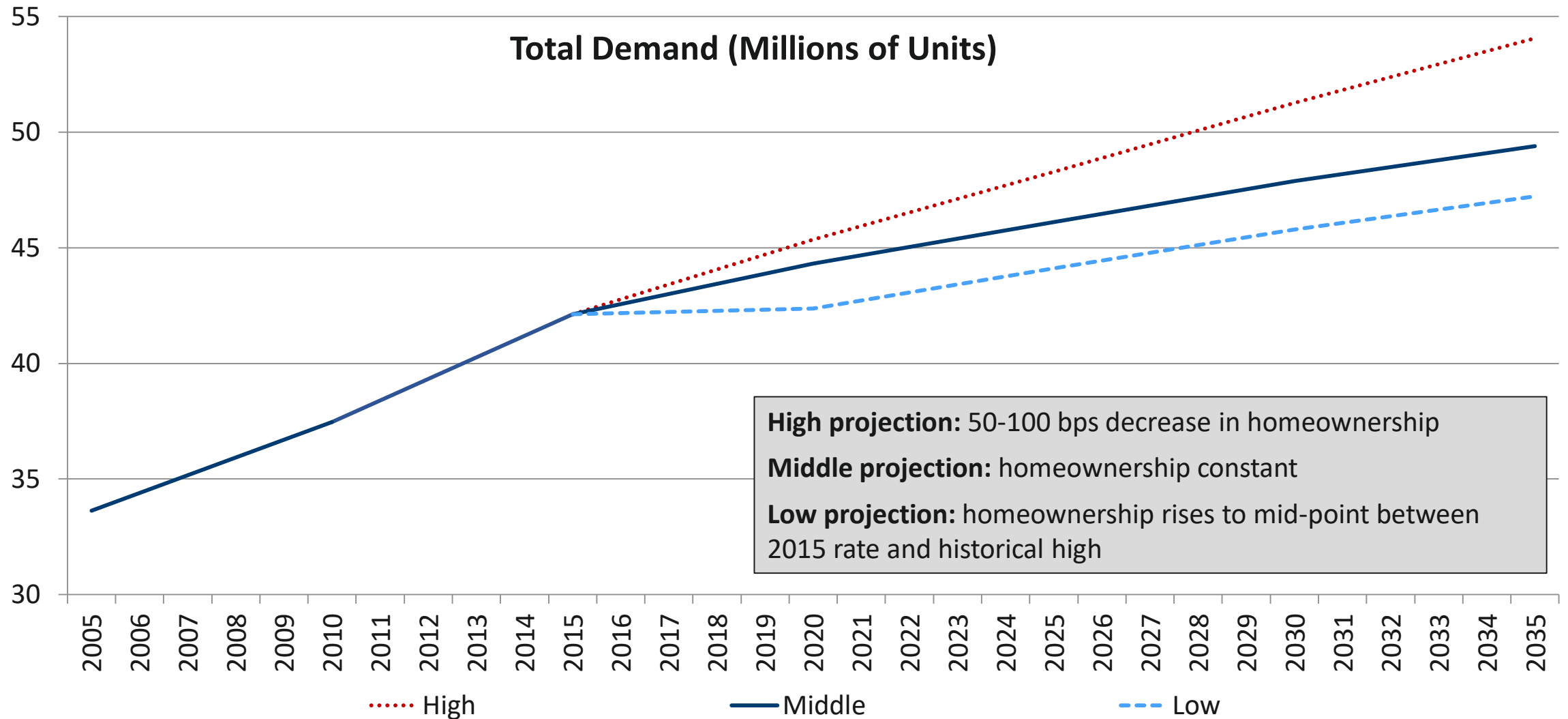
Student Debt Med HH Income*

5.8%

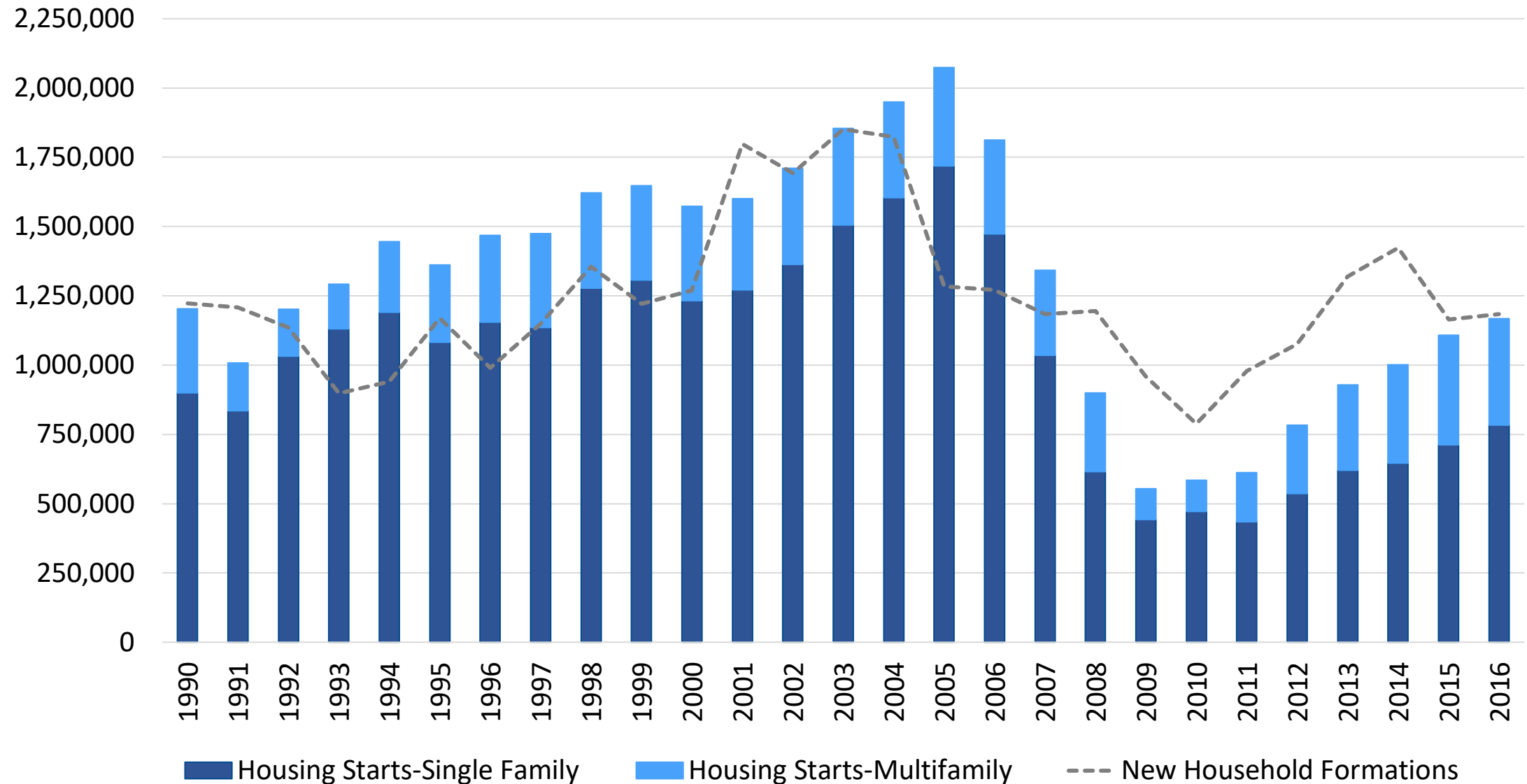
0.1%

*College Educated

Future Rental Demand Looks Strong



Total Housing Supply Still Lags Demand Since Recession

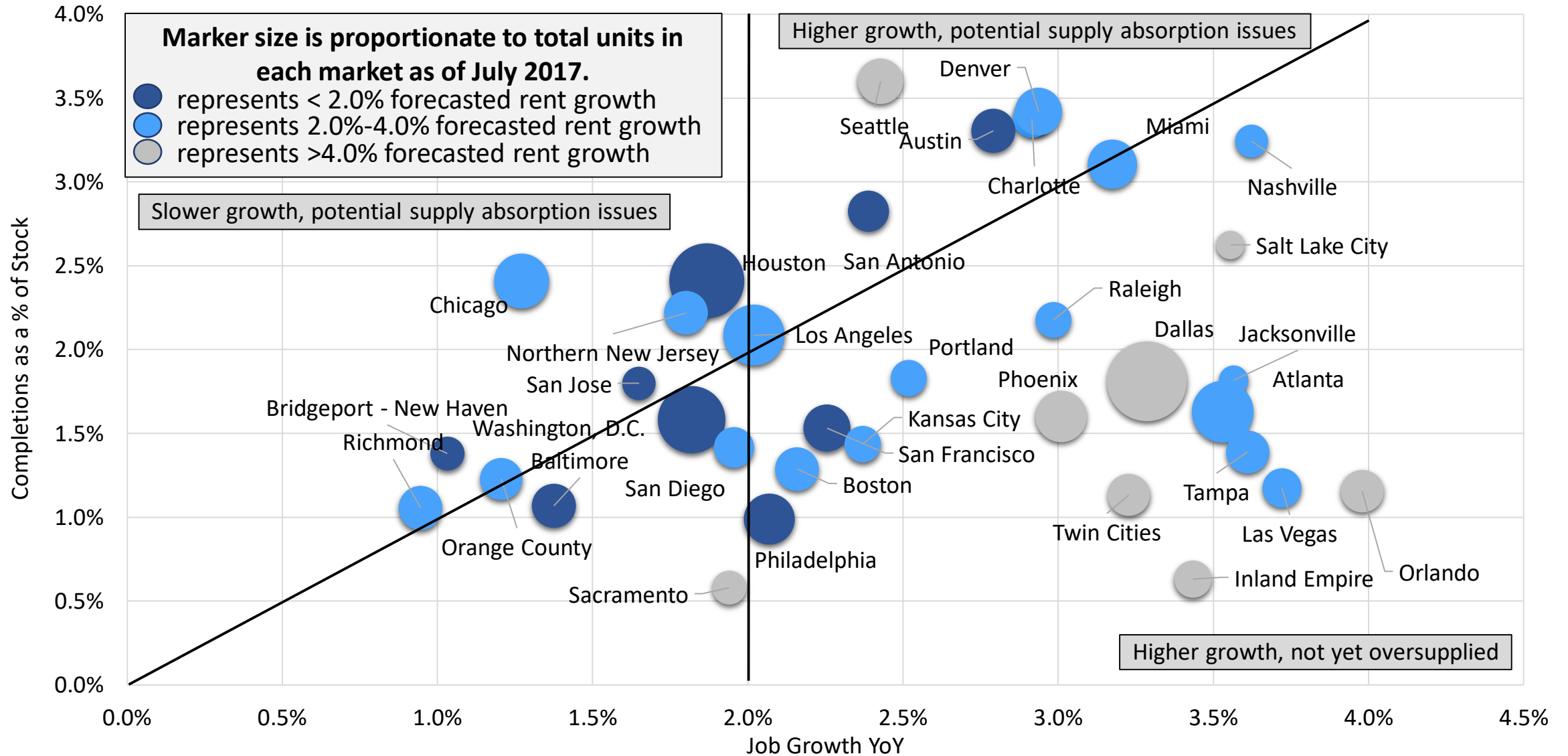


Source: Moody's Analytics; U.S. Census Bureau (BOC)

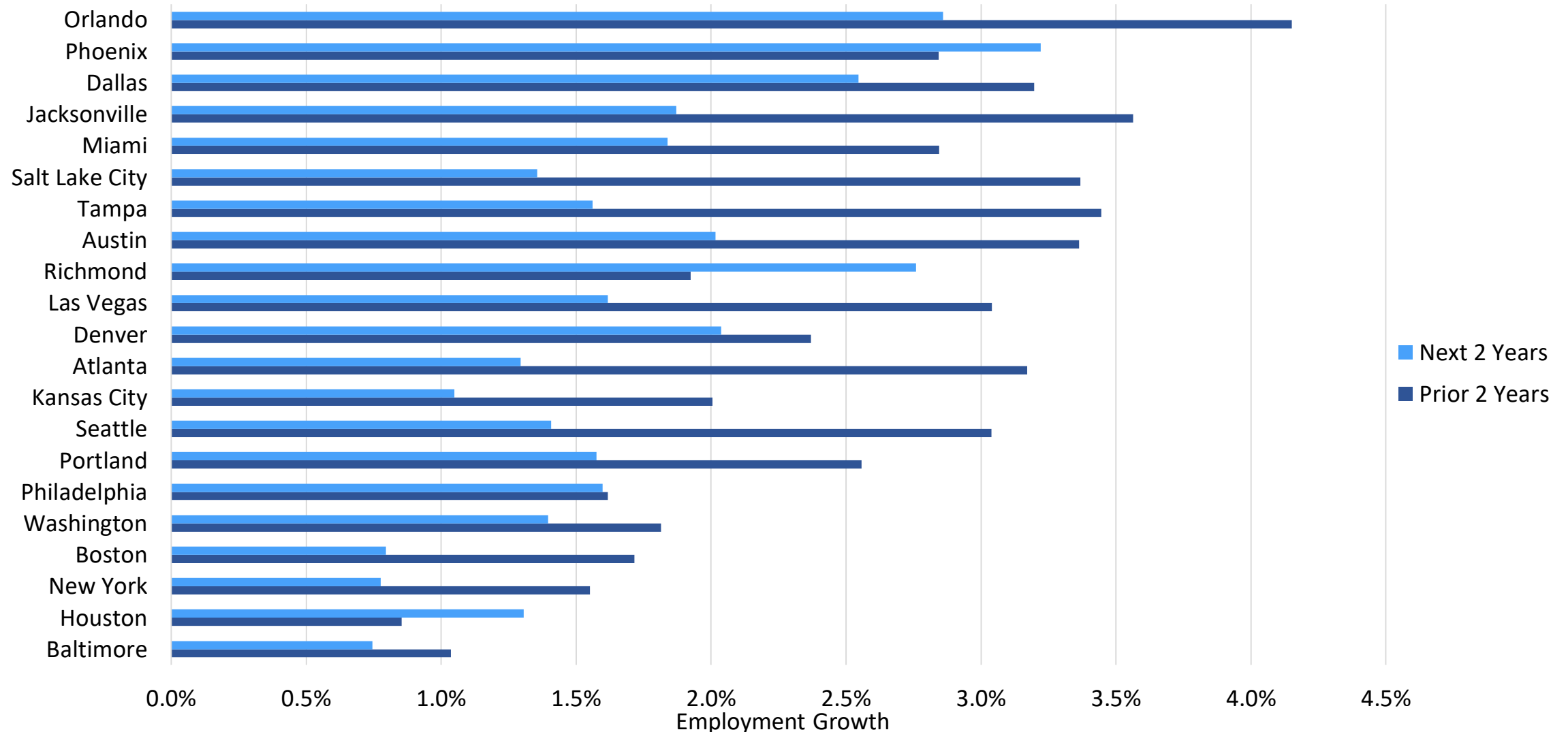
FUTURE OUTLOOK



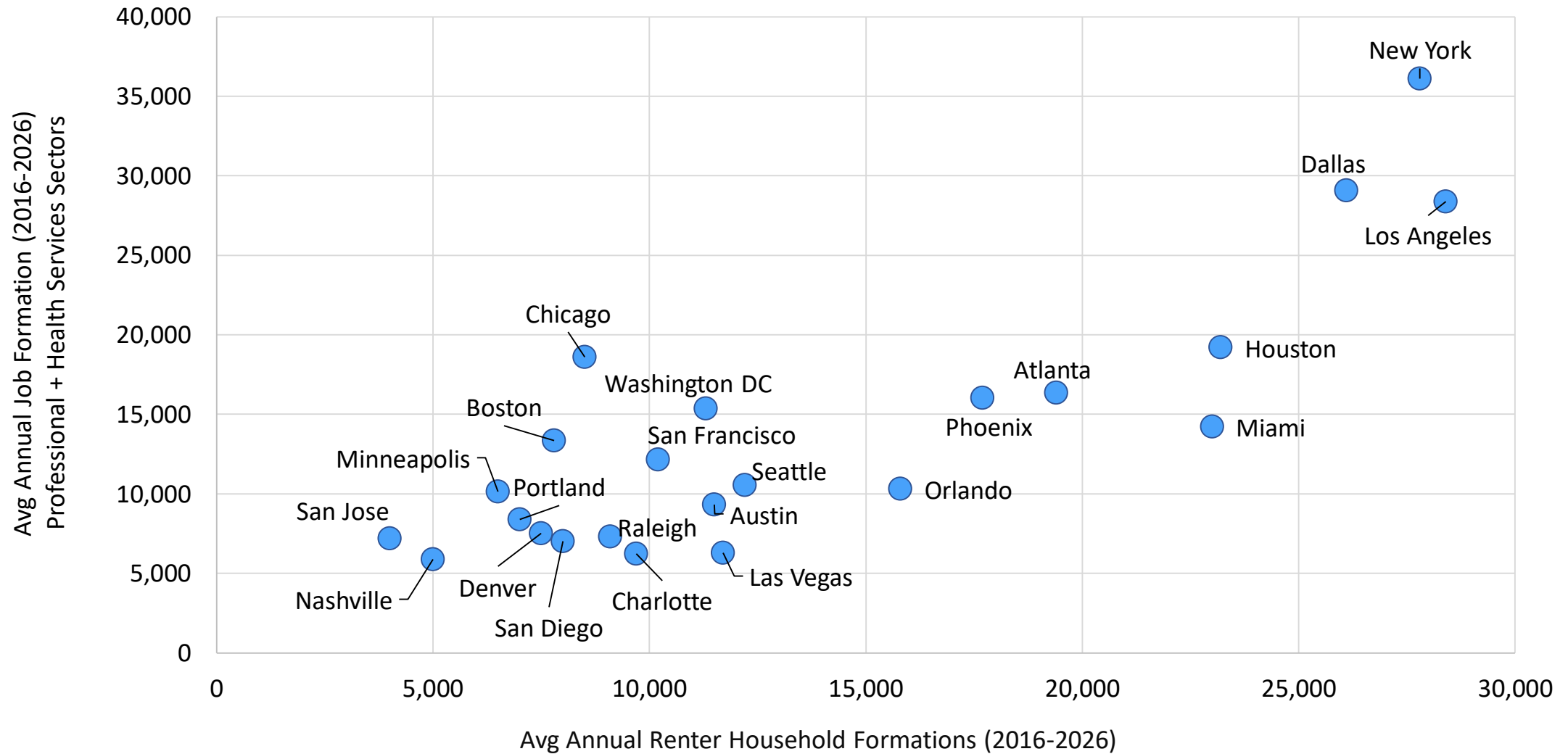
Expect a Bumpy 18-24 months



Employment Growth is Expected to Slow Over the Next Two Years



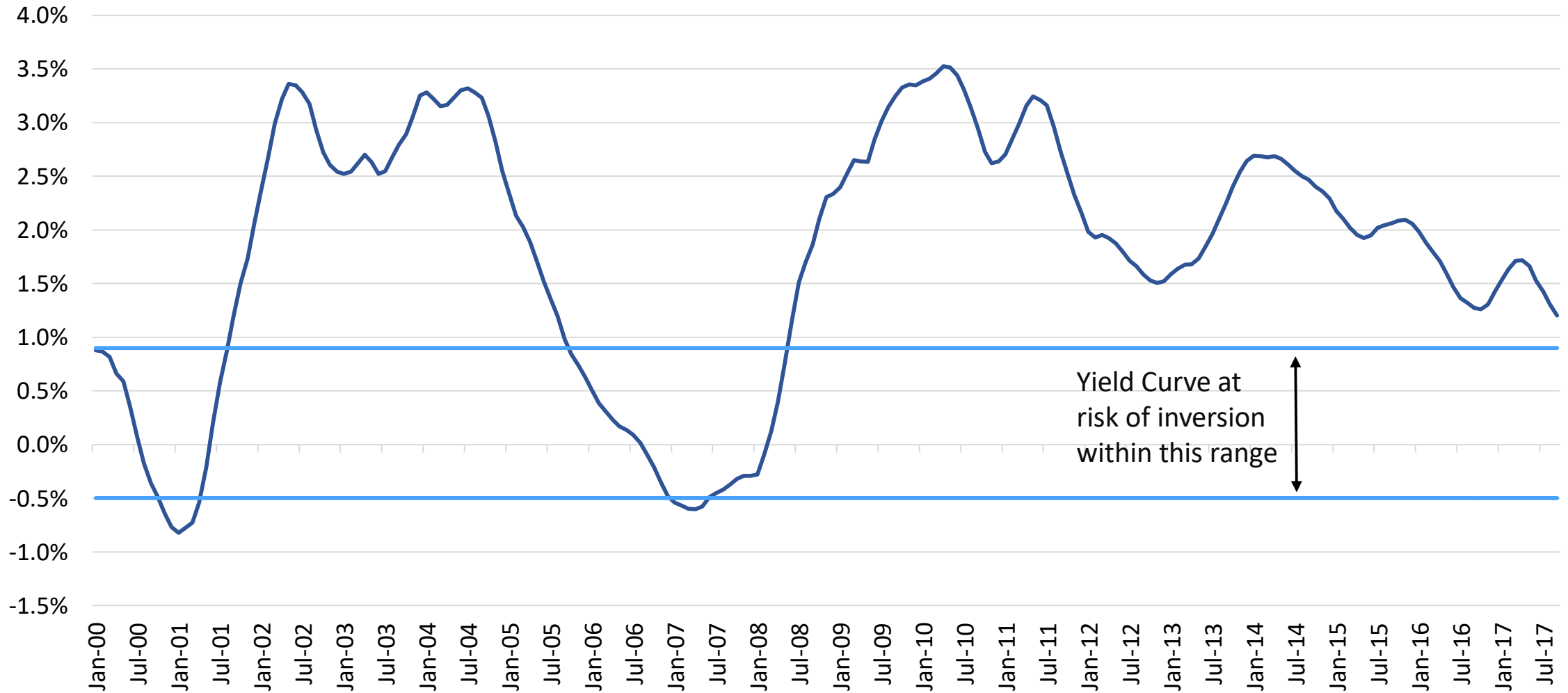
Room for New Supply: Long-Term Job Formation vs Renter Households



Watch for These 5 Signs that Presage a Recession

1. Average Hourly Earnings Growth goes from 2.5% to 4.0%
2. Cyclical Sector Share of GDP moves from 24% to 28% of GDP
3. GDP Deflator moves from <2.0% to 2.5%
4. Operating Capacity Utilization Rate moves from 76% to 80%
5. Yield Curve Inverts (10 Yr treasury rate less Fed Funds Rate) from +90bp to >-50bp

Until the Yield Curve Inverts, No Need to Worry



*Data is based on 6-month rolling averages

— Spread Between 10-Yr Treasury and Federal Funds Rate (%)

Source: Moody's Analytics; U.S. Board of Governors of the Federal Reserve System (FRB)

Disclaimer

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