

# December 2016 Housing Commentary



**Urs Buehlmann**

Department of Sustainable Biomaterials

Virginia Tech

Blacksburg, VA

540.231.9759

buehlmann@gmail.com

and

**Al Schuler**

Economist (retired)

Princeton, WV

















# Table of Contents

Slide 3:	<a href="#"><u>Housing Scorecard</u></a>
Slide 4:	<a href="#"><u>New Housing Permits, Starts, &amp; Completions</u></a>
Slide 5:	<a href="#"><u>New and Existing House Sales</u></a>
Slide 5:	<a href="#"><u>New Construction Data</u></a>
Slide 6:	<a href="#"><u>Conclusions</u></a>
Slide 7:	<a href="#"><u>European Construction Markets</u></a>
Slide 8-55:	<a href="#"><u>Additional Comments&amp;Data</u></a>
Slide 56:	<a href="#"><u>Disclaimer</u></a>

This report is a free monthly service of Virginia Tech. Past issues can be found at: <http://woodproducts.sbio.vt.edu/housing-report/>

# December 2016

## Housing Scorecard

	M/M	Y/Y
Housing Starts	 11.3%	 5.7%
Single-Family Starts	 4.0%	 3.9%
Building Permits	 0.2%	 0.7%
Housing Completions	 7.9%	 8.7%
New Single-Family House Sales	 10.4%	 0.4%
Existing House Sales <sup>1</sup>	 2.8%	 0.7%
Private Residential Construction Spending	 0.5%	 3.7%
Single-Family Construction Spending	 0.5%	 0.3%

M/M = month-over-month; Y/Y = year-over-year

# Housing Data

	December	October	Dec. 2015
Total permits*	1,210,000	1,212,000	1,201,000
Single-family permits	817,000	780,000	738,000
Multi-family 2-4 unit permits	38,000	37,000	35,000
Multi-family $\geq 5$ unit permits	355,000	395,000	428,000
Total starts	1,226,000	1,102,000	1,160,000
Single-family starts	795,000	828,000	765,000
Multi-family 2-4 unit starts**	14,000	3,000	16,000
Multi-family $\geq 5$ unit starts	417,000	271,000	378,000
Total completions	1,123,000	1,219,000	1,033,000
Single-family completions	761,000	768,000	708,000
Multi-family 2-4 unit completions**	7,000	11,000	9,000
Multi-family $\geq 5$ unit completions	355,000	440,000	316,000

\* All data are presented at a seasonally adjusted annual rate (SAAR).

\*\* US DOC does not report 2-4 multi-family starts and completions directly, this is an estimation.

Source: U.S. Department of Commerce-Construction: [www.census.gov/construction/nrc/pdf/newresconst.pdf](http://www.census.gov/construction/nrc/pdf/newresconst.pdf); 01/19/17

# Housing Data

	December	November	Dec. 2015
New single-family sales	563,000	598,000	538,000
Median price	\$322,500	\$309,200	\$299,000
Existing sales <sup>a</sup>	5,490,000	5,650,000	5,450,00
Median price	\$232,200	\$223,200	\$266,100
Private Residential Construction	\$466.9 billion	\$464.8 billion	\$450.1 billion
SF construction	\$250.4 billion	\$249.0 billion	\$249.7 billion
MF construction	\$63.7 billion	\$62.0 billion	\$57.1 billion
Improvement construction <sup>b</sup>	\$152.8 billion	\$153.8 billion	\$143.4 billion

<sup>a</sup> NAR®

<sup>b</sup> The US DOC does not report improvements directly, this is an estimation. All data is SAAR and is reported in nominal US\$.

Sources:

NAR® [www.realtor.org/topics/existing-home-sales](http://www.realtor.org/topics/existing-home-sales); 01/27/17

U.S. Department of Commerce-Construction: [www.census.gov/construction/nrs/pdf/newressales.pdf](http://www.census.gov/construction/nrs/pdf/newressales.pdf); 01/24/17

U.S. Department of Commerce-C30 Construction: [www.census.gov/construction/c30/pdf/privsa.pdf](http://www.census.gov/construction/c30/pdf/privsa.pdf); 02/01/17

# Conclusions

Housing remains in slow mode, although it is improving. We have a new administration, and hopefully they can get the economy moving again. GDP growth was 1.9% in 2016, and it is expected to remain around 2% for some time.

November's housing data is mixed – total starts are up by 11.3% (m/m), single family homes starts are down by 4.0% (m/m), permits are down by 0.2% (m/m), completions are down by 7.9% (m/m), and existing home sales were down by 2.8% from the month before.

With meager economic growth (average growth since 2009 2.1%, slowest recovery since WWII) and with 51% of all worker's in the U.S. making less than \$30,000/year, it's hard to envision a scenario where the U.S. housing market returns to "normal" anytime soon. Slowing economies in China, Brazil, among others, and continuing problems in Europe's banking sector all add up to numerous negative macro-factors endangering a robust housing recovery, in particular:

- 1) A constrained quantity of well-paying jobs being created;
- 2) a tepid economy;
- 3) declining real median annual household incomes;
- 4) strict home loan lending standards – though loosening with new programs
- 5) slow world economy; and
- 6) global uncertainty

# November 2016

## EU Housing Scorecard

		M/M	Y/Y
Production in Construction <sup>A</sup>	EU 28	△ 0.4% <sup>s</sup>	△ 0.2% <sup>s</sup>
	EU 19	△ 0.4% <sup>s</sup>	0.0% <sup>s</sup>
	Germany	△ 2.0%	△ 1.7%
	France	▽ 0.2%	△ 0.7%
	UK	△ 0.2% <sup>p</sup>	△ 3.0% <sup>p</sup>
	Spain	▽ 0.8% <sup>ps</sup>	▽ 4.5% <sup>p</sup>
Building permits (m <sup>2</sup> floor) <sup>A</sup>	EU 28	-.-	-.-
	EU 19	▽ 0.3% <sup>(10)</sup>	△ 21.8% <sup>s(10)</sup>
	Germany	△ 2.2%	△ 16.2%
	France	△ 0.7% <sup>s</sup>	△ 8.5% <sup>e</sup>
	UK	-.-	-.-
	Spain	△ 15.3% <sup>s(10)</sup>	△ 107.2% <sup>e(10)</sup>

M/M = month-over-month; Y/Y = year-over-year

Source: Eurostat (<http://ec.europa.eu/eurostat/web/short-term-business-statistics/data/main-tables>;  
02/09/17)

<sup>A</sup> see <http://ec.europa.eu/eurostat/web/short-term-business-statistics/overview/sts-in-brief>

<sup>e</sup> estimate <sup>s</sup> Eurostat estimate <sup>p</sup> provisional -. no data available <sup>(10)</sup> October data

## Housing comments – December 2017

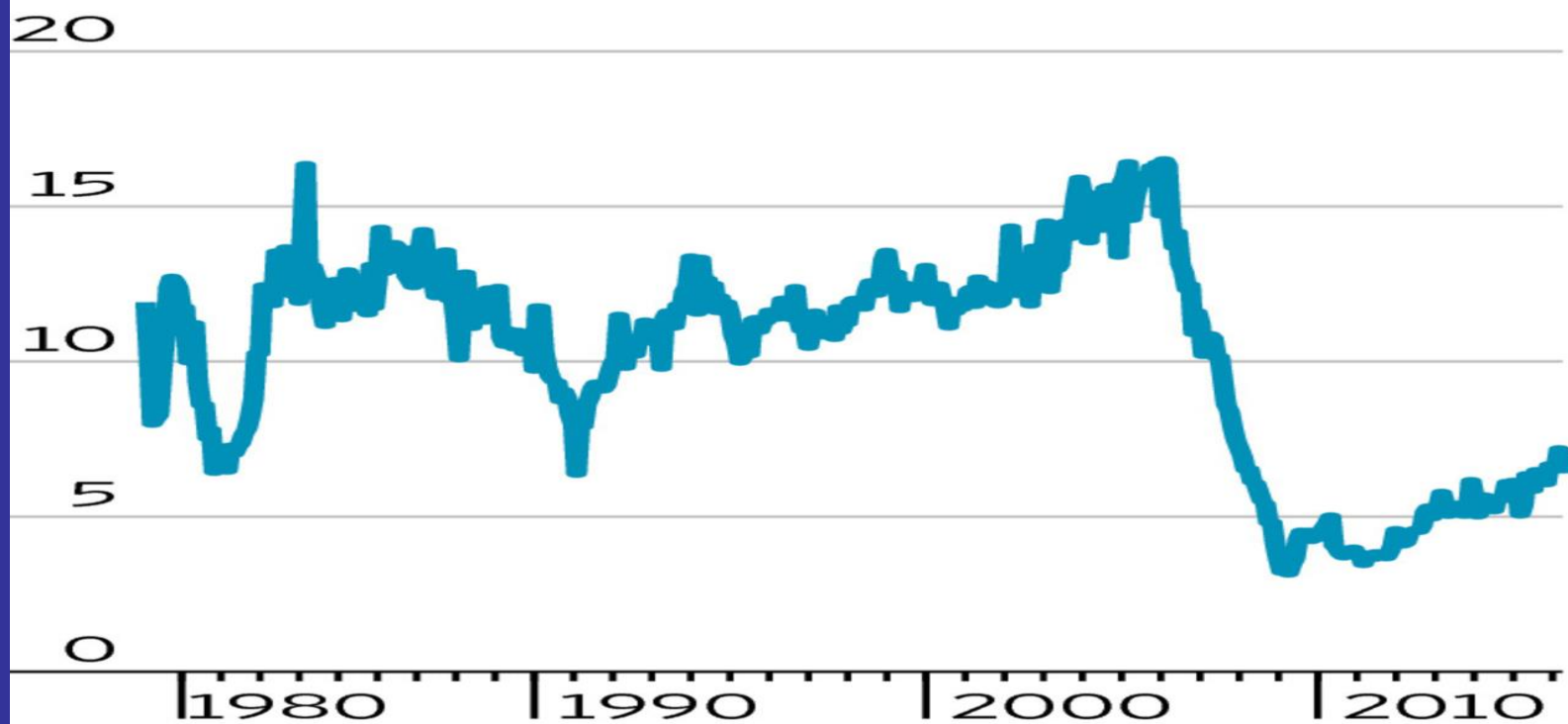
- *December starts were up 11% to 1.226 ( SAAR) - SF at 795,000 (SAAR) – down 4% - MF was up 54% ( yes, 54%) – that was the driver! MF is typically quite volatile. YOY, total starts are up 6%*
- *Adjusting for population growth, (starts per household), SF construction remains near recession levels of early 1980's. So, SF housing basically remains in recession mode!*
- *Home ownership rate down to 63.5% in QTR3 2016 – **lowest ownership rate in 50 years!** Financing problems; changing preferences (to renting); and rising home prices - problem for 1<sup>st</sup> time buyers*
- *Resale market fell 0.7% - 5,490,000 (annual rate) – low inventory (3.6 months) driving prices higher*
- *New home sales were down 10.4% to 536,000 SAAR, but up 12% YOY*
- ***Job creation took a breather in December - +156,000 - unemployment up a tick to 4.7% - – and real wages increased 2.9% in 2016!***
- *GDP growth was 1.9% in the 4<sup>th</sup> Qtr – same for all of 2016. This is the slowest expansion since WWII, and until we improve productivity, sustainable growth will remain 2% at best. If the new administration addresses problems re: over regulation; taxes; infrastructure; education(K-12); investment; debt, we could grow substantially faster.*



**“Adjusting for population growth, single-family construction is barely back to the prior troughs of recessions in 1981 and 1991, according to research from mortgage giant Fannie Mae”( Chris Kirkham, WSJ). Weak demand from young people remains big problem as job prospects, credit problems, and student debt forced many to renting.**

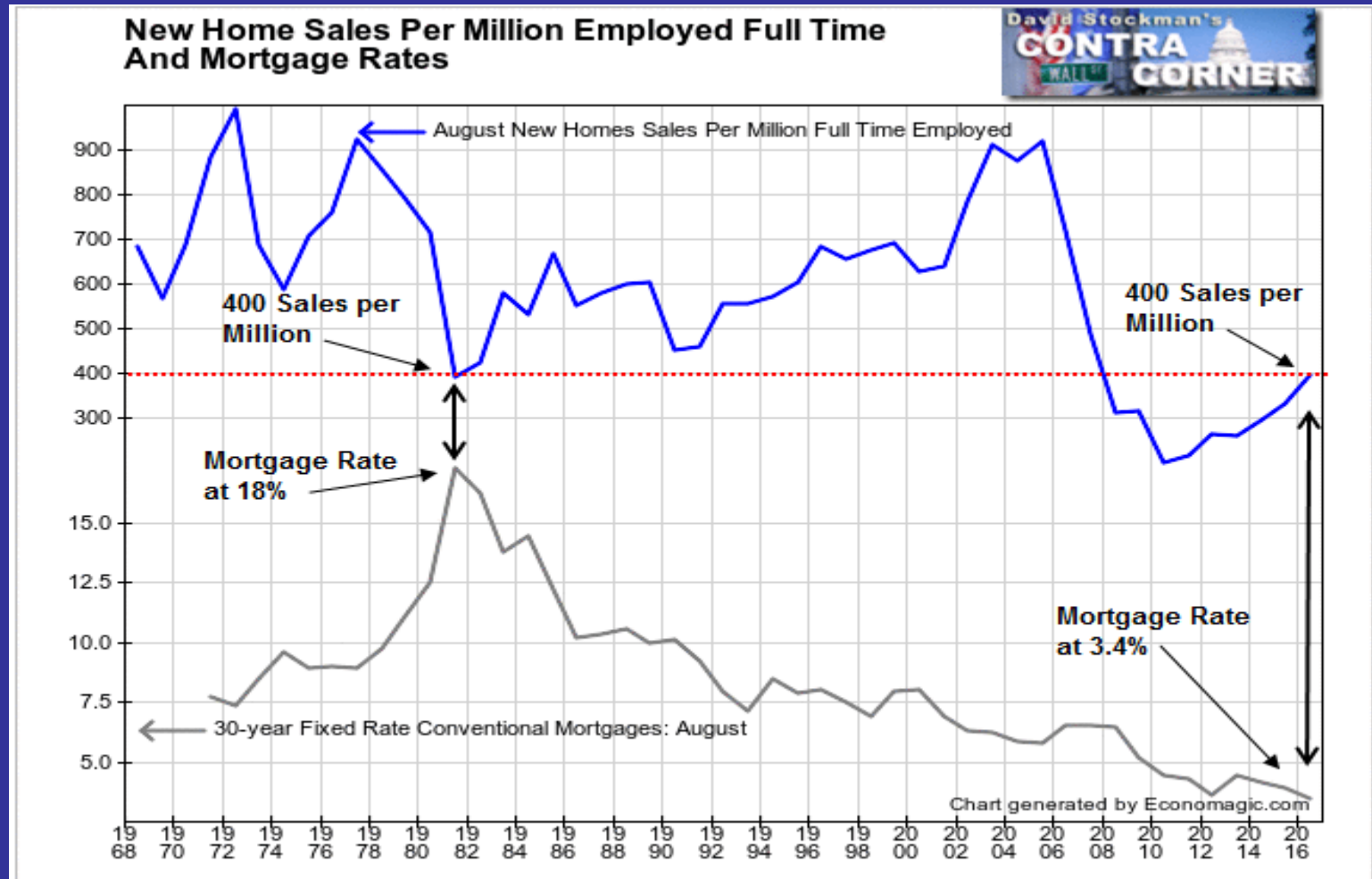
## **Rebuilding, Slowly**

**U.S. single-family housing starts per 1,000 households**



Source: U.S. Census; Fannie Mae  
**THE WALL STREET JOURNAL.**

**Same story showing new home sales versus population – despite lowest mortgage rates in history, today's new home sales per million are no better than back in 1980 when mortgage rates were almost 20%. Tells me that low mortgage rates are not the answer – people need good jobs and a belief in their future – today, both are in jeopardy!**



## **Economy**

**Want to fix the U.S. Economy? Start with the broken political system as outlined in a new report from Porter et al. (we started this discussion this past November)**

**Political dysfunction has become the biggest economic stumbling block for the U.S., according to the Harvard report.**

**Here is the hyperlink to the Porter study**

**(<http://www.hbs.edu/competitiveness/Documents/problems-unsolved-and-a-nation-divided.pdf>)**

**Interesting report from experts on competitiveness. Slow reading, but lots of good analysis, charts, and recommendations from some of America's leading thinkers on competitiveness.**

**Here are suggestions from the Porter study on how to fix America's economy – however, to accomplish this, we need a functioning government which we don't have. Hopefully, the new administration will begin the process of fixing The problems!**

**FIGURE 1: THE EIGHT-POINT PLAN FOR WASHINGTON**

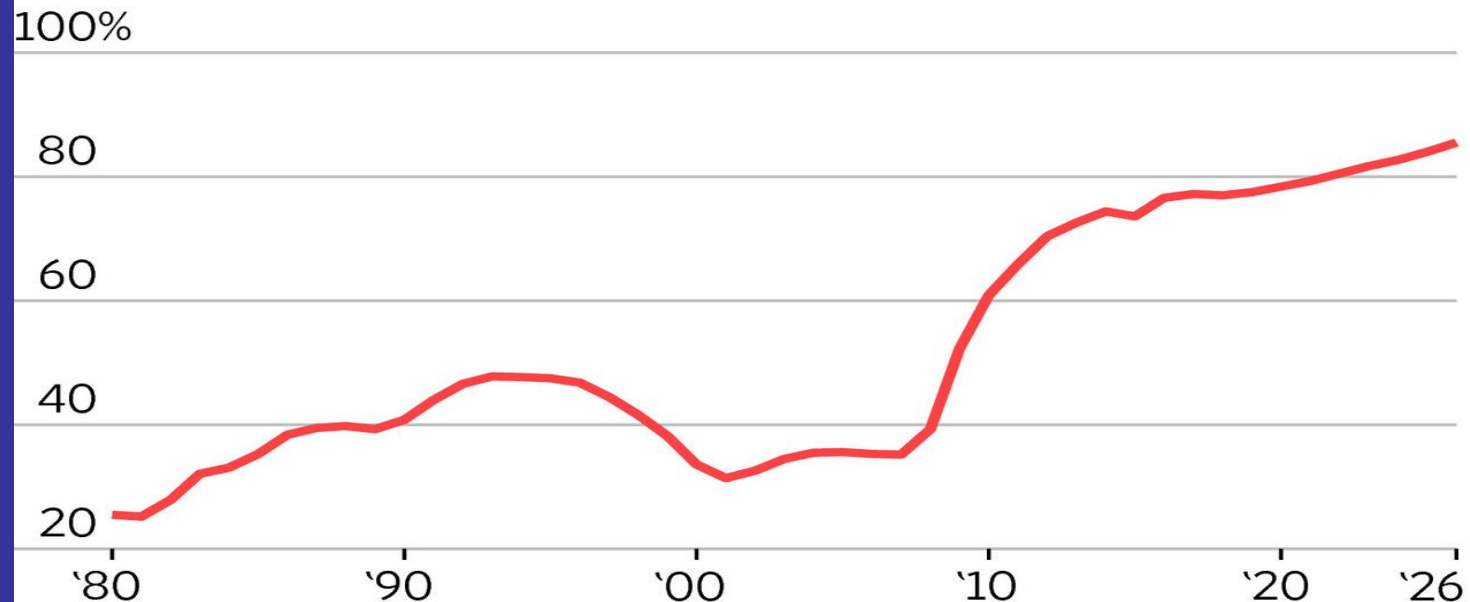
1	Simplify the <b>corporate tax code</b> with lower statutory rates and no loopholes
2	Move to a <b>territorial tax system</b> like all other leading nations
3	Ease the <b>immigration of highly skilled individuals</b>
4	Aggressively address distortions and abuses in the <b>international trading system</b>
5	Improve <b>logistics, communications, and energy infrastructure</b>
6	Simplify and streamline <b>regulation</b>
7	Create a <b>sustainable federal budget</b> , including reform of entitlements
8	Responsibly develop America's <b>unconventional energy advantage</b>

Source: Michael Porter and Jan Rivkin. "An eight-point plan to restore American competitiveness." The Economist: The World in 2013. (Nov 2012).

Huge problem facing this country is **public debt** – that's the debt that has to be repaid. Total debt today ~ \$20 trillion, of which \$14 trillion is “public debt”. The \$6 trillion (“borrowed”) by the Treasury from the Social Security, Medicare, and highway trust funds is gone/spent. Here is link to real time debt clock (<http://www.usdebtclock.org/>) – a scary picture! Public debt now equals 75% of GDP – we're getting very close point of no return – where principal plus interest payments exceed our capacity to pay, and lenders refuse to lend.

## The Obama Debt Legacy

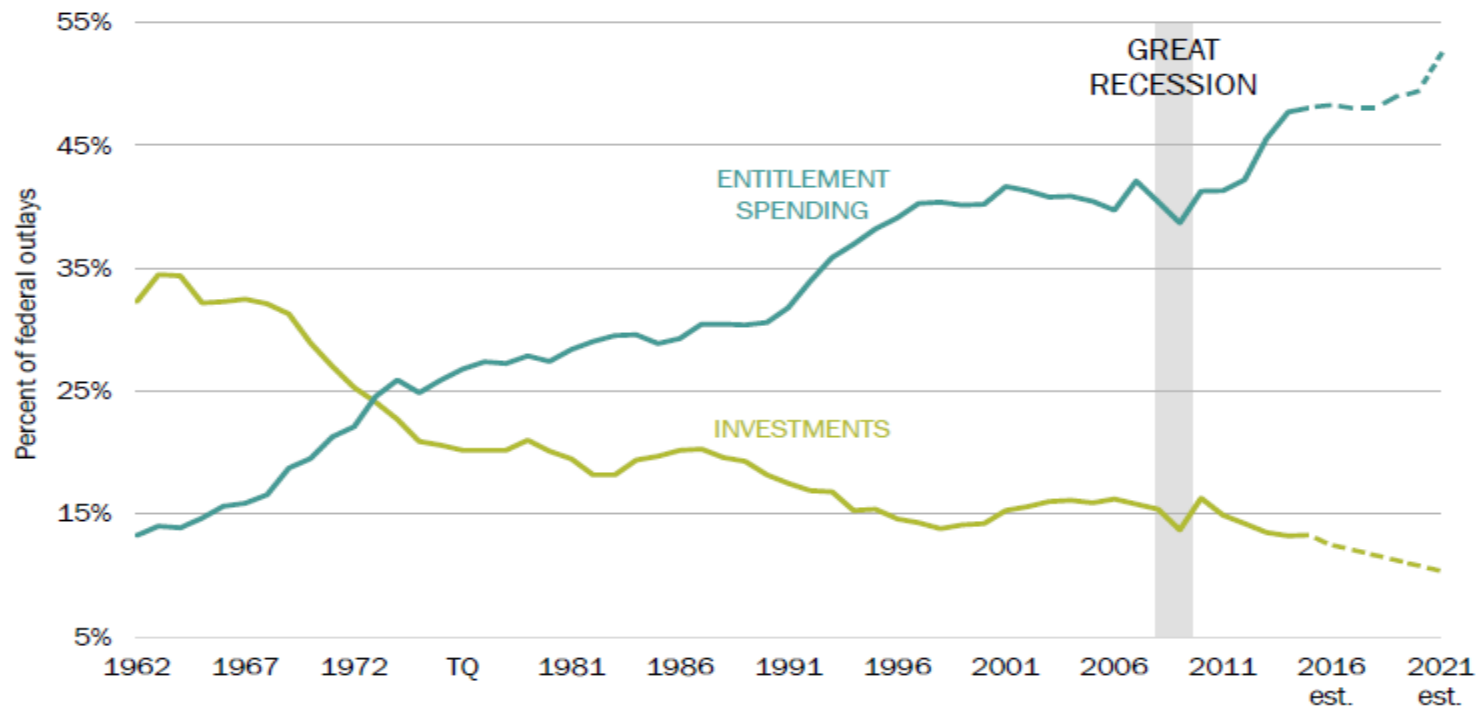
Federal debt held by the public as a share of the economy, 1980-2026 (2016-2026 estimated)



Source: Congressional Budget Office

**Going into debt is OK if you're investing for the future - but, we're not!**  
For decades, we, as a nation, have been living a fantasy life.  
Entitlement spending is now approaching 50% of the federal budget while investment spending (critical to maintain our competitiveness) – has been declining for the past 60 years (Porter et al.).

**FIGURE 9: SHIFTING COMPOSITION OF FEDERAL SPENDING**



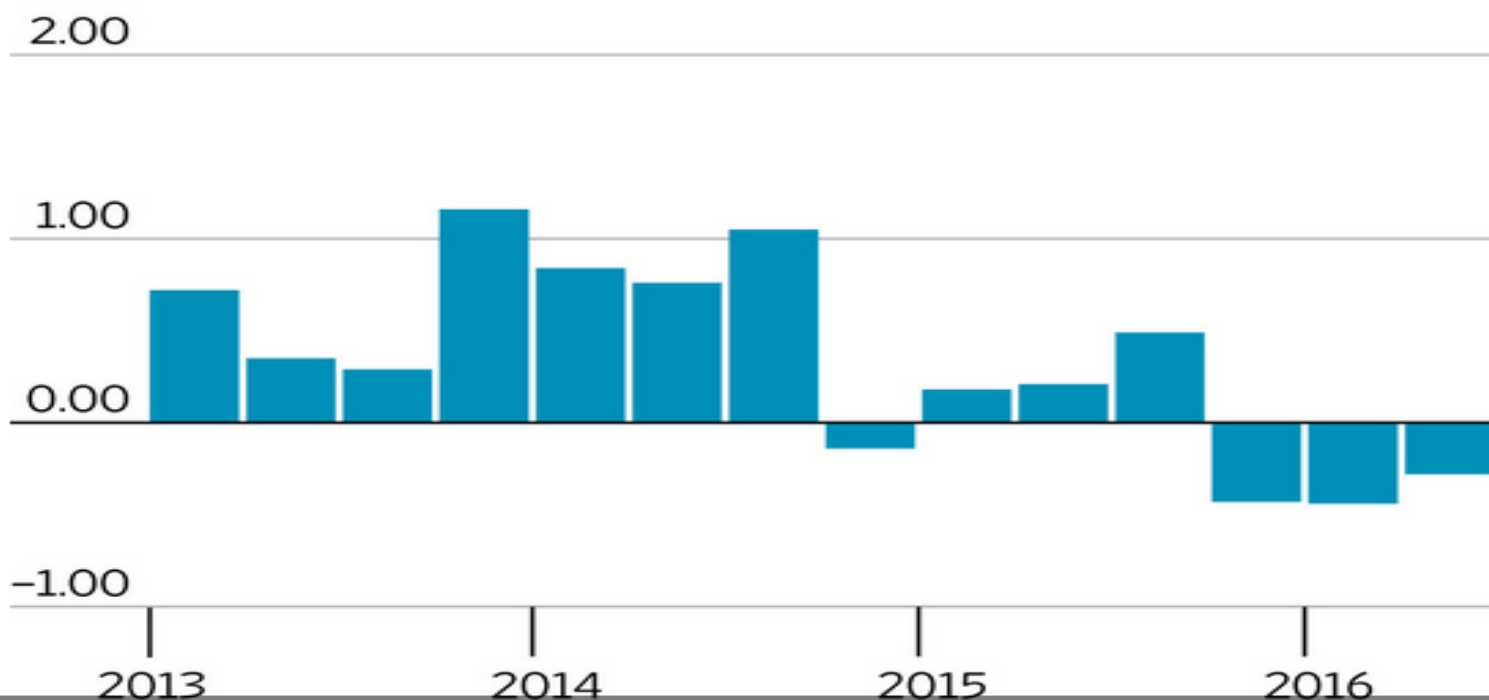
Note: Entitlement spending includes outlays for Social Security, Medicare, Medicaid, CHIP, and Affordable Care Act Subsidies. Investments includes outlays for infrastructure, R&D (both defense and non-defense), and education. 2016-2021 figures are Office of Management and Budget estimates. TQ refers to the Transition Quarter from July 1, 1976 to September 30, 1976, after which the federal government changed its fiscal year. Dotted line is a forecast based on previous Office of Management and Budget estimates. Shaded area indicates the recession of December 2007 to June 2009 as defined by the National Bureau of Economic Research.

Source: Office of Management and Budget; author's calculations.

**Business isn't investing either --- has been trending lower for the past several years. That's why GDP growth remains weak. That means income growth will remain weak and housing will continue to underperform, and creation of good paying jobs will remain an elusive goal.**

## Business Isn't Investing

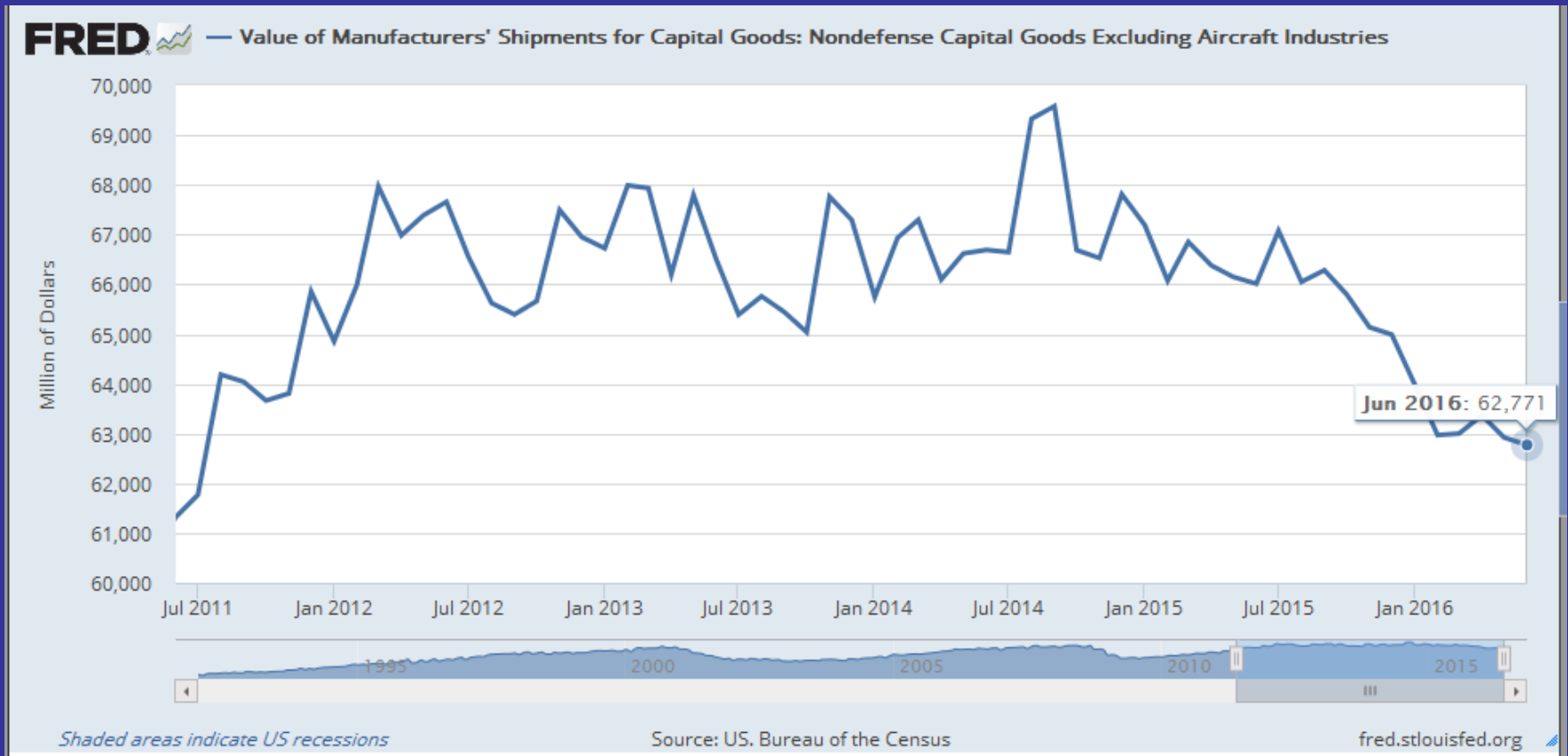
Contribution to quarterly GDP, in percentage change, from fixed nonresidential investment, 2013-July 2016



Source: Bureau of Economic Analysis

# Capital spending has been trending lower for past 4 years

## Why? Companies not confident of future – uncertainty re: Tax code, regulations; Washington grid lock!

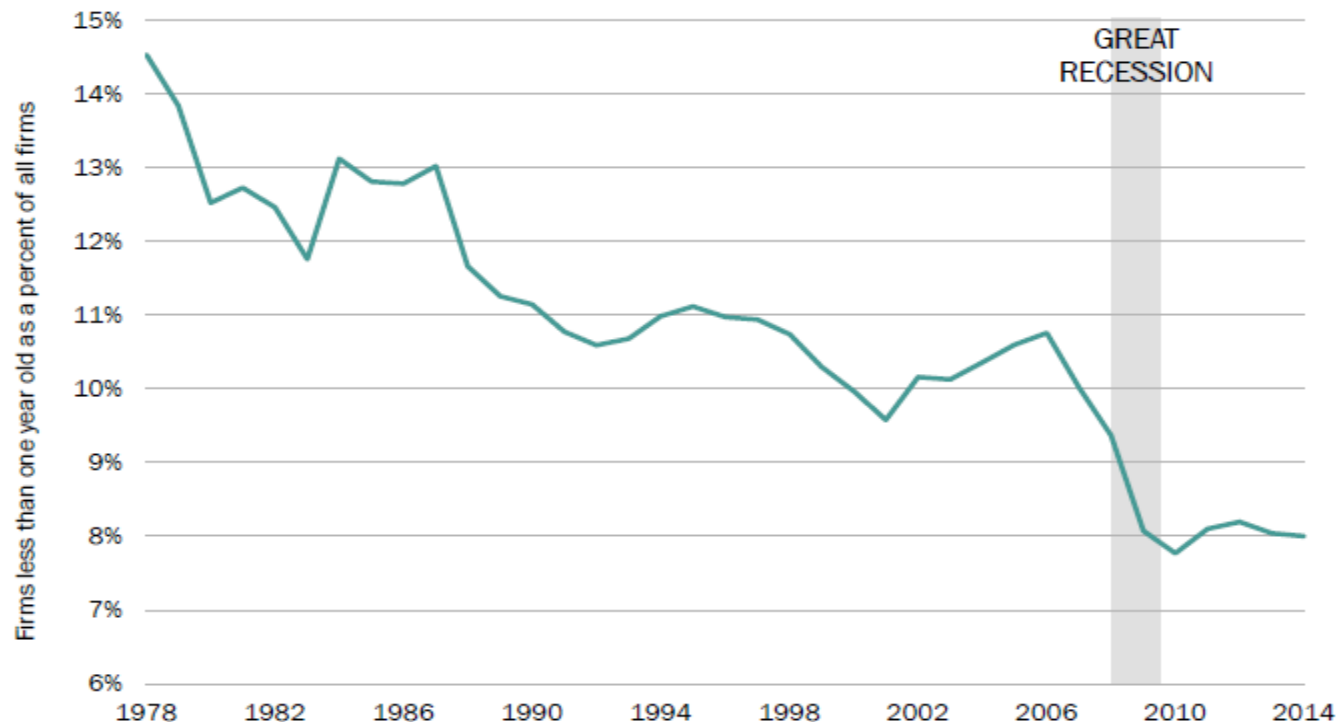




# Another structural problem – new business formations are down significantly, this is why job creation is slow (Porter et al.

**FIGURE 12: SLOWDOWN IN NEW BUSINESS FORMATION**

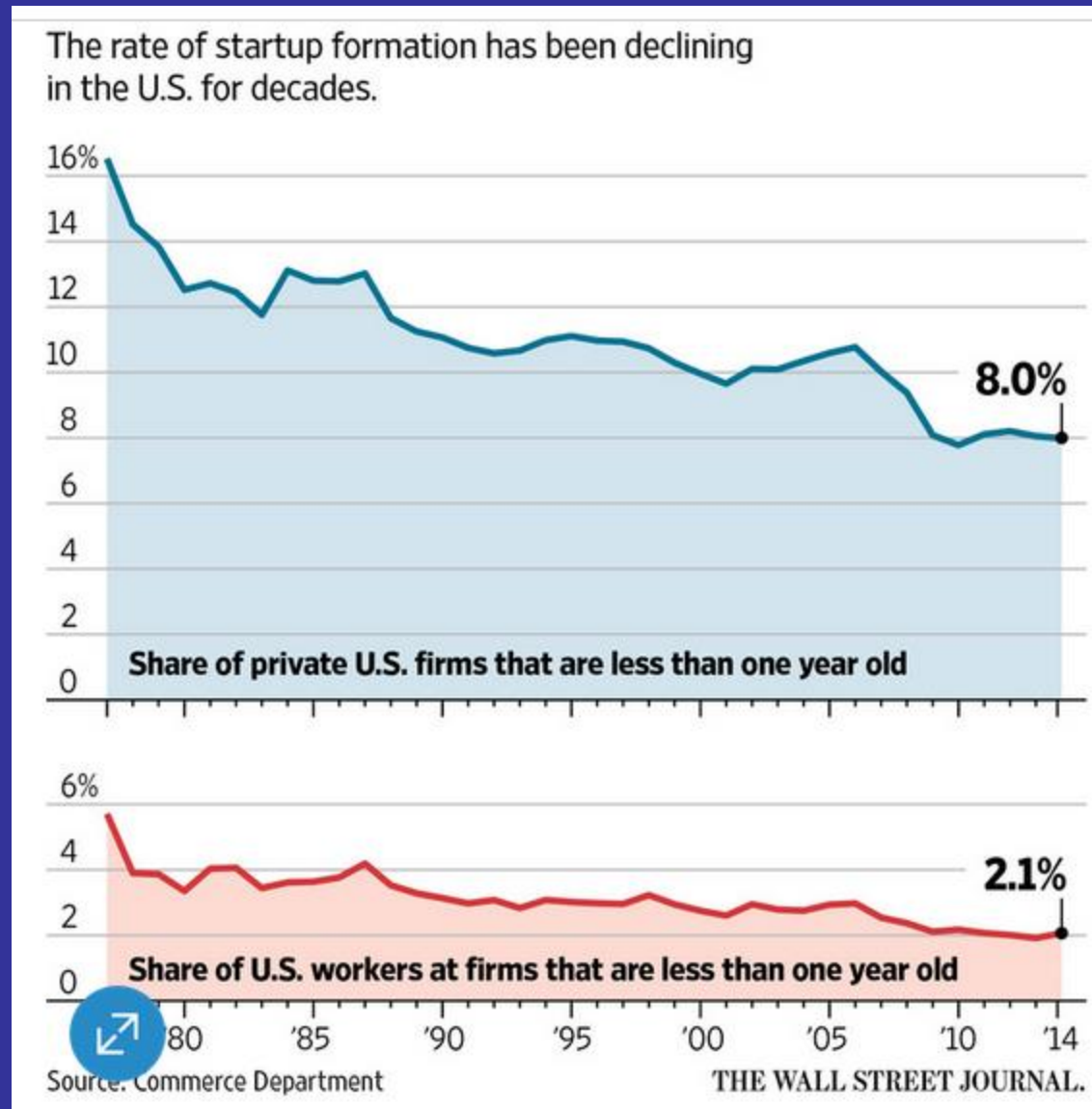
Start-ups as a portion of all U.S. firms, 1978–2014



Note: Shaded area indicates the recession of December 2007 to June 2009 as defined by the National Bureau of Economic Research.

Source: U.S. Census Bureau Business Dynamics Statistics. Chart adapted from Ian Hathaway and Robert E. Litan, "Declining Business Dynamism in the United States: A Look at States and Metros," Economic Studies at Brookings, May 2014.

# Slowdown in entrepreneurship is one reason economy remains mired in slow growth mode!



## What happens when innovation is missing!

**Dismal productivity growth - - worst performance for US economy since the 1980's when we experienced Back to back recessions.**

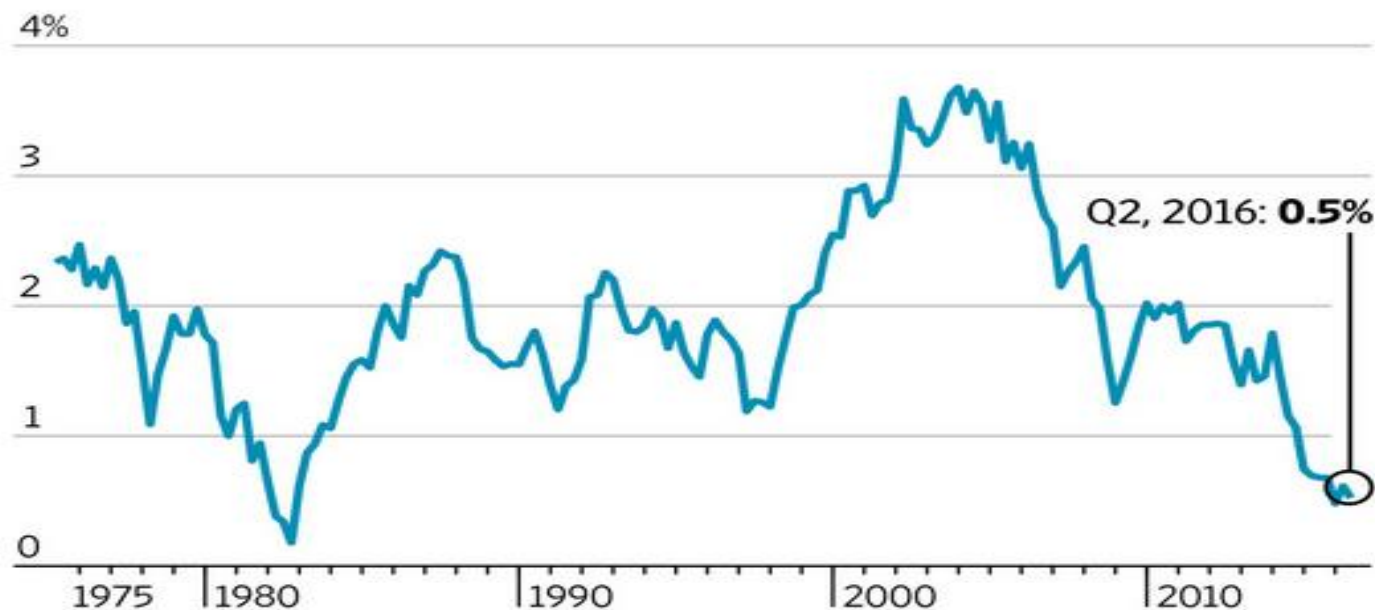
*(PS - I understand that productivity measurement is a problem as new products/services quality is difficult To measure so maybe we are underestimating real productivity?)*

### Plunging Productivity

Gains in U.S. worker productivity have slowed dramatically since the early 2000s, a trend that could restrain the economy's future growth.

#### Labor productivity (output per hour)

Percentage change from previous quarter at annual rate,  
5-year moving average



Note: Figures are seasonally adjusted

Source: Labor Department

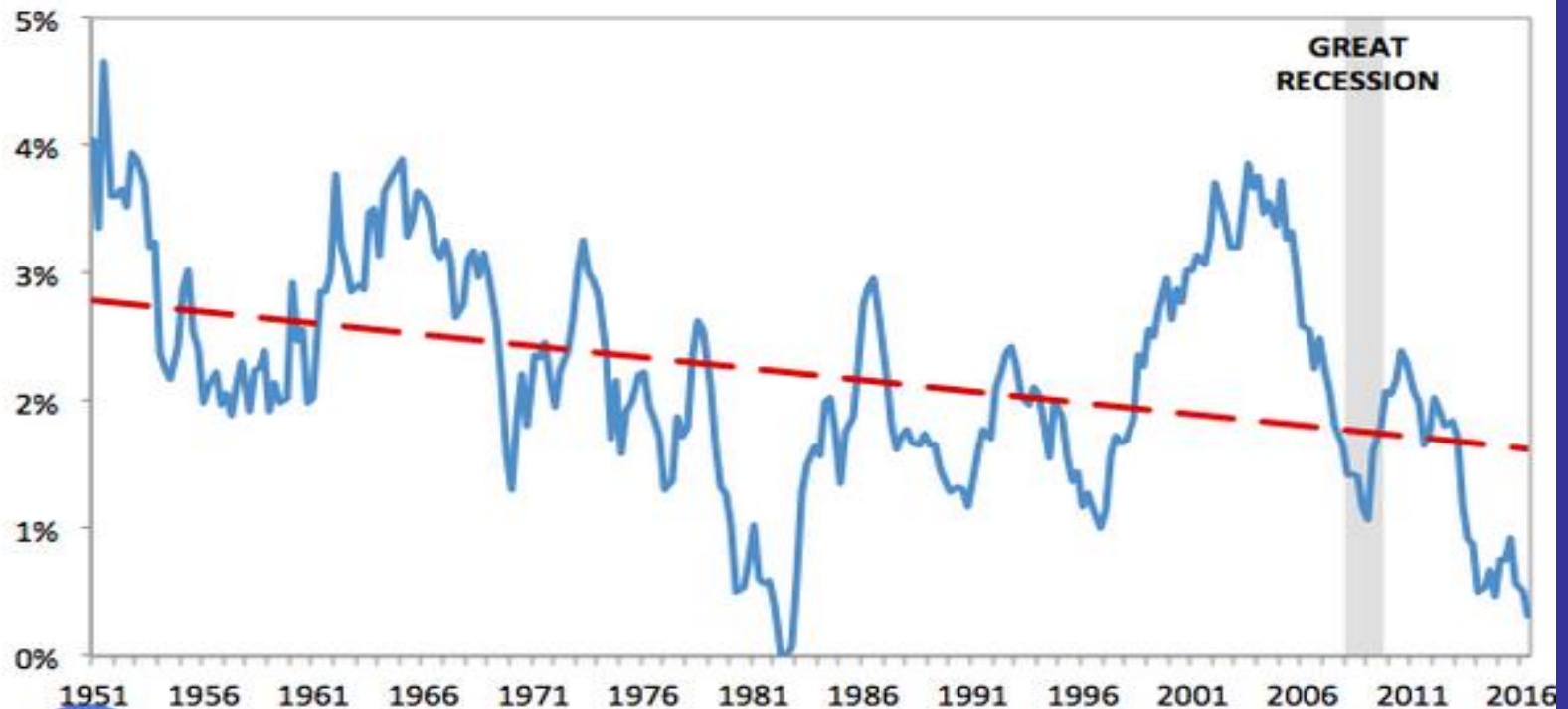
THE WALL STREET JOURNAL.

Source: WSJ (<http://www.wsj.com/articles/u-s-productivity-dropped-at-0-5-pace-in-the-second-quarter-1470746092>)

**Waning productivity is major cause of our economic problems. Weakening trend over past 60 years needs to change if wages/standard of living are to improve. According to recent study by Porter et al., competitiveness is key. Solution is infrastructure reform, tax reform, and immigration reform. Political paralysis keeps us from implementing the right solutions according to Porter et al.**

**FIGURE 2: U.S. PRODUCTIVITY GROWTH**

U.S. NON-FARM BUSINESS LABOR PRODUCTIVITY, 4-YEAR ROLLING AVERAGE OF ANNUALIZED QUARTERLY GROWTH, 1951–Q2 2016



Note: Shaded area indicates the recession of December 2007 to June 2009 as defined by the National Bureau of Economic Research.  
Sources: Bureau of Labor Statistics; author's calculations.

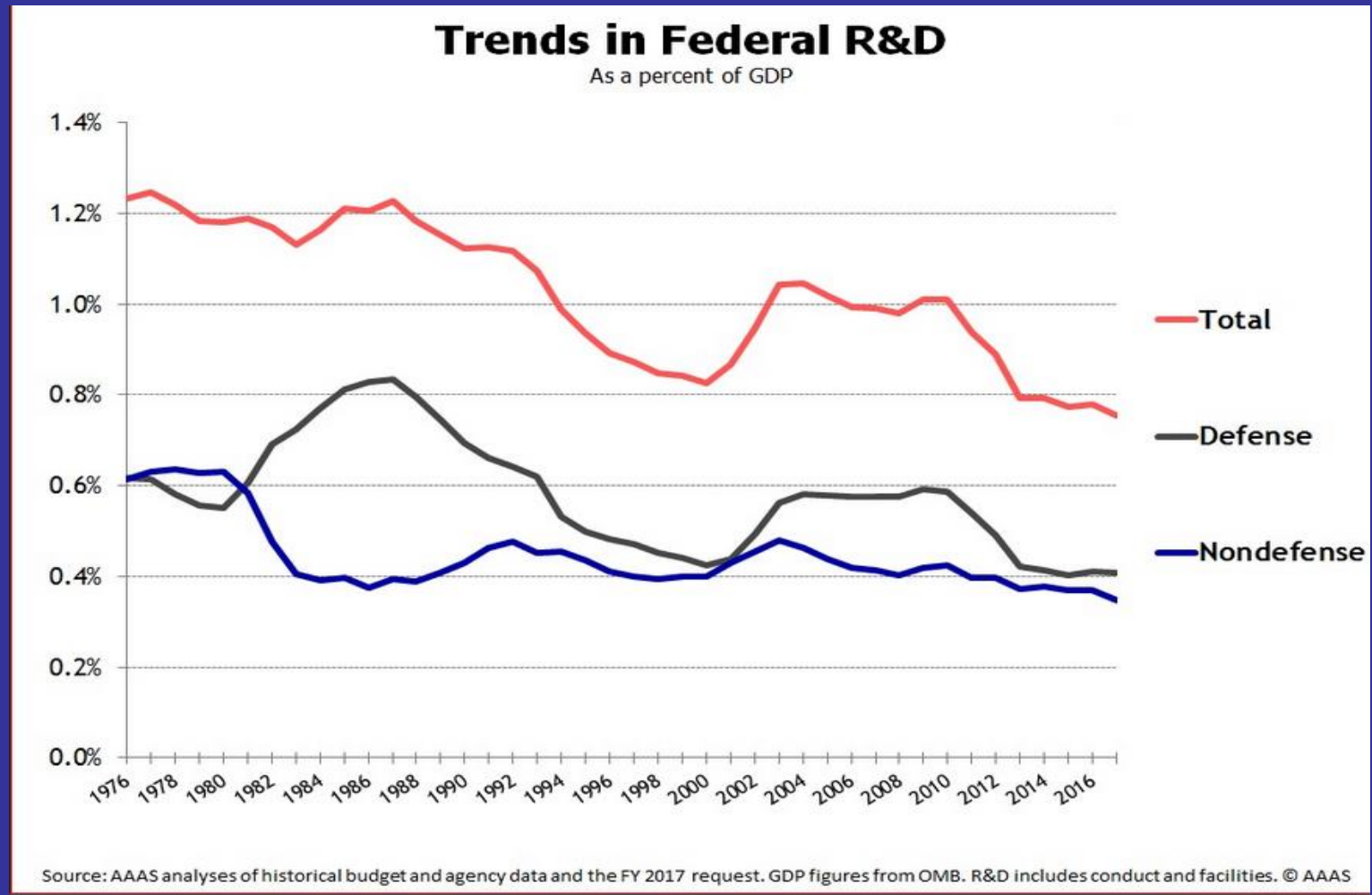
Source: Harvard Business School US Competitiveness Project

( <http://finance.yahoo.com/news/us-competitiveness-project-harvard-business-school-hbs-michael-porter-030021739.html> )

## Falling Basic R&D - - funding basic science is declining – big problem that needs fixing

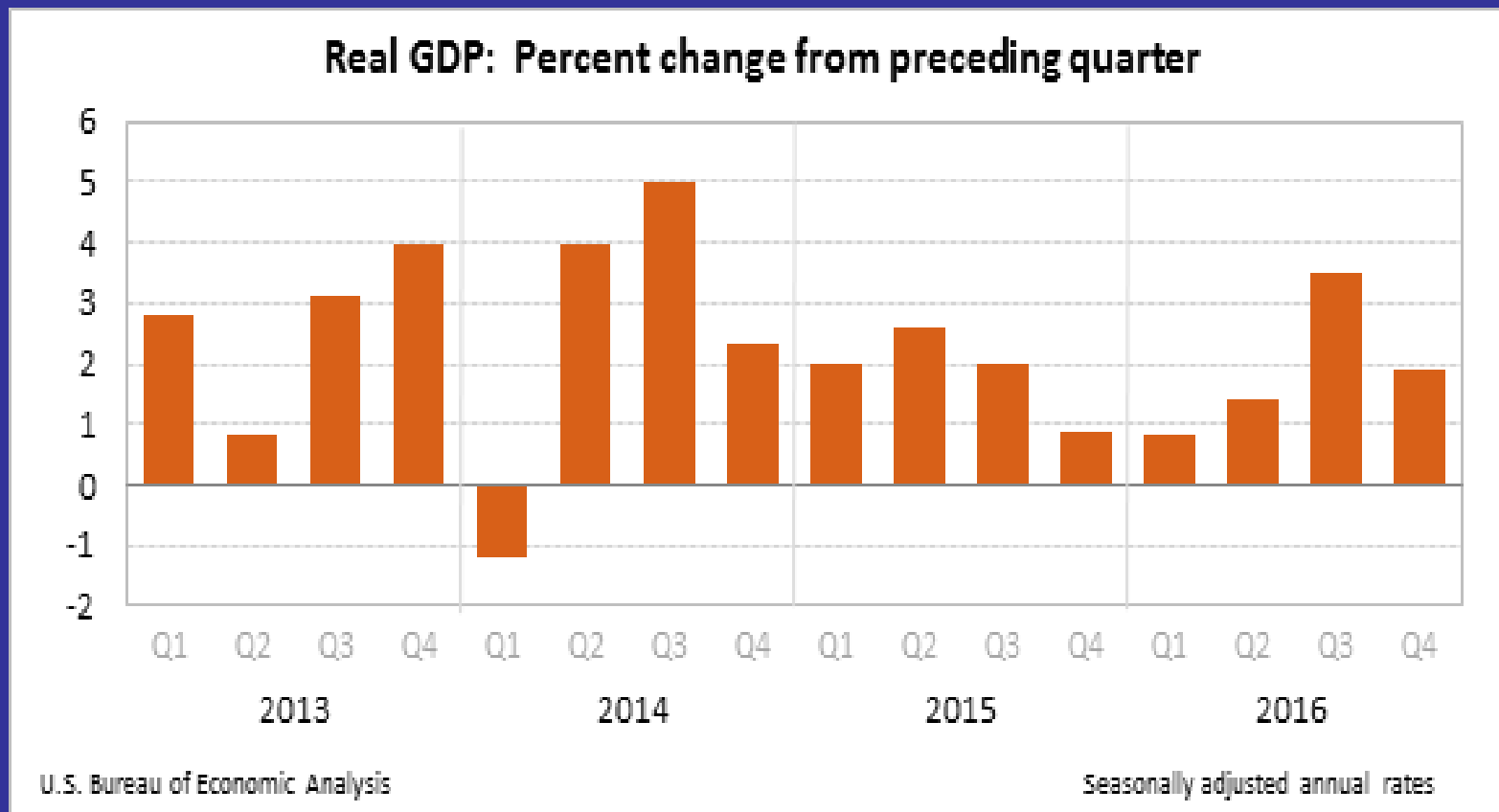
Federal government funds basic research while industries fund applied research – basic research is critical to development of new technology and innovation in science and engineering - critical to economic and job growth, and productivity.

([http://www.wsj.com/articles/the-dividends-of-funding-basic-science-1480982516?mod=rss\\_opinion\\_main](http://www.wsj.com/articles/the-dividends-of-funding-basic-science-1480982516?mod=rss_opinion_main))



## **U.S. 4th Qtr 2016 economic growth 1.9% - same rate for entire 2016 the slowest expansion since WWII.**

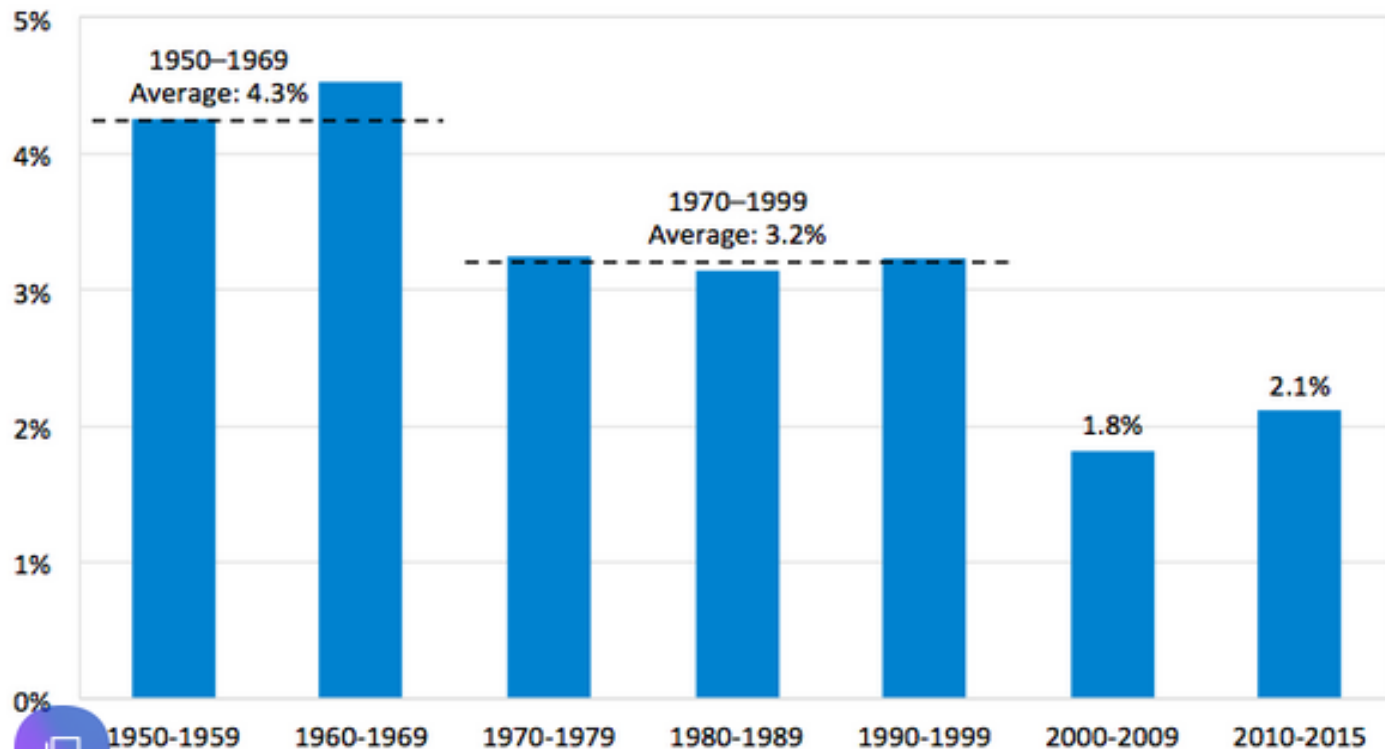
- (1) Slowing world economy (weaker China, European, and South American growth)**
- (2) Stronger dollar will reduce exports and increase imports – negative impact on manufacturing jobs which is key to income growth in USA**
- (3) Political stalemate/weak leadership, terrorism, currency wars, growing national debt, ...**
- (4) Weak income growth and continuing high “real unemployment”**



**Weak growth means weak income growth and weak housing numbers in the future unless we address our competitiveness issues.**

**FIGURE 1: SLOWDOWN IN ECONOMIC GROWTH RATE BY DECADE**

COMPOUND ANNUAL GROWTH RATE OF U.S. REAL GDP BY DECADE, 1950-2015



Source: Bureau of Economic Analysis; author's calculations.

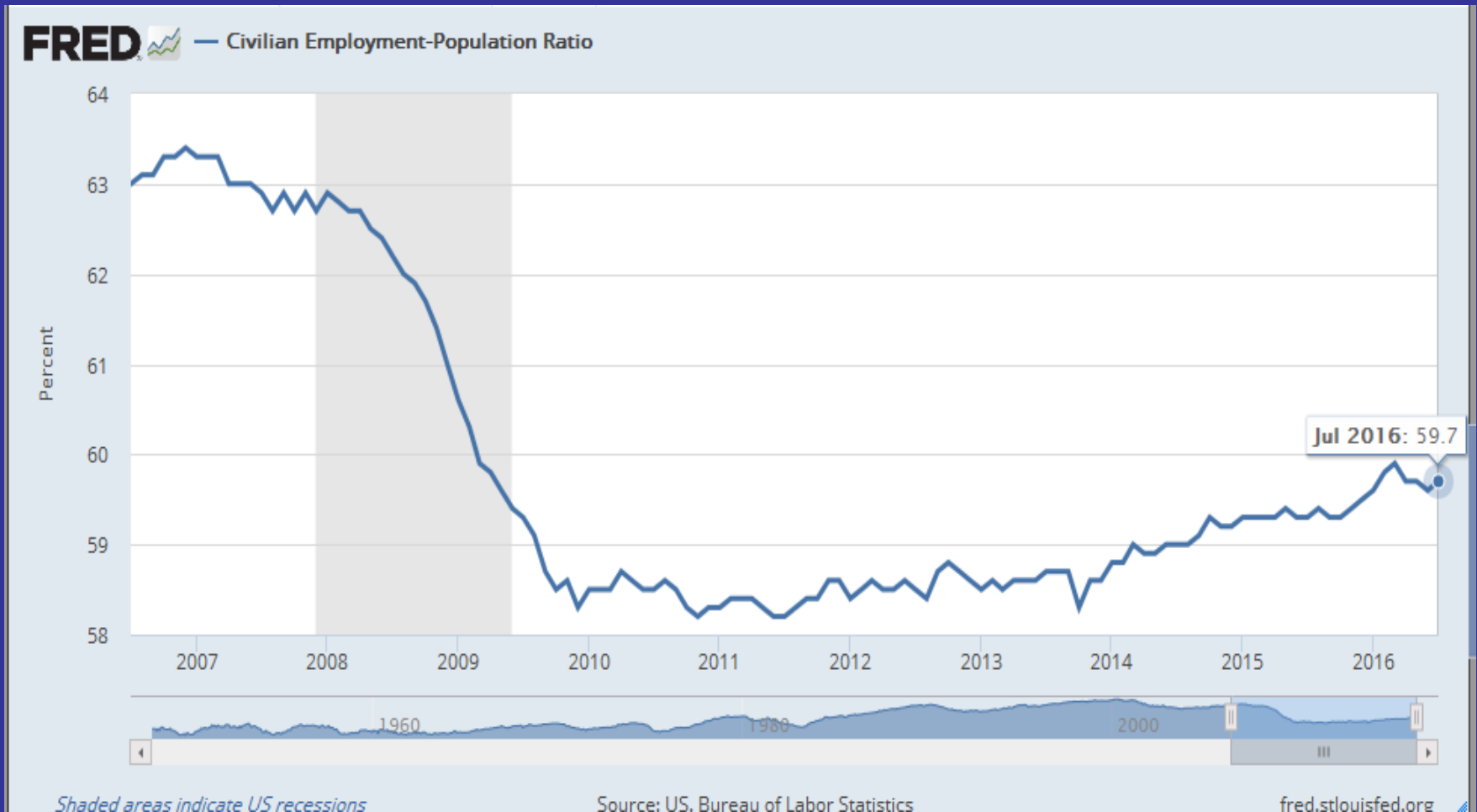
Source: Harvard Business School US Competitiveness Project

(<http://finance.yahoo.com/news/us-competitiveness-project-harvard-business-school-hbs-michael-porter-030021739.html>)

**Here are a few slides on labor market conditions – problems persist, but there are solutions**

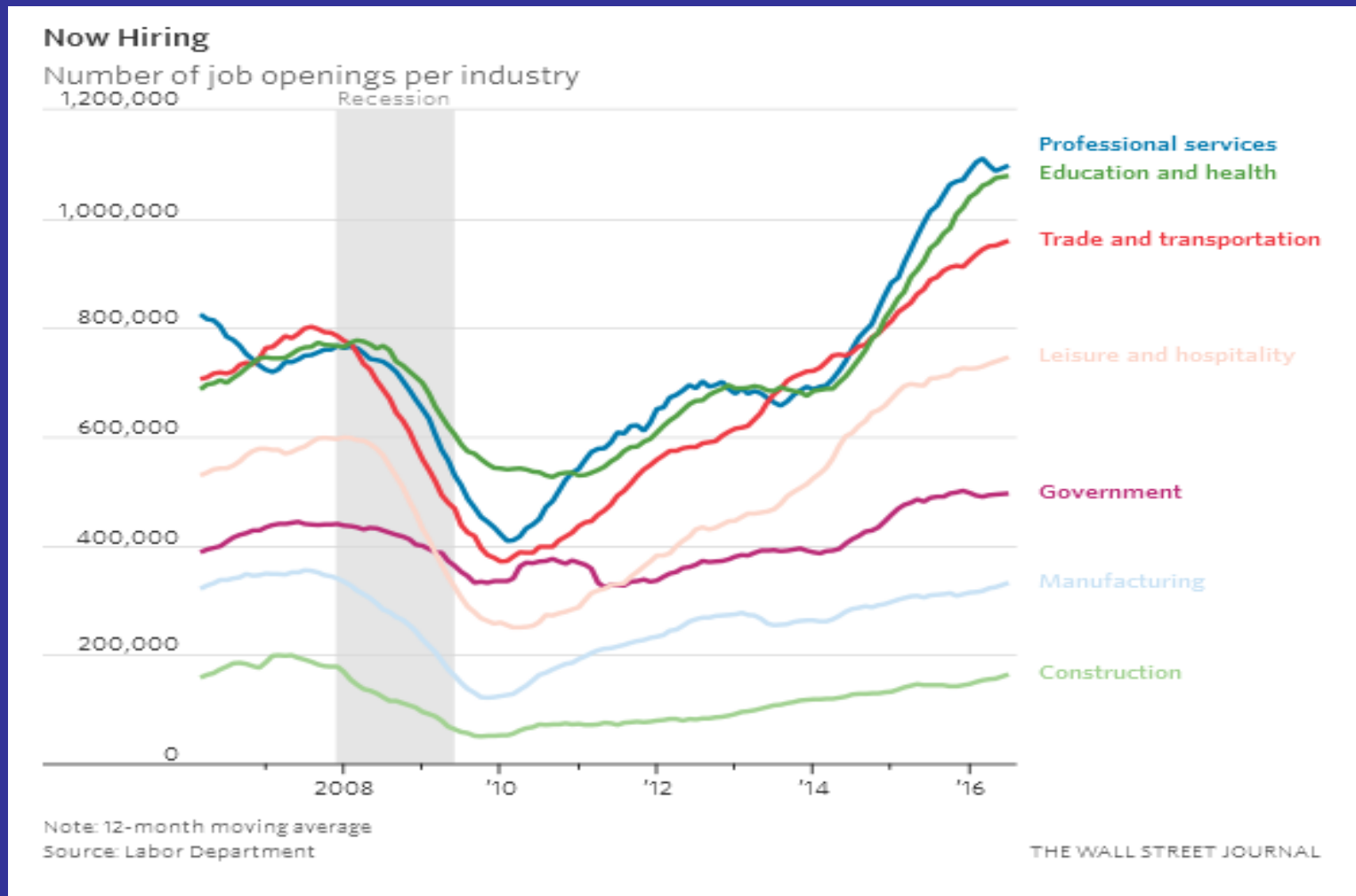


**Not a good trend for the economy – employment to population ratio keeps decreasing – too much welfare, plus many people don't have the required job skills (half the population on some form of welfare – food stamps, Medicaid, long term disability, housing allowances, etc.)**

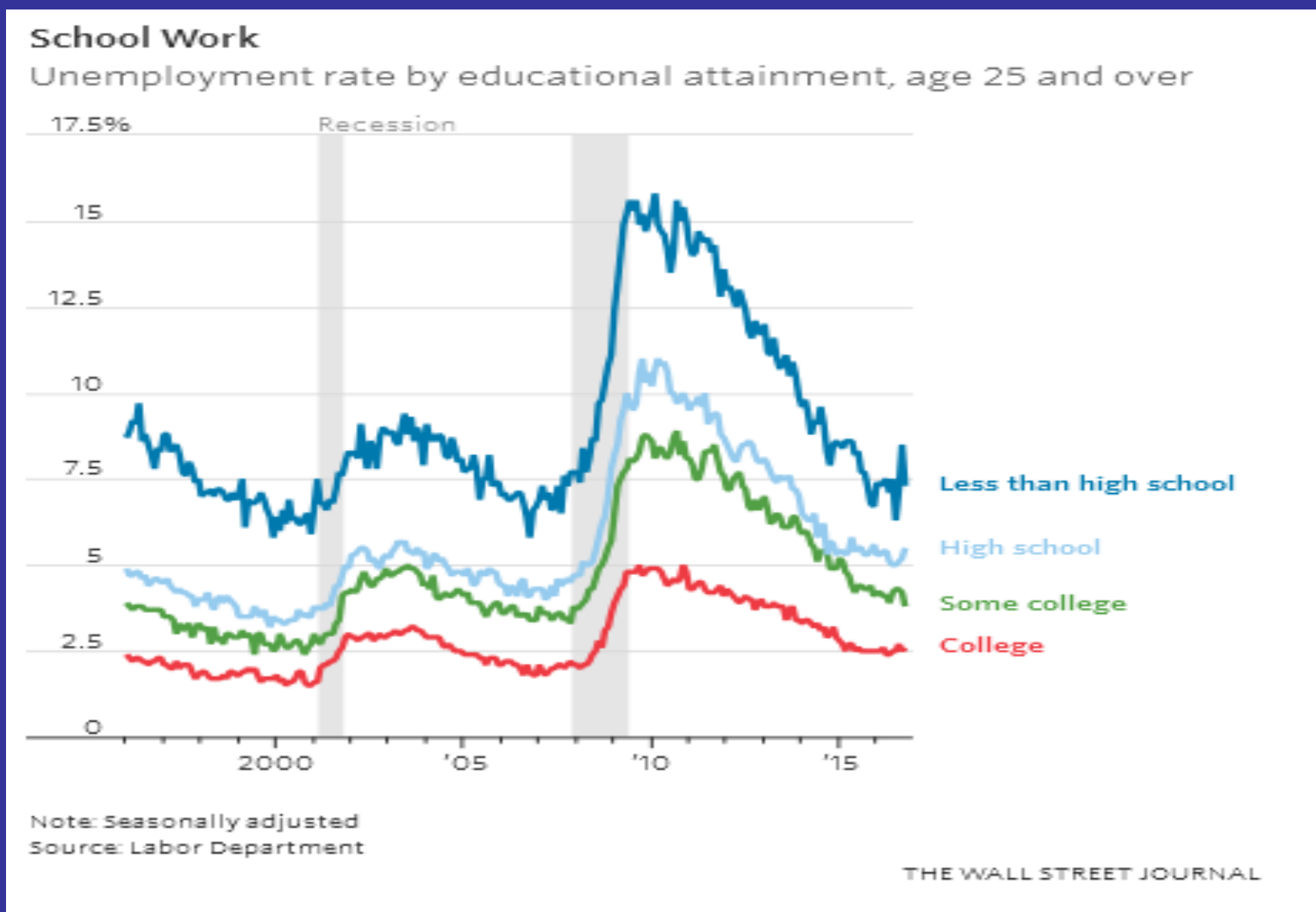


(<http://www.wsj.com/articles/the-idle-army-americas-unworking-men-1472769641>)

**Here's where the jobs are – but, again, lack of skills means many of these positions go unfilled!**



# Education will help keep you out of the unemployment line



## **Additional housing comments**

**Starts are inching forward – But, low interest rates can't fix housing! This is basically a two tiered market – healthy upper end versus weak entry level housing - - not sustainable.**

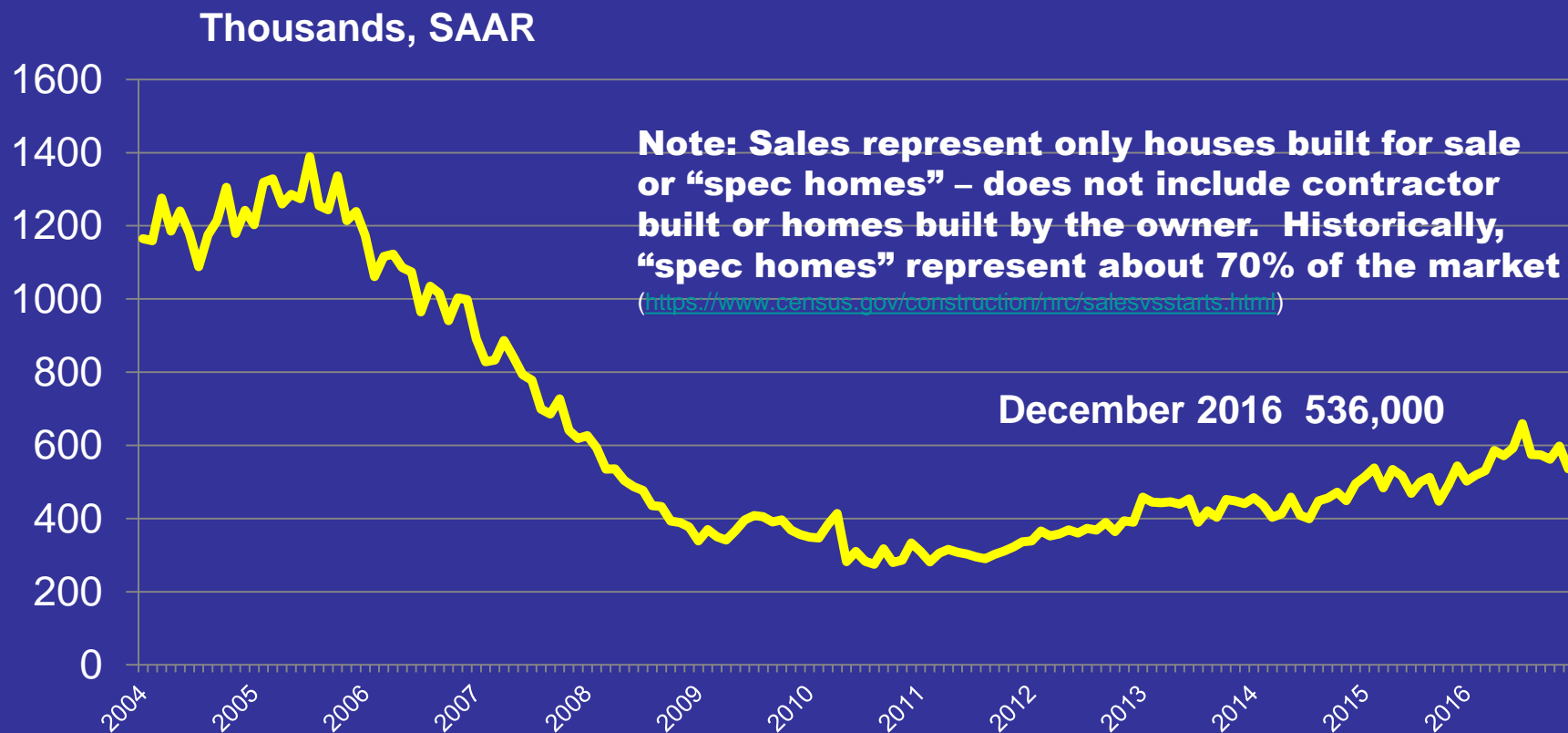
Single family starts, Thousand units, SAAR



December - - 795,000, up 4%  
versus December 2015

Source: Census (<http://www.census.gov/const/www/newresconstindex.html>)

**New Single Family Home sales are the key statistic to watch for wood products demand – sales drive housing starts – this drives demand for wood products!**



Source: Census (<http://www.census.gov/const/www/newressalesindex.html>)

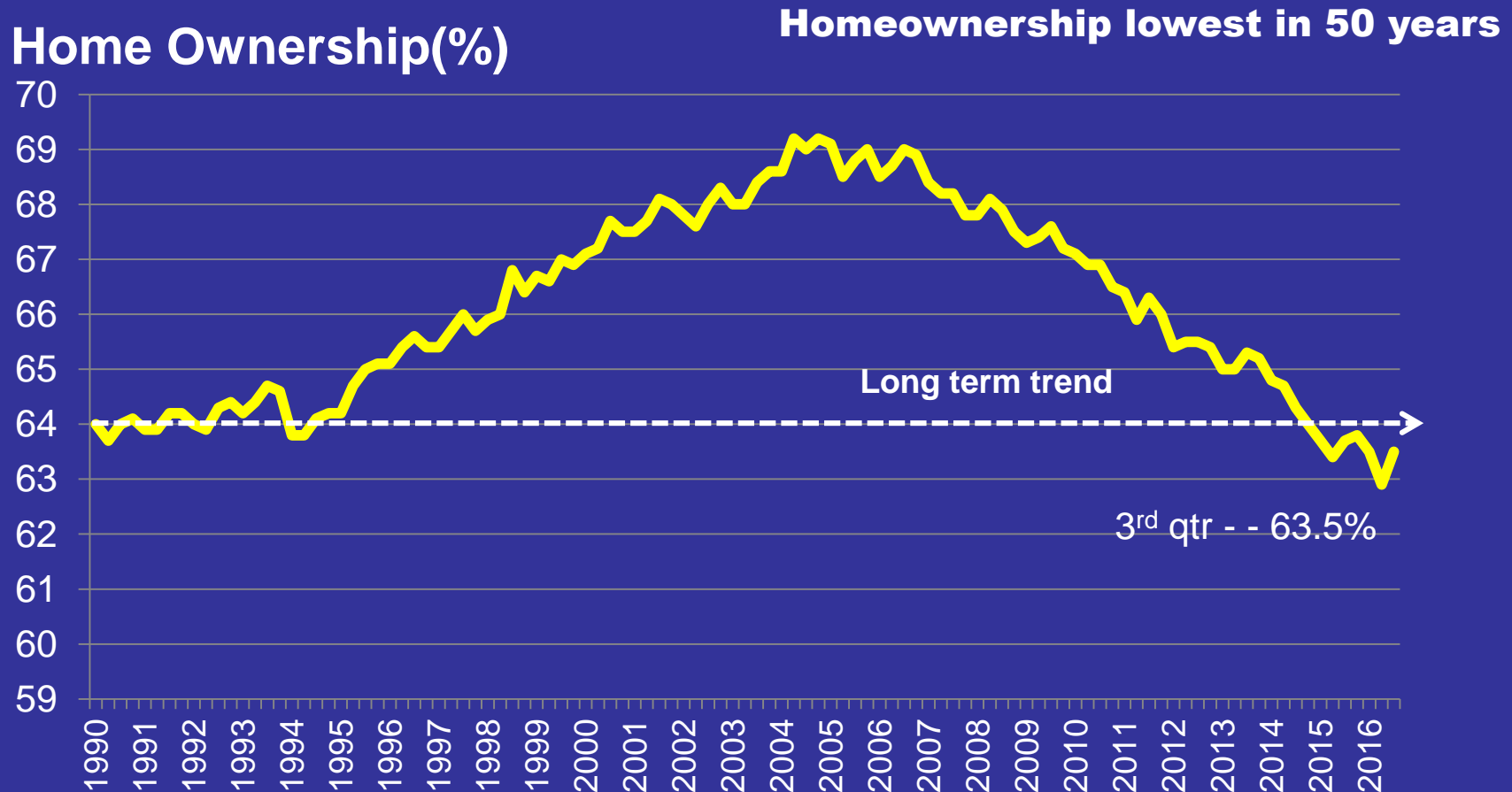
**Resale market continues to improve** - however, tight supply (which drives prices), currently at 3.6 months, remains a problem. Healthy market is about 6 months supply. **Median prices are up 4%, annual basis - 56<sup>th</sup> consecutive monthly increase.**

Single family (incl. condos), Monthly, Thousand units, SAAR



## Household formations and shift to renting - Falling homeownership rate for millennial's - use to be 43% - now it is 33% - young people are renting

**Recent study shows that people with college degree take 5 years to save enough for down payment for starter home (with student debt – 10 years), no college – 16 years** (<http://www.wsj.com/articles/homeownership-elusive-for-young-adults-without-college-degrees-1463909402>)



Source: Census (<https://www.census.gov/housing/hvs/data/q413ind.html>)



## Rental demand versus single family housing

Rental demand will continue to increase for years – a recent study by the Urban Institute suggests it may continue for another decade or two

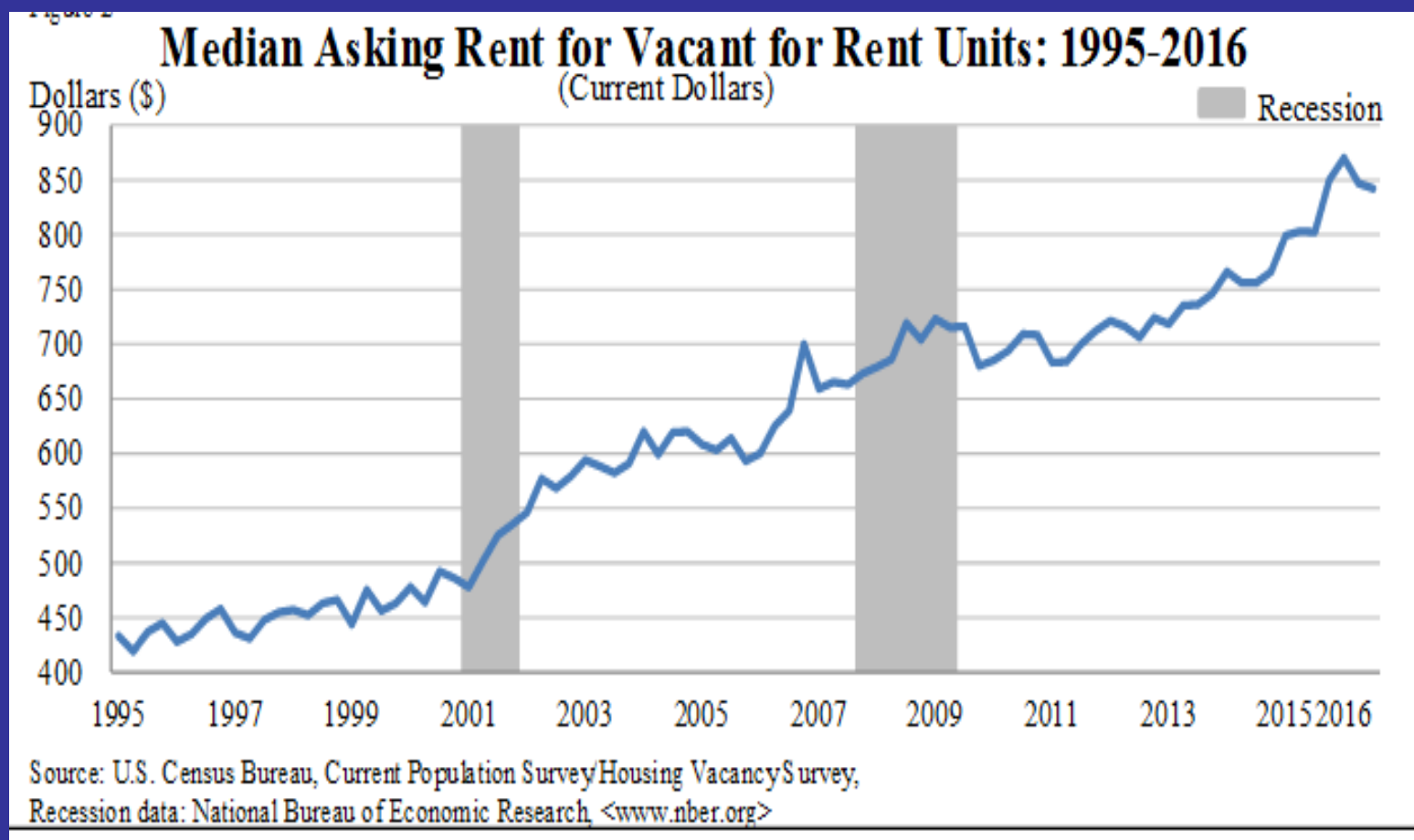
( <http://www.wsj.com/articles/new-housing-crisis-looms-as-fewer-renters-can-afford-to-own-1433698639> )

Why - - demographics; growing minority population; student debt; weak income growth; .... E.g., minorities (nonwhite) will make up 75% of net household growth over the next 10 years, and 85% during 2020- 2030. They are less likely to own homes (lower incomes is main reason) so home ownership continues to fall toward 60% by 2030. During this time, rental demand will increase dramatically. Although this is just one study, it provides food for thought. One potential question with the study, however, is other studies show that although immigrants, for example, rent initially, but, over time they purchase homes at a rate equal to or higher than native born Americans. Why – people come to the U.S. to Improve quality of life, and for most, this means homeownership. This suggests that the U.S. has to find solutions to immigration issues like “illegal immigrants,” while encouraging legal immigration. This country was founded by immigrants seeking a better life, and they are key to our future. **And, incomes for all Minorities has to improve if home ownership is to return to “good old days.”**

([http://www.engineeredwood.org/Data/sites/3/documents/EngWoodJournal/EWJ\\_Spring2010.pdf](http://www.engineeredwood.org/Data/sites/3/documents/EngWoodJournal/EWJ_Spring2010.pdf))

Anyway, this has potential implications for home ownership; single family construction; and demand for wood products – lots of variables and scenarios.

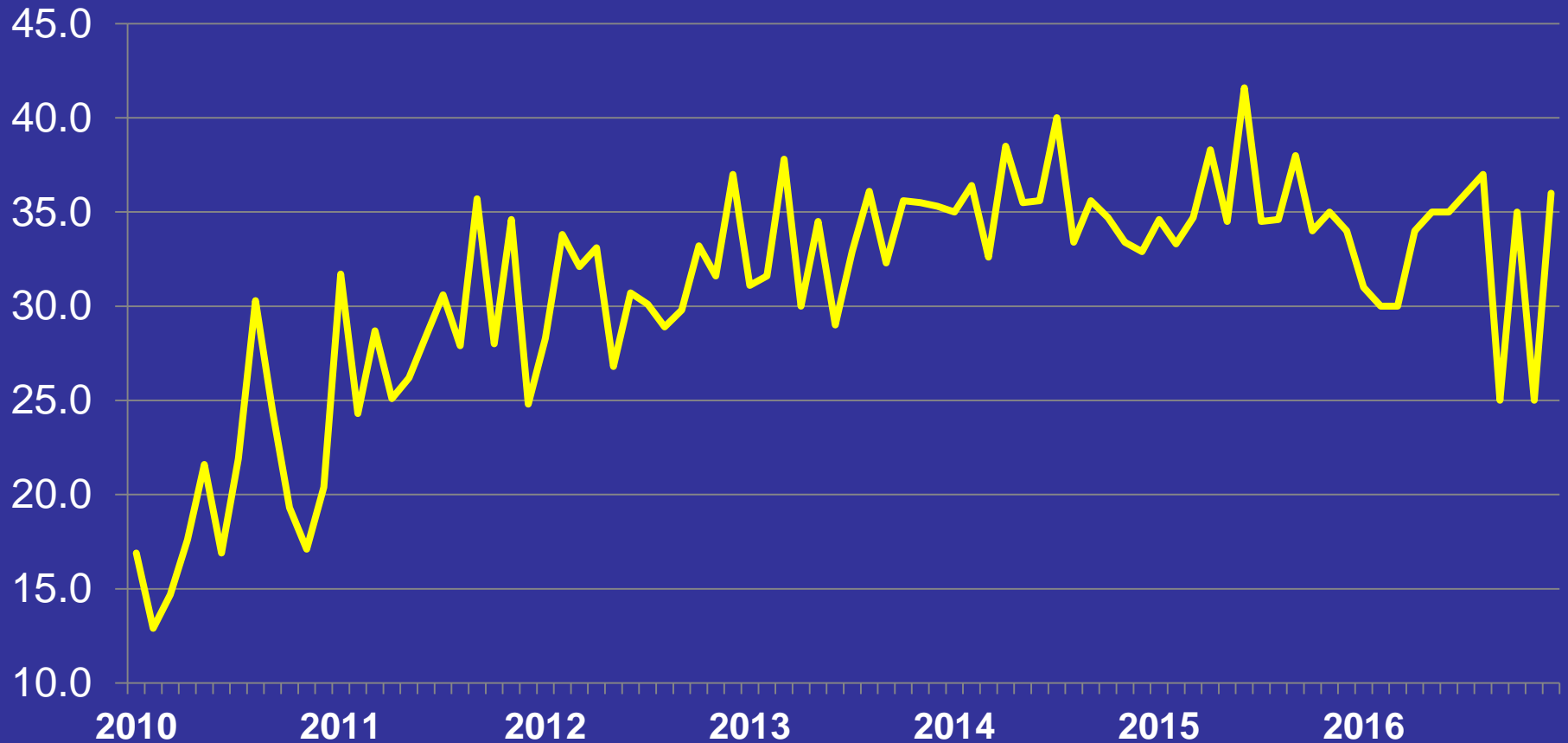
**Increasing rents are slowing housing starts - -  
more difficult for renters to save for down payment for house purchase**



**Multi family share of housing starts – upward trend expected to continue for Some time. Also, since the housing crash in 2008, **single family rentals** have now reached 15% of overall housing stock, up from 9% in 2005**

(<http://blogs.wsj.com/economics/2015/07/20/signs-of-overheating-in-the-single-family-rental-market/>)

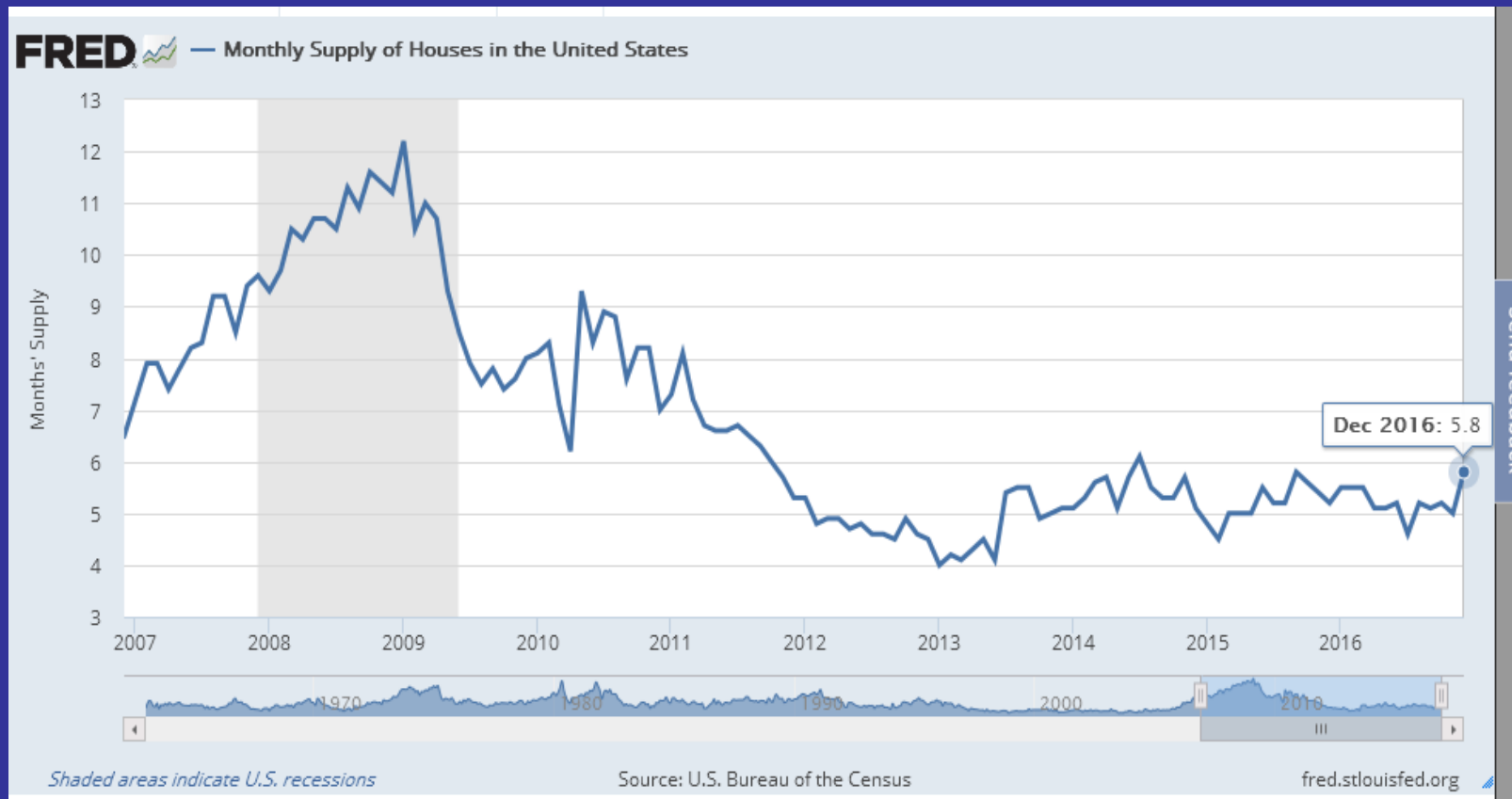
## Multi family starts (%)



Source: Census

## Low new home inventory drives prices higher and out of reach to most 1<sup>st</sup> time buyers

But, builders can't find enough carpenters, masons, electricians, etc. So construction costs keep escalating, exacerbating the inventory problem – also, land shortages in parts of the country drive costs higher!

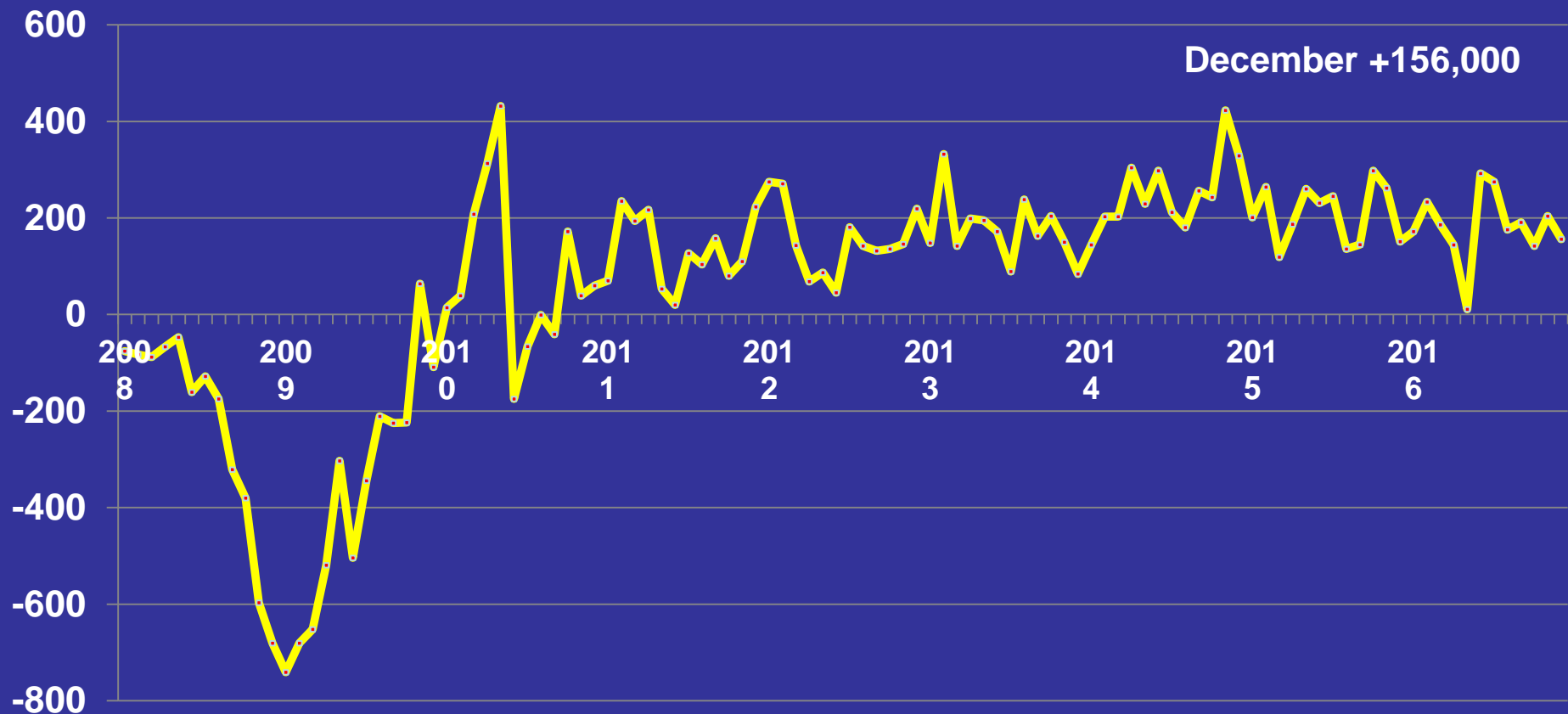


(<https://research.stlouisfed.org/fred2/series/MSACSR>)

**More News on the labor front**

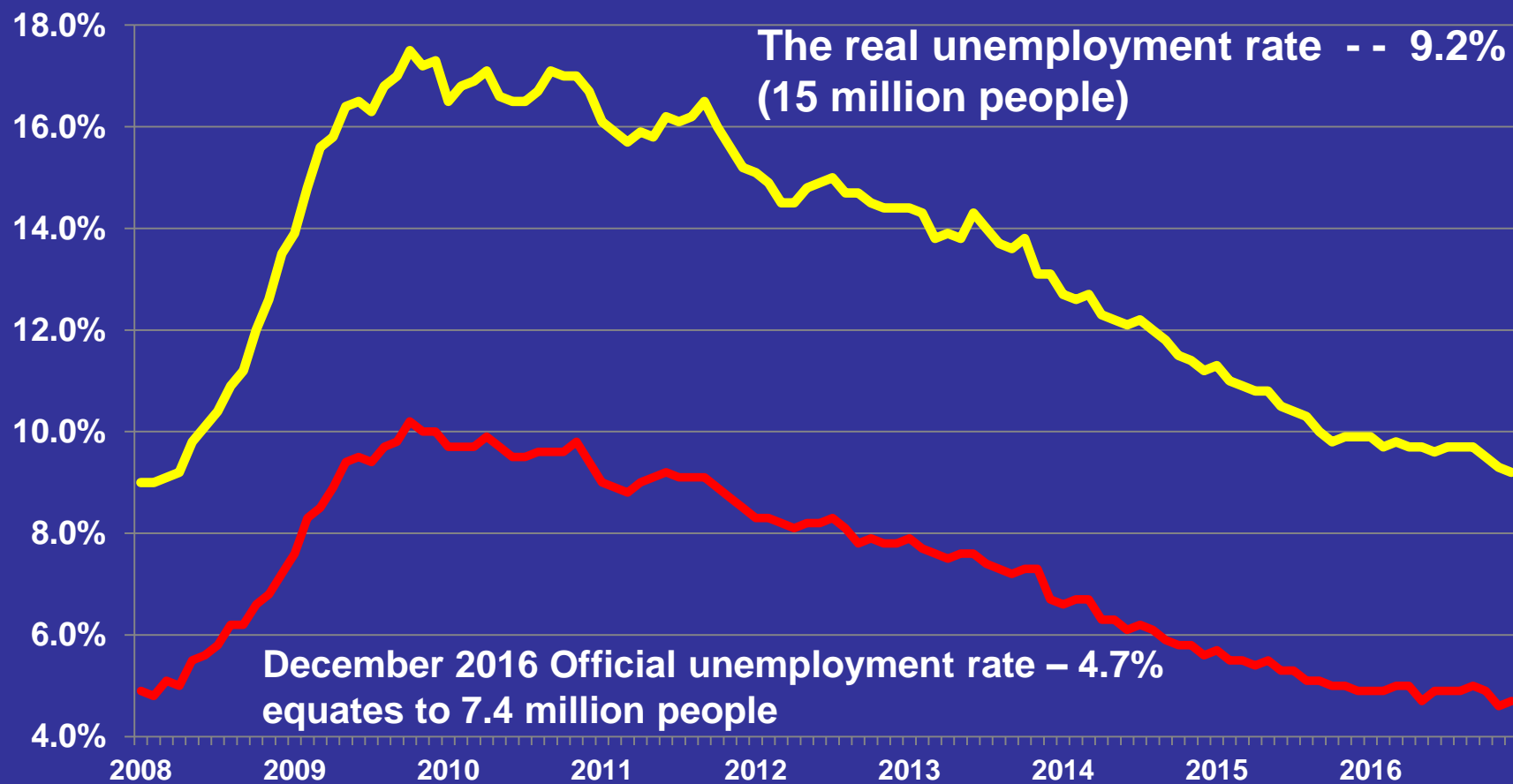
**Employment situation - our biggest problem – stuck below 200,000, and many of these jobs are part time with little or no benefits – not conducive to driving housing demand higher - need to encourage innovation and investment in future**

Net change in non farm payrolls – monthly, thousands



Source: U.S. BLS ([www.bls.gov](http://www.bls.gov))

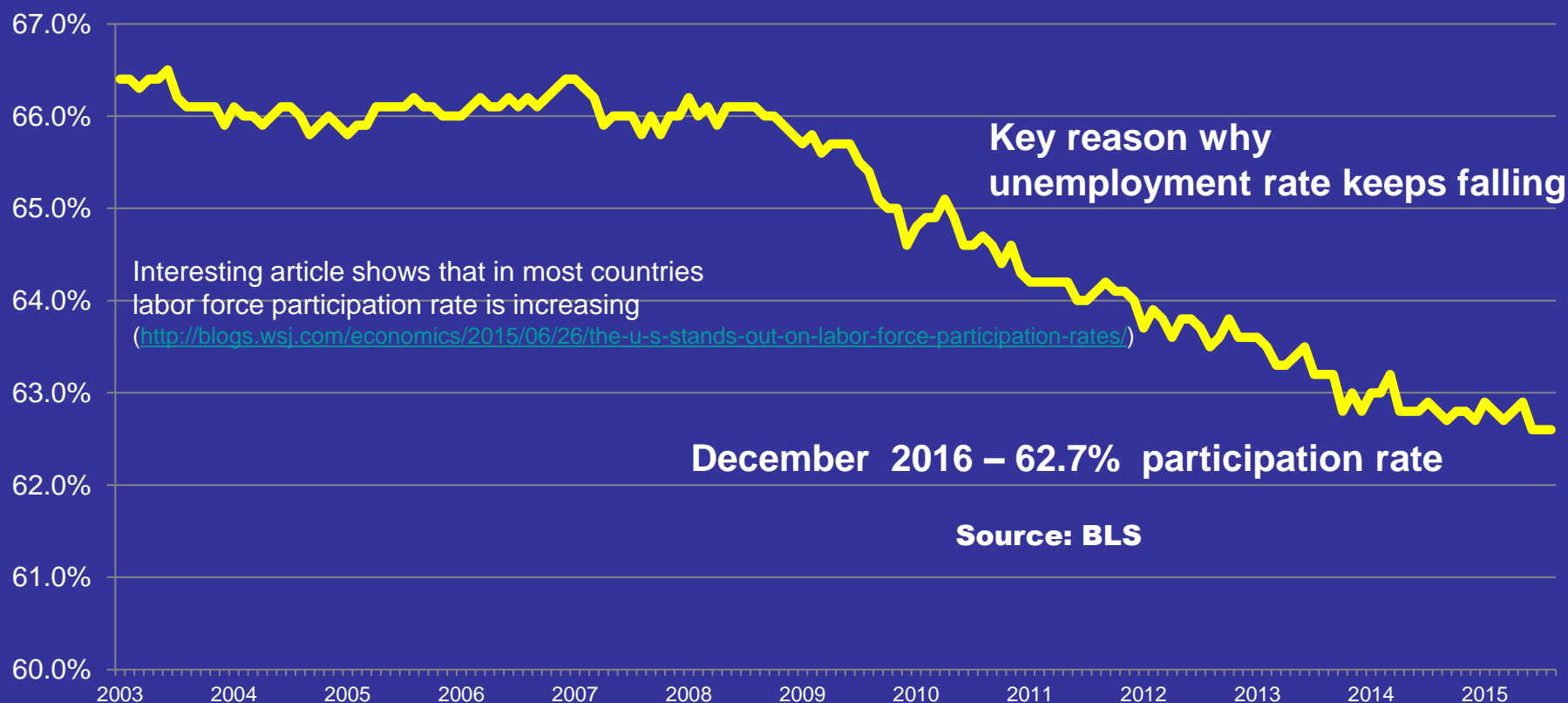
## Unemployment rate keeps coming down – but, nearly 7 million remain “underemployed” – working part time, but want full time jobs



**Labor force participation rate is shrinking – demographics is one reason.**  
**Another reason – bloated welfare system – 130 million people on some form of welfare (food stamps, long term disability, housing allowances, Medicaid, ...) - - we'll see skilled labor shortages increase over the next decade - we're already seeing construction related shortages with brick layers, masons, electricians, plumbers, etc.**

Excellent article (<http://finance.yahoo.com/news/should-i-go-to-a-trade-school-162413337.html#>)

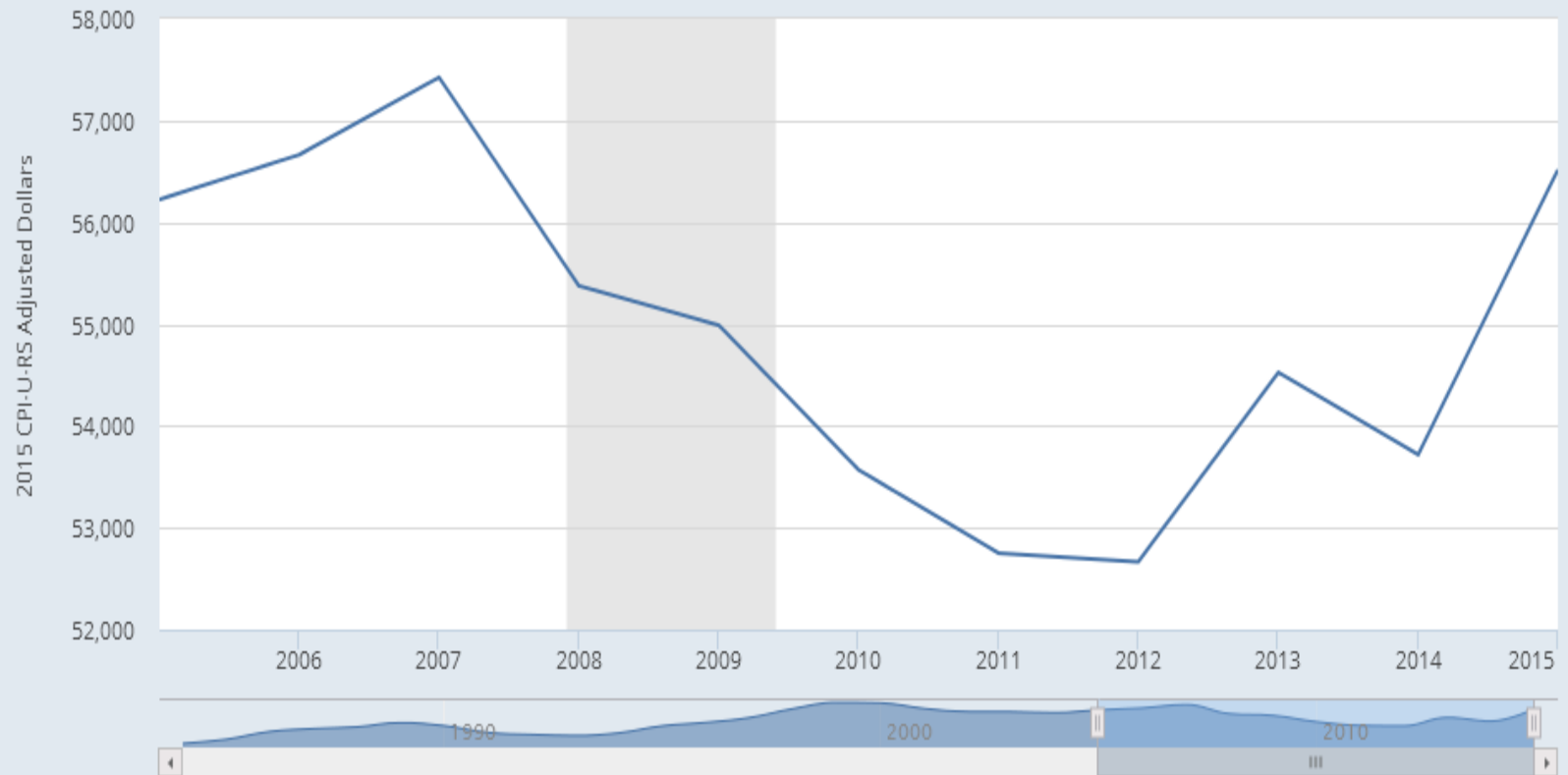
% of civilian adult population , that are working





**But, incomes are starting to improve – good news!**

**FRED** — Real Median Household Income in the United States



*Shaded areas indicate U.S. recessions*

Source: U.S. Bureau of the Census

fred.stlouisfed.org

(<https://fred.stlouisfed.org/series/MEHOINUSA672N>)

## **Some conclusions – housing continues to improve albeit very slowly and this will not change soon for the reasons listed below:**

- (1) Economy is improving (slowly) -- 2016 growth was 1.9% and 2017 is expected to be about the same.**
- (2) Housing market still not healthy - 1<sup>st</sup> time buyers (33% today) are below trend (45%) - household formations are improving, but more people will continue to rent**
- (3) Productivity growth is a major problem for U.S. economy – real GDP driven by population (number of workers) and real GDP/worker (productivity), During past 7 years, productivity has grown 1.7% annually whereas the average over previous 17 years was 2.4%.**
- (4) “QE” not working – bulk of “printed money” hoarded by the banks to shore up capital positions – not being loaned out to the economy - GDP languishes - we need a new and more effective approach to our competitiveness problems!**
- (5) The fed increased rates in December, finally. Low rates are not the solution to our weak economy. Innovation, investment, tax reform, is the solution, but that will be challenging with \$20 trillion (and counting) federal debt and 41% of the population on some form of welfare. Many business leaders have lost confidence in where the country is headed so they are not investing.**

# **Virginia Tech Disclaimer**

## **Disclaimer of Non-endorsement**

Reference herein to any specific commercial products, process, or service by trade name, trademark, manufacturer, or otherwise, does not constitute or imply its endorsement, recommendation, or favoring by Virginia Tech. The views and opinions of authors expressed herein do not necessarily state or reflect those of Virginia Tech, and shall not be used for advertising or product endorsement purposes.

## **Disclaimer of Liability**

With respect to documents sent out or made available from this server, neither Virginia Tech nor any of its employees, makes any warranty, expressed or implied, including the warranties of merchantability and fitness for a particular purpose, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.

## **Disclaimer for External Links**

The appearance of external hyperlinks does not constitute endorsement by Virginia Tech of the linked web sites, or the information, products or services contained therein. Unless otherwise specified, Virginia Tech does not exercise any editorial control over the information you may find at these locations. All links are provided with the intent of meeting the mission of Virginia Tech's web site. Please let us know about existing external links you believe are inappropriate and about specific additional external links you believe ought to be included.

## **Nondiscrimination Notice**

Virginia Tech prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the author. Virginia Tech is an equal opportunity provider and employer.