January 2016 Housing Commentary



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January 2016 Housing Scorecard

| ١ | | M/M | Y/Y |
|---|---|---------------|----------------|
| | Housing Starts | ∇ 3.8% | Δ 1.8% |
| | Single-Family Starts | ∇ 3.9% | Δ 3.5% |
| | Housing Permits | ∇ 0.2% | Δ 13.5% |
| | Housing Completions | Δ 2.0% | Δ 8.4% |
| | New Single-Family House Sales | ▽ 9.2% | ▽ 5.2% |
| | Existing House Sales ¹ | Δ 0.4% | Δ 11.0% |
| d | Private Residential Construction Spending | Δ 0.1% | Δ 7.7% |
| | Single-Family Construction Spending | ∇ 0.2% | Δ 6.6% |
| | | | |

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

Housing Data

| | January | December | Jan. 2015 |
|--|-----------|-----------|-----------|
| Total permits* | 1,202,000 | 1,204,000 | 1,059,000 |
| Single-family permits | 720,000 | 732,000 | 657,000 |
| Multi-family 2-4 unit permits | 40,000 | 35,000 | 27,000 |
| Multi-family ≥ 5 unit permits | 442,000 | 437,000 | 375,000 |
| | | | |
| Total starts | 1,099,000 | 1,143,000 | 1,080,000 |
| Single-family starts | 731,000 | 761,000 | 706,000 |
| Multi-family 2-4 unit starts** | 14,000 | 16,000 | 6000 |
| Multi-family ≥ 5 unit starts | 345,000 | 363,000 | 368,000 |
| | | | |
| Total completions | 1,057,000 | 1,036,000 | 957,000 |
| Single-family completions | 693,000 | 703,000 | 676,000 |
| Multi-family 2-4 unit completions** | 13,000 | 10,000 | 7,000 |
| Multi-family ≥ 5 unit completions | 351,000 | 323,000 | 242,000 |

^{*} All data are presented at a seasonally adjusted annual rate (SAAR).

Source: U.S. Department of Commerce-Construction: www.census.gov/construction/nrc/pdf/newresconst.pdf; 02/17/16

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

Housing Data

| | January | December | Jan. 2015 |
|---------------------------------------|-----------------|-----------------|-----------------|
| New single-family sales | 494,000 | 544,000 | 521,000 |
| Median price | \$278,800 | \$295,800 | \$292,000 |
| | | | |
| Existing sales ^a | 5,470,000 | 5,450,000 | 4,930,00 |
| Median price | \$213,800 | \$223,200 | \$197,600 |
| | | | |
| Private Residential Construction | \$433.2 billion | \$433.1 billion | \$402.2 billion |
| SF construction | \$230.1 billion | \$230.5 billion | \$221.8 billion |
| MF construction | \$59.8 billion | \$58.3 billion | \$45.8 billion |
| Improvement construction ^b | \$143.4 billion | \$144.4 billion | \$140.6 billion |

 $[^]a\,NAR^{\tiny{\circledR}}$

Sources:

NAR® www.realtor.org/topics/existing-home-sales; 02/23/16

U.S. Department of Commerce-Construction: www.census.gov/construction/nrs/pdf/newressales.pdf; 02/24/16

U.S. Department of Commerce-C30 Construction: www.census.gov/construction/c30/pdf/privsa.pdf; 03/01/16

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

Conclusions

December's housing data is a mixed bag – total starts down by 3.8% (m/m), single family homes down by 3.9%, and permits down by 0.2%. However, completions were up by 2.0% (m/m) and existing home sales were up by 0.4% from December's data. Multi family housing still strong with 34% of total and rents still increasing, thereby further strengthening the importance of multi family construction.

With the real unemployment rate in the U.S. at 10.3% (16 million individuals unemployed, stopped locking, or work part-time) and household income growth nonexistent or negative, it's hard to envision a scenario where the U.S. housing market returns to "normal" anytime soon. A strengthening Dollar and slowing economies in China, Europe, and in many other countries around the globe, numerous negative macro-factors endangering a robust housing recovery exist:

- 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; and
- 5) slowing world economy; and
- 6) global uncertainty

December 2015 EU Housing Scorecard

| Production in Construction ^A | EU 28 EU 18 | M/M ∇ 0.1% ^s ∇ 0.6% ^s | Y/Y ∇ 0.4% ^s Δ 1.4% ^s |
|--|-------------------------------------|---|--|
| | Germany France UK Spain | $egin{array}{cccc} abla & & & & & & & & & & & & & & & & & & &$ | ∇ 2.8% ∇ 4.4% Δ 1.5%^p Δ 5.3%^p |
| Building permits (m² floor) ^A | EU 28 EU 18 Germany France UK Spain | ∇ 1.7% ⁽¹¹⁾ ∇ 0.3% ⁽¹¹⁾ ∇ 3.9% ^s ∇ 18.8 ^{s(11)} | Δ 14.9 $^{\text{s(11)}}$ Δ 8.6 $^{\text{(11)}}$ Δ 5.3 $^{\text{e}}$ Δ 14.3 $^{\text{e(11)}}$ |

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; 03/13/16)

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

Housing comments – January 2016

- January starts totals were down 3.8% (to 1.099 million, annual rate) SF at 731,000, down 3.9% (SAAR) MF still 34% of total
- Multi family still the driver rental prices still increasing single family sales remain relatively weak and this has big impact on wood product prices.
- Economic issues slowing world economy(China GDP slowest in past 8 years). China slowdown plus currency devaluation will drive commodity prices lower, and rekindle deflation concerns around the world.
- Increasing geopolitical risk and continued domestic/Washington gridlock causes uncertainty which leads to less investment which leads to slower
 productivity growth, and ultimately slower GDP growth and lower standard of
 living!!!!!
- Job market is improving, albeit slowly, and wage gains remain weak, and, the real unemployment rate remains high at 10.3%. This equates to about 16 million people who are either unemployed, stopped looking, or working part time because they can't find full time jobs. This "slack" in the job market will keep wage gains modest for some time.
- Income growth in U.S. remains pathetic latest Census report shows real incomes fell again in 2014. This suggests to me that housing will remain sub par for some time many 1st time buyers just can't enter the market.
- World GDP growth outlook is shaky at best main problem today is the slowdown in China which has been the major economic engine over the past 8 years. European growth is expected to be relatively weak while back here in USA, growth will probably remain below par (~ 2%) for some time.

The Fed raised interest rates – finally - in December. And, they said Further increases will probably be gradual in 2016 and beyond. However, with Current problems with falling oil prices and world stock markets, I expect the FED will delay any further rate hikes for several months at least. Plus, there Is no sign of inflation, anywhere, except equity markets.

Here are some thoughts:

The dollar will continue to strengthen, and commodity Prices will fall further as most are priced in US\$. World demand is relatively Weak with problems in China expected to worsen. Europe remains weak, And the commodity currency countries (e.g., Canada, Australia, ..) will Face even more economic headwinds. As far as housing goes, modestly higher Rates should not hurt housing too much. As we have discussed many times before, income and job growth is the key to any substantial housing recovery. On that score, income growth is non existent (real \$) for past 25 years, and The job market still has problems. 30% of jobs created in past 8 years Have been part time with few if any benefits. Furthermore, credit remains Tough for many potential 1st time buyers. Big problem today is lack of Confidence by our business leaders – e.g., spending on stock buybacks has Increased 200% since 2009 - i.e., they are not investing for the future!!!

The global economy is losing steam (WSJ Jan 20, J. Hilsenrath) – monetary Policy in USA, Europe, ... has "reached its limits". Debt is out of control here in USA and elsewhere. We've had credit driven growth (via central banks) for The past 6 - 7 years with questionable success. Now, we have huge debts that Will eventually have to be paid off.

Long term issues like aging populations and slower productivity growth mean weak GDP growth and lower standard of living in many parts of the world. Solutions include tax reform, infrastructure investment, R&D, ..

We desperately need innovation and more risk taking to create products and Services desired by the marketplace. As mentioned previously, companies are Not investing – they are buying back stock and merging – good strategies in Short term, but basically admitting long term outlook is cloudy with limited Opportunity for growth.

Going to be tough for housing to improve much in today's Economic environment! That means wood product Prices will remain subdued.

A few comments re: recent terrorism

The current administration has misjudged ISIS/ISIL/whatever, from the beginning. If this is the "JV team", I would hate to see the "Varsity team"!!!!! Latest attacks in Paris, Africa, California, Pakistan, clearly demonstrate That the world's response is not working. They are not being "contained" as The current administration suggests. Whether we like it or not, the world needs A "world policeman" and the only country capable of filling that role is USA.

I'm tired of war as are most Americans, but now is not the time to become an Isolationist. If we continue down that path, terrorism will only increase.

We need leadership today more than ever. A strong leader gives people Confidence in the future – we don't have that today in America (and other Parts of the world for that matter). Confidence is a must if we are going to invest in our future – without confidence, we drift as a country and As a people.

What has this got to do with housing you ask? If we continue the current course, World economic growth will continue to weaken, U.S. growth will barely reach 2%, And U.S. housing will remain below trend. And, wood prices will continue to Languish.

Main problem with U.S. economy (and world) is weak demand and low interest rates are not the answer-

Fed doesn't know what to do – current crop of politicians Disappointing – hopefully, someone will emerge from the Political debates with credible ideas and the ability to Communicate a strategy for addressing serious problems Facing our country. Otherwise, we're in for extended period of Weak Economic growth, and that means weak housing, job creation, lower standard of living, and sad sack wood prices.

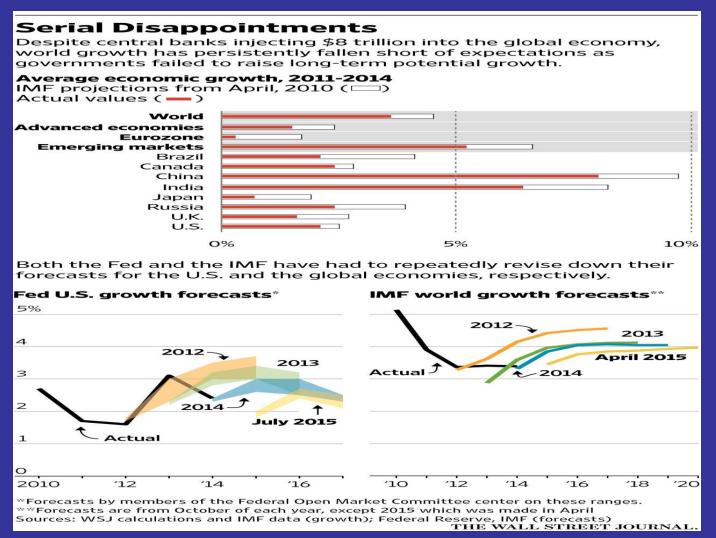
Productivity is a problem for U.S. economy – and jobs miss match - there are jobs out there, but many people lack The necessary skill set. Solution - - education and infrastructure Investment. Difficult to solve there problems due to student Debt issues and government debt approaching 18 trillion \$. Many analysts expect U.S. economy to remain weak with GDP averaging about 2% over next several years.

"Cheap money alone can't fix the world's economy" – India's Central Bank

Governor – "economies need to be more innovative, productive, and competitive".

My opinion – gutsy leadership missing here in USA, Europe, Canada, and rest of

Developed world!!!!



Future world GDP growth – studies in wsj and elsewhere suggest
That demographic shifts will slow growth – main reason is slower population growth
Rates in many parts of the world – USA; Europe; Russia; China;

Bottom line – slower world demand growth and this can't be fixed very easily unless We get more creative with immigration reform. That will be difficult with increasing Terrorism concerns. And, we need to get more creative with "supply side" issues. E.g., Innovation and investment to create new products – this requires tax reform, less regulation, less government,

See Greg Ip, WSJ "demographic destiny" WSJ 2050

(http://www.wsj.com/articles/how-demographics-rule-the-global-economy-1448203724?mod=ST1

Rental demand versus single family housing ---

Rental demand will continue to Increase for some time – 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"

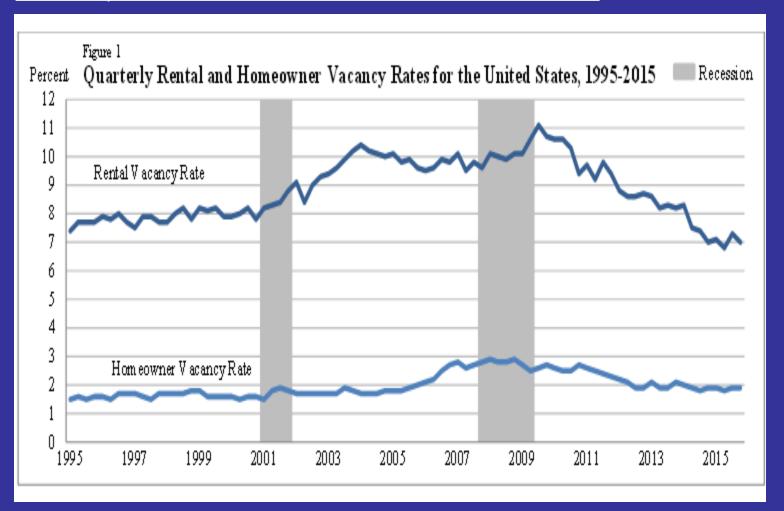
(http://www.engineeredwood.org/Data/sites/3/documents/EngWoodJournal/EWJ_Spring2010.pdf)

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

Rental vacancy rates lowest in 20 years

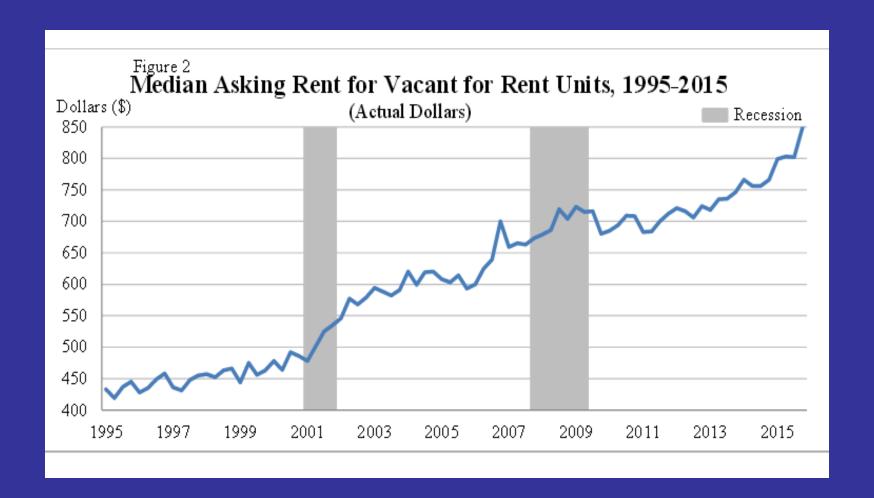
Falling rental vacancy rates will drive rental prices higher

And this will drive multi family construction – Economics 101 – *if I were a Builder, I would focus on rental construction*



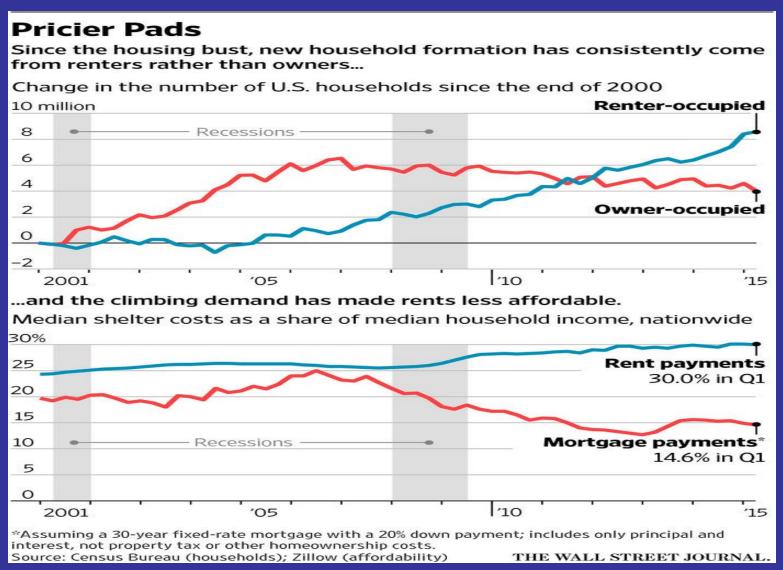
Increasing rents will slow housing starts - -

makes it more difficult for renters to save for down payment for house purchase

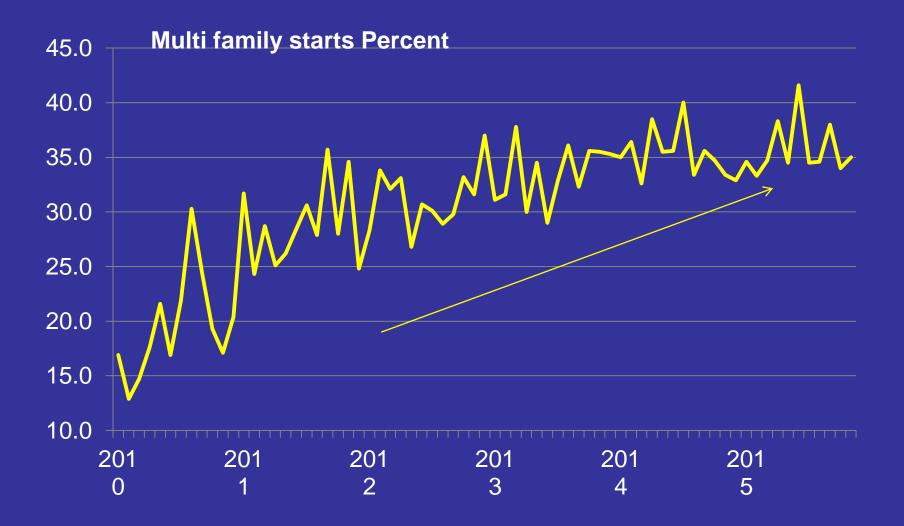


Source: Census: (http://www.census.gov/housing/hvs/files/qtr115/currenthvspress.pdf)

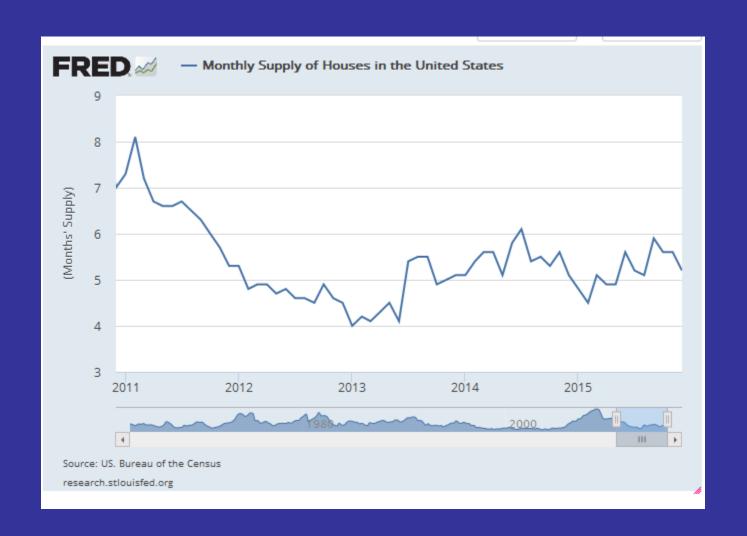
Household formations are up, but most are renting, and, in the past decade, Rent payments exceeded mortgage payments – but, most can't get a mortgage Due to poor credit or can't save enough for a down payment – vicious circle



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 13% 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/)

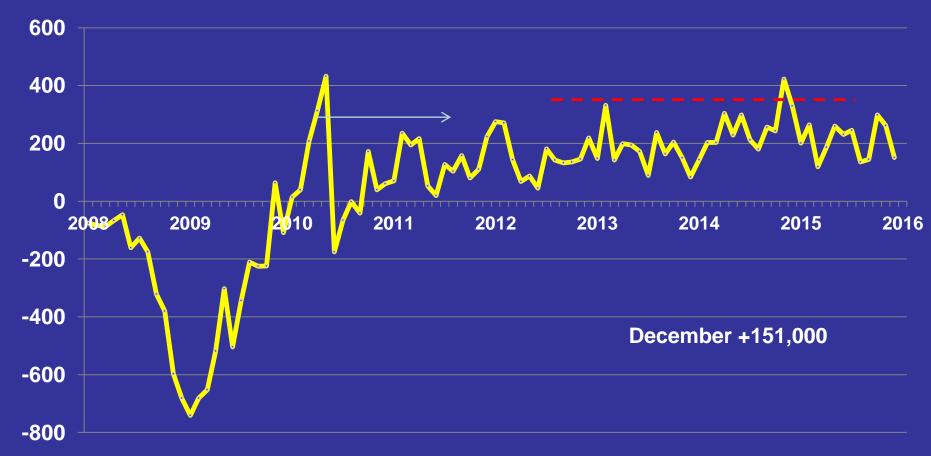


Low new home inventory drives prices higher And out of reach to most 1st time buyers

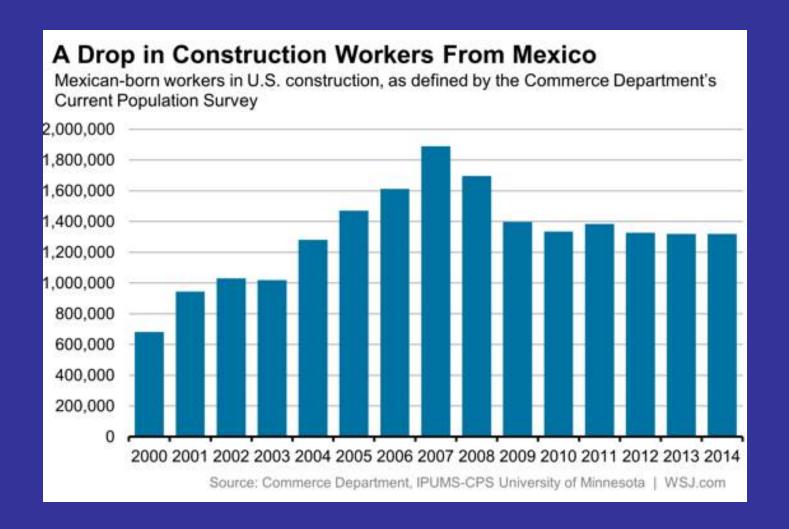


Employment situation - our biggest problem – stuck near 200,000, and many of these jobs are part time with little or no benefits – not conducive to Driving housing demand higher

Net change in non farm payrolls – monthly, thousands



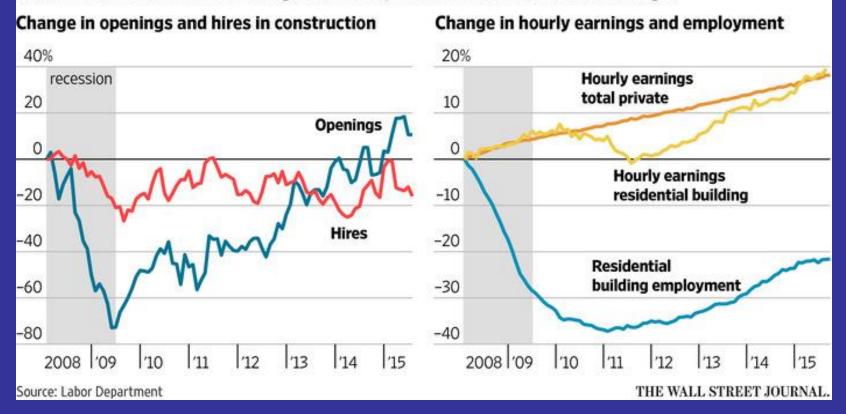
Another problem (like we need more) for housing is labor shortages - - - Fewer immigrants from Mexico, plus aging demographics with native born Americans suggest that construction costs will increase driving prices higher And slowing home construction (http://finance.yahoo.com/news/surprising-problem-holding-back-housing-170900724.html)



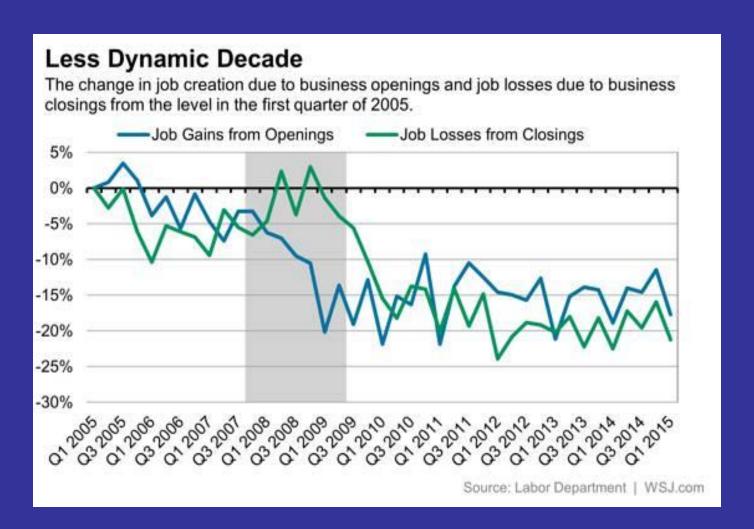
Nearly 700,000 fewer construction workers today compared With 2007 – will mean construction delays and higher costs

Help Wanted

Home builders have been plagued by a skills mismatch, with openings outpacing hires in recent years, while construction workers' earnings have slowly climbed back to the overall average.

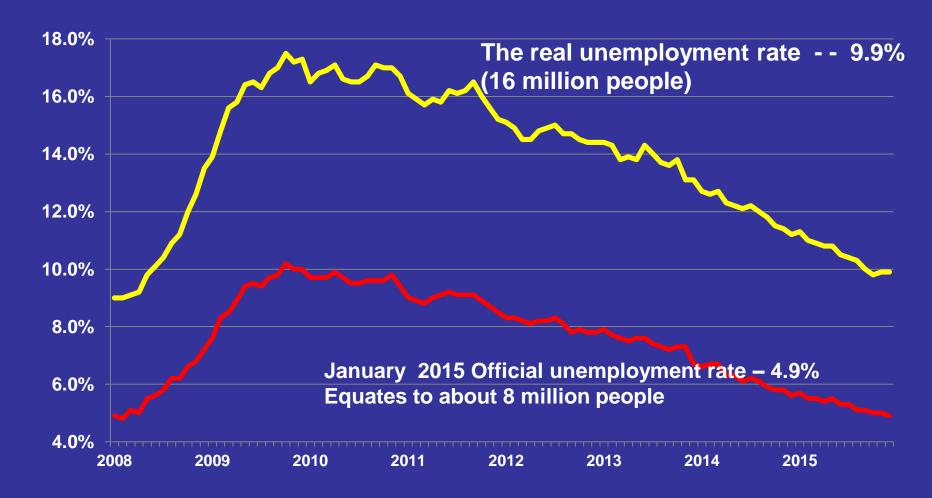


Another reason why job picture not so good – job creation by businesses Is down significantly in past 7 – 8 years. Less innovation and risk taking is part of problem. My opinion – this is due to uncertainty and lack of confiden in the future direction of the country/economy. – and, too much regulation Again – lack of leadership from White House and Congress



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

**There are about 16 million people either unemployed, underemployed, or stopped Looking – Key reason why wage increases are stagnant!!!

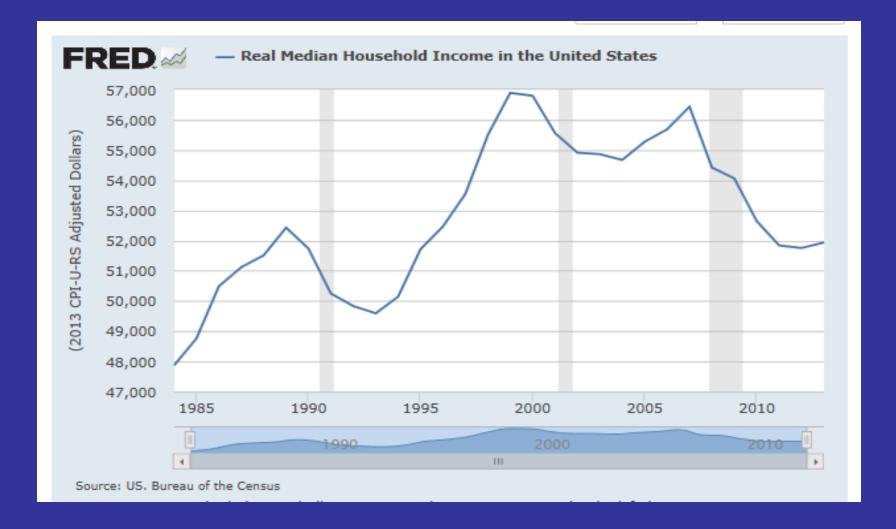


A look at real incomes over the past twenty years ---

real incomes have been shrinking for the past 20 years

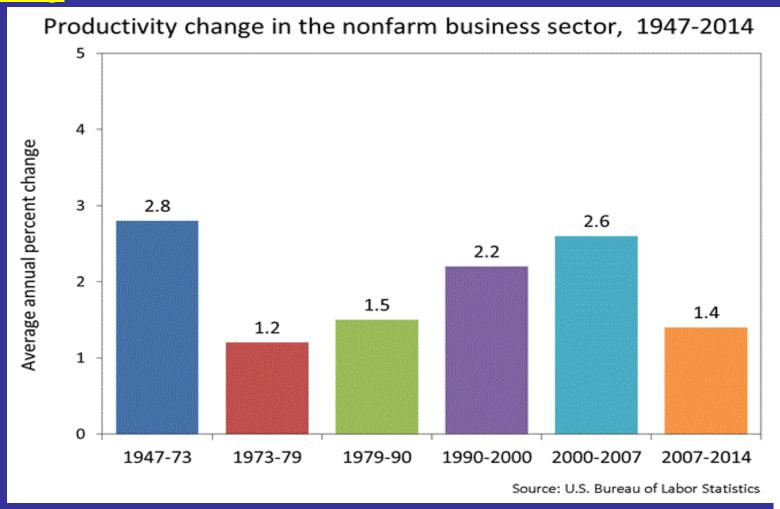
And the reason is probably tied to productivity – here is good article

On the subject (http://www.wsj.com/articles/politicians-pay-heed-to-productivity-problem-1437582206?cb=logged0.19101819254186214)



We need to invest more to become more competitive, create better paying jobs, this is best way to grow GDP

GDP derives from number of workers plus productivity (real GDP/worker) – (http://marketrealist.com/2015/01/2-factors-drive-real-gdp-growth/) -- with lower productivity , higher employment won't generate as much growth in GDP – this is why improving employment doesn't give us strong GDP growth . https://marketrealist.com/2015/01/2-factors-drive-real-gdp-growth/) -- with lower productivity , higher employment won't generate as much growth in GDP – this is why improving employment doesn't give us strong growth . https://marketrealist.com/2015/01/2-factors-drive-real-gdp-growth/) -- with lower productivity , higher employment won't generate as much growth in GDP – this is why improving employment doesn't give us strong growth . https://marketrealist.com/2015/01/2-factors-drive-real-gdp-growth/) -- with lower productivity , higher employment won't generate as much growth in GDP – this is why improving employment doesn't give us strong growth in GDP – this is why improving employment doesn't give us strong growth in GDP – this is why improving employment doesn't give us strong growth in GDP – this is why improving employment doesn't give us strong growth in GDP – this is why improving employment doesn't give us strong growth in GDP – this is why improving employment doesn't give us strong growth in GDP – this is why improving employment doesn't give us strong growth in GDP – this is why improving employment doesn't give us strong growth in GDP – this is why improving employment doesn't give us strong growth in GDP – this is why improving employment doesn't give us strong growth in GDP – this is why improving employment doesn't give us strong growth in GDP – this is why improving employment doesn't gi



GDP growth comes from more workers and increasing productivity – simple math!!! Workforce participation (and population growth rate) is falling in USA. Now, capital expenditures Are falling. Less investment/capital spending leads to lower productivity. Bottom line – Slower growth over next 5 – 10 years??? And less demand for housing!!! (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?)



Investment is down because demand just isn't there – maybe We're not creating enough new products people want to buy. Again – innovation, risk taking is key

Business Investment Cools

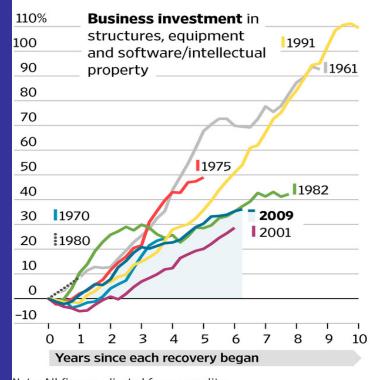
Pent-up demand fueled businesses' capital expenditures early in the expansion, but that spending has leveled off, creating an obstacle to present and future growth.

110%

100

90

Change since each recovery began, adjusted for inflation



80 70 60 1961 50 40 1982 30 1991 1970 1975 2001 10 1980 2009 0 -1010 Years since each recovery began

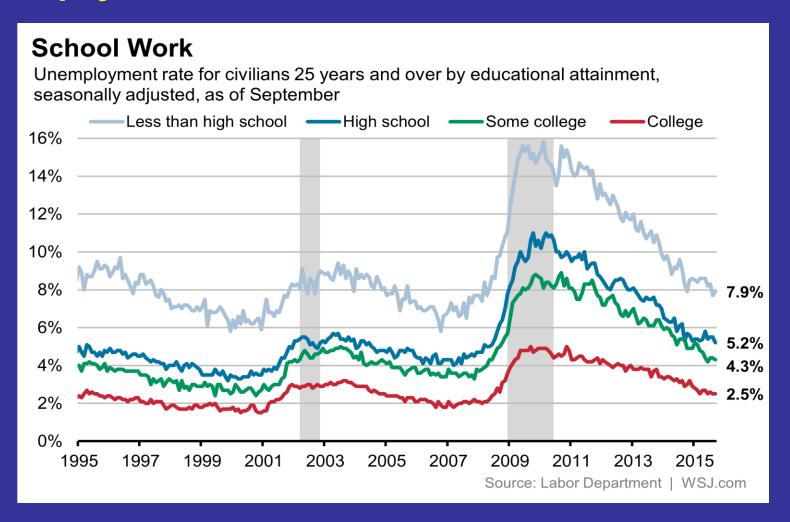
Note: All figures adjusted for seasonality Source: Commerce Department

Andrew Van Dam and Eric Morath/THE WALL STREET JOURNAL.

Consumer

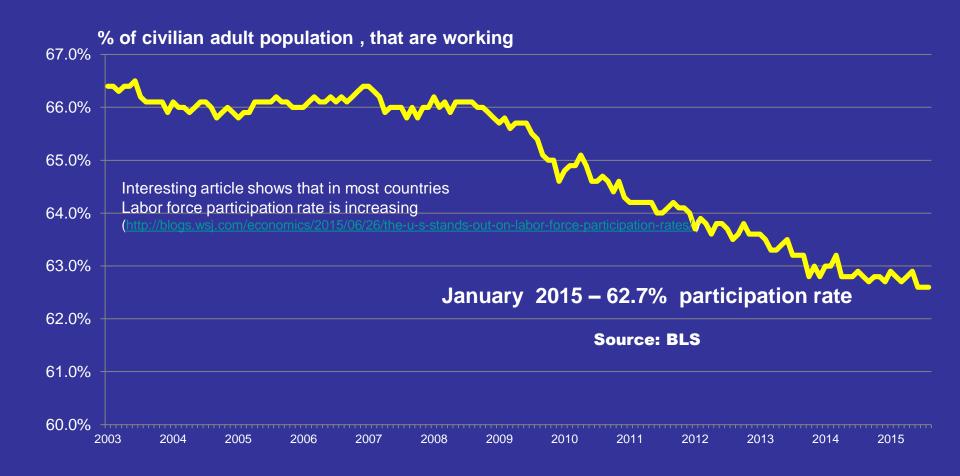
spending

One way to improve productivity and incomes --education improves your chances of staying out of the unemployment line

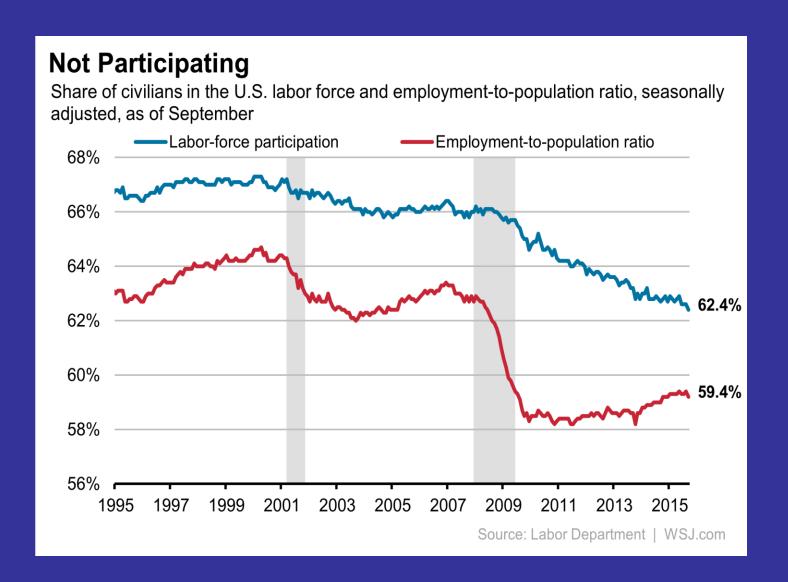


Labor force participation rate is shrinking – demographics is probably the main reason – we'll see skilled labor shortages increase over the next decade - we're already seeing construction related shortages with brick layers, masons, electricians, plumbers, etc. One solution – Revamp our education system (a 4 year degree isn't for everyone – 2 year Community colleges, vocational schools, are better fit for many, and they are much cheaper). Excellent article

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



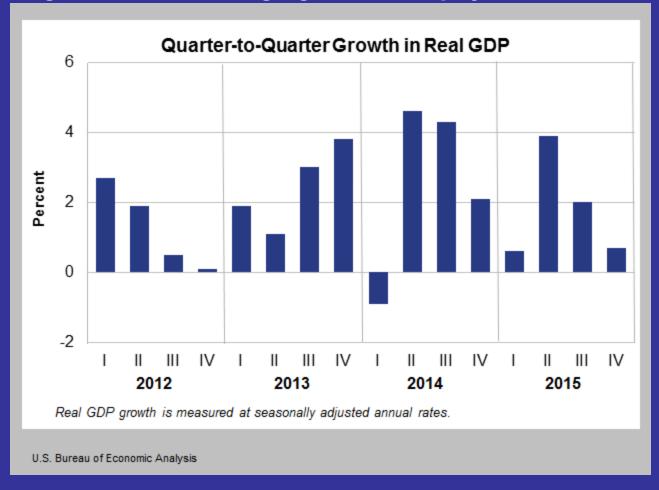
Aging population is part of the problem, but weak economy and mismatch Between skills of job seekers and available jobs isn't helping



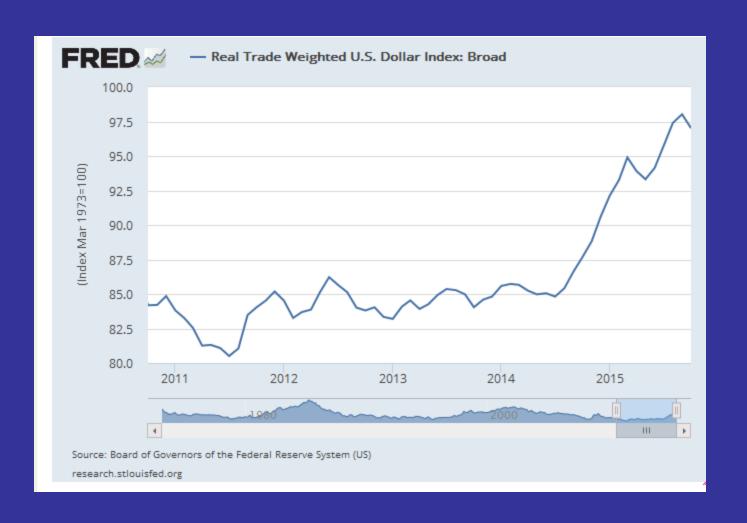
4th Qtr Economic growth a dismal 0.7%

2015/2016 GDP expected to remain about 2% - not enough to drive housing

- (1) Slowing world economy (weaker China and European 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"



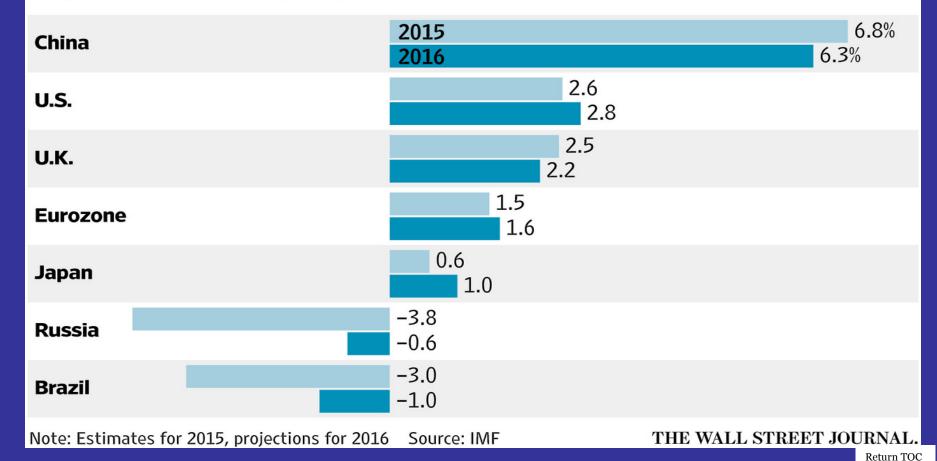
Strengthening dollar another headwind for U.S. economy Keeps inflation down, but hurts exports from key manufacturing sector Most countries are deflating their currencies to prop up weak economies Further strengthening US dollar



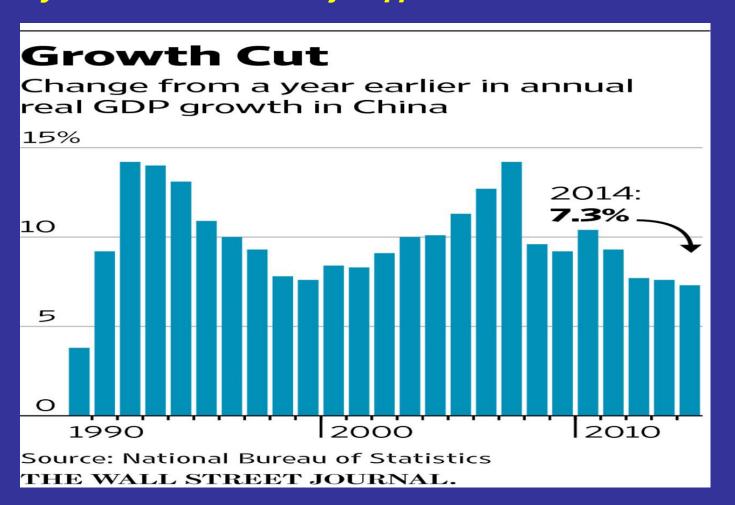
Slowing world economy – even these forecasts are a bit Optimistic (my opinion) – e.g., USA GDP will be 2% at best And China's GDP will probably be about 6% or less.

Different Worlds

As major global economies grapple with a variety of challenges, growth estimates run the gamut. **Annual change in gross domestic product:**



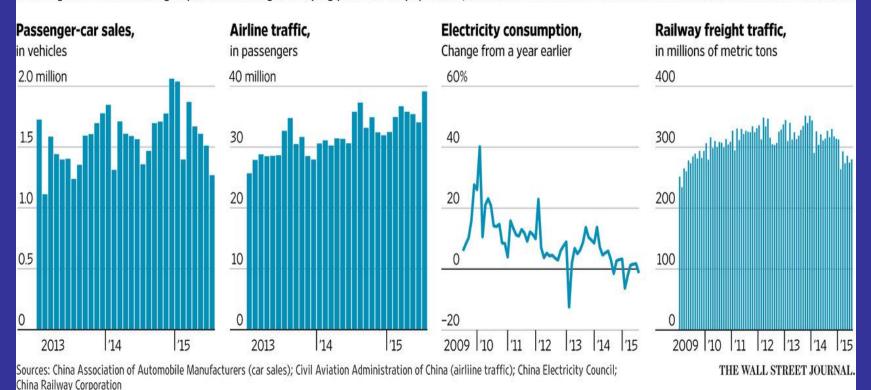
China's growth is slowing, – this is key to world economy (China Is 2nd largest economy) and even more important for Commodity prices – The recent Yuan devaluation is an indication that the Chinese government Is concerned. For past 5 – 6 years, China accounted fro the bulk of world GDP Growth so any slowdown will have major ripple effects



China's economy shifting from infrastructure investments and exports (smokestack industries) To domestic demand driven economy (services and consumers) – this will take time – in the transition, GDP growth will probably slow significantly thus impacting world GDP growth

Looking to the Consumer

China's government sees big hopes in unlocking the buying power of its population, and some indicators of consumerism have bucked economic weakness.



Recent Housing statistics

Starts are inching forward – I'm concerned that the Feds will 'grease the wheels" again – e.g., Fannie and Freddie, FHA --- lowering down payment requirements and premiums on mortgage insurance, I guess they forgot what happened in 2008???? The FED has kept interest rates near zero for 8 years, but housing remains lethargic. Low interest rates won't fix housing!

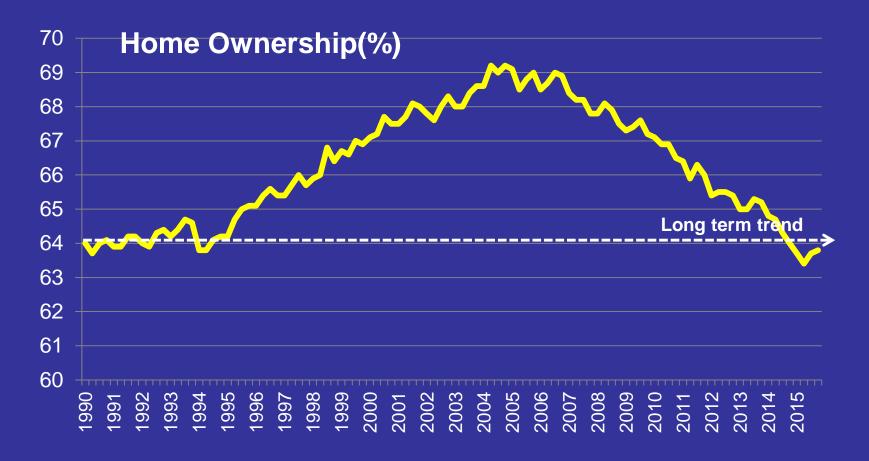


Source: Census (http://www.census.gov/const/www/newresconstindex.html)

Impact of weak household formations and shift to renting --

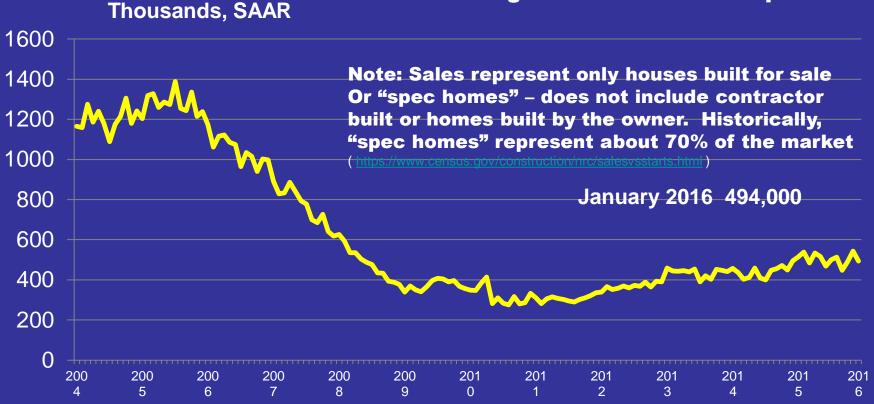
homeownership rates have been falling for the past ten years – when the economy gets back to normal, Will people return to to single family or will renting remain in favor with many? There will be impacts on wood products demand Rate for millennial use to be 43% - now it is 35% - more young people are renting

Good article with some reasons why ownership is falling and why it will continue to fall for some time (http://finance.yahoo.com/news/why-americans-waiting-longer-ever-070132848.html)



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

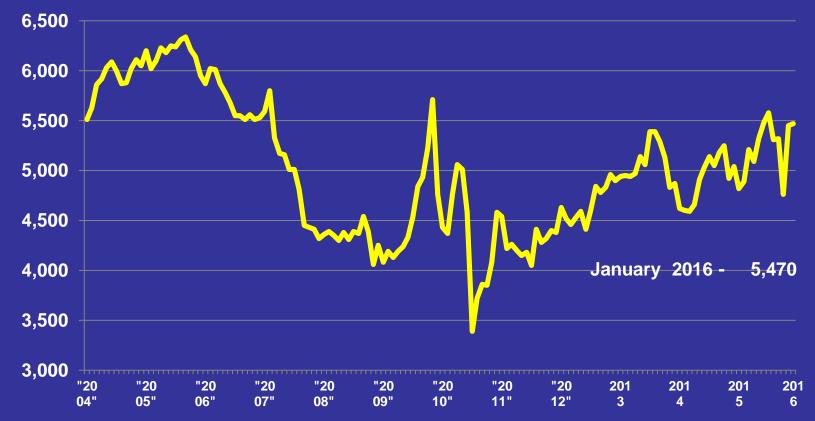
Treading water- down 5.2% versus January 2015
Disappointing considering we're 8
Years "recovering" from the 2008 collapse



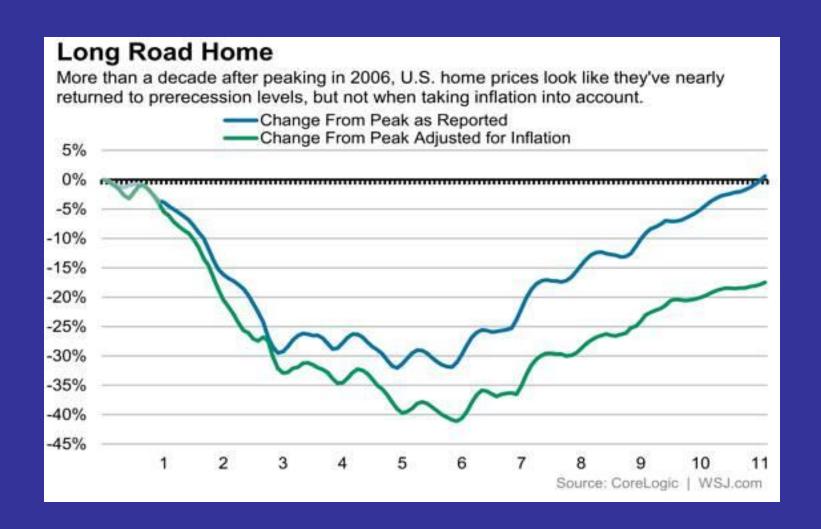
Source: Census (http://www.census.gov/const/www/newressalesindex.html)

Resale market continues to improve, but still heavy to cash sales (20%) with 1st time buyers still below trend, but improving (traditionally they represent about 40 – 45% of market, but today they are at 33%). Another problem today is tight Supply (which drives prices), currently at 4 months. Healthy market is about 6 months supply. Median prices are up 8.3%, annual basis – driven by weak supply and Not demand

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



Home prices, adjusted for inflation, still down 20% from 2006 peak



Some conclusions - housing continues to improve albeit slowly

- (1) Economy will continue to improve slowly -- 2016 growth expected to be about 2.0% and slowdown in China will have serious ripple effects on world economy
- (2) Still not a healthy housing market 1st time buyers (34% today) are below trend (45%) and household formations are off 50% from trend.
- (4) Political discourse will continue to slow a truly strong economic and housing recovery too much uncertainty re: Affordable Care Act/Obama care; immigration reform; direction of economy.
- (5) Productivity is a problem for U.S. economy real GDP driven by population (number of workers) and real GDP/worker or productivity. During past 7 years, productivity has grown 1.7% annually whereas the average over previous 17 years was 2.4%. The recent drop is probably due to in large part to lack of investment by private sector. That won't change much until they get more confident about the

future

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of the country. Political discord is a real drag on the economy whether you want to believe it or not – it creates uncertainty, and clouds decision making. Plus, these

- difficult times geopolitically. Uncertainty means less investment and slower GDP growth
- (6) World economy is slowing China, particularly, but Europe also experiencing problems as well as the commodity focused economies like Australia and Canada. Demographics are a major reason as world fertility rates continue to fall in most of the developed world.
 - Immigration reform needed, but this will be difficult with terrorism concerns.
- (7) The fed raised interest rates but most analysts expect any increases to be gradual. Minor impact on housing, but, then, housing doesn't need more headwighted the laterator of the state of the state of the laterator of the state of th

Longer term:

- (1) Makeup of U.S. economy is changing and this is impacting spending patterns and housing choices. The job market is undergoing long term structural changes. Automation is reducing job prospects for the middle class while creating jobs for the highly skilled and less skilled sectors. End result is stagnating family incomes that could translate to lower total housing demand with more emphasis on multi family/rental demand. Doesn't bode well for wood product demand and prices.
- (2) Education is more important today than ever before don't forget two year programs; community Colleges; apprenticeships;... 4 year/University degree not always best option
- (4) Currency devaluations are the preferred solution to "low inflation" concerns. Central banks in Europe and Japan are following the U.S. with quantitative easing/printing money, in order to spur demand by weakening their currencies. Good article in WSJ suggesting that the "low inflation world" is really a symptom of too much capacity relative to demand, and the solution isn't currency devaluation. Better solution may be developing technology to produce products that fulfill market place demands not being met by existing products (http://www.wsj.com/articles/global-glut-challenges-policy-makers-1429867807?mod=rss_markets_main)
- (5) Eventually, Central banks will have to raise rates and nobody knows how the various economies will respond. We've never had so much liquidity in the system it causes various types of bubbles (assets like houses, stocks, etc.), and a misallocation of resources. Interesting times ahead.
- (6) Rental housing demand is expected to remain relatively strong for some time into the future demographics; economy; debt/credit issues; ... will constrain single family demand

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