



19 May 2015

SENT TO LSU AGCENTER/LOUISIANA FOREST PRODUCTS DEVELOPMENT CENTER - FOREST SECTOR / FORESTY PRODUCTS INTEREST GROUP

Attached, please find the monthly housing report based on March's data.

The housing report is a free service of Virginia Tech and is intended to help you gauge future business activity. All past housing reports are archived at: <u>http://woodproducts.sbio.vt.edu/housing-report/</u>

Urs and Al

Urs Buehlmann Virginia Tech Brooks Forest Products Center Mail Code 0503 1650 Research Center Drive Blacksburg, VA 24061 USA phone: 540.231.9759 fax: 540.231.8868 e-mail: <u>buehlmann@gmail.com</u> skype: ubuehlmann

Richard P. Vlosky, Ph.D. Director, Louisiana Forest Products Development Center Crosby Land & Resources Endowed Professor of Forest Sector Business Development Room 227, School of Renewable Natural Resources Louisiana State University, Baton Rouge, LA 70803 Phone (office): (225) 578-4527; Fax: (225) 578-4251; Mobile Phone: (225) 223-1931 Web Site: www.LFPDC.lsu.edu

Vice-President, Forest Products Society





LSUAgCenter.com



March 2015 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: Housing Scorecard Slide 4: New Housing Starts Slide 5: Housing Permits and Completions New and Existing House Sales Slide 6: Slide 8: **Construction Spending** Slide 9: Conclusions Slide 10: **European Construction Markets** Slide 11-42: Additional Comments&Data Slide 43: Disclaimer

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

To sign up for the report please email <u>buehlmann@gmail.com</u>

March 2015 Housing Scorecard

	M/M	Y/Y
Housing Starts ^A	Δ 2.0%	∇ 2.5%
Single-Family Starts ^A	Δ 4.4%	∇ 2.7%
Housing Permits ^A	∇ 5.7%	Δ 2.9%
Housing Completions ^A	∇ 3.9%	∇ 5.8%
New Single-Family House Sales ^A	∇ 11.4%	∆ 19.4%
Existing House Sales ^B	Δ 6.1%	Δ 10.4%
Private Residential Construction Spending ^A	▼ 1.6%	∇ 2.6%
Single-Family Construction Spending ^A	▼ 1.8%	Δ 7.8%

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

New Housing Starts

	Total Starts*	Single- Family Starts	Multi-Family 2-4 unit Starts	Multi-Family 5 or more unit Starts	
March	926,000	618,000	21,000	287,000	
February	908,000	592,000	7,000	309,000	
2014	950,000	635,000	14,000	301,000	
M/M change	2.0%	4.4%	200.0%	-7.1%	
Y/Y change	-2.5%	-2.7%	50.0%	-4.7%	1

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

New Housing Permits and Completions

	Total Permits [*]	Single-Family Permits	Multi-Family 2-4 unit Permits	Multi-Family 5 or more unit Permits
March	1,039,000	636,000	25,000	378,000
February	1,102,000	623,000	29,000	450,000
2014	1,010,000	611,000	27,000	372,000
M/M change	-5.7%	2.1%	-13.8%	-16.0%
Y/Y change	2.9%	4.1%	-7.4%	1.6%
	Total Completions	Single-Family * Completions	Multi-Family 2-4 unit Completions	Multi-Family 5 or more uni Completions
March	823,000	602,000	10,000	211,000
February	856,000	597,000	19,000	240,000
2014	874,000	614,000	12,000	248,000
M/M change	-3.9%	0.8%	-47.4%	-12.1%
wi/ wi change				

Return TOC

New and Existing House Sales

	New Single-Family Sales*	Median Price	Month's Supply	Existing House Sales ^{B*}	Median Price ^B	Month's Supply ^B
March	481,000	277,400	5.3	5,190,000	\$212,100	4.6
February	543,000	281,600	4.6	4,890,000	\$202,600	4.5
2014	403,000	282,300	5.7	4,590,000	\$198,500	5.2
M/M change	-11.4%	-1.5%	15.2%	6.1%	4.7%	-2.1%
Y/Y change	19.4%	-1.7%	-7.0%	13.1%	6.9%	-11.5%

* All sales data are SAAR

Source: U.S. Department of Commerce-Construction: www.census.gov/construction/nrs/pdf/newressales.pdf; ^B NAR[®] www.realtor.org/topics/existing-home-sales; 4/22/15

Existing House Sales

National Association of Realtors (NAR®)^B March 2015 sales data: 5.190 million houses sold (SAAR) Distressed house sales: 10% of sales – (7% foreclosures and 3% short-sales); 11% in February and 14% in March 2014. All-cash sales: decreased to 24%; 33% in March 2014. Investors are still purchasing a considerable portion of "all cash" sale houses -14% in March 2015, 14% in February 2014 and 17% in March 2014. 70% of investors paid cash in March. First-time buyers: 30% (29% in February 2014) and were 30% in March 2014

March 2015 Construction Spending

March 2015 Private Construction: \$348.952 billion (SAAR)

-1.6% less than the revised February estimate of \$354.612 billion (SAAR) -2.6% less than the March 2014 estimate of \$358.145 billion (SAAR)

> March SF construction: \$200.763 billion (SAAR) -1.8% less than February: \$204.379 billion (SAAR) 7.8% greater than March 2014: \$186.245 billion (SAAR)

> March MF construction: \$49.189 billion (SAAR) -2.1% more than February: \$50.234 billion (SAAR) 23.4% greater than March 2014: \$39.965 billion (SAAR)

March Improvement^C construction: \$104.786 billion (SAAR) -0.99% less than February: \$105.838 billion (SAAR) -20.6% less than March 2014: \$132.035 billion (SAAR)

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

Source: U.S. Department of Commerce-C30 Construction: www.census.gov/construction/c30/pdf/privsa.pdf

Conclusions

March housing data was mixed – similar to the months since the 2008 recession ended. The best performers were SF starts and existing house sales. However, SF starts declined year-over-year. Taking a huge hit (or miss) was new single-family house sales; which declined precipitously. For most data reported, we must remind ourselves we are well below historical averages in most of these categories.

Housing, obviously, reacts to the overall economy; when the economy improves, we should expect to see most housing sectors improve as well. As written in previous months, the near-term outlook on the U.S. housing market remains unchanged – there are potentially several negative macro-factors or headwinds at this point in time for a robust housing recovery (based on historical long-term averages).

Some of the potentially negative macro-factors include:

- 1) lack-luster household formation (though improved in the final quarter of 2014),
- 2) a constrained quantity of well-paying jobs being created,
- 3) a sluggish economy,
- 4) declining real median annual household incomes,
- 5) strict home loan lending standards, and
- 6) global uncertainty

February 2015 EU Housing Scorecard

		M/M	Y/Y
Production in Construction ^A	EU 28	∇ 1.2% ^s	∇ 3.7% ^s
	EU 18	∇ 1.8% ^s	∇ 2.4% ^s
	Germany France UK Spain	$egin{array}{cccc} abla & .$	 ∇ 8.1% ∇ 7.9% ∇ 2.0%^p ∆ 0.8%^p
Building permits (m ² floor) ^A	EU 28 EU 18	 Δ 4.3% ⁽⁰¹⁾	$\Delta 1.7^{(01)}$
	Germany	Δ 0.1% ^s	▼ 8.2%
	France	Δ 7.6% ^s	∇ 8.9% ^e
	UK		
	Spain	$\Delta 39.2^{s(01)}$	Δ 91.3 ⁽⁰¹⁾

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), ^A see http://ec.europa.eu/eurostat/web/short-term-business-statistics/overview/sts-in-brief ^e estimate, ^s Eurostat estimate, ^p provisional, -- no data available, ⁽⁰¹⁾ January data

Housing comments for March 2015 data

- March starts increased 2% (to 0.926million, annual rate) from previous month, with single family coming in at 0.618 million (SAAR) a modest improvement from previous month, but 2.5% below last year.
- Multi family continues to be the driver (34% of total) rental prices still increasing – single family sales remain weak and this has a large impact on wood product prices. This trend will probably continue for some time.
- Economic issues slowing world economy (China GDP slowest in past 6 years); sub par domestic job market; sluggish income growth; continuing tight domestic credit environment. One bit of good news is that Europe seems to be seeing slight improvement, thanks to the weak Euro.
- Main problem (short term) continues to be the job market. Unemployment rate keeps coming down, but good jobs remain scarce, and many people are working two or more jobs to make ends meet. Longer term – makeup of U.S. economy is changing and this is impacting spending patterns and housing choices.
- In addition, there are growing concerns that 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. E.g., higher paying jobs with benefits in the goods producing sector employs 13.9% of the workforce - used to be 25 – 30% in the 1970's. Lower paying service sector now 71% - used to be 50%.

Housing inventory – short supply is driving up prices!

One more issue impacting housing – with starts remaining weak, we will see a continuing shortage of inventory, and that means higher prices. Many builders just don't see enough traffic supporting an increase in starts. In the resale market, many people can't list their homes due to foreclosure issues, job problems, credit issues, etc. Another headwind the market doesn't need!

Current inventory is 4.6 months for new homes and 4.7 months for existing homes – six months supply is considered a 'healthy market"

Another thorny issue -- Currency devaluations seem to be the preferred solution to deflationary concerns in many countries today – central banks in Europe and Japan are following the U.S. with quantitative easing/printing money to spur demand by weakening their currencies. Articles in WSJ suggest that the "low inflation world" is really a symptom of too much capacity relative to demand, and the solution isn't currency devaluation.

"Musical chairs and currency devaluations -

Today, we're seeing various countries (Europe, Japan, and the latest, Canada) lowering interest rates to weaken their currencies to spur export and general economic growth. Consequently, the U.S. dollar strengthens, and when we raise rates, the dollar will strengthen even more (it gained 15% against our trading partners in 2014). There is a growing concern for some countries (Europe, Japan) with outright deflation (i.e., 1930's) and others with disinflation - slower price increases - such as U.S., Canada, China for their economic prospects. Falling energy prices are a factor. This creates problems with debtor countries (all of the above except China) as it's much easier to repay debt in an inflationary environment. Problem is that all of us can't deflate our currencies! So, we get a 'race to the bottom', and play "musical chairs" hoping we're not left "standing when the music stops." In the past, the U.S. could play the role of the world's economic engine – today, we're just not economically strong enough. E.g., our debt situation is growing more serious as public debt To GDP ratio exceeds 70% - as interest rates rise, debt servicing costs become a serious burden forcing tough spending decisions. Here is what I hate about interest on national debt – you're paying for something you already consumed. If the debt was incurred by investing in our future (e.g., infrastructure, education, highways, technology, innovation), you will get a positive return on that investment via higher productivity, job creation, and higher standards of living. But, most of our debt was from overspending, too much consumption. Foreign countries, some that don't necessarily like us, are more than happy to loan us money to buy things we can't afford but buy anyway.

"Low inflation world" is symptom of weak demand as noted by recent WSJ article – this could be a structural /long term problem one solution --- technology that spawns new industries that fulfill demands not currently met by existing products – weak demand is the problem

The problem is primarily due to excess capacity relative to demand - WSJ

The answer to weak growth isn't currency devaluation – it's growing/creating demand for products, services, etc. That means investment, product development – this requires research, infrastructure spending, tax reform, better education. This is a structural problem that will take years/decades to remedy. Unfavorable demographics in Europe, Japan, and the USA are going to make this more challenging. The world needs new industries based on new products – this creates demand and jobs. "Necessity is the mother of invention," e.g., find the needs that aren't being met by existing products.

E.g., new technology and innovations create new products/services desired by consumers and demand for such products will create jobs, income, ... E.g., Apple products do this all the time. Other examples include new medical devices/products; computing innovations; 3D printing. Prior examples include the jet engine; cotton gin; Ford model T; MMM's numerous innovations; the telephone; ---- each invention spawned new industries creating jobs to produce desired products – new technology could help us solve the demand problem, but we need to do the research to develop new technology, and we need a supportive government and tax system that can help create an environment that encourages innovation, risk taking, etc.

Low inflation on this scale is a symptom of weak demand – printing money won't solve the problem – this is akin to "pushing on a string" – solution is new products, new industries – this requires R&D; infrastructure investment; better education;... and, a government supporting a business environment that encourages risk taking, innovation, (tax and regulatory reform would be good start)



(http://www.wsi.com/articles/for-the-fed-its-a-cold-world-out-there-heard-on-the-street-1426015361?KEYWORDS=a+cold+world+out+there+for+the+fed)

Another article in WSJ - Ben Bernanke versus Larry Summers

Tries to explain why economic growth has been so slow in recent years. Discussion between Ben Bernanke and Larry Summers centers around real interest rates (nominal rate minus inflation) – when they are low for an extended time (4-5 years), it indicates something is wrong with the economy, i.e., when demand for money is low, low interest rates result. Summers argues that it is the result of weak investment because companies see little need to expand plant capacities because demand is lacking, or existing capacities are sufficient to produce what is demanded today. Similar to previous argument that inflation is low because we have excess supply/not enough demand. Bernanke counters that low rates are due to a combination of Cyclical Factors recent financial mess, international issues such as global savings glut as China and other countries with large trade surpluses saved more than they invested. They exported the rest to the U.S. (i.e., they bought our Treasury bills, etc.). Bernanke argues that "The shortfall in U.S. growth wasn't due to a shortage of investments, but due to imports displacing domestic production". He also suggests that a slower growing labor force and slow productivity growth is keeping interest rates low.

Both explanations are plausible with lots of supporting evidence. The beauty of being an economist is that sometimes (many times) we don't know the real answer until much later when even more evidence/data is available. However, if Bernanke and other central bankers are wrong, then we are delaying the implementation of a better strategy to correct today's weak demand problem. For what it is worth, I'm in Larry Summers camp – weak growth is the result of chronic weak demand. We have too much capacity to produce the products demanded – what we need is new technology to produce/develop new products.

How do we develop new products? Research and fostering a business environment That encourages risk taking and entrepreneurship (tax reform). Seventy percent of our economy Is consumption – we're not saving enough and we're not investing enough. Many of our roads and bridges are a mess; our K-12 education system needs deep reforms; our public debt is about 70% of our GDP (total debt which includes what the government owes itself exceeds 100%) – this means huge interest servicing Costs even with low interest rates;

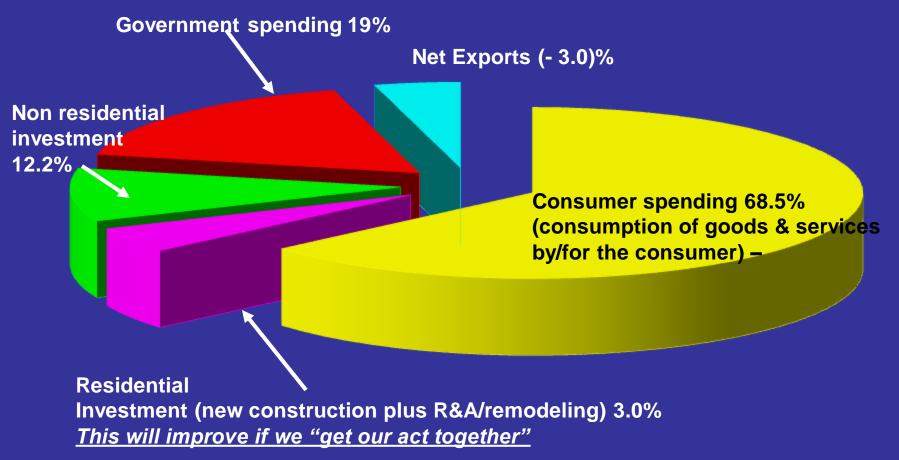
Also, we need to address the "two tiered economy" issue.

What makes a country great is having equal access to opportunities for everybody.

That kind of environment encourages stronger productivity, Risk taking; entrepreneurship; stable society; strong work ethic; which results in strong economic growth! And this leads to a strong and healthy housing market, and rising wood product prices! **U.S. Economy 2013**

Consumer spending GDP as % of Economy = 68.5%

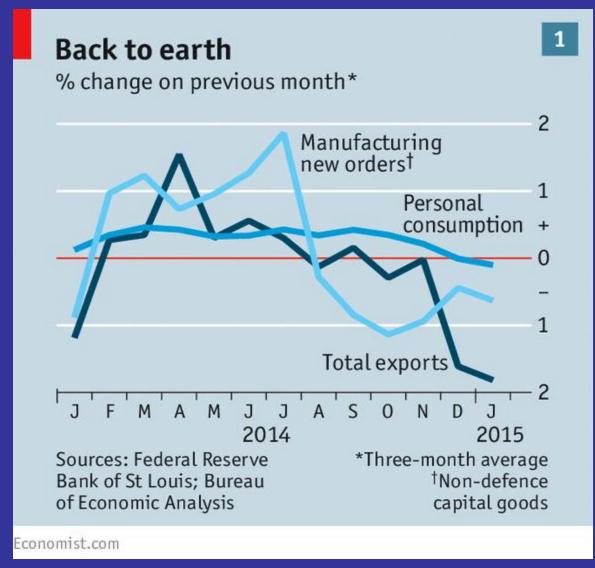
China consumes <40%; Russia < 50%; Europe <60%



Source: BEA (http://bea.gov/national/nipaweb)

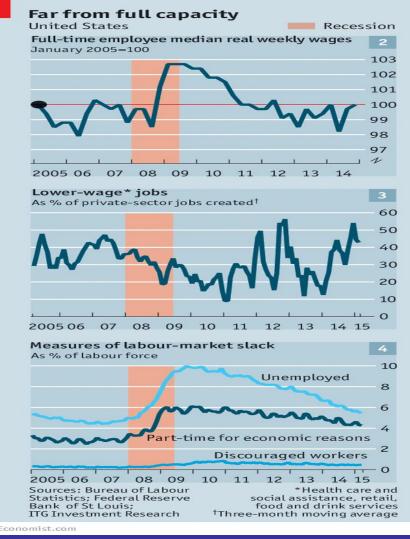
Return TOC

Another article in The Economist explaining why wage growth/good jobs is key to economic recovery – consumer spending is key.



Return TOC

More slides from "The Economist" article – US economy is driven by consumer spending which is 70% of the economy – that's the key to any recovery!



Source: (http://www.economist.com/news/finance-and-economics/21648022-unless-wages-grow-americas-economic-blip-could-become-trend-careful-now)

Two tiered economy (e.g., wealthy households advancing while middle income and lower income people struggle) – where the U.S. is headed, and what it could mean for consumption patterns and demand for housing

See interesting article in WSJ - "Two tiered economy reshapes the marketplace" WSJ January 25, 2015, Page A1.

(http://www.wsj.com/articles/how-a-two-tier-economy-is-reshaping-the-u-s-marketplace-1422502201?KEYWORDS=two+tiered+economy+reshapes)

Following are some slides from that article that suggests the U.S. economy Is evolving into a 'two tiered economy" – the well off and the not so well off. We have discussed this before in our housing notes –

.e.g. stagnant household incomes; more people **underemployed**; low income jobs with few benefits;

The bottom line is that consumption patterns are changing as well as demand for shelter. We may not see a return to the 'good old days" for housing? We may see continuing demand for larger, more expensive single family homes, but, total demand will remain below trend (1.5 million) as rental demand remains strong. 1st, just a reminder what has happened to incomes over the past twenty years --- real incomes have been shrinking for the past 20 years



Return TOC

OK – I know I harp on about the "income inequality issue" as a problem, but to be fair, high income earners pay more than 80% of the income taxes in the USA, and are the source of over 50% of federal revenue. In the rest of the world, the income taxes provide 33% of federal revenue while a consumption tax provides another 33%. The consumption tax/value added tax is more regressive (higher burden on lower income people, so, maybe our system isn't so bad?

Who's Paying What?

How income and federal income taxes were distributed in 2014.

Groups of taxpayers by income	Income range	Share of total U.S. income	Share of total income tax
Bottom fifth	\$0 to \$24,200	4.5	-2.2%
andred models a more a second build build be and	\$24,200 to \$47,300	9.3	-1.0
Middle fifth	\$47,300 to \$79,500	14.8	5.9
	\$79,500 to \$134,300	20.0%	13.4
Top fifth	Above \$134,300	51.3	83.9

Note: Total estimated U.S. income for 2014 is \$13.7 trillion. Total estimated U.S. individual income tax for 2014 is \$1.26 trillion. Income figures are higher than those shown on tax returns, as they include untaxed income due to employer-provided health coverage, municipal-bond interest, retirement plans and other items. Each quintile contains about 65 million people.

Source: Tax Policy Center

THE WALL STREET JOURNAL.

Consumer spending trends reflect changing income patterns of U.S. population - therefore, many businesses are reorienting to serve Higher income buyers. E.g., luxury retail sales, hotels, cars doing well, even premium beer sales are booming (I still prefer Pabst Blue Ribbon at \$3.89 per six pack), but rest of economy not doing as well

For Richer, for Poorer

Change in average U.S. household consumer spending, adjusted for inflation, since 1989



Return TOC

Also means Shifting makeup for single family housing resulting in increased demand for bigger and More expensive houses with lower demand for entry level ---- bottom line --- fewer housing starts/sales (and demand for wood)

25%

20

15

10

5

Sizing Up the New-Home Market

New-home prices have shot up...

Median new-home prices, 12-month moving average, inflation adjusted

\$300 thousand December \$282,300 250 200

150 2000 '10

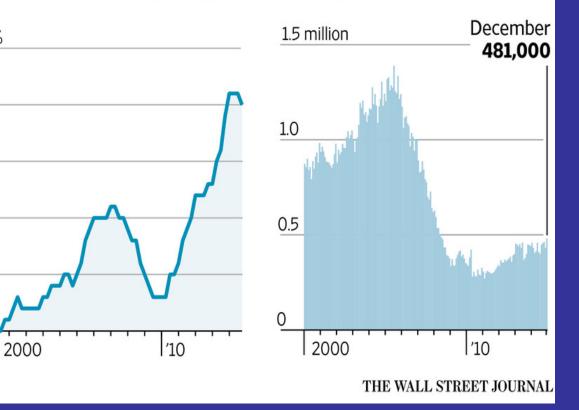
Source: Commerce Department

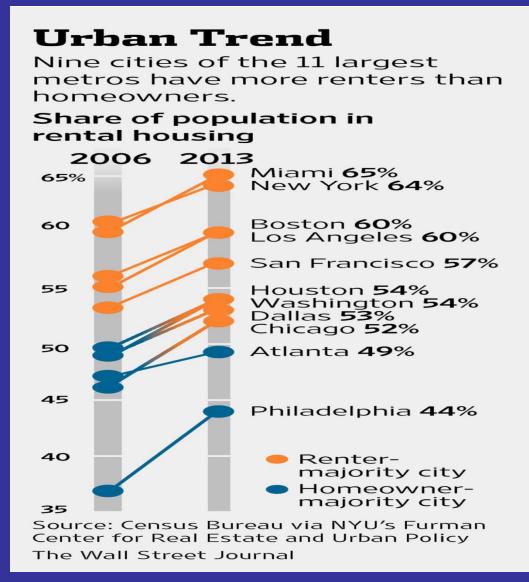
...as builders have moved away from entry-level buyers...

Change in median new-home size since 2000, four-quarter moving average

...and sales volumes have been restrained as a result.

Sales of newly-built homes, seasonally adjusted annual rate

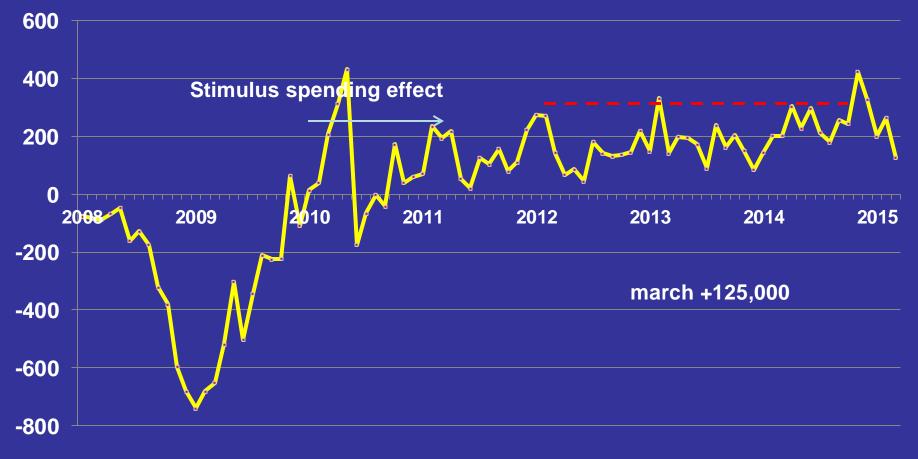




Return TOC

Employment situation - our biggest problem - it's getting better, but quality jobs remain scarce, and inflation adjusted wage growth has been weak for almost two decades.

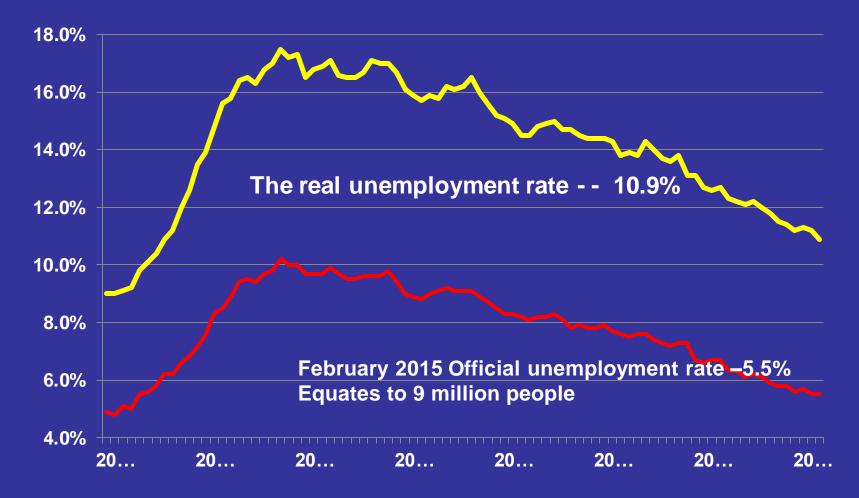
Net change in non farm payrolls – monthly, thousands



Source: U.S. BLS (<u>www.bls.gov</u>)

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

**There are about 18 million people either unemployed, underemployed, or stopped Looking –



Source - - BLS: http://www.bls.gov/news.release/pdf/empsit.pdf; http://data.bls.gov/cgi-bin/surveymost?ln

 $Return\,TOC$

Yes, unemployment

rate is now below 6%, but income growth is missing (yes, it is starting to pick up, but very slowly). E.g., inflation adjusted income today is the same as it was twenty years ago. I.e., there has been no improvement in median family income over the past two decades. That's why many people believe we are still in a recession, and consumer confidence remains relatively weak.

Just a reminder ----consumer spending is 70% of the economy, and without real Income growth, spending can't grow very fast!!

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. 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 we could do a better job with immigration policies too.

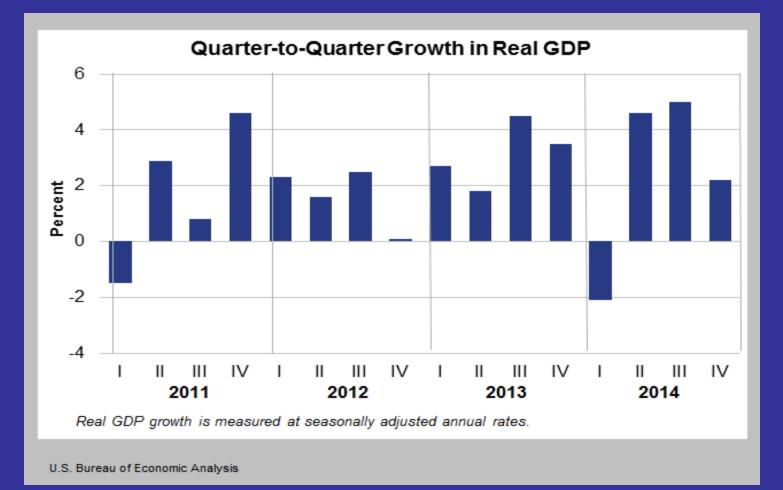


Return TOC

Economic growth of 2.2% – 4th qtr 2014 – My guess for 2015 is 2% !!

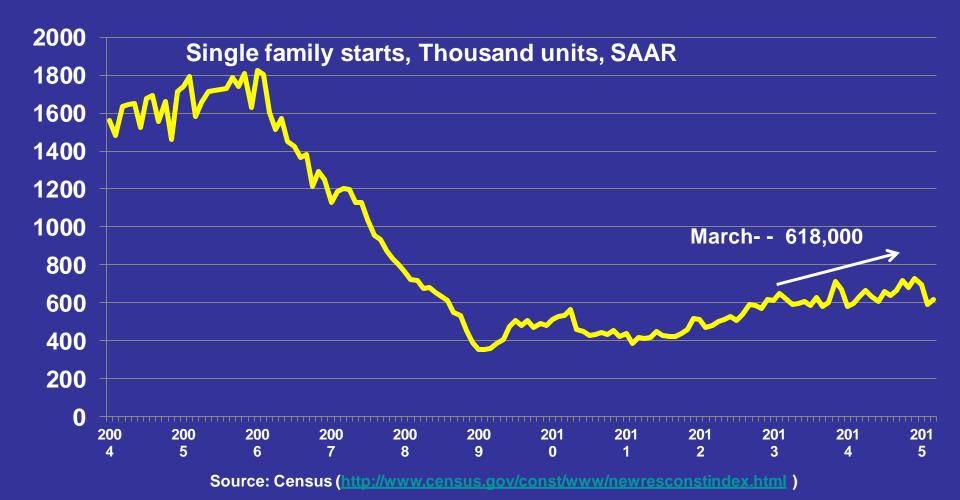
Impact of less FED stimulus still unknown. There are serious headwinds -

- (1) Slowing world economy (European recession; weaker China 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, terrorism, currency wars, growing national debt, ...



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????



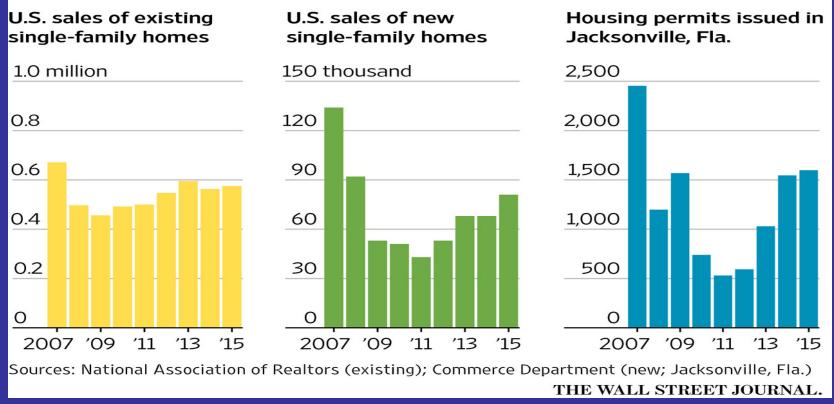
 $Return\,TOC$

Hopefully, things will improve this year – as the article indicates, housing is doing best in places where the job market is healthiest. As always, jobs are the key metric to watch, and, <u>a further reminder that</u> <u>housing is a regional market.</u>

Green Shoots

Home sales are up across the board for the first two months of 2015, compared to 2014's weaker start.

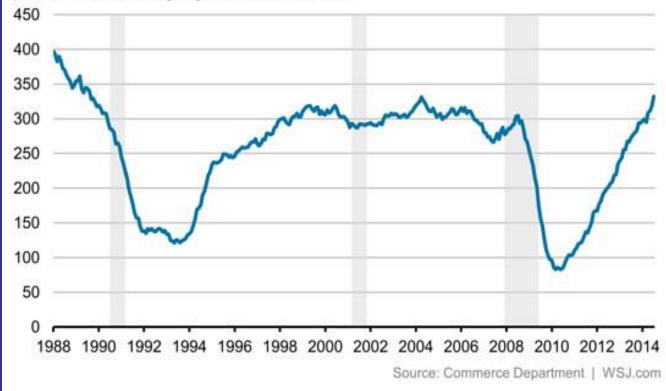
Housing market status through February of each year



Multi family continues to strengthen – this trend should continue until the jobs picture improves and real incomes advance. Housing purchase depends on affordability (price, mortgage rates), and credit worthiness - mortgage rates are favorable, but too many Americans have poor credit (too much debt, low income, etc.) and, the lenders have tightened the rules. And, prices are on the rise!!

Shared Spaces

Structures with five or more units that began construction over the preceding 12-month period, not seasonally adjusted, in thousands

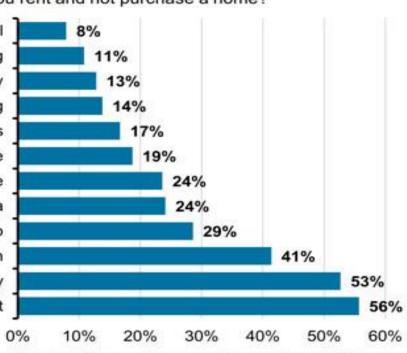


Renting is popular because many can't afford to buy - - it's that simple?? Again, JOBS, JOBS, ...

Why Renters Rent

Responses to question: "Why would you rent and not purchase a home?"

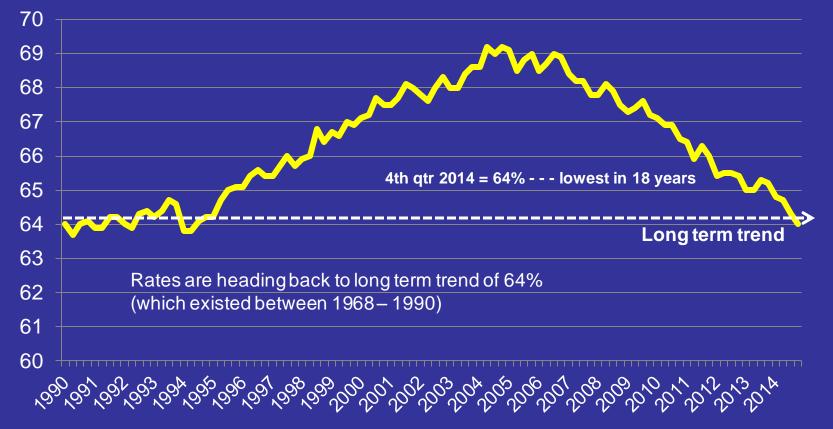
Worried home prices might fall Unlikely to stay in new home for long Worried about my/spouse's job security Can live in better area/home by renting Age/health reasons Don't want money tied up in a house Renting more affordable Don't want to be tied down to certain area Do not want upkeep of ownership My credit is not good enough Do not make enough money Insufficient savings or too much debt



Source: New York Fed's Survey of Consumer Expectations | WSJ.com

Source: WSJ (http://blogs.wsj.com/economics/2014/09/08/why-more-renters-arent-buying-hint-weak-incomes-savings/?mod=marketbeat&mod=marketbeat)

Impact of weak household formations - homeownership rates have been falling for the past nine years – when the economy gets back to normal, will people return to to single family or will we see more renting? There will be impacts on wood products demand



Home Ownership(%)

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

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

Highest level since 2008, but Still off 70% from the peak – this metric Is key to wood product markets!!



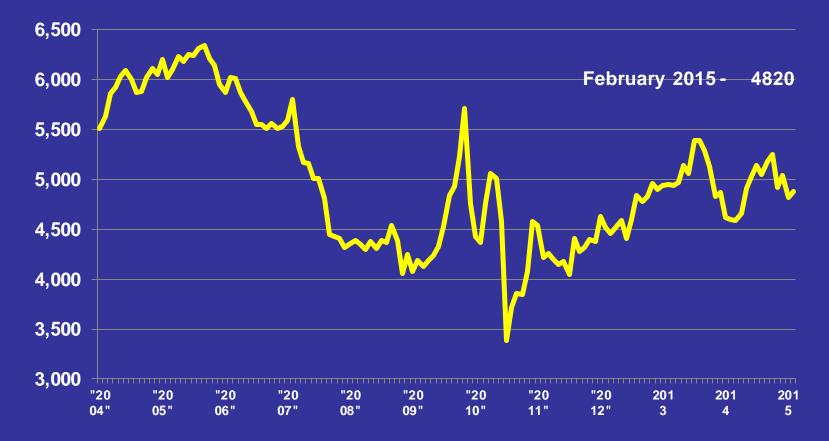
Source: Census (http://www.census.gov/const/www/newressalesindex.html)

Thousands, SAAR

Return TOC

Resale market continues to improve, but still heavy to cash sales with 1st time buyers still below trend (traditionally they represent about 40 – 45% of market, but today they are at 30%). Another problem today is tight supply, currently at 4.7 months. Healthy market is about 6 months supply. This is driving up prices, currently up 6.2% YOY

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



Source: NAR (http://www.realtor.org/research)

Some conclusions – housing continues to improve albeit slowly

Short term:

- (1) Economy will continue to improve -- 2015 may see 3% growth, but housing may not follow -- looks like the "disconnect between the economy and housing will continue ("two tiered economy"???)
- (2) Still not a healthy housing market 1st time buyers are absent and household formations are off 50% from trend – furthermore, many of sales are cash, many foreign buyers, etc. I.e., NOT SUSTAINABLE
- (3) The key to a recovery in housing is the return of 1st time buyers, traditionally about 40- 45% of the market. Current market skewed to cash buyers and investors. 1st time buyers are mostly young people, but they can't find good jobs.
- (5) Growing problem in world economy is that USA is only major economy doing relatively well. Europe in slow growth; China slowing from previous highs (but still good); And we now have more countries devaluing their currencies to promote exports /economy. This will impact the U.S. recovery as a higher U.S. dollar dampens exports and weakens key manufacturing sector.
- (6) One more comment on housing usually, housing leads an economic recovery (after recessions) – but, this time it is not happening. A stronger economy will be needed to get the housing market back on track. That's hard to accomplish because housing is almost 20% of the economy (direct investment plus services, etc.).

Longer term:

- (1) makeup of U.S. economy is changing and this is impacting spending patterns and housing choices.
- (2) There are growing concerns that the job market is undergoing long term – structural – changes. Automation seems to be 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.
- (3) Currency devaluations seem to be 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.

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.