

The Durable Goods Report

December 2012

Executive Summary of US Economic Activity



Manufacturing Data Release of 1/4/2013 (November Preliminary)

Employment Data Release of 1/4/2013 (December Preliminary)

Retail Data Release of 12/13/2012 (November Advanced)

Industrial Production Data Release of 12/14/2012 (November Advanced)

Housing Data Release of 12/19/2012 (November Advanced)

GDP Data Release of 12/20/2012 (Q3 final)

Source Data: US Census Bureau, US Bureau of Labor Statistics, US Department of Commerce, Energy Information Administration, Federal Reserve Board, Baker Hughes

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The Durable Goods Report – A Service of Time Compression Strategies

By the Numbers

Durable Goods Key Measures			
	Current Mo	Prior Mo	Prior Yr
New Orders-Durable	220,914	219,202	219,259
12 month moving average	218,876		207,868
% Change from Prior Year	5.3%		
Growth Index - Durable New Orders	1.001	0.967	1.033
Unshipped Orders - Durable	984,514	983,406	952,624
% Change from Prior Year	3.3%		
Value of Shipments - Durable	226,966	223,498	203,104
Inventory - Durables	374,820	374,011	357,659
% Change from Prior Year	4.8%		
Inv to shipments ratio - Durable	1.65	1.67	1.64
US Economy Key Measures			
	This period	Last period	Change
GDP 2012 Q2	15,811.0	15,585.6	1.4%
Industrial Production	2,565.9	2,536.8	1.1%
Capacity Utilization %	78.4	77.7	0.7
Manufacturing %	77.3	76.5	0.7
Durable Goods %	76.7	75.7	1.1
Primary Metals %	72.9	70.3	2.6
Autos and Parts %	76.4	73.4	3.0
Machinery %	81.2	80.6	0.6
Durable Goods (\$Mil SA)			
New orders	220,914	219,202	0.8%
Shipments	226,966	223,498	1.6%
Inventory	374,820	374,011	0.2%
Unshipped Orders	984,514	983,406	0.1%
Retail ex Food Service (\$Mil SA)	367,639	366,881	0.2%
Autos and Parts	75,598	74,591	1.4%
Gasoline	45,431	47,326	-4.0%
Core retail (ex auto, gas)	246,610	244,964	0.7%
Employment (000's SA)			
Civilian employed (Household Survey)	143,305	143,277	28
% of potential workforce (HS)	58.6%	58.7%	0.0%
Civilian not employed (HS)	101,045	100,897	148
Non-Farm (Establishment Survey)	134,021	133,866	155
Private (ES)	112,096	111,928	168
Government (fed, state, local) (ES)	21,925	21,938	-13
Goods Producing (ES)	18,389	18,330	59
Manufacturing (ES)	11,988	11,963	25
Construction (ES)	5,564	5,534	30
Durable Goods Mfg (ES)	7,503	7,492	11
Housing (000s of Units SA)			
Total housing starts	861	888	-3.0%
Single family starts	565	589	-4.1%
Single family sales (new)	377	361	4.4%
Single family for sale (new)	149	147	1.4%

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US Economy – Quick Look:

US GDP

Q3 GDP final estimate reported as 3.1% SAAR (1.4% QtQ, 4.3% YtY)

Industrial Production

Industrial production excluding industrial supplies increased 1.1% after a similar decline in the prior month. Now stands barely 2% above last year's same month.

Durable Goods

New orders for durable goods increased 0.8%% to \$220.9 billion. Growth index recovered to neutral at 1.001.

Retail:

Retail sales (ex food service) increased 0.2% to \$367.6 billion.

Employment:

Employment showed a gain of 155,000 jobs (establishment survey) along with an increase in unemployment to 7.8% (household survey). Working age population increased by 176,000. Durable goods employment increased 11,000. Household survey shows: Employed: +28,000. Not employed: +148,000. % Employed 58.6%.

Housing:

Total starts: -3.0% to 861,000. Single family starts: -4.1% to 196,000. Single family sales: -0.3%. Median value: \$242,100 (3mma).

Random Thoughts, Stray Data and Rants:

Economy

- The upward revision of Q3 GDP growth to 3.1% is still heavily qualified by the makeup. Services, inventory, government spending do not make a robust economy.
- Several members of the administration have recently cited the CBO estimate that \$1 of unemployment benefits creates \$1.61 of GDP growth. This statement is bizarre, partly because it was repeated by Paul Krugman at the New York Times. Why not have all of us go on the dole and have the economy explode?
- The same question, in a more general form, was asked recently at a meeting of CEOs. Here's the answer:
 - o Let's accept the argument that \$1 in government transfer payments produces \$1.61 in GDP growth (called the fiscal multiplier).
 - o The government got the money by taxing the private sector.
 - o The fiscal multipliers in the private sector are approximately as follows:
 - Service sector leverages 3:1
 - Non-durable manufacturing leverages 7:1
 - Durable goods manufacturing leverages 13:1
 - Average for all private sector is about 6:1
 - o Therefore taxes damage the economy at a rate of 6:1. This would suggest a fiscal multiplier for government spending is less than 1:1. Studies that took the entire cycle into account have concluded in the range of 0.4 to 0.6.
 - o Government spending on transfer payments eliminates jobs. Period.
- So does this argue for zero government spending as proposed by the pure Libertarians? Actually it does not. Some level of spending is needed to maintain order and assure the basic economic rules are enforced. The economy thrives best when economic friction is least. That means that criminal and contract law must be efficiently administered. But the activities of government have long since grown beyond this base need.
- A recent CATO Institute survey of major economies shows that the best results occur when about 10% of GDP devoted to government spending.
- A question for those who think profit seeking entities are a bad thing:
 - o Who was it that the robber barons robbed? Turns out it was other robber barons. When rail freight was introduced from Buffalo to NYC the cost of transport dropped by 10x. Drayage industry was destroyed. Consumers made out like bandits (more like robber barrons). And the economy exploded.

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- When the Wabash Railroad opened parallel to the canal that serviced Central Indiana, the canal company declared bankruptcy within 48 hours. BTW: the most profitable contract the canal company ever landed was with the Wabash Railroad to haul the ballast for laying the track.
- And how is it that profit seeking entities seek profit? They try to find a better/cheaper way to deliver something so they can take business away from some other profit seeking entity. Or they try to invent something that will encourage you to pay money to buy it. Profit seeking drives cost down and drives variety up.

Energy: *this critical commodity drives much of the cost of durable goods.*

- Last month we reported on progress in the LENR (Low Energy Nuclear Reaction or “cold fusion”) field. It is increasingly common for research to confirm net positive energy production from these techniques. Knowledge of how it works is expanding rapidly.
- We also noted the downside. The energy produced is really low energy. - the energy produced was not (yet?) useful since it was low energy, meaning it is diffused – low temperature, low pressure or low voltage etc. Energy is only useful when it is concentrated and thus available for conversion.
- Now a new development in a field we first reported on about two years ago. Thorium reactors are now to be tested in Norway by Thor Energy and the Norwegian Government.
- This is not the ideal design (that would be the LFTR = liquid fluoride thorium reactor). Molten salt reactors are the best reactor design and offer major safety benefits. The Thor Energy project will convert an existing uranium reactor to use thorium. The argument is that it is a much faster way to get production test results than to start from scratch.
- As we reported two years ago China or India will likely be the first to bring a LFTR on line. Thor energy bought the design from a UK company after a government report claimed that the advantages were minimal. The US has also followed a path of willful ignorance supported by lobbyists for the uranium industry.
- More detail here: <http://singularityhub.com/2012/12/11/norway-begins-four-year-test-of-thorium-nuclear-reactor/>
- China has established a large research initiative on Thorium. The Sunday Telegraph of London reports:
http://www.telegraph.co.uk/finance/comment/ambroseevans_pritchard/9784044/China-blazes-trail-for-clean-nuclear-power-from-thorium.html
- The interesting thing about thorium is that the US had a working prototype in the 1970s. A small prototype (refrigerator size) was flown on a B52 as a proof of

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portability. The field was abandoned in favor of uranium / pressure water reactors.

Government

- Fredrick Bastiat, 1848: "Government is the great fiction through which everybody endeavors to live at the expense of everybody else.
<http://bastiat.org/en/government.html>
- Taxes are exploding across the board starting this month. Some progressive web sites are complaining after the payroll tax made it look like the president's promises had been broken.
- Nancy Pelosi says they will need another \$1 trillion in new taxes. She rejects taxes on the middle class. So that means more on "the rich."
- The level of taxation at the top end is already so high that it will result in reduced revenue as has occurred in California, Maryland and in France. The rich aren't stupid.
- Two famous French movie stars have given up French citizenship and accepted Russian passports.
- A flat tax of 13% on all income resulted in a 300% increase in revenue to the treasury...in Russia. And an influx of millionaires. Who knew.
- China has eliminated taxes on ag products, drastically reduced taxes on investment and passive assets.
- Capital gains tax in the Czech Republic? "We're not stupid. It's zero" said the Czech president.
- The Communists get. The US doesn't.
- **All the US taxes will be paid by the middle class.** Most of the money (80%) is in the middle class, most consumption happens there, so it's a mathematical certainty. The rich have options to avoid paying anything. They raise prices of their products, shift the income offshore, etc. The middle class pays the taxes in higher prices of purchases.
- Where global competition prevents price increases, layoffs of middle class workers result.
- I'm reminded of the old story about poker: When you're sitting in a poker game and you don't know who the pigeon is, you're the pigeon.
- The American middle class is the pigeon in this DC poker game of fools.

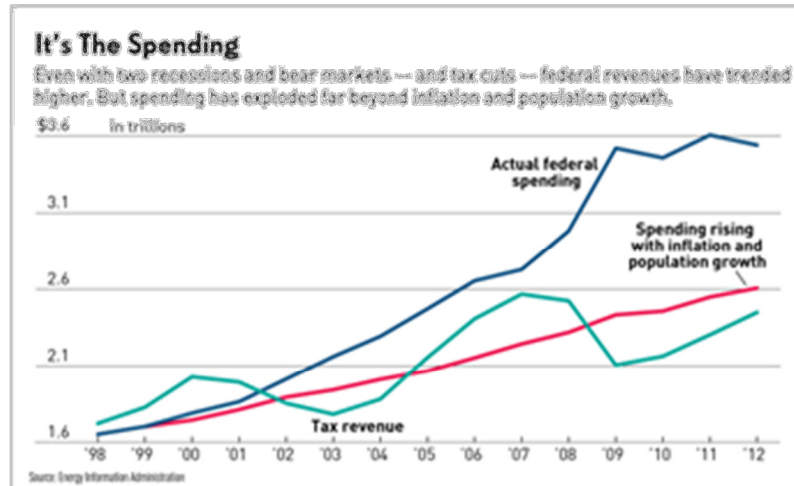
- Peggy Noonan, on her WSJ blog, flagged a speech by George Will as the most important of this century to date. It is insightful into the debate on the proper role of government and the risks of popular assumptions. Well worth your time if you're curious about such things. If you're incurious you should get ready for a very rough ride.

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<http://rap.wustl.edu/wp-content/uploads/2012/02/George-Will-lecture-text.pdf>

- Harry Reid and President Obama continue to complain that the Republicans are being obstructionist. Their loyal fan base repeats the folly.
 - o Harry Reid accused John Boehner of running the house like a dictator, while Reid refused to let a budget come to the floor, even though his own committee voted it out. The Reid senate hasn't passed a budget in years.
 - o The Republican controlled house regularly passes a budget and important fiscal legislation which the Senate then ignores.
 - o See the new addition to "Corruption of the Language" department.
- Reynolds Law: "Subsidizing the markers of status doesn't produce the character traits that result in that status; it undermines them." From law professor Glenn Reynolds at www.instupundit.com.
- The Community Reinvestment Act is an example of such folly. It subsidizes home ownership in inner-cities on the theory that lack of mortgage loans was the root of the problem. Now a new study at National Bureau of Economic Research says plainly that the CRA induced banks to make risky loans. This ultimately led to a meltdown when the loans were unsupportable.
- Even with this harsh judgment the truth is probably worse. Banks were not "induced" to make the loans. They were extorted by threats of "special audits" from the Clinton Justice Dept. Remember when "red lining" was supposed to be the height of racism?
- This brings us to Layden's Law: "Free money makes you stupid."
- It's the spending, stupid. Note (chart below) that federal revenue exploded after the Bush tax cuts were passed in May of 2003.
- But federal spending exploded when the Democrats took over Congress in 2007. Accelerated with the election of President Obama. The "one time" stimulus package seems to have become a new permanent spending level.
- The president told John Boehner during the negotiations on tax rates that "We don't have a spending problem." Hard to tell if this is deception or denial, but it doesn't matter in the end. The Republican strategy of "starving the beast" with tax cuts is ineffective against this position.

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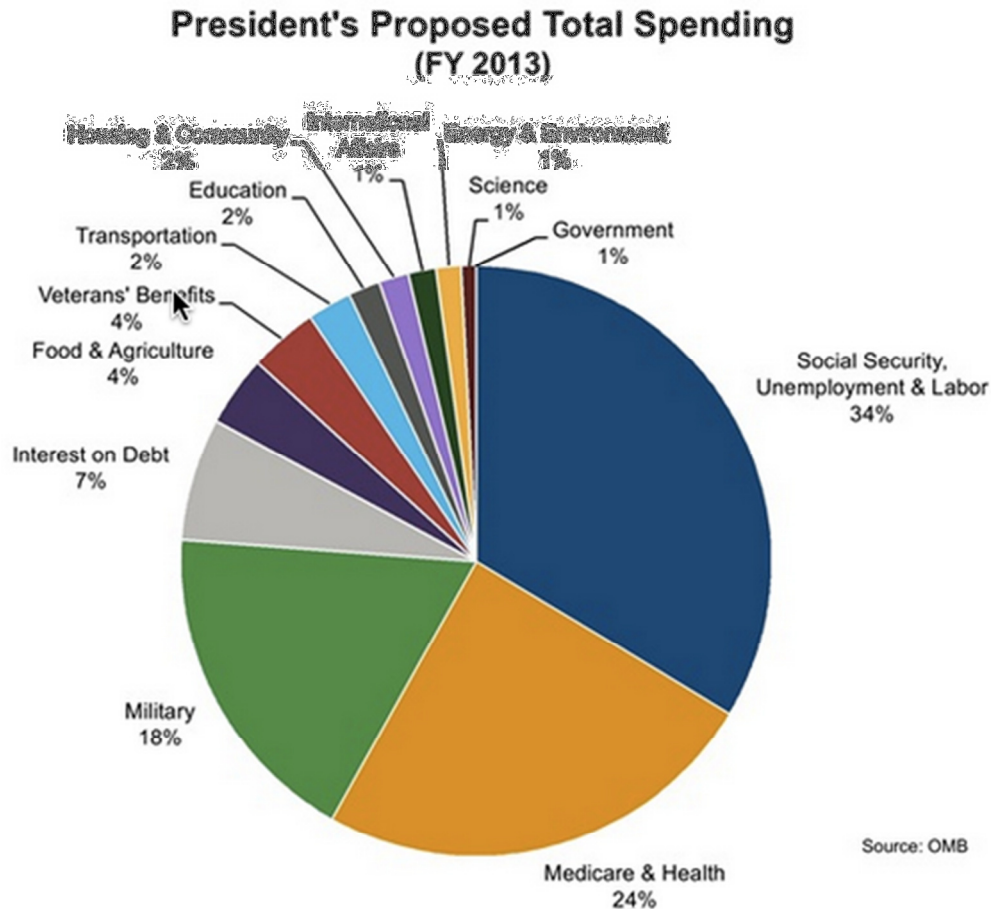
- Interesting to note that the same thing happened after the Reagan tax cuts. But Democrats controlled Congress and spending increases outpaced the revenue growth.
- There are now 11 states where the number of government dependents exceeds the number of private sector workers. Their total population is half the US.
 - o California has 139 government dependents for every 100 private sector workers.
 - o New Mexico has 153 government dependents for every 100 private sector workers.
 - o The full list: California, New York, Illinois, Ohio, Maine, Kentucky, South Carolina, Mississippi, Alabama, New Mexico and Hawaii
- More on guns:
 - o Academic Fraud Department: The recent study by Dr. Janet Rosembaum attempted to disprove the positive effects of widespread gun ownership in Switzerland. It has been challenged as so completely inaccurate as to be made up from thin air. It seems that nothing in the report was accurate. The challenge, complete with detailed factual documentation, comes with a threat of formal challenge for academic misconduct to her university, and to those who published the report, including the Washington Post and the Journal of Public Health Policy. Read the whole challenge here: <http://www.finemrespice.com/node/122>
 - o Interesting that every study in the past 10 years purporting to support gun control is quickly shown to use fraudulent data. This includes studies of gun ownership at the time of the founding.
 - o We're all asked to agree that reasonable restrictions on guns make sense.

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- Hard to argue with the platitude. But what's reasonable? How about this: Define what the bad guy might be carrying, and let that be the standard for intended victims.
- Piers Morgan is the subject of a petition to deport him back to Britain after his tirade against a guest who had the temerity to present facts about guns. Even the BBC is appalled at the prospect: "...it took us 40 years to get rid of him. Please don't send him back."
- Goose meet gander department: David Gregory is now under investigation for brandishing a 30 round "clip" (it was actually a magazine) in the face of his TV guest.
- Everyone in the gun control community seems to agree that no one should be allowed to have a 30 round magazine. Consensus looks like 10 rounds is viewed as reasonable (current Washington DC limit). How about some numbers:
 - The Newtown shooter was active for 20 minutes (1200 seconds)
 - He fired a reported 60 rounds. That would require a single change of a 30 round magazine. It takes 2 seconds for a moderately skilled user to change a magazine (0.7 seconds with practice). With 10 round magazines 5 changes would be required taking a total of 10 seconds.
 - The reduction in total shooting time is thus 8 seconds out of 1200 seconds. Available shooting time goes from 99.833% to 99.167% with a high capacity magazine law.
- Of course this assumes the shooter would be aware of and would conform to such a law. Once again it's not about the facts.
- The UK banned handguns in 1998 after a school shooting. In the next 12 years handgun violence doubled.
- Australia confiscated all guns and it resulted in a 40% increase in gun violence. Some argue that there have been no mass shootings since the guns were confiscated. But the US never had a school shooting until the gun free school zone laws. Neither is a valid statistic.
- In California gun sales surge and gun violence plummets. Even accidental gun injuries plummet.
- Same thing happens everywhere: More guns – less gun violence. But also less accidental gun injury.
- In the end the debate on guns is not about the facts. It is clear to anyone willing to look at the facts that gun bans do not and cannot reduce crime. Hundreds of studies have demonstrated the same result, with the most extensive research done by Professor John Lott.

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- More important, the right to self-defense is the most fundamental human right, formally recognized for at least 6000 years. Why is a part of the government (progressives of both parties – mostly Democrat) attempting to deny a fundamental human right?
 - o Safety? The facts are the opposite.
 - o Popular polls? The facts are opposite.
 - o Prevention? The facts are the opposite.
- There are only two plausible explanations I've heard:
 - o They actually want law abiding citizens disarmed. This is the traditional first step to tyranny following the many examples from the past 3000 years. This is good fodder for the conspiracy theorists.
 - o They are projecting their own fear of guns or gun owners (who they don't understand) into the equation.
- The only thing that is absolutely clear is that they are immune to facts.
- The following chart shows the budget allocations presented by the president and rejected in the Congress. The spending problem is a debate about ultimately about Social Security and Medicare. Interest on the debt will soon explode as well.
- To do your own balanced budget, cut the total by about 25%.
- Military spending, once half of our spending, is now down to 18%.
- Those who believe that Social Security is ok (including both parties in Washington) are delusional. It was \$48 billion in the red last year.
- But you paid in so you deserve the payments, right? Not quite. You were a late player in a Ponzi scheme. There is no lock box or trust fund money. They spent it all.
- To repeat, the middle class is the collective pigeon.



Climate *this is the argument being used to justify higher taxes and regulation. The effect on energy cost and operating costs for durable goods are dramatic.*

- A draft of the next report from the UN IPCC has been leaked. They are still planning to claim that we are in imminent danger of self-immolation in the sweltering climate produced by our use of “fossil fuels.”
- Unfortunately the data in the report demonstrates that there has been no warming in 16 years. Further they have been forced to admit that solar forcing is stronger than their models have included.
- It's the Sun, stupid.
- Democrats have been accused of being the biggest idiots in this argument (John Kerry and Al Gore come to mind). But the Republicans should get equal billing. Sen. Grassley of Nebraska argued in favor of extending the subsidies for wind

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power. He was also champion of the legislation for ethanol mandates. They are all just “bringing home the bacon.”

- When did it happen that “bringing home the bacon” became the subject of praise rather than the subject of a grand jury indictment?
- The R’s are clearly #2 in this competition but they seem to be trying harder.
- Alaska is having another record cold winter. Same for Siberia.
- Northern Hemisphere snow extent at year end sets another record.
- China is having the coldest winter in at least four decades.
- Al Gore sold a TV network with 40,000 viewers to Middle East oil interests for \$500 million. How does that pay off? It doesn’t. He was bought.

The Corruption of the Language Department

- George Orwell is best known for his popular book “1984.” But he was a prolific writer against tyranny and pointed out that it was always dependent on the ability of the elites to redefine and corrupt the meaning of the language. Hence this new department where we can collect modern examples. To make this list the phrase only needs to be intentionally misleading, mathematically impossible, or oxymoronic.
 - o “Obstructionist” is anyone who refuses to cave in and do it my way.
 - o “Fair and Balanced”: means talking heads concurrently reciting opposing talking points no matter how unbalanced. (thanks to Rollie in Austin)
 - o “Security”: now means the absence of civil rights (thanks to Rollie in Austin).
 - o “It’s for the Children”: Nothing that involves government debt is a positive for the children. It’s a cover story for stealing their future before they can vote against the idea.
 - o Affordable housing: I don’t know about you, but I’ve always lived in an affordable house. When this term is used by politicians it means government subsidized housing. That means you pay for someone else’s mortgage. Giving free stuff to voters.
 - o “We’re all in this together” means “it’s not my fault.”
 - o Sharing (when used by a politician) means they covet your money.
 - o Fair share: would that mean everyone paying the same %? Guess not.
 - o Social Justice: I thought justice was a matter of law. Silly me.
 - o Targeted tax cuts: The real issue is that someone besides the market gets to pick winners. Taxpayers are always the losers.
 - o Living wage: You deserve a good wage even if you don’t produce that much value. In that case your job goes away and you no longer receive the embarrassment of a low wage.
- We’ll keep the list growing as we get time.

US GDP

GDP final estimate of Q3 growth rate reported at 3.1% (1.4% QtQ; 4.3% YtY). It was driven by services, government spending and inventory build.

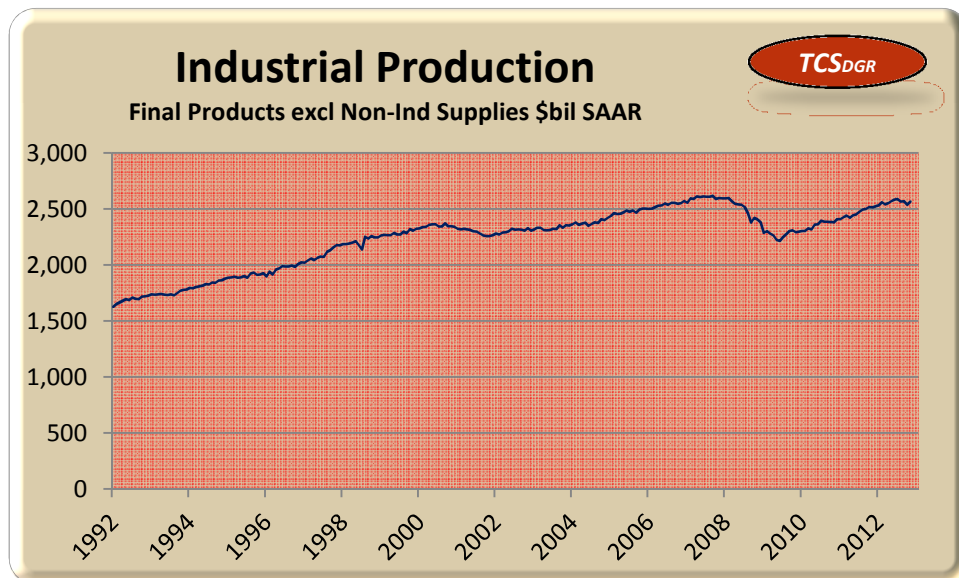
Gross Domestic Product				
Year	Qtr	GDP \$b (SAAR)	Chg from Prior Pd	Chg from Prior Year
2008	1	14,273.9	0.1%	3.7%
2008	2	14,415.5	1.0%	3.1%
2008	3	14,395.1	-0.1%	1.9%
2008	4	14,081.7	-2.2%	-1.2%
2009	1	13,893.7	-1.3%	-2.7%
2009	2	13,854.1	-0.3%	-3.9%
2009	3	13,920.5	0.5%	-3.3%
2009	4	14,087.4	1.2%	0.0%
2010	1	14,270.3	1.3%	2.7%
2010	2	14,413.5	1.0%	4.0%
2010	3	14,576.0	1.1%	4.7%
2010	4	14,735.9	1.1%	4.6%
2011	1	14,814.9	0.5%	3.8%
2011	2	15,003.6	1.3%	4.1%
2011	3	15,163.2	1.1%	4.0%
2011	4	15,321.0	1.0%	4.0%
2012	1	15,478.3	1.0%	4.5%
2012	2	15,585.6	0.7%	3.9%
2012	3	15,811.0	1.4%	4.3%

Industrial Production (excluding industrial supplies)

Industrial production climbed 1.3% in November after a decline of 1.3% in October. The year to year comparison is now only 2% above the same month prior year. Less than estimates of inflation and far below the 5% or so needed to provide job growth.

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Industrial Production - final products \$b SAAR				
Year	Mo	Ind Prod - Value of Prod	Chg from Prior Pd	Chg from Prior Year
2011	1	2,410.4	0.1%	4.6%
2011	2	2,425.1	0.6%	5.2%
2011	3	2,442.0	0.7%	5.0%
2011	4	2,420.8	-0.9%	4.4%
2011	5	2,444.1	1.0%	3.5%
2011	6	2,451.9	0.3%	3.8%
2011	7	2,474.8	0.9%	3.4%
2011	8	2,494.5	0.8%	4.6%
2011	9	2,500.4	0.2%	4.8%
2011	10	2,516.5	0.6%	5.6%
2011	11	2,516.2	0.0%	5.7%
2011	12	2,524.4	0.3%	4.8%
2012	1	2,532.7	0.3%	5.1%
2012	2	2,560.8	1.1%	5.6%
2012	3	2,541.9	-0.7%	4.1%
2012	4	2,553.3	0.4%	5.5%
2012	5	2,568.9	0.6%	5.1%
2012	6	2,582.6	0.5%	5.3%
2012	7	2,588.0	0.2%	4.6%
2012	8	2,567.0	-0.8%	2.9%
2012	9	2,569.1	0.1%	2.7%
2012	10	2,536.8	-1.3%	0.8%
2012	11	2,565.9	1.1%	2.0%



Capacity Utilization:

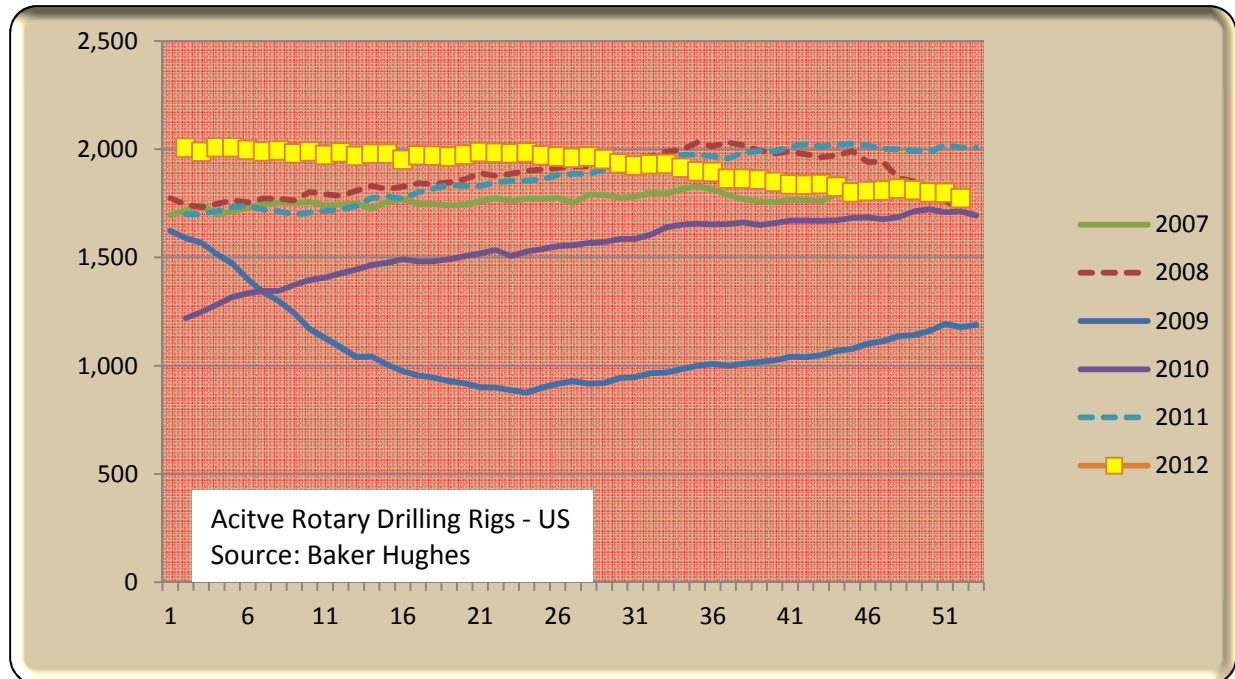
Capacity utilization (below) increased 0.7 points. All major sectors increased in November after across the board declines in October. Machinery recovered 0.6 points after a 2 point drop the prior month. Auto sector showed a major surge (up 3 points) likely due to the one-time replacement demand for 200,000 cars destroyed in the hurricane. Same applies to the major jump in primary metal.

Even the improved numbers are low by traditional standards.

Capacity Utilization %							
Year	Month	Ind Prod	Mfg	Durable	Primary Metals	Auto	Machinery
2010	1	70.8	78.0	76.6	75.8	81.9	63.6
2010	2	71.3	77.6	77.1	78.1	82.3	63.4
2010	3	71.9	77.3	77.7	79.7	81.9	64.2
2010	4	72.4	76.5	78.4	79.5	82.3	65.5
2010	5	73.7	76.1	78.1	81.0	82.9	66.5
2010	6	73.9	75.7	78.2	81.3	82.5	67.7
2010	7	74.5	75.0	78.1	84.7	82.0	67.6
2010	8	74.8	74.0	77.8	82.9	84.7	69.1
2010	9	75.2	71.5	78.0	83.9	83.3	69.5
2010	10	74.9	71.1	77.9	84.6	85.6	69.7
2010	11	75.2	69.6	78.5	84.8	84.8	70.0
2010	12	76.0	67.4	78.6	83.6	84.2	68.6
2011	1	76.1	65.6	78.4	82.8	85.8	68.7
2011	2	75.9	65.7	78.3	82.3	84.8	69.9
2011	3	76.5	64.6	78.1	82.1	84.7	70.2
2011	4	76.1	64.3	77.1	79.9	85.5	68.5
2011	5	76.3	63.7	76.7	78.0	85.2	68.8
2011	6	76.3	63.6	76.6	75.9	83.9	68.5
2011	7	77.0	64.6	75.5	75.0	79.0	68.0
2011	8	77.1	65.4	74.3	77.6	80.6	68.4
2011	9	77.2	66.1	71.7	78.8	81.3	68.5
2011	10	77.6	66.2	69.8	78.7	79.0	67.6
2011	11	77.7	67.0	67.9	80.6	75.2	70.2
2011	12	78.3	67.3	65.8	80.6	72.5	69.8
2012	1	78.7	78.0	77.0	77.5	74.6	83.9
2012	2	79.0	78.6	77.9	78.1	75.0	85.0
2012	3	78.4	77.9	77.5	75.3	75.5	85.8
2012	4	79.0	78.4	78.3	76.9	77.5	85.9
2012	5	78.9	77.8	77.7	75.4	76.3	85.3
2012	6	78.8	78.0	78.0	72.9	77.5	87.1
2012	7	79.2	78.2	78.0	74.7	78.2	84.0
2012	8	78.3	77.3	76.8	74.5	75.2	82.8
2012	9	78.3	77.3	76.3	70.8	73.7	82.6
2012	10	77.7	76.5	75.7	70.3	73.4	80.6
2012	10	78.4	77.3	76.7	72.9	76.4	81.2
Year	Month	Ind Prod	Mfg	Durable	Primary Metals	Auto	Machinery

Energy:

Drilling activity continues to drift lower. The US active rig count compiled by Baker Hughes dropped 10% over the course of 2012. The weak global economic activity is resulting in lower demand and reduced activity across the board. Gas rigs continue to account for 23% of the most recent week.



The following energy density analysis is repeated from prior reports to address the continued stream of questions on the viability of various liquid fuels. In response to comments from last month we've expanded the list to include other hydrocarbon energy sources.

The chart below tells the story of energy concentration of various fuel sources, measured in energy per unit weight (mega-joules per kilogram) and energy per unit volume (mega-joules per liter). In the process of searching for an alternate energy source it's important to understand the handling characteristics, and these two measures provide an easy way to rank the options.

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For the space shuttle the most important consideration is weight. Putting anything into orbit means fighting gravity. Hydrogen has the highest energy concentration per unit weight by far compared to any other fluid source. But its energy per unit volume (megajoules per liter) is terrible. To take advantage of the weight advantage they are willing to go to technical extremes (massive refrigeration) to condense the hydrogen gas to a liquid.

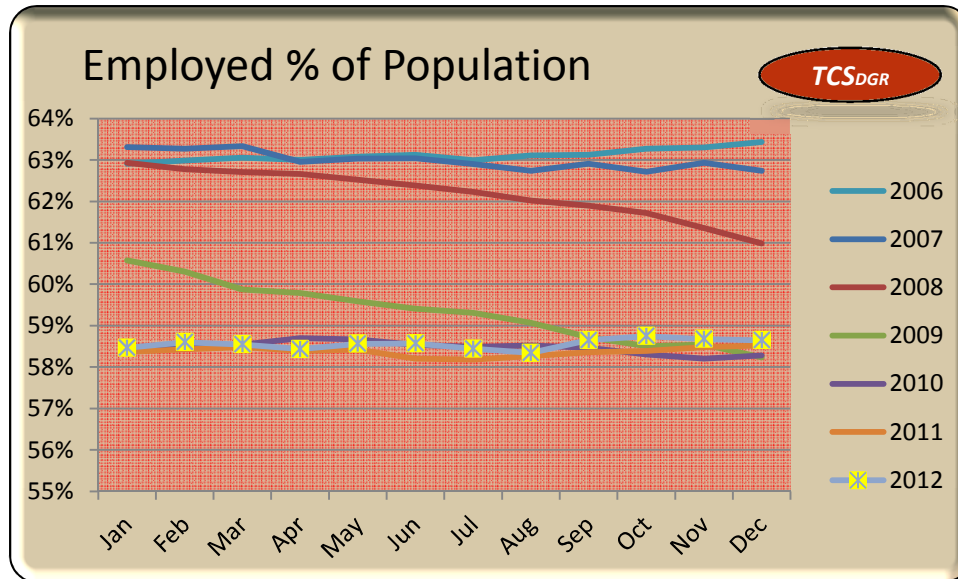
On the other hand, coal is the most concentrated per unit of volume, so it is efficient to transport it by rail.

For autos and trucks the ideal is pretty much where we are (gasoline and diesel). If you were going to invent the perfect energy source for transportation it would look like gasoline. But propane isn't too bad. A modest amount of pressure will keep it liquid and it's been a big business for 50 years. Methane is harder, but still viable.

Batteries are not a source of energy. They replace the fuel tank as a storage device. But we included them to give you an idea of what a really bad idea an electric vehicle is.

Heat of Combustion		
	MJ/KG	MJ/L
Hydrogen	143	0.01
Methane, CH ₄	56	0.04
Ethane, C ₂ H ₆	52	29.7
Propane C ₃ H ₈	50	29.2
Butane C ₄ H ₁₀	50	30.0
Gasoline	47	34.0
100LL AvGas	47	34.0
Jet fuel - Kerosene	47	38.0
Diesel	46	39.0
Paraffin Wax	46	
Kerosene	46	36.0
Pentane	45	28.2
Body fat metabolism	38	35.0
Gasahol e85	33	26.0
Coal, Anthracite	32	72.0
Ethanol	31	24.0
Wood	22	
Methanol	20	18.0
Carb metabolism	17	26.0
Coal, Lignite	15	
Peat - damp	6	
Battery Lithium Ion	0.72	2.20
Battery, NiMH	0.25	0.50
Battery, NiCd	0.14	1.08
Battery, Lead Acid	0.14	0.36

Employment:

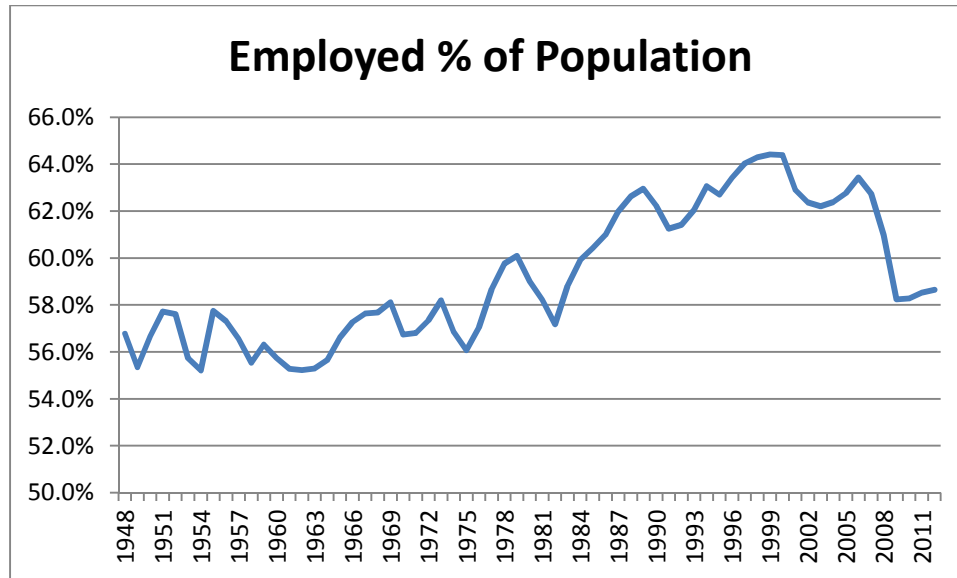


The employed % of the non-institutional population decreased to 58.6% in December from 58.7% in the prior month. The unemployment rate increased (7.7% to 7.8%) but the number is now completely irrelevant. The drop-out rate is huge. Of major concern is that there are now 8.8 million working age people on Social Security Disability. Once approved, this is forever.

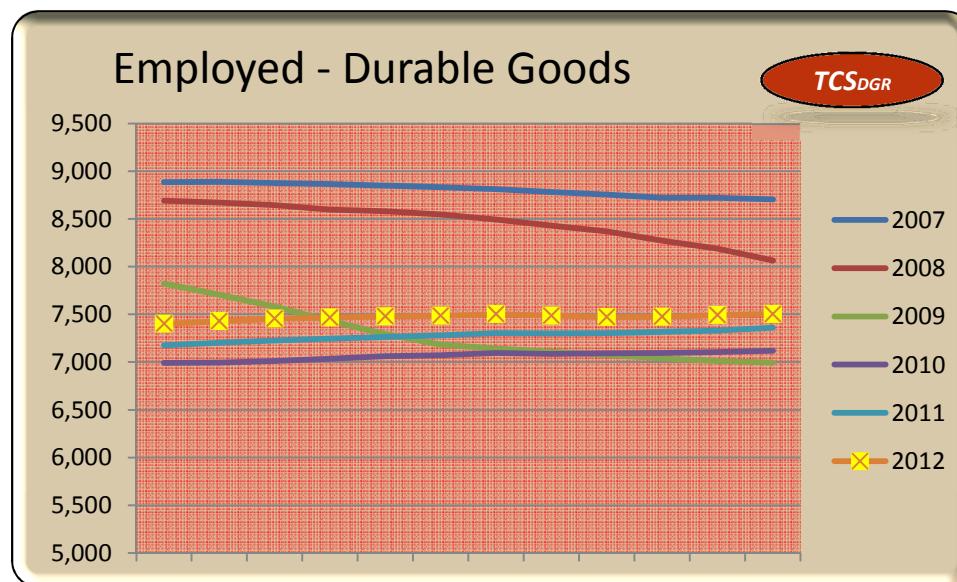
From the household survey the working age population grew by 176,000, total employed increased by 28,000 and the number not employed grew by 148,000. This story continues to be underreported. It's an embarrassing train wreck.

The employer survey showed 155,000 new jobs created (working age population +176,000).

There has been a persistent myth that we are moving beyond our traditional dependence on an industrial economy. We're supposed to be moving into a post-industrial society. There is no such thing. There are only pre-industrial economies, industrial economies and failed states. All industrial economies depend on manufactured goods as a transportable store of wealth. Without robust growth in this sector the economy cannot thrive and produce wealth for the middle class.



December Employed % since 1948



Durable goods employment increased 11,000 in December. The growth of employment in durable goods has been weak through the anemic recovery even as output increased. Productivity continues increase. Total employment in durable goods is down 1,400,000 since the peak in late 2007. Unless a way is found to reduce the burden of taxes, regulation and energy cost this crucial sector will continue to stagnate in job growth. The cost of labor is increasing so fast that it justifies higher investment in automation. Ironically the higher cost is not going into paychecks. Government regulation and health care are driving the cost up.

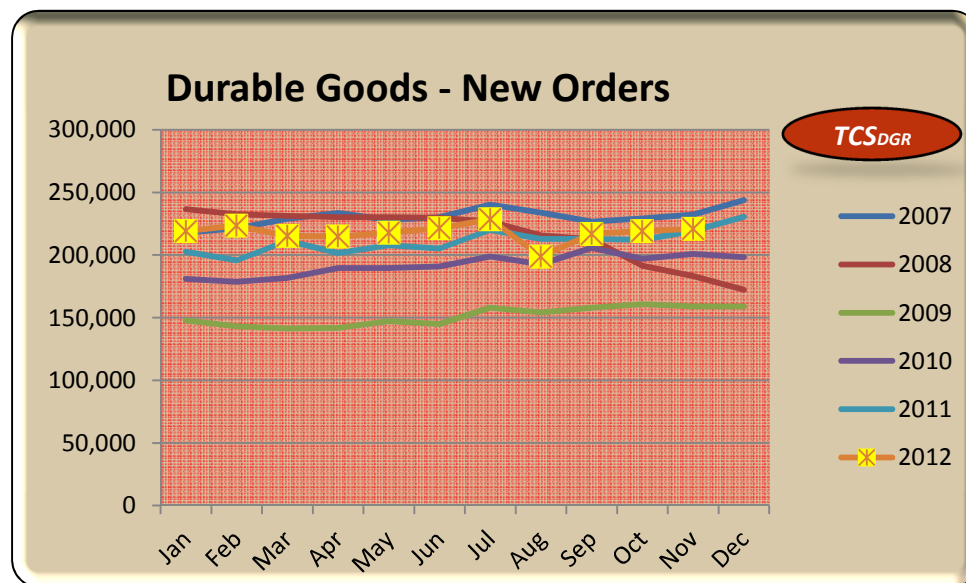
Sector Detail

The Durable Goods Sector:

New Orders: Durable new orders increased 0.8% to \$220.9 billion.

The new order growth index improved to 1.001 (neutral). Last year's comparable number was 1.044. Inventory to shipments ratio stabilized at 1.65.

The Book to Bill ratio continues to signal contraction at 0.97. Shipments exceeded orders by \$6 billion.

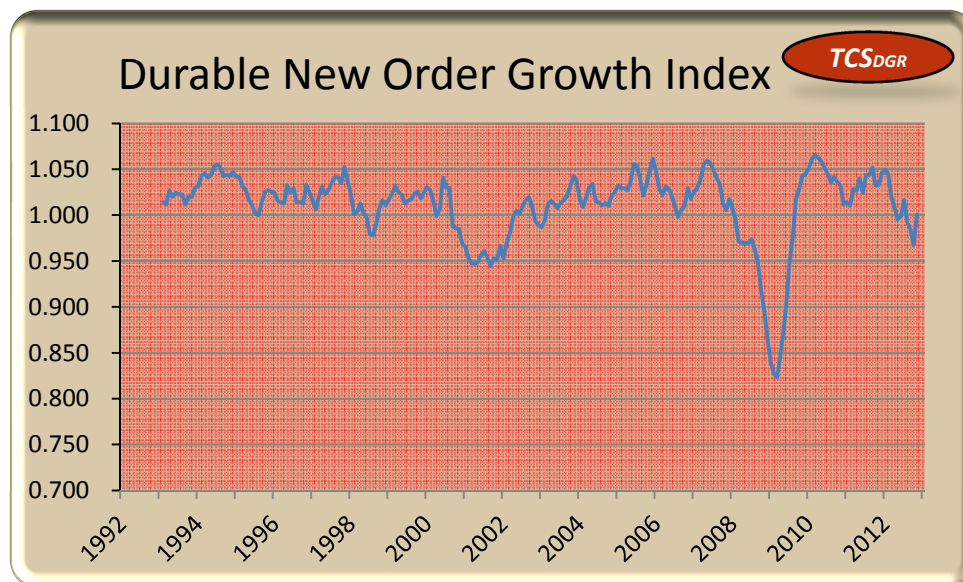


The long term chart below provides added perspective. All of the signals suggest flat to down growth performance ahead.

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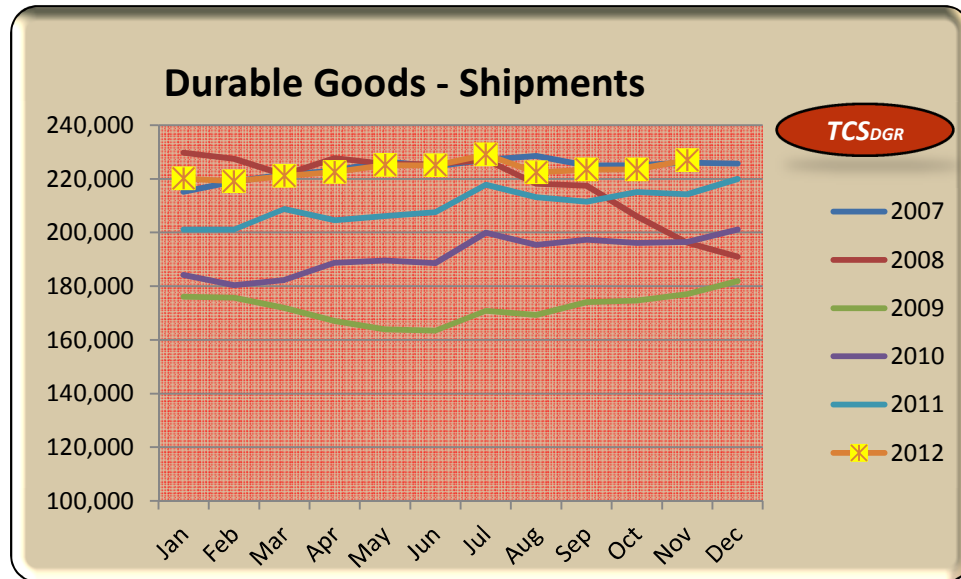


Growth Index for new orders ($3\text{mma}/12\text{mma}$ = slope of the order curve) returned to neutral after several months in a downward spiral. From a peak of 1.05 in January it had dropped to 0.966 in October. The return to 1.001 is neutral. Maybe better described as “sucks less than it used to.”



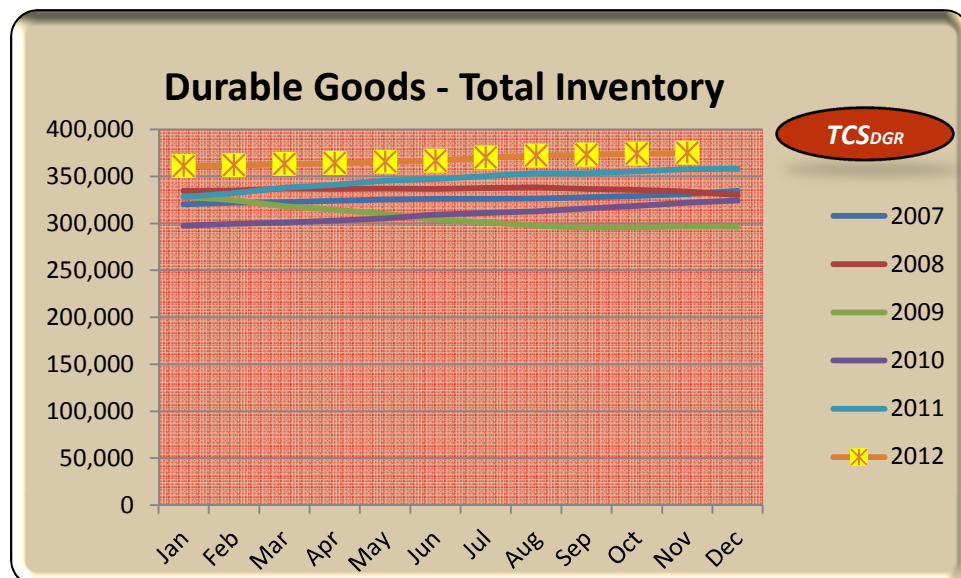
Shipments increased 1.6% to \$227 billion. This remains an anomaly since the order rate is well below the shipment rate.

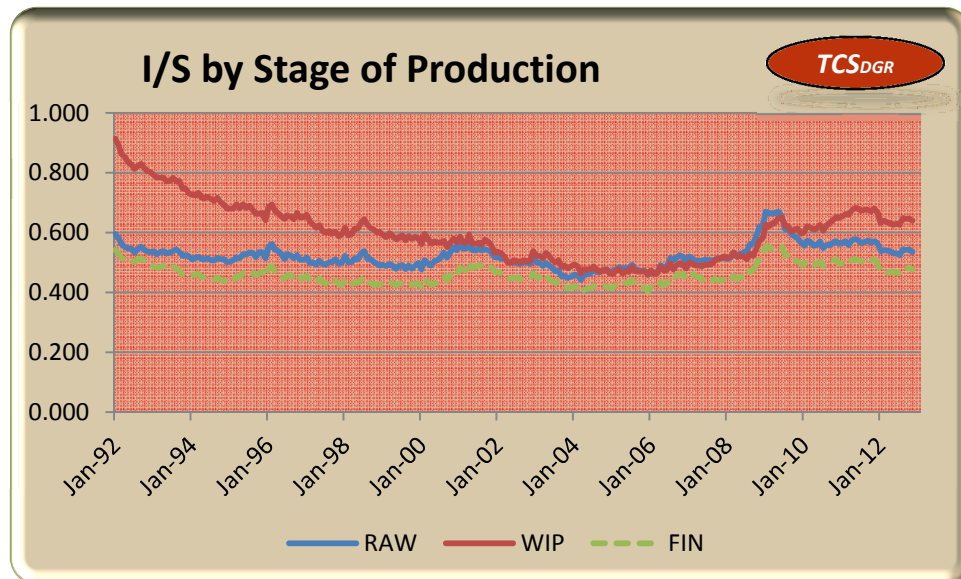
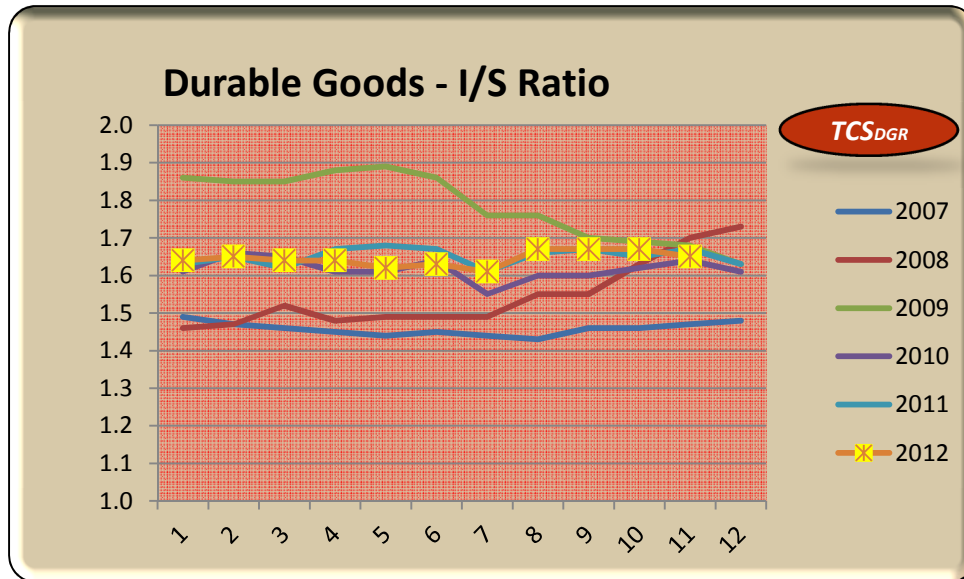
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Unfilled Orders increased 0.1% to \$984.5 billion. This is not consistent with the book to bill ratio. Probably a statistical fluke.

Inventory: Total inventory increased by 0.2% to \$374.8 billion, another record high. Inventory to shipments ratio stabilized at 1.65 suggesting the shipments surge came from inventory.

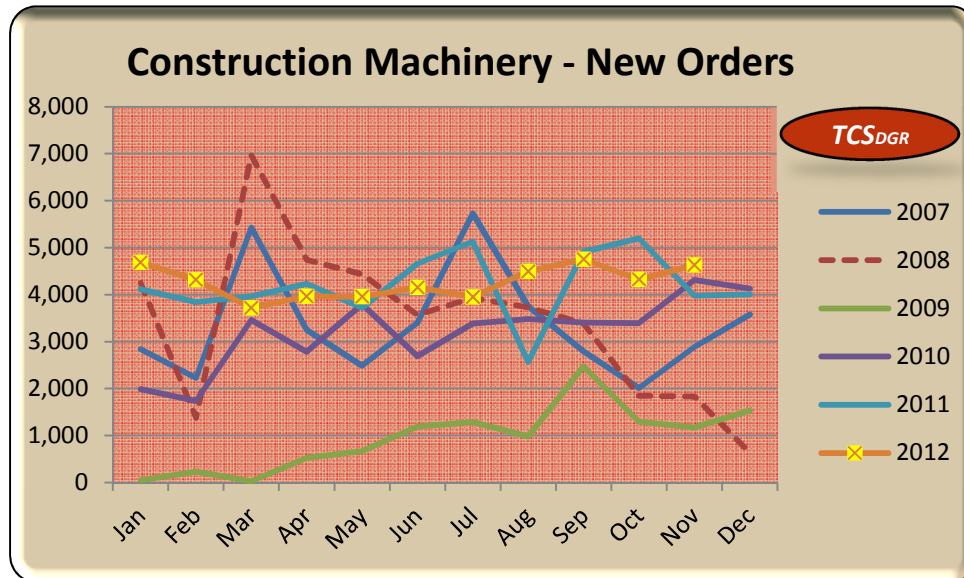




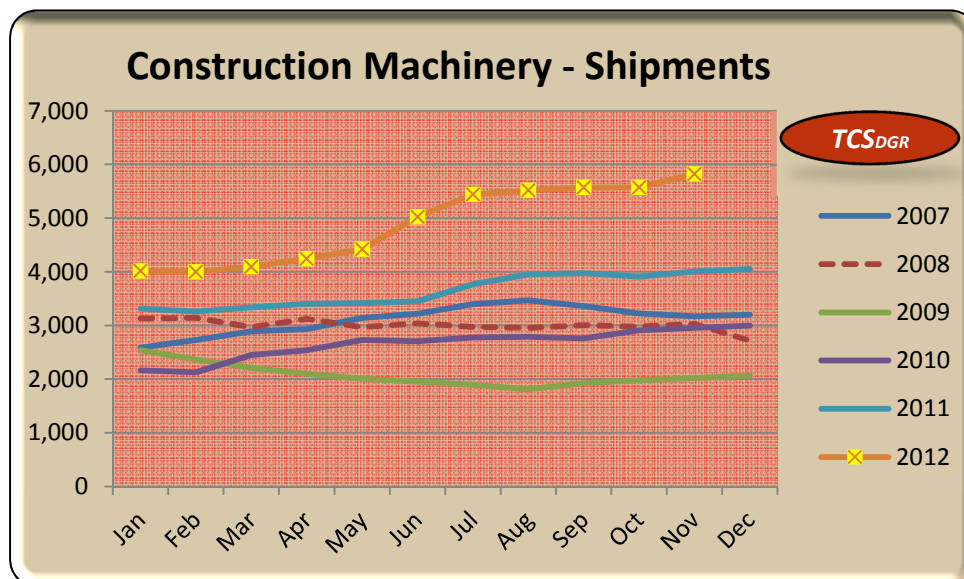
The I/S ratio by stage of production (a DGR exclusive) remains weak, but showed new signs of containment. It's now been 5 months since we first flagged the exposure to inventory position increases. That's about how long it takes to rebalance most durable supply chains.

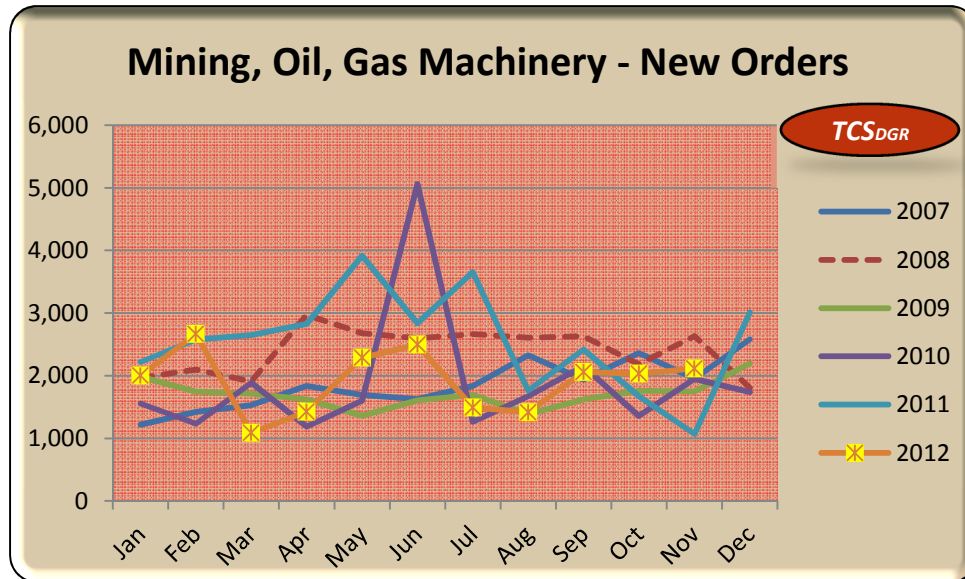
WIP goes up when order velocity goes down. Value creation depends on velocity. Synchronous flow systems are the only way to keep velocity high at all levels of production. Accounting focused systems degrade performance in these transitions.

Durable goods sub sectors:



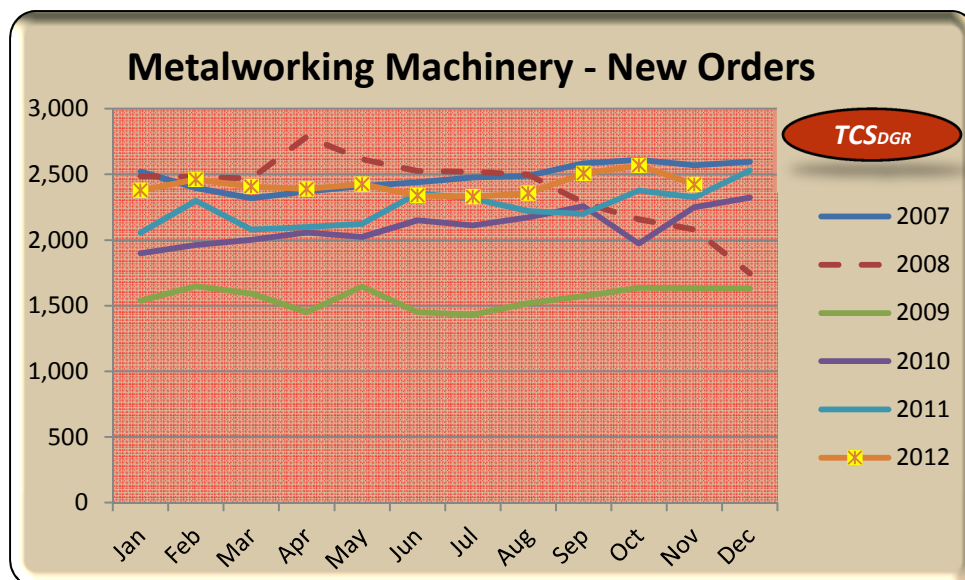
Construction machinery new orders increased by 7.2% to \$4.6 billion after a major downward revision to last month's numbers. Shipments remain much higher at \$5.7 billion. Book to Bill ratio is badly upside down at 0.80 (long term average 1.01). After a really good run for 2011-2012, look for the industry to settle back to Earth.





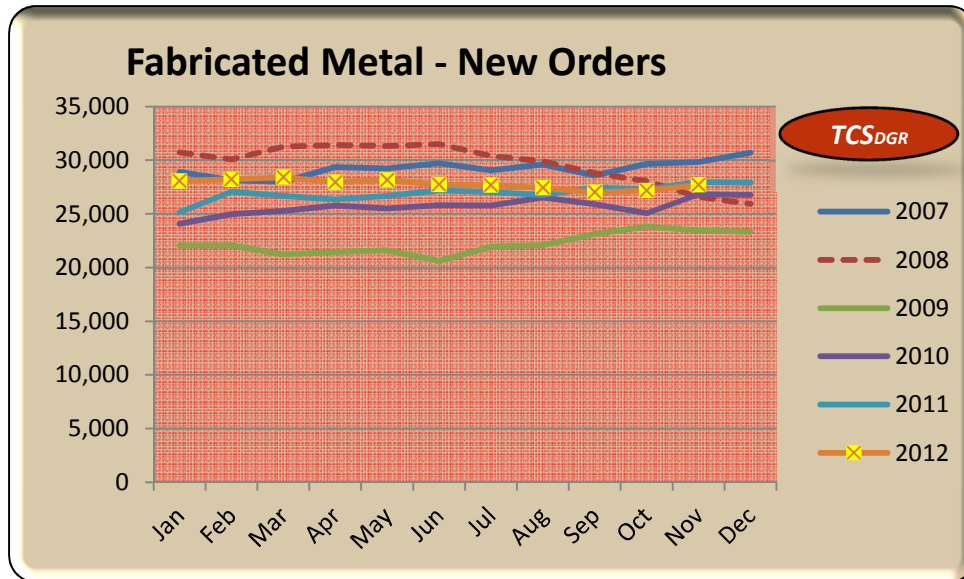
Mining, oil and gas machinery new orders decreased 4.1% to \$2.1 billion. Book to bill ratio improved to 1.0. (long term average = 1.03).

Metalworking machinery new orders decreased 5.6% to \$2.4 billion. Book to bill ratio dropped to a neutral 1.00 (long term average = 1.00).

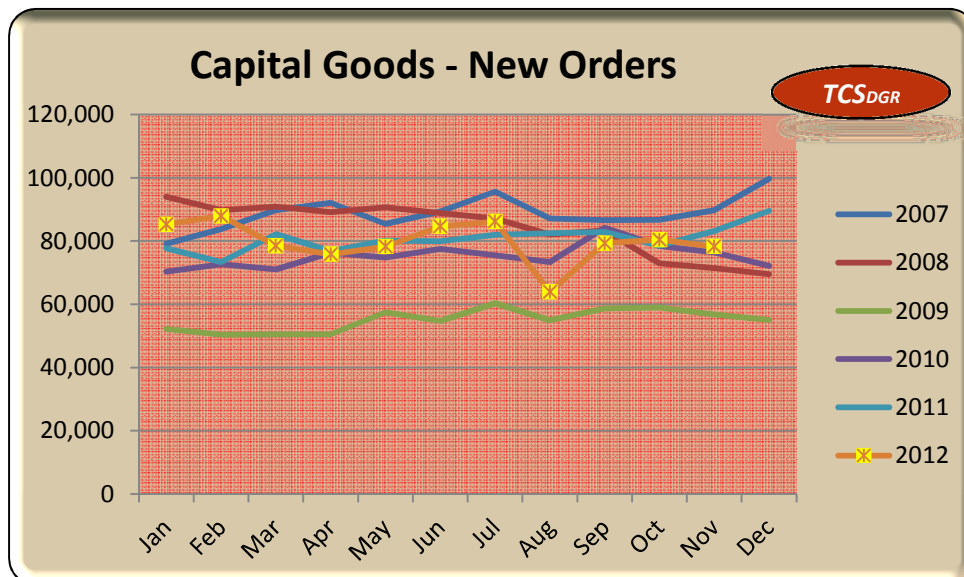


Fabricated metal new orders increased 1.9% to \$27.7 billion. Book to bill ratio climbed to 1.02 (long term average = 1.00).

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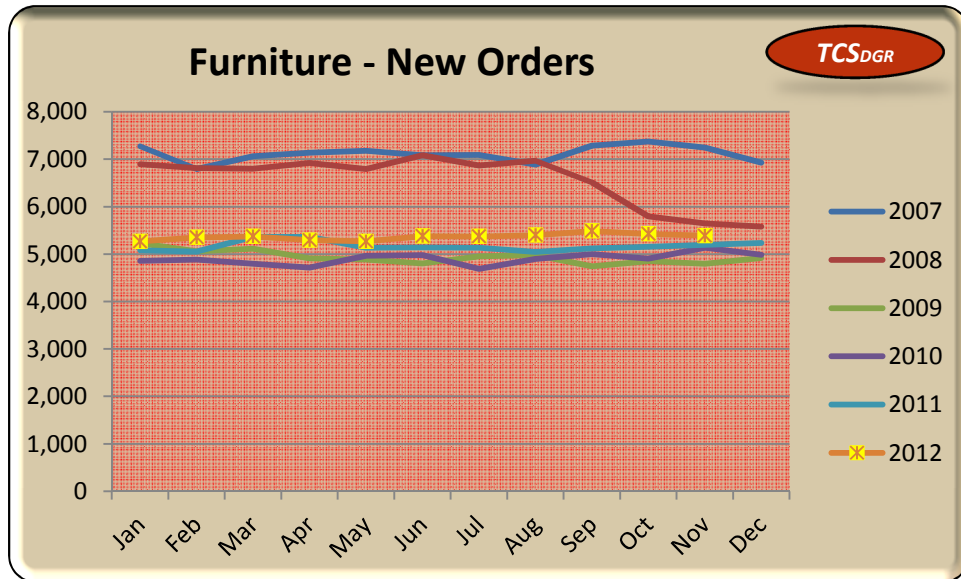


Capital goods decreased by 2.7% to \$78.2 billion. Book to bill ratio was flat at 1.02 (long term average = 1.01). Next month will determine if the dropping of the tax incentives will eliminate the December surge noted in the past two years.



Furniture: New orders decreased 0.7% to \$5.4 billion. The book to bill ratio remained steady at 0.99.

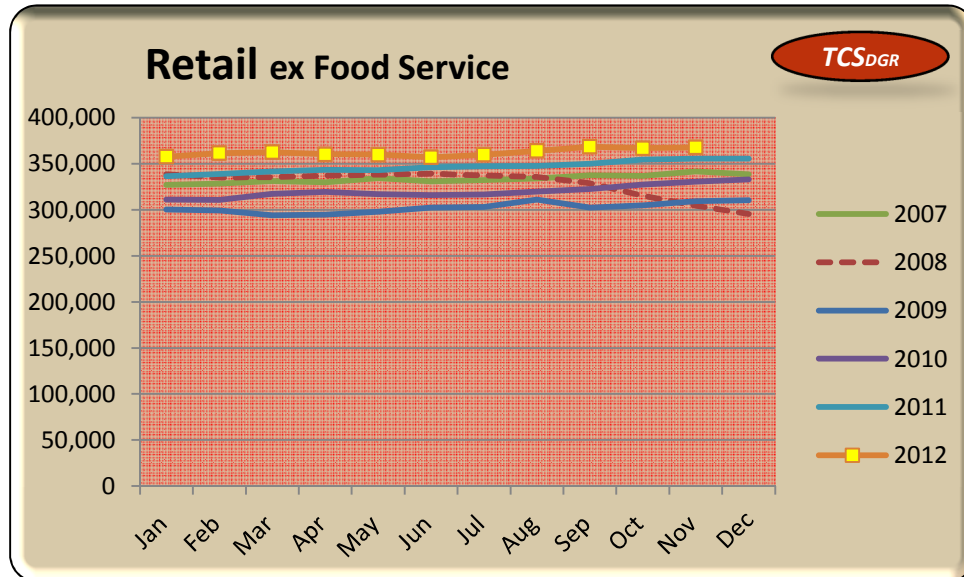
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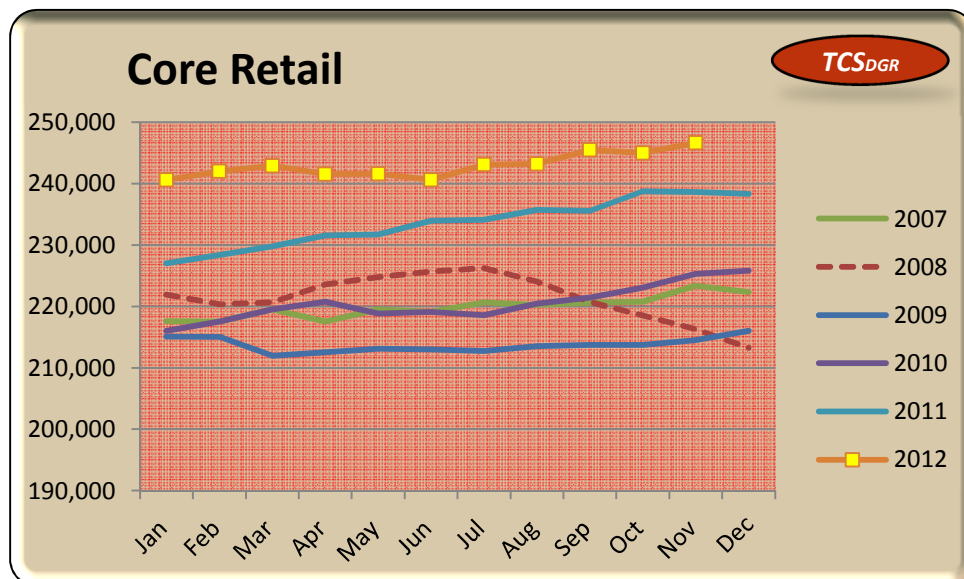
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Retail Data (Advanced Release)

Retail Sales (excluding food service) increased 0.2% to \$367.6 billion. Less than inflation.

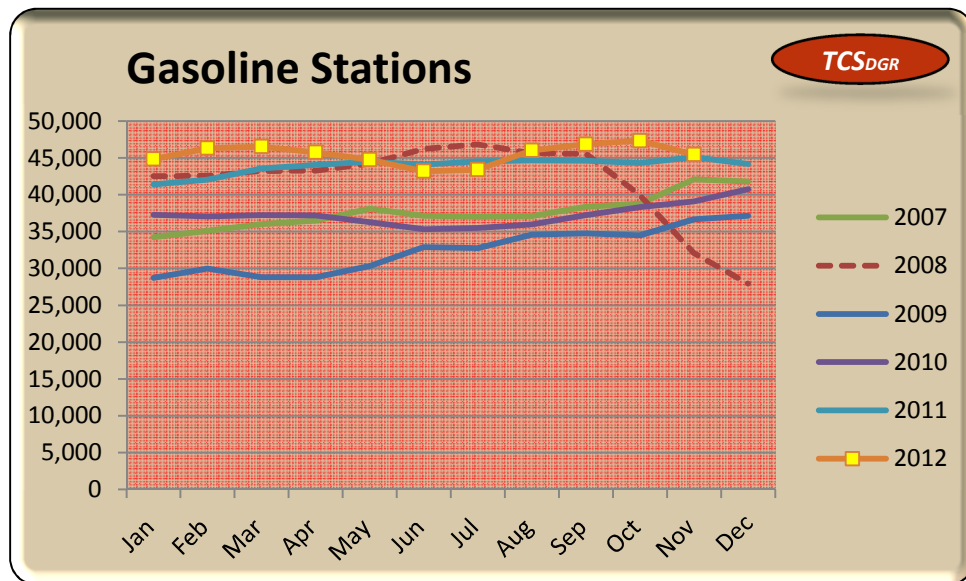


Core retail (excludes food service, gasoline, autos and parts) decreased 0.7% to \$246.6 billion.

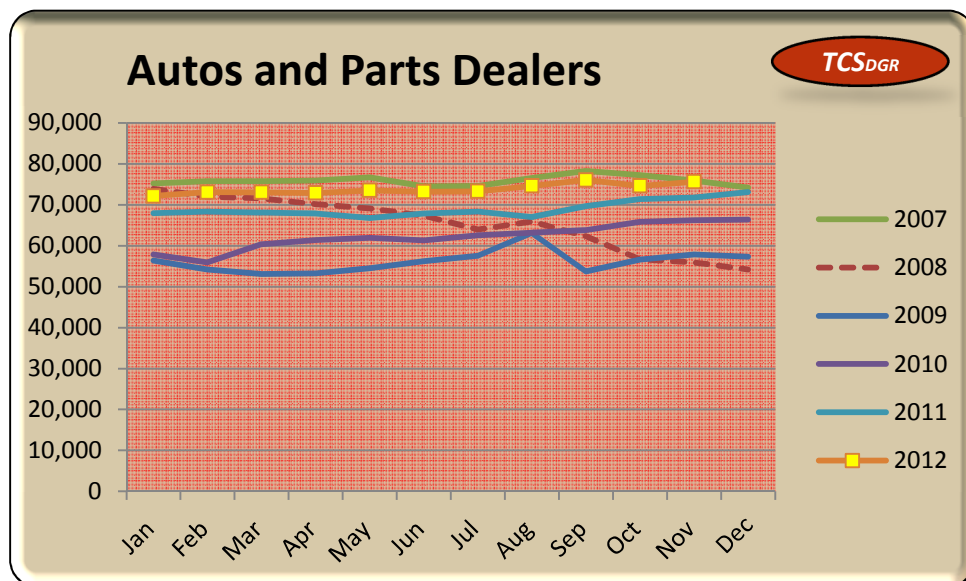


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Gasoline sales decreased 4% to \$45.4 billion. The drop in prices is a result of slack demand, causing gas and crude inventories to rise. Expect rapid adjustments at the refineries.

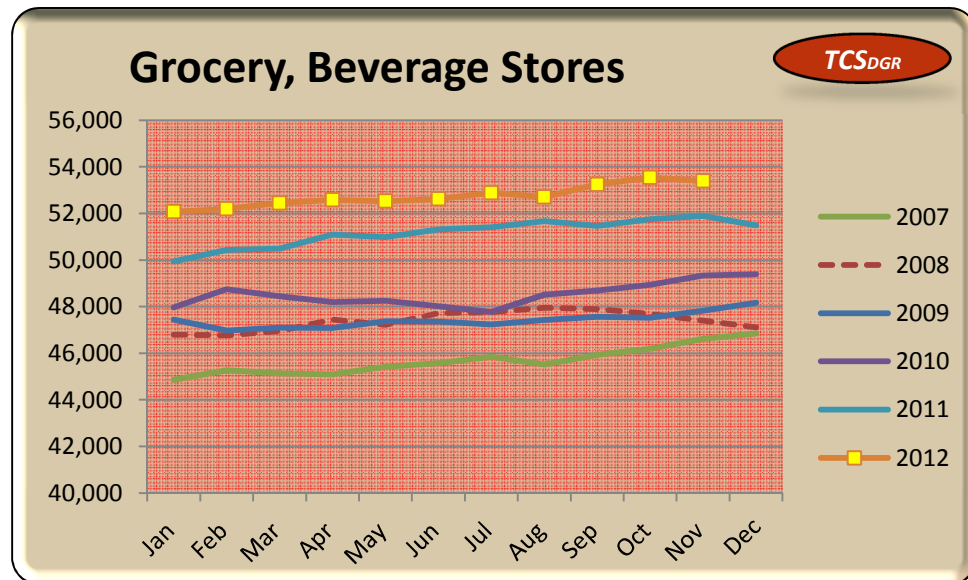


Auto sales increased 1.4% to \$75.6 billion. Capacity utilization (see Industrial Production above) recovered from 73.4% to 76.4%. It's possible this surge is driven by the need to replace 200,000 cars destroyed in the hurricane.



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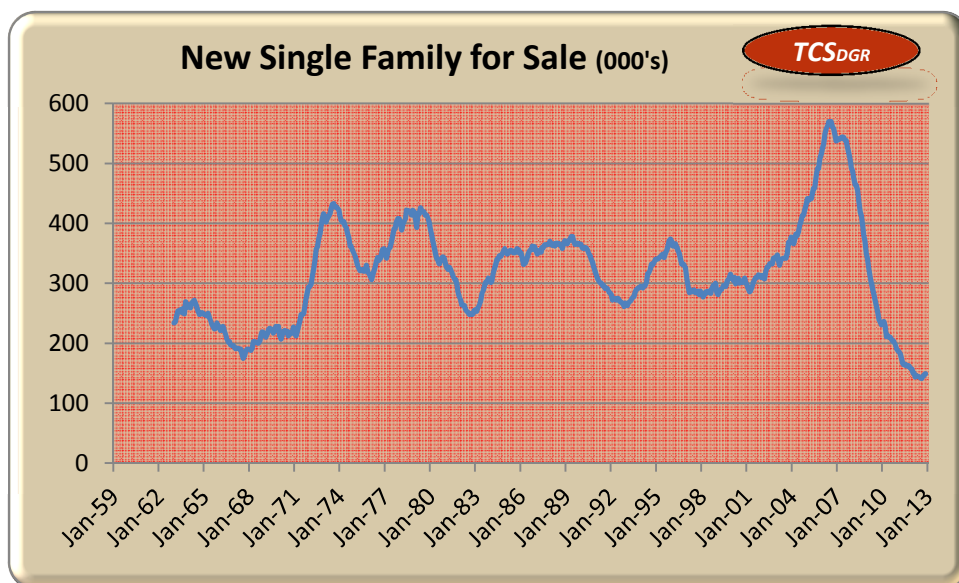
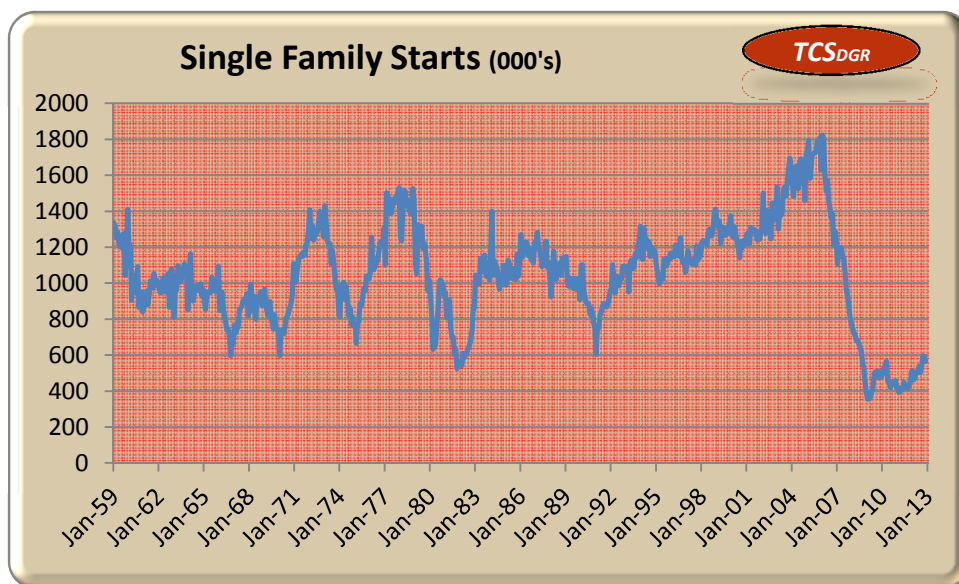
Grocery and Beverage stores sales decreased 0.3% to \$53.4 billion. Grocery stands about 3% above prior year and 8.2% above 2010 same month. This is a rough measure of retail inflation and many analysts are warning of pending higher rates in 2013.



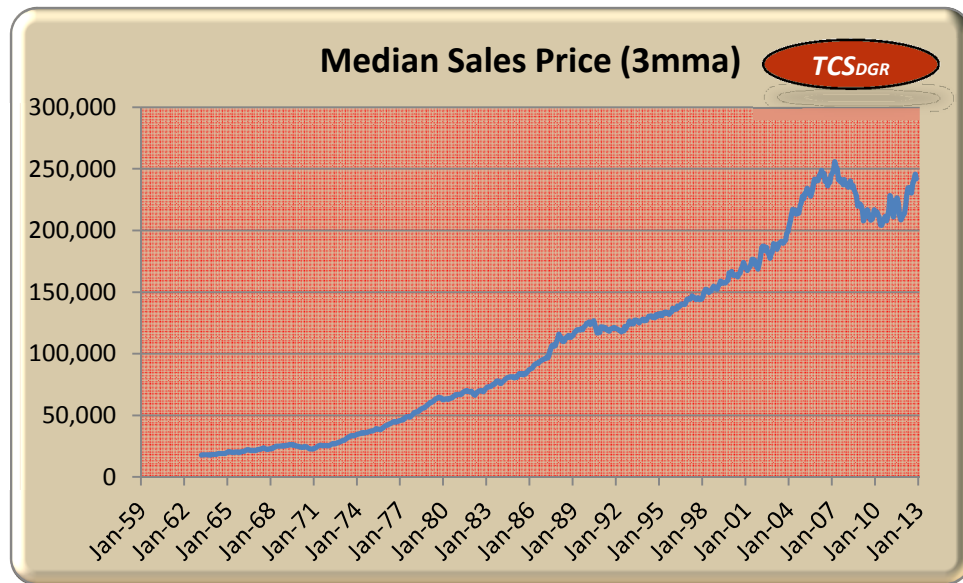
Housing:

Single family starts decreased 4.1% to 565,000. New single family sales increased 4.4% to 377,000 units. Inventory of unsold new single family homes increased slightly to 149,000.

Median sales price (3MMA) decreased 1.4% to 242,100, but remained 15% above last year. The initial reaction to price recovery was relief, but it's starting to look like a surge of inflated values. Note the slope of the median value chart and compare it to the slope just prior to the collapse. The single family share of starts remains at 66%, well below the long term average.



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About Time Compression Strategies and the Durable Goods Report

TCS provides business consulting and information technology support to high performance organizations. Our focus is on manufacturing and telecom. Through our business partners we support health care, energy and other rapid-response business sectors.

The goal of the Durable Goods Report is to offer context for the published monthly statistics on durable goods manufacturing in the US. The analysis is historical in nature, and includes no forecasts beyond what may be obvious from current conditions. The analysis of historical patterns provides a necessary framework for understanding plausible scenarios. Since a high percentage of durable goods go through retail, this sector serves as a leading indicator of future durable goods activity.

The Durable Goods Report uses source data from the US Census Bureau, Bureau of Labor Statistics, Energy Information Administration, and the Federal Reserve. Rig count data source is the Baker Hughes Corp. For data sourced from the US government, the “preliminary” publication is used wherever possible. The preliminary release occurs about 5 weeks after the end of the period. An earlier publication (advanced release) is available about 3 weeks after the end of the period, but is often subject to substantial revisions, and is not considered adequately reliable for growth trend analysis. Wherever the advanced release is used it is noted. Tracking reports are available for several durable goods sub sub-sectors. Contact TCS for details about this subscription based service.

Technical Note: The “TCS Growth Index” is measured as the ratio of the 3 month moving average divided by the 12 month moving average. This removes some of the natural noise in the industry data, but also results in a slight response lag. An index value greater than 1.000 is a sign of recent growth.

About the Author:

John Layden serves as CEO of Time Compression Strategies Corp (TCS), a management consulting and information technology company serving manufacturing, distribution, and their supporting technologies. He also serves as Chairman of Temporal Dynamics, Inc. (TDI), the developer of the patented Ancelus high performance database. TCS has developed a suite of high-performance real-time applications systems in support of their client industries.

Prior to launching TCS, Layden’s career included 22 years’ in manufacturing and another 20 years in enterprise software. Most recently he has served as VP of Supply Chain Management for SAP and VP of Supply Chain Market Development for

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Frontstep, Inc. He served as President of Pritsker Corporation, an early innovator in discrete event simulation and advanced planning and scheduling fields. He negotiated the Pritsker acquisition by Frontstep. He was a founder and CEO of Automated Technology Associates, Inc., a leader in the development of real-time quality control systems and factory management applications.

Layden has authored over 40 articles and papers on both the theory and practice of manufacturing and supply chain operations. He was described by one editor as one of the “founding fathers” of the advanced planning and scheduling (APS) industry. He also authored the supply chain chapter in Maynard’s Industrial Engineers Handbook. He speaks worldwide on the subject of world class operating strategies. He has been the keynote speaker at numerous conferences including the Automation Hall of Fame Awards.

As a software company CEO, Layden delivered to market the first real-time advanced planning and scheduling system; the first real-time SPC system; and the first real-time, fourth-normal-form database system. He is the originator of the Return on Capacity modeling process for analysis and improvement of supply chain profitability and delivery performance.

As a key partner to Motorola, Layden developed the quality control concepts that became the Six Sigma Initiative. He introduced the same concepts to GE and the Cadillac Division of General Motors. These initiatives contributed to the Malcom Baldrige awards won by Motorola and Cadillac, and to the highly publicized Six Sigma program at GE. He introduced the Six Sigma concepts to software development and delivered the only application software release to meet these exacting quality standards. Layden holds three patents and is the only American to hold a Japanese patent in quality control.

Prior to his tenure in manufacturing software, Layden spent 20 years as an engineer, operating executive and board member with three Fortune 200 manufacturing companies. The TCS advisory services retain the practical, no-nonsense approach familiar to world class operating executives. His operating roles in manufacturing included plant manager, director of business planning, and VP of Supply Chain Management.

Layden currently serves on 3 boards, and advises several high-tech startup companies.

Mr. Layden holds a BS degree from Purdue University in Electrical Engineering and an MBA from the University of Wisconsin-Milwaukee (Executive Program). He is active with the Purdue University President’s Council, and has served as a guest lecturer in the MBA programs of Villanova University, Columbia University, New York University, Indiana University, Ball State University, and others.

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