The Durable Goods Report

November 2013

Executive Summary of US Economic Activity

Manufacturing Data Release of 11/4/2013 (September Preliminary)

Employment Data Release of 11/8/2013 (October Preliminary)

Retail Data Release of 10/29/2013 (September Advanced)

Industrial Production Data Release of 10/28/2013 (September Advanced)

Housing Data Release of 9/18 & 9/25 2013 (August Advanced)

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

John E. Layden

By the Numbers

Durable Goods Key Measures			
	Current Mo	Prior Mo	Prior Yr
New Orders-Durable	234,253	225,686	216,865
12 month moving average	225,997		218,143
% Change from Prior Year	3.6%		
Growth Index - Durable New Orders	1.010	1.031	0.984
Unshipped Orders - Durable	1,041,703	1,032,915	980,124
% Change from Prior Year	6.3%		
Value of Shipments - Durable	232,422	231,596	223,480
Book to Bill Ratio	1.01	0.97	0.97
Inventory - Durables	382,277	379,164	372,820
% Change from Prior Year	2.5%		
Inv to shipments ratio - Durable	1.64	1.64	1.67
US Economy Key Measures			
	This period	Last period	Change
GDP 2012 Q4 (current $)	16,661.0	16,535.3	0.8%
Industrial Production	2,759.2	2,731.0	1.0%
Capacity Utilization %	78.3	77.9	0.3
Manufacturing %	76.7	76.8	0.0
Durable Goods %	76.4	76.2	0.2
Primary Metals %	75.5	75.3	0.2
Autos and Parts %	77.1	75.7	1.4
Machinery %	81.6	81.4	0.2
Durable Goods ($Mil SA)			
New orders	234,253	225,686	3.8%
Shipments	232,422	231,596	0.4%
Inventory	382,277	379,164	0.8%
Unshipped Orders	1,041,703	1,032,915	0.9%
Retail ex Food Service ($Mil SA)	379,530	380,423	-0.2%
Autos and Parts	72,927	74,711	-2.4%
Gasoline	45,470	45,450	0.0%
Core retail (ex auto, gas)	254,287	253,429	0.3%
Employment (000's SA)			
Civilian employed (Household Survey)	143,568	144,170	(602)
% of potential workforce (HS)	58.3%	58.6%	-0.3%
Civilian not employed (HS)	102,813	101,865	948
Non-Farm (Establishment Survey)	136,554	136,350	204
Private (ES)	114,692	114,480	212
Government (fed, state, local) (ES)	21,862	21,870	(8)
Goods Producing (ES)	18,707	18,672	35
Manufacturing (ES)	11,986	11,967	19
Construction (ES)	5,834	5,823	11
Durable Goods Mfg (ES)	7,542	7,530	12
Housing (000s of Units SA)			
Total housing starts	891	883	0.9%
Single family starts	628	587	7.0%
Single family sales (new)	421	390	7.9%
Single family for sale (new)	175	171	2.3%

US Economy – Quick Look:

US GDP

Q3 2013 GDP growth first estimate was reported as 2.8% SAAR, 1.2% Q/Q, 3.1% Y/Y.

Industrial Production

Industrial production excluding industrial supplies increased 1.0% to $2.76 trillion. Now stands 3.4% above prior year. Capacity utilization decreased 0.6 points to 78.3%.

Durable Goods

New orders for durable goods increased 3.8% to $234.3 billion. The 12 month moving average improved to 3.6% above last year.

Retail:

Retail sales (ex food service) decreased 0.2% to $379.5 billion. Core retail (ex food service, autos, gasoline) increased 0.3% to $254.3 billion. Gasoline sales remained flat at 45.5 billion. Auto sales dropped 2.2% to 79.8 billion.

Employment:

Working-age population increased 213,000.

Household survey shows: Employed: down 602,000. Not employed: up 948,000. Employed: 58.3% of population (down 0.3).

Establishment survey shows: 204,000 jobs added. Durable goods employment increased 12,000.

Housing:

Total starts: +0.9% to 891,000 SAAR. Single family starts: -7% to 628,000. Single family sales: +7.9% to 421,000. Median value: decreases to $253,833 (3mma).

Random Thoughts, Stray Data and Rants:

Economy

- The above chart shows median household income for Washington DC (red) vs. total US. The stagnation of US median income started in 2007 when the Democrats took over Congress. At the same time DC income skyrocketed.
- Before Republicans celebrate because "it's their fault", note that the Democrats only maintained complete control of Congress for four years.
- This article shows how Norma Rea plays out in the real world.
    - Workers demand higher wages
    - Win the argument without productivity increase (with or without union support)
    - Jobs move to (select one: Mexico, Japan, China, Vietnam)
    - Over time automation eliminates much of the labor content
    - Production moves back to the US, but not the jobs

  http://www.nytimes.com/2013/09/20/business/us-textile-factories-return.html?_r=1&
- More on the ghost cities of China.
  http://confoundedinterest.wordpress.com/2013/09/22/stealth-socialism-ghost-cities-and-fake-paris-london-manhattan-moral-hazard-gone-wild/
- More on the fake GDP stats from China.
  http://www.breitbart.com/system/wire/CNG---048178cbb5b01be914af4993e5e621c2---1e1

Energy: *A key driver of wealth, surplus wealth and demand. Used as a labor multiplier it generates wealth and improves living standards.*

- A few weeks ago the US became the world's largest producer of oil and gas.
- Within a few months the US will have three fields producing 1 million barrels per day.
- Niobrara field: Another major fracking play gains attention. Spans Colorado, Wyoming, Nebraska, Kansas. Maybe as big as Baaken. http://www.niobrarareport.com/white-papers/the-niobrara-shale-play-the-next-bakken/

- There remains a real challenge for fracking technology. How long will these wells remain productive? Only way to know for sure is to wait. But there is a theory that the fractures will eventually plug.
- In a former life we used a process called "bumping" to get additional life from a plugged filter bed. Would it work for fracking?
- In the meantime we need to continue the chase for the next technology.
- Note that the replacement will not be wind, solar, ethanol or electric cars. None of these are true energy sources because they consume more energy than they produce or store.
- Thorium continues to move into the mainstream. Another prominent Nobel physicist endorses the miracle source: http://www.smartplanet.com/blog/bulletin/nobel-physicist-thorium-trumps-all-fuels-as-energy-source/33365
- Toyota announces that they have replicated the Mitsubishi results from a LENR (low energy nuclear reaction). We used to call this cold fusion. But it's not cold. Might not be fusion. Bose-Einstein condensate activity in lattice wells is a possibility.
- We will once again repeat our prediction for energy. It's about to become essentially free. Too cheap to bother using a meter on it. Only the date is unknown.
- More reasons for Thorium mini-reactors. The emergence of "hot spots" of electrical energy consumption put new pressure on the grid. The Bay Area can no longer add another data center. They've run out of available electric generation or import capacity.
- Three major data centers are being built along the Columbia River. Access to electrical supply and cooling water are the drivers for that location.
- How the salmon feel about that? Just askin'.
- Ideal solution for datacenters would include two components:
    - Adopt the Ancelus database as a development platform to reduce the hardware by up to 20X.

        - The greenest server is the one you don't install.
        - Full disclosure: We have a slight bias here since this is the main product from TCS. http://www.tcsdb.com/ancelus-database)
    - Use local LFTR (liquid fluoride thorium reactors) as an on-site energy source. The first server rack is replaced by a LFTR that powers the entire facility. About the size of a refrigerator.
    - If the data center needs to move, truck the reactor to the new location. No grid required. Energy supply system becomes part of the production gear.

Government: *"Government is the great fiction through which everybody endeavors to live at the expense of everybody else." F. Bastiat.*

- The Obamacare debacle could have been worse. It could have worked.
- When did it happen that prices were reduced when a monopoly was created? Just askin'.
- Three years ago we predicted the following from socialized medicine: higher prices, reduced quality, short supply.
    - Not based on any grand analysis, but on the fact that in the 5500 years of recorded history price controls have produced exactly the same result. Every time and at every place.
- The real problem with Obamacare is that it retains and expands the most blatant problem with the original system – third party payer.
    - Single-payer or multi-payer doesn't matter. When a third party makes the decision the consumer is not required to make a buying decision at the transaction level.
    - It's not a question of who pays. It's that you don't.
    - Whoever pays the bill decides what to pay for. They just became the death panel.
- Obamacare is in a state of chaos. The website disaster is only the visible part of the problem at the moment. More important issues are starting to surface.
    - Coverage when out of your home state (or even your home county) is limited. If you move across state lines you will need to get new insurance.
    - The regulations require policies to cover 60% of medical expense for all. Currently half hold policies with under 50% coverage.
    - The regulations impose about 5% added cost in the form of taxes and fees.
    - The regulations impose minimum coverage even if the buyer doesn't want them.
    - The regulations require acceptance of people with pre-existing conditions.

  - Young people and healthy older people are not signing up. Why would they? They discovered they're the pigeon in the poker game.
  - The ratio of people losing coverage to gaining coverage is massive. At least 10:1, but probably more like 100:1.
  - Doctors are dropping out of the system. Practice conversions to cash, retirement, and bankruptcies.
  - Insurance companies are dropping doctors.
  - Insurance companies are dropping entire states.
  - Hospitals are dropping out of the system.
  - Price increases in the area of 100%.
- In a perverse way the web troubles are a fortuitous disaster. Blessed distraction.
- Republicans are making a big mistake focusing on the software. It won't get fixed completely, but there will be a time when they declare success (usually by redefining the goals).
- The next disaster will be the electronic medical record (EMR) systems.
  - None of the regional health information exchanges want to share records (it's their company's biggest asset).
  - The relational database systems at their core are technically incapable of managing this degree of complexity. If you want to understand why, check out www.tcsdb.com/ancelus-database
  - The EMR data entry chore is a nightmare. My personal experience is it consumes 80% of my doctor visit. Even for a flu shot. Note that this isn't a software issue. It's the same when they do it on paper. It's a symptom of the current bureaucratic mess that health care has become.
  - Reminds me of the early days of shop floor data collection. Took 25 years to figure that out.

Climate & Environment: *"The whole aim of practical politics is to keep the populace alarmed and hence clamorous to be led to safety by menacing it with an endless series of hobgoblins, all of them imaginary."* - H.L.Mencken

- True to the quote, President Obama has issued an executive order for the nation to prepare for global warming.
- The UN IPCC has issued their 5th report on climate. All the data now confirm that we are cooling, not warming. But the UN still considers it to be a crisis. They extend the debate by speculating on where the heat went. They continue to assume their hypothesis (CO2 causes warming) is correct, and is only missing a plausible explanation.
- They are missing the most fundamental breakthrough to date in climate science. The null hypothesis (CO2 does not cause warming) has been proved.

- In the meantime the evidence of our entry into a cooling cycle mounts:
    - Arctic ice sets a decade record. Antarctic ice sets an all-time record.
- But in order to keep the alarm at high pitch the UN now targets water.
- New twist is water quality, not quantity.
- They can't use the water shortage argument. Used that in the 70s until someone looked at the globe and noted that we had lots of water. And that the total amount of water has remained unchanged for 3 billion years.
- But by then we had government bureaucracies making sure our toilets flushed efficiently. They remain in place today. How does an efficient toilet in Indianapolis help with a water shortage in Phoenix? Just askin'.
- There is a growing consensus that we are entering a substantial cooling period. The debate seems to be around whether it will be as bad as the "Little Ice Age" or the less dramatic event of the early 1800s.
- What is clear is that the Sun dominates our climate just as predicted by Danish and Russian scientists two decades ago at the height of the CO2 mass hysteria.
- What is also clear is that solar activity is dropping rapidly. By one estimate the fastest in 10,000 years.
  http://www.thegwpf.org/lawrence-solomon-global-cooling-consensus/

  http://www.newscientist.com/article/dn24512-solar-activity-heads-for-lowest-low-in-four-centuries.html?cmpid=RSS|NSNS|2012-GLOBAL|space#.UnVg5G29LCQ

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 get on this list the phrase only needs to be intentionally misleading, mathematically impossible, or oxymoronic.
    - "You can keep your plan. Period." Can't think of anything to add.
    - "Common sense _____." Phrase used by a politician when they can't think of an argument on substance. If you need to explain that it's common sense, it isn't.
    - "The _____ system in the US is broken. It's time for action." Has anyone asked what's actually broken about health care or immigration? The old health care system was the most creative and pervasively available in the world. The only inefficiencies came from government regulations and inefficient cost allocation for treatment of several million who depended on emergency room services. So the solution is more government regulation?

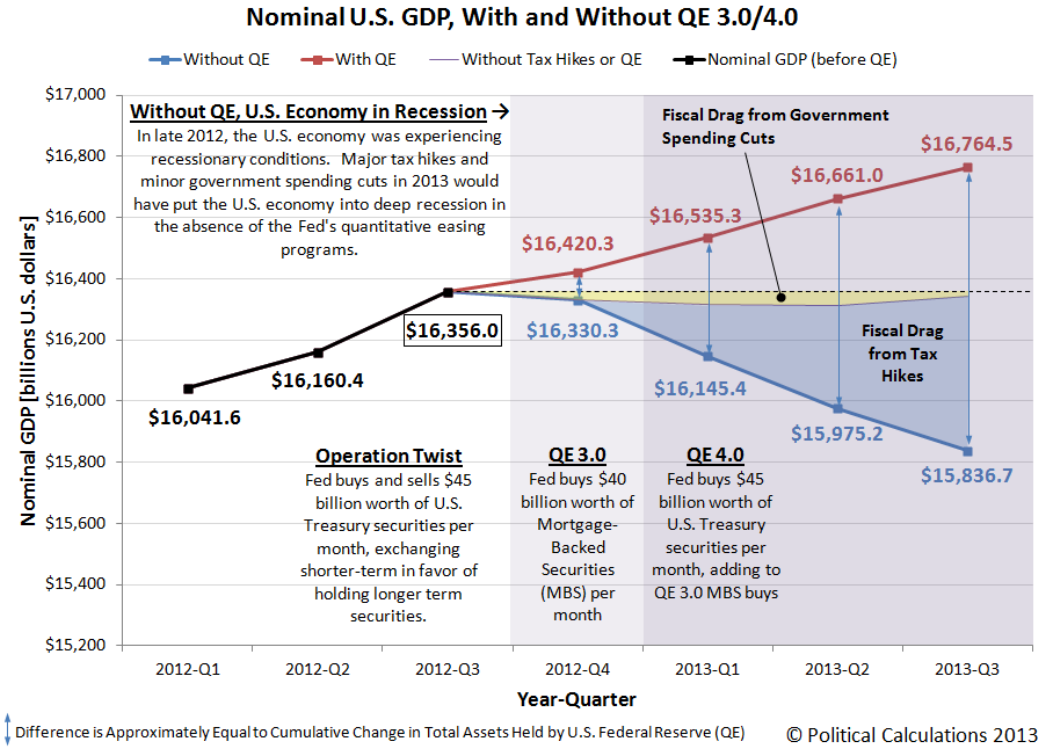
      The immigration system in the US seems to be in fine working order except that several decades of administrations have chosen not to enforce

it. There is an existing "path to citizenship" and it's been used effectively for almost a century in its current form.
  - "Settled Science": Used by someone who has no factual case to make. Science is never settled. Science is defined as continuous challenge.
  - "Water prevents de-hydration": This phrase is banned on bottled water by the EU commission in charge of bottled water after a three year study because they could find no scientific evidence. Don't look at me that way. I'm not creative enough to make up this kind of stuff.
  - "Let me be clear on this…:" When from a politician it means "I'm about to obfuscate." First popularized by President Richard Nixon.
  - "We're accumulating phone records, not collecting them": NSA and other bureaucrats claim they compile the records but don't look at them. Collection only occurs when they look. Really?
  - "Common sense gun-control": Today it means "Disarm the victims." If you need to point out that your proposal is "common sense" it probably isn't.
  - "…post- industrial economy": Means that math and science was too hard and my self-esteem coach told me that soon no one would need them. Sorry, your self-esteem coach was happy-talking you. There's no such thing as the "Post-industrial economy." Only failed economies.
  - "Obstructionist" is anyone who refuses to cave in and do it my way.
  - "Fair and Balanced": means talking heads concurrently reciting opposing talking points no matter how unbalanced. (thanks to Rollie in Austin)
  - "Security": now means the absence of civil rights (thanks to Rollie in Austin).
  - "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.
  - "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.
  - "We're all in this together" means "it's not my fault."
  - "Sharing" (when used by a politician) means they covet your money.
  - "Fair share": would that mean everyone paying the same %? Guess not.
  - "Social Justice": I thought justice was a matter of law. Silly me.
  - "Targeted tax cuts": The real issue is that someone besides the market gets to pick winners. Taxpayers are always the losers.
  - "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 first estimate for Q3 2013 is reported at 2.8% SAAR. Based on current $ it comes in at 1.2% QtoQ and 3.1% above prior year same period.

A more detailed look at the performance of the economy with and without quantitative easing is shown in the chart below. The bottom line: without the quantitative easing the economy would have gone into deep recession. Also note that the effect of government cuts is essentially rounding error. The fiscal drag from tax hikes is profoundly larger. This isn't real growth. And it's not sustainable.



Why no inflation with all the money being printed? Good question. Here's how to take it apart:

M*V=P*T

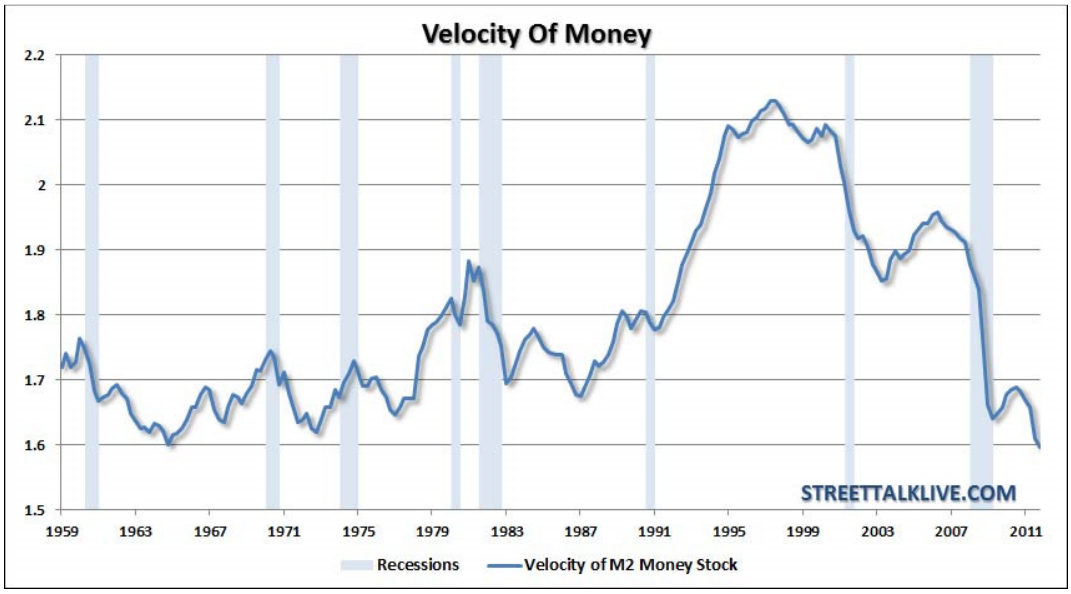
Money supply (M) times velocity of money (V) equals total economy

Price per transaction (P) times the number of transactions (T) equals total economy.

Inflation occurs when the money supply is increased and velocity is constant. In that scenario the price per transaction must go up with no change in the content of the transactions. That's the definition of inflation. But if M goes up and V goes down by the same amount, there's no change in the right hand side of the equation.

The size of the economy is growing slowly, but only because of the pumping by the fed. Velocity is in free fall. Has been since Y2K. Except for a brief period between the Bush tax cuts (May 2003) and the Democrats takeover of congress (Jan 2007). The earlier surge from 1987 through 1995 is directly correlated to the simplification of the tax code in 1987. The current measure of velocity at the lowest point of my adult life (which unfortunately spans the entire chart.).

When you multiply M*V you get the GDP. If velocity drops and money supply increases the net is an offset.



My thinking has evolved on the importance of this measurement. Money supply is controlled by the Federal Reserve. But the velocity of money is a function of what you and I do every day. When we slow down our spending activity, velocity declines. When viewed in this light, why is this not the most important measure of the economy?

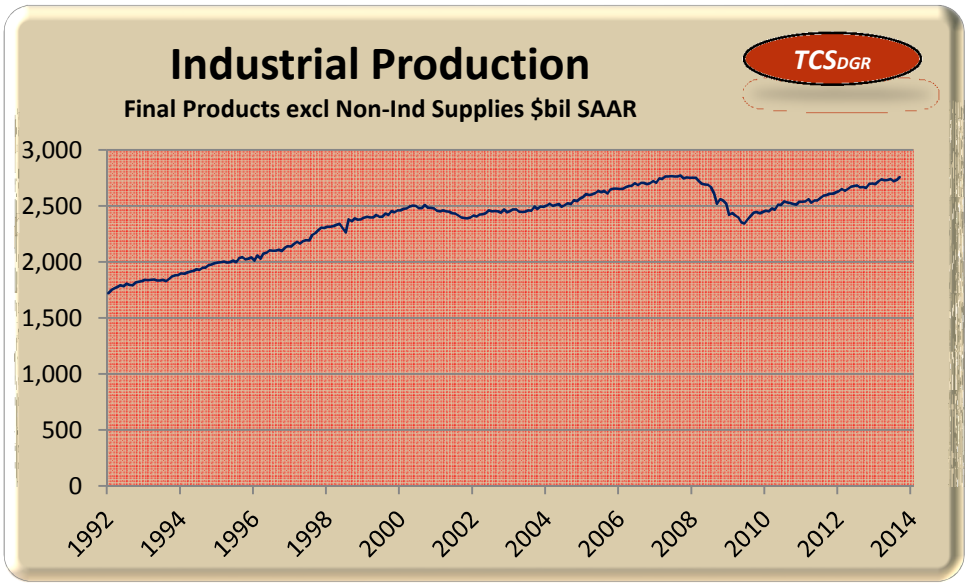
Furthermore, doesn't this suggest that there are fewer transactions going on in the economy? It's not required to be the case. But it's a plausible interpretation. But that also leads to the plausible interpretation that we are experiencing inflation in the imputed price.

Gross Domestic Product				
Year	Qtr	GDP $b (SAAR)	Chg from Prior Pd	Chg from Prior Year
2008	1	14,672.9	-0.1%	3.1%
2008	2	14,817.1	1.0%	2.7%
2008	3	14,844.3	0.2%	1.9%
2008	4	14,546.7	-2.0%	-1.0%
2009	1	14,381.2	-1.1%	-2.0%
2009	2	14,342.1	-0.3%	-3.2%
2009	3	14,384.4	0.3%	-3.1%
2009	4	14,564.1	1.2%	0.1%
2010	1	14,672.5	0.7%	2.0%
2010	2	14,879.2	1.4%	3.7%
2010	3	15,049.8	1.1%	4.6%
2010	4	15,231.7	1.2%	4.6%
2011	1	15,242.9	0.1%	3.9%
2011	2	15,461.9	1.4%	3.9%
2011	3	15,611.8	1.0%	3.7%
2011	4	15,818.7	1.3%	3.9%
2012	1	16,041.6	1.4%	5.2%
2012	2	16,160.4	0.7%	4.5%
2012	3	16,356.0	1.2%	4.8%
2012	4	16,420.3	0.4%	3.8%
2013	1	16,535.3	0.7%	3.1%
2013	2	16,661.0	0.8%	3.1%
2013	3	16,857.6	1.2%	3.1%

Industrial Production (excluding industrial supplies)

Industrial production grew 1% in September. The year to year comparison stands at 3.4% above the same month prior year. The performance of the past two months reverses several months of weak or negative performance.

Industrial Production - Final products $bil SAAR				
Year	Mo	Ind Prod - Value of Prod	Chg from Prior Pd	Chg from Prior Year
2012	1	2,631.2	0.4%	3.6%
2012	2	2,651.0	0.8%	4.3%
2012	3	2,636.0	-0.6%	3.0%
2012	4	2,651.7	0.6%	4.8%
2012	5	2,671.4	0.7%	4.8%
2012	6	2,677.8	0.2%	5.1%
2012	7	2,684.5	0.2%	4.4%
2012	8	2,665.7	-0.7%	2.8%
2012	9	2,668.5	0.1%	2.7%
2012	10	2,660.8	-0.3%	2.0%
2012	11	2,697.8	1.4%	3.4%
2012	12	2,702.1	0.2%	3.1%
2013	1	2,694.9	-0.3%	2.4%
2013	2	2,720.7	1.0%	2.6%
2013	3	2,738.4	0.6%	3.9%
2013	4	2,729.2	-0.3%	2.9%
2013	5	2,732.2	0.1%	2.3%
2013	6	2,740.9	0.3%	2.4%
2013	7	2,720.8	-0.7%	1.4%
2013	8	2,731.0	0.4%	2.4%
2013	9	2,759.2	1.0%	3.4%



Capacity Utilization:

Industrial capacity utilization increased 0.6 points to 78.3% in the two months since we last saw the numbers. Over the two months: Manufacturing was up 0.3 to 76.7; Durable goods manufacturing increased 0.9% to 76.4%; Primary metals was off 0.1 to 75.5%; Autos soared 5.1 to 77.1%; Machinery up 0.2 to 81.6%.

The sudden drop in auto sales (see Retail) will result in a pull-back in auto factory capacity utilization in coming months. Producers are lagging the market as is the norm.

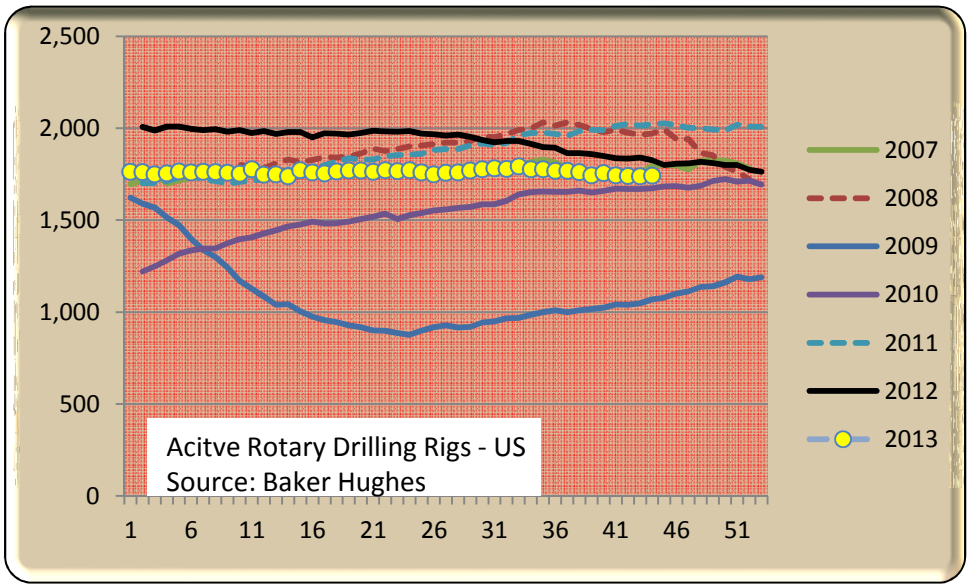
Capacity Utilization %							
Year	Month	Ind Prod	Mfg	Durable	Primary Metals	Auto	Mach-inery
2011	1	76.1	73.8	71.6	72.8	61.0	78.8
2011	2	75.7	73.8	71.9	72.3	63.3	79.0
2011	3	76.5	74.3	72.2	73.7	65.7	78.5
2011	4	76.0	73.7	71.2	73.0	60.9	77.4
2011	5	76.1	73.9	71.7	72.7	61.9	78.2
2011	6	76.2	73.9	71.6	72.7	61.7	78.8
2011	7	76.5	74.4	72.0	73.0	63.5	79.3
2011	8	76.8	74.5	72.4	73.2	65.2	79.1
2011	9	76.7	74.7	72.6	74.1	65.5	79.4
2011	10	77.0	75.1	73.1	75.1	67.7	79.7
2011	11	77.0	74.9	73.2	75.9	66.6	80.1
2011	12	77.3	75.6	74.0	76.6	69.4	81.7
2012	1	77.7	76.3	74.9	76.8	72.2	83.0
2012	2	77.9	76.7	75.4	77.4	71.9	83.6
2012	3	77.3	76.2	75.2	74.8	72.4	84.0
2012	4	77.7	76.6	75.7	76.3	74.0	83.9
2012	5	77.8	76.3	75.4	74.9	73.4	83.3
2012	6	77.7	76.5	75.8	73.5	74.4	85.0
2012	7	77.9	76.6	75.9	75.4	75.3	82.3
2012	8	77.2	76.0	75.0	75.1	72.5	81.4
2012	9	77.2	75.9	74.7	71.7	71.2	81.6
2012	10	77.0	75.5	74.5	72.6	71.1	79.6
2012	11	77.9	76.4	75.8	74.6	74.6	80.2
2012	12	77.8	77.0	76.4	77.4	76.3	80.4
2013	1	77.7	76.9	75.8	75.7	73.7	83.0
2013	2	78.1	77.3	76.6	75.2	74.5	83.6
2013	3	78.2	77.0	76.3	73.7	75.3	84.0
2013	4	77.9	76.6	76.0	74.0	74.9	83.9
2013	5	77.9	76.7	76.0	74.4	75.3	83.3
2013	6	77.9	76.9	76.1	72.5	76.1	85.0
2013	7	77.7	76.4	75.5	75.6	72.0	82.3
2013	8	77.9	76.8	76.2	75.3	75.7	81.4
2013	9	78.3	76.7	76.4	75.5	77.1	81.6
Year	Month	Ind Prod	Mfg	Durable	Primary Metals	Auto	Mach-inery

Energy:

No major changes in the level of drilling activity. Current rotary rig deployment is below the record levels of two years ago, but relatively stable.

In the past few weeks the US has become the largest producer of oil and gas in the world. As long as oil prices remain solid the pace will continue, but at some point supply will force prices down. Gas has already reached that point and the primary goal of continued drilling is for export.

The energy market is now faced with a different constraint. Refineries are running near capacity. Several expansions are under way, but no new refinery site is being developed (at least none that we can find). The permitting complexity of a new site combined with the flexibility of the US pipeline infrastructure argues for expansion of existing sites.



Energy Density measured by Heat of Combustion

The following energy density analysis is repeated from prior reports to address the contiuned stream of questions on the viability of various liquid fuels. Before you write about your latest wonder-scheme, check out these numbers.

The table 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.

For the space shuttle the most important consideration is weight. Putting anything into orbit means picking a fight with gravity. Hydrogen has the highest energy concentration per unit weight by far compared to any other fluid source. But it's energy per unit volume (mega-joules per liter) is terrible. To take advantage of the low weight, engineers are willing to go to technical extremes (high pressure, 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 by rail.

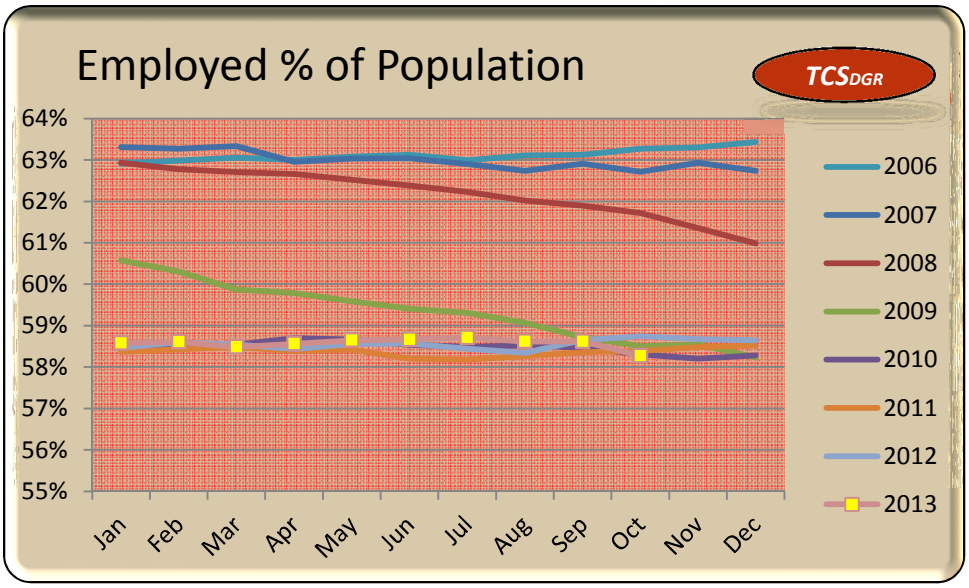
For autos and trucks the ideal is pretty much where we ended up a century ago (gasoline and diesel). If you were going to invent the perfect energy source for transportation it would look like gasoline. But propane isn't too bad. A modest amount of pressure will keep it liquid and it's been a big business for 50 years. Methane (LNG or CNG) 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 how challenging an electric vehicle is. We gave up on electric vehicles a century ago because batteries were expensive, heavy and only had a 40 mile range. Today's modern batteries are expensive, heavy and only have a 40 mile range.

Measurements are in mega-Joules per kilogram (energy per unit weight) and mega-Joules per liter (energy per unit volume).

Heat of Combustion		
	MJ/KG	MJ/L
Hydrogen	143	0.01
Methane, CH4	56	0.04
Ethane, C2H6	52	29.7
Propane C3H8	50	29.2
Butane C4H10	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:



October employment data showed a drop of 0.3 to 58.3% in the employed % of the working age population. This number is unaffected by the government shutdown, since these people were still on the payroll. The number employed dropped 602,000 and now stands 2.5 million below last year. The number not employed increased by 948,000 to 102.8 million, up by 1 million in two months and dropped to only 240,000 ahead of last year. In that same year to year period the working age population increased by 2.4 million.

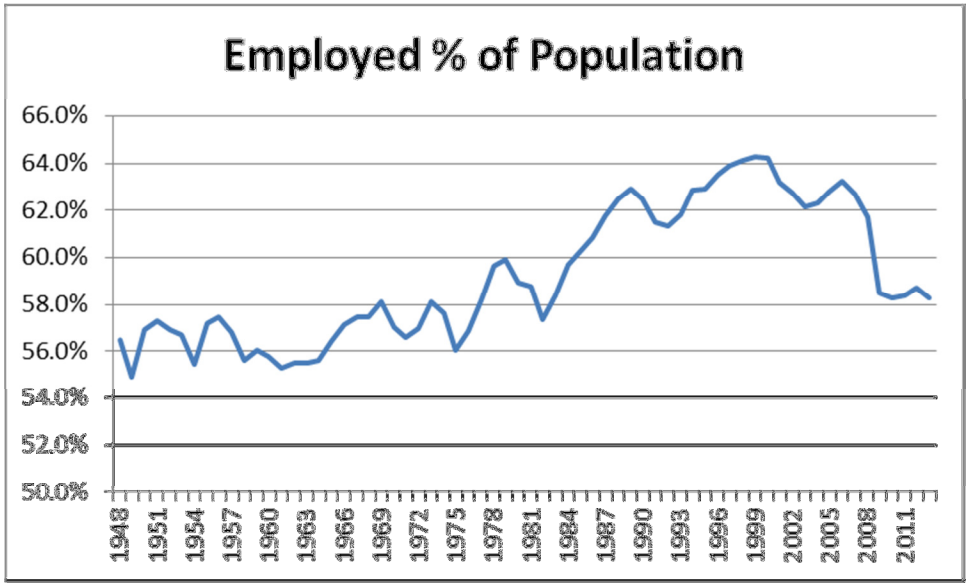
The establishment survey (large organizations) showed 204,000 new jobs. This survey is the one most often quoted, but is most frequently out of synch with the larger and more representative household survey. We prefer the household survey because it more often explains the state of the entire working age population.

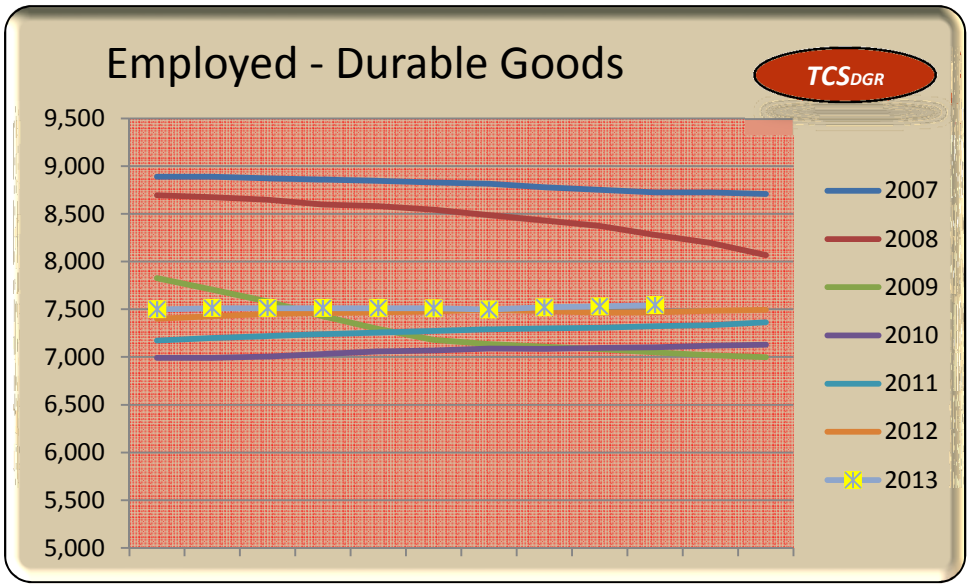
The following table helps explain the dire state of employment in the US. Since January of 2007 a shrinking pool of workers is being asked to support a growing pool of non-working. Employment is currently 2.5 million behind 2007, while not employed is up a stunning 18.2 million in the same period.

This clearly shows why the official unemployment number is a poor measure of the problem. It only accounts for 4 million of the 18 million now dependent on someone else for support. This level of burden on working taxpayers is unsustainable. It is likely that this is the root cause of the collapse in velocity in the US economy.

		Oct-13			Jan-07		Change
Employed		143,568	58.3%		146,028	63.3%	(2,460)
Unemployed	11,272		7.3%	7,116		4.6%	4,156
Not in the Labor Force	91,541			77,506			14,035
Total Not Employed		102,813	41.7%		84,622	36.7%	18,191
Working age pop		246,381			230,650		15,731
Employed per Not Working		1.40			1.73		
Source: Bureau of Labor Statistics							

October Employed % since 1948





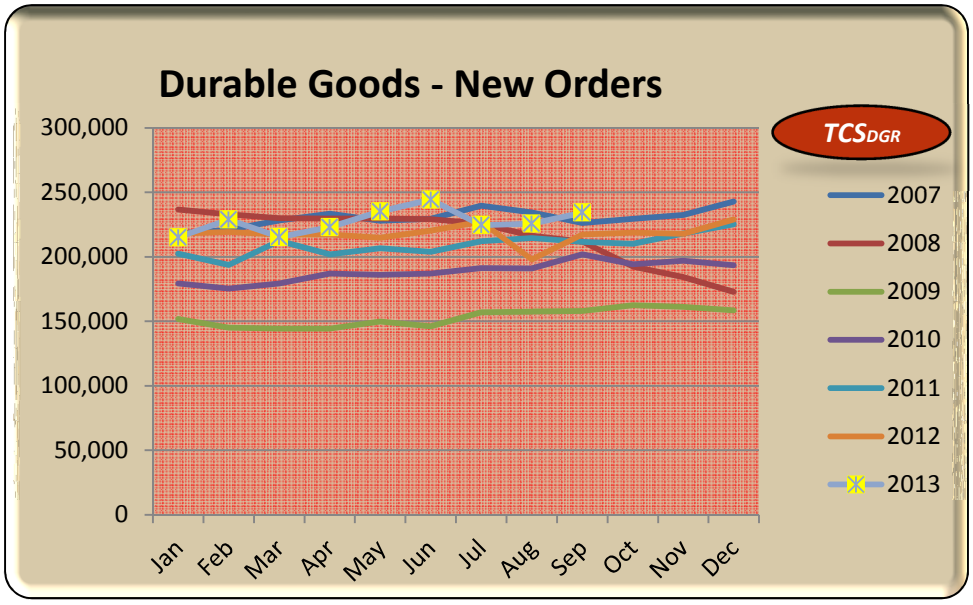
Durable goods employment increased 12,000 in October. The weak growth in the sector's employment does not bode well for the economy at large. This critical sector has a multiplier effect of about 13X, compared to 3X in the service sector and a small negative number for government jobs and private jobs funded by government subsidies.

Some of the weakness in hiring is due to the increased cost of employment due to Obamacare, regulation and a flurry of state level minimum wage increases. This increases incentives to invest in automation and in the purchase of manufactured components from international companies. The latter is unfortunate. The US has made real progress in the past 5 years getting production back from the EU and Asia.

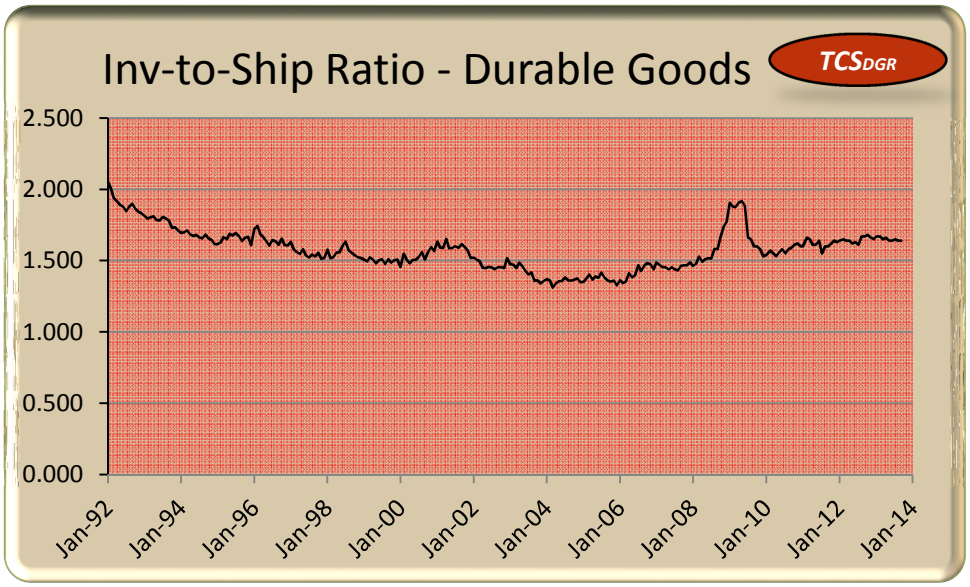
Sector Detail

The Durable Goods Sector:

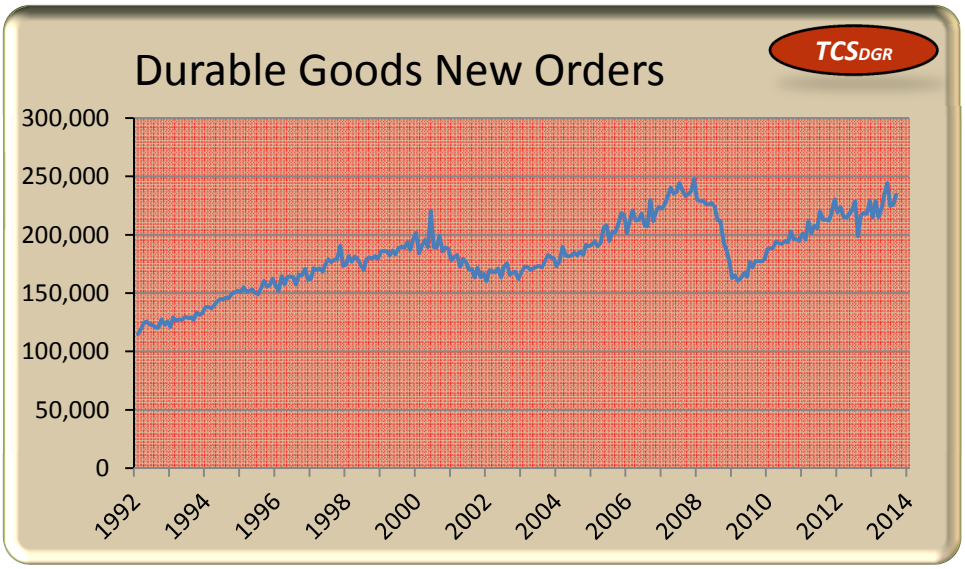
New Orders: Durable new orders increased 3.8% to $234.2 billion in September. The drop in aircraft orders in July has been partially recovered, and the September increase was primarily in commercial aircraft. If you are not in the commercial aircraft business the month was just ok.



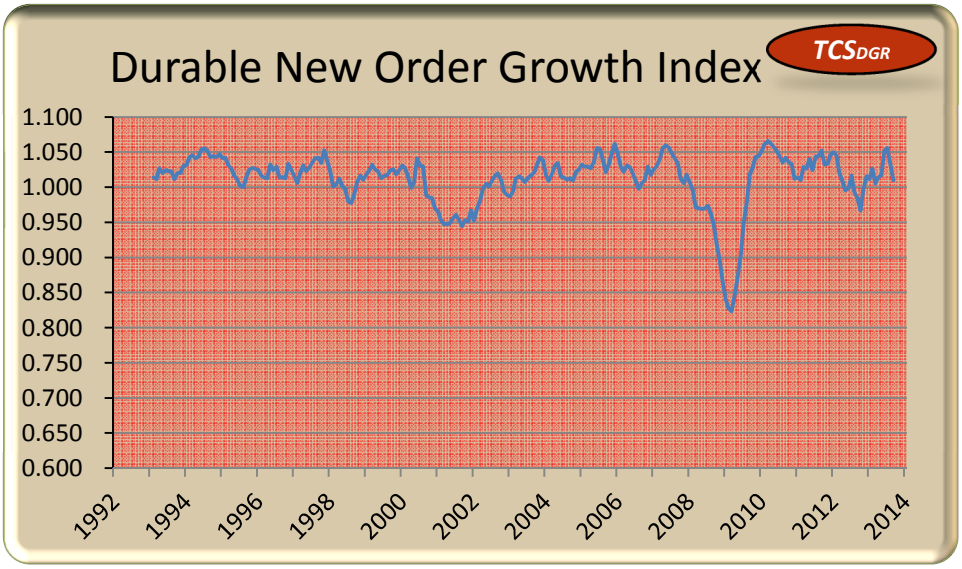
Inventory to shipments ratio remained steady at 1.64. The Book to Bill ratio improved to normal levels at 1.01. Long-term average is 1.00.



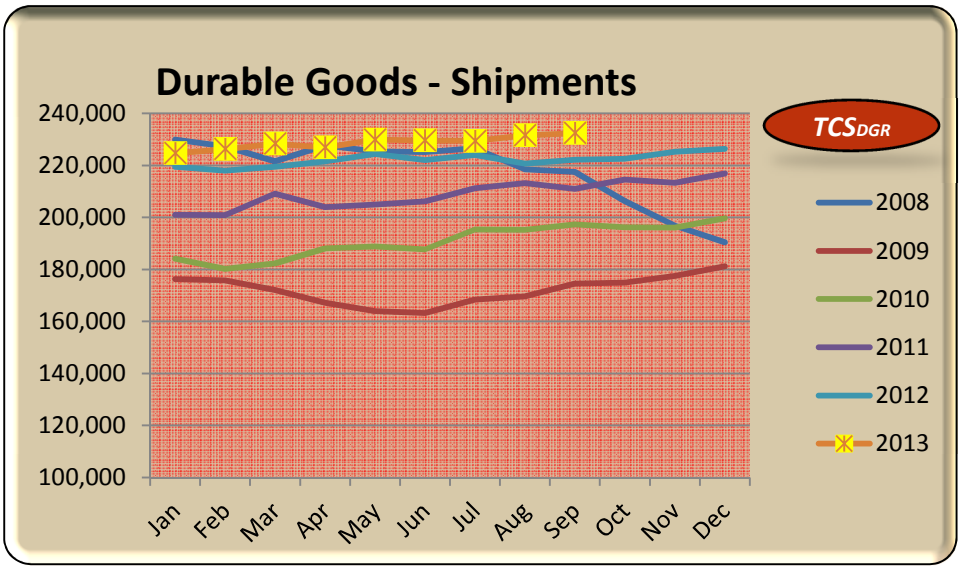
The long term chart for new orders (below) provides added perspective. Based on eyeball analysis it looks like a slow growth trend has emerged after the plateau of 2012 and early 2013.



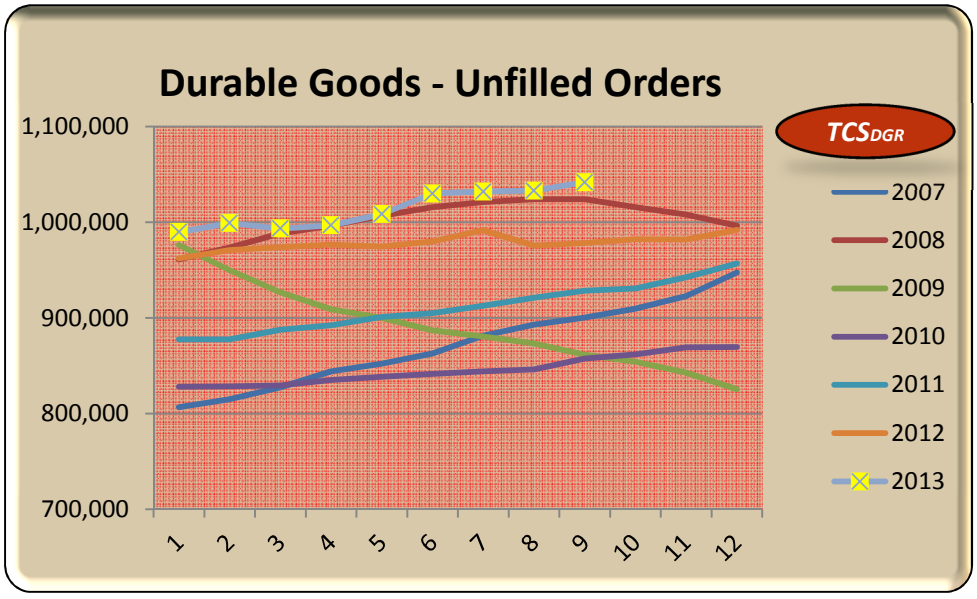
Growth Index for new orders (3mma/12mma = slope of the smoothed order curve) retreated further to 1.01, slightly above last year's 0.98. The modest positive signal needs a cautionary note. The retreat has been rapid (1.06 to 1.03 to 1.01), and the auto sales decline at retail dampen any expectation for a quick reversal.



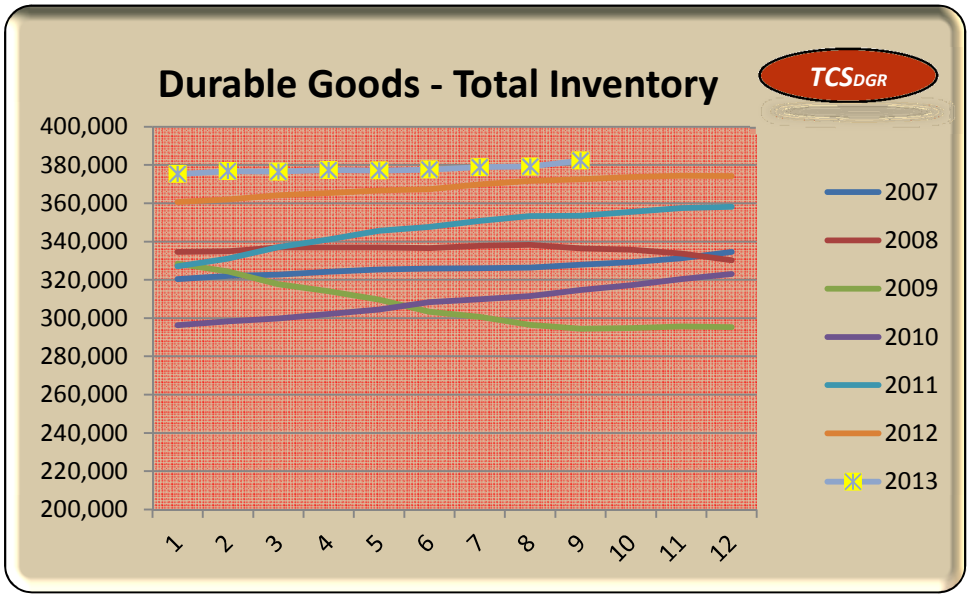
Shipments decreased 0.4% to $232.4 billion.

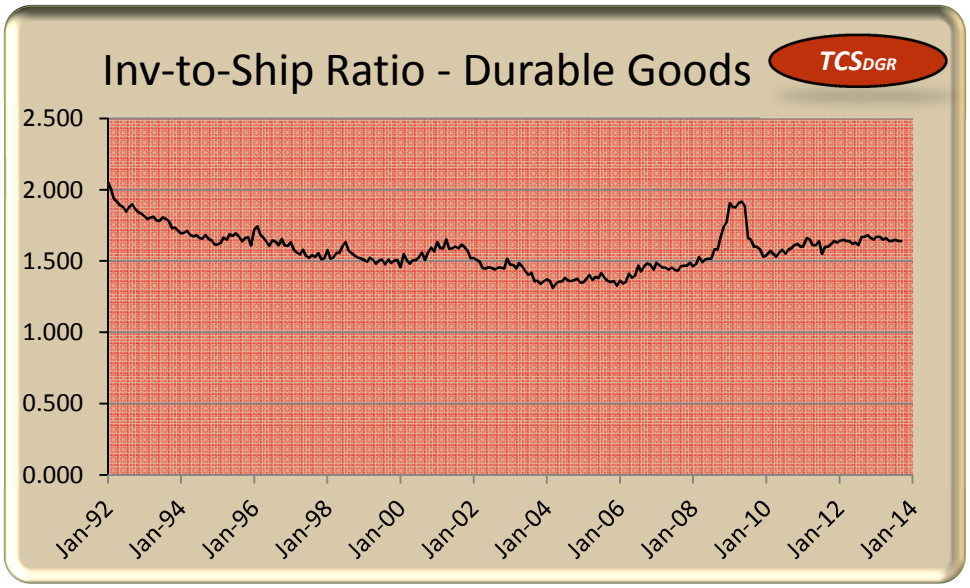


Unfilled Orders increased a 0.9% to $1.04 trillion. Aircraft orders with long delivery times tend to boost this measure. Long term chart shows the unprecedented nature of current order backlogs. But the 6.39 months of unshipped orders continues the gradual upward trend in backlogs. It's only been 32 months since we first topped 6 months.



Inventory: Total inventory increased 0.8% to $382.8 billion. Inventory to shipment ratio remained steady at 1.64.

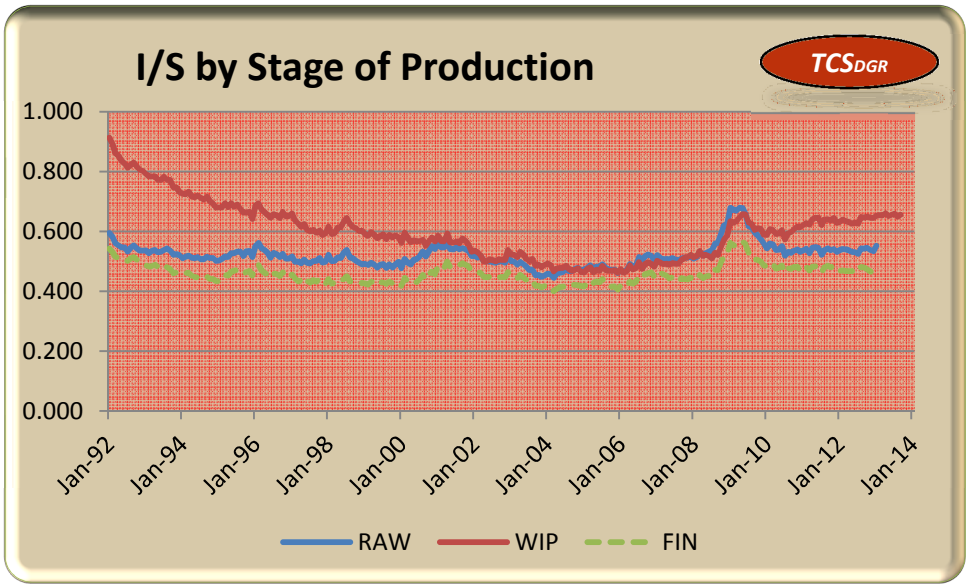




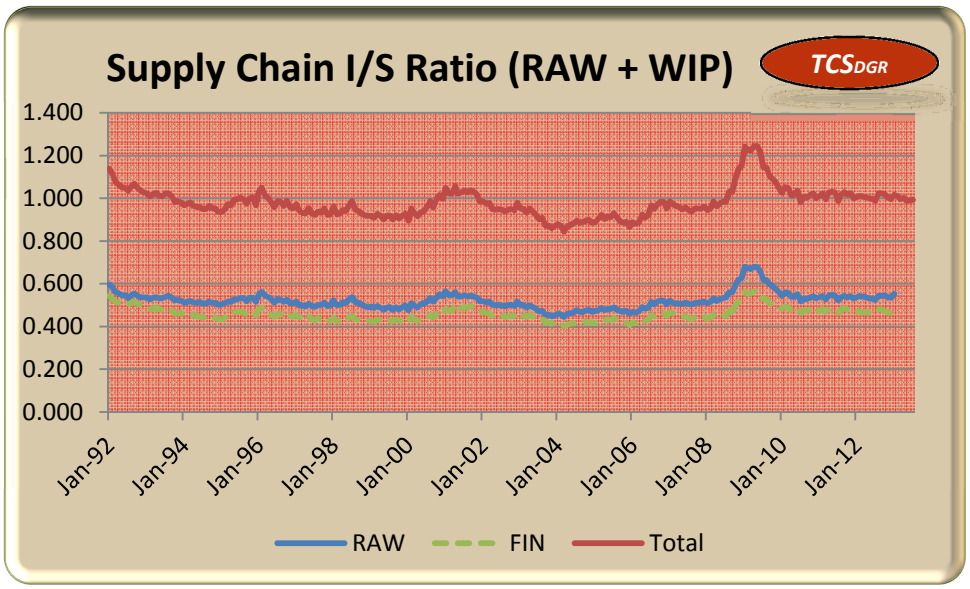
The I/S ratio by stage of production (below, a DGR exclusive) showed no dramatic signs of change. But a long term trend tells a story of some concern. The gradual drift upward is a signal of lowered efficiency somewhere in the process. See the detailed analysis below.

Manufacturing velocity: The chart below suggests a cause of the performance issues. The red line shows the WIP (work-in-process) inventory as a ratio to shipments. This is the reciprocal of factory velocity. At a given level of investment, higher velocity directly translates to higher profits plus responsiveness to customers.

From 1992 to 2005 we cut the inventory necessary to ship goods almost in half. But since that time velocity performance has eroded significantly. To learn more about the causes check the website. www.tcsdb.com

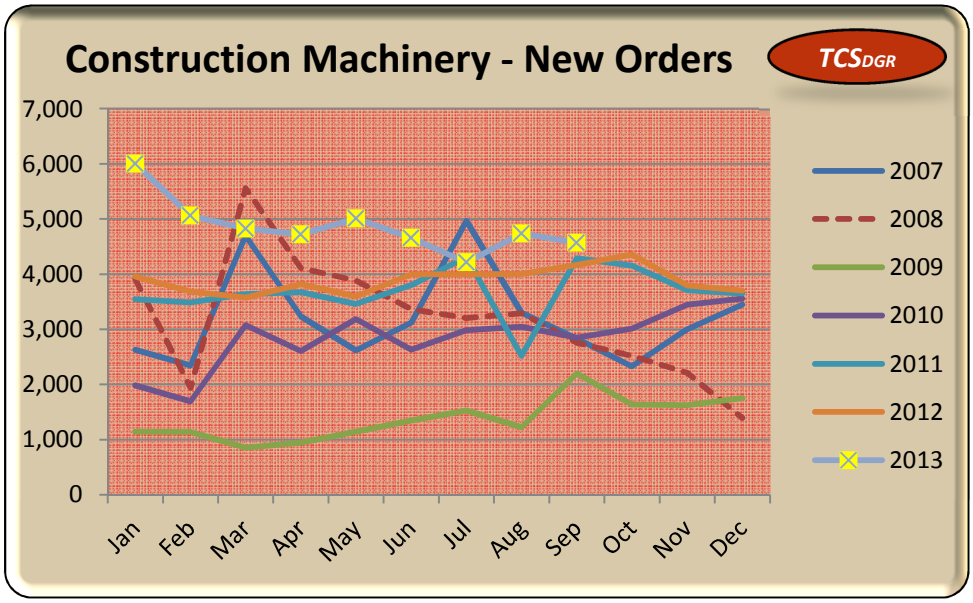


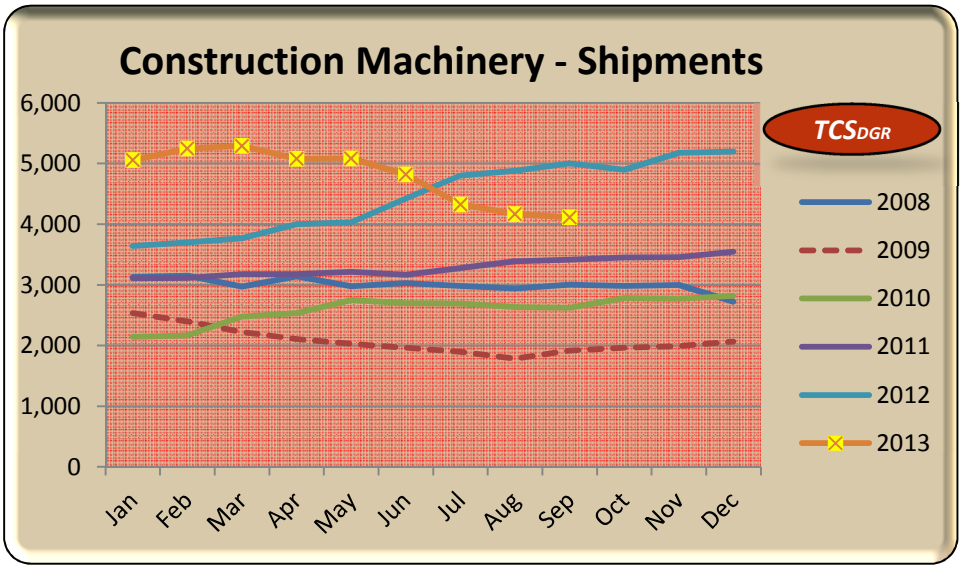
Supply chain velocity: The following chart exposes a different view of the inventory to sale ratio. The raw material (RAW) and finished goods (FIN) inventory are indicators of the flow of goods through the supply chain, independent of the performance inside the factory. In this case we add them together to eliminate cases where a factory gets their vendor to carry the inventory. This chart shows that despite 20 years of talk, we've made no progress in managing supply chains. It took about $1 of RAW+FIN to ship $1 20 years ago. It still does.



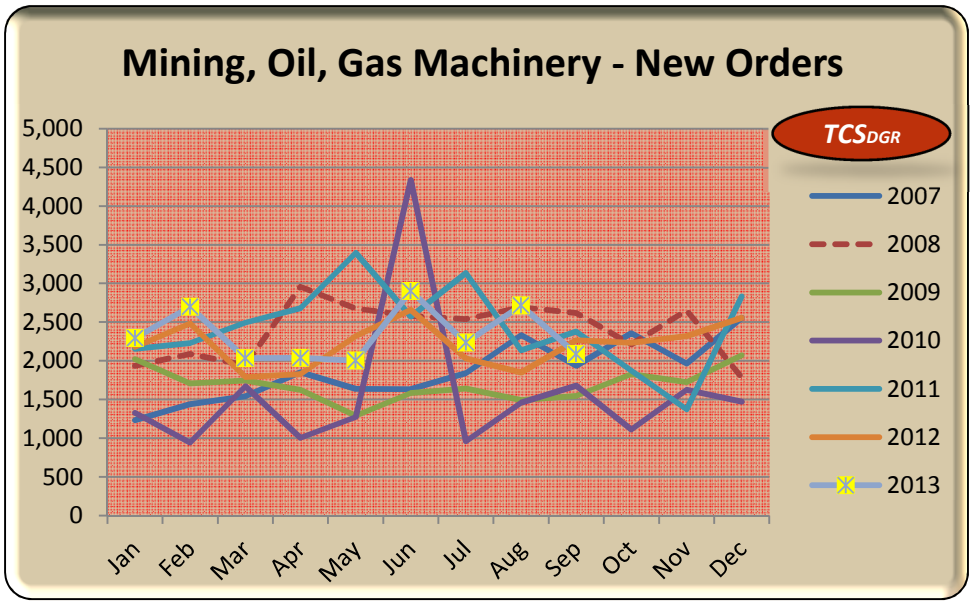
Durable goods sub sectors:

Construction machinery (NAICS 33C) new orders dropped 3.5% to $4.6 billion, but remained 9.7% above prior year and at record levels for September. Book to Bill ratio has stands at a healthy 1.11 (long term average 1.01) suggesting some upward pressure on production rates. Unfilled orders climbed to $10.8 billion, down from $17 billion 18 months ago.

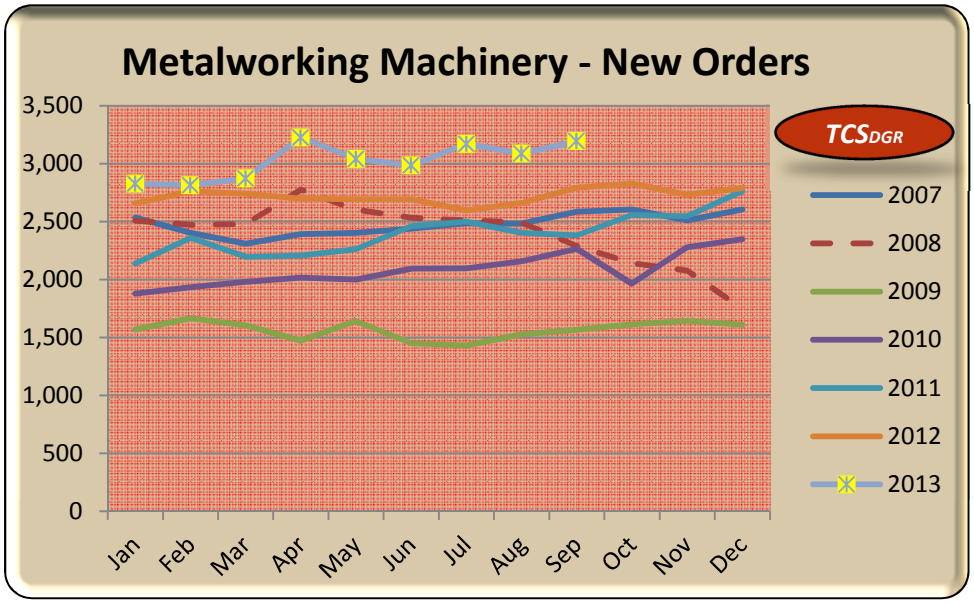




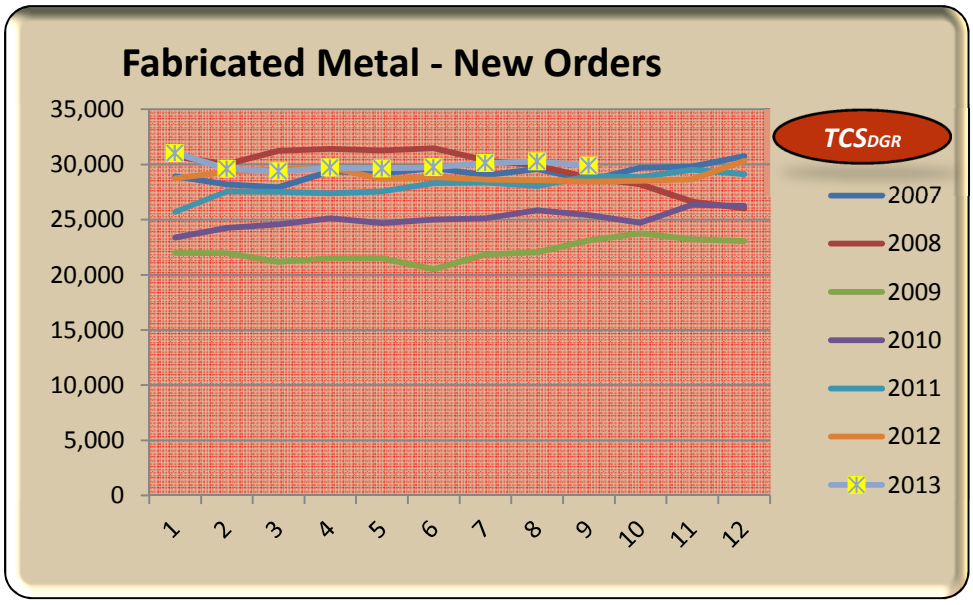
Mining, oil and gas machinery (NAICS 33D) new orders dropped 23% to $2.1 billion and 8% below last year. Book to bill ratio dropped to 0.95. (long term average = 1.03).



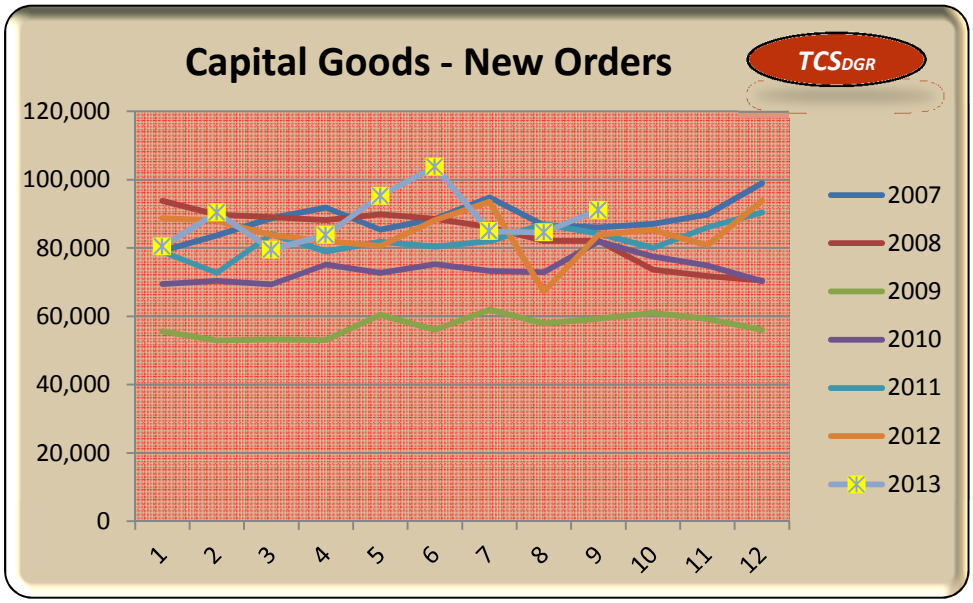
Metalworking machinery (NAICS 33I) new orders increased 3.4% to $3.2 billion and a solid 14% above last year. Book to bill ratio climbed to a strong 1.07 (long term average = 1.00). Manufacturers continue to invest in upgrades and expansion of capital equipment, in large part to avoid the increasing cost of labor in the US.



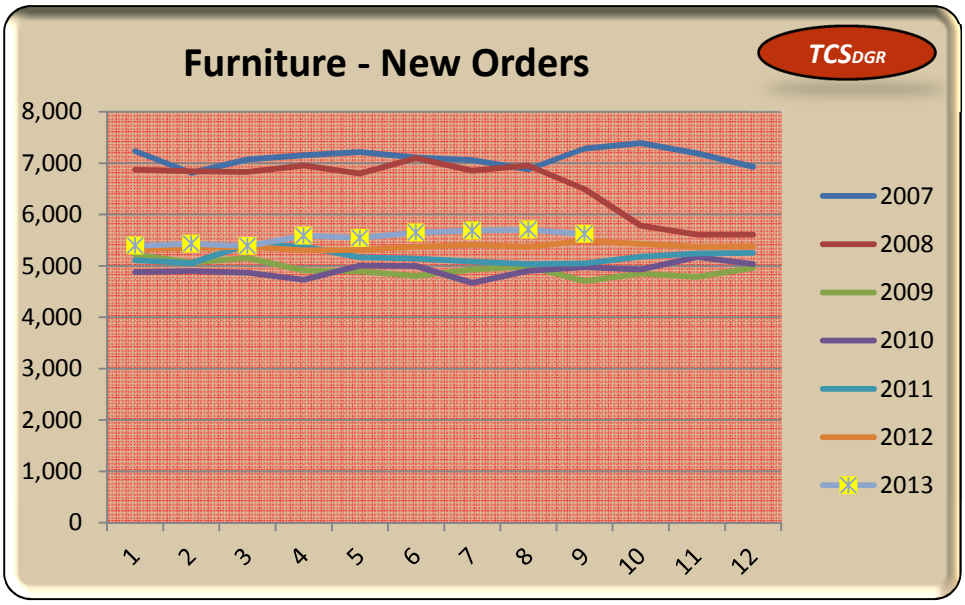
Fabricated metal (NAICS 32S) new orders decreased 1.2% to $29.9 billion, 5% above last year. Book to bill ratio increased to 1.03 (long term average = 1.00).



Capital goods (NAICS TCG) increased 7.8% to $91.2 billion. Book to bill ratio climbed to a strong 1.11 (long term average = 1.01). Now 8.7% above last year.

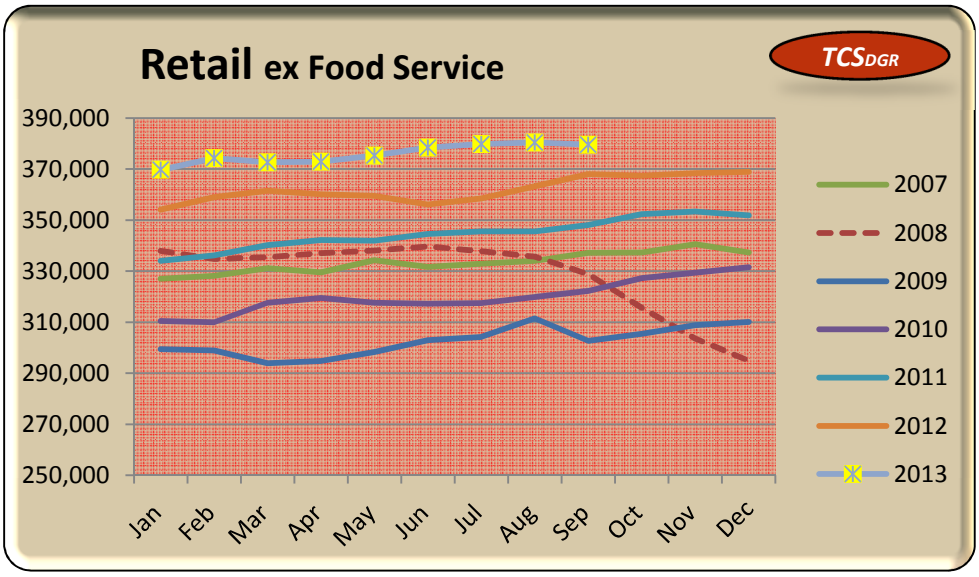


Furniture: (NAICS 37S) New orders decreased 1.4% to $5.6 billion, 2.4% above last year. The book to bill ratio is neutral at 1.03.

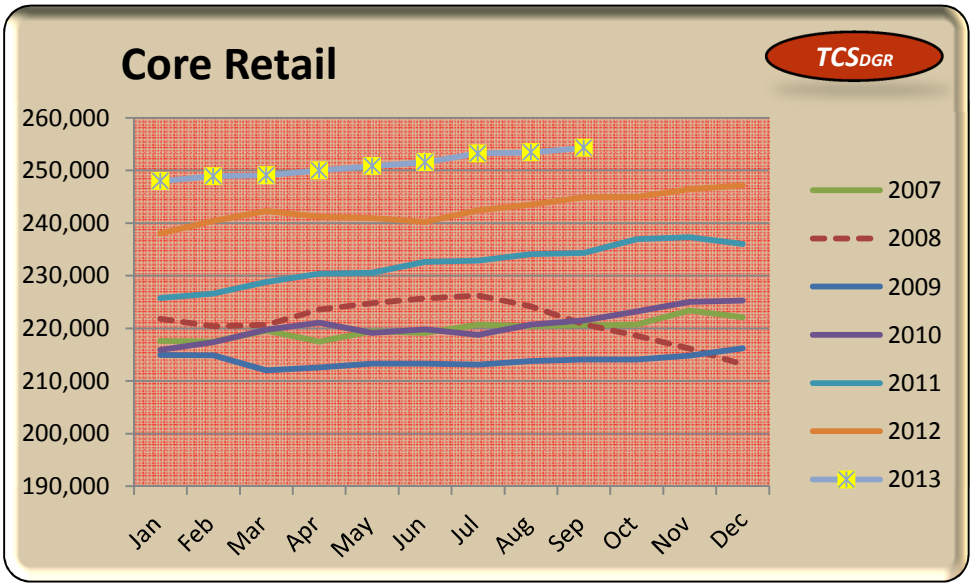


Retail Data (Advanced Release for September)

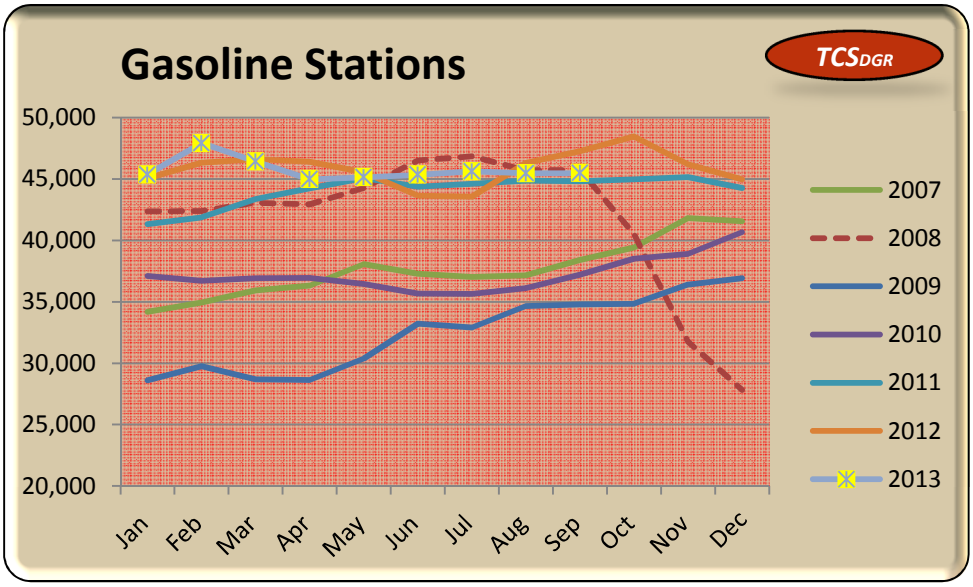
Retail Sales (excluding food service) decreased 0.2% to $379.5 billion. Current sales are 3.1% above prior year. Levels of consumer debt suggest little momentum for retail.



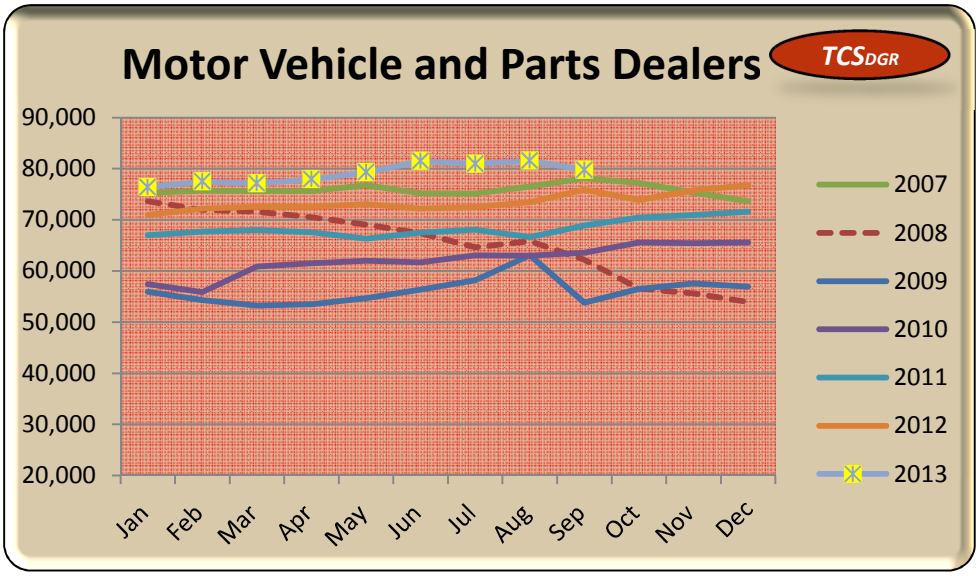
Core retail (excludes food service, gasoline, autos and parts) increased 0.3% to $254.3 billion. Current sales are 3.8% above prior year. About 2.5% to 3% of this number can be attributed to inflation. Not a strong performance.



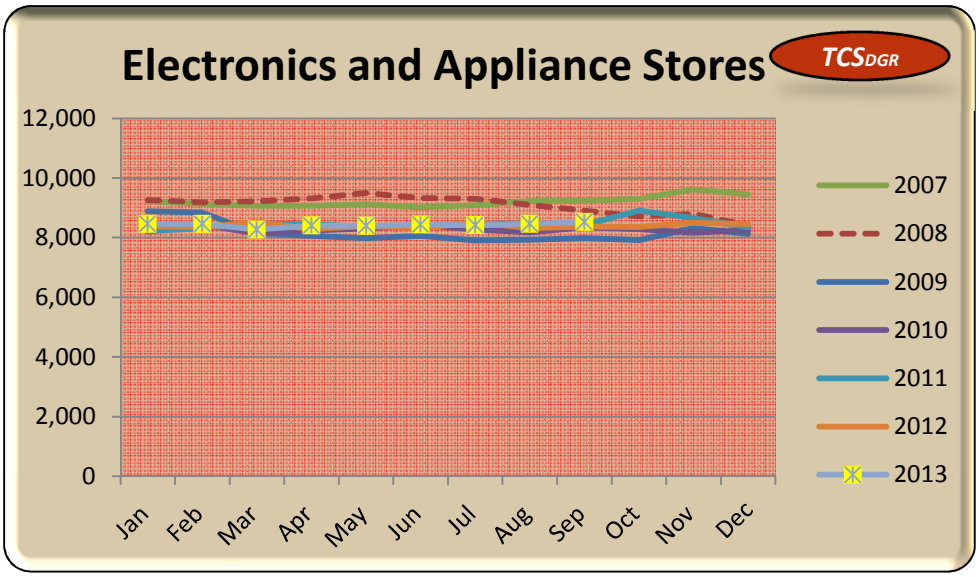
Gasoline sales remained flat at $45.5 billion. Current sales are 3.8% below prior year.



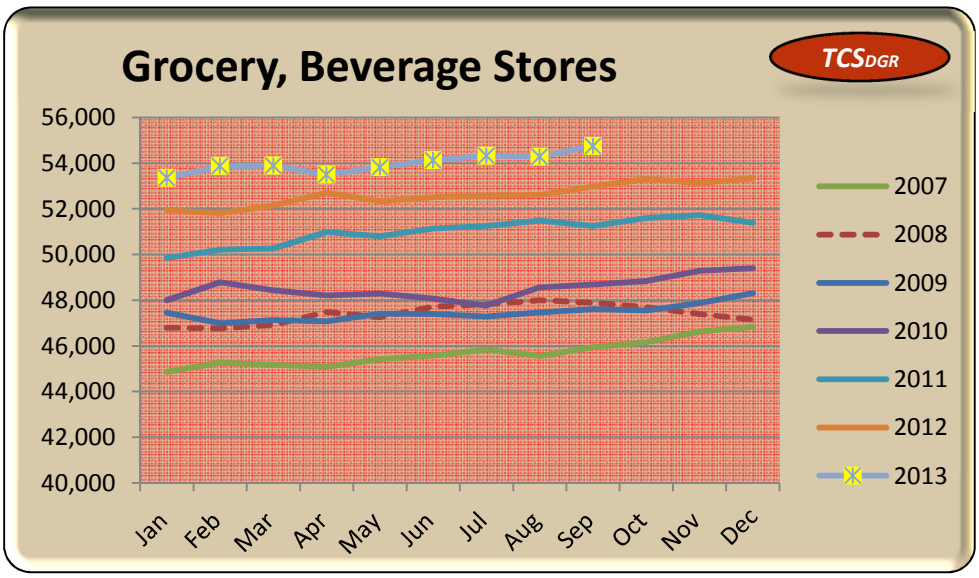
Auto sales decreased 2.2% to $79.8 billion. Current sales are 5.1% above prior year. After running at a record pace through the first half of the year it looks like autos may take a breather. Current employment and consumer debt positions would reinforce that premise.



Electronics and Appliance Stores sales increased 0.7% to $8.5 billion. Current sales are 1.8% above prior year.



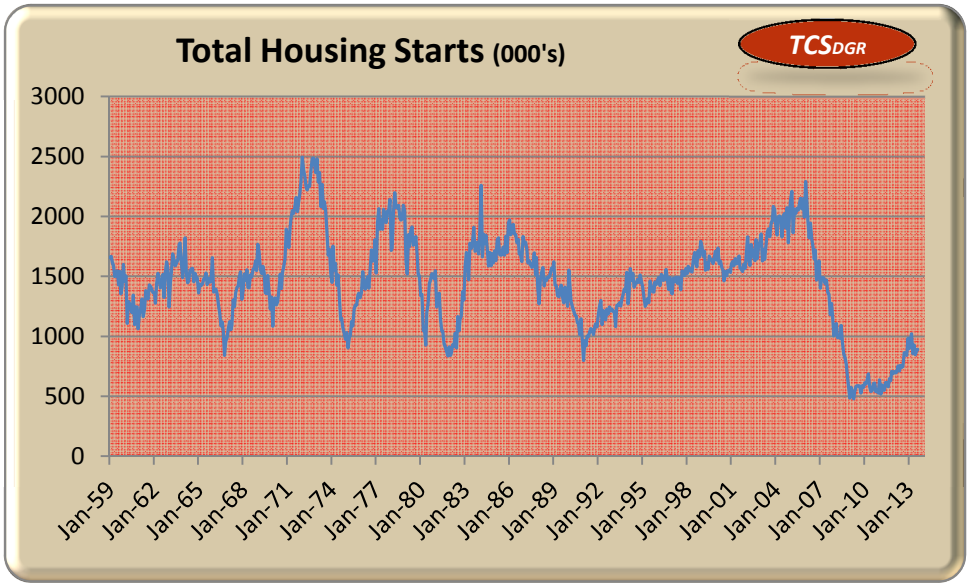
Grocery and Beverage stores sales decreased 0.9% to $54.7 billion. Grocery sales are 3.4% above prior year. This is still the best indicator of inflation. Since shopping habits change slowly in this category, growth should match population. The balance is an indicator of inflation. What can't be quantified from these aggregate numbers is any trend toward deflation in the components.

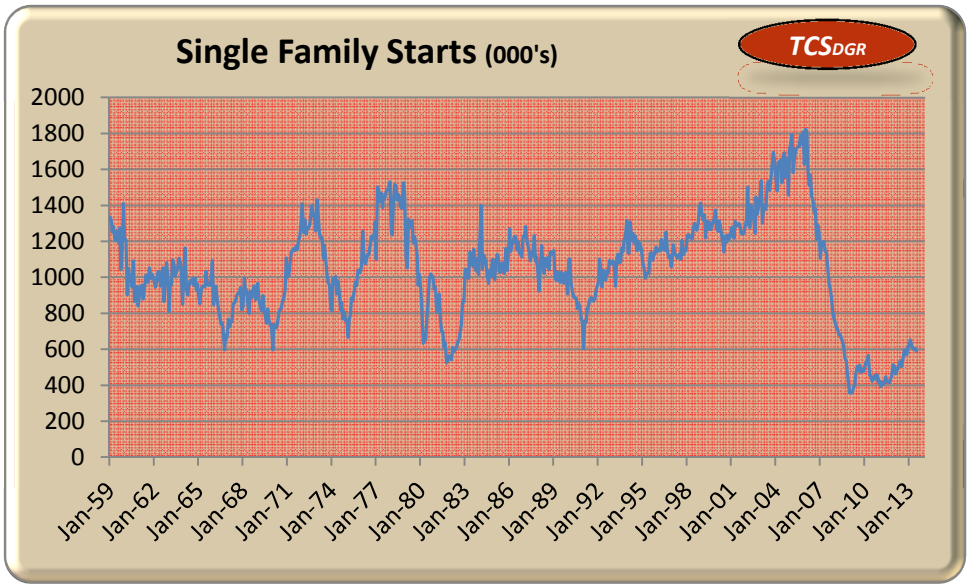


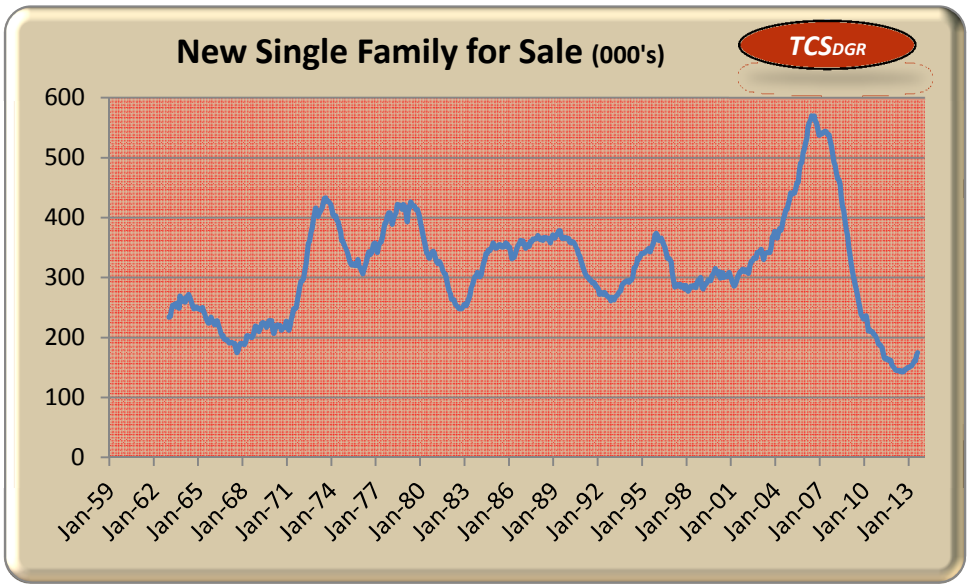
Housing:

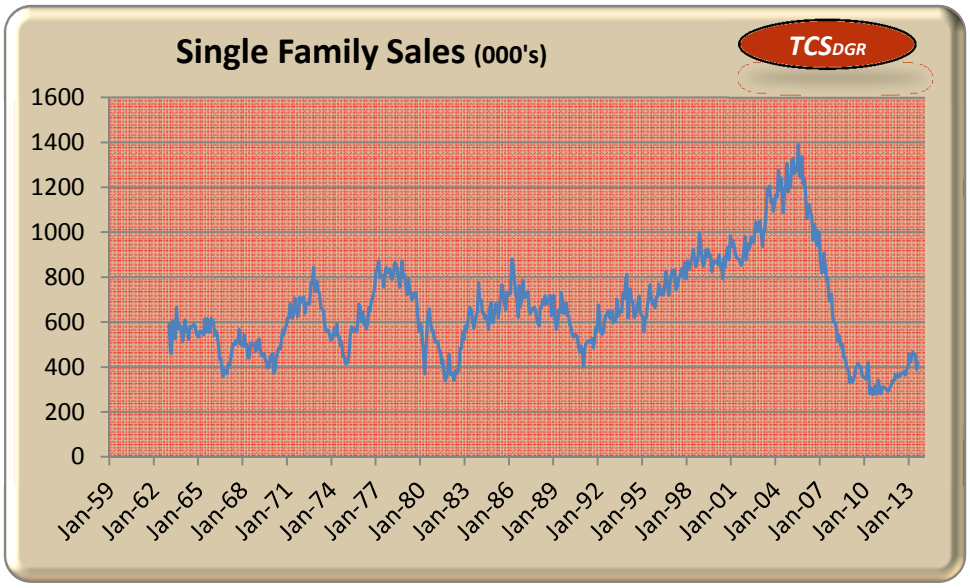
Total housing starts increased 0.9% to 891,000 in August. Single family starts increased 7% to 628,000. Compared to last year total starts are up 19% and single family starts are up 15.7%. Sales of new single family increased 7.9% to 421,000 after last month's 14.3% drop. Inventory of new single family homes increased 2.3% to 175,000.

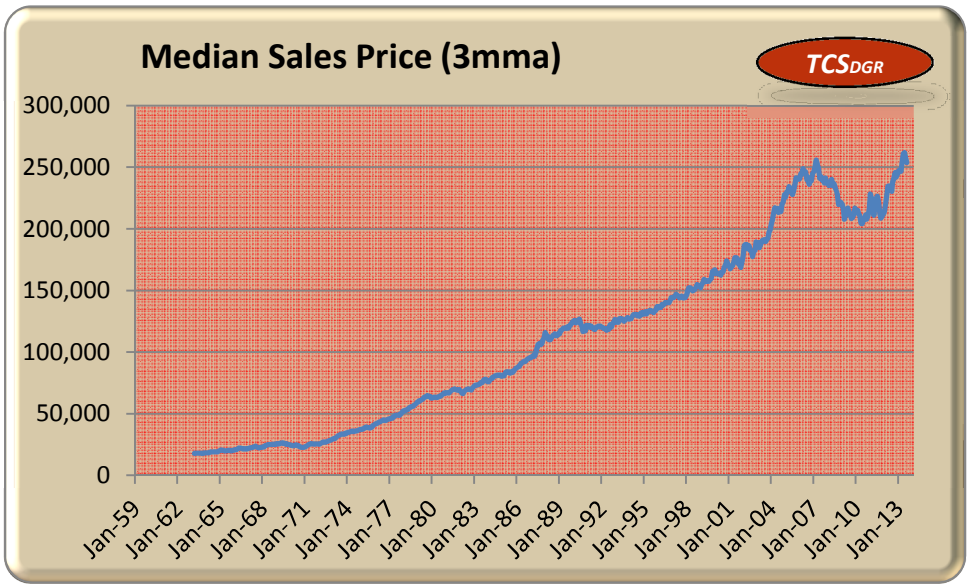
Median sales price (3MMA) dropped 1.2% to $253,833. The long-term charts for the housing market emphasize the reality of how deep the housing recession was. While there has been some positive news over the past 12 months the industry is still far from healthy.











About Time Compression Strategies and the Durable Goods Report

TCS provides information technology and business process support to high performance organizations. Our focus is on manufacturing and telecom. Through our business partners we support health care, energy, retail 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 historic 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 detailed or reliable for growth trend analysis (except for retail). 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), an information technology and process improvement company serving manufacturing, distribution, and related infrastructure companies.

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 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 a "founding father" 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 analysis method for supply chain pricing, 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.

Time Compression Strategies Corp

www.tcsdb.com

317-842-6417

jlayden@tcsdb.com