



The Durable Goods Report

June 2010

Manufacturing Data Release of 6/3/2010 (April Preliminary)

Employment Data Release of 6/4/2010 (May Advanced)

Retail Data Release of 6/10/2010 (May Advanced)

Source Data: US Census Bureau, US Bureau of Labor Statistics

John E. Layden, Prevel Technology

By the Numbers:

Prevel Technology - Durable Goods & Retail Summary			
	Apr-10	Mar-10	Apr-09
New Orders-Durable	193,778	188,530	163,062
12 month moving average	179,056		192,578
% Change from Prior Year	-7.0%		
Unshipped Orders - Durable	801,228	797,869	833,134
% Change from Prior Year	-3.8%		
Value of Shipments - Durable	196,019	193,305	180,149
12 month moving average	186,732		203,731
% Change from Prior Year	-8.3%		
Inventory - Durables	301,448	299,463	318,548
% Change from Prior Year	-5.4%		
Retail Sales (May data)	323,007	327,429	300,711
12 month moving average	314,990		313,840
% Change from Prior Year	0.4%		
Inv to shipments ratio - Durable	1.54	1.55	1.77
Growth Index - Durable New Ord	1.062	1.066	0.846
Growth Index - Durable Shipmts	1.033	1.033	0.891
Growth Index - Retail (May)	1.034	1.030	0.945
1. Preliminary release data (~5 wks after the end of the period).			
2. Seasonally Adjusted, millions			
3. Prevel Growth Index = 3MMA / 12MMA			
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Monthly Rate of Change				
	This period	Last period	Change	Comments
GDP Q1 vs. Q4	14,601.4	14,453.8	1.0%	
Industrial Production (Apr)	2804.1	2785.3	0.7%	
Capacity Utilization % (Apr)	73.7	73.1	0.6	
Manufacturing %	71.2	70.4	0.8	
Durable Goods %	64.9	64.1	0.8	
Autos and Parts %	53.2	54.3	(1.1)	
Machinery %	64.2	62.5	1.7	
Durable Goods (\$ Mil Seasonally adjusted) Apr Data				
New orders	193,778	188,530	2.8%	
Shipments	196,019	193,305	1.4%	
Inventory	301,448	299,463	0.7%	
Unshipped Orders	801,228	797,869	0.4%	828 bil 9/2008
Total Retail (\$ Mil SA) May data	323,007	327,429	-1.4%	
Autos and Parts	61,862	62,913	-1.7%	
Gasoline	35,213	36,403	-3.3%	
Core retail	225,932	228,113	-1.0%	
Employment (000's SA) May Data				
Non-Farm	130,570	130,139	431.0	138 mil 1/2008
Goods Producing	17,971	17,967	4.0	
Manufacturing	11,660	11,631	29.0	13.7 mil 1/2008
Construction	5,591	5,626	(35.0)	
Durable Goods Mfg	7,160	7,126	34.0	9.1 mil 6/2006
Housing (000s of Units SA) May Data				
Single family starts	468	565	-17.2%	
Single family sales (new)	300	446	-32.7%	
Single family for sale (new)	213	211	0.9%	570 in 8/2006

The US economy continues to face serious challenges. The weakness of final demand is reflected in the decline in core retail. Home sales have dropped to dramatic lows. The Euro may not survive the current crisis. Construction saw large job loss. But the most immediate threats come from Washington. The health care bill, cap-and-trade, and increased regulation all increase cost, reduce economic growth and damage international competitiveness. Energy supplies are also threatened by environmental paranoia.

The worst threat of all of these is the energy policies working through Congress in the form of the Cap-and-Trade legislation. It's the reason we spend so much time on

energy and environmental issues. The pending legislation continues to use climate change as justification. The justification is false.

The goal of the Washington insiders is to find a new source of tax revenue. Once that occurs, it is a short trip to divert the money to political patronage. The effect on the overall economy is negative. The effect on durable goods manufacturing is dramatically negative.

Energy: The situation in the Gulf of Mexico remains unresolved. There is still no clear solution to stopping the flow of oil from the Deepwater Horizon rig explosion. There is some evidence that there is erosion going on deep in the well, causing the flow rate to increase over time. However a recent AP article put the issue in some perspective. The Mississippi delivers the same amount of water in 38 seconds as the BP oil spill has delivered in 60 days. The total oil discharged in 60 days would fit in a 300 foot cube. The local effects are painful, but can be remedied. The political posturing causes greater damage by distorting public understanding.

It has been argued, most recently by the president, that we are forced to drill in deep water because we had run out of places to drill on land. That statement is false.

The amount of oil and gas available from land based sources in the US is astonishing. Government regulation has yielded to environmental arguments intent on preventing its exploitation. A 40 year old process (hydro-fracking) is described as controversial so to delay drilling for natural gas in shale deposits. The environmentalists want to convert us to some mythical “renewable” energy (unicorn manure?). There is only one – nuclear energy.

The forms of energy favored by the administration and Congressional leaders include ethanol, wind and solar. Electric cars are also favored. None is green, renewable, or a net producer of energy. All of these forms operate at negative thermodynamic net output (they consume more energy than they produce). Any attempt to use them will result in more hydrocarbon energy consumption. It is a great irony that the greenest fuel of all is the oil and gas they’re trying to kill.

An appropriate government investment in new technology would be in the Thorium fueled nuclear reactor technology to replace Uranium. Prototype work in the 1970s demonstrated a much more efficient reactor with no weapons-useful by products. Work was abandoned in the 1970s, about the time that Jane Fonda (“China Syndrome”) scared the country into stopping nuclear development of all types. A Thorium reactor can’t melt down, either. The fuel is 4 times as abundant and America controls the primary sources. What’s not to like?

In the past 300 years the world has greatly reduced its carbon dependency with no assistance from government. This improvement can be tracked in the carbon to hydrogen ratio of the dominant fuel sources over time:

Fuel Source	Carbon to Hydrogen Ratio
Wood	10:1
Coal	4:1
Oil	2:1
Propane	3:8
Methane	1:4

We've seen a 40 fold improvement in the Carbon:Hydrogen ratio in 300 years, and we continue to migrate further to natural gas. The most important improvement potential using current technology include:

- Convert to compressed natural gas (CNG) for transportation fuel.
- Help emerging countries convert from wood to fuel oil. China has half of its households dependent on wood for energy.
- Push Thorium based reactors to completion.
- Give up on utopian dreams that have no foundation in physics.

Not much else is practical or even possible.

Electric cars do not reduce energy consumption or greenhouse gas emissions, but rather change the location of the emissions. This can be an advantage in congested areas where emissions are a concern. But in the short term it shifts energy sources from gasoline/diesel to coal/nuclear. The Chevy Volt is estimated to achieve 2 to 3 miles per kWh. A coal fired power plant produces 2 pounds of CO₂ per kWh. If distribution loss is 8%, the car would produce 0.9 pounds of CO₂ per mile at mid range.

A gas powered vehicle of the same weight getting 26 mpg, 20 pounds of CO₂ per gallon, and 1 pound of CO₂ distribution loss will generate about 0.8 pounds per mile. Estimates of manufacturing impact are all over the map, but all favor the gas engine. It takes a lot of energy to manufacture a battery and copper wire. Turbo diesel is substantially better than gas.

The most recent study (joint Chinese-American university effort) predicted even more dramatic increases in emissions as a result of electric cars.

If electric cars were being charged by nuclear power plants it could be a plus, but coal is dominant in both the US and China. The argument that electric cars charge mostly at night is only marginally relevant. It helps use idle capacity, but it still requires the same amount of coal (and CO₂) regardless of when it gets burned.

Environment: The environmental movement continues to rail about global warming despite hard evidence of dramatic cooling. The data-driven debate among climate scientists is whether we are heading into a Dalton minimum or a Maunder minimum (a “Little Ice Age” or a “real” ice age). In either case it’s going to get much cooler. Solar activity is a near perfect predictor of long term patterns in climate, and it is on the down cycle.

In fact we have spent the past 11,000 years drifting toward the next ice age. Anthony Watts (www.wattsupwiththat.com) is a true data-driven scientist and meteorologist. He recently published an article pointing out that 1) the Earth’s peak temperature occurred 11,000 years ago and 2) it coincided with the peak output of the Sun. Since we know these numbers with some precision, we can be pretty confident that the difference between ice age and warm peak Solar activity is 64 watts per square meter at the surface of the Earth. We have seen a decline of 51 W/m² to date. By this measure we are 80% of the way to a new ice age.

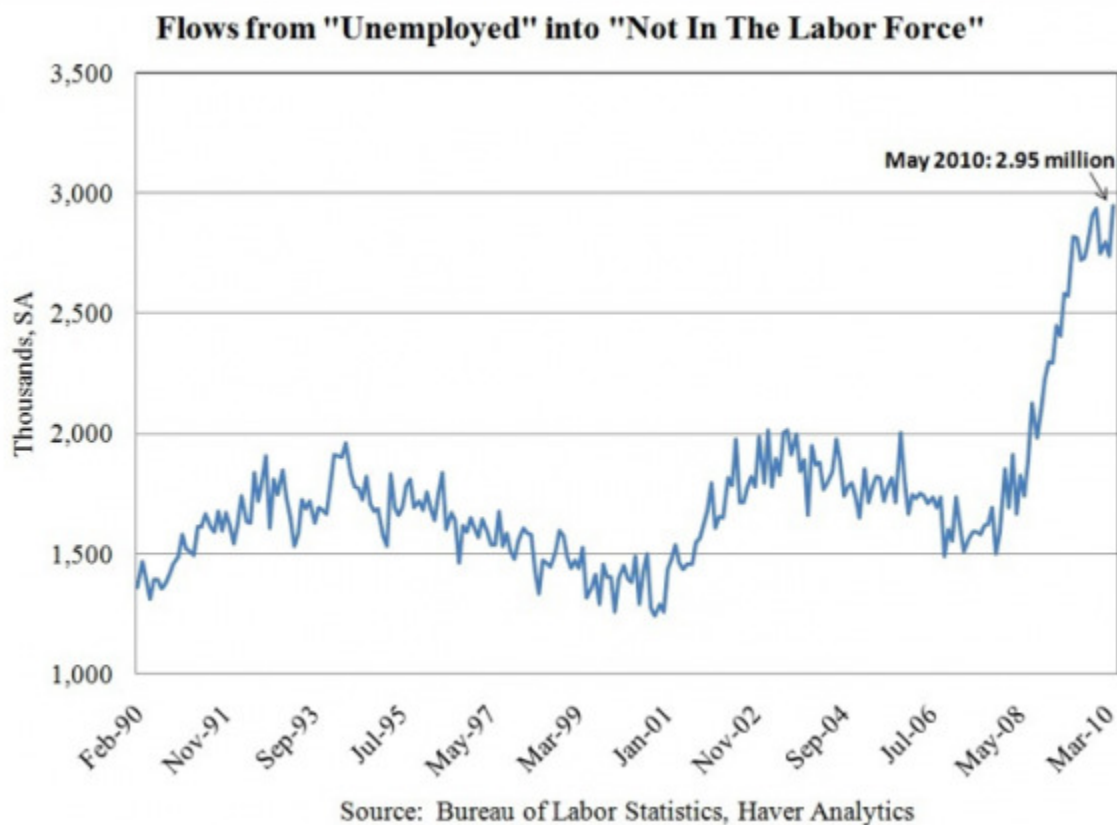
What	When	Sun’s Power
Previous Ice Age	22,000 years ago	463Wm ⁻²
Holocene Peak	11,000 years ago	527Wm ⁻²
The “Perfect Time”	Now	476Wm ⁻²

Human activity from all sources of energy adds a total of 0.13 W/m². This doesn’t even qualify as noise in the measurements.

The actions proposed in Congress are being supported by false justifications. Regardless of justification, it will have the effect of damaging the manufacturing economy of the US. The US now has the highest corporate tax rates in the world and the most restrictive regulations. China is now projected to pass the US in manufacturing output by 2011 because of the self inflicted wounds imposed on US manufacturers.

Employment: The May employment numbers showed a gain in private sector jobs of 41,000. Total employment increased by 432,000. Government (non-productive) hiring continues to dominate the scene and will result in continued damage to the economy. What the US economy urgently needs is more activity in durable goods industries. To that end there was some (very) modest good news. Durable goods employment increased by 34,000 in May. Unfortunately it was offset by the 35,000 decline in construction.

The spin from Washington that things were improving because the unemployment rate went down was false. The number went down because more people gave up looking.



The last time we had this type of economic malaise was during the government induced crisis of the late 70s. During the Carter administration Congress continually extended

unemployment benefits on “compassionate” grounds. The unemployment rate started down only after the extensions were cut off. We’re now at 98 weeks, but it finally looks like Congress will finally stop the foolishness. Federal subsidies for not working always increase the tendency not to work. Charity must occur at the local level.

Summary and Analysis

Overview of the US Economy

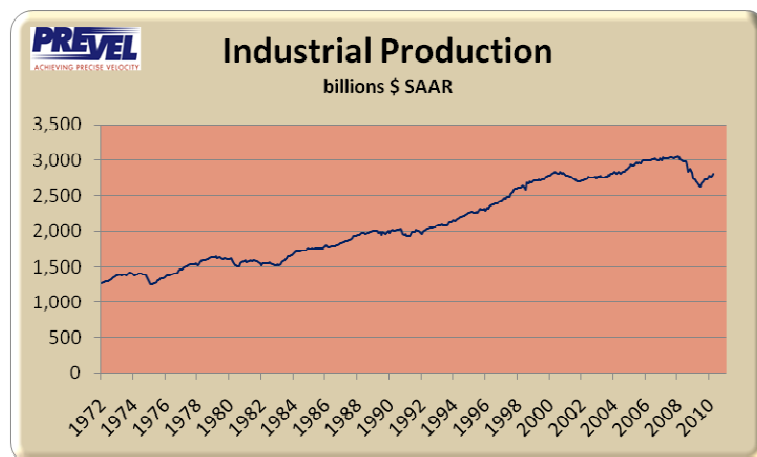
The economy looks rather fragile overall. Housing is at historic lows. Retail suffered a setback. Construction employment contracted again. Only durable goods showed positive signs. The core question is how long durable goods will grow absent more positive news from other sectors.

Government intervention in the economy seems to have been successful with TARP. The goal was to break a potential downward spiral from a lack of liquidity in the financial sector, leading to a run on banks. It looks like that it worked as expected.

Industrial Production				
Year	Mo	Ind Prod - Value of Prod	Chg from Prior Pd	Chg from Prior Year
2009	1	2,733.6	-3.2%	-10.3%
2009	2	2,723.3	-0.4%	-10.4%
2009	3	2,695.0	-1.0%	-10.6%
2009	4	2,678.5	-0.6%	-10.5%
2009	5	2,640.9	-1.4%	-11.4%
2009	6	2,632.3	-0.3%	-11.7%
2009	7	2,668.2	1.4%	-10.5%
2009	8	2,693.3	0.9%	-8.1%
2009	9	2,721.2	1.0%	-4.1%
2009	10	2,729.7	0.3%	-5.2%
2009	11	2,730.5	0.0%	-4.3%
2009	12	2,753.1	0.8%	-2.5%
2010	1	2,787.9	1.3%	2.0%
2010	2	2,774.3	-0.5%	1.9%
2010	3	2,785.3	0.4%	3.4%
2010	4	2,804.1	0.7%	4.7%

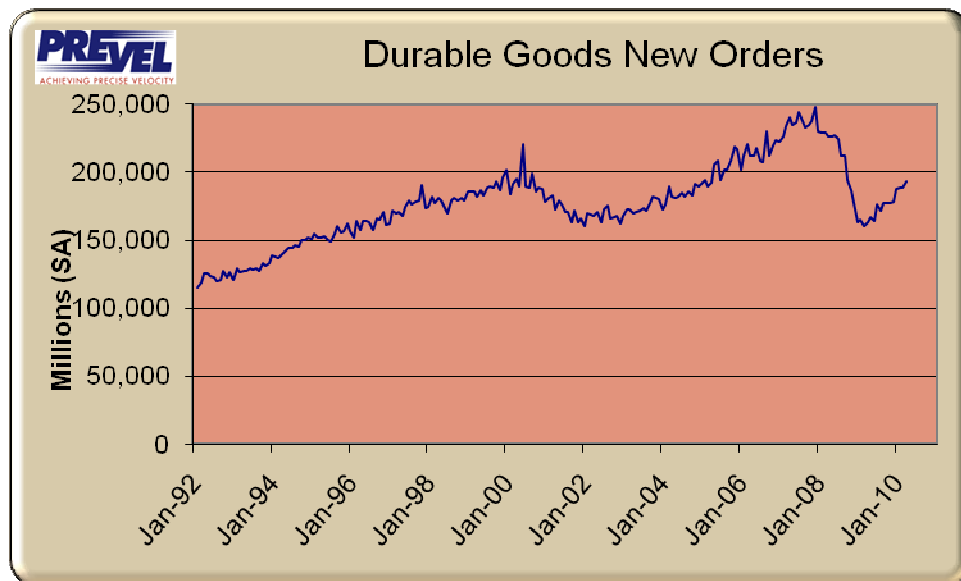
The stimulus spending is a different story. Evidence of any positive contribution from the stimulus spending is still missing. We'll be looking at two areas in detail – autos and housing. In both cases it looks like we borrowed business from the future and then immediately paid it back.

Industrial Production increased by 0.7% in April following a 0.4% March increase. The increases were broadly distributed across the sectors, although there were standouts.

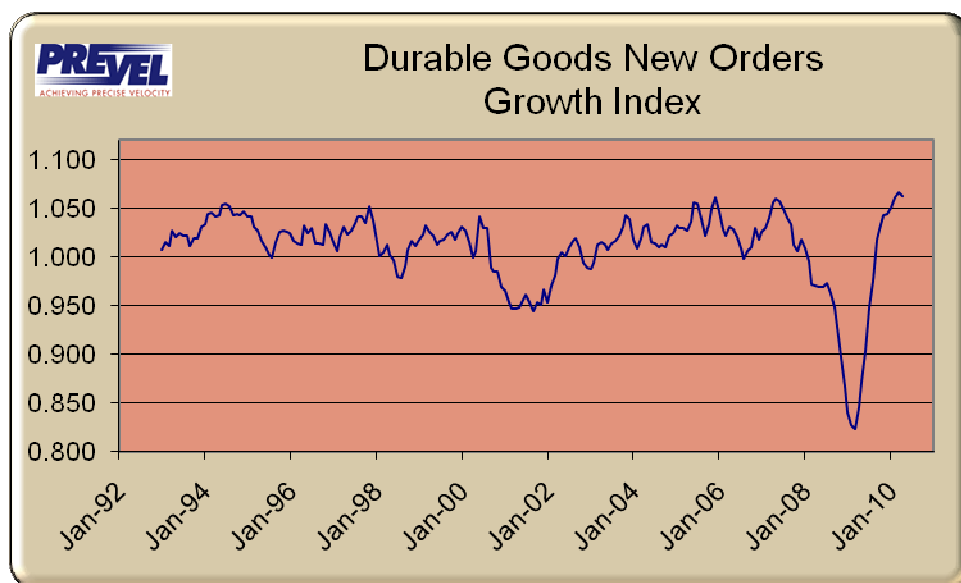


Note that the February numbers have been restated and produced a negative. Despite that change the overall picture remains modestly positive.

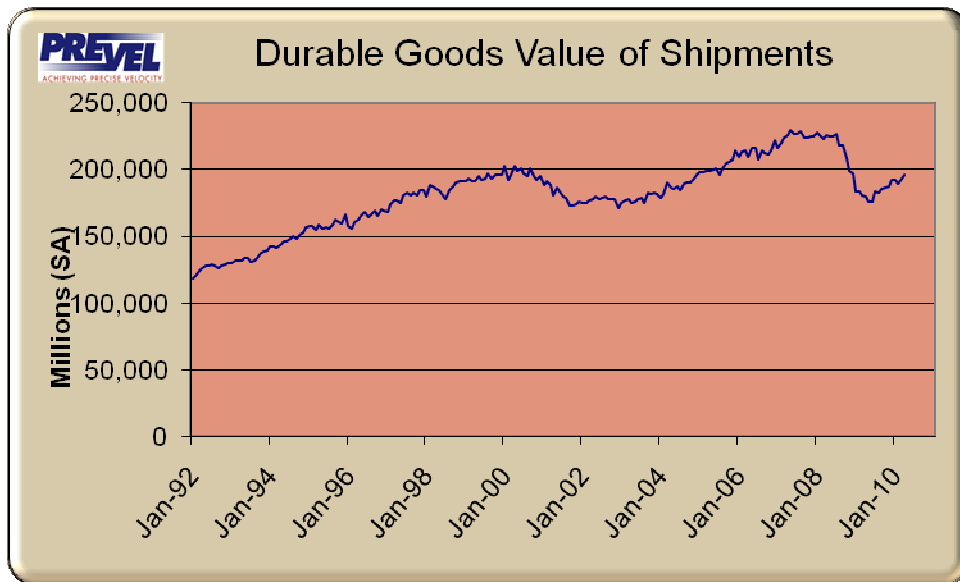
Durable goods capacity utilization improved from 64.1% to 64.9%. There seemed to be a solid increase in construction machinery that helped this number.



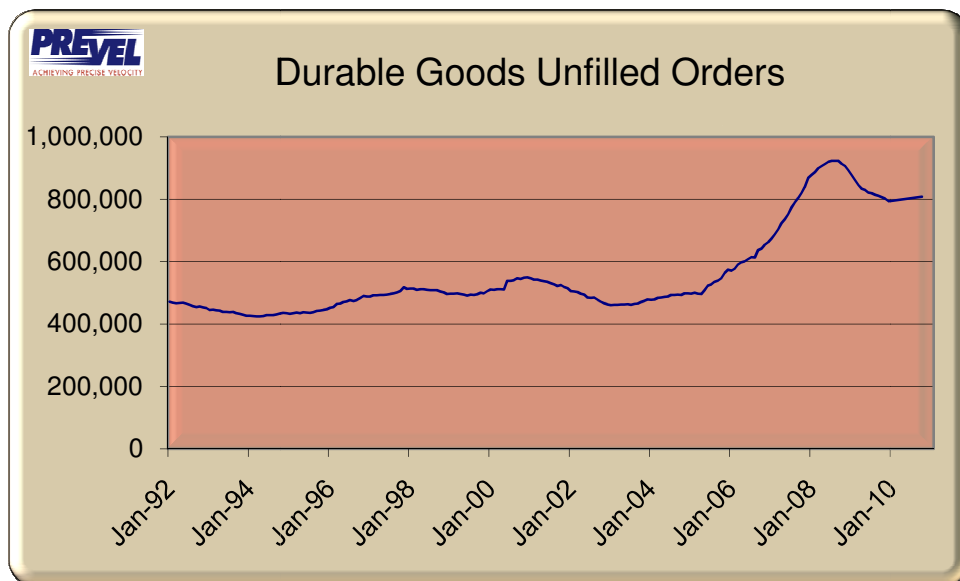
Durable Goods New Orders: New orders surged by 2.8% in April, demonstrating a continued recovery. The \$194 billion in new orders matched the October 2008 level when the economy was heading into free fall. It's a long way back to the \$247 billion record set in December 2007.

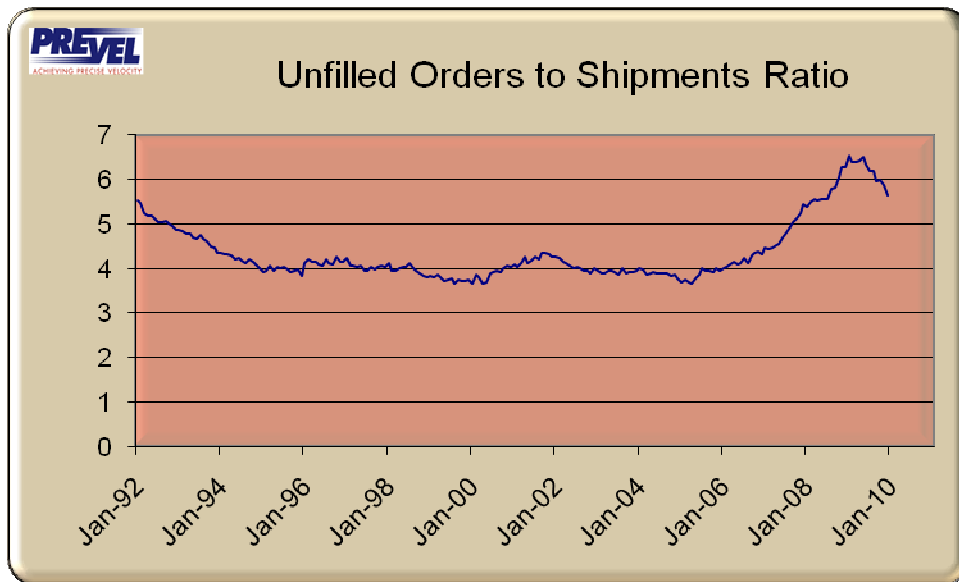


Durable Goods Growth Index (3mma/12mma): This index remained at the elevated level of 1.062, after a record 1.066 in the prior month. The nature of the calculation is such that recovering from a deep trough presents an optimistic view of the economic condition. But it is a clear signal of strong positive movement from the trough.

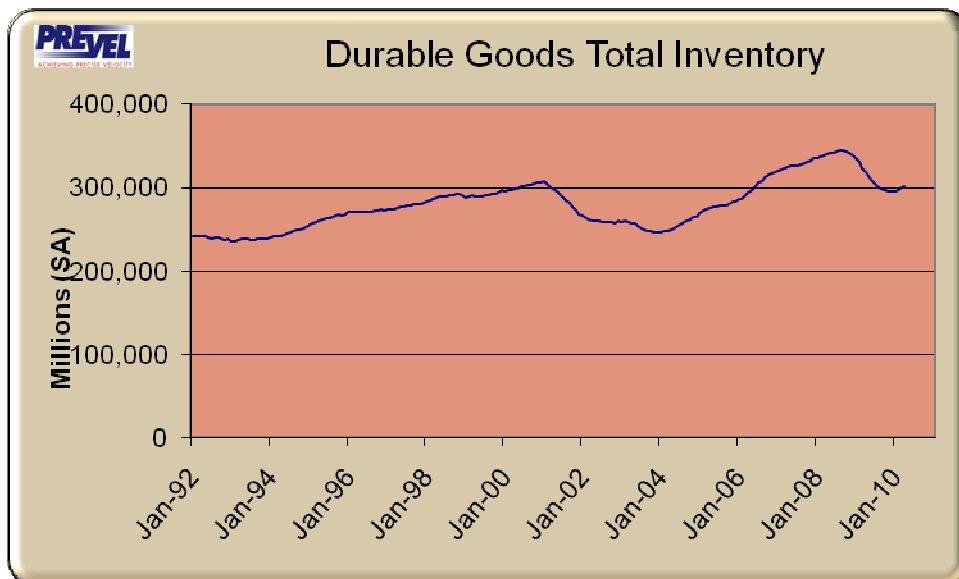


Durable Goods Shipments: Shipments increased 1.4%, balanced with new orders. The growth of production is about as good as it can be, given the complexity of the supply chain that needs to be ramped back up.



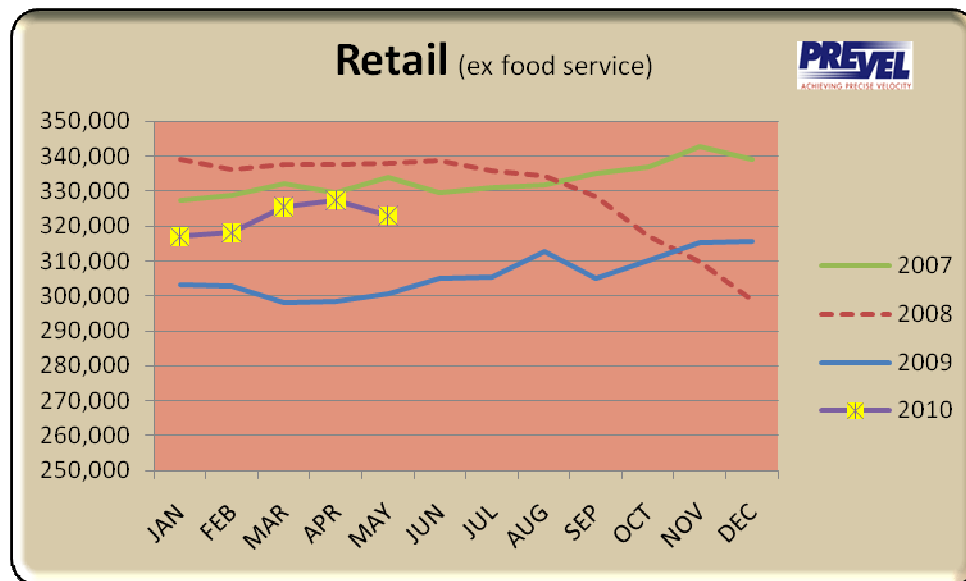


Durable Goods Unfilled Orders: Unfilled orders remained stable offering a signal that orders and shipments are in approximate balance. The ratio of unfilled orders to shipments, a measure of factory lead time, remained flat at 5.6 months. This measure had shown some improvement in recent months but remains far above the 4 month value considered “normal” in the industry. Until manufacturers are willing to increase production rates, the durable goods supply chain will remain sluggish. This requires confidence in the stability of future business. CEOs optimism doesn’t go that far just yet.

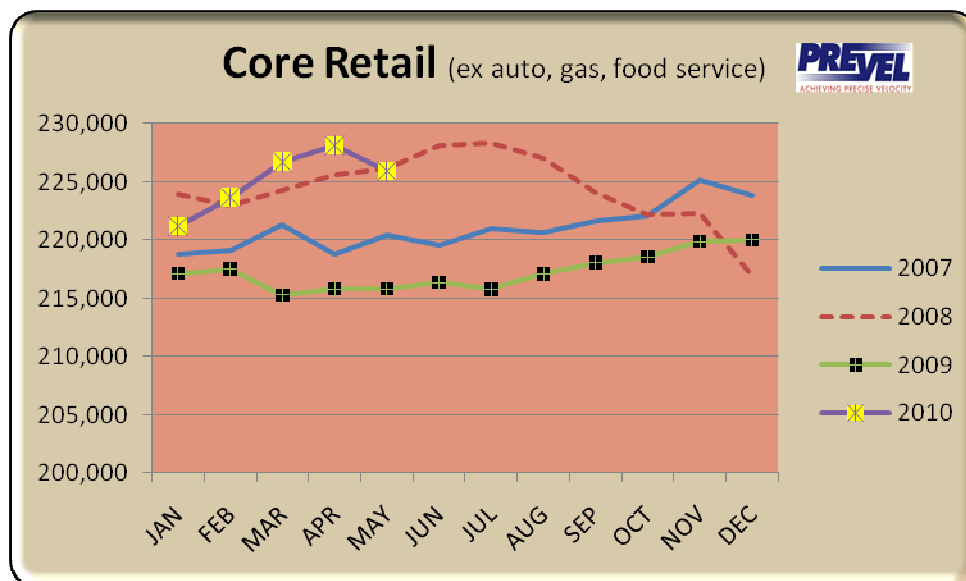


Durable Goods Inventory: Slight growth in inventory is in line with increases in shipments. The relative stability in inventories assures that the growth in orders is very likely based on real demand.

Retail Data



Retail Sales: Retail reversed direction in May showing the first serious decline in over a year (we'll ignore the artificial blip/dip after the Cash-for-Clunkers fiasco). For the past two years we've pointed out that most of the damage was coming from autos and gas as prices collapsed. This time the reverse is true. Neither autos nor gas contributed to the decline.



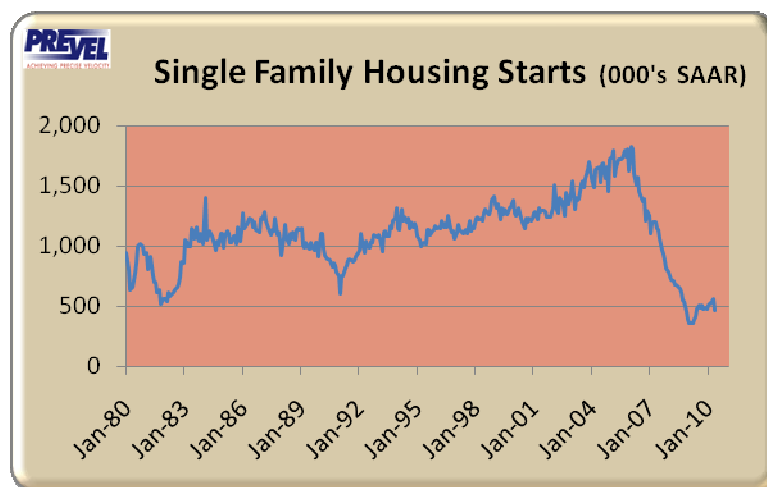
Core Retail Sales (excluding food service, autos, gas): This time the real hit came in core retail. This is an ominous sign for future growth. Through all of 2009 this component continued to generate modest growth (in spite of a one month diversion of

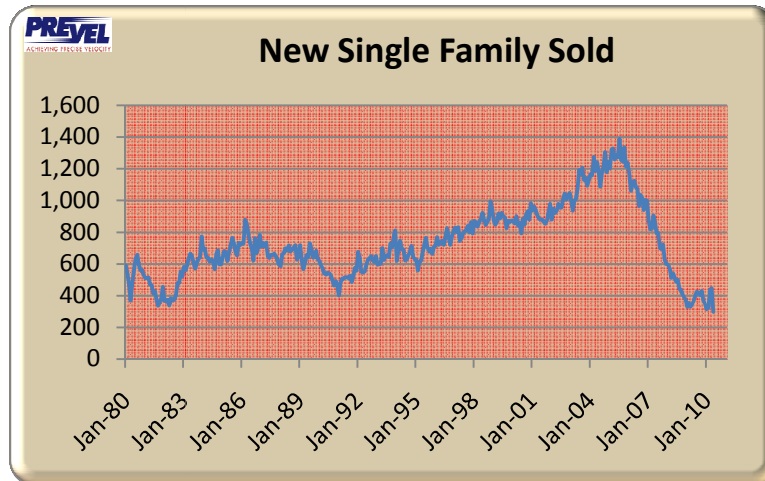
funds during Cash-for-Clunkers. For the first 4 months of 2010 the core retail growth has been dramatic, getting back to near record levels of mid 2008.

Housing: The end of the government incentive program has resulted in another reversal for the housing industry. But it sheds more light on how little impact government spending can have on the real economy. While the program was in place there was a small uptick in activity. Once the program ended the decline erased the gains. All it did was borrow from future business, just like the Cash-for-Clunkers program.

More importantly, the size of the stimulus is so small that it can barely be separated from the normal noise in the data. The only effect that government intervention has is to distort natural markets without the wisdom to know which markets are really productive. The net effect on the economy is always negative.

Single family home starts dropped 17%, but more importantly the single family home sales dropped to 300,000 units for the first time in the history of the measurement (since 1963). This important economic sector is in serious trouble and it is no longer the result of structural imbalances like excess inventory (also at a record low).





Health Care: The evidence on the health care bill is becoming clear. Insurance premium increases have already started to accelerate. It's hard to see how the innovation engine of the US health care industry can continue to deliver in the face of the regulation and centralization being imposed. Only time will tell if the inventors and investors can find a way around the government-imposed rigidity in decision making.

For manufacturing executives, expect your next insurance renewal to be much more expensive. None of the core problems you've faced in recent years have been eliminated. For example, limits on pre-existing condition exclusions were simply outlawed. That means you will bear the full expense in insurance premiums. The long term outcome will be reduced employment opportunities for these people. As the program becomes fully implemented the CBO estimates that 51% of the current programs will fail to pass muster. So you will be faced with expanded coverage in addition to the higher premiums. This must eventually lead to decisions on the entire offering.

The impact is already being felt in the number of doctors refusing new Medicare patients. Since the Medicare rules tend to become the accepted industry norm, this problem may spread. Once the new law goes into full effect, there will likely be a single standard for "efficiency."

About Prevel and The Durable Goods Report

Prevel Technology provides business consulting and information technology tools in support of high performance organizations. Our focus is on manufacturing and telecom, and through our business partners we support health care and other high-demand business environments.

The goal of the Prevel 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 analysis offers a leading indicator of future durable goods activity.

Prevel uses source data from the US Census Bureau, Bureau of Labor Statistics, 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, available 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.

A similar analysis is available for many industry sub-sectors. Contact Prevel for details about this subscription based service.

Technical Note: The “Prevel 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 Prevel Technology, a management consulting and technology consulting firm serving manufacturing, distribution, and their supporting technologies. Prevel has developed a suite of high-performance real-time applications systems in support of their client industries.

Prior to launching Prevel, 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 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 advisory services of Prevel retain the practical, no-nonsense approach familiar to world class operating executives. His operating roles 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, Ball State University, and others. He can be reached at jlayden@preveltech.com or 317-842-6417.



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