The Durable Goods Report

July 2012

Executive Summary of US Economic Activity



Manufacturing Data Release of 7/3/2012 (May Preliminary)

Employment Data Release of 7/6/2012 (June Preliminary)

Retail Data Release of 6/16/2012 (May Advanced)

Industrial Production Data Release of 6/16/2012 (May Advanced)

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

John E. Layden

By the Numbers

12 month moving average 216,893 198,931 198,931 % Change from Prior Year 9.0% Crowth Index - Durable New Orders 0.995 1.008 1.040 Unshipped Orders - Durable 984,397 984,750 909,446 % Change from Prior Year 8.2% 222,574 195,099 1.008 365,608 363,968 345,619 % Change from Prior Year 5.8% 1.63 1.64 1.61 US Economy Key Measures This period Last period Change GDP 2012 Q1 15,467.8 15,319.4 1.09 1.04 1.01 1.	Durable Goods Key Measures							
12 month moving average 216,893 198,931 198,931 % Change from Prior Year 9.0% Growth Index - Durable New Orders 0.995 1.008 1.040		Current Mo	Prior Mo	Prior Yr				
% Change from Prior Year 9.0% Growth Index - Durable New Orders 0.995 1.008 1.040 Unshipped Orders - Durable 984,397 984,750 909,446 % Change from Prior Year 8.2% 195,098 Value of Shipments - Durable 224,295 222,574 195,098 Inventory - Durables 365,608 363,968 345,618 % Change from Prior Year 5.8% 1.63 1.64 1.61 US Economy Key Measures This period Last period Change GDP 2012 Q1 15,467.8 15,319.4 1.09 Industrial Production 2,570.0 2,565.7 0.29 Capacity Utilization % 78.2 78.5 (0.4 Durable Goods % 78.0 78.5 (0.5 Primary Metals % 76.0 77.1 (1.1 Autos and Parts % 77.8 79.0 (1.3 Machinery % 85.2 85.9 (0.6 Durable Goods (\$Mili SA) 85.2 222,574 0.38	New Orders-Durable	217,378	214,666	207,662				
Crowth Index - Durable New Orders 0.995 1.008 1.040				198,931				
Unshipped Orders - Durable								
% Change from Prior Year 8.2% Value of Shipments - Durable 224,295 222,574 195,096 Inventory - Durables 365,608 363,968 345,619 % Change from Prior Year 1.63 1.64 1.61 Inv to shipments ratio - Durable 1.63 1.64 1.61 US Economy Key Measures This period Last period Change GDP 2012 Q1 15,467.8 15,319.4 1.09 Industrial Production 2,570.0 2,565.7 0.29 Capacity Utilization % 79.0 79.2 (0.1 Manufacturing % 78.2 78.5 (0.4 Durable Goods % 78.0 78.5 (0.5 Primary Metals % 76.0 77.1 (1.1 Autos and Parts % 77.8 79.0 (1.3 Machinery % 85.2 85.9 (0.6 Durable Goods (\$Mil SA) 217,378 214,666 1.39 Shipments 224,295 222,574 0.89 Inven	Growth Index - Durable New Orders	0.995	1.008	1.040				
% Change from Prior Year 8.2% Value of Shipments - Durable 224,295 222,574 195,096 Inventory - Durables 365,608 363,968 345,619 % Change from Prior Year 1.63 1.64 1.61 Inv to shipments ratio - Durable 1.63 1.64 1.61 US Economy Key Measures This period Last period Change GDP 2012 Q1 15,467.8 15,319.4 1.09 Industrial Production 2,570.0 2,565.7 0.29 Capacity Utilization % 79.0 79.2 (0.1 Manufacturing % 78.2 78.5 (0.4 Durable Goods % 78.0 78.5 (0.5 Primary Metals % 76.0 77.1 (1.1 Autos and Parts % 77.8 79.0 (1.3 Machinery % 85.2 85.9 (0.6 Durable Goods (\$Mil SA) 217,378 214,666 1.39 Shipments 224,295 222,574 0.89 Inven	Hashing ad Onders Deschla	094 207	094 750	000 446				
Value of Shipments - Durable 224,295 222,574 195,098 Inventory - Durables 365,608 363,968 345,619 % Change from Prior Year 5.8% 1.63 1.64 1.61 US Economy Key Measures UR David Mill Sal 1.09 78.2 78.0 1.20 1.00			964,750	909,446				
Inventory - Durables 365,608 363,968 345,619 % Change from Prior Year 5.8% Inv to shipments ratio - Durable 1.63 1.64 1.61	70 Change nonit not Tear	0.270						
Inventory - Durables 365,608 363,968 345,619 % Change from Prior Year 1.63 1.64 1.61 Inv to shipments ratio - Durable 1.63 1.64 1.61 US Economy Key Measures This period Last period Change GDP 2012 Q1 15,467.8 15,319.4 1.09 Industrial Production 2,570.0 2,565.7 0.29 Capacity Utilization % 79.0 79.2 (0.1 Manufacturing % 78.2 78.5 (0.4 Durable Goods % 78.0 78.5 78.5 78.5 Primary Metals % 76.0 77.1 (1.1 Autos and Parts % 77.8 79.0 (1.3 Machinery % 85.2 85.9 (0.6 Durable Goods (\$Mil SA)	Value of Shipments - Durable	224,295	222,574	195,099				
No. New orders Shipments Shipments	•							
Inv to shipments ratio - Durable			363,968	345,619				
This period								
This period				1.61				
GDP 2012 Q1 15,467.8 15,319.4 1.09 Industrial Production 2,570.0 2,565.7 0.29 Capacity Utilization % 79.0 79.2 (0.1 Manufacturing % 78.2 78.5 (0.4 Durable Goods % 78.0 78.5 (0.5 Primary Metals % 76.0 77.1 (1.1 Autos and Parts % 77.8 79.0 (1.3 Machinery % 85.2 85.9 (0.6 Durable Goods (\$Mil SA) New orders 217,378 214,666 1.39 Shipments 224,295 222,574 0.89 Inventory 365,608 363,968 0.59 Unshipped Orders 984,397 984,750 0.09 Retail ex Food Service (\$Mil SA) 360,719 361,336 -0.29 Retail ex Food Service (\$Mil SA) 360,719 361,336 -0.29 Retail ex Food Service (\$Mil SA) 360,719 361,336 -0.29 Gasoline 44	US Economy			01				
Industrial Production 2,570.0 2,565.7 0.29 Capacity Utilization % 79.0 79.2 (0.1 Manufacturing % 78.2 78.5 (0.4 Durable Goods % 78.0 78.5 (0.5 Primary Metals % 76.0 77.1 (1.1 Autos and Parts % 77.8 79.0 (1.3 Machinery % 85.2 85.9 (0.6 Durable Goods (\$Mil SA) 217,378 214,666 1.39 New orders 217,378 214,666 1.39 Shipments 222,2574 0.89 Inventory 365,608 363,968 0.59 Unshipped Orders 984,397 984,750 0.9 Retail ex Food Service (\$Mil SA) 360,719 361,336 -0.29 Retail ex Food Service (\$Mil SA) 360,719 361,336 -0.29 Retail ex Food Service (\$Mil SA) 360,719 361,336 -0.29 Retail ex Food Service (\$Mil SA) 360,719 361,336 -0.29 Retail ex Food Service (ODD 0010 O1							
Capacity Utilization % 79.0 79.2 (0.1 Manufacturing % 78.2 78.5 (0.4 Durable Goods % 78.0 78.5 (0.5 Primary Metals % 76.0 77.1 (1.1 Autos and Parts % 77.8 79.0 (1.3 Machinery % 85.2 85.9 (0.6 Durable Goods (\$Mil SA) 217,378 214,666 1.39 Shipments 224,295 222,574 0.89 Inventory 365,608 363,968 0.59 Unshipped Orders 984,397 984,750 0.09 Retail ex Food Service (\$Mil SA) 360,719 361,336 -0.29 Autos and Parts 73,631 73,081 0.89 Gasoline 44,873 45,871 -2.29 Core retail (ex auto, gas) 242,215 242,384 -0.19 Employment (000's SA) 100,740 100,679 61 Civilian employed (Household Survey) 142,415 142,287 12 % of potential workforce	· · · · · · · · · · · · · · · · · · ·							
Manufacturing % 78.2 78.5 (0.4 Durable Goods % 78.0 78.5 (0.5 Primary Metals % 76.0 77.1 (1.1 Autos and Parts % 77.8 79.0 (1.3 Machinery % 85.2 85.9 (0.6 Durable Goods (\$Mil SA) 217,378 214,666 1.39 New orders 217,378 214,666 1.39 Shipments 224,295 222,574 0.89 Inventory 365,608 363,968 0.59 Unshipped Orders 984,397 984,750 0.09 Retail ex Food Service (\$Mil SA) 360,719 361,336 -0.29 Retail ex Food Service (\$Mil SA) 360,719 361,336 -0.29 Autos and Parts 73,631 73,081 0.89 Gasoline 44,873 45,871 -2.29 Core retail (ex auto, gas) 242,215 242,384 -0.19 Employment (000's SA) 142,415 142,287 12 % of potential workforce				0.2%				
Durable Goods % 78.0 78.5 (0.5 Primary Metals % 76.0 77.1 (1.1 Autos and Parts % 77.8 79.0 (1.3 Machinery % 85.2 85.9 (0.6 Durable Goods (\$Mil SA) New orders 217,378 214,666 1.39 Shipments 224,295 222,574 0.89 Inventory 365,608 363,968 0.59 Unshipped Orders 984,397 984,750 0.09 Retail ex Food Service (\$Mil SA) 360,719 361,336 -0.29 Autos and Parts 73,631 73,081 0.89 Gasoline 44,873 45,871 -2.29 Core retail (ex auto, gas) 242,215 242,384 -0.19 Employment (000's SA) Civilian employed (Household Survey) 142,415 142,287 12 % of potential workforce 58.6% 58.6% 0.09 Civilian not employed (HS) 100,740 100,679 61 Non-Farm (Establishment Survey) 133,088 133,008 Private (ES) 111,145 111,061 8 Government (fed, state, local) (ES) 21,943 21,947 Goods Producing (ES) 11,962 11,951 1 Construction (ES) 5,509 5,507 Durable Goods Mfg (ES) 7,491 7,477 1. Housing (000s of Units SA) Total housing starts 708 744 -4.89 Single family sales (new) 369 343 7.69			79.2	(0.1)				
Primary Metals % 76.0 77.1 (1.1 Autos and Parts % 77.8 79.0 (1.3 Machinery % 85.2 85.9 (0.6 Durable Goods (\$Mil SA) New orders 217,378 214,666 1.39 Shipments 224,295 222,574 0.89 Inventory 365,608 363,968 0.59 Unshipped Orders 984,397 984,750 0.09 Retail ex Food Service (\$Mil SA) 360,719 361,336 -0.29 Autos and Parts 73,631 73,081 0.89 Gasoline 44,873 45,871 -2.29 Core retail (ex auto, gas) 242,215 242,384 -0.19 Employment (000's SA) Civilian employed (Household Survey) 142,415 142,287 12 % of potential workforce 58.6% 58.6% 0.09 Civilian not employed (HS) 100,740 100,679 61 Non-Farm (Establishment Survey) 133,088 133,008 8 Private (ES) 111,145 111,061 8 Government (fed, state, local) (ES) 21,943 21,947 Goods Producing (ES) 11,962 11,951 1 Construction (ES) 5,509 5,507 Durable Goods Mfg (ES) 7,491 7,477 1. Housing (000s of Units SA) Total housing starts 708 744 -4.89 Single family starts 516 500 3.29 Single family sales (new) 369 343 7.69				(0.4)				
Autos and Parts % 77.8 79.0 (1.3 Machinery % 85.2 85.9 (0.6 Durable Goods (\$Mil SA) New orders 217,378 214,666 1.39 Shipments 224,295 222,574 0.89 Inventory 365,608 363,968 0.59 Unshipped Orders 984,397 984,750 0.09 Retail ex Food Service (\$Mil SA) 360,719 361,336 -0.29 Autos and Parts 73,631 73,081 0.89 Gasoline 44,873 45,871 -2.29 Core retail (ex auto, gas) 242,215 242,384 -0.19 Employment (000's SA) Civilian employed (Household Survey) 142,415 142,287 12 % of potential workforce 58.6% 58.6% 0.09 Civilian not employed (HS) 100,740 100,679 61 Non-Farm (Establishment Survey) 133,088 133,008 8 Private (ES) 111,145 111,061 8 Government (fed, state, local) (ES) 21,943 21,947 -0.0 Goods Producing (ES) 11,962 11,951 1 Construction (ES) 5,509 5,507 Durable Goods Mfg (ES) 7,491 7,477 1.0 Housing (000s of Units SA) Total housing starts 708 744 -4.88 Single family starts 516 500 3.29 Single family starts 516 500 3.29 Single family starts 516 500 3.29		78.0	78.5	(0.5)				
Machinery % 85.2 85.9 (0.6 Durable Goods (\$Mil SA) 217,378 214,666 1.39 New orders 217,378 214,666 1.39 Shipments 224,295 222,574 0.89 Inventory 365,608 363,968 0.59 Unshipped Orders 984,397 984,750 0.09 Retail ex Food Service (\$Mil SA) 360,719 361,336 -0.29 Autos and Parts 73,631 73,081 0.89 Gasoline 44,873 45,871 -2.29 Core retail (ex auto, gas) 242,215 242,384 -0.19 Employment (000's SA) 142,415 142,287 12 % of potential workforce 58.6% 58.6% 0.09 Civilian not employed (HS) 100,740 100,679 61 Non-Farm (Establishment Survey) 133,088 133,008 8 Private (ES) 111,145 111,061 8 Goods Producing (ES) 11,314 18,301 1 Manufacturin	Primary Metals %	76.0	77.1	(1.1)				
Durable Goods (\$Mil SA) 217,378 214,666 1.39 Shipments 224,295 222,574 0.89 Inventory 365,608 363,968 0.59 Unshipped Orders 984,397 984,750 0.09 Retail ex Food Service (\$Mil SA) 360,719 361,336 -0.29 Autos and Parts 73,631 73,081 0.89 Gasoline 44,873 45,871 -2.29 Core retail (ex auto, gas) 242,215 242,384 -0.19 Employment (000's SA)	Autos and Parts %	77.8	79.0	(1.3)				
New orders 217,378 214,666 1.39 Shipments 224,295 222,574 0.89 Inventory 365,608 363,968 0.59 Unshipped Orders 984,397 984,750 0.09 Retail ex Food Service (\$Mil SA) 360,719 361,336 -0.29 Autos and Parts 73,631 73,081 0.89 Gasoline 44,873 45,871 -2.29 Core retail (ex auto, gas) 242,215 242,384 -0.19 Employment (000's SA)	Machinery %	85.2	85.9	(0.6)				
Shipments 224,295 222,574 0.88 Inventory 365,608 363,968 0.59 Unshipped Orders 984,397 984,750 0.09 Retail ex Food Service (\$Mil SA) 360,719 361,336 -0.29 Autos and Parts 73,631 73,081 0.89 Gasoline 44,873 45,871 -2.29 Core retail (ex auto, gas) 242,215 242,384 -0.19 Employment (000's SA) 58.6% 58.6% 0.09 Civilian employed (Household Survey) 142,415 142,287 12 % of potential workforce 58.6% 58.6% 0.09 Civilian not employed (HS) 100,740 100,679 61 Non-Farm (Establishment Survey) 133,088 133,008 8 Private (ES) 111,145 111,061 8 Government (fed, state, local) (ES) 21,943 21,947 - Goods Producing (ES) 18,314 18,301 1 Manufacturing (ES) 11,962 11,951 1 </td <td>Durable Goods (\$Mil SA)</td> <td></td> <td></td> <td></td>	Durable Goods (\$Mil SA)							
Inventory 365,608 363,968 0.59 Unshipped Orders 984,397 984,750 0.09 Retail ex Food Service (\$Mil SA) 360,719 361,336 -0.29 Autos and Parts 73,631 73,081 0.89 Gasoline 44,873 45,871 -2.29 Core retail (ex auto, gas) 242,215 242,384 -0.19 Employment (000's SA) Civilian employed (Household Survey) 142,415 142,287 120 % of potential workforce 58.6% 58.6% 0.09 Civilian not employed (HS) 100,740 100,679 61 Non-Farm (Establishment Survey) 133,088 133,008 80 Private (ES) 111,145 111,061 80 Government (fed, state, local) (ES) 21,943 21,947 -0.000 Goods Producing (ES) 18,314 18,301 1.000 Manufacturing (ES) 11,962 11,951 1.000 Construction (ES) 5,509 5,507 Durable Goods Mfg (ES) 7,491 7,477 1.000 Housing (000s of Units SA) 708 744 -4.89 Single family starts 516 500 3.29 Single family sales (new) 369 343 7.69	New orders	217,378	214,666	1.3%				
Unshipped Orders 984,397 984,750 0.09 Retail ex Food Service (\$Mil SA) 360,719 361,336 -0.29 Autos and Parts 73,631 73,081 0.89 Gasoline 44,873 45,871 -2.29 Core retail (ex auto, gas) 242,215 242,384 -0.19 Employment (000's SA) 242,215 142,287 12 % of potential workforce 58.6% 58.6% 0.09 Civilian not employed (HS) 100,740 100,679 61 Non-Farm (Establishment Survey) 133,088 133,008 8 Private (ES) 111,145 111,061 8 Government (fed, state, local) (ES) 21,943 21,947 - Goods Producing (ES) 18,314 18,301 1 Manufacturing (ES) 11,962 11,951 1 Construction (ES) 5,509 5,507 Durable Goods Mfg (ES) 7,491 7,477 1 Housing (000s of Units SA) 708 744 -4.89	Shipments	224,295	222,574	0.8%				
Retail ex Food Service (\$Mil SA) 360,719 361,336 -0.29 Autos and Parts 73,631 73,081 0.89 Gasoline 44,873 45,871 -2.29 Core retail (ex auto, gas) 242,215 242,384 -0.19 Employment (000's SA) 250 242,215 242,384 -0.19 Civilian employed (Household Survey) 142,415 142,287 12 % of potential workforce 58.6% 58.6% 0.09 Civilian not employed (HS) 100,740 100,679 61 Non-Farm (Establishment Survey) 133,088 133,008 8 Private (ES) 111,145 111,061 8 Government (fed, state, local) (ES) 21,943 21,947 - Goods Producing (ES) 18,314 18,301 1 Manufacturing (ES) 11,962 11,951 1 Construction (ES) 5,509 5,507 Durable Goods Mfg (ES) 7,491 7,477 1 Housing (000s of Units SA) 708 744				0.5%				
Autos and Parts 73,631 73,081 0.89 Gasoline 44,873 45,871 -2.29 Core retail (ex auto, gas) 242,215 242,384 -0.19 Employment (000's SA) Civilian employed (Household Survey) 142,415 142,287 12: % of potential workforce 58.6% 58.6% 0.09 Civilian not employed (HS) 100,740 100,679 61 Non-Farm (Establishment Survey) 133,088 133,008 8 Private (ES) 111,145 111,061 8. Government (fed, state, local) (ES) 21,943 21,947 Goods Producing (ES) 18,314 18,301 1. Manufacturing (ES) 11,962 11,951 1 Construction (ES) 5,509 5,507 Durable Goods Mfg (ES) 7,491 7,477 1. Housing (000s of Units SA) Total housing starts 708 744 -4.89 Single family starts 516 500 3.29 Single family sales (new) 369 343 7.69				0.0%				
Gasoline 44,873 45,871 -2.29 Core retail (ex auto, gas) 242,215 242,384 -0.19 Employment (000's SA) 242,215 242,384 -0.19 Civilian employed (Household Survey) 142,415 142,287 12 % of potential workforce 58.6% 58.6% 0.09 Civilian not employed (HS) 100,740 100,679 61 Non-Farm (Establishment Survey) 133,088 133,008 8 Private (ES) 111,145 111,061 8 Government (fed, state, local) (ES) 21,943 21,947 Goods Producing (ES) 18,314 18,301 1 Manufacturing (ES) 11,962 11,951 1 Construction (ES) 5,509 5,507 5 Durable Goods Mfg (ES) 7,491 7,477 1 Housing (000s of Units SA) 708 744 -4.89 Single family starts 516 500 3.29 Single family sales (new) 369 343 7.69 <td></td> <td></td> <td>361,336</td> <td>-0.2%</td>			361,336	-0.2%				
Core retail (ex auto, gas) 242,215 242,384 -0.19 Employment (000's SA) -0.19 <td>Autos and Parts</td> <td>73,631</td> <td>73,081</td> <td>0.8%</td>	Autos and Parts	73,631	73,081	0.8%				
Employment (000's SA) 142,415 142,287 12 % of potential workforce 58.6% 58.6% 0.09 Civilian not employed (HS) 100,740 100,679 61 Non-Farm (Establishment Survey) 133,088 133,008 8 Private (ES) 111,145 111,061 8 Government (fed, state, local) (ES) 21,943 21,947 Goods Producing (ES) 18,314 18,301 1 Manufacturing (ES) 11,962 11,951 1 Construction (ES) 5,509 5,507 Durable Goods Mfg (ES) 7,491 7,477 1 Housing (000s of Units SA) 708 744 -4.89 Single family starts 516 500 3.29 Single family sales (new) 369 343 7.69	Gasoline	44,873	45,871	-2.2%				
Civilian employed (Household Survey) 142,415 142,287 12 % of potential workforce 58.6% 58.6% 0.09 Civilian not employed (HS) 100,740 100,679 61 Non-Farm (Establishment Survey) 133,088 133,008 8 Private (ES) 111,145 111,061 8 Government (fed, state, local) (ES) 21,943 21,947 - Goods Producing (ES) 18,314 18,301 1 Manufacturing (ES) 11,962 11,951 1 Construction (ES) 5,509 5,507 - Durable Goods Mfg (ES) 7,491 7,477 1 Housing (000s of Units SA) 708 744 -4.89 Single family starts 516 500 3.29 Single family sales (new) 369 343 7.69	,	242,215	242,384	-0.1%				
% of potential workforce 58.6% 58.6% 0.0% Civilian not employed (HS) 100,740 100,679 61 Non-Farm (Establishment Survey) 133,088 133,008 8 Private (ES) 111,145 111,061 8 Government (fed, state, local) (ES) 21,943 21,947 Goods Producing (ES) 18,314 18,301 1 Manufacturing (ES) 11,962 11,951 1 Construction (ES) 5,509 5,507 Durable Goods Mfg (ES) 7,491 7,477 1 Housing (000s of Units SA) 708 744 -4.89 Single family starts 516 500 3.29 Single family sales (new) 369 343 7.69								
Civilian not employed (HS) 100,740 100,679 61 Non-Farm (Establishment Survey) 133,088 133,008 8 Private (ES) 111,145 111,061 8 Government (fed, state, local) (ES) 21,943 21,947 Goods Producing (ES) 18,314 18,301 1 Manufacturing (ES) 11,962 11,951 1 Construction (ES) 5,509 5,507 5 Durable Goods Mfg (ES) 7,491 7,477 1 Housing (000s of Units SA) 708 744 -4.89 Single family starts 516 500 3.29 Single family sales (new) 369 343 7.69	Civilian employed (Household Survey)	142,415	142,287	128				
Non-Farm (Establishment Survey) 133,088 133,008 8 Private (ES) 111,145 111,061 8 Government (fed, state, local) (ES) 21,943 21,947 - Goods Producing (ES) 18,314 18,301 1 Manufacturing (ES) 11,962 11,951 1 Construction (ES) 5,509 5,507 - Durable Goods Mfg (ES) 7,491 7,477 1 Housing (000s of Units SA) -4.89 Total housing starts 708 744 -4.89 Single family starts 516 500 3.29 Single family sales (new) 369 343 7.69	% of potential workforce	58.6%	58.6%	0.0%				
Private (ES) 111,145 111,061 8 Government (fed, state, local) (ES) 21,943 21,947 Goods Producing (ES) 18,314 18,301 1 Manufacturing (ES) 11,962 11,951 1 Construction (ES) 5,509 5,507 Durable Goods Mfg (ES) 7,491 7,477 1 Housing (000s of Units SA) 708 744 -4.89 Single family starts 516 500 3.29 Single family sales (new) 369 343 7.69	Civilian not employed (HS)	100,740	100,679	61				
Government (fed, state, local) (ES) 21,943 21,947 Goods Producing (ES) 18,314 18,301 1 Manufacturing (ES) 11,962 11,951 1 Construction (ES) 5,509 5,507 Durable Goods Mfg (ES) 7,491 7,477 1 Housing (000s of Units SA) Total housing starts 708 744 Single family starts 516 500 3,29 Single family sales (new) 369 343 7,69	Non-Farm (Establishment Survey)	133,088	133,008	80				
Goods Producing (ES) 18,314 18,301 1 Manufacturing (ES) 11,962 11,951 1 Construction (ES) 5,509 5,507 Durable Goods Mfg (ES) 7,491 7,477 1 Housing (000s of Units SA) 708 744 -4.89 Single family starts 516 500 3.29 Single family sales (new) 369 343 7.69	Private (ES)	111,145	111,061	84				
Goods Producing (ES) 18,314 18,301 1 Manufacturing (ES) 11,962 11,951 1 Construction (ES) 5,509 5,507 Durable Goods Mfg (ES) 7,491 7,477 1 Housing (000s of Units SA) 708 744 -4.89 Single family starts 516 500 3.29 Single family sales (new) 369 343 7.69	Government (fed, state, local) (ES)	21,943	21,947	-4				
Manufacturing (ES) 11,962 11,951 1 Construction (ES) 5,509 5,507 Durable Goods Mfg (ES) 7,491 7,477 1 Housing (000s of Units SA) 708 744 -4.89 Single family starts 516 500 3.29 Single family sales (new) 369 343 7.69	Goods Producing (ES)	18,314	18,301	13				
Construction (ES) 5,509 5,507 Durable Goods Mfg (ES) 7,491 7,477 1 Housing (000s of Units SA) 708 744 -4.89 Single family starts 516 500 3.29 Single family sales (new) 369 343 7.69			11,951	11				
Durable Goods Mfg (ES) 7,491 7,477 1. Housing (000s of Units SA) 708 744 -4.89 Total housing starts 708 744 -4.89 Single family starts 516 500 3.29 Single family sales (new) 369 343 7.69				2				
Housing (000s of Units SA) 708 744 -4.89 Total housing starts 516 500 3.29 Single family sales (new) 369 343 7.69	. ,		-	14				
Total housing starts 708 744 -4.89 Single family starts 516 500 3.29 Single family sales (new) 369 343 7.69	3	.,	.,,	14				
Single family starts 516 500 3.29 Single family sales (new) 369 343 7.69		708	744	-4 8%				
Single family sales (new) 369 343 7.69								
Single family for sale (new) 145 146 -0.7%				-0.7%				

US Economy – Quick Look:

US GDP

Q1 GDP was revised downward to 1.9% SAAR (1.0% QtQ, 4.0% YtY)

Industrial Production

Industrial production was up 0.2% to \$2.57 trillion (excluding industrial supplies like energy). 4.0% above the same period last year. Capacity utilization was down in every industrial category that we track.

Durable Goods

New orders for durable goods increased 1.3% in May to \$217 billion. Inventory to shipments ratio remained high at 1.6. Growth Index signals contraction at 0.995, down from 1.008 last month and 1.040 last year.

Retail:

Retail sales (ex food service) decreased 0.2% in May to \$361 billion. Remains at near-record levels.

Employment:

The employment picture remains weak. The broad-based household survey showed that June employment expanded by 128,000. Employer survey showed growth of 80,000. Population grew 200,000. The "employed" accounted for 58.6% of the working age population, unchanged from last month. The number of people not working was 100.7 million. This consists of the unemployed (12.7 million) and those not in the labor force (88.0 million). The boundary between these categories is fluid.

Housing:

Single family housing starts increased 3.2% to a 516,000 annual rate. Single family sales increased 7.6% to a 369,000 annual rate. Total starts declined 4.8% to 708,000 annual rate.

Random Thoughts:

- <u>Energy</u>

- Energy sector is exploding despite the best efforts of regulators to throttle it. Production on private lands is increasing rapidly. Production on government controlled properties is declining due to a 35% reduction in permits granted.
- The administration now wants to brag that energy generation on public lands has generated 1.5 million jobs.
- On the same day as the Supreme Court decision on health care the Energy Department published new rules for offshore drilling. They essentially shut down the industry and nobody noticed.
- The US now has the largest reserves of energy in the world. Far in excess of the entire Middle East. Canada is a close second.
- The US General Accountability Office reports in Congressional testimony that a single oil basin, the Green River Formation (Colorado-Utah-Wyoming), contains as much oil as the proven reserves of the rest of the world combined. It's under federal land and not being permitted for development.
- An industry first: Natural gas fired power plants generated more electricity than coal fired plants. Nukes were third. Renewables were irrelevant in every possible interpretation of the word. With no need for government intervention.
- Over the past 300 years free markets have produced a 40 fold improvement in the carbon to hydrogen ratio for the primary fuel source:
 - Wood 10:1
 - o Coal 4:1
 - o Oil 2:1
 - o Gas 1:4
- Planned economies and the green movement have reversed this trend wherever they have been implemented.
- EPA has quietly withdrawn a report that purported to show a connection between fracking and ground water contamination. There is still no evidence of any damage caused by fracking in more than 70 years, despite frantic attempts to find some. The EPA is moving to publish new regulations anyway.

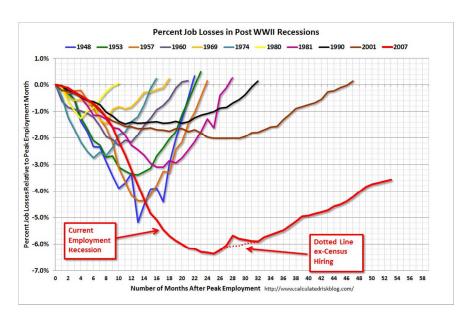
- Economics

- The global economy continues to slide toward recession.
- China is contracting so fast that there is now a "ghost fleet" competing for ocean cargo. It's the fleet that usually transports raw materials along the Chinese coasts and rivers. They have suddenly shown up in competition for ocean freight for the first time.
- Walter Russell Meade writes that there is a massive deflation coming to China and it will have global impact.
- The cyclical downturn predicted for the US in 2013 looks to be arriving early.
 Hiring is slowing and for six months it has been below the rate of working age population growth.
- The president
- Regulation, Taxes and Politics

- All regulation has the reverse effect of what is intended. It is justified on the basis
 of reducing risk to the public and protecting individuals from bad people. As risk
 is mitigated you get more radical risk taking and bigger crashes. Examples
 include the housing bubble, higher education bubble, financial regulations, and
 the derivatives bubble.
- Government investment is almost always defined as mal-investment. Mal-investment is defined as investment that does not produce a reasonable economic return. If there were an economic return, the government wouldn't need to do it.
- Even when the aims of government investment are noble, it still causes a bad impact on the economy. As long as it's small you can get away with it. In the US it's no longer small and it's hammering the economy.
 - o Investment in infrastructure is one legitimate purpose of government.
 - But hiring more teachers is not. We've doubled the number of teachers since 1970 against an 8.5% increase in students. Student performance has declined slightly.
 - A bridge to nowhere might create jobs (more likely pay off a crony) but it adds no value and is classic mal-investment.
- Redistribution schemes always have the effect of encouraging more dependents and fewer producers. Why work to produce value if the government will take it from someone else and give it to you? When I was growing up this was called coveting and it was considered sinful. I guess we've outgrown those old notions.
- Paul Krugman (NY Times Economist) thinks he's an intellectual follower of John Maynard Keynes. He argues that the stimulus didn't work because it wasn't big enough. He betrays the fact that he doesn't understand Keynes. He's just trying to justify central control by elite intellectuals (like him). But his understanding of economics is refuted by any first year econ textbook. I recommend Thomas Sowell's Basic Economics.
- Paul Krugman has repeated his claim that draconian cuts in government spending are the cause of the tepid economy. Only one problem. Government spending has exploded. He lives in an alternate universe.
- Paul Krugman is also thin-skinned. Here's a link to Spanish economics professor Pedro Schwartz doing a gentile take-down on Krugman, and his red-faced response.
 - http://www.zerohedge.com/news/ultimate-krugman-take-down
- President Obama has announced that he will veto any tax relief proposal that does not 1) extend middle class tax cuts for one year, and 2) raise the rates on those making over \$250,000.
- The middle class should expect that at the end of that year (after the election) they will be looking for a "patriotic" tax increase to balance the budget. The rich are a good propaganda target but they don't have enough money left to help. Only the middle class has any serious money left.
- The populist themes can't increase government revenues because most millionaires aren't stupid (there are exceptions). The depressing effect on employment would be immediate and would be a bitter pill for the middle class.

- One theme of the current Democratic campaign is to increase taxes on "the rich." They need to pay their "fair share." What is a fair share? No one wants to say, but it's more than now. The top 5% already pay 80% of all income tax.
- One theme of the current Republican campaign is...what exactly? Does Romney really expect me to read his 51 proposals? I guess "Repeal Obamacare" is it.
- In Maryland the "Millionaires tax" resulted in a reduction in total tax revenues from millionaires of \$1.7 million. Also a drop in the population of millionaires. They moved out of state. Unpatriotic!
- Denise Rich, major donor to the Clinton campaign and wife of pardoned shady investor Marc Rich, has renounced her US citizenship to avoid the punishing tax rates in the US.
- The co-founder of Facebook renounced his US citizenship before the company went public.
- The New York Post reports that Americans are renouncing their citizenship at the rate of 154 per week in 2012. In 2011 the comparable rate was 73 per week. In 2006 this was unheard of. Almost exclusively high-net-worth individuals. The cause cited is persistent promises to increase taxes on the "rich."
- Total of all taxes on a "rich" company owner with a sub-chapter S corporation and an income of \$250,000 is roughly 75%. This is up from about 65% 12 years ago.
- Several Republican senators (led by Lindsay Graham) and at least on conservative pundit (Krauthammer) are joining Democrats and have come out in favor of a carbon tax. Justification is to encourage conservation. This argument can only be made by someone who missed high school math.
 - There is no shortage of energy, only government regulation.
 - The only conservation that occurs in this scenario is by the poor who have no ability pass on the higher cost to someone else by raising prices or taking a tax deduction. It simply reduces their standard of living.
 - The case assumes there's a need for universal conservation. How does a low-flow toilet in Indy help water supply in Phoenix?
- The beltway crowd seems to believe that government hiring is good for the economy (most recently from Joe Biden, but also from both Democrat and Republican senators). They must have missed the report showing the direct impact of creating a government job eliminated an average of 1.3 private sector jobs. If the job eliminated is in durable goods, the number of jobs destroyed is closer to 8. Green sector jobs destroyed 2.2 private sector jobs in Spain, 4.5 private sector jobs in Scotland.
- Supreme Court says Obamacare is constitutional if viewed as a tax. Not necessarily smart policy (not their job to decide). Republicans promise to repeal.
- The problem with the Obamacare policy is that it misses the point. The problem is not with the health care system. It's with the health insurance system and the distortions it forces on the delivery system. Obamacare expands the worst parts of it.
- 83% of doctors in one survey said they were considering retiring or finding a new field because of the new regulations. Claim that 2/3 of their labor force is focused on paperwork related to billing and compliance. This figure has doubled

- since the passage of Obamacare. I've timed my last two doctor visits. Flu shot was 80% paperwork time. Annual physical was 60% electronic medical record time.
- The economic strategy of the political class in Washington is to try the same methods used by FDR in the 30s. They're getting the same results. Who saw that coming?
- The current job recession is massively worse than any other post war recession.



<u>Nobel prize winner — Ivar Giaever — "climate change is pseudoscience"</u>

- Climate

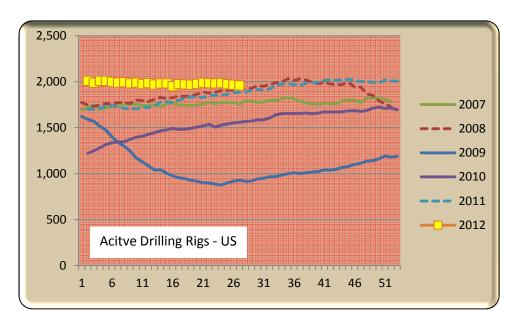
- The climate change debate is faced with a serious problem. The temperature has been dropping for 15 years. The recent rate of decline (-1.9C per century) has been twice the rate of increase (0.8C per century) in the last century. We're looking at significant global cooling.
- If you think the recent US heat wave is a signal of global proportions, think again.
 - The continental US is only 1.5% of the globe's surface.
 - o Every month of 1998 was warmer than the same month of 2012 so far.
- The journal of Geophysical Research Letters has published a new study on the ice mass balance in Antarctic. There has been no loss of ice in 30 years since the first computer model predicted rapid ice loss. Once again measurements derail a computer model.
- New study of tree rings shows that the cooling has been going on for 2000 years (since the Roman Warming).
- Greenland ice cores show that the cooling has been going on for 8000 years.
- Solar circulation rates have slowed dramatically (100x below expectations).
 Sunspot activity is approaching a cyclical peak that is the lowest peak level in 300 years. Solar magnetic levels are at historic lows.
- Arctic ice extent set a modern record this year. Furthest southern reach in a century.

- The Economist has a recent cover highlighting the economic implications of the loss of Arctic ice.
- Say what?
- The Economist must have missed the fact that there has been coastal trade navigation of the Arctic in summer months since at least 1620. But the volume of shipping is what counts.
- Quick check of "Ship Tracker" shows that there are only three ships currently north of 70N latitude. None are commercial vessels. So the answer would seem to be "zero." It's still a fiction.
- University of Wisconsin Antarctic South Pole Station sets new record low temperature of -100.8F. Previous record was set in 1966 at -99.9F. The first continental temperature record set since 1976.
- Apple has dropped its green certifications. Added too much cost. Delivered no benefit to the environment.
- It's no fun challenging the global warming alarmists any more. They just start screaming. They never had a fact-based argument and paid no attention to the data anyway. They count on the public not checking their facts.

Energy:

US drilling activity remains strong. Purchase of new equipment for energy production shows some recovery from several months of weak performance (see details in Durable Goods Sectors).

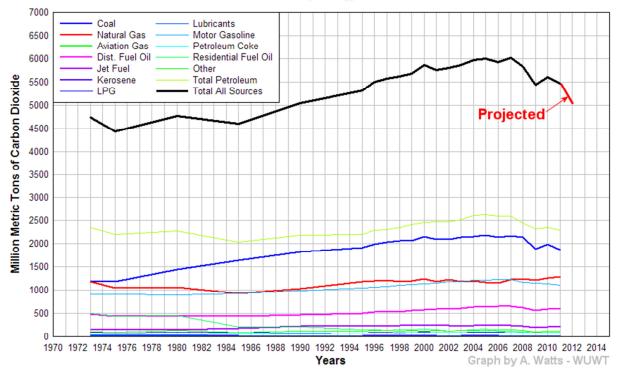
Slowing global demand continues to hold down prices for oil. As long as prices remain above \$75, drilling activity is likely to remain strong. Current price is about \$85. The US energy sector is robust because there is still a semblance of a free market left. It responds rapidly to price signals.



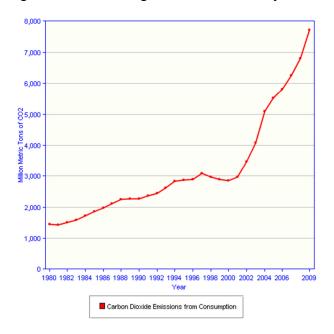
US CO2 emissions are contracting dramatically due to the weakening economy and the rapid conversion to natural gas (chart below). This transition is not influenced in any way by government policy, but by the low cost and abundant supply of gas. On the basis of equivalent energy, natural gas is about the same as \$10 to \$12 per barrel oil.

The US is projected to achieve 1990 levels of CO2 emission in the 2011 or 2012. This is an important accomplishment even though some of the reason is related to bad economics. Reduced CO2 emissions signal improved process efficiency. The potential impact on global temperature is irrelevant. CO2 is plant food and we can use as much as we can get. CO2 impact on temperature is too small to measure, would be positive to all life if true, and is a universally positive result. Unfortunately human emissions are trivial compared to natural sources.

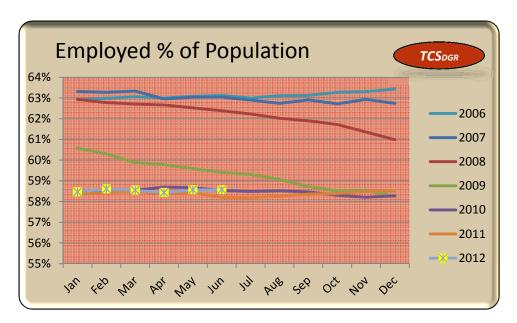




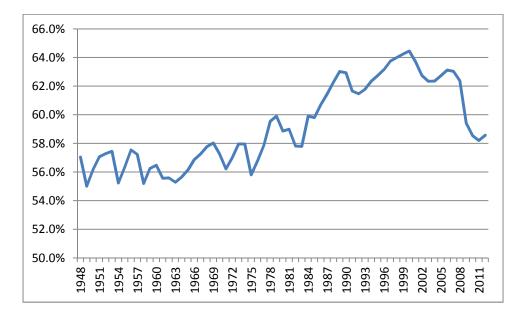
On the other hand, Chinese emissions of CO2 are exploding (chart below). The US is exporting coal to fuel their electric power industry. They've been adding a new coal fired plant about every 2 weeks for the past decade. That could come to a quick end as their economy retrenches. Ironically the thing that may cause the greatest damage to the US coal industry might be the slowing Chinese economy, not the EPA.



Employment:



The employed % of the non-institutional population remained flat at 58.6% in June. But the important observation is how little improvement is noted since the formal end of the recession. The employer survey showed 80,000 net job increase (it takes 200,000 to keep ahead of population growth).



June Employed % since 1948

Employment has made no real progress since it collapsed in 2009. The collapse of the y2k bubble in 2000 created a large drop in employment that was reversed by the tax cuts of May 2003. The improvement moved strongly until Congress changed hands in

January 2007. A slow decline followed until the financial collapse. The collapse over the next 18 months was dramatic.

Sector Detail

Industrial Production (excluding industrial supplies like energy) increased by 0.2% in May to \$2.57 trillion. We are now 5.1% above the same period last year. The industrial sector remains below the peak output noted in 2007.

Industrial Production - final products \$b SAAR							
Year	Year Mo		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	2,532.3	0.3%	5.1%			
2012	2	2,559.4	1.1%	5.5%			
2012	3	2,541.7	-0.7%	4.1%			
2012	4	2,565.7	0.9%	6.0%			
2012	5	2,570.0	0.2%	5.1%			



Capacity Utilization: Capacity utilization for industrial production decreased 0.2% to 79.0%. All sectors saw capacity Utilization contract in May. Manufacturing off 0.3, durable manufacturing off 0.5, primary metals off 1.1, autos off 1.2, machinery off 0.7. The drop in utilization rates suggests future declines in employment.

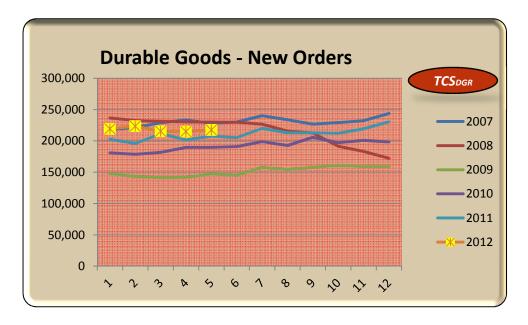
The drop in auto capacity utilization is counter to the slight increase in auto sales. This is probably the beginning of an overdue retail channel inventory adjustment.

Capacity Utilization %								
Year	Month	Ind Prod	Mfg	Durable	Primary Metals	Auto	Mach- inery	
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	77.1	77.6	74.8	83.9	
2012	2	79.0	78.6	77.9	78.3	75.3	85.0	
2012	3	78.5	78.0	77.6	75.8	76.1	85.8	
2012	4	79.2	78.5	78.5	77.1	79.0	85.9	
2012	5	79.0	78.2	78.0	76.0	77.8	85.2	

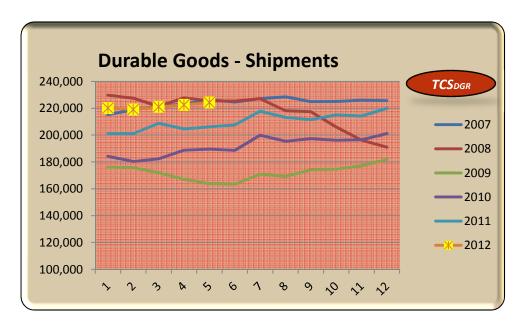
The Durable Goods Sector:

New Orders: Durable new orders increased 1.3% to \$217 billion.

The new order growth index declined into negative territory at 0.995. This is the first time since August of 2009 that this index has signaled contraction (value below 1.0).

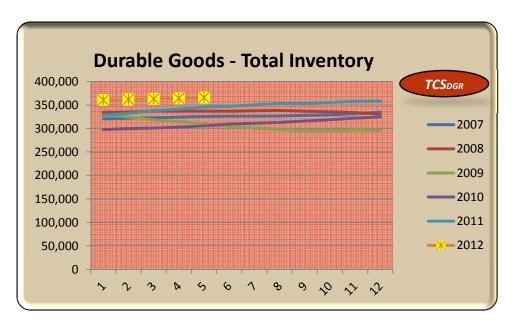


Shipments increased 0.8% to \$224 billion. Book to bill ratio remained flat at 0.97 (long term average is 0.98).



Unfilled Orders decreased fractionally to \$984 billion. Second consecutive month of decline. Last two-month decline was Nov-Dec 2009.

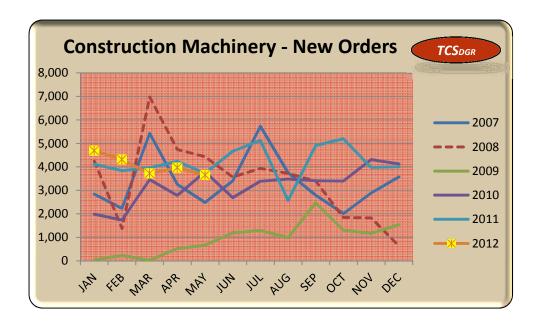
Inventory Total inventory increased by 0.5% to \$366 billion, another record high. Inventory to shipments ratio remained steady at 1.63, the worst performance since January 2009 at the beginning of the manufacturing retrenchment into recession.



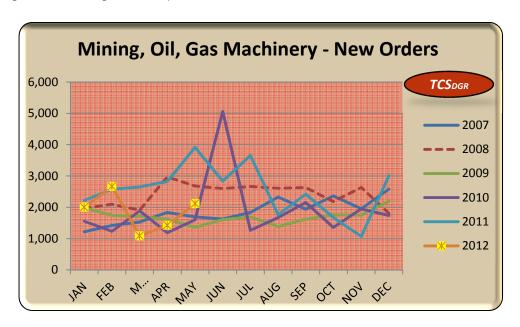
Durable goods sub sectors:

Construction machinery new orders decreased by 7.8% to \$3.65 billion, the third decline in four months. Book to Bill declined to 0.91 (long term average 1.01). The long term trend chart suggests that the three year recovery in construction machinery may be leveling out. Drop in orders from China are an important component. Brazil is also weaker. Special tax treatment in the US expired last December and may also contribute.

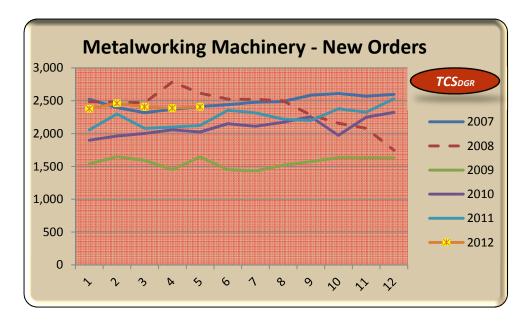
After all that, the order pattern is tracking with 2011, which wasn't all that bad a year.



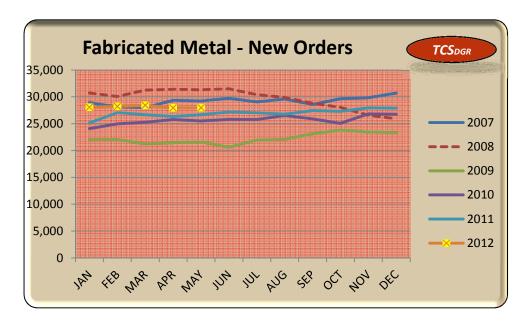
Mining, oil and gas machinery new orders increased by 49% to \$2.1 billion. Current activity is still below February and below 2011. Book to bill ratio improved to a still-weak 0.97 (long term average = 1.03).



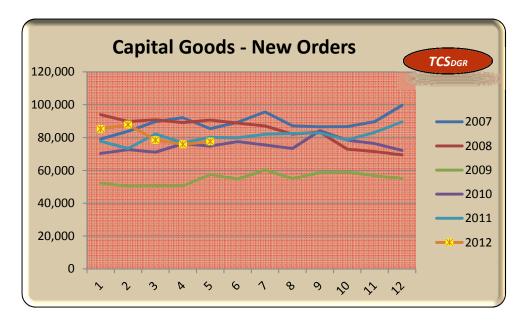
Metalworking machinery new orders decreased by another 3.6% to \$2.5 billion. Book to bill ratio increased to 1.05 (long term average = 1.00).



Fabricated metal new orders increased 1.7% to \$28.4 billion. Book to bill ratio is reported at 1.03 (long term average = 1.00).



Capital goods decreased by 3.4% to \$77.6 billion. Book to bill ratio remained flat at 1.0 (long term average = 1.01).

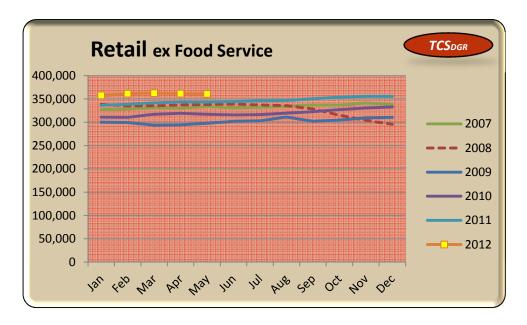


Furniture: New orders decreased 0.8% to \$5.26 billion. The book to bill ratio decreased to 0.99. Growth index decreased to 1.018.



Retail Data (Advanced Release)

Retail Sales (excluding food service) decreased 0.2% to \$361 billion in May.

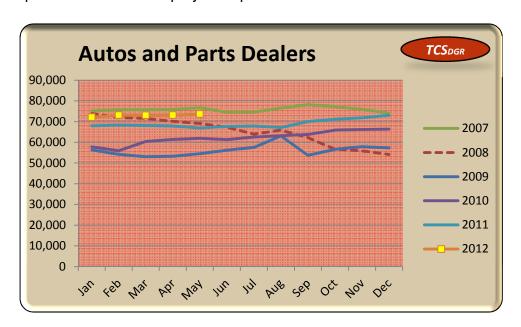


Core retail (excludes food service, gasoline, autos and parts) decreased 0.1% to \$242 billion, the second month of decline, but still showing record performance. The recovery year for retail was clearly 2011.

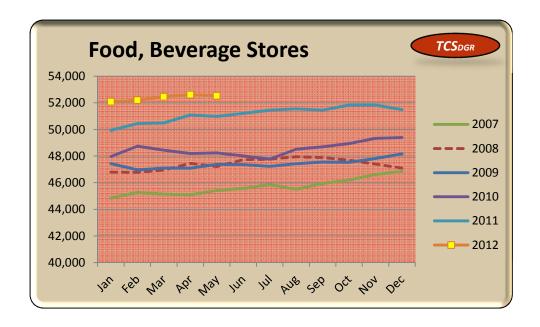


Gasoline sales decreased 2.2% in March to \$44.9 billion. This is welcome relief to consumers, but that misses the point that gas prices are far above the level that would exist in a steady-state free market.

Auto sales increased 0.8% to \$73.6 billion in May. Sales are approaching the levels of 2007, although the values are measured in inflated dollars. This extended performance is sign of a return to something like normal demand patterns. The average age of the fleet remains high (over 11 years), and is unlikely to return to lower norms until a general improvement in the employment picture.



Food and Beverage stores sales decreased 0.2% in May to \$52.5. This may signal some retreat in inflation, but probably also includes some price shopping and discounting.



Housing:

Housing sector remained dramatically weak. The modest recovery in home prices reflects the hard reality of depleted inventory of new single family units. There are even a few stories of bidding for homes.

Single family starts increased 3.2% to 516,000. New single family sales increased by 7.6% to 369,000 units. Inventory of unsold new single family homes decreased to 145,000.

Median sales price increased fractionally to 234,900.

There's no way to read this as anything but the new normal. There are some hard numbers on living space that had to stop expanding. But there is also a new attitude emerging about the value of housing investment. The second trend can reverse as family formation recovers. But the trend in square ft. per person has probably run its course:

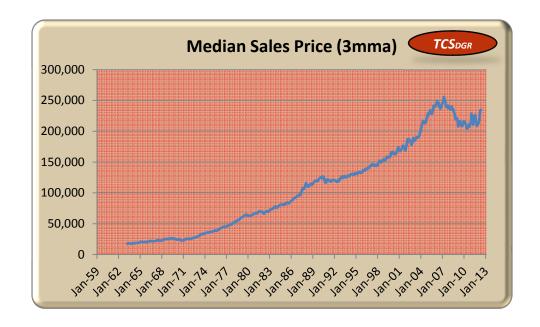
- 1917 25 square feet per person
- 1947 150 square feet per person
- 2010 800 square feet per person

This trend couldn't possibly continue. It's a major contributing factor to the current state of the housing market, and a reason why the growth rates of the past 40 years won't return. Another trend that can't be reversed is the demographic of the baby-boom

generation getting out of their 50s and on toward retirement. All generations buy their biggest home in their 50s. After that they down size. If the housing market is viewed in terms of square feet constructed rather than number of units, the demand was required to weaken.







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, 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 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, Ball State University, and others. He can be reached at 317-842-6417 ilayden@tcsdb.com

Time Compression Strategies Corp

www.tcsdb.com

www.ancelus.com

317-842-6417