# THE FPDA $\Theta \odot$ <br> MOTION \& CONTROL NETVORK 

FPDA Membership Survey Results May 2013

## Highlights

## Background:

- The April survey had 38 respondents comprised of 30 distributors and 8 manufacturing firms.


## Highlights:

- FPDA Index - The April FPDA Index produced a reading of 56.8, up from March's reading of 54.0. The broader ISM index showed a reading of 50.7 in April, slowing from March's reading of 54.2.
- Our April survey results while still mixed showed an improving / less bad trend compared with the broadly disappointing March results.
- Though still below plan, both sales and orders returned to positive growth in the month (up 1-2\% vs down 1-2\% in March after adjusting for selling days) following two months of decline.
- Distributors and manufacturers trimmed inventory levels again in April following the cut to the full year outlook last month in addition to improving supplier lead-times.


## Summary Thoughts

Our April survey results were less bad compared with the broadly disappointing March results. Though still below plan, both sales and order growth returned to positive territory following two months of $\mathrm{y} / \mathrm{y}$ decline and backlogs stabilized following a sharp drop last month.

Assuming this positive momentum continues, these results seem to support the notion of stronger growth in the second half of the calendar year. May results should provide a somewhat cleaner look at trends as it is the first month this year with an equal number of selling days although unseasonably cold weather and tough comparisons will likely remain headwinds. June marks the beginning of a extended period of easing comparisons.

## April FPDA Index

- The April FPDA Index produced a reading of 56.8, up from March's reading of 54.0. The broader ISM index showed a reading of 50.7 in April, slowing from March's reading of 54.2.
- The FPDA Index is similar in construction to the widely followed ISM Purchasing Manager's Index. These are both seasonally adjusted diffusion indexes which measure the month-to-month change in each of the categories listed below. A reading of 50 indicates no change and the further above or below 50 indicates a faster or slower rate of change.

| Index | Jan-12 | Feb-12 | Mar-12 | Apr-12 | May-12 | Jun-12 | Jul-12 | Aug-12 | Sep-12 | Oct-12 | Nov-12 | Dec-12 | Jan-13 | Feb-13 | Mar-13 | Apr-13 | Direction | Rate of Change | Trend (months) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sales | 71.1 | 66.5 | 68.3 | 34.7 | 73.0 | 42.2 | 50.9 | 69.0 | 39.2 | 61.7 | 33.4 | 35.2 | 83.2 | 38.9 | 68.1 | 66.6 | Growing | Slower | 2 |
| Prices | 77.5 | 65.3 | 68.3 | 59.2 | 51.5 | 56.3 | 61.7 | 65.5 | 63.5 | 69.9 | 59.7 | 57.7 | 66.5 | 58.6 | 52.6 | 54.9 | Increasing | Faster | 33 |
| Orders | 75.8 | 62.7 | 53.3 | 44.8 | 60.5 | 46.2 | 40.7 | 56.0 | 24.2 | 68.0 | 41.5 | 45.1 | 74.8 | 32.0 | 47.9 | 71.4 | Growing | From Slowing | 1 |
| Backlog | 67.6 | 63.8 | 57.5 | 58.1 | 47.7 | 42.0 | 41.8 | 43.0 | 33.3 | 34.4 | 37.8 | 35.1 | 66.7 | 61.3 | 37.9 | 48.4 | Slowing | Slower | 2 |
| Outlook | 62.8 | 54.8 | 60.0 | 52.3 | 51.1 | 47.8 | 48.0 | 43.9 | 43.1 | 42.2 | 47.4 | 51.4 | 52.9 | 51.6 | 43.3 | 46.7 | Decreasing | Slower | 2 |
| Inventory | 68.4 | 59.3 | 63.8 | 67.4 | 69.8 | 60.0 | 57.0 | 62.8 | 60.5 | 51.6 | 52.6 | 36.1 | 54.4 | 50.0 | 53.1 | 45.0 | Slowing | From Growing | 1 |
| Supplier Deliveries | 61.0 | 64.1 | 63.0 | 59.3 | 54.2 | 50.6 | 50.6 | 53.4 | 48.0 | 54.9 | 54.3 | 61.7 | 54.0 | 58.3 | 47.5 | 51.7 | Slowing | From Growing | 1 |
| Employment | 81.7 | 61.9 | 69.5 | 60.8 | 70.6 | 68.9 | 61.4 | 58.3 | 56.2 | 60.0 | 56.1 | 52.7 | 53.0 | 55.3 | 53.3 | 49.2 | Slowing | From Growing | 1 |
| Accounts Receivable | 38.2 | 45.1 | 45.0 | 41.9 | 43.0 | 37.8 | 42.9 | 47.7 | 43.4 | 43.8 | 42.1 | 45.8 | 45.6 | 40.3 | 46.7 | 46.6 | Slowing | Slower | 33 |
| Overall FPDA Index | 71.6 | 62.9 | 63.6 | 53.4 | 65.6 | 53.6 | 52.1 | 59.9 | 45.6 | 59.3 | 47.6 | 46.2 | 63.9 | 46.9 | 54.0 | 56.8 | Growing | Faster | 2 |
| Memo: ISM PM Index | 54.1 | 52.4 | 53.4 | 54.8 | 53.5 | 49.7 | 52.6 | 49.6 | 51.5 | 51.7 | 49.5 | 50.2 | 53.1 | 54.2 | 54.2 | 50.7 | Growing | Slower | 5 |

## April Results Are Less Bad But Still Below Plan

- Our work indicates fluid power sales were less bad in April compared to March with a net $13 \%$ of participants reporting results were worse than expected in the month vs. the net $41 \%$ in March. Average sales growth was $6 \%$ in April compared with a $6 \%$ decline in March. Sales growth rates in the both months are impacted by selling day discrepancies with one additional selling day in April and one fewer selling day in March. Adjusting for this suggests April growth was roughly 1-2\% compared to a decline of 1-2\% in March.

| Fluid Power Industry - Monthly Sales Growth |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Overall |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| 2009 | -19\% | -18\% | -24\% | -24\% | -28\% | -30\% | -29\% | -29\% | -24\% | -24\% | -13\% | -9\% |
| 2010 | 1\% | 5\% | 18\% | 25\% | 23\% | 32\% | 28\% | 42\% | 28\% | 32\% | 38\% | 28\% |
| 2011 | 32\% | 29\% | 31\% | 28\% | 25\% | 28\% | 20\% | 20\% | 22\% | 17\% | 21\% | 17\% |
| 2012 | 21\% | 22\% | 13\% | 12\% | 20\% | 9\% | 9\% | 6\% | 1\% | 8\% | -4\% | -5\% |
| 2013 | 4\% | -5\% | -6\% | 6\% |  |  |  |  |  |  |  |  |
| Distributors |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| 2009 | -16\% | -17\% | -22\% | -22\% | -27\% | -29\% | -29\% | -28\% | -24\% | -25\% | -14\% | -14\% |
| 2010 | -6\% | -2\% | 12\% | 17\% | 18\% | 25\% | 23\% | 38\% | 22\% | 22\% | 31\% | 21\% |
| 2011 | 28\% | 28\% | 33\% | 27\% | 31\% | 27\% | 23\% | 25\% | 29\% | 20\% | 28\% | 24\% |
| 2012 | 26\% | 24\% | 16\% | 10\% | 21\% | 10\% | 13\% | 6\% | 5\% | 13\% | 2\% | -2\% |
| 2013 | 1\% | -6\% | -5\% | 6\% |  |  |  |  |  |  |  |  |
| Manufacturers |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| 2009 | -21\% | -18\% | -26\% | -27\% | -28\% | -32\% | -29\% | -29\% | -24\% | -22\% | -12\% | -4\% |
| 2010 | 9\% | 11\% | 24\% | 32\% | 28\% | 39\% | 33\% | 46\% | 34\% | 42\% | 44\% | 28\% |
| 2011 | 35\% | 31\% | 30\% | 29\% | 18\% | 28\% | 17\% | 14\% | 14\% | 14\% | 15\% | 11\% |
| 2012 | 17\% | 19\% | 10\% | 13\% | 19\% | 8\% | 5\% | 6\% | -3\% | 3\% | -10\% | -8\% |
| 2013 | 7\% | -5\% | -7\% | 5\% |  |  |  |  |  |  |  |  |

Source: FPDA Survey

## Monthly Sales Growth - April 2013



| Percent Positive / Negative Growth |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Jan-12 | Feb-12 | Mar-12 | Apr-12 | May-12 | Jun-12 | Jul-12 | Aug-12 | Sep-12 | Oct-12 | Nov-12 | Dec-12 | Jan-13 | Feb-13 | Mar-13 | Apr-13 |
| Positive Sales Growth | 74\% | 84\% | 83\% | 64\% | 90\% | 74\% | 73\% | 57\% | 51\% | 59\% | 43\% | 41\% | 53\% | 26\% | 36\% | 71\% |
| Flat Sales | 5\% | 9\% | 3\% | 5\% | 2\% | 5\% | 7\% | 22\% | 14\% | 9\% | 8\% | 16\% | 18\% | 18\% | 18\% | 11\% |
| Negative Sales Growth | 21\% | 7\% | 15\% | 31\% | 7\% | 21\% | 20\% | 22\% | 35\% | 31\% | 49\% | 43\% | 29\% | 56\% | 45\% | 18\% |
| Net \% (Positive - Negative) | 54\% | 77\% | 68\% | 33\% | 83\% | 53\% | 53\% | 35\% | 16\% | 28\% | -5\% | -3\% | 24\% | -29\% | -9\% | 52\% |

Results vs. Expectations

|  | Jan-12 | Feb-12 | Mar-12 | Apr-12 | May-12 | Jun-12 | Jul-12 | Aug-12 | Sep-12 | Oct-12 | Nov-12 | Dec-12 | Jan-13 | Feb-13 | Mar-13 | Apr-13 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Better than expected | 46\% | 33\% | 28\% | 25\% | 35\% | 20\% | 26\% | 21\% | 11\% | 28\% | 8\% | 16\% | 32\% | 11\% | 15\% | 16\% |
| In line with expectations | 33\% | 51\% | 50\% | 52\% | 51\% | 50\% | 40\% | 51\% | 51\% | 31\% | 41\% | 38\% | 35\% | 31\% | 29\% | 57\% |
| Worse than expected | 21\% | 16\% | 23\% | 23\% | 14\% | 30\% | 34\% | 28\% | 38\% | 41\% | 51\% | 46\% | 32\% | 57\% | 56\% | 27\% |
| Net \% (Better - Worse) | 26\% | 16\% | 5\% | 2\% | 21\% | -9\% | -8\% | -7\% | -27\% | -13\% | -43\% | -30\% | 0\% | -46\% | -41\% | -13\% |

## End Market Momentum Improves in April

- End market trends improved modestly in April with fourteen of seventeen end markets in positive territory vs. just eleven in March. Automotive, ag equipment, industrial machinery and oil \& gas head the list of top performing markets while government, mining, and semicon were noted as the weakest markets and the only markets ranked in negative territory. Sequentially, ag equipment, automotive, and construction equipment accelerated the most the most significantly while aerospace, semicon, government, and life sciences slowed the most from March. Longer term end market trends can be found on the next several slides.


Source: FPDA Survey

## End Market Trends

| Maintenance, Repair and Operations (MRO) | Aerospace | Automotive |
| :---: | :---: | :---: |
|  |  |  |
| Construction Machinery | Heavy-Duty Truck | Agricultural Machinery |
| Industrial Machinery | Mining | Oil \& Gas |

## End Market Trends

| Food \& Beverage | Life Sciences | Marine |
| :---: | :---: | :---: |
|  |  |  |
| Power Generation | Process | Forestry |
| Government | Semicon |  |

## 2013 Outlook Unchanged Following March Cut

- Fluid power distributors and manufacturers both left the full year outlook unchanged following a 200 bp cut last month. The average forecast of $2 \%$ growth for the year is comprised of distributors up $5 \%$ and manufacturers flat. This implies growth of roughly $3 \%$ for the remainder of the year following the $1 \%$ average decline through April.


| Fluid Power Outlook |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sales Growth (y/y) | 2011 | 2012 | 2013 Outlook |  |  |  |  |  |  |  |  |
|  | Actual Results | Actual Results | Aug-12 | Sep-12 | Oct-12 | Nov-12 | Dec-12 | Jan-13 | Feb-13 | Mar-13 | Apr-13 |
| Overall | 32\% | 8\% | 7\% | 8\% | 8\% | 6\% | 5\% | 4\% | 4\% | 2\% | 2\% |
| Distributors | 31\% | 8\% | 6\% | 7\% | 8\% | 7\% | 5\% | 4\% | 7\% | 5\% | 5\% |
| Manufacturers | 32\% | 8\% | 9\% | 9\% | 7\% | 5\% | 6\% | 3\% | 2\% | 0\% | 0\% |

## April Shows Improvements but Still Down Year-over-Year

- Backlogs continued to decline sequentially in April, inline with trends we saw in March and a reversal from the growing backlog trends we saw in January and February. Historically, backlogs grow sequentially in March/April due to project seasonality.



## Order and Backlog Growth Trends

| FluidPower Industry - Monthly Order Growth |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Overall |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| 2010 | 9\% | 16\% | 30\% | 31\% | 29\% | 34\% | 27\% | 40\% | 29\% | 26\% | 23\% | 18\% |
| 2011 | 25\% | 31\% | 29\% | 23\% | 19\% | 28\% | 23\% | 18\% | 24\% | 25\% | 20\% | 18\% |
| 2012 | 14\% | 18\% | 6\% | 10\% | 10\% | 5\% | 5\% | 5\% | -2\% | 3\% | -2\% | -6\% |
| 2013 | 1\% | -5\% | -11\% | 3\% |  |  |  |  |  |  |  |  |
| Distributors |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| 2010 | 1\% | 12\% | 29\% | 30\% | 28\% | 28\% | 20\% | 34\% | 29\% | 25\% | 28\% | 27\% |
| 2011 | 25\% | 31\% | 30\% | 29\% | 27\% | 33\% | 25\% | 29\% | 30\% | 25\% | 21\% | 21\% |
| 2012 | 13\% | 19\% | 10\% | 8\% | 5\% | 1\% | 8\% | 6\% | 1\% | -4\% | -1\% | -1\% |
| 2013 | 3\% | -7\% | -6\% | 5\% |  |  |  |  |  |  |  |  |
| Manufacturers |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| 2010 | 18\% | 21\% | 31\% | 32\% | 30\% | 41\% | 34\% | 46\% | 29\% | 26\% | 17\% | 17\% |
| 2011 | 25\% | 31\% | 29\% | 18\% | 12\% | 24\% | 20\% | 7\% | 19\% | 23\% | 19\% | 14\% |
| 2012 | 15\% | 17\% | 3\% | 12\% | 15\% | 10\% | 2\% | 5\% | -5\% | 10\% | -3\% | -11\% |
| 2013 | -1\% | -3\% | -15\% | 2\% |  |  |  |  |  |  |  |  |


| Fluid Power Industry - Monthly Backlog Growth |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Overall |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Jan | Feb | $\underline{\text { Mar }}$ | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| 2010 |  |  |  |  |  | 24\% | 29\% | 37\% | 37\% | 34\% | 32\% | 25\% |
| 2011 | 25\% | 32\% | 40\% | 31\% | 25\% | 29\% | 25\% | 17\% | 24\% | 22\% | 26\% | 19\% |
| 2012 | 22\% | 18\% | 15\% | 16\% | 10\% | 8\% | 7\% | 6\% | 4\% | -1\% | -3\% | -3\% |
| 2013 | 1\% | -2\% | -5\% | -6\% |  |  |  |  |  |  |  |  |
| Distributors |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| 2010 |  |  |  |  |  | 29\% | 24\% | 29\% | 37\% | 24\% | 23\% | 20\% |
| 2011 | 22\% | 35\% | 39\% | 36\% | 37\% | 32\% | 29\% | 36\% | 33\% | 26\% | 29\% | 27\% |
| 2012 | 30\% | 22\% | 24\% | 25\% | 11\% | 11\% | 12\% | 7\% | 9\% | -4\% | -3\% | 1\% |
| 2013 | 0\% | -2\% | -2\% | -6\% |  |  |  |  |  |  |  |  |
| Manufacturers |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | $\underline{\text { Dec }}$ |
| 2010 |  |  |  |  |  | 20\% | 34\% | 45\% | 37\% | 45\% | 41\% | 30\% |
| 2011 | 28\% | 30\% | 41\% | 27\% | 14\% | 25\% | 22\% | -1\% | 16\% | 19\% | 23\% | 12\% |
| 2012 | 13\% | 13\% | 7\% | 7\% | 10\% | 6\% | 3\% | 6\% | -1\% | 3\% | -4\% | -6\% |
| 2013 | 1\% | -1\% | -8\% | -6\% |  |  |  |  |  |  |  |  |

## Price Contribution Remains Positive

- Product prices are estimated up about $2.1 \%$ year-over-year with two-thirds or about $1.3 \%$ of this increase being realized. Sequentially, a net $20 \%$ of participants reported higher prices in April ( $23 \%$ higher; $73 \%$ same; $3 \%$ lower) which compares to a net $12 \%$ reporting higher prices in March.




## Inventories See Another Pull Back

- Inventories showed another pull back in April following three months of stabilization after a sharp decline in December. A net $11 \%$ of participants reported lower inventory levels compared to last month ( $24 \%$ higher; $41 \%$ same; $11 \%$ lower) vs. a net $3 \%$ reporting higher inventory in March. Inventory sentiment was also slightly more pessimistic as a net $43 \%$ of participants categorize their inventory levels as "too high" compared with $38 \%$ in March. This is moderately above the long-run average of $34 \%$.



Inventory Levels



ISM Continues Slow Down in April, Still Positive


## Manufacturing IP: Up 1.3\% in April, Growth Slowing



Capacity Utilization: Ticks Down in April


## Non-Farm Employment - Steady Growth in April



## Manufacturing Employment - Growth Slowing in April



## Manufacturing End Market Trends

| ISMManufacturing End Market Momentum |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Major End Market | Mar-12 | Apr-12 | May-12 | Jun-12 | Jul-12 | Aug-12 | Sep-12 | Oct-12 | Nov-12 | Dec-12 | Jan-13 | Feb-13 | Mar-13 | Apr-13 |
| Apparel, leather and allied products | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\downarrow$ | $\downarrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\downarrow$ | $\downarrow$ | $\uparrow$ | 1 | $\uparrow$ | $\uparrow$ |
| Chemical products | $\downarrow$ | $\uparrow$ | $\uparrow$ | $\downarrow$ | $\downarrow$ | $\uparrow$ | $\downarrow$ | $\uparrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | $\uparrow$ |
| Computer and electronic products | $\downarrow$ | $\uparrow$ | $\uparrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | $\uparrow$ | $\uparrow$ | $\downarrow$ | $\downarrow$ | $\uparrow$ | $\uparrow$ |
| Electrical equipment, appliances, components | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | $\uparrow$ | $\downarrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ |
| Fabricated metal products | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\downarrow$ | $\uparrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ |
| Food, beverage and tobacco products | $\uparrow$ | $\uparrow$ | $\downarrow$ | $\downarrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\downarrow$ |
| Furniture and related products | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\downarrow$ | $\uparrow$ | $\uparrow$ | ¢ | 1 | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ |
| Machinery | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | , | $\uparrow$ | $\uparrow$ |  | $\uparrow$ |
| Miscellaneous manufacturing | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\downarrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\downarrow$ | , | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\leftrightarrow$ |
| Nonmetallic mineral products | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | $\uparrow$ | $\uparrow$ | $\leftrightarrow$ |
| Paper products | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\downarrow$ | $\downarrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | 1 | $\uparrow$ | $\leftrightarrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ |
| Petroleum and coal products | $\uparrow$ | $\uparrow$ | $\downarrow$ | $\downarrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\downarrow$ | $\leftrightarrow$ |
| Plastics and rubber products | $\uparrow$ | $\uparrow$ | $\downarrow$ | $\downarrow$ | $\uparrow$ | $\leftrightarrow$ | $\leftrightarrow$ | $\uparrow$ | $\downarrow$ | $\downarrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\leftrightarrow$ |
| Primary metals | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\leftrightarrow$ | $\uparrow$ | $\uparrow$ | $\downarrow$ | $\downarrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\downarrow$ |
| Printing, related support activities | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\downarrow$ | $\uparrow$ | $\uparrow$ | $\leftrightarrow$ | $\downarrow$ | $\leftrightarrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ |
| Textile mills | $\leftrightarrow$ | $\leftrightarrow$ | $\uparrow$ | $\leftrightarrow$ | $\downarrow$ | $\downarrow$ | $\uparrow$ | $\leftrightarrow$ | $\leftrightarrow$ | $\leftrightarrow$ | $\uparrow$ | $\downarrow$ | $\leftrightarrow$ | $\leftrightarrow$ |
| Transportation equipment | $\uparrow$ | $\uparrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | $\downarrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ | $\uparrow$ |
| Wood product | $\uparrow$ | $\downarrow$ | $\leftrightarrow$ | $\leftrightarrow$ | $\downarrow$ | $\leftrightarrow$ | $\uparrow$ | $\downarrow$ | $\downarrow$ | $\uparrow$ | $\downarrow$ | $\uparrow$ | $\uparrow$ | $\downarrow$ |
| Statistics | Mar-12 | Apr-12 | May-12 | Jun-12 | Jul-12 | Aug-12 | Sep-12 | Oct-12 | Nov-12 | Dec-12 | Jan-13 | Feb-13 | Mar-13 | Apr-13 |
| \% Better | 83\% | 89\% | 72\% | 39\% | 33\% | 44\% | 61\% | 44\% | 33\% | 39\% | 72\% | 83\% | 78\% | 56\% |
| Unchanged | 6\% | 6\% | 6\% | 11\% | 6\% | 11\% | 6\% | 11\% | 6\% | 11\% | 6\% | 0\% | 6\% | 28\% |
| \% Worse | 11\% | 6\% | 22\% | 50\% | 61\% | 44\% | 33\% | 44\% | 61\% | 50\% | 22\% | 17\% | 17\% | 17\% |
| Net \% of Industries Improving | 72\% | 83\% | 50\% | -11\% | -28\% | 0\% | 28\% | 0\% | -28\% | -11\% | 50\% | 67\% | 61\% | 39\% |
| PMI | 53.4 | 54.8 | 53.5 | 49.7 | 49.8 | 49.6 | 51.5 | 51.7 | 49.5 | 50.7 | 53.1 | 54.2 | 51.3 | 50.7 |

## Industrial Sector - Phase of Cycle

- The table to the right highlights the MAPI business cycle forecasts for 24 different industrial related end markets.
- In 2012, 15 of the 24 industries are grew. With Housing, motor vehicles \& parts, engines/turbines/power transmission growing the most. Four industries (electronic computer equipment - most severe) declined. The remaining four industries remained flat.
- In 2013, most industries are expected to be relatively flat, with the exclusion of significant growth in housing/aerospace and moderate declines in industrial machinery and engine/turbine/power transmissions.
- In 2014 housing and aerospace products and parts are expected to increase meaningfully again. Other significant increases include electric lighting equipment and communications equipment. Moderate increases / flat are expected for the rest of the end markets.


## Industrial Sector by Phase of Cycle



## Construction Indicators



Non-Res Construction Starts: Forecast Up 8\% in 2013


## Higher 2013 Non-Res Forecast

- McGraw Hill raised its 2013 non-residential construction starts forecast in 1Q. Non-res building starts now up $6 \%$ in dollars ( $5 \%$ in 4 Q update) and $8 \%$ in square feet ( $6 \%$ in 4 Q update). McGraw Hill raised the forecast for warehouses, office \& bank buildings, and parking garages and automotive services by $3 \%$ or more, and actually raised its forecast in all but 4 categories (amusement, hospitals, manufacturing, religious). Non-building starts (bridges, highways) are slightly less worse - now down $10 \%$ vs down $11 \%$ prior.

| U.S. Starts Forecast (Value \$mm) | 2008 | 2009 | 2010 | 2011 | 2012 | 2013E | 2014E | 2015E |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Amusement, Social and Recreational Bldgs | 0\% | -14\% | -4\% | -8\% | -13\% | 8\% | 17\% | 30\% |
| Dormitories | 16\% | -5\% | 1\% | -15\% | -1\% | -4\% | 8\% | 10\% |
| Government Service Buildings | 7\% | 15\% | -32\% | -14\% | -13\% | -3\% | 7\% | 12\% |
| Hospitals and Other Health Treatment | 23\% | -33\% | 16\% | -7\% | -12\% | 4\% | 15\% | 23\% |
| Hotels and Motels | -9\% | -64\% | -28\% | 58\% | 12\% | 12\% | 22\% | 33\% |
| Manufacturing Plants, Warehouses, Labs | 44\% | 10\% | -5\% | 74\% | -31\% | 8\% | 16\% | 28\% |
| Miscellaneous Nonresidential Buildings | 19\% | 16\% | 29\% | -29\% | -15\% | 4\% | 12\% | 20\% |
| Office and Bank Buildings | -15\% | -28\% | -18\% | -3\% | -9\% | 10\% | 22\% | 35\% |
| Parking Garages and Automotive Services | -21\% | -47\% | 9\% | 26\% | 14\% | 11\% | 25\% | 19\% |
| Religious Buildings | -5\% | -7\% | -29\% | -10\% | -20\% | 2\% | 16\% | 18\% |
| Schools, Libraries, and Labs (nonmfg) | 9\% | -17\% | -3\% | -11\% | -15\% | -3\% | 15\% | 27\% |
| Stores and Restaurants | -27\% | -40\% | -5\% | 3\% | 10\% | 13\% | 19\% | 29\% |
| Warehouses (excl. manufacturer owned) | -22\% | -58\% | -16\% | 23\% | 18\% | 13\% | 28\% | 38\% |
| Nonresidential Building Starts (\$mm) | 242,186 | 168,877 | 163,054 | 165,048 | 153,369 | 161,978 | 183,771 | 227,415 |
| \% change $y / y$ | 1\% | -30\% | -3\% | 1\% | -7\% | 6\% | 13\% | 24\% |
| Nonresidential Building Starts (sqr ft) | 1,377 | 773 | 678 | 699 | 743 | 800 | 919 | 1,166 |
| \% change $y / y$ | -18\% | -44\% | -12\% | 3\% | 6\% | 8\% | 15\% | 27\% |
| Single Family Housing Starts (units, 000) | 1,203 | 951 | 978 | 905 | 1,147 | 1,409 | 1,967 | 2,478 |
| \% change $y / y$ | -42\% | -21\% | 3\% | -7\% | 27\% | 23\% | 40\% | 26\% |
| Nonbuilding Starts (bridges, highways, etc, \$mm) | 152,486 | 144,769 | 149,055 | 147,850 | 152,850 | 138,200 | 133,400 | 137,900 |
| \% change y/y | 9\% | -5\% | 3\% | -1\% | 3\% | -10\% | -3\% | 3\% |

Source: MHC (1Q13 fcst)

## Credit - C\&I Loan Demand Improves as Lending Standards Loosen

- The 4 Q12 Senior Loan Officer survey saw a further loosening of loan standards. A net $8 \%$ of loan officers reported easier credit standards in 4Q12 compared with a net $10 \%$ in 3Q.
- Bank rate spreads contracted again in 4 Q 12 with a net $54 \%$ of loan officers reporting lower lending spreads, up from a net $60 \%$ in 3Q.
- Demand for commercial and industrial loans deteriorated in 4Q as a net $6 \%$ of loan officers reported weaker demand for commercial and industrial loans, down from the net $8 \%$ of loan officers reporting stronger demand for loans in 3Q.


Source: FRB

## Commodity Price Trends - Steel



## Commodity Price Trends






Source: Steel Business Briefing; Energy Information, Baseline, Metalprices

## Ag Indicators



## Automotive Trends－Improving

| N．American Light Vehicle Production Trends |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Quarterly Unit Production |  |  |  |  | Quarterly Unit Production \％Change y／y |  |  |  |  |
| Chrysler | Ford | GM | Big 3 Total | Total NA Light Vehicle | Chrysler | Ford | GM | Big 3 <br> Total | Total NA Light Vehicle |
| 1Q10 377，333 | 557，080 | 667，599 | 1，602，012 | 2，886，870 | 56\％ | 63\％ | 89\％ | 71\％ | 72\％ |
| 2Q10 ${ }^{\text { }}$ 429，664 | 「 619，503 | －731，277 | 1，734，000 | 3，080，788 | 288\％ | 49\％ | 102\％ | 95\％ | 73\％ |
| 3Q10 413，490 | 554，112 | 733，082 | 1，700，684 | 2，995，300 | 47\％ | 18\％ | 49\％ | 37\％ | 29\％ |
| 4Q10 ${ }^{\text { }}$ 361，830 | 「577，859 | －702，554 | 1，642，243 | 2，966，740 | 9\％ | 4\％ | 24\％ | 13\％ | 8\％ |
| 1Q11 ${ }^{\text { }}$ 487，789 | 「 640，182 | －786，061 | 1，914，032 | 3，363，464 | 29\％ | 15\％ | 18\％ | 19\％ | 17\％ |
| 2Q11 ${ }^{\prime}$ 513，283 | ＇683，450 | ＇821，779 | 2，018，512 | 3，100，093 | 19\％ | 10\％ | 12\％ | 16\％ | 1\％ |
| 3Q11 ${ }^{\text { }}$ 523，422 | ＊608，429 | －749，178 | 1，881，029 | 3，393，594 | 27\％ | 10\％ | 2\％ | 11\％ | 13\％ |
| 4Q11 ${ }^{\text { }}$ 504，278 | 「 636，619 | 「 738，657 | 1，879，554 | 3，458，920 | 39\％ | 10\％ | 5\％ | 14\％ | 17\％ |
| 1Q12 ${ }^{\text { }}$ 589，023 | 「 651，408 | ${ }^{*} 861,711$ | 2，102，142 | 4，035，736 | 21\％ | 2\％ | 10\％ | 10\％ | 20\％ |
| 2Q12 ${ }^{\text { }}$ 621，215 | ＊689，929 | －837，634 | 2，148，778 | 3，967，691 | 21\％ | 1\％ | 2\％ | 6\％ | 28\％ |
| 3Q12 ${ }^{\text { }}$ 554，850 | 「 641，068 | －760，974 | 1，956，892 | 3，694，890 | 6\％ | 5\％ | 2\％ | 4\％ | 9\％ |
| 4Q12 ${ }^{\text {r }}$ 586，800 | F 710，200 | －774，900 | 2，071，900 | 3，892，000 | 16\％ | 12\％ | 5\％ | 10\％ | 13\％ |
| 1Q13 ${ }^{\text {F }} 549,400$ | 「 744，300 | ＇808，600 | 2，102，300 | 4，041，600 | －7\％ | 14\％ | －6\％ | 0\％ | 0\％ |
| 2Q13E＊619，000 | 「772，100 | ＇836，500 | 2，227，600 | 4，171，400 | 0\％ | 12\％ | 0\％ | 4\％ | 5\％ |

Heavy Truck Net Orders - Turn Slightly Positive in April


Source: ACT Research

