

# Economic Report

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July 2008

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## Manufacturers Alliance/MAPI Survey on the Business Outlook—June 2008

*Composite Index Falls From 57 Percent to 50 Percent; Some Individual  
Indexes Also Decline, but Continued Export Growth and Rising  
Backlogs Point to Underlying Strength*

*Senior Financial Executives Explain Company  
Responses to Rising Oil Prices*

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The Alliance promotes the technological and economic progress of the United States through studies and seminars on changing economic, legal, and regulatory conditions affecting industry.

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## Manufacturers Alliance/MAPI Survey on the Business Outlook—June 2008

### HIGHLIGHTS

- The Manufacturers Alliance/MAPI composite index of future business activity fell from 57 percent in March to **50** percent, its lowest level since December 2001 when it stood at 40 percent.
- Five of the individual indexes indicated slowing manufacturing activity:
  - The **orders index**—based on a comparison of orders in the second quarter of 2008 with the same quarter in 2007—fell from 58 percent in March to 46 percent in June.
  - The **prospective shipments index**—based on a comparison of expected U.S. shipments in the next quarter with the same quarter in 2007—declined from 62 percent to 52 percent.
  - The **annual orders index** fell from 68 percent to 50 percent.
  - The **profit margin index** fell from 60 percent to 55 percent.
  - The **inventory index** jumped sharply from 54 percent to 69 percent.
- Six indexes, however, provided signs of underlying strength in the manufacturing sector:
  - The **prospective (non-U.S.) shipments index**—based on a comparison of expected shipments in the next quarter with the same quarter in 2007—increased from 80 percent in March to 89 percent in June.
  - The **U.S. investment index** held steady at 62 percent.
  - The **non-U.S. investment index**, which asks about companies' plans regarding capital spending outside the United States, increased from 75 percent to 77 percent.
  - The **export orders index** edged up from a strong 72 percent to 73 percent.
  - The **backlogs orders index** increased from 55 percent to 59 percent.
  - The **capacity utilization index**, as measured by the percentage of companies operating at 85 percent or more of capacity, increased from 38.3 percent to 41.0 percent.
- The decline in the composite index and in some of the individual indexes is a clear sign of slowing manufacturing activity. The sharp rise in the inventory index also is consistent with reduced manufacturing sales. The good news is the continued strength of the export orders index, the prospective non-U.S. shipments index, both the U.S. and non-U.S. investment indexes, and the backlogs index. The trends in these indexes indicate that manufacturing sales and activity outside the United States remain relatively strong.
- This quarter's wildcard questions asked about the impact of higher oil prices on the respondents' companies and whether investment in energy efficiency and conservation is being ramped up. Eighty-three percent of the senior financial executives characterized the impact of higher oil prices on production costs as moderate to significant. For logistics, 48.5 percent characterized the impact as significant. Just over half of the respondents (51 percent) indicated that investment for increased energy efficiency and conservation will increase, although just 18.5 percent said the increase will be moderate or substantial. A large majority (89.2 percent) uses the same rate of return criteria for energy efficiency projects that are used for other investments. Respondents were asked what assumption regarding the spot price of oil in mid-2011 is being used for purposes of long-term or strategic planning. Fifty-three percent of the respondents indicated that they do not incorporate an assumption regarding the future price of oil for purposes of strategic planning. Of the remaining 31 companies that do incorporate an oil price assumption, 48.4 percent expect the spot price of oil will be below \$125 per barrel in three years (compared to a price of \$140 per barrel at the end of June), while 25.8 percent assume the price of oil will range from \$150 to \$200 per barrel.

## Part 1: Results of the June 2008 Survey on Business Activity

### Introduction

The Manufacturers Alliance/MAPI *Survey on the Business Outlook—June 2008* reflects the views of 67 senior financial executives in member companies on current and future business conditions. The questionnaire was sent out at the end of May and responses were due by June 30, 2008.

### Current (Second Quarter) Orders

The percentage of respondents reporting that U.S. orders will be up on a year-over-year basis fell from 46 percent in March to 37 percent in June, while the percentage of respondents reporting that new orders will be down rose from 29 percent to 45 percent. The orders index for the second quarter of 2008 was 46 percent, down from 58 percent in March. The orders index is now below 50 percent, the boundary between expansion and contraction, indicating U.S. orders in the second quarter are expected to be lower on a year-over-year basis. This is the fourth straight quarter the current orders index has declined.

The quarterly current orders index from June 1992 through June 2008 is shown in Figure 1. The detailed responses on the outlook for orders in the second quarter of 2008 are presented in the following table along with the responses from the previous four surveys where respondents were asked about current quarter orders.

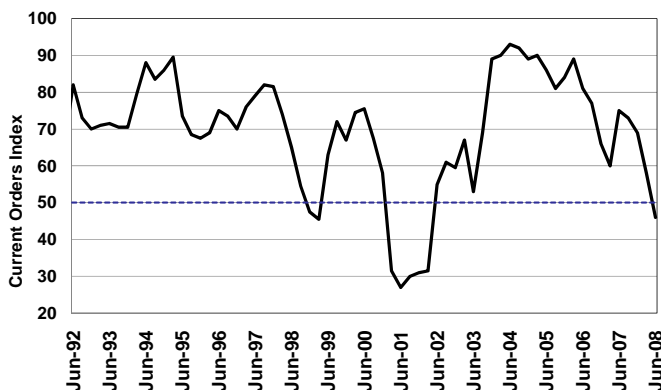
Survey Month	Up	Down	About Same	Orders Index
June 2007	69%	20%	11%	75%
September 2007	64%	18%	18%	73%
December 2007	62%	25%	13%	69%
March 2008	46%	29%	25%	58%
<b>June 2008</b>	<b>37%</b>	<b>45%</b>	<b>18%</b>	<b>46%</b>

### Prospective Shipments (U.S.) —Third Quarter 2008

The prospective U.S. shipments index compared expected shipments in the *third quarter* of 2008 with those in the third quarter of 2007. The prospective shipments index in June was 52 percent, down from 62 percent in March. The percentage of respondents expecting shipments to increase was 38 percent compared to 51 percent in March. The percentage of respondents expecting prospective shipments to decline increased from 28 percent in March to 35 percent. Although this forward-looking index fell, it remains slightly above the 50 percent level separating expansion from contraction. It thus indicates that overall manufacturing activity in the second quarter of 2008 will be up on a year-over-year basis.

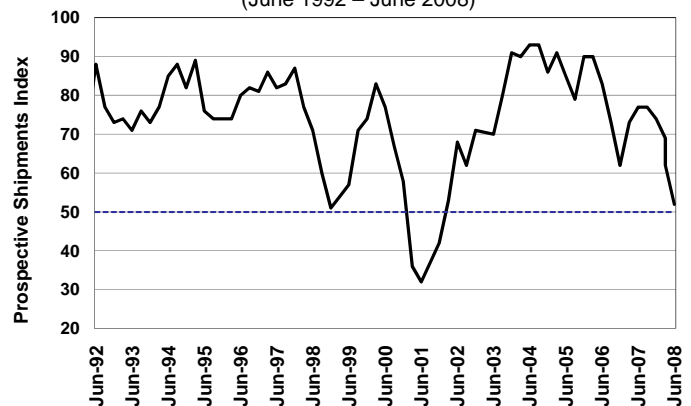
The trend in the shipments index since June 1992 is shown in Figure 2. The detailed June 2008 responses on prospective shipments are shown with responses from the past four quarters in the table that follows.

Figure 1  
Current Orders Index  
(June 1992 – June 2008)



Source: Manufacturers Alliance/MAPI

Figure 2  
Prospective Shipments Index  
(June 1992 – June 2008)



Source: Manufacturers Alliance/MAPI

<i>Survey Month</i>	<i>Up</i>	<i>Down</i>	<i>About Same</i>	<i>Shipments Index</i>
June 2007	67%	13%	20%	77%
September 2007	66%	13%	21%	77%
December 2007	66%	18%	16%	74%
March 2008	51%	28%	21%	62%
<b>June 2008</b>	<b>38%</b>	<b>35%</b>	<b>27%</b>	<b>52%</b>

<i>Survey Month</i>	<i>Up</i>	<i>Down</i>	<i>About Same</i>	<i>Annual Orders Index</i>
September 2007	68%	12%	20%	78%
December 2007	66%	16%	18%	75%
March 2008	60%	24%	16%	68%
<b>June 2008</b>	<b>43%</b>	<b>43%</b>	<b>14%</b>	<b>50%</b>

### Prospective Shipments (Non-U.S.) —Third Quarter 2008

In the March 2008 *Business Outlook Survey*, respondents were asked for the first time about prospective shipments outside the United States in the following quarter. The non-U.S. prospective shipments index in June was 89 percent, up from an already strong 80 percent in March. As shown in the table below, 80 percent of the respondents expect non-U.S. prospective shipments in the third quarter will be up on a year-over-year basis, while just 1 percent expect they will be down. The non-U.S. prospective shipments index is considerably higher than the U.S. prospective shipments index.

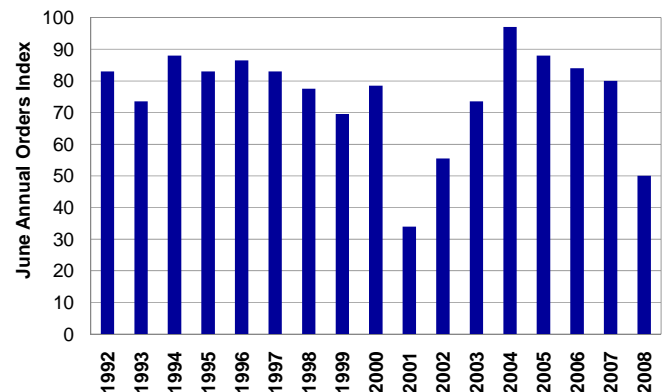
<i>Survey Month</i>	<i>Up</i>	<i>Down</i>	<i>About Same</i>	<i>Non-U.S. Shipments Index</i>
March 2008	68%	8%	24%	80%
<b>June 2008</b>	<b>80%</b>	<b>1%</b>	<b>19%</b>	<b>89%</b>

### Annual Orders

Survey respondents were asked how U.S. orders for all of 2008 are expected to compare with orders in 2007. Forty-three percent of the respondents expect annual orders will increase in 2008, down from 60 percent in March and 66 percent in December. The percentage of respondents expecting orders will decline rose from 24 percent in March to 43 percent. The overall annual orders index was 50 percent, down significantly from its March level of 68 percent. The annual orders index sits on the 50 percent threshold that separates expansion from contraction, indicating that overall manufacturing activity in 2008 is expected to be about the same as in 2007.

The June responses on the outlook for annual orders for 2008 are compared to the responses in the last three surveys in the table below. The trend in the annual orders index reported in each June survey since 1992 is shown in Figure 3.

Figure 3  
Annual Orders Index (June)  
(Outlook for the Entire Year)



Source: Manufacturers Alliance/MAPI

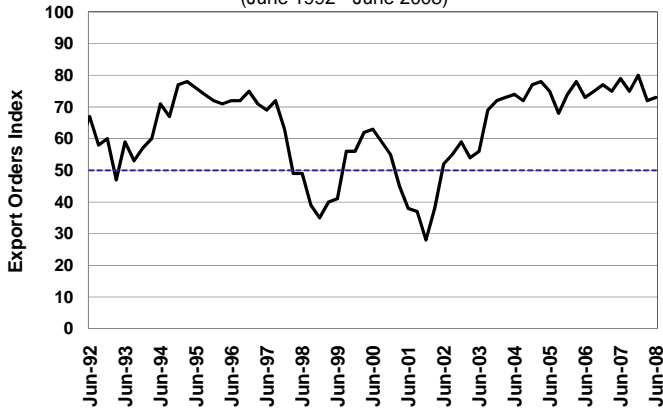
### Export Orders

Fifty-four percent of the respondents reported that current quarter export orders are expected to increase on a year-over-year basis, up from 52 percent in March. Just 8 percent of the respondents expect exports will be lower. The overall export index edged up from a strong 72 percent in March to 73 percent. The continued strength of the export orders index is consistent with the trend in the non-U.S. prospective shipments index.

The detailed June 2008 survey responses on current quarter export orders are shown with responses from the past four quarters in the table below. The trend in the export index since June 1992 is presented in Figure 4.

<i>Survey Month</i>	<i>Up</i>	<i>Down</i>	<i>About Same</i>	<i>Export Orders Index</i>
June 2007	64%	7%	29%	79%
September 2007	59%	9%	32%	75%
December 2007	63%	4%	33%	80%
March 2008	52%	8%	40%	72%
<b>June 2008</b>	<b>54%</b>	<b>8%</b>	<b>38%</b>	<b>73%</b>

Figure 4  
Export Orders Index  
(June 1992 - June 2008)



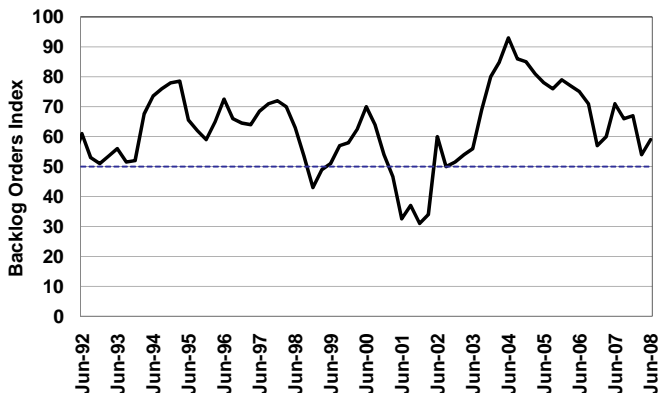
Source: Manufacturers Alliance/MAPI

**Backlogs**

An accumulation of backlogs occurs when new orders exceed shipments. Growing backlogs point to underlying strength in manufacturing, while declining backlogs indicate slowing activity in the future. The percentage of respondents reporting that backlogs were up rose from 40 percent in March to 43 percent. The percentage of respondents reporting that backlogs were down on a year-over-year basis fell from 30 percent in March to 26 percent. The backlogs index increased from 55 percent in March to 59 percent. The trend in the backlogs index is a sign that the slowdown in manufacturing activity may have bottomed out.

The June 2008 survey responses are shown below, along with those from the past four quarterly surveys. The historical trend in the backlogs index since June 1992 appears in Figure 5.

Figure 5  
Backlog Orders Index  
(June 1992 - June 2008)



Source: Manufacturers Alliance/MAPI

Survey Month	Up	Down	About Same	Backlogs Index
June 2007	56%	13%	31%	71%
September 2007	50%	18%	32%	66%
December 2007	53%	18%	29%	67%
March 2008	40%	30%	30%	55%
<b>June 2008</b>	<b>43%</b>	<b>26%</b>	<b>31%</b>	<b>59%</b>

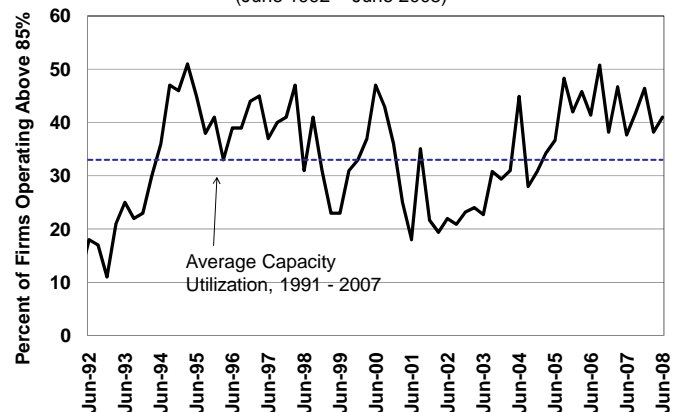
**Capacity Utilization**

The capacity utilization index, as measured by the percentage of firms operating above 85 percent of capacity, increased from 38.3 percent in March to 41.0 percent. The percentage of firms operating at less than 75 percent of capacity decreased from 20.6 to 18.2 percent. At 41.0 percent, capacity utilization remains above its long-term average of 33.4 percent. Although the increase in capacity utilization appears at odds with the decrease in the current orders index, it is consistent with the trend in the non-U.S. prospective shipments index and the export orders index.

The distribution of companies by their capacity utilization in the March and June surveys is presented in the table below. The trend in capacity utilization from June 1992 through June 2008 is shown in Figure 6.

Capacity Utilization (Percent)	June 2008 Survey	March 2008 Survey
96 or more	7.6%	10.3%
91-95	15.2%	16.2%
86-90	18.2%	11.8%
81-85	18.2%	22.1%
76-80	22.7%	19.1%
75 or less	18.2%	20.6%

Figure 6  
Capacity Utilization  
(June 1992 - June 2008)



Source: Manufacturers Alliance/MAPI

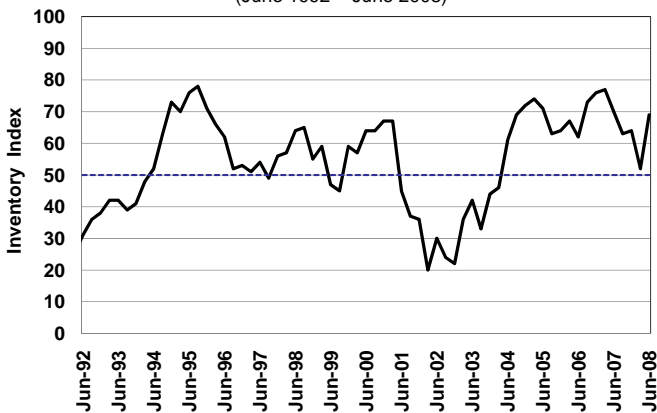
**Inventories**

The inventory index is based on a comparison of inventory levels in the current quarter with those of one year ago. Fifty-seven percent of the respondents reported that inventories are up on a year-to-year basis, compared to 43 percent in March. The percentage of respondents reporting that inventories were down fell from 34 percent in March to 19 percent. The June 2008 inventory index rose sharply from 54 percent in March to 69 percent. The increase in the inventory index is another sign that manufacturing activity has slowed.

The trend in the inventory index over the past 16 years is shown in Figure 7. The June 2008 survey responses are presented along with those from the past four quarterly surveys in the table following Figure 7.

<b>Survey Month</b>	<b>Up</b>	<b>Down</b>	<b>About Same</b>	<b>Inventory Index</b>
June 2007	57%	17%	26%	70%
September 2007	55%	31%	14%	63%
December 2007	50%	21%	29%	64%
March 2008	43%	34%	23%	54%
<b>June 2008</b>	<b>57%</b>	<b>19%</b>	<b>24%</b>	<b>69%</b>

**Figure 7**  
**Inventory Index**  
(June 1992 – June 2008)

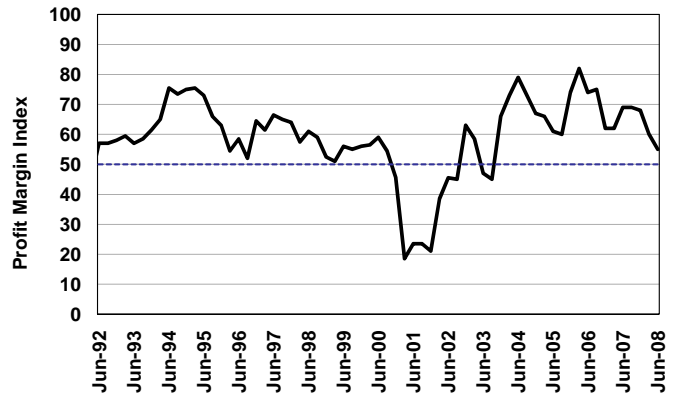


Source: Manufacturers Alliance/MAPI

**Profit Margins**

The profit margin index was 55 percent in June, down from 60 percent in March. Forty-eight percent of respondents reported that profit margins are higher on a year-over-year basis, down from 49 percent in March, while 37 percent reported that margins are lower, up from 29 percent in March. The trend in the profit margin index over the past 16 years is shown in Figure 8.

**Figure 8**  
**Profit Margin Index**  
(June 1992 – June 2008)



Source: Manufacturers Alliance/MAPI

Although the profit margin index fell, it remains above the 50 percent threshold, indicating that profit margins for most companies are higher on a year-over-year basis. The relative strength in this index in the face of slower U.S. manufacturing activity reflects the fact that most of the companies represented in this survey operate globally, thereby offsetting softness in U.S. markets. Companies whose activities are linked to the automotive or residential housing industries are the ones that are most likely to report that profit margins are down.

The June 2008 survey responses are shown in the table below along with the responses from the previous four surveys.

<b>Survey Month</b>	<b>Up</b>	<b>Down</b>	<b>About Same</b>	<b>Profit Margin Index</b>
June 2007	57%	20%	23%	69%
September 2007	64%	25%	11%	69%
December 2007	59%	23%	18%	68%
March 2008	49%	29%	22%	60%
<b>June 2008</b>	<b>48%</b>	<b>37%</b>	<b>15%</b>	<b>55%</b>

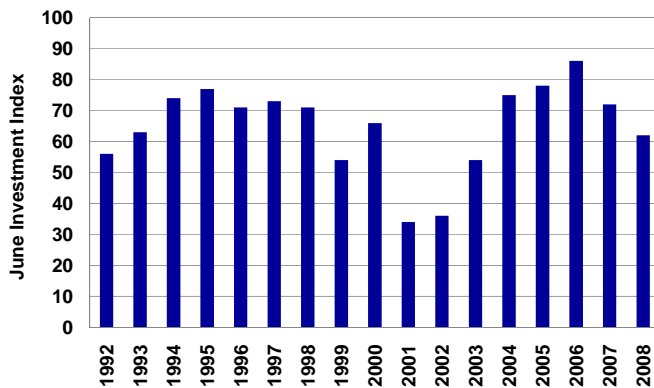
**Investment (U.S.)**

The U.S. investment index was 62 percent in June, unchanged from its March level. In the June survey, 49 percent of the respondents indicated that they expect their company's capital spending in the United States to be up in 2008, the same as in March, while 25 percent expect investment to be down. Because the index exceeds the 50 percent threshold, overall U.S. investment is expected to increase in

2008. The trend in the capital spending index reported in each June survey since 1992 is shown in Figure 9. The June surveys asked how capital spending in the current year would compare with capital spending in the prior year.

<i>Survey Month</i>	<i>Up</i>	<i>Down</i>	<i>About Same</i>	<i>U.S. Investment Index</i>
September 2007	48%	25%	27%	62%
December 2007	63%	14%	23%	74%
March 2008	49%	25%	26%	62%
<b>June 2008</b>	<b>49%</b>	<b>25%</b>	<b>26%</b>	<b>62%</b>

Figure 9  
Investment Index (June)  
(Outlook for the Entire Year)



Source: Manufacturers Alliance/MAPI

### Investment (Non-U.S.)

In June, the non-U.S. investment index was 77 percent, up from 75 percent in March when respondents were asked for the first time about their expectations regarding their company's non-U.S. capital expenditures for all of 2008. As shown in the table below, 62 percent expect investment will rise in 2008, while just 8 percent expect investment will be lower. At 77 percent, the non-U.S. investment index is well above the U.S. investment index.

<i>Survey Month</i>	<i>Up</i>	<i>Down</i>	<i>About Same</i>	<i>Non-U.S. Investment Index</i>
March 2008	58%	8%	34%	75%
<b>June 2008</b>	<b>62%</b>	<b>8%</b>	<b>30%</b>	<b>77%</b>

### Research and Development

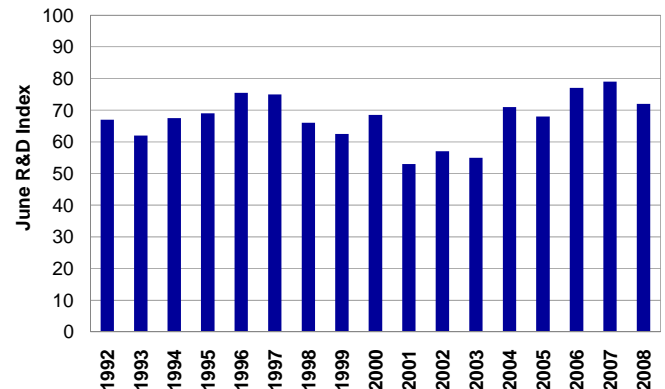
The R&D spending index held steady between March and June at 72 percent. The index remains at a relatively high level, signaling that R&D spending will rise in 2008. The responses to the June 2008

survey and to three previous surveys are summarized below.

The trend in the R&D index is reported in each June survey, when respondents are asked how R&D spending for the entire year would compare with spending in the prior year. Results are shown in Figure 10. The R&D index has remained above the 50 percent level throughout this period.

<i>Survey Month</i>	<i>Up</i>	<i>Down</i>	<i>About Same</i>	<i>R&amp;D Index</i>
September 2007	53%	2%	45%	75%
December 2007	57%	4%	39%	77%
March 2008	50%	6%	44%	72%
<b>June 2008</b>	<b>46%</b>	<b>2%</b>	<b>52%</b>	<b>72%</b>

Figure 10  
R&D Index (June)  
(Outlook for the Entire Year)



Source: Manufacturers Alliance/MAPI

### Interest Rates

The interest rate index reflects the preponderance of expectations regarding the trend in long-term interest rates over the next quarter. When the index is below 50 percent, expectations are for long-term interest rates to decline. In the March 2008 survey, 56 percent of the respondents expected long-term interest rates to fall, while 34 percent expected rates to remain about the same. As it turned out, the interest rate on 10-year Treasury Notes increased from 3.5 percent at the end of March to 4.1 percent at the end of June, while the average rate on Moody's Aaa bonds rose from 5.5 percent to 5.7 percent over the same period.<sup>1</sup>

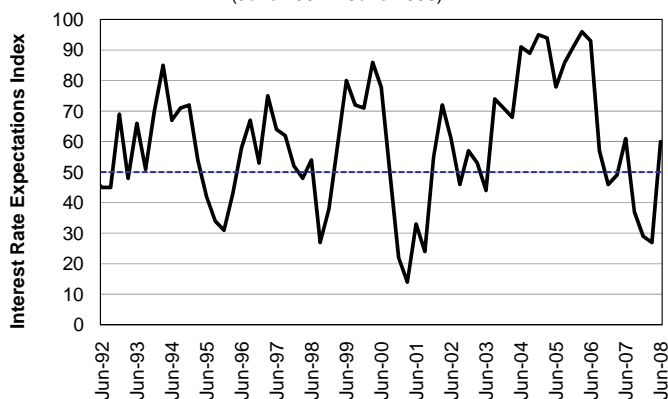
As shown in the following table, expectations have shifted since March. In the June survey, just 12 percent of the respondents expect long-term rates to fall over the next quarter, compared to 56 percent in March. Fifty-five percent expect rates to remain about

<sup>1</sup> Federal Reserve Board Statistical Release, "Selected Interest Rates," April 7, 2008, and June 30, 2008.

the same. The percentage of respondents expecting long-term rates to rise over the next quarter increased from 10 percent to 33 percent. The interest rate index jumped from 27 percent in March to 60 percent. The trend in the interest rate index since June 1992 is presented in Figure 11.

Survey Month	Up	Down	About Same	Interest Rate Index
June 2007	28%	5%	67%	61%
September 2007	14%	43%	43%	37%
December 2007	7%	50%	43%	29%
March 2008	10%	56%	34%	27%
<b>June 2008</b>	<b>33%</b>	<b>12%</b>	<b>55%</b>	<b>60%</b>

Figure 11  
Interest Rate Expectations Index  
(June 1992 – June 2008)



Source: Manufacturers Alliance/MAPI

### Industrial Production Index and Capacity Utilization Rates—Recent Federal Reserve Data

The Federal Reserve Board's industrial production index for the manufacturing sector was 112.5 in June 2008, down 0.6 percent from June 2007.<sup>2</sup> The production index for durable goods manufacturing was down 0.2 percent over the same 12-month period. The industrial production index in June 2008 was 1.4 percent below its peak of 114.1 reached in July 2007.<sup>3</sup> The industrial production index fell by an annualized rate of 3.7 percent between the first and second quarters of 2008.

<sup>2</sup> Federal Reserve Board, "Industrial Production and Capacity Utilization," Federal Reserve Statistical Release, July 16, 2008, Table 12.

<sup>3</sup> These comparisons are based on the Federal Reserve Board's latest revision to its historical data series.

The manufacturing sector's utilization rate was 77.6 percent in June, 2.1 percentage points below its long-term average of 79.7 percent.<sup>4</sup> Since reaching 80.1 percent in July 2007, the rate of capacity utilization has slowly trended downward.

As reported above, the *Business Outlook Survey's* measure of capacity utilization *rose* between March and June and remains above its long-term average. The capacity utilization indexes reported by the Federal Reserve Board and the *Business Outlook Survey* are based on different definitions of capacity utilization. The Federal Reserve Board's index is based on the average utilization rate for the manufacturing sector, whereas the *Business Outlook Survey* index is based on the percentage of companies operating at a utilization rate at 85 percent and above.<sup>5</sup>

### Composite Business Outlook Index

The Manufacturers Alliance/MAPI's composite business outlook index summarizes the overall findings of the survey and provides a leading indicator of manufacturing sector activity over the next three months. It is based on a weighted sum of prospective shipments, backlogs, inventories, and profit margin indexes.<sup>6</sup> The composite business outlook index fell from 57 percent in March to 50 percent. At 50 percent the composite index is sitting on the dividing line that separates expansion from contraction. This means that overall manufacturing output is expected to be flat over the next three months.

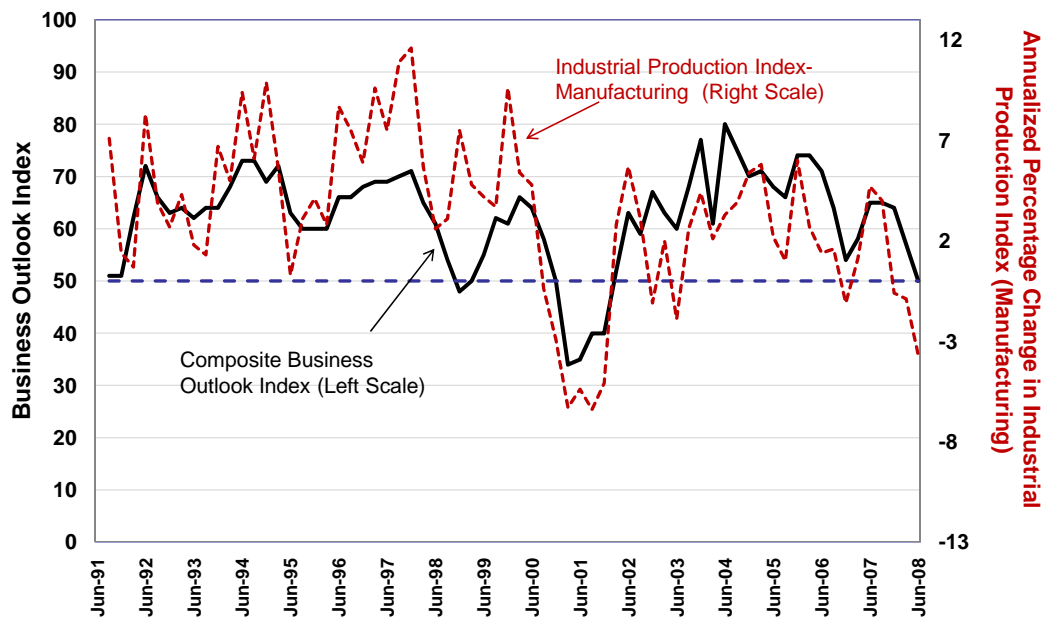
Figure 12 shows the trend in the composite business outlook index from September 1991 through June 2008. The Federal Reserve Board's industrial production index for the manufacturing sector (based on annualized quarterly growth rates) also is shown in Figure 12. This index generally tracks the composite

<sup>4</sup> *Ibid*, p. 1. The long-term average is based on the period 1972-2007.

<sup>5</sup> Because the measure of capacity utilization in the *Business Outlook Survey* is not an average of utilization rates, it tends to be more volatile than the Federal Reserve Board's measure of capacity utilization.

<sup>6</sup> In developing the index, a number of different weightings were explored. A 40 percent weight for prospective shipments index and a 20 percent share each for backlogs, profit margins, and inventory indexes were chosen based on their ability to provide a "best fit" for the model. The 20 percent weight for the inventory index is applied to 100 percent minus the inventory index because an increase in the inventory index tends to be associated with slowing activity, while a decrease raises the likelihood of increased production for an inventory build.

Figure 12  
**Composite Business Outlook**  
 (September 1991 – June 2008)



Source: Manufacturers Alliance/MAPI

business outlook index closely. A rise or fall in the composite business outlook index generally is followed by an even sharper change in the overall industrial production index for manufacturing.<sup>7</sup>

The composite index has declined steadily since June 2007 and is now at its lowest level since December 2001 when it stood at 40 percent. The downward trends in the composite index and a number of the individual indexes clearly reflect slowing manufacturing activity. The sharp rise in the inventory index also is consistent with reduced manufacturing sales.

The good news for most of the companies participating in the *Business Outlook Survey* are the trends in the backlogs index, the prospective non-U.S. shipments index, the export orders index, and both the U.S. and non-U.S. investment indexes. The trends in these indexes indicate that manufacturing sales and activity outside the United States remain relatively strong. Although not singled out in the survey, it is clear that companies in the automotive industry or whose businesses are tied to the housing sector are going through a challenging period and likely account

for a disproportionate share of the weakness reflected in the composite and some individual indexes.

### Manufacturers Alliance/MAPI Forecast of Economic Activity

The composite business outlook index indicates that the trend in manufacturing sector activity will be flat over the next three months, but it does not forecast the rate of growth for the year as a whole. The Manufacturers Alliance/MAPI produces a quarterly economic forecast for the overall economy, the manufacturing sector, and selected industries.<sup>8</sup> The most recent forecast (released in May 2008) projects that real GDP will grow by 1.3 percent in 2008 (down from 2.2 percent for all of 2007). Overall manufacturing production is expected to grow by just 0.4 percent in 2008 compared to 1.7 percent in 2007. When computers, communications, and semiconductor chips sectors are netted out, manufacturing activity is expected to decline by 1.2 percent this year. One bright spot in the forecast is exports which are projected to increase by 8.3 percent in 2008.

<sup>7</sup> Exceptions occurred in 1998 when the Asian crisis led to a drop in U.S. exports of durable manufactured goods and in the latter part of 2002 and early 2003, when manufacturing sector activity fell following a period in which a recovery appeared to be under way.

<sup>8</sup> The forecast results are available to executives in member companies of the Manufacturers Alliance/MAPI. The forecast utilizes the Global Insight, Inc. econometric model of the U.S. economy. The forecast is based on assumptions made by MAPI economists regarding key drivers of the model.

### Survey Coverage

The size distribution of the respondents' companies, based on total worldwide revenues, is shown in Table 1. The size distribution of companies represented in the March survey is similar to previous surveys, although the percentage of companies with revenues ranging from \$1 billion to \$3 billion increased, as did the percentage of companies with revenues of less than \$1 billion.

To determine what industries are represented in the survey, respondents were asked what broadly defined industry group best describes their company's largest sales unit. The distribution of industries represented in the June 2008 survey is presented in Table 2 along with the distributions in the three previous surveys. The overall distribution of industries has not changed significantly over time. Industries in

the "other" category included diversified industrial manufacturing, utilities, hydraulic components, energy, broadcasting, consumer goods, and office products.

Table 1  
Size Distribution of Companies

Total Revenues	Number	Percent
Less than \$1 billion	17	26.2
\$1 billion to \$3 billion	33	50.8
\$3.1 billion to \$5 billion	4	6.2
\$5.1 billion to \$10 billion	7	10.8
Greater than \$10 billion	4	6.2

Based on 65 responses; Percentages do not total to 100 percent due to rounding.

Source: Manufacturers Alliance/MAPI

Table 2  
Distribution of Responses by Industry  
(Percent)

	June 2008	March 2008	December 2007	September 2007
Aerospace and Misc. Transportation Equipment	7.7	10.6	10.0	12.7
Chemical	4.6	6.1	6.0	3.6
Computers, Electronics	3.1	1.5	2.0	0.0
Electrical Equipment, Appliances, Components	16.9	15.2	8.0	18.2
Fabricated Metals	7.7	4.5	2.0	1.8
Heavy Construction/Building Materials	10.8	12.1	12.0	10.9
Machinery	10.8	10.6	18.0	16.4
Motor Vehicles and Parts	10.8	7.6	4.0	5.5
Paper	1.5	1.5	2.0	0.0
Petroleum, Coal	3.1	1.5	2.0	1.8
Plastics, Rubber	3.1	6.1	4.0	0.0
Primary Metals Manufacturing	3.1	3.0	4.0	5.8
Other	16.9	19.7	26.0	23.6

June 2008 percentages are based on 65 responses. Percentages do not total to 100 percent due to rounding.

Source: Manufacturers Alliance/MAPI

## Part 2: Petroleum Prices

The dramatic and sustained rise in the price of oil and petroleum prices since 2002 poses a challenge for many manufacturers. This quarter's wildcard questions asked about the impact of the higher prices and what companies are doing in response.

### Impact of Higher Oil and Petroleum Product Prices

Senior financial executives were asked whether higher oil and petroleum product prices have had

significant, moderate, minor, or no impact on key parts of their business. As shown in Table 3, 83.3 percent of the respondents characterized the price impact on production costs as moderate or significant compared to 78.8 percent for logistics. Almost half (48.5 percent) of the respondents said the impact on logistics has been significant compared to 34.8 percent for production costs. The impacts of higher oil prices on executive travel and JIT inventory are not as severe. For executive travel, slightly more than

Table 3  
Impact of Higher Petroleum Product Prices

	Significant	Moderate	Minor	No Impact	Total Responses
Outsourcing	8 (12.3%)	11 (16.9%)	24 (36.9%)	22 (33.8%)	65
JIT Inventory	6 (9.1%)	28 (42.4%)	19 (28.8%)	13 (19.7%)	66
Logistics	32 (48.5%)	20 (30.3%)	10 (15.2%)	4 (6.1%)	66
Production Costs	23 (34.8%)	32 (48.5%)	11 (16.7%)	0 (0.0%)	66
Executive Travel	6 (9.1%)	26 (39.4%)	26 (39.4%)	8 (12.1%)	65

Source: Manufacturers Alliance/MAPI

half of the respondents (51.5 percent) say that there has been no impact or that the impact is minor, while just 9.1 percent say the impact of has been significant

### Investing in Energy Efficiency

Respondents were asked to characterize the extent to which their companies have increased or are planning to increase the investment pool for energy conservation and efficiency projects in response to higher prices for petroleum products, coals, and/or natural gas (Table 4). Just over half of the respondents (50.8 percent) indicated that investment will increase, at least slightly, in response to higher prices. The increase was said to be substantial by just 6.2 percent of these respondents and moderate by another 12.3 percent.

Respondents also were asked about the criteria they use to evaluate investment for energy efficiency and conservation. Forty-eight of the 63 respondents to this question listed all three of the specific criteria listed in Table 5 while most others use two criteria (including “other”). “Other” criteria included requiring that net present value exceed zero, “economic profit,” and whether there might be long-term technological benefits gained from investing in energy efficiency. The average of the reported hurdle rates was 13.5 percent while the average payback period was three years.

Finally, the respondents were asked whether the required rate of return on investment from energy efficiency and conservation projects differs from those for other capital investment. A large majority (89.2 percent) requires the same rate of return on investment for energy efficiency projects as that used for other investment. Just 7.7 percent of the respondents require a lower rate of return from their energy-efficiency projects.

Table 4  
Change in Investment for Energy Efficiency and Conservation

	Number	Percent
Substantial increase	4	6.2
Moderate increase	8	12.3
Slight increase	21	32.3
No change	32	49.2

Based on 65 responses

Source: Manufacturers Alliance/MAPI

Table 5  
Criteria Used to Evaluate Investments for Energy Efficiency and Conservation

	Number	Percent of Respondents
Hurdle Rate	43	68.3
Payback Period	48	76.2
Internal Rate of Return	47	74.6
Other	6	9.5

Based on 63 responses

Source: Manufacturers Alliance/MAPI

Table 6  
Required Rate of Return on Investment for Energy Efficiency Versus Other Capital Investment

	Number	Percent
Energy Efficiency Investment ROI > Other Investment ROI	2	3.1
Energy Efficiency Investment ROI < Other Investment ROI	5	7.7
Energy Efficiency Investment ROI = Other Investment ROI	58	89.2

Based on 65 responses

Source: Manufacturers Alliance/MAPI

### Oil Price Assumptions

Respondents were asked what assumption regarding the spot price of oil (West Texas Intermediate) in mid-2011 is being used for purposes of long-term or strategic planning. Thirty-five of the 66 respondents to this question (or 53 percent) indicated that they do not have or are not using an oil price assumption in their long-term planning. As shown in Table 7, the assumptions used by the 31 companies using an oil price assumption in their planning are wide ranging. While no one is expecting the price of oil to exceed \$200 per barrel, 25.8 percent of these companies are planning on a price in the range of \$150 to \$200 per barrel. On the other hand, 48.4 percent are assuming the price will be below \$125 per barrel. At the end of June 2008 when the survey responses were due, the spot price of oil was \$140 per barrel.

Respondents using an oil price assumption were asked about the principal source for their assumption. As shown in Table 8, many companies develop this assumption internally using publicly available data and data from financial and industry reports. Others use assumptions developed by forecasting firms like Global Insight or the Energy Information Administration, and two mentioned that they rely on prices determined in futures markets.

Table 7  
Oil Price Assumptions for Strategic Planning  
Mid-2011 (Dollars per Barrel)

Spot WTI Price	Number	Percent
Greater than \$200	0	0.0
\$150 - \$200	8	25.8
\$125 - \$149	8	25.8
\$100 - \$124	11	35.5
Less than \$100	4	12.9

Based on 31 responses

Source: Manufacturers Alliance/MAPI

Table 8  
Source of Oil Price Assumptions Used in  
Strategic Planning

1.	Consensus forecasts; lead investment houses
2.	Forward price curves (2 respondents)
3.	Department of Energy/Energy Information Administration forecast
4.	Oxford Econometrics and WEFA
5.	Global Insight
6.	Internally prepared assumption (based on public data, analysis reports, industrial and financial reports) (8 respondents)

Source: Manufacturers Alliance/MAPI