THE GEAR MARKET REPORT

A Time of Transi

AGMA's Economic Consultant, DR. MICHAEL BRADLEY, Professor of Economics at George Washington University, regularly reports to the AGMA membership on the gear market and focuses on particular characteristics of the overall market that will be affecting companies in the next six months to two years.

At the end of 2006, Dr. Bradley presented a report focusing on the fact that the US economy in general, U.S. manufacturing overall, and the gear industry specifically were entering a time of transition.

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Strong Growth since 2002's Recession

Beginning at the depth of the recession in 2002, bookings and shipments grew at rates well in excess of their long-term trend-line growth (roughly 3.5% for each) until the second half of 2006.

For the year 2006, shipments of both enclosed gearboxes and open gears have again exceeded 15% growth for the year. In fact, industry shipments have been very strong, exceeding 15% annual growth, for the last three years. Similarly, bookings have grown at above average rates for the past three years. However, in the second half of 2006, bookings were beginning to slow and, for the second half of 2006, were approximately equal to the same rate as the second-half of 2005.

Dr. Bradley reported that the economy-wide economic measure Gross Domestic Product

(GDP) and its components were also declining, signaling slower growth for manufacturing and the gear industry.

Causes of the 2006 Slowdown

The slower economic growth was due directly to four factors: rising interest rates, a persistent trade deficit, a sharp decline in the housing market and a slowdown in the investment boom. The most relevant of these for manufacturing and the gear industry is the slowdown in investment.

Dr. Bradley noted that investment is strongly influenced by four factors: corporate profits, capacity constraints, the cost of borrowing and expectations for the future.

Looking to the future, corporate profits were still strong but growing more slowly in the last half of 2006. The index of capacity utilization (published by the Federal Reserve Board) exceeded 80%, thus showing operating capacity still constrained. The availability of labor, another important component directly affecting a company's ability to produce, continued to be tight, as measured by the unemployment rate. Near the end of 2006, unemployment remained below 4.5% of those in the labor force, available and willing to work. Profits and capacity appear to support further growth in investment.

The cost of borrowing (interest rates) was favorable, but certainly higher than it had been a year earlier. The outlook for inflation was encouraging but still not at a level that allowed the Federal Reserve Board to cut interest rates; thus the prime rate continued at just over 8%.

Most analysts expect the Federal Reserve Board to hold interest rates at the current level through the first half of 2007. Barring an increase in inflation, many see the Fed lowering rates later in the year, another positive sign for investment.

Finally, expectations for the future are much less easily measured. Business managers rely on a number of indicators to help develop their expectations – the Fed's Index of Industrial Production, Leading Economic Indicators, and the historical performance of proxies for their sectors.

Hints of the Future – Guides for Industry Managers

Fortunately, Dr. Bradley has analyzed the gearing industry overall as well as the sectors for open gears and for enclosed drives, to determine statistically meaningful indicators to help guide industry executives and managers.

The gear industry tends to follow the published data for Industrial Production, which has been flat for the second half of 2006, and the value of manufacturing shipments, which was clearly slowing as the end of 2006 approached.

The Index of Manufacturing Capacity Utilization and the growth (or change) in Shipments of Non-Defense Capital Goods are more informative predictors of activity in the gear industry.

By April, 2006, Manufacturing Capacity Utilization had stopped growing; that is, capacity was becoming less constrained and more available for a full three quarters of 2006. By this measure, for manufacturing overall, a slowdown was in the making.

Specific Markets are Better Indicators of Future Business

Looking deeper into the available economic and market data, Dr. Bradley pointed out that "different parts of the manufacturing sector have had diverse economic experiences. This has important implica-

Important Gear Market Drivers

Open Gear Shipments

1. Contsruction Machinery
2. Mining, Oil & Gas Machinery
3. Industrial Machinery
4. Metalworking Machinery

Enclosed Gear Shipments

1. Contsruction Machinery
2. Industrial Machinery
3. Materials Handling Machinery
4. General Industrial Conditions

tions for the two main gear market sub-sectors."

Analyzing the ten "submarkets of manufacturing machinery and equipment," he identified five of the ten as being "important gear market drivers."

Of the five, shipments of Construction Machinery and of Industrial Machinery contribute heavily to both open gears and enclosed drives; while Mining, Oil & Gas Machinery and Metalworking Machinery are more closely aligned with open gears. The remaining two sectors -- Materials Handling Machinery and General Industrial Machinery -- support enclosed gear drives.

International Trade – Imports and Exports of Gearing Products

International trade was a source of strength for the gear industry in 2006. Exports were up more than 20% over 2005, while growth in imports was essentially flat. This led to a decline in the balance of trade for gearing of about $180 million.

What Does 2007 Hold for Gear and Gear Box Manufacturing?

As AGMA's Economic Consultant for more than two decades, Dr. Bradley has followed and analyzed the industry extensively. Twice each year, he meets with AGMA members to present a detailed look at overall market conditions and how they lead to his forecast for the industry. His forecasts result from predictive models he has developed and refined for both open gears and enclosed drives.

As mentioned above, every indicator showed the industry slowing in the fall of 2006. New orders for manufactured goods were flat for most of 2006 as were the two broad sectors, nondurable goods and durable goods. Orders for durable goods fell sharply while non-durables slowed gradually.

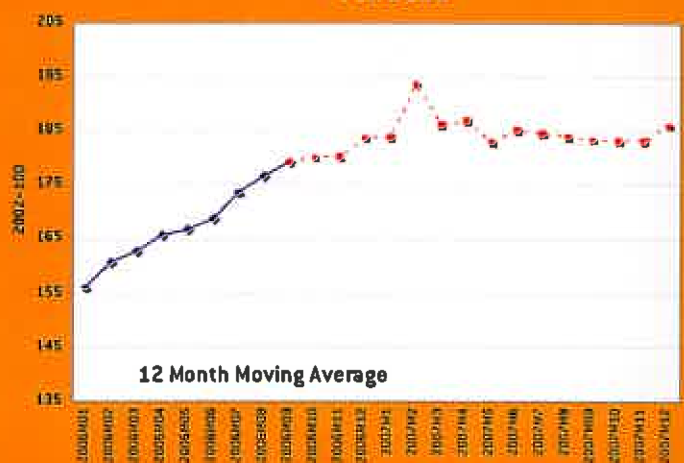
Growth in orders for non-defense goods was flat, as were profits for manufacturing corporations. Finally, capacity was less of an industry-wide problem as the economy slowed.

Supporting his forecasts for the gearing industry, Dr. Bradley assumes that the general economy will move forward with: 1) continued moderation of interest rates; 2) a construction equipment slowdown but not collapse; 3) moderate (3.5%) growth in industrial production; and, 4) deceleration in industrial machinery and oil/gas equipment.

For the production of open gears, his outlook is for overall growth to be strong but with a sharper slowdown in 2007.

In contrast, enclosed drives should pick-up in early 2007 with the industrial production providing the stimulus. ☐

Open Gearing Forecast
Fall 2006



Forecast Year over Year Growth in Open Gearing

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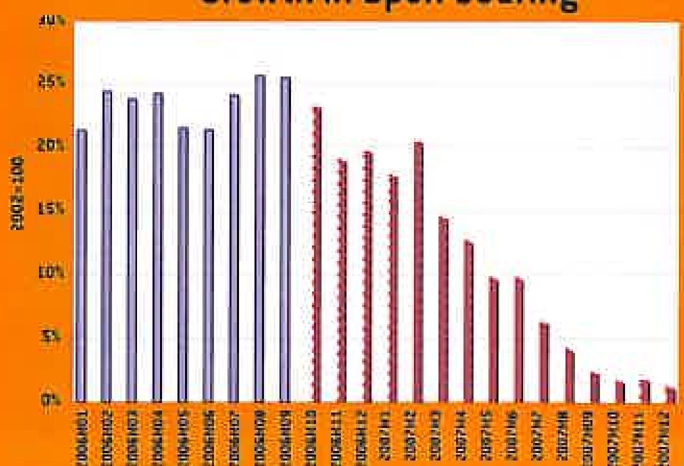

Enclosed Gearing Forecast
Fall 2006