The Bureau of Business and Economic Research at The University of Montana started an annual survey of Montana’s largest manufacturers in 1999. Conducted each year during November, December, and January, the survey queries manufacturers on a variety of business issues pertaining to both the year just completed and the outlook for the coming year. The results shown here are from the seventh such survey, completed in January 2006. This year’s questionnaire was sent to 218 of Montana’s largest manufacturing facilities (as measured by the number of people employed), as well as a handful smaller firms representative of their sectors. Seventy-seven percent of the firms (167 total) completed the questionnaire and returned it to BBER.

The information collected through the manufacturers survey is featured in the Bureau’s annual Economic Outlook Seminar, where it is used in forecasting conditions for the industry for the upcoming year. While partial information is published in the Outlook booklet and in BBER’s Montana Business Quarterly, this publication provides a complete description and analysis of the survey results.
Manufacturing Categories

Although the manufacturing industry consists of hundreds of highly specific categories, for the purpose of this report, we have divided the industry into five segments:

Wood/Paper
Facilities that harvest and/or process timber into lumber, plywood, log homes, pulp and paper, and posts and poles, as well as facilities that further process primary wood products into furniture, laminated beams, trusses, window and door frames, and wood carvings.

Chemicals/Petroleum/Others
Includes a wide range of facilities, such as those manufacturing products by transforming organic and inorganic raw materials by a chemical process (chemical manufacturing) or by transforming mined or quarried nonmetallic minerals such as sand, gravel, stone, or clay (nonmetallic mineral product manufacturing), as well as facilities engaged in the transformation of crude petroleum and coal into usable products (petroleum and coal products manufacturing), and facilities engaged in smelting and refining ferrous and nonferrous metals (primary metal manufacturing).

Food/Others
Facilities that manufacture food and beverages, including primary processors of Montana’s crops and livestock, as well as those producing for retail sale. Examples include sugar beet plants, flour mills, bakeries, and dairies.

Machinery/Equipment
Facilities engaged in manufacturing machinery, equipment or instruments. Included here are industrial and commercial machinery, computer equipment, electrical equipment, transportation equipment, and fabricated metals.

All Others
Facilities engaged in mostly light manufacturing such as plastics products, sporting goods, games and toys, apparel, and jewelry, as well as those engaged in printing or performing services for the printing trade such as bookbinding.

Montana Manufacturing:
An Overview

The manufacturing sector includes traditional heavy industries as well as a broad array of lighter production activities, ranging from the assembly of sophisticated high-technology equipment to small cottage industries. Overall, the state’s manufacturing sector:

- produces about $5 billion in output annually,
- directly employs over 25,000 workers earning over $1.1 billion in annual labor income,
- includes over 2,000 entities such as factories, logging companies, and at-home cottage industries,
- pays high wages with employees averaging about $34,000 per year (compared to an average $25,000 per year for all Montana workers), and
- accounts for over 20 percent of Montana’s economic base.

The Year 2005 in Review

The 2004-2005 survey indicated that Montana’s manufacturers continued to exhibit a measure of optimism for the immediate future. Forty-seven percent of responding firms expected 2005 to improve over 2004, while 34 percent anticipated approximately the same conditions. Only 19 percent were expecting conditions to worsen in 2005 as compared to 2004. The survey results presented here indicate that 2005 was indeed a good year, with the majority of responding firms experiencing increased production, sales, and profits.

For the second year in a row, the majority of responding firms (56 percent) saw their production increase during 2005. Also in 2005, for the second year running, only 19 percent of respondents reported any curtailment of production, and only 7 percent permanently eliminated production capacity. Furthermore, sales were up for 59 percent, with 46 percent experiencing higher profits. Though lower than 2004, these percentages indicate that 2005 was relatively good year for the state’s manufacturers, providing a second year of economic recovery following three years of decline.

Close to one-third (32 percent) of responding firms hired more workers in 2005, while 48 percent maintained 2004 employment levels. Only 20 percent
reduced the number of workers in 2005, a rate comparable to 2004. Over one-third (37 percent) of respondents released new product lines, and close to two-thirds (62 percent) reported making major capital expenditures in 2005. These percentages are also comparable to 2004.

**General Outlook for 2006**

Encouraged by improving sales and profits, the state’s manufacturers see further improvement in 2006. When asked about their outlook for 2006, 52 percent of responding firms reported it to be better than 2005, while 42 percent reported it to be the same. That leaves only 6 percent who expect conditions to worsen, down from 19 percent on last year’s survey. The most optimistic sector was machinery/equipment, where 62 percent of respondents expect improved conditions in 2006, while the chemicals/petroleum/other sector is notable as no respondents expected 2006 to be worse than 2005 (Figure 1).

Close to two-thirds (63 and 65 percent, respectively) of respondents anticipated increases both in production and sales, though considerably fewer (50 percent) were expecting higher profits in the coming year. Approximately half (51 percent) expected to make major capital expenditures in 2006, with the most optimistic sectors being food/other and chemicals/petroleum/other, both with 59 percent.

There is still some caution coloring the manufacturing outlook. Three-quarters of responding firms anticipated the costs of inputs to increase over 2005 levels, with few responding firms expecting the energy costs to go down by a significant amount in the coming year. However, while 51 percent expected product prices to either stay the same or go down in 2006, 57 percent still expected maintaining current employment levels, with only 4 percent foreseeing a decrease.

**Outlook for Operations in 2006**

**Production**

Sixty-three percent of responding Montana manufacturers expected increased production levels for 2006, up from 56 percent in 2005. Again, the machinery/equipment sector expected the most production increases, followed by secondary producers in the wood/paper sector, and in all others. At least 60 percent of respondents in these sectors expected increased production for 2006. The food/other sector is notable for having no respondents expecting decreased production levels in 2006.

Thirty-one percent of all respondents anticipated production to remain about the same in the coming year, compared to 28 percent of last year’s respondents, while only 6 percent foresaw a production decrease for 2006. No sector had over 10 percent expecting production declines (Figure 2).
In terms of sales, respondents to this year’s survey were more optimistic than last year’s respondents. Sixty-five percent, up from 57 percent last year, were anticipating 2006 sales to outpace those of 2005. In addition, the portion of respondents who expected declining sales was down to 8 percent compared to 18 percent on last year’s survey.

While only 50 percent of respondents in the food/other sector expected higher sales, another 50 percent expected sales to remain the same, leaving no respondents expecting lower sales. The most optimistic sector was machinery/equipment, with 72 percent anticipating increased sales, and the least optimistic was the chemicals/petroleum/other sector, with only 46 percent expecting increased sales and 9 percent anticipating a decline (Figure 3).

With 50 percent of responding firms experiencing increased profits in 2005, it is encouraging to note that 52 percent of respondents also expect increased profits for 2006, with 40 percent expecting them to remain the same.

Respondents in the food/other sector are not among the most optimistic in terms of increased profits, however, once again, none of them anticipated lower profits in 2006. The most optimistic sector was wood/paper, where a full 64 percent of respondents (again, mostly secondary producers) expected higher profits for 2006, while 23 percent of respondents in the chemicals/petroleum/other sector foresee a profit decline (Figure 4).

Fifty-one percent of responding firms had plans for major capital expenditures in 2006. Both the food/other and the chemicals/petroleum/other sectors reported high rates of intended investment with 59 percent each, while the all others sector reported the lowest rate at 45 percent (Figure 5).

Based on the Manufacturers Survey, employment should increase in 2006. Thirty-nine percent of respondents to the 2005-2006 survey expected to increase employment in 2006, compared to 30 percent who had such expectations for 2005. Additionally, 57 percent of respondents anticipated their employment levels in the coming year to remain even with 2005,
the same as for last year’s survey. A modest 4 percent anticipated to reduce employment levels, down considerably from last year’s 13 percent.

With the exception of the machinery/equipment, the majority of respondents in each sector anticipated keeping employment levels the same in 2006. No respondents from the food/other sector nor the chemicals/petroleum/other sector foresaw any cuts in employment in 2006, while the majority (55 percent) of respondents in the machinery/equipment sector expected to increase employment in the coming year (Figure 6).

Worker Availability

This year’s survey responses indicated that worker availability is growing as a problem. Thirty-eight percent of responding firms indicated they had experienced significant worker shortage at some point during 2005, up from 37 percent in 2004, and 22 percent in 2003. The problem was especially prevalent in the wood/paper sector (47 percent), though all sectors reported some level of shortage, even the chemicals/petroleum/other sector (14 percent), which has been attracting skilled workers away from other sectors (Figure 7).

Energy Costs

Energy costs rose dramatically in 2005, peaking in the fall, just before this survey was sent to manufacturing firms. Recipients were asked two questions with respect to energy costs, both with November’s record-high prices as reference.

First, survey recipients were asked whether or not their plant had been affected by high energy prices in 2005. A surprisingly low 75 percent of respondents indicated that their plant had indeed been affected.
Though 25 percent reported that their plant had not been affected, their responses to other questions on the survey indicated that other aspects of their business had, primarily through higher raw material prices and higher transportation costs. The machinery/equipment sector (66 percent) and the wood/paper sector (67 percent) reported the lowest rates of cost impact to their plants, while at least 85 percent of each of the other sectors reported such an impact (Figure 8).

Secondly, survey recipients were asked what they anticipated would happen to the prices for various

![Figure 8](image)

**Figure 8**
Level of Preparedness of New Hires in 2005?

![Figure 9](image)

**Figure 9**
Expectation for Energy Prices in 2006 (as compared to prices in November 2005)

![Figure 10](image)

**Figure 10**
Rating of Business-Related Issues
sources of energy in 2006, as compared to prices at the time of the survey dissemination (November, 2005). Seventy-one percent of respondents expected the cost of natural gas to increase further, while 56 percent anticipated an increase in the cost of electricity. Twenty-one percent of respondents expected diesel prices to go down, with 20 percent expecting a drop in gasoline prices. Only 3 percent thought the price of electricity would go down in 2006 (Figure 9).

**Rating of Business-Related Issues**

Survey recipients were given a list of eight business-related issues and were asked to rate each in terms of its importance to their business. There was no specified time frame, indicating the general and enduring nature of these issues.

The issue respondents found most important was the high price of energy. Seventy-five percent of respondents indicated it as very important to their business, with an additional 23 percent indicating it as somewhat important. Only 2 percent indicated that energy costs was somewhat unimportant to their business.

Health insurance costs were also very important to 75 percent of responding businesses, with 19 percent indicating it as somewhat important. Only 6 percent found health insurance costs to be unimportant. Worker availability was very important to 63 percent of responding firms, and somewhat important to 31 percent, while Workers’ Compensation rates were very important to 60 percent and somewhat important to 31 percent of respondents.

Raw material availability/cost was very important to 52 percent of respondents, while 40 percent of responding firms indicated that Workers’ Compensation rules were very important to them. Further, the cost of workforce development was very important to 26 percent of respondents, as was foreign competition. However, a full 49 percent indicated that the latter was unimportant to them, compared to 21 percent for the former (Figure 10).
About the Montana Manufacturers Information System

Because of Montana's large size and sparse population, Montana manufacturers are often unaware of other manufacturers within the state, leading to missed business opportunities. The primary goal of the Montana Manufacturers Information System (MMIS) is to eliminate this situation by providing one place where detailed and up-to-date information about Montana manufacturers and service providers can be found. A second goal is to provide additional exposure to Montana manufacturers' products and capabilities. A third goal is to collect and report accurate information about manufacturing in Montana, helping people make informed decisions.

MMIS is located at The University of Montana's Montana Business Connections and has been developed in cooperation with the Bureau of Business and Economic Research, Montana State University's Montana Manufacturing Extension Center, and the Montana Department of Commerce. The system allows for the inclusion of detailed information regarding products, processes, equipment, certifications, and licenses. MMIS currently contains data on over 1,200 facilities, and those firms listed in the MMIS can enter the system through a password-protected program to update their profiles.