CURRENT AND PROJECTED ECONOMIC TRENDS IN THE BIOMEDICAL INDUSTRY

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EXECUTIVE SUMMARY

CURRENT AND PROJECTED ECONOMIC TRENDS IN THE BIOMEDICAL INDUSTRY

Current Economic Trends in the Medical Instruments and Supplies Industry

U.S. and Regional Output Growth is Strong

The U.S. is the dominant producer of medical equipment and supplies, accounting for approximately $52 billion (43 percent) of the estimated $120 billion global market for medical devices. U.S. output in the medical equipment and supplies industry has increased nearly 40 percent since 1990, and growth at the Ohio-Indiana regional level has been even stronger.

Despite slower growth in more recent years, output in the medical equipment and supplies industry has been growing significantly above average output in manufacturing industries over the past ten years.

Growth in Establishments Indicates Profitable Industry Yet to Peak

By analyzing growth trends in the number of U.S. medical instrument and supply establishments since 1980, we have found that this industry is experiencing significant increases in new businesses. This suggests the medical instruments and supplies industry is a profitable industry that has not yet reached its peak in growth.

The growth rate of medical instrument and supply establishments in Ohio was below the national rate from 1982 to 1992 (45 percent growth compared to 55 percent growth in the U.S.). Greater Cincinnati experienced above average increases in medical instrument and supply establishments from 1982 to 1992, but the large percentage increases are coupled with a relatively small number of establishments (from 16 to 27 total establishments).

Rapid Growth in Industry Employment is Beginning to Slow

Employment growth in the medical instruments and supplies industry is strong. The U.S., Ohio, Indiana, and Greater Cincinnati have all experienced strong growth over the past 15 years. However, there is some evidence that growth at the national level is slowing down. Chart 1, on the following page, illustrates comparative trends in employment in this industry.

National Employment Trends

During the ten year period of 1982 to 1992, national employment in medical equipment and supplies increased 87 percent. In contrast, total employment in the nation increased 18 percent over this same period.

However, the growth in employment in this industry has slowed down considerably since 1990. From 1990 to 1995, employment increased 11 percent, while from 1985 to 1990 it increased 54 percent. In the most recent years with available data, 1994 and 1995, national employment in this industry declined slightly.

Regional Employment Trends

Between 1992 and 1994, Ohio employment in medical instruments and supplies increased 2.8 percent. Over the same period, employment increased 3.8 percent in Indiana. From 1982 to 1992, employment in Ohio increased 106 percent, which was significantly above the national growth rate in this industry. Indiana experienced considerable growth in employment in this industry from 1987 to 1992 – 69 percent in comparison with the nation's 29 percent growth.

Local Employment Trends

In Greater Cincinnati, employment in the medical instruments and supplies industry increased 80 percent from 1987 to 1992. The increase in employment in the medical instruments and supplies industry was 122 percent from 1982 to 1987 and 300 percent from 1982 to 1992, much larger rates of increase than in the broader areas under study. Nearly 50 percent of medical instrument and supply jobs created in Ohio between 1982 and 1992 were created in the Greater Cincinnati region.

Chart 1: Comparative Employment Trends for the U.S., Ohio, Indiana and Greater Cincinnati: Medical Instruments and Supplies

INDUSTRY EMPLOYMENT	U.S.	OHIO	INDIANA	GREATER CINCINNATI
1994	263,500	11,000	8,400	NA
1992	264,400	10,700	8,100	3,600
1987	204,200	NA	4,800	2,000
1982	141,300	5,200	4,200	900
Employment Trends	U.S.	OHIO	INDIANA	GREATER CINCINNATI
1992-1994	-0.3%	3%	4%	NA
1987-1992	29%	NA	69%	80%
1982-1987	45%	NA	14%	122%
1982-1992	87%	106%	93%	300%

Industry Pay Rates are Steady; Highest in Greater Cincinnati

Increases in real payroll per employee (average industry salaries adjusted for inflation) in the medical instruments and supplies industry have been strong relative to other manufacturing industries. As seen in Chart 2, Greater Cincinnati boasts the highest payroll per employee and the highest growth rates of the regions studied.

When compared to manufacturing and total U.S. payroll trends, medical instrument and supply employees have experienced substantial increases in real pay. Between 1992 and 1994, real payroll per employee increased 6 percent, compared to a decline of 22.3 percent for the manufacturing sector as a whole.

Chart 2: Comparative Trends in Payroll per Employee for the U.S., Ohio, Indiana and Greater Cincinnati, Medical Instruments and Supplies

Payroll per Employee (1995 Dollars)	US	OHIO	INDIANA	GREATER CINCINNATI
1992	35,062	37,998	37,375	49,847
1987	33,027	NA	37,563	33,472
1982	27,851	25,420	34,218	27,550
PAYROLL PER EMPLOYEE TRENDS	US	OHIO	INDIANA	GREATER CINCINNATI
1987-1992	6%	NA	-1%	49%
1982-1987	19%	NA	10%	21%
1982-1992	26%	49%	9%	81%

Positive Trade Balance Indicates U.S. Strength in Global Industry

The U.S. trade balance (exports from the U.S. minus imports to the U.S.) in the medical instrument and supply industry has been steadily increasing since 1989. In 1989, the trade balance was $1.9 billion. In 1995, the trade balance reached $4.7 billion, a 147 percent increase over a 6-year period.

International demand for U.S. medical equipment is expected to double from $9 billion in 1997 to $18 billion in 2000. The positive and expanding trade balance shows the strength that the U.S. has in this industry throughout the world.

Accelerated Sales and Earnings Growth Expected Through 2000

In February 1997, Standard and Poor projected that the medical device and equipment industry in the U.S. will continue to experience accelerated sales and earnings growth through the rest of the decade. In particular, it is expected that medical device manufacturers will benefit from overseas expansion, new cost-effective medical products, the pervasive medical requirements of an aging population, and a more favorable regulatory climate from the Food and Drug Administration.

Current Economic Trends in the Pharmaceutical Industry

Trends in the pharmaceutical industry reflect a slow down in the industry during the early 1990's (in particular, 1991-1993), and then a resurgence after 1994. According to Standard and Poor, three factors were the cause of a sluggish industry in the early 1990's; they were, rapid expansion in the less profitable managed care business, U.S. political pressure to hold down drug prices, and regulatory measures taken by European nations to reduce health care costs. The introduction of breakthrough therapeutic drugs has enhanced this industry's growth and earnings in the past few years.

Pharmaceutical Industry Improving after Declining Growth from 1992 to 1994

From 1992 to 1994, the pharmaceutical industry experienced a slight fall in output and employment. During this same period, output in the medical instruments and supplies industry increased 7 percent, total manufacturing output rose 11 percent, and total manufacturing employment increased slightly. From 1994 to 1995, output and employment in the pharmaceutical industry have increased above the average rates of the manufacturing sector as a whole, with both output and employment in the industry growing over 6 percent during this one-year period.

Imports Exceed Exports in Pharmaceutical Industry

The U.S. experienced a trade deficit in the pharmaceutical industry in 1995 – imports exceeded exports by $343 million. The deficit follows trade surpluses of $896 and $802 million in 1992 and 1994, respectively.

Projected Employment in Biomedical Engineering

Medical Instrument and Supply Industry Employment will Increase 9 Percent by 2005 in Five Midwest States

In 1994, employment in the medical instruments and supplies industry in Illinois, Kentucky, Michigan, Ohio, and Pennsylvania was 41,304. By 2005, this is expected to increase by 3,656 jobs (9 percent) to 44,960.

Kentucky ranks the highest in percentage growth in jobs in the medical instruments and supplies industry from 1994 to 2005, with a 15.6 percent job increase. However, this reflects an absolute increase of only 282 jobs over the 11-year period.

In contrast, Ohio has an estimated job growth rate of 13 percent in this industry, along with the largest absolute increase in number of jobs at 1,400. Pennsylvania will add 1,300 new jobs, which reflects a 10 percent increase in the number of jobs.

Pharmaceutical Industry Employment will Increase 9 Percent by 2005 in Three Midwest States

For Illinois, Michigan and Pennsylvania, there will be a total increase of 5,046 pharmaceutical jobs from 1994 to 2005, representing a 9 percent increase over the period. This compares with an average employment growth rate of 14 percent in the three states. Only Pennsylvania is expected to experience higher than average employment growth in the pharmaceutical industry.

Biomedical Engineering Occupation Growth Will Increase Opportunities for Employment

Biomedical related occupations in the U.S. are expected to increase significantly more than the average growth rate for all occupations in the U.S.[1] Total U.S. growth in new occupations is projected to be 14 percent between 1994 and 2005. Engineering occupations in the U.S. will grow approximately 19 percent between 1994 and 2005, creating 246,000 new jobs. In addition to this, 335,000 occupied engineering positions will need to be filled with a new hire over this period.

Biological scientists are expected to increase by 25 percent and medical scientists by 31 percent. Only electromedical and biomedical repairers will grow at a below average rate from 1994 to 2005.

[1] These projections are based on data prior to the implementation of managed care, and therefore may be optimistic given the current environment.

The "all other engineers" category, which is the category in which biomedical engineers most likely fit, has the highest expected growth rate of all engineering groups at 26 percent. In this category, 75,000 new jobs are expected to be created between 1994 and 2005, and another 61,000 are expected to need replacements. In addition to the highest growth rate, this category has the greatest number of absolute jobs created compared to the other categories. The occupation with the largest number of total job openings over the period will be electrical engineering.

Ohio, Michigan, Pennsylvania, Kentucky and Illinois all expect growth rates above the U.S. average in biomedical related occupations between 1994 and 2005.

For additional information contact the Economics Center for Education & Research, email Econeduc@uc.edu.
Please reference report: 1997-IA-1003 ES Biomedical Industry-Labor Trends