



North Shore Regional Manufacturing

Prepared for the North Shore Workforce Investment Board
Research compiled by: William Sinatra
October 2004



THE MANUFACTURING SECTOR OF THE NORTH SHORE¹

The following provides current labor market information on the manufacturing service sector for the North Shore Work Force Investment Board (NSWIB). The information provided expands upon the “*Southern Essex Regional Labor Market: Blueprint Update 2002*”

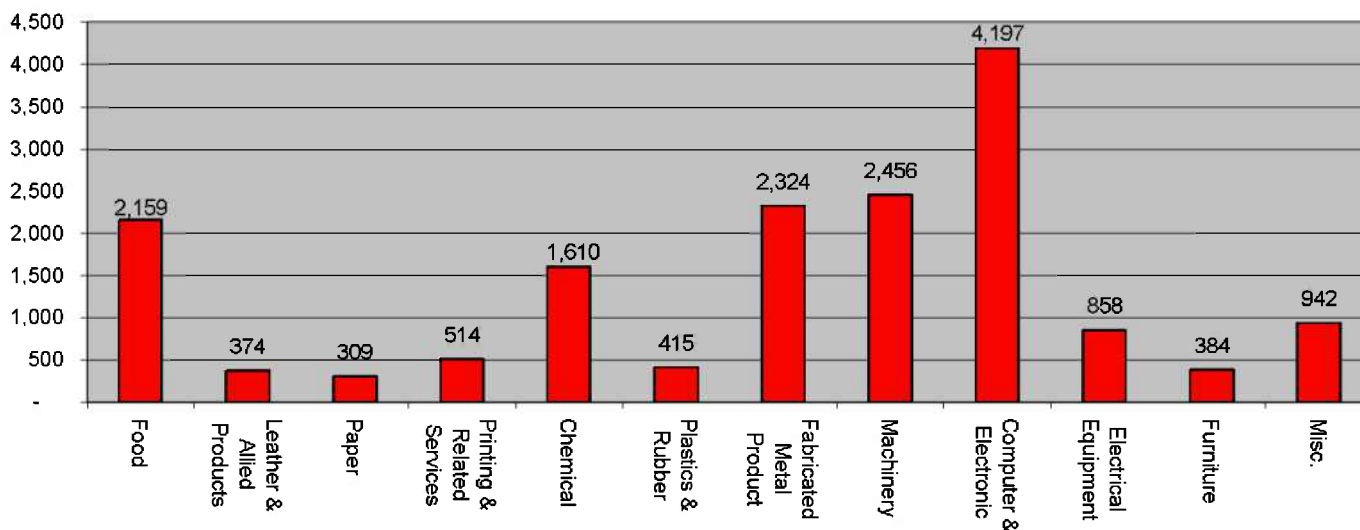
In this report, the following manufacturing sub sectors are not included in the graphs; Beverages & Tobacco, Petroleum, Primary Metals, and Transportation equipment because the federal government has declared such data confidential. In addition, Textile Mills, Textile Products, Apparel, Wood, and Primary Metals are not included as these sub sectors employ fewer than 100 workers each. It should be noted that when total numbers are given for Manufacturing, it includes all of the omitted sub sectors.

The Miscellaneous Manufacturing sub-sector includes: Medical Equipment & Supplies, Jewelry & Silver, Sporting & Athletic Goods, Office Supplies (except paper), and Musical Instruments.

I. TOTAL EMPLOYMENT

This section shows employment for the North Shore manufacturing sub-sectors in 2003 (the last year for which data is available). Total employment for the North Shore manufacturing sector is 21,039 and 320,909 for Massachusetts. The following chart gives employment numbers for the manufacturing sub-sectors.

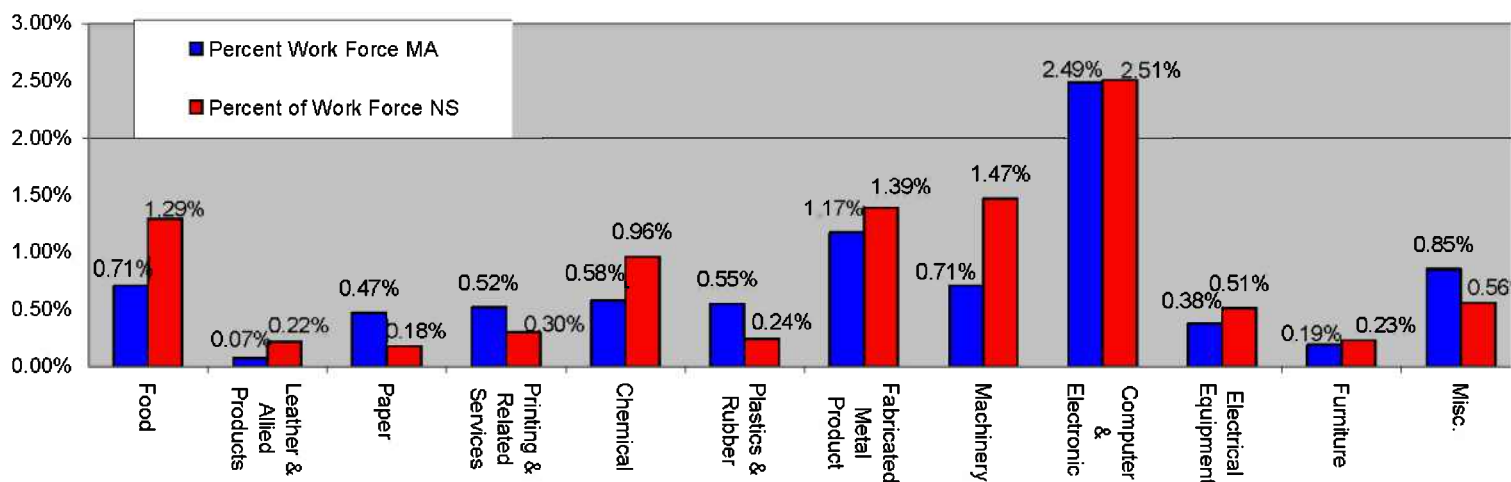
A. Total Employment Manufacturing Sub-Sectors



¹ All of the facts and figures in this industry briefing come from The US Department of Labor, The Massachusetts Division of Career Services and The Massachusetts Division of Unemployment Assistance.

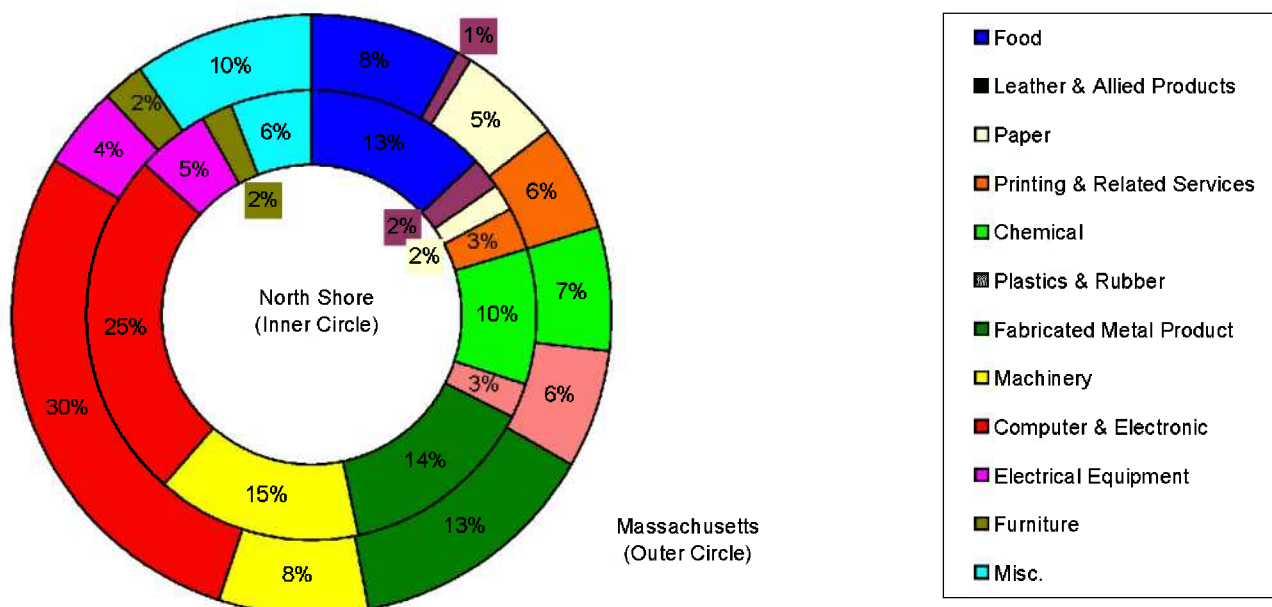
The following graph illustrates the percentage of the labor force in manufacturing for the North Shore and Massachusetts. Total percentage of the labor force for the North Shore is at 12.4% and Massachusetts is at 10.1%.

B. Percentage of Labor Force in Manufacturing



II. MANUFACTURING SECTOR EMPLOYMENT & DISTRIBUTION

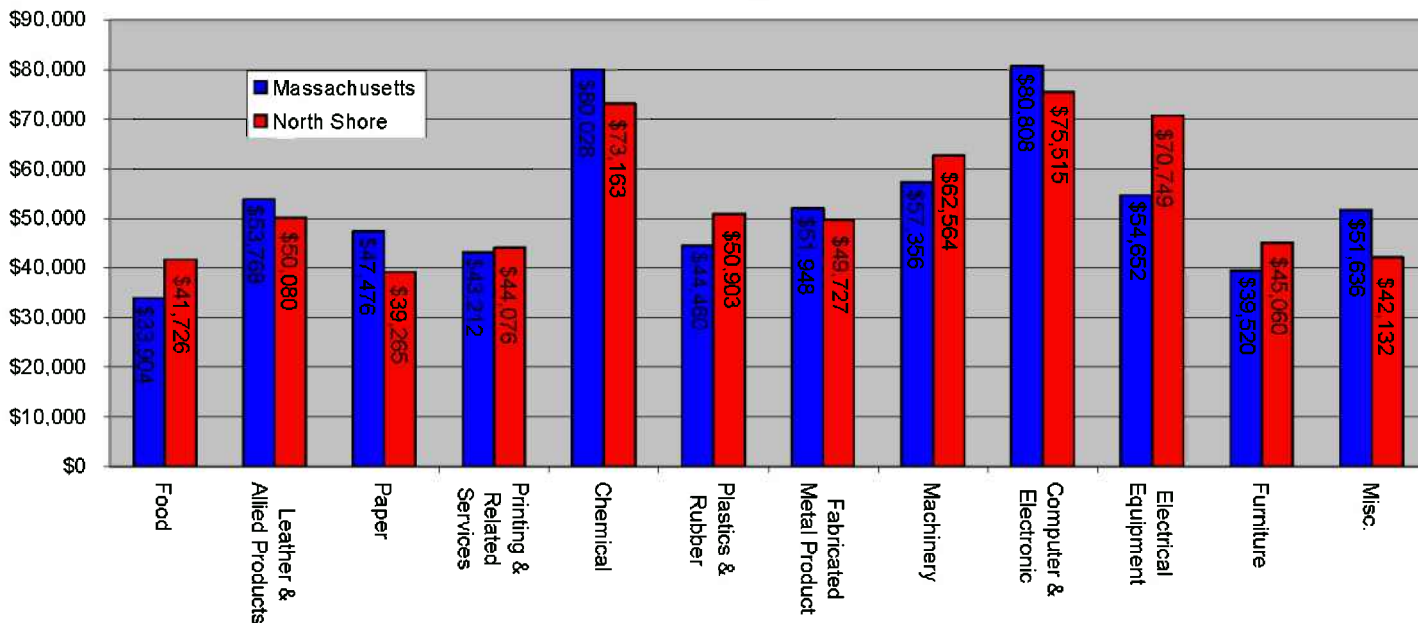
The following chart breaks down manufacturing employment and the distribution of the work force within the manufacturing sub-sectors. The inner ring represents the North Shore and the outer ring represents Massachusetts. The most significant differences between the North Shore and Massachusetts are within Computer & Electronics, where there is a 15% distribution difference. All other North Shore sub-sectors are within 7% of Massachusetts's sub-sectors.



III. WAGES & SECTOR GROWTH

The graph below compares the weekly wages earned for each sub-sector in manufacturing. The wages earned in the North Shore and Massachusetts are shown.

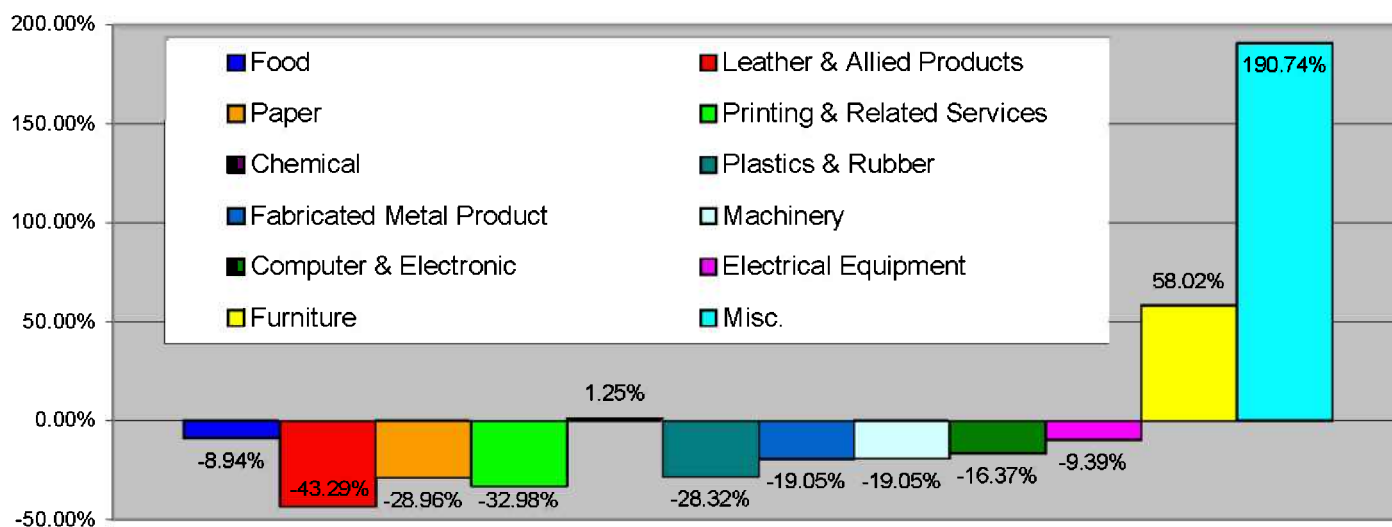
A. Annual Wage



B. Manufacturing Sector Growth

The following graph examines sector growth by showing the percent change in each of the manufacturing sub-sectors. Percentage is calculated from the 2000/2003

Employment change. The North Shore experienced a 13.1% sector decrease and lost 3,180 jobs.



IV. EDUCATION & CAREER PATH INFORMATION

A. Selected Manufacturing Occupation Qualifications & Career Paths²

Assemblers and Fabricators

Requirements: High School diploma preferred, the ability to do accurate work at a rapid pace and to follow detailed instructions are key job requirements. Following detailed assembly instructions requires basic reading skills, although many instructions rely on pictures and diagrams. Specialized training is needed for some jobs. Other positions require only on-the-job training, sometimes including employer-sponsored classroom instruction.

Advancement: As assemblers and fabricators become more experienced, they may progress to jobs that require greater skill and be given more responsibility. Experienced assemblers may become Product Repairers. Assemblers also can advance to Quality Control jobs or be promoted to Supervisor. Experienced assemblers and fabricators also may become members of Research and Development teams, working with engineers and other project designers to design, develop, and build prototypes, and test new product models. In some companies, assemblers can become trainees for one of the skilled trades, such as Machinist. Those with a background in math, science, and computers may advance to become programmers or operators of more highly automated production equipment.

² Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2004-05 Edition*, on the Internet at <http://www.bls.gov/oco/ocos120.htm> (visited July 28, 2004).

Machinist

Requirements: High school or vocational school courses in mathematics (especially trigonometry), blueprint reading, metalworking, and drafting are highly recommended. Machinists train in apprenticeship programs, informally on the job, and in high schools, vocational schools, or community or technical colleges. Experience with machine tools is helpful. In fact, many entrants previously have worked as machine setters, operators, or tenders. Persons interested in becoming machinists should be mechanically inclined, have good problem-solving abilities, be able to work independently, and be able to do highly accurate work (tolerances may reach 1/10,000th of an inch) that requires concentration and physical effort.

Advancement: Machinists can advance in several ways. Experienced machinists may become CNC programmers, Tool and Dye Makers, or Mold Makers, or be promoted to Supervisory or Administrative positions in their firms. A few open their own shops.

Industrial Production Managers

Requirements: Because of the diversity of manufacturing operations and job requirements, there is no standard preparation for this occupation. However, a college degree is required, even for those who have worked their way up through the ranks. Many industrial production managers have a college degree in business administration, management, industrial technology, or industrial engineering. Others have a master's degree in industrial management or business administration (MBA). Although many employers prefer candidates with a business or engineering background, some companies hire well-rounded liberal arts graduates.

Advancement: Industrial production managers with a proven record of superior performance may advance to Plant Manager or Vice President for manufacturing. Others transfer to jobs with more responsibilities at larger firms. Opportunities also exist for Consultants.

Computer-Control Programmers and Operators

Requirements: Computer-control programmers and operators train in various ways—in apprenticeship programs, informally on the job, and in secondary, vocational, or postsecondary schools. A basic knowledge of computers (computer numerically controlled (CNC) machines) and electronics also is helpful. Experience with machine tools is extremely important.

Advancement: Computer-control programmers and operators can advance in several ways. Experienced CNC operators may become CNC Programmers, and some are promoted to Supervisory or Administrative Positions in their firms. A few open their own shops.

