surged by 34.2 percent. Total imports fell by less than 8 percent, but imports of capital goods plunged by 32 percent. As a result, Mexico's merchandise trade balance was transformed into a US $4.5 billion surplus, in contrast to the deficit of US $12.1 billion in the same period the year before.

As a result of these dramatic changes, Mexican manufacturers now face a new reality. The gross domestic product (GDP) is expected to fall by 4 percent or more during 1995, and this has undermined most domestic product markets. This leaves manufacturers with little choice but to export if they expect to survive and prosper.

THE MACHINE TOOL SECTOR

Machine tools are used by manufacturers to shape or form parts made of materials such as metal, plastic, wood, ceramics and rubber. Traditionally, these functions have been performed using conventional machine tools such as lathes, milling machines, boring machines and the like. Over the past decade or so, machining tasks have increasingly been accomplished using computer controlled machine tools. This makes the manufacturing process both more flexible and more consistent. The first numerically-controlled (NC) equipment used computers to generate electronic patterns that were then transferred to the machine tool using an intermediate medium, such as punched paper tape. Modern machine tools are completely integrated with the computers that control them.

The trend towards computer controlled machinery is less advanced in Mexico than it is in Canada. This is partly because there is no significant production of this type of equipment in Mexico. The principal distinction between equipment types in the Mexican market is between computerized numerically-controlled (CNC) and direct numerically-controlled (DNC) tools. As these terms are understood in Mexico, CNC equipment includes an integrated microcomputer capable of executing externally controlled designs. DNC equipment is connected to an external computer, which may directly control one machine or a network of machines. The latter configuration is known as distributed numerical control. The term NC is widely used to refer to all computer controlled equipment.

Computer assisted manufacturing (CAM) systems include NC machine tools, related computer assisted design (CAD) and computer assisted engineering (CAE) systems. Industrial robots are also gradually being introduced into the Mexican industry. The use of these technologies, however, is not nearly as advanced in Mexico as it is in Canada and the United States.

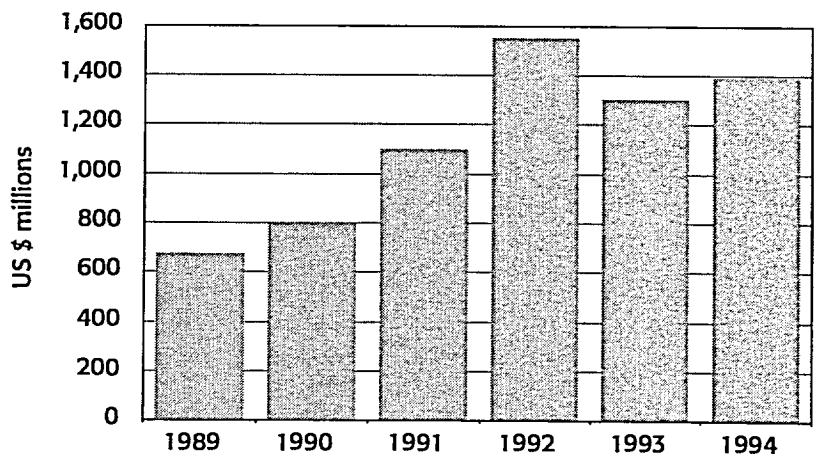
THE ROLE OF IMPORTS

There are a wide variety of estimates of the size of the Mexican import market for machine tools and related equipment. Although the Mexican import statistics follow the Harmonized System (HS) of commodity classification, there is no clear definition of which products define this industry. Some published estimates are limited to metalworking tools, and others focus only on numerically-controlled (NC) equipment.

The statistics presented in this section present a very broad view of the industry. They include equipment for both metalworking and plastics manufacture. They include both NC and conventional machine types. In addition, they include tools, dies and moulds as well as the machines that use them. By this definition, imports totalled US $1.4 billion in 1994.

This total can be divided into three major categories of roughly equal proportions: machine tools for metalworking, machine tools for working non-metals, as well as tools, dies and parts.

Machine Tools, Dies, Moulds and Related Equipment
Mexican Imports from the World



Source: *Secretaría de Comercio y Fomento Industrial (SECOFI)*, Secretariat of Commerce and Industrial Development, 1995.