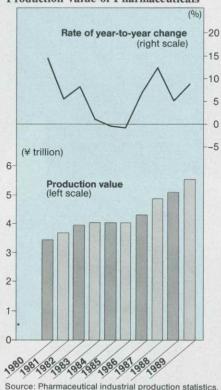
## **Hastening Change**

Last April, the Ministry of Health and Welfare revised its official pharmaceutical prices downward, by an average 9.2%. Such a dramatic price cut will doubtless have a major impact on the industry's fiscal 1990 performance. Total sales volume for the year rose because of a reaction to purchasing restraint in the January-March quarter. The sales value for fiscal 1990, however, is projected to advance only slightly over the previous year. Many drug companies will likely post profit figures leveling off or declining compared with the previous year, largely due to rising R&D costs and to the broad price reduction. Only a few producers-those which introduced hit products in fiscal 1990 - are likely to report higher earnings.

The price revisions featured two important points. First, price hikes were allowed for some prescription drugs. Second, it was decided to reward the producers of unique new drugs by allowing them to charge high prices, but new products that were only slightly improved should

Production Value of Pharmaceuticals



Pharmaceutical industrial production statistics, Ministry of Health and Welfare

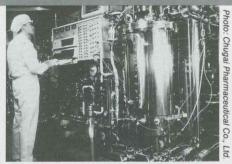
receive severe downward price revisions. These changes have solidified the foundations of latecomers which produce useful new prescription drugs. At the same time, the price revisions have led to profit disparities between the makers which have developed creative new drugs, like Sankvo Co. and Chugai Pharmaceutical Co., and those which have failed to do so. Sankvo introduced "Mevalotin," an antihyperlipidemic which inhibits the formation of an enzyme involved in cholesterol generation. Chugai marketed "Epogin," a blood-increasing hormone that treats renal anemia.

Leading producers have begun to expand their development networks by launching overseas research centers. Simultaneous clinical tests of new drugs in Japan, the U.S. and Europe should be an effective strategy to help create new products and to recover enormous development costs as well.

Meanwhile, foreign pharmaceutical producers operating in Japan, such as Bayer A.G. and Sandoz Ltd., have begun their own marketing operations, or begun to acquire medium-sized Japanese firms with relatively weak marketing and product development capabilities. In some cases they are doing both. These steps are helping foreign firms to increase their market shares in Japan, which is the world's second-largest pharmaceutical market after the U.S.

In fiscal 1991, these trends are likely to become even more pronounced. Japan's major pharmaceutical firms plan to strengthen their overseas networks so that they can handle not just clinical tests but marketing and production as well. Foreign companies are stalking local small and medium-sized firms.

The separation of dispensing of prescriptions from medical treatment has resulted in heavy competition in the medicine market including wholesalers. Producers are thus trying to improve 'sales by forming new cooperative relationships, or strengthening existing relationships, with their wholesalers. Major companies are also increasingly taking a tough line toward new competing products they suspect of patent infringement, warning their competitors or even start-



Biotechnology is now an indispensable part of pharmaceutical drug research and development

Biotechnology has not yet been established as an independent industry, although this new technology influences all

ing lawsuits to protect their markets.

industrial fields in one way or another. According to a recent Nikkei Biotechnology newsletter survey, the biotechnology market was worth between ¥200 billion and ¥300 billion in 1990. The major areas where biotechnology has applications are the chemical, pharmaceutical, food processing, agricultural, forestry and marine product industries.

Biotechnology has now become an indispensable part of pharmaceutical drug research and development, and the market for biotechnology-based drugs will continue to grow. Various companies are trying to develop "bio-drugs," including anti-cancer and blood-clot dissolving agents. The blood-increasing hormone erythropoietin is one bio-drug that has already reached the market. Biotechnology is also steadily expanding into other areas, such as the development of bio-detergent and functional food and research into new plant, fish and animal types with enhanced resistance to disease and harsh weather. Biodegradable plastics and other "environmentally friendly" products are also receiving close attention in view of the tightening of environmental restrictions.

Basic research remains increasingly important. In the area of medicine, an international project has been launched jointly by Japan, the U.S. and Europe to analyze the human genome. The Ministry of Agriculture, Forestry and Fisheries plans to launch a rice-genome analysis project in 1991. It is expected that these and other joint, basic-research projects involving the cooperation of industry, academia and government, will help to hasten the industrialization of biotechnology.

(Hirokazu Miyagawa, economist)