

## Introduction

Recently, the pharmaceuticals industry, which is composed of drug makers, distributors, and wholesalers, along with biotechnology firms, has been doing very well relative to other industries. Between 1992 and 2002, revenue has more than tripled among biotech firms alone, reaching nearly \$30 billion. An increasingly aging population taking more and more medications promises further growth.



## Industry Composition

The pharmaceuticals industry consists of drug manufacturers, biotechnology companies and the distribution and wholesale companies that handle the products produced. This industry is primarily focused on medicinal and veterinary chemical and biological compounds. Companies making related products, such as vitamins, other health supplements, or diagnostic substances, are also included. The majority of the revenues in the industry come from drug companies who make prescription, generic, and over-the-counter drugs for medical or veterinary use. Biotechnology companies differ from traditional drug companies in that their work consists of using biological knowledge to manipulate living cells, either from animal or plant sources. Biotechnology companies also focus on research to a greater extent than drug companies. Compared to other industries, the pharmaceuticals industry boasts a relatively high percentage of funds spent on extensive Research & Development (R&D) and is one of the largest employers of scientists. The next step is screening: testing the drug first on bacteria cultures and then on animals. Finally, clinical trials are performed where the drug is tested on humans. All that remains is the approval to produce the drug.

## Industry Leaders and Fragmentation

\* All amounts are given in Billions USD

Company	Country	Sales	Profits	Market Value
McKesson	161	237.6	-4.2	30.7
AmerisourceBergen	161	194.5	-3.2	24.5
Cardinal Health	161	156.5	1.4	18
Johnson & Johnson	161	82.6	14.7	427.1
Sinopharm Group	173	66.3	1	8.9



## Profitability and Demand Drivers

### Primary Demand Drivers:

- Desire to cure illness and disease

### Profitability Drivers:

- Ability to discover and market new drugs
- Evolving medical and pharmaceutical technologies

## Trends

One problem with the steady growth of this industry is that all growth requires investment. Investment requires capital and, in order to make up the difference, the companies increase prices of their products. With investments in R&D in pharmaceuticals and biotechnology increasing every day, the prices are increasing as well. These price increases are so fast that some speculate that unless there is regulation, only the wealthy will be able to afford medicine. This is primarily a United States phenomenon, as most of the European countries, as well as other countries with pharmaceutical industries existing in them, have governmental regulations in place. However, it is still a challenge as Healthcare Providers are increasingly cracking down on determining necessary medical costs that they cover compared to non-essentials they don't; requiring doctors to prescribe alternate solutions.

With the large costs of drug innovation and the complexities of regulatory and approval process, a new trend of Big Pharma partnering with smaller pharmaceuticals has become more pronounced. Small startups often have the right idea and scientists to do the work, but then have trouble raising the necessary capital to complete intensive research. Additionally, they often are not experienced enough to navigate the complex approval process and regulatory environment effectively. Big Pharma, on the other hand, has trouble finding new ideas and constantly innovating. When the two team up, synergies they create are profound, with capital and experience of Big Pharma, startups can bring drugs to market quickly, efficiently, and cheaply, while Big Pharma has more access to potential blockbuster drugs in return. This recent trend also stems from pressure by governments and consumers to innovate more prevention medicines than treatments. By combining resources, small startups and Big Pharma are more efficient and can adequately produce revolutionary products.

The increasing quality of life standards in developing nations has created another trend for pharmaceuticals as they focus on penetrating developing markets that have high growth. The exportation of research and formation of in-country pharmaceutical and biotech industries has become an important development for the industry. With ever-advancing technology allowing rapid innovation, companies are able to enter these markets more profitably. Taiwan, India, China, South Korea, and Singapore are all notable nations when dealing with this trend. The government of Singapore has already devoted a large city zone, buildings, and other incentives to bring more biotechnology to the country. This area, Biopolis, is already home to over 1000 researchers from 18 different nations. The concentration on these markets show the direction the industry needs to move into as growth in industrialized countries slows down and increasing pressure from regulations burden the pharmaceutical companies.

Recently, investigations and prosecutions regarding global compliance violations have resulted in financial judgments against leading pharmaceutical companies and criminal convictions, particularly in United States, Indonesia, China, and Poland. Expanding regulatory forces are driving an urgent need for pharmaceutical companies to develop practical and effective solutions for meeting the challenges of integrating governance, risk, and compliances on a global level.

As with many industries, technology is a major driver. For pharmaceuticals, technology is just about everything. Recently, the newest technological trends have been with the research and use of stem cells, and the introduction of nanotechnology as a complement to drugs in healing patients.

Patent expiration is a major issue for some companies as their principal product becomes available generically, which in turn cuts profits. In relatively strong markets such as China and India, multinational pharmaceuticals companies require and expect intellectual property rights to be strictly enforced, when often they are not. There, countless local manufacturers are able to produce cheap counterfeit copies of patented drugs, which often make their way to Western markets. Implementation of intellectual property rights is improving.