

# Patents and Competitive Dynamics in the Indian Pharma Industry

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## Outline

- Overview
- Regulatory Entities
- Growth of the Pharmaceutical Industry
- Biggest Global Pharmaceutical Markets
- Top 10 Pharmaceutical Companies
- US Pharmaceutical Industry
- Economic Impact
- Research and Development
- Domestic Market
- Trade: Import
- Trade: Export
- Challenges and Barriers

### Overview

- The pharmaceutical industry discovers, develops, produces, and markets drugs or pharmaceutical drugs for use as medications.
- Pharmaceutical companies may deal in generic or brand medications and medical devices. They are subject to a variety of laws and regulations that govern the patenting, testing, safety, efficacy and marketing of drugs.

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### Overview

- Impact of global trends over the coming years.
- Impact of global demographic and economic trends on drug development opportunities.
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- Rise in chronic diseases.
- Increased patient care and higher disposable income.
- Emerging government expenditure on healthcare.
- Growing demand for more effective treatments.

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### Research and development (R&D)

- The pharmaceutical sector has consistently been one of the most R&D intensive industries in the United States.
- R&D performed in the United States has become increasingly expensive relative to emerging economies in Asia.

### Domestic Market

- The United States has one of the world's most sophisticated economic systems for R&D and commercialization of pharmaceuticals with several market leaders.
- The United States is the world's largest emerging market for pharmaceuticals.

### High incomes per capita

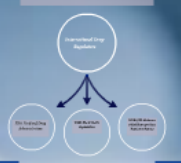
- Unmatched access to healthcare
- Large elderly population
- Culture of end-of-life prolongation
- High rates of chronic diseases and drug consumption

### US Pharmaceutical Industry Economic Impact

- The industry supports over 3.4 million jobs across the United States and added an estimated \$790 billion to the economy in 2016.
- Total pharmaceutical sales: \$330 billion (1.9% of GDP, 10.7% of total healthcare exp.)
- Per-capita pharmaceutical sales: \$1096

### Regulatory entities

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### Patentability

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### Growth of the Pharmaceutical Industry

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### Biggest Global Pharmaceutical Markets

Rank	Country	Value of Pharmaceutical Market (in trillions of \$)
1	USA	\$660.00
2	Japan	\$460.00
3	France	\$270.00
4	Germany	\$260.00
5	UK	\$250.00
6	Italy	\$240.00
7	Spain	\$230.00
8	China	\$220.00
9	India	\$210.00
10	South Korea	\$200.00

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### Top 10 Pharmaceutical Companies



### US is the largest importer of pharmaceuticals



### Trade Import

- US imports were valued at over \$86 billion in 2016, making it the world's largest importer of pharmaceuticals.

### US has the largest market for pharmaceuticals



### Trade Export

- 2017 US exports to 2016: The increasing use of generics and off-invoice discounts by foreign governments has led to a decline in the export potential of the USA.

### Trade Import

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### Challenges and Barriers

- Regulatory approval
- Pricing
- Tariffs
- Patentability
- Corrupt

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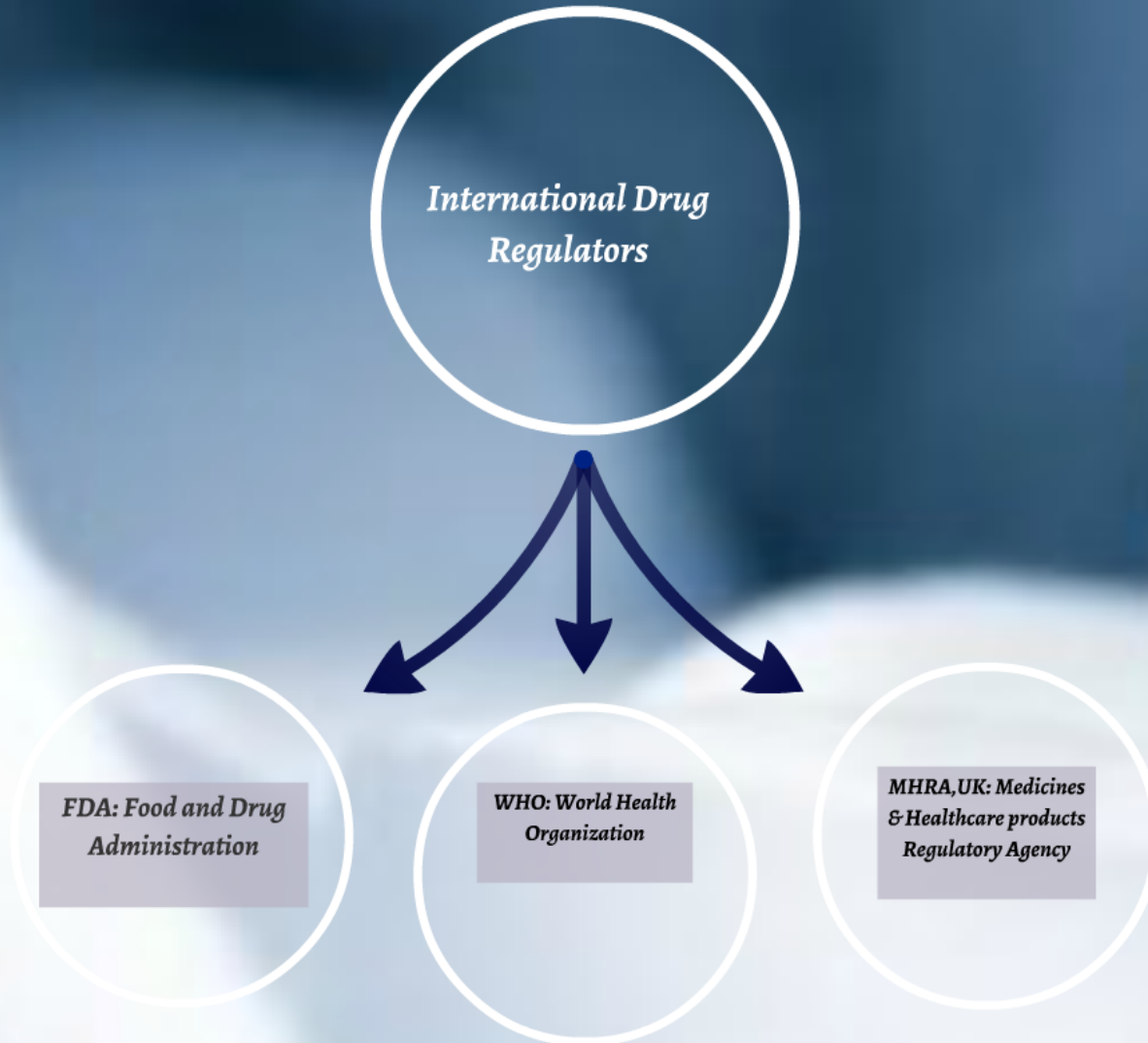
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# Overview

- Expected annual growth rate of 4.9 percent.
- Several global demographic and economic trends are driving pharmaceutical consumption:
  - Rapidly aging world population
  - Rise in chronic diseases
  - Increased urbanization and higher disposable incomes
  - Greater government expenditure on healthcare
  - Growing demand for more effective treatments

# *Regulatory entities*

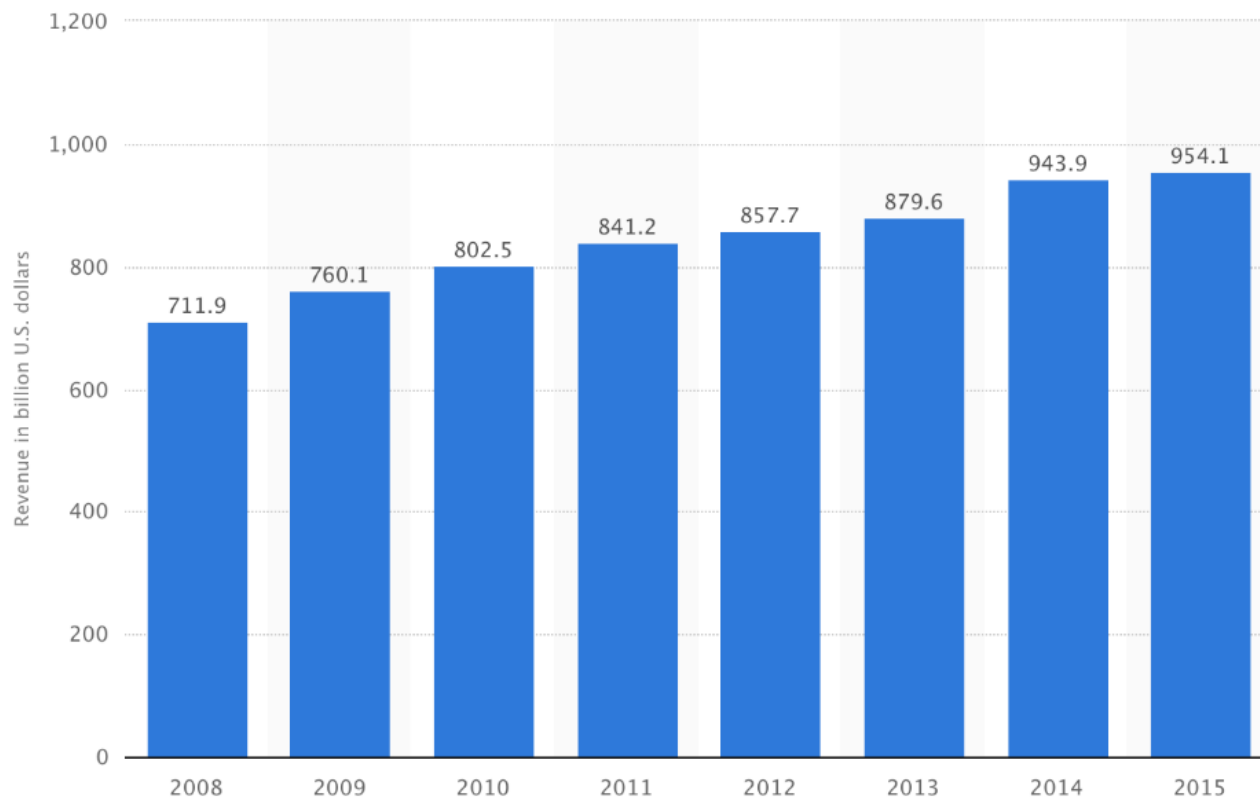
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WHO is charged with the tasks of developing and maintaining global norms, international standards and guidelines for the quality, safety and efficacy of drugs, and providing guidance in harmonization efforts.

# *Growth of the Pharmaceutical industry*

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# ***Biggest Global Pharmaceutical Markets***

Rank	Country	Value of Pharmaceutical Market (in millions of \$)
1	USA	339,694
2	Japan	94,025
3	China	86,774
4	Germany	45,828
5	France	37,156
6	Brazil	30,670
7	Italy	27,930
8	UK	24,513
9	Canada	21,353
10	Spain	20,741