

Capital Markets Pharmaceutical Industry

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Agenda

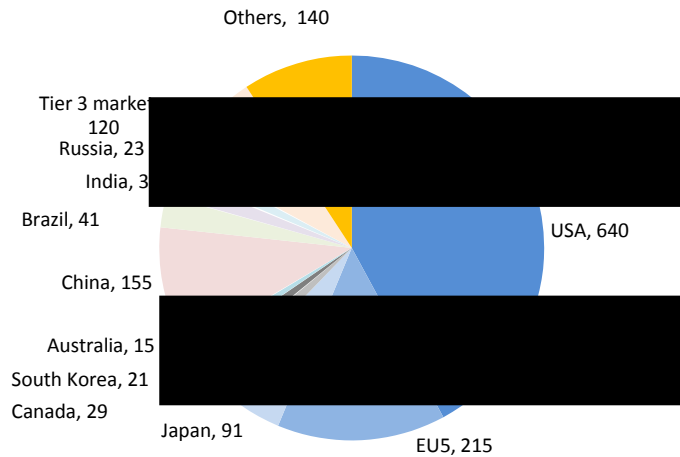
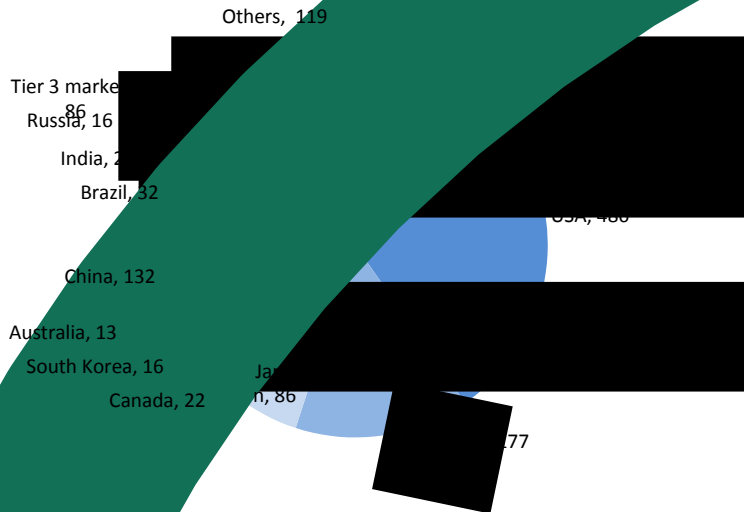
- **Global Pharma:
Overview**
- **Uniqueness of
Pharma**
- **Valuation
Consideration**
- **Indian
Perspective**



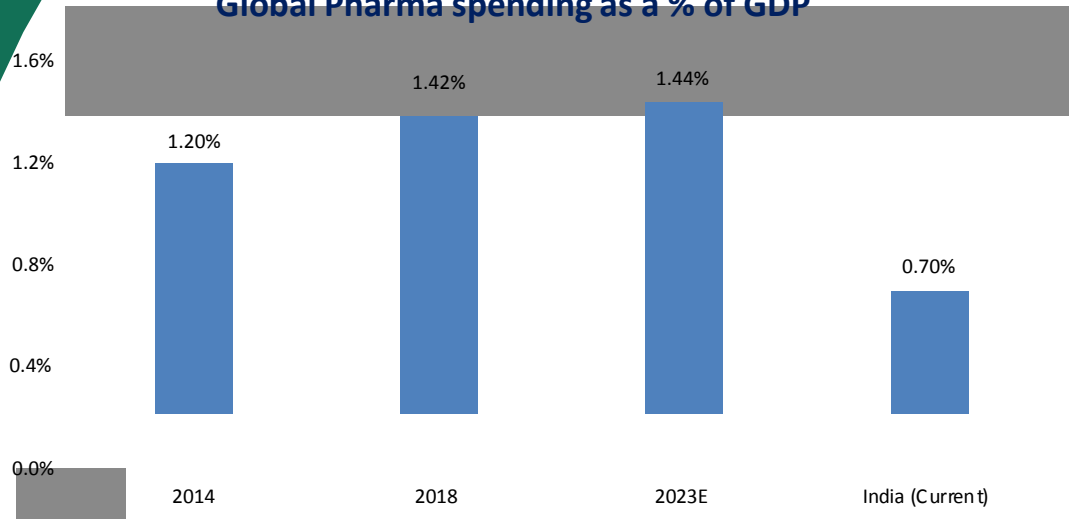
Pharma Industry contributes modestly to Global GDP

Global Pharma spending 2018

Global Pharma spending 2023e



Global Pharma spending as a % of GDP



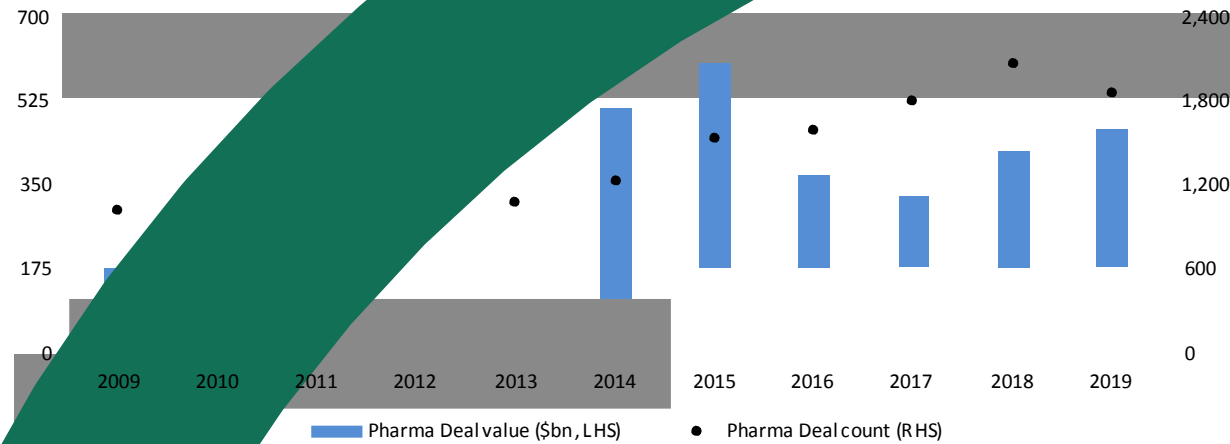
- Global pharma spending of ~US\$1.2tn has grown at ~6% CAGR
- Global pharma spending expected to reach US\$1.5tn through 2023e
- India's Pharmaceutical spending as % of GDP is half of Global levels



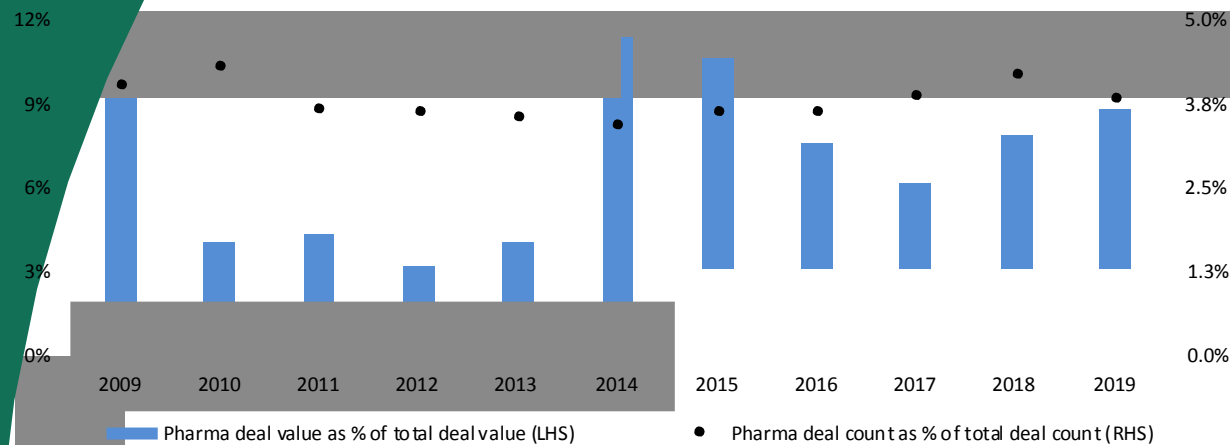


But Still It's BIG Deal !

Pharmaceutical deals have increased considerably in the last five years



Pharmaceutical deals represents ~10% of total deal values with average ticket size of US\$200+mn

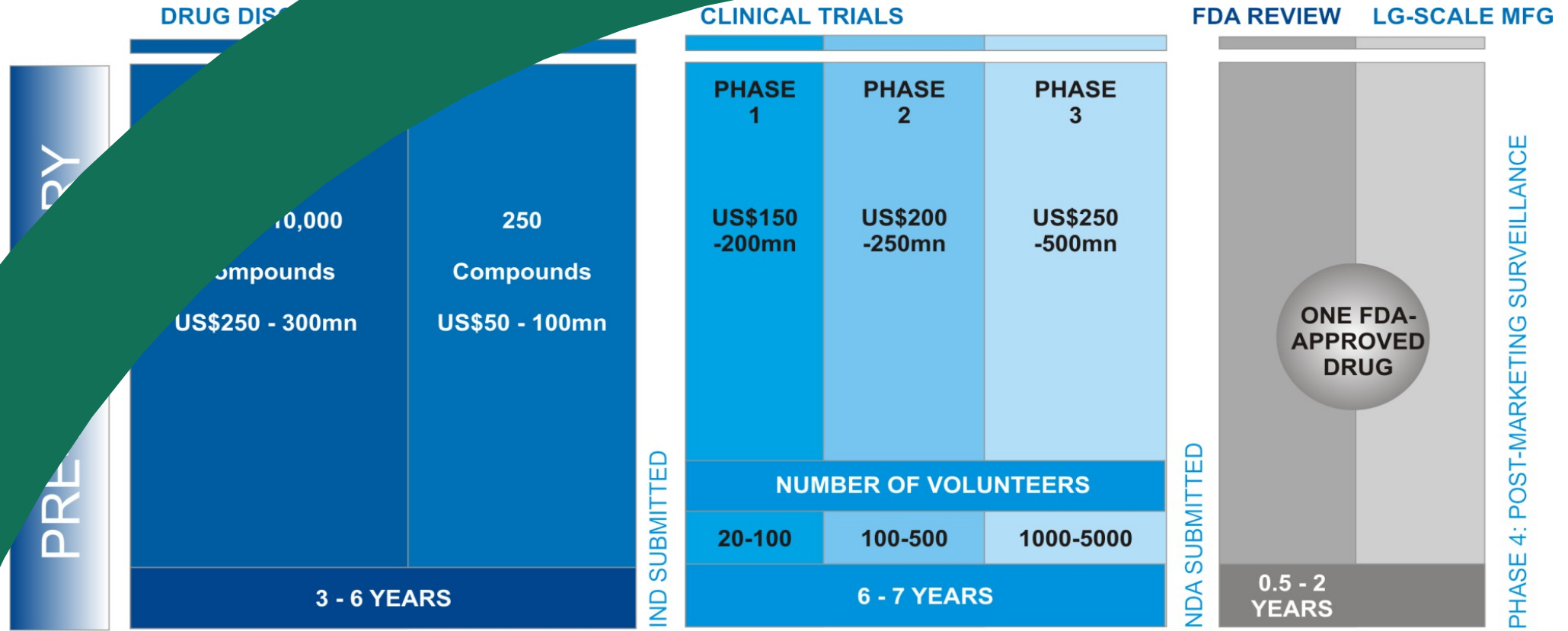


- For all deals, avg. deal size was ~US\$3mn
- For pharma deals, avg. deals size has been ~US\$200mn
- Despite modest contribution to Global GDP, bigger deal size attracts investor interest





Why it's a BIG Deal?



- ü Drug development is a long and arduous process
- ü Chances of success are abysmally low at 0.01%!!!!
- ü Investment remains very high at ~US\$1.5-2bn
- ü Most deals are struck during / prior to clinical trials





Multi-Prolonged Approach for Valuation

Advantages

Shortcomings

Discounted Cash Flow

Derives intrinsic value
Not very sensitive to public markets or economic conditions

Very sensitive to the assumptions – slight modifications can drastically change the DCF, which needs to be constantly updated
Particularly sensitive to growth and discount factor

Comparable Transaction Analysis

Informs probable exit strategy for assets across their clinical development path

Timing of transaction and market conditions may impact accuracy
Challenging to find exactly similar transaction

Comparable Company Analysis

Provide insights into competitive space for assets

Heavily influenced by market or industry dynamics

- ü DCF remains corner stone for valuing individual molecules
- ü Comparable transaction analysis and comparable company analysis used to value a company or portfolio of products





Revenue Forecast - the Most Important Step in DCF

Revenue forecast model

Prescription model

For therapies in mature market
Incremental benefits readily distinguished

Epidemiology model

Novel product which will disrupt the market
First product approved for particular disease or patient segment





Prescription Model- Neulasta Case Study



Neulasta Peak Rx	3,86,473
Neulasta price/ dose US\$	10,350
Neulasta peak annual sales (US\$mn)	4,000

	Year 1	Year 2	Year 3	Year 4	Year 5
Neulasta Onpro adoption rate	10%	20%	30%	40%	40%
Neulasta Onpro Rx	38,647	77,295	1,15,942	1,54,589	1,54,589
Neulasta Onpro price/ dose US\$	10,350	10,350	10,350	10,350	10,350
Estimated Neulasta Onpro sales (US\$mn)	400	800	1,200	1,600	1,600

- ü Neulasta needs to be taken on the next day of chemotherapy
- ü Patient had to visit the doctor again
- ü Neulasta Onpro kit fitted on same day as chemotherapy
- ü The device delivers drug in delayed manner obviating the need for visiting the doctor the next day
- ü Dosing frequency remains the same
- ü Pricing is also same!





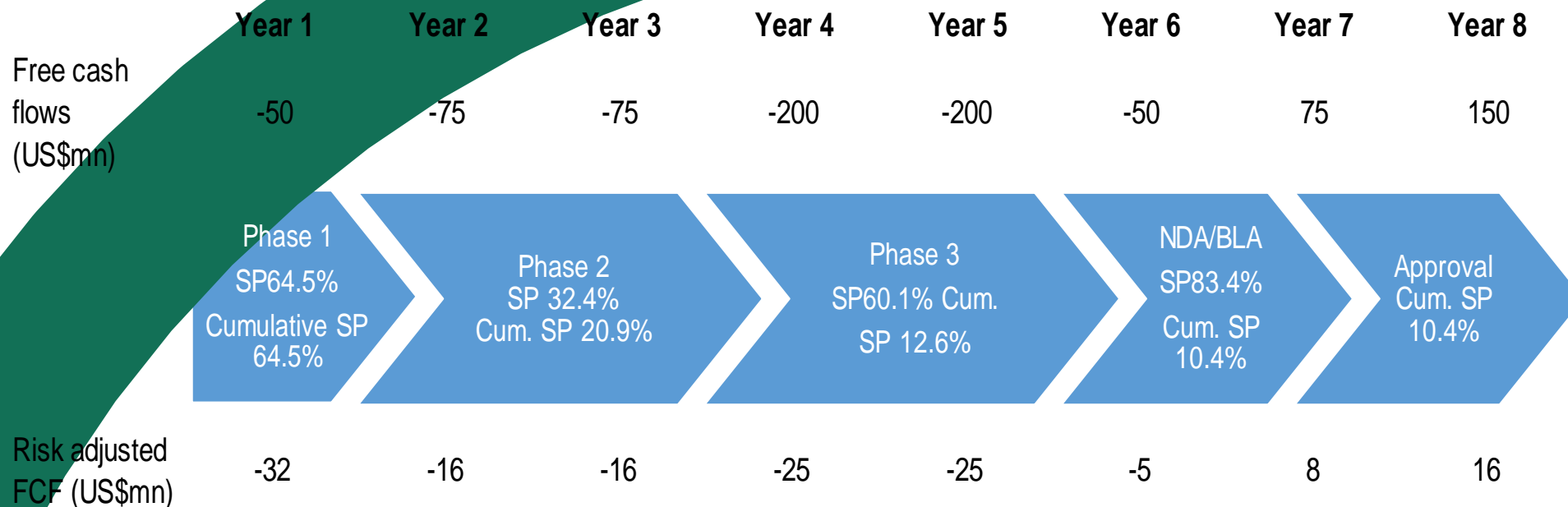
Epidemiological Model- Plaque Psoriasis Case Study

	Year 1	Year 2	Year 3	Year 4	Year 5
Psoriasis prevalence population (mn)	8.0	8.1	8.3	8.4	8.6
Psoriasis incidence (mn)	0.2	0.2	0.2	0.2	0.2
Mortality due to any reason (mn)	0.0	0.0	0.0	0.0	0.0
Plaque psoriasis as % of Psoriasis	80%	80%	80%	80%	80%
Plaque psoriasis patients (mn)	6.4	6.5	6.6	6.7	6.9
Moderate to severe plaque psoriasis as % of Plaque Psoriasis	50%	50%	50%	50%	50%
Moderate to severe plaque psoriasis (mn)	3.2	3.3	3.3	3.4	3.4
Novel drug adoption rate	1%	2%	3%	4%	5%
Patients receiving new drugs	32,000	65,078	99,418	1,34,957	1,71,696
No of dosage per patient per year	4	4	4	4	4
Total dosages	1,28,000	2,60,314	3,97,670	5,39,827	6,86,784
Gross price per dose (US\$)	8,000	8,000	8,000	8,000	8,000
Gross revenue (US\$mn)	1,024.0	2,082.5	3,181.4	4,318.6	5,494.3
Gross to net adjustment	25%	25%	25%	25%	25%
Net sales (US\$mn)	256	521	795	1,080	1,374





Adjusting FCF for risk is very important



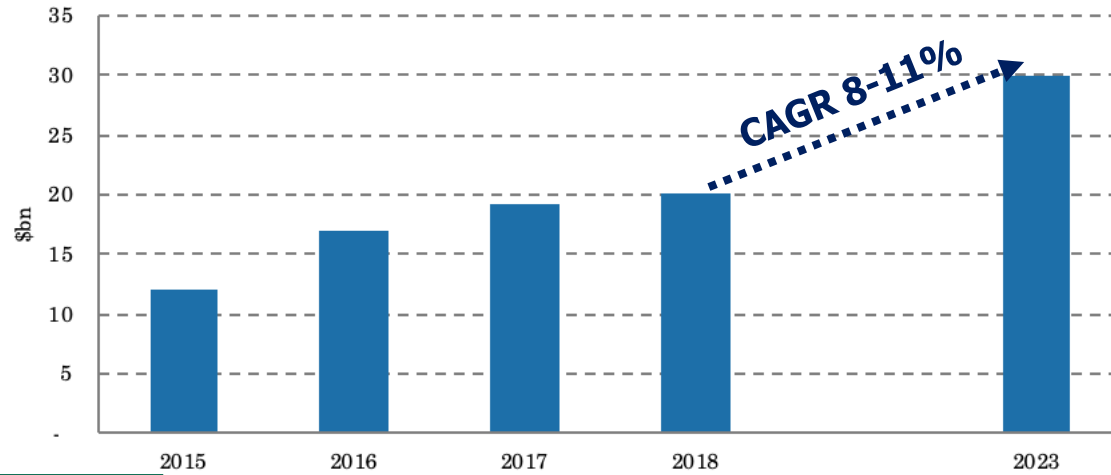
- Ø R&D expense remain high during development phase but reduces significantly post commercialization
- Ø On the contrary SG&A expense remain low during development phase and increases rapidly post commercialization
- Ø Take into account working capital and Capex requirements
- Ø Terminal value small portion of total value to due to generic entry



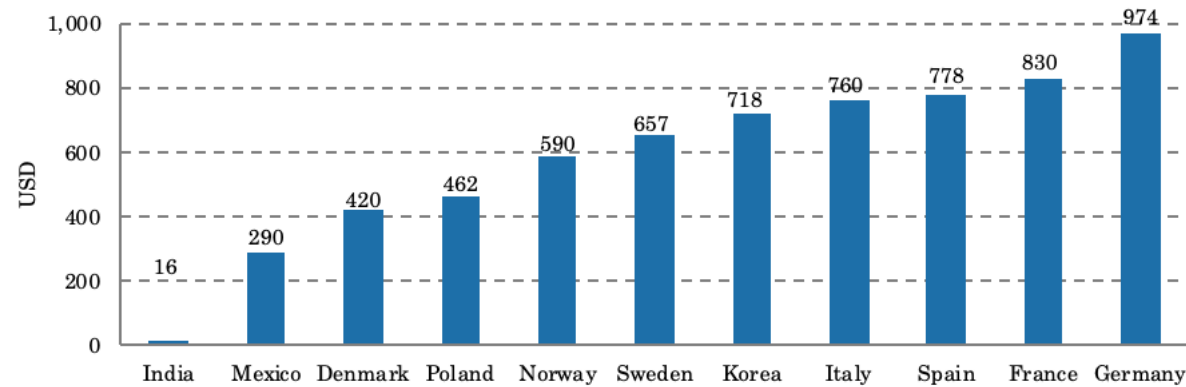


Indian Pharma Market- Immense Growth Potential

Indian Pharma Market



Pharmaceutical spending per capita is the lowest in India





The Sector is largely Fragmented and Privately Owned

• 3,000 companies and 10,500 manufacturing units

• Only ~130 listed pharma companies

- Sun Pharma
- Abbott
- Cipla
- Cadila
- Lupin
- Mankind
- Alkem
- Torrent
- Intas
- GSK

• 65,000 distributors

- Dvijay Pharma Pvt limited
- Gaia Pharmaceutical Trade
- Meher Distributor
- Ator Healthcare
- Jay-Pharma
- Nexus Lifecare

• 800,000+ Retail pharmacies

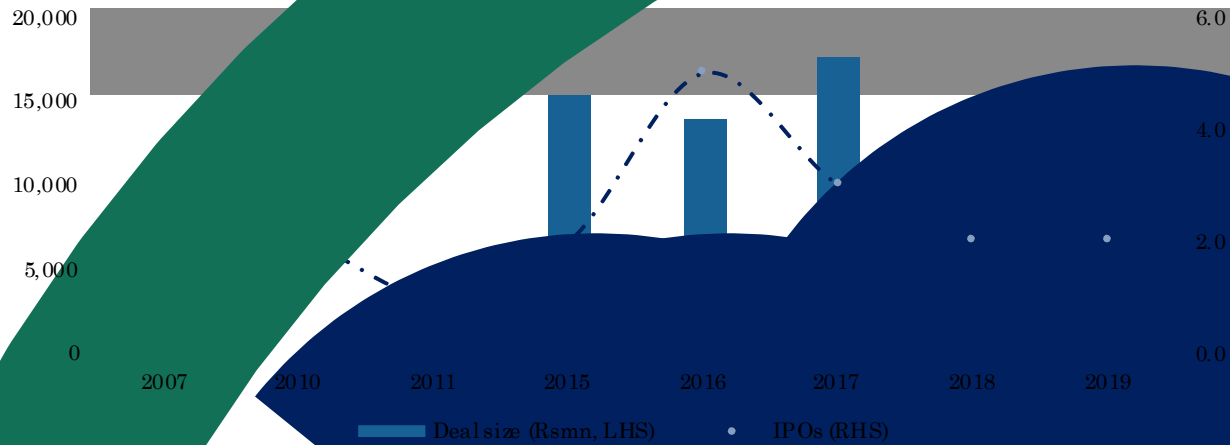
- Brick and mortar pharmacies- Apollo pharma
- Med Plus
- Medkart
- Generico
- **E**pharmacy – Pharmeasy
- Netmeds
- Medlife
- 1mg



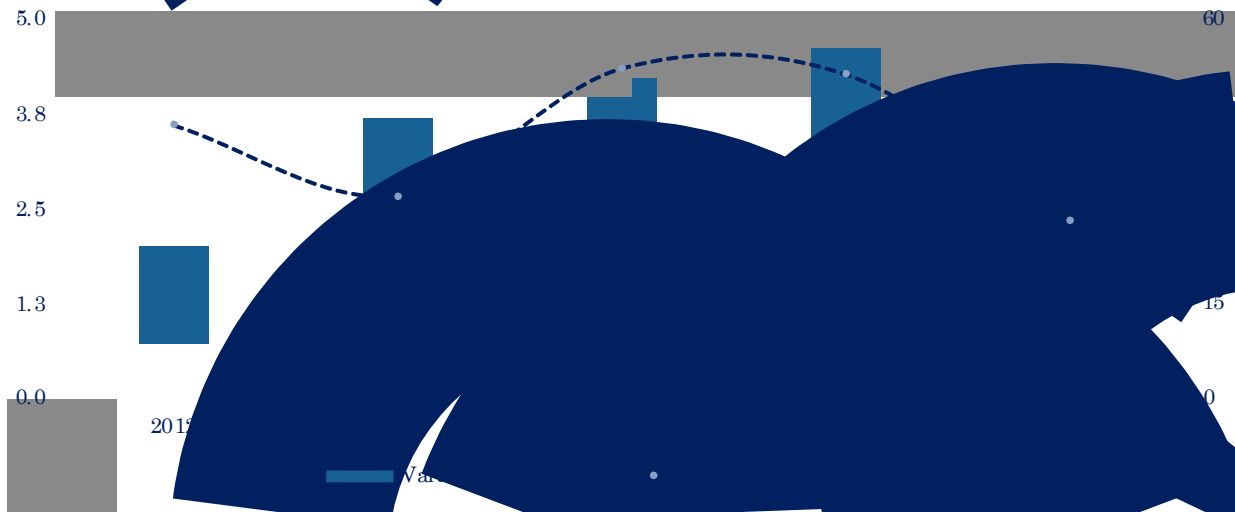


Pharma Spending in Pharmerging Markets

Pharmaceutical IPO offerings in India



Debt raised by pharmaceutical companies



- Pharma IPO offerings has remained subdued in the last two years
- Average IPO size in the last 12 years is ~Rs2,700mn
- M&A deals have declined due to challenging US market
- Indian companies fund their deals mostly through debt raising
- If the deal is outbound companies preferred Foreign currency debts as they act as natural hedge





Notable M&A deals by Indian Pharmaceutical companies

				(US\$mn)
2018	Aurobindo pharma	Spectrum	Outbound	110
2018	Aurobindo pharma	Sandoz	Outbound	900
2016	Dr Reddy's labs	UCB pharma	Domestic	130
2016	Cipla	Invagen	Outbound	550
2015	Lupin	Gavis	Outbound	880
2014	Sun Pharma	Ranbaxy	Domestic	4,000
2014	Torrent Pharma	Elder pharma	Domestic	325
2010	Abbott labs	Piramal healthcare	Inbound	3720
2008	Daiichi	Ranbaxy	Inbound	4600
2007	Sun Pharma	Taro	Outbound	454
2006	Dr Reddy's labs	Beta pharm	Outbound	500





"The bad neM" is, these drugs will cost you an arm and a leg. The good neM" is, my wife and I own stock in the company that makes them."

Thank You!