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DR. REDDY'S ACQUISITION OF UCB BRANDS

"You would demand this kind of valuation when you're buying the leader in the industry. And I'm not sure if Dr Reddy's has got leading brands from UCB"[i]

BACKGROUND

By the end of Quarter 1, 2019-20, Dr. Reddy's Laboratories (DRL) was one of the India's leading pharmaceutical company. A review of the company's annual report for the financial year 2018-19 also seemed impressive. The company had closed the year with consolidated revenues of INR 15,385 crores, a significant increase over the previous year, with a similar increase in earnings before interest, taxes, depreciation, and amortization (EBITDA) and profits (see **Exhibit 1** for the consolidated and standalone financial position of the company). The US market, which accounted for 42% of all sales, was seeing a consolidation of sales channels in generics among the large US buyers. Notwithstanding this, the pressure on prices as a result of this consolidation was aggravated by intense competition among generics suppliers in the US.

Competition from other generics suppliers had also made it difficult for DRL to overcome the decline in prices through an increase in volume. DRL's revenue from the US were down 6%. This was a concern, since generics was still DRL's largest business segment, accounting for 80% of revenue, while the US market accounted for 52% of revenue.

Professor Kaushik Roy of the Indian Institute of Management Calcutta developed this case study, from published sources, as the basis of class discussion rather than to illustrate the effective or ineffective running of an organisation. The research assistance of Ms. Sarbani Mukherjee on an earlier draft of the manuscript is also acknowledged.

To tackle the price erosion in the US generics market, DRL was focusing on a strong pipeline of complex formulations. The objective was to launch value-added products each year to offset the revenue loss from pure generics. However, DRL also needed to look beyond the US market to increase revenue. With the emerging markets presenting significant opportunities, Prasad knew these geographies could well be a perfect foil for the pressures in US generics.

There were challenges in the Indian market, too. India's transition to Goods and Services Tax (GST), replacing indirect taxes, such as value-added tax and excise duty, had impacted earnings[ii]. **Exhibit 2** illustrates the business- and region-wise revenue contribution of DRL across a ten-year span.

Over the years, the company had made several acquisitions to consolidate its presence in both the global and Indian markets across segments and expand its footprint. One such high ticket-size acquisition of a select brand portfolio from Belgian drug-maker UCB was expected to give DRL a significant share of the domestic dermatology, respiratory, and paediatrics segments. As Prasad reflected on the extant performance, he wondered if the INR 800-crore UCB brand acquisition had indeed paid off! The company's goal was to create value by accessing innovation. In the UCB brands, this potential was visible. Had DRL been able to achieve this objective?

THE INDIAN PHARMACEUTICAL INDUSTRY[iii]

The Indian pharmaceutical (henceforth referred to as 'pharma', for brevity) industry was divided broadly into two segments – bulk drugs and formulations. Bulk drugs or Active Pharmaceutical Ingredients (APIs) were the raw materials used to manufacture formulations (such as capsules, tablets, syrups, and injections).

A generic drug, on the other hand, had the same chemical substances as the drug that was originally developed, patented, and innovated. Generic drugs were allowed for sale after the expiry of the patent of the original drugs.

The Indian pharmaceutical industry was the largest provider of generic drugs globally, with exports growing at over 20% every year. The total exports of pharmaceuticals – including APIs, generics, and alternative systems of medicine – increased to $16.84 billion in 2016-17, with the US and EU markets accounting for a significant share.

The Indian industry had seen several changes in recent years[iv], led primarily by the Patent Amendment Bill in 2005. Before this, India's patent legislation had frequently been the reason

for legal disputes with multinational companies. After the legislation, Indian pharma companies could no longer copy medicines with foreign patents by using alternative manufacturing processes. As a result of these changes, the country's pharmaceutical industry was now focusing on developing new drugs and contract research and/or production for Western drug companies.

The Indian government had also taken many steps to bring down the cost of healthcare. The introduction of generic drugs had remained in focus and was expected to benefit the Indian pharmaceutical companies. In addition, the thrust on rural health programmes, lifesaving drugs, and preventive vaccines also augured well for the pharmaceutical companies. The government had introduced mechanisms such as the Drug Price Control Order (DPCO) and the National Pharmaceutical Pricing Authority to deal with the issue of affordability and availability of medicines. However, as the new DPCO came into effect in 2013, the growth of pharmaceutical companies was affected since the government set an upper limit on the price of several drugs.

The Indian pharmaceutical industry was, thus, at the crossroads[v]. While there were opportunities in the developed markets, the introduction of product patent regime had rendered the domestic market increasingly challenging. In developed markets, the focus on reducing healthcare costs had also been increasing, with the result that there was pressure on the authorities to allow an early introduction of low-cost generic drugs. This implied opportunities for Indian drug manufacturers with approved facilities and sound knowledge of patent/regulatory issues. Moreover, branded drugs worth $55 billion were expected to become off-patent during 2017-2019[vi]. The impending expiry of drug patents also offered opportunities for lower-cost Indian generic manufacturers in terms of greater market access.

Despite intense competition and regulatory challenges, the domestic market looked promising because of a growth in the overall population, the ageing population, and rising incomes. The market grew at 5-7% every year and was projected to figure among the top three pharma markets by 2030[vii]. For a snapshot of the competition spread across a decade ending FY 2018-19, please see **Exhibit 3(A)** to **3(C)**.

ORIGINS OF DR REDDY'S LABORATORIES[viii]

DRL founder Dr Anji Reddy, started his career with the state-owned Indian Drugs and Pharmaceuticals Limited (IDPL) but he left in 1974. For the next ten years, he was part of the founding team of two bulk drug manufacturing ventures. In 1984, he decided to go it alone and set up DRL with an initial corpus of INR 25 lakhs. Barely two years later, DRL seized an

opportunity to bet on the drug Methyldopa, which IDPL wanted to divest from its portfolio. At that time, Merck had a significant share of the Methyldopa market in India. However, an explosion at Merck's Puerto Rico facility had hit supplies of Methyldopa to India. DRL was able to take advantage of this opportunity.

DRL started by supplying API to Indian drug manufacturers and entered the branded formulations market in 1986. Two of its early successes were Norilet and Omez. Norilet was DRL's first recognised brand in India, while Omez, an ulcer medication, took on competition by being almost half the price of other brands in the Indian market. In 1987, DRL started to transform itself from being a supplier of pharmaceutical ingredients to a manufacturer of pharmaceutical products (for the company's revenue break-up by therapeutic areas in global generics and PSAI segments, see **Exhibit 4(A)** and **Exhibit 4(B)**).

DRL entered Russia in the early 1990s, being one of the first Indian companies to do so. Russia was less regulated than markets like the US and Europe, and DRL routed its bulk offerings through private pharmacies rather than the traditional government channels. The scale and profits allowed the company to shift the focus and look towards developed markets like the US and Europe.

In 1993, DRL signed a joint venture to set up two formulation units; one in the Middle East and the other in Russia. The company exported bulk drugs to these units, which were converted into finished products and sold as branded formulations in the Russian market.

GROWTH THROUGH ACQUISITION

While focusing on building internal capability through research for new drug discovery, DRL made several acquisitions over the years. In 1999, it acquired American Remedies to add the full spectrum of pharma products to its portfolio. With this acquisition, DRL became the third-largest pharma company in India, after Ranbaxy and Glaxo.

In 2002, it acquired BMS Laboratories, Beverley, and its wholly-owned subsidiary Meridian Healthcare. This gave the company access to the market for oral solids and liquids; and also the packaging and manufacturing facilities in London and Beverley in the UK. Two other acquisitions followed – US-based dermatology company Trigenesis Therapeutics in 2004; and Roche's API business in Mexico in 2005. The first gave DRL proprietary products and technologies in dermatology, while the latter allowed the company to enter a difficult market overseas.

The year 2006 was a landmark in the company's history. In what was hailed to be the largest overseas acquisition by an Indian pharma company, DRL bought Betapharm, Germany's fourth-largest generic pharma company. The acquisition gave DRL access to the German generic drugs market, the second-largest generic drugs market in the world, and was expected to benefit the company from Betapharm's marketing and distribution channels. With this acquisition, DRL revenues crossed $1 billion. DRL paid INR 2,550 crores ($560 million) for the buyout.

The acquisition, though, faced a few unforeseen challenges. The German government changed its procurement policy when it shifted to a tender-based system for several drugs. This reduced drug reference prices and more importantly, affected margins. Following the Betapharm experience, DRL changed its acquisition strategy. Its acquisitions strategy became more about building capability rather than scale.

To strengthen its research and development (R&D) capabilities, DRL acquired Dow Pharma's small molecules business in the UK for $32 million in 2008. The buyout included the Chirotech R&D facility and a manufacturing plant in Mirfield. By 2011, DRL had expanded the Chirotech Technology Centre to strengthen core capabilities in bio-catalysis and chemo-catalysis and develop expertise in new areas in chemistry.

Another strategic deal was the purchase of the GlaxoSmithKline (GSK) penicillin facility in the US. This business brought DRL additional revenues through brands such as Augmentin and Amoxil.

In October 2012, DRL acquired the Netherlands-based Octoplus to augment its focus on injectables. The injectables market was valued at $2.8 billion, and some of DRL's filings in this segment included the $2.9-billion multiple sclerosis drug Copaxone, and the $500-million anticoagulant Angiomax. DRL also signed a deal with Merck Serono to build a product portfolio in biosimilars.

EMERGING MARKET FOCUS

Revenue from Global Generics was increasing, but revenues from the Pharmaceutical Services and Active Ingredients (PSAI) were a concern. Lower demand from several major customers and fewer launches had affected revenues from this segment. **Exhibit 1** shows the company's performance from FY2010 to FY2019.

Over the years, DRL had gradually emerged from being an API company to a name in branded

formulations. Though Global Generics was still DRL's forte, accounting for over 80% of revenue, DRL was already focusing on limited competition products - generics with a higher technological component. Unlike generics, they were typically used in niche therapeutic areas. The market for Global Generics was getting increasingly competitive and DRL wanted to build adequate capability in limited competition products.

Two other focus areas for the company were: increasing their presence in the emerging markets; and consolidating their position in India. The company, which already had a presence in emerging markets like Russia, South Africa, Venezuela, Australia, New Zealand, Vietnam, Myanmar, and Sri Lanka, wanted to increase its presence in some of these regions. Russia had contributed significantly to DRL's revenues since 2009. In FY2014, Russia and other CIS accounted for 15% of revenues. Growth in Russia was driven by DRL's key brands in the prescription segment and a good performance of some of the new brands in the over-the-counter (OTC) segment.

By the year 2013, the Russian market was changing. On the one hand, the focus on generics was working in DRL's favour; however, an impending legislation on import substitution would require foreign generic and innovator companies to have manufacturing facilities in Russia. To address these challenges, DRL was already looking at out-licensing agreements and pacts with companies such as Cipla to market OTC brands in Russia and Ukraine. It was already looking beyond Russia.

A 2009 alliance with GSK for 100 products gave DRL access to emerging markets in Latin America and the Asia Pacific. According to the terms of the deal, DRL would make the products and license them to GSK – the latter would file the registration and distribute them either on its own or in partnership with DRL. This arrangement was expected to earn DRL significant revenues from some of the Emerging Markets.

The other big-ticket item for DRL was to improve its ranking in the Indian market. Unlike Sun Pharma and Cipla, two major competitors, DRL had focused on a few brands such as Omez, Nise and Ciprolet. However, a limited portfolio meant lower market share.

The Belgian biopharmaceutical company, UCB, was scouting for buyers to sell a select portfolio of brands. By October 2014, DRL made a non-binding offer to them. At that point, UCB was talking to around 4 interested parties. By December 2014, DRL was among the top 2 contenders for the UCB brands. DRL was convinced that the brand acquisition would be a good growth strategy for both India and some of the emerging markets. They felt some of these brands were under-leveraged by UCB and had greater potential.

THE UCB STORY[ix]

Emmanuel Janssen, a Belgian businessman, founded Union Chimique Belge (UCB) in Brussels in 1928. UCB was primarily an industrial chemicals company, being one of the first to distil ammonia from coal. The company also had a small pharmaceutical division around the Meurice Laboratories; during the First World War, the scientists at Meurice pioneered a method to isolate and purify insulin.

During those early years, UCB consolidated its position as an industrial chemicals company by expanding into industrial films such as cellophane, with the acquisition of Sidac (Société Industrielle de la Cellulose). In 1936, UCB entered the United States with the purchase of the packaging business, Sylvannia, and reinforced its film business and international presence with the creation of Cellophane Española in 1943.

By then, World War II had begun and UCB's pharma division supported the war effort by manufacturing calcium, phosphorus, vitamins, insulin, and sulphamides.

In 1952, the company set up a research centre and soon had a series of successes, including the discovery of Atarax (hydroxyzine), one of the world's first tranquilizers. Atarax lent its name to a new class of therapeutic products, ataraxics. The commercial success of its early products, such as Atarax, helped the company to expand its pharmaceutical division. UCB was awarded the US distribution licence for Atarax to Pfizer, which was then a fledgling company, helping the latter evolve into a major pharma player.

By 1965, the company had also started research in biotechnology, while consolidating its position in chemical and films, and moving into new value-added fields.

Soon UCB had another blockbuster compound, Piracetam. This was marketed in the 1970s as Nootropil and used to treat memory and balance problems. It was one of UCB's key products. The success of Nootropil made it possible for UCB to build a modern pharmaceutical site in Braine-l'Alleud, Belgium, in 1972. There, UCB developed Zyrtec[x] (cetirizine), an antihistamine, and a series of other drugs. A second blockbuster – Keppra – was launched in the 1990s.

The 1990s also saw UCB going global with its pharma business. The company established a presence in Japan with the acquisition of the pharma division of Fujirebio (Tokyo) and acquired two pharmaceutical firms in the US: Whitby Pharmaceuticals and Northampton Medical. During this decade, UCB also expanded their operations in Korea and Thailand.

Starting the year 2000, UCB gradually began its transformation into a biopharma company. In May 2004, UCB acquired the British biotechnology company Celltech and sold its surface specialties division to Cytec Industries the following year. By divesting all of its non-

pharmaceutical activities, and acquiring Celltech for $1 billion, UCB transformed itself into a global biopharmaceutical -- a combination of large, antibody-based molecules and small, chemically-derived molecules -- company. In 2006, it acquired a German pharma company, Schwarz Pharma, expanding its pipeline and product range.

In 2008, UCB established a multi-year collaboration with Beryllium, a developer of treatments for immune and CNS disorders. By 2014, this collaboration had yielded scientific breakthroughs, which led to UCB acquiring a minority stake in the company.

In November 2014, UCB announced its intention to sell its generics subsidiary (Kremers Urban Pharmaceuticals) for more than $1.5 billion to two private equity firms. With more than 8,500 people in approximately 40 countries, the company had earned revenues of €3.3 billion in 2014.

THE UCB BRANDS' ACQUISITION[xi]

By 2014, the UCB brands were on DRL's radar. The Indian pharma company was already working on increasing its share of the domestic market and strengthening its position in areas such as dermatology and paediatrics. The UCB brands seemed to offer an opportunity. Moreover, UCB's neurology brands would also allow DRL to enter neurology, a lucrative segment in India.

DRL[xii] had strong presence in the domains of Respiratory, Dermatology, and Paediatrics. While UCB also had ENT, dermatology, and paediatric segments as the main source of business, they also had a brand in neuroscience.

In October 2014, DRL made a non-binding offer for the acquisition of UCB brands in four markets – India, Nepal, Sri Lanka, and Maldives. Soon, it was among the top two contenders for the brands. By April 1, 2015, DRL announced its "definitive agreement" to buy the UCB brands for INR 800 crores.

UCB believed DRL was the right company to take its brands to the next level.

> *"Finding the right company for our established brands in India was crucial, and Dr Reddy's knowledge of the local market, combined with their ambitious plans and excellent reputation, convinced us they were the right choice to drive this business forward," said Mark McDade, UCB's chief operating officer.*

DRL believed the UCB portfolio would accelerate its presence in the high growth areas of dermatology, respiratory, and paediatrics market, with brands such as Atarax, Nootropil, Zyrtec, Xyzal and Xyzal M. Of these, UCB had a certain emphasis in the business domain of 'allergy', with brands such as Atarax and Xyzal.

On June 19, 2015, DRL reportedly completed the acquisition process, and the deal also entailed a definitive agreement to absorb all the approximately 350 employees of UCB's India operations[xiii].

THE STRATEGY OF COLLABORATIONS[xiv]

In August 2015, DRL announced entering into a strategic collaboration with Amgem. Amgem[xv] was one of the world's leading independent biotechnology companies headquartered in California, USA. With a presence in about hundred countries, the company focussed on innovation products that were based on 'transformative' research and world-class 'bio-manufacturing'.

The collaboration with Amgem initially involved access to drugs targeted towards oncology and cardiology ailments. Those three drugs, viz., Kyprolis, Blincyto, and Repatha, were to be first approved by the regulators (including product registrations) and then commercialised (i.e., sales and distribution) – all through DRL's expertise (for details of the drugs, see **Exhibit 5(A)**).

Mr. Alok Sonig, the Executive Vice President and Head of India Business and Global Business Development, reported,

> "*We are excited about our strategic collaboration with an innovation powerhouse like Amgen and look forward to making their innovative medicines accessible to Indian patients. Addressing significant unmet needs of patients in oncology and cardiovascular are key areas in India and, therefore, a priority for us at Dr. Reddy's. We believe that good health can't wait and that this is an important milestone for us in our journey as we improve patient care*."

Amgem viewed DRL's "*significant experience serving oncology and cardiovascular patients in India*", as a crucial attribute for the choice of the partner.

In September 2016, Amgem announced bringing in three additional products within the ambit

of the deal[xvi]. Interestingly, all the three products, viz., Xgeva, Vectibix, and Prolia, (see **Exhibit 5(B)** for the details of the drugs) already had *a priori* approvals for sales in India, and jointly contributed about 16% (i.e. $ 3.26B) of the overall Amgem's sales for FY 2015-16. During the same period, about 95% of DRL's business came from generic products. Amgem justified the broadening of the scope of the alliance, "*We are pleased with the commitment that Dr Reddy's has demonstrated toward making our medicines available in India as quickly as possible*."

ADDING VALUE THROUGH ACQUISITION

A review of the company's financials for FY 2018-19 indicated that the UCB deal had made a difference. After all, this was one of the DRL's established ways of creating value in the long run. What were the learning from the whopping INR 800-crore deal, though? Was there indeed some truth in the market's perspective of this being an uber-expensive deal? How much value had the deal added to DRL's top-line and value chain? These are some of the questions for which analysts would often seek an answer, while evaluating the UCB deal. Maybe the truth lay somewhere in between.

EXHIBIT 1 – DRL'S CONSOLIDATED AND STANDALONE FINANCIAL POSITION

Particulars	Financial Year									
	2009-10	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Consolidated Revenue	7027.7	7469.3	9673.7	11626.6	13217.0	14818.9	15470.8	14080.9	14202.8	15385.1
Cost of Revenue	3393.7	3443.0	4343.2	5568.7	5636.9	6278.6	6242.7	6245.3	6572.4	7042.1
EBIDTA	1584.4	1642.4	2540.9	2781.9	3318.0	3616.8	3625.2	2549.5	2408.1	3418.9
Profit Before Tax	205.3	1244.3	1846.6	2167.6	2660.6	2816.3	2714.0	1465.3	1434.1	2244.3
Profit After Tax	106.8	1104.0	1426.2	1677.6	2151.2	2217.9	2001.3	1203.9	980.6	1879.5
Operating Expenses										
SG&A	3110.8	2368.9	2990.7	3427.2	3878.3	4258.5	4570.2	4637.2	4691.0	4889.0
R&D Expense	379.3	506.0	591.1	767.4	1240.2	1744.9	1783.4	1955.1	1826.5	1560.7
Standalone										
Total Income	4724.6	5424.1	6821.5	8575.7	9879.5	10233.8	10616.8	10311.0	9563.3	10863.9
Profit before Tax	1084.8	1051.9	1259.2	1753.2	2454.4	2059.9	1676.6	1544.5	697.0	1700.7
Profit after Tax	846.1	893.4	912.4	1265.5	1932.8	1679.4	1374.3	1384.1	566.9	1277.3
EPS (basic)	50.15	52.82	53.83	74.54	113.67	98.6	80.59	83.05	34.19	76.98

Note: Figures in INR crore

Source: Company annual reports as excerpted from https://www.drreddys.com/investors/reports-and-filings/annual-reports/

EXHIBIT 2 – DRL'S BUSINESS- AND REGION-WISE REVENUE CONTRIBUTION

Particulars	Financial Year									
	2009-10	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
GG – North America	16.82	19	31.9	37.85	55.3	64.72	75.4	63.6	59.8	60
GG – India	10.12	11.7	12.9	14.56	15.7	17.87	21.3	23.1	23.3	26.2
GG – Emerging Markets[1]	9.12	10.86	13.3	16.91	19.82	17.71	13.3	21.1	22.7	28.9
Global Generics (GG)[2] Total	48.61	53.34	70.24[3]	82.56	105.2	121	128.1	115.4	114	123
PSAI[4]	20.4	19.65	23.8	23.8	24	25	22.4	21.2	22	24
Proprietary Products[5] & Others	N/A	N/A	N/A	N/A	3	2	4.3	4.1	6	7

Note: Figures in INR Billions

Source: Company annual reports as excerpted from https://www.drreddys.com/investors/reports-and-filings/annual-reports/

[1] Represents Russia and other CIS countries
[2] Global Generics represented high-quality generic drugs where costs were controlled by leveraging the company's integrated operations. The figures also include 'biosimilars', generic equivalents of innovator's biologics, which offer affordable yet equally effective alternatives.
[3] Also includes revenue from Europe of the tune of INR 8.2B (FY2012), INR 8.4B (FY2011) and INR 9.64B (FY2010)
[4] Pharmaceutical Services and Active Ingredients (PSAI) is constituted of Active Pharmaceutical Ingredients (API) and Custom Pharmaceutical Services (CPS). DRL was one of the world's largest manufacturers of API and focussed on 'innovation-led affordability'. CSP represented 'end-to-end product development and manufacturing services and solutions to innovator companies'.
[5] Proprietary Products business focussed on developing differentiated formulations that signified enhanced benefits in terms of efficacy, ease of use, and the resolution of unmet and under-met patient needs.

EXHIBIT 3 (A) – INDIAN PHARMACEUTICAL INDUSTRY AT A GLANCE, FY 2018-19 (INR MILLION)

Company Name	Net Sales	PAT	PBDITA	PBT	Net Fixed Assets	R&D Expenses
Sun Pharma (incl Inds) Ltd.	1,49,645	11,447	51,303	11,367	1,38,158	9,543
Aurobindo Pharma Ltd.	1,25,323	15,297	25,908	19,646	41,497	6,941
Cipla Ltd.	1,24,204	18,884	31,373	25,154	41,275	10,134
Lupin Ltd.	1,12,054	15,388	31,865	23,505	33,730	11,497
Dr. Reddy'S Laboratories Ltd.	1,05,926	12,773	25,274	17,007	46,827	11,973
Cadila Healthcare Ltd.	64,878	16,021	23,701	19,285	30,091	7,110
Alkem Laboratories Ltd.	57,110	7,998	11,295	9,440	16,064	3,871
Torrent Pharmaceuticals Ltd.	56,930	7,454	19,815	9,351	74,252	3,953
Divi'S Laboratories Ltd.	48,726	13,327	20,067	18,327	20,874	349
Abbott India Ltd.	36,574	4,503	7,261	7,014	1,050	7
Alembic Pharmaceuticals Ltd.	36,514	6,112	8,636	7,687	10,771	4,883
Ipca Laboratories Ltd.	36,121	4,549	7,583	5,624	17,401	1,209
Glaxosmithkline Pharma Ltd.	31,120	4,254	7,172	6,637	4,300	23
Biocon Ltd.	28,705	4,927	7,062	5,521	10,592	2,014
Sanofi India Ltd.	27,532	3,806	7,150	6,098	7,328	100
Industry Aggregate	**14,20,798**	**1,91,649**	**3,77,324**	**2,51,720**	**6,90,234**	**87,934**

EXHIBIT 3 (B) – INDIAN PHARMACEUTICAL INDUSTRY AT A GLANCE, FY 2013-14 (INR MILLION)

Company Name	Net Sales	PAT	PBDITA	PBT	Net Fixed Assets	R&D Expenses
Dr. Reddy'S Laboratories Ltd.	96,502	19,330	31,144	24,546	27,483	9,982
Cipla Ltd.	94,202	13,883	22,581	18,183	35,242	5,119
Lupin Ltd.	88,263	23,546	33,526	31,711	21,795	9,294
Aurobindo Pharma Ltd.	71,010	11,721	20,687	15,195	19,379	2,551
Mylan Laboratories Ltd.	69,699	8,449	17,316	11,266	62,199	4,217
Ranbaxy Laboratories Ltd. [Merged]	67,970	-8,790	8,605	-8,484	20,121	5,279
Sun Pharma (incl Inds) Ltd.	67,387	-25,819	-5,615	-24,560	1,67,415	3,752
Intas Pharmaceuticals Ltd.	40,958	6,073	8,932	7,241	9,450	2,094
Hetero Labs Ltd.	36,886	3,774	7,366	4,968	10,517	181
Cadila Healthcare Ltd.	36,270	9,036	11,710	9,664	15,641	4,358
Serum Institute Of India Pvt. Ltd.	35,409	17,413	21,318	19,557	12,767	599
Torrent Pharmaceuticals Ltd.	33,403	7,623	11,537	9,587	8,362	1,455
Ipca Laboratories Ltd.	32,369	4,774	8,203	6,291	13,061	1,244
Macleods Pharmaceuticals Ltd.	28,113	4,438	6,165	5,780	4,275	951
Alkem Laboratories Ltd.	26,607	4,441	5,821	4,551	8,387	1,529
Industry Aggregate	**18,76,516**	**2,07,171**	**4,72,135**	**2,85,562**	**9,00,793**	**75,778**

EXHIBIT 3 (C) – INDIAN PHARMACEUTICAL INDUSTRY AT A GLANCE, FY 2009-10 (INR MILLION)

Company Name	Net Sales	PAT	PBDITA	PBT	Net Fixed Assets	R&D Expenses
Cipla Ltd.	56,217	10,815	16,591	13,250	20,112	2,507
Dr. Reddy'S Laboratories Ltd.	47,997	8,461	14,399	10,872	13,156	4,017
Ranbaxy Laboratories Ltd. [Merged]	46,193	5,720	14,023	10,608	15,896	4,722
Lupin Ltd.	36,878	6,489	8,290	7,087	11,914	3,570
Aurobindo Pharma Ltd.	32,491	5,258	8,687	7,099	10,453	973
Cadila Healthcare Ltd.	19,418	5,033	7,018	5,203	9,504	1,763
Glaxosmithkline Pharma Ltd.	19,217	5,123	8,147	7,734	928	47
Mylan Laboratories Ltd.	18,797	2,138	4,101	2,979	8,583	2,329
Wockhardt Ltd.	18,660	-7,942	6,881	-7,933	7,152	399
Sun Pharmaceutical Inds. Ltd.	18,209	8,987	10,625	9,492	7,405	1,441
Intas Pharmaceuticals Ltd.	16,351	2,076	2,895	2,228	2,194	783
Ipca Laboratories Ltd.	15,717	2,092	3,485	2,707	6,365	568
Hetero Drugs Ltd.	15,137	1,175	2,345	1,568	5,001	311
Torrent Pharmaceuticals Ltd.	14,341	2,074	3,803	3,144	5,256	1,291
Alkem Laboratories Ltd.	13,478	2,381	2,896	2,481	3,922	437
Industry Aggregate	**9,52,957**	**1,19,446**	**2,47,255**	**1,55,071**	**4,03,285**	**38,081**

Source: Compiled by the author, basis data available in CMIE Prowess

EXHIBIT 4 (A) – REVENUES BY THERAPEUTIC AREAS IN THE COMPANY'S GLOBAL GENERIC SEGMENT

Particulars	Financial Year			
	2015-16	**2016-17**	**2017-18**	**2018-19**
Gastrointestinal	21.25	21.19	19.15	19.25
Oncology	19.41	17.05	16.99	18.36
Cardiovascular	19.01	15.55	16.50	15.11
Pain Management	16.24	14.32	12.9	13.81
Central Nervous System	14.74	12.75	12.51	15.91
Anti-infective	12.71	7.19	6.56	7.07
Others	24.7	27.35	24.4	33.4
Total	**128.01**	**115.41**	**114.01**	**122.9**

EXHIBIT 4 (B) – REVENUES BY THERAPEUTIC AREAS IN THE COMPANY'S PSAI SEGMENT

Particulars	Financial Year			
	2015-16	**2016-17**	**2017-18**	**2018-19**
Cardiovascular	5.08	5.08	6.19	7.02
Pain Management	4.09	3.29	3.23	3.36
Central Nervous System	3.02	2.76	2.33	2.74
Anti-infective	2.02	1.86	1.97	1.25
Dermatology	1.49	1.61	1.61	1.62
Oncology	2.57	1.53	1.65	2.21
Others	4.13	5.15	5.02	5.94
Total	**22.38**	**21.28**	**21.99**	**24.14**

Note: Figures in INR Billions
Source: Company annual reports as excerpted from https://www.drreddys.com/investors/reports-and-filings/annual-reports/

EXHIBIT 5 (A) – DETAILS OF THE DRUGS ORIGINALLY COMMERCIALISED FOR AMGEM (AUG 2015)

Kyprolis® was approved by the U.S. Food and Drug Administration in July 2015, in combination with Lenalidomide and Dexamethasone, for the treatment of patients with relapsed multiple myeloma who have received one to three prior lines of therapy. Kyprolis® is also indicated under FDA accelerated approval as a single agent for the treatment of patients with multiple myeloma who have received at least two prior therapies including Bortezomib and an immunomodulatory agent and have demonstrated disease progression on or within 60 days of completion of the last therapy. The approval is based on the response rate. Clinical benefit, such as improvement in survival or symptoms, has not been verified.

BLINCYTO® is an example of immunotherapy, a treatment that uses certain parts of a person's immune system to fight diseases such as cancer. BLINCYTO® is the first approved bispecific CD19-directed CD3 T-cell engager. It engages the body's T-cells, a type of white blood cell or lymphocyte, to destroy leukemia cells. It was approved by the U.S. FDA in 2014, to treat patients with Philadelphia chromosome-negative relapsed or refractory B-cell precursor acute lymphoblastic leukemia (B-cell ALL), an uncommon forms of ALL. This indication is approved under accelerated approval.

In July 2015, the European Commission (EC) granted marketing authorisation for Repatha™, the first proprotein convertase subtilisin/kexin type 9 (PCSK9) inhibitor to be approved in the world, for the treatment of patients with uncontrolled cholesterol despite taking maximum doses of statins or for those who cannot take statins, and those who require additional intensive low-density lipoprotein cholesterol (LDL-C) reduction ("bad" cholesterol).

*Source: Excerpted, with limited modifications, from Business Wire (*https://www.businesswire.com/news/home/20150806005809/en/Dr.-Reddy%E2%80%99s-Announces-Strategic-Collaboration-Amgen-India*) in March 2020*

EXHIBIT 5 (B) – DETAILS OF THE DRUGS SUBSEQUENTLY COMMERCIALISED FOR AMGEM (SETPTEMBER 2016)

Xgeva is a Rank ligand (RANKL) inhibitor and is approved in India for the prevention of skeletal related events in patients with advanced malignancies involving the bones.
Vectibix (panitumumab) is a cancer medication that interferes with the growth and spread of cancer cells in the body.
Prolia is a Rank ligand inhibitor approved in India for treatment of post-menopausal women with osteoporosis at high risk for fracture and also for treatment of increased bone mass in men with osteoporosis

Source: Excerpted from Economic Times
*(*https://economictimes.indiatimes.com/industry/healthcare/biotech/pharmaceuticals/dr-reddys-laboratories-inks-pact-with-amgen-to-commercialise-three-drugs-in-india/articleshow/54364018.cms?from=mdr) in March 2020

[i] Commented by Mr. Nimish Mehta of Equirus Securities and excerpted from https://www.reuters.com/article/us-ucb-sa-dr-reddys-deals/indias-dr-reddys-to-buy-some-ucb-brands-for-128-million-idUSKBN0MS3HI20150401 in March 2020
[ii] Excerpted from http://ficci.in/spdocument/22944/india-pharma-2018-ficci.pdf in September 2019
[iii] Excerpted from https://www.ibef.org/industry/pharmaceutical-india.aspx in September, 2019
[iv] Excerpted from https://health.economictimes.indiatimes.com/news/pharma/the-state-of-pharmaceutical-industry-in-india-an-overview/ in January, 2019
[v] Excerpted from https://pharmawiki.in/indian-pharmaceutical-industry-overview-analysis-2018-pdf-ppt/ in September, 2019
[vi] Excerpted from 'Pharma Sector Investor FAQ' as available on http://www.valuepickr.com/resources/ in February 2019
[vii] Excerpted from https://www.slideshare.net/NiteshBhele/indian-pharma-market-overview-2018 in April 2019
[viii] Excerpted from https://www.drreddys.com/ in July 2019
[ix] Excerpted from https://www.ucb.com/ in July 2019
[x] Excerpted from https://www.companieshistory.com/ucb/ in July 2019
[xi] Excerpted from https://www.drreddys.com/media/press-releases/apr01-2015.html in February 2019
[xii] Excerpted from https://www.drreddys.com/media/press-releases/apr01-2015.html in March 2020
[xiii] Excerpted from https://www.thehindubusinessline.com/markets/dr-reddys-completes-acquisition-of-ucbs-select-brands/article7332925.ece# in March 2020
[xiv] Excerpted from https://www.businesswire.com/news/home/20150806005809/en/Dr.-Reddy%E2%80%99s-Announces-Strategic-Collaboration-Amgen-India in March 2020
[xv] Excerpted from https://www.amgen.com/~/media/amgen/full/www-amgen-com/downloads/fact-sheets/fact_sheet_amgen.ashx in March 2020
[xvi] Excerpted from https://www.fiercepharma.com/pharma-asia/amgen-hands-over-three-more-drugs-to-dr-reddy-s-india in March 2020