Lacuna | HC Observer & Investment Insights

Collection of Lacuna Articles

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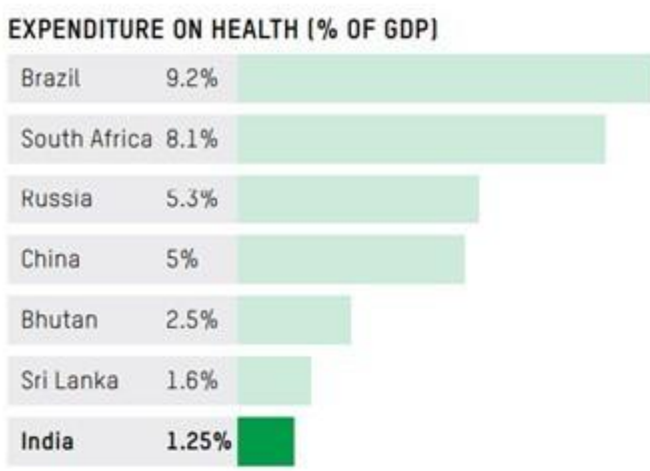
Lacuna Healthcare Observers

#1: Indian Healthcare Infrastructure

We track global healthcare trends that form part of a broader investing theme which we will post about regularly.

Recently, we came across Oxfam's "India Inequality Report 2021: India's Unequal Healthcare Story" which confirmed our thesis about the need for healthcare infrastructure facilities in Emerging Markets. We would like to share some highlights of the report:

a) India health expenditure (at 1.2% of GDP) is the lowest across BRICS



Source: Oxfam International Study International Report 2021: India's unequal healthcare

b) National health profile in 2017 recorded one government allopathic doctor for every 10,189 people and one state-run hospital for every 90,343 people.

c) India also ranks the lowest in the number of hospital beds per thousand population among the BRIC nations—Russia scores the highest (7.12), followed by China (4.3), South Africa (2.3), Brazil (2.1), and India (0.5). India also ranks lower than some of the lesser developed countries such as Bangladesh (0.87), Chile (2.11), and Mexico (0.98).

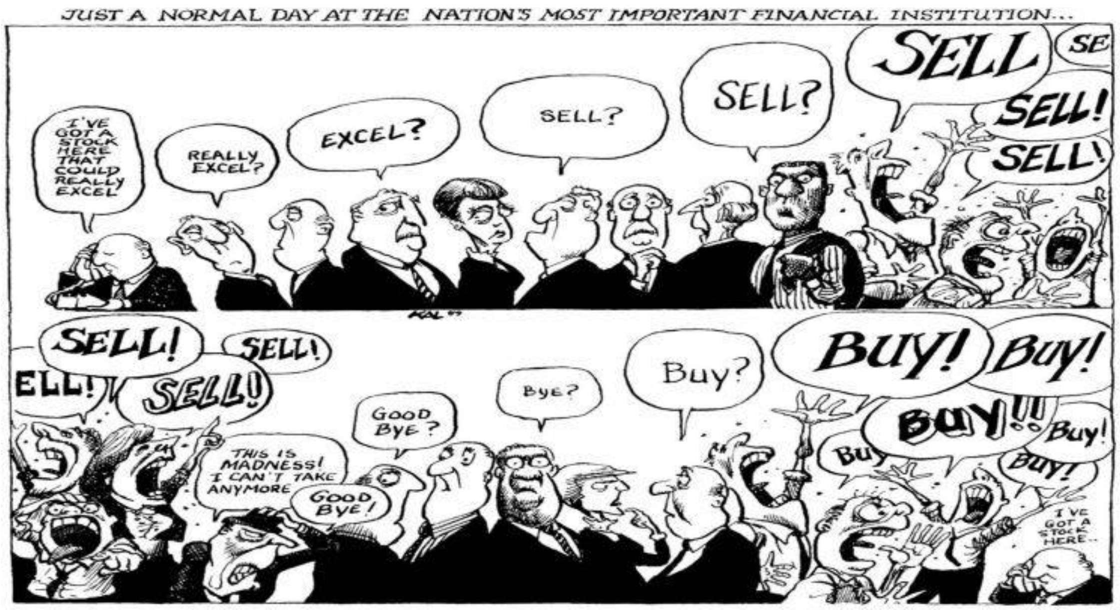
Our View

India accounts for c. 14% of the global population yet it spends less than 2% of its GDP on healthcare. Over the next decade, we expect the Indian government to significantly increase its budgetary resource allocation towards healthcare infrastructure.

We have identified investment opportunities in Tier 2 or 3 city hospitals and diagnostic centers which the city-centric hospitals do not capture. The main challenge these hospitals face is manpower.

For more details please refer to: https://www.oxfamindia.org/knowledgehub/workingpaper/inequality-report-2021-indias-unequal-healthcare-story

#2: China-Crisis or Opportunity? – 04.08.2021



*"The Chinese use two brush strokes to write the word 'crisis'. One brush stroke stands for danger; the other for opportunity. In a crisis, be aware of the danger–but recognize the opportunity". John F Kennedy**

Last week the [media](#) reported the Chinese government overhauled the regulations on education businesses. There was some more news flow about the information shared by the Chinese car-sharing business [Didi](#). The Hang Seng Index corrected by c.a. 4.5% in a single day while the Chinese MSCI Golden Dragon Index (consisting mostly of technology businesses) corrected by 10% during the same time! You might wonder what all this has to do with healthcare?

Source: Thomson Reuters

We hold some Chinese positions which also corrected by 10-30% because of a change in the Chinese regulations on education technology businesses. In fact, we own a knee implant business that lost 30% of its value over three days! It seems like throwing the baby out with the bathwater.

We have seen this volatility story play out multiple times and this did not perturb us. In fact, when Chinese healthcare reforms were announced in 2019 and everyone was writing the epitaph of Chinese large-cap businesses as a cut in the generic prices were disrupting a lot of business models, we experienced a far more volatile environment. In the end, some of the large-cap pharma stocks emerged as winners.

Note: China large pharma stocks include Hengrui (600276 CH), Hansoh (3692 HK), Fosun Pharma (2196 HK) and CSPC (1093 HK). Source: CLSA, Bloomberg

Coming back to the controversy our view is that the Chinese economy has progressed over the last decade. The private sector has in fact led the mantle of growth. We thought the note from Ray Dalio resonates with our house view. In fact, we went back to policy documents to understand the intent of the Chinese regulators. We found the substack quite useful in the way it explains the intent of Beijing's policy statement.

We concluded that this was a possible overreaction to regulation in a private sector that ran amok but was badly communicated to the international media. The resultant negative impact on other sectors created a buying opportunity. This was further calmed by soothing words coming out of Beijing.

We remain positive on the Chinese healthcare ecosystem and continue to have a high level of conviction on our core positions.

#3: CDMO an industry in structural tailwind – 11. 08 2021

"I can't change the direction of the wind, but I can adjust my sails to always reach my destination." Jimmy Dean

Our analyst prepared a paper on the structural tailwinds in the CDMO industry and why it represents a good investment opportunity.

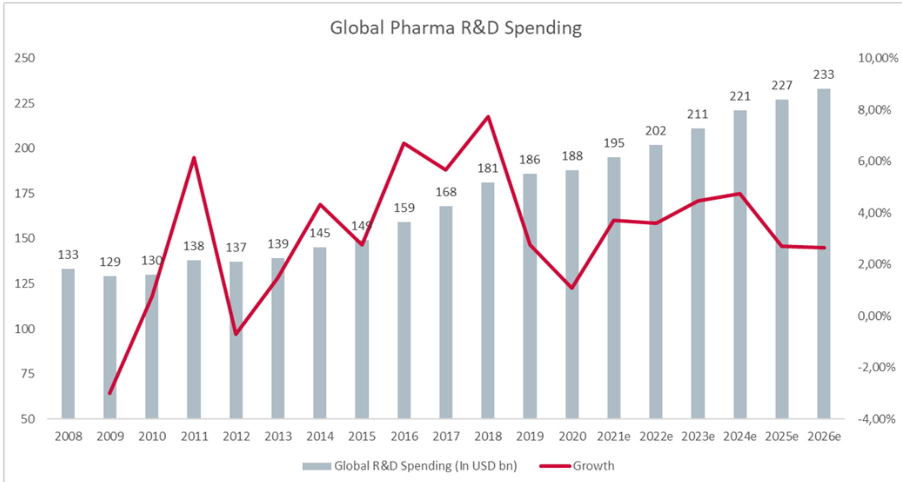
The Contract Research Organizations* (CROs) and the Contract Development and Manufacturing Organizations* (CDMOs) have been one of the fastest-growing sub-sectors in global healthcare.

As of 2020, the Global CRO industry is estimated to be ~USD 47bn and is expected to reach USD 74bn by 2025 (Cagr of 9.1%). The Global CDMO industry stands at ~USD 110bn and is expected to be USD ~162bn by 2025 (Cagr of 6.4%).

In 2018, the industry experts estimated, that the CRO market size would be USD 40bn by 2022, but this number was already reached in 2020 thus beating its own estimates.

The following two trends have been responsible for this shift:

1) Global R&D Spending



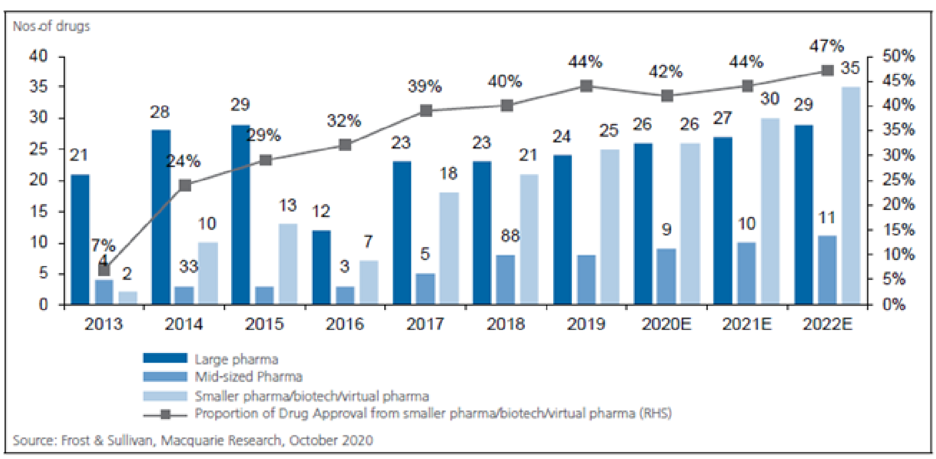
(Source: Syngene Annual Report 2021)

Post the Great Financial Crisis (2008-2013) there was a lull in Large Pharma R&D spending. Companies did not invest in large scale R&D's as the economy was recovering. Since 2015 the R&D spend has increased by 4.4%.

To put this into perspective, global R&D expenditures have increased more than three-fold since 2000 - from USD USD 676 Bn to USD USD 2.0 Tn in 2018.

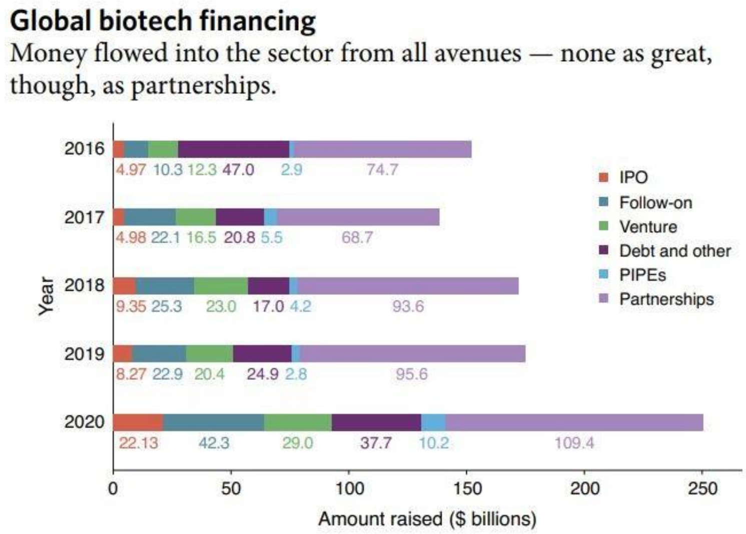
There has been a remarkable shift in R&D spending towards CRO and CDMO companies in EM's as it is cheaper than maintaining own fullscale R&D teams.

2) The rise in the contribution by biotech companies to the new drugs developed



Over 40% of the new drugs today are being developed by emerging biotech companies that lack large scale manufacturing capabilities. Biologics production requires fairly high degree of investment capabilities compared to smaller molecules. For instance, a small molecule manufacturing facility might require c.a. USD 30-100mn, while the cost of building a large biotech facility can be c.a. USD 200-500mn**. As a result, biotech businesses want to access the expertise and scale provided by CDMOs while they focus on their core competencies.

2020 was one of the best years for biotech funding wherein biotech businesses were able to raise over USD 250 bn (vs USD 175 bn in 2019).



(Source: Nature.com)

This space is witnessing rapid growth and we are well equipped to steer our investments to ride this tidal outsourcing wave. We own Jubilant Pharmanova which has a significant presence in this space and is benefiting from strong industry tailwinds. Further, as global businesses diversify supply chain risk from China we think these businesses would enjoy upside optionalities.

* CRO provides early-stage services from target identification to delivery of drug candidates for further development.

CDMO involved in the drug development which includes pre-clinical, clinical trials and associated services to demonstrate the safety and efficacy of selected drug candidates.

** Global Biologics Drug Discovery Market Analysis and Forecast, (2017-2025), BIS Research

#4: Playing the odds – 18.08.2021

"Heads I win, tails I don't lose much" Mohnish Pabrai

Biogen received approval for its innovative Alzheimer's treatment. This is the first FDA-approved Alzheimer's drug. This news attracted a lot of mixed views.

Generally, we avoid investing in biotech businesses given it doesn’t fall within our circle of competence. We have been tracking Biogen’s business for a few years and earlier this year it popped up on our valuation screens. As we assessed the investment case, it was an example of "Heads I win, Tails I don't lose much".

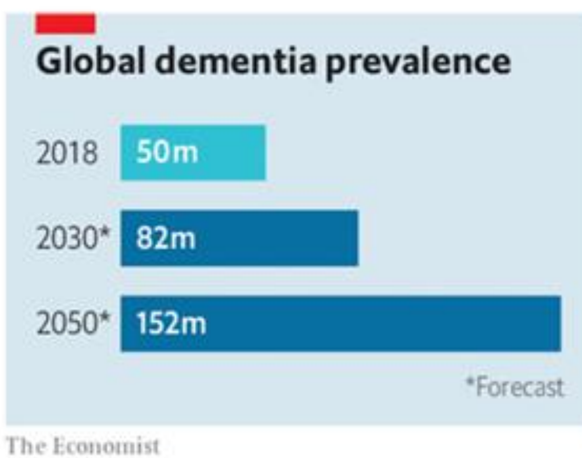
Background

Biogen, a US-based biopharmaceutical company, is focused on developing products for treating neurodegenerative diseases. It is a market leader in treating Multiple Sclerosis (MS) and generates 60%+ of its revenue from MS.

Source: Thomson Reuters

Biogen grew by 7.8% CAGR (2016-2019) without any deterioration in operating margins. Its share price was largely flat which meant that the stock became cheaper over time.

One of the overhangs on the stock price was over-reliance on the top three brands (59% of revenues) focusing on MS. These brands were going off patent soon and were backed by a strong pipeline. One of its star products was Aducanumab. This would have been the first-ever approved treatment for Alzheimer's, a disease that impacts [over 50mn people worldwide and is expected to triple over the next 30 years!]



The street was building a 50% probability of Biogen receiving approval for Aducanumab. Based on our scenario analysis we concluded that even if Biogen did not get approval for Aducanumab the business will still generate adequate cash giving us a Free Cash Flow Yield between 8-10%. On the other hand, if the product approval came through it will give us a chance to gain exposure to the Alzheimer's treatment market (forecasted to reach $2 trillion by 2030). This looked like a highly asymmetric payoff and we decided to initiate a position in Biogen.

Post Script

Since the approval of Aducanumab, there has been a lot of controversy over the FDA approval process. Our opinion was that the drug pricing at $56,000 might be too high for large-scale adoption. Further, there were competitors such as Eli Lilly, which have products under advanced development stages for Alzheimer's yielding promising results.

Given the positive price action on the stock, uncertainty around drug high costs, and upcoming competition made it a negative risk-reward and we decided to exit the position.

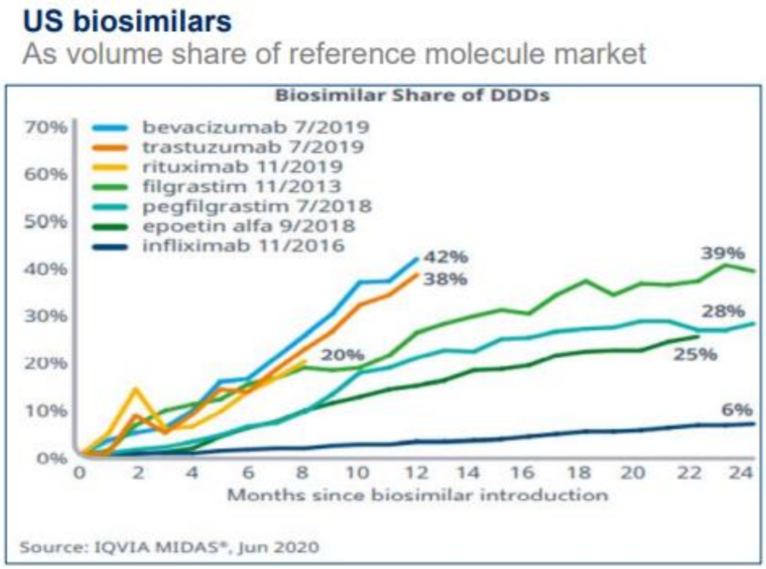
#5: FDA Approves Interchangeability of Biosimilar – 01.09.2021

The biosimilar* industry witnessed a historic moment last month when Biocon and Viatris's product Semglee, a biosimilar to Sanofi's diabetes medicine Lantus, received USFDA approval for the interchangeability status. With the interchangeability tag,

As of 2020, ~8.3mn people in the US require insulin to regulate their blood glucose levels. The global use for insulin is expected to increase by 20% by 2030. Typically, biosimilars are launched at 15-35% discount to innovator products in the US, whereas Semglee's list price is nearly a third of the cost of Lantus.

The global biosimilars market is estimated to be USD ~28bn in 2020 and expected to grow by 24% CAGR over 2020-26, to reach a size of over USD 100bn by 2026. This will be driven by a large number of blockbuster biologics** losing their patent by 2020-21.

Lack of Interchangeability was responsible for the slower adoption of biosimilars in the US where volumes have ranged been between 30 and 40% even after two years of launch. In contrast, generics constitute c.a. 90% of total prescription volumes, leading to cost savings for payors and patients.



In our view, the interchangeability tag bolsters the perception of biosimilar efficacy, leading to greater patient acceptance levels and prescriber willingness. Hence, this landmark approval by the USFDA is a big step forward for the biosimilar industry.

*****Biosimilar is made using the same amino acid starting materials and the same precise, step-by-step processes as its reference drug — a well-tested, widely-used biologic drug that's already been on the market for years.

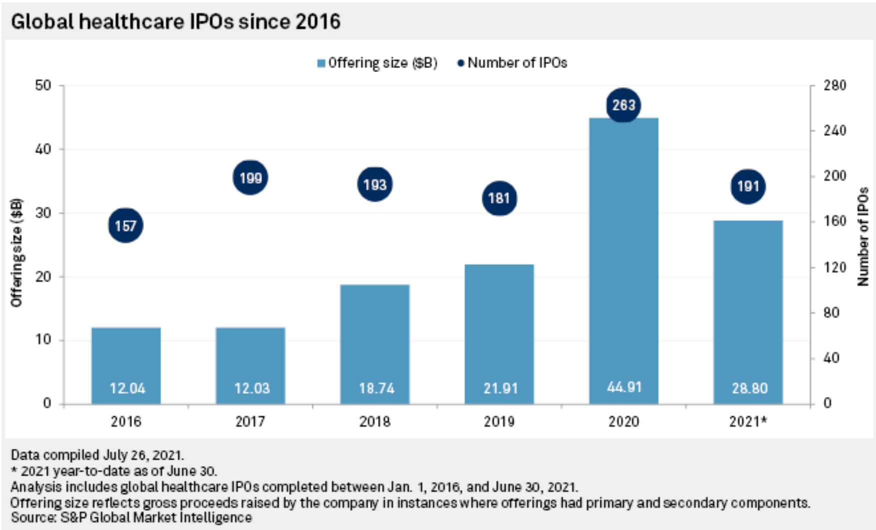
**A biologic drug (biologics) is a product that is produced from living organisms or contains components of living organisms.

#6: Rising number of healthcare IPOs – 08.09.2021

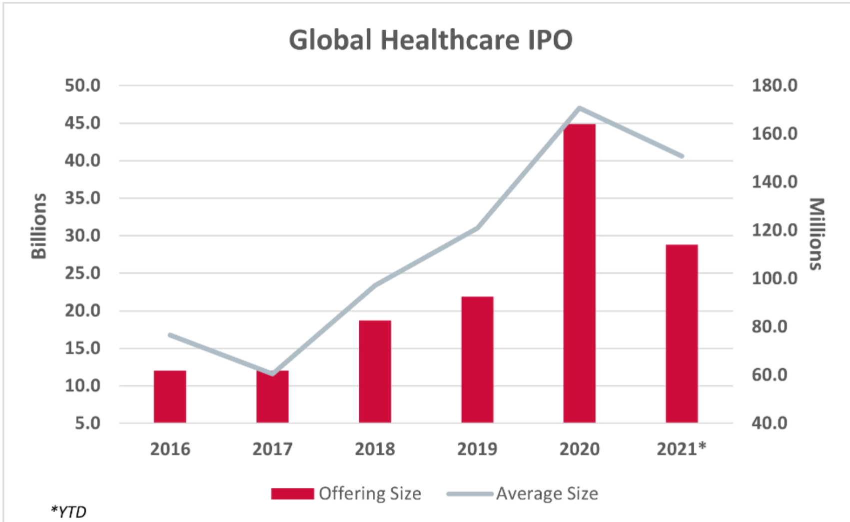
"First-level thinkers look for simple formulas and easy answers. Second-level thinkers know that success in investing is the antithesis of simple." Howard Marks

This week we looked at the increasing number of IPOs by healthcare companies.

Proceeds from global healthcare IPOs during the first half of 2021 were $28.8 bn compared to $44.9 bn in 2020. This is remarkable since the total money raised by healthcare companies via IPOs in 2020 was twice that of 2019. The pace of fundraising is expected to continue for the balance half of the year.



The average IPO ticket size has also doubled from $76 million in 2016 to $150 mn YTD 2021, indicating increased demand from investors.



Our view
We have never participated in IPOs because they are always expensive due to competitive bidding and whenever businesses decide to raise money they would most likely do it at very rich valuations.

We focused on the second-order impact of this trend and tried to identify the beneficiaries of these IPO proceeds:

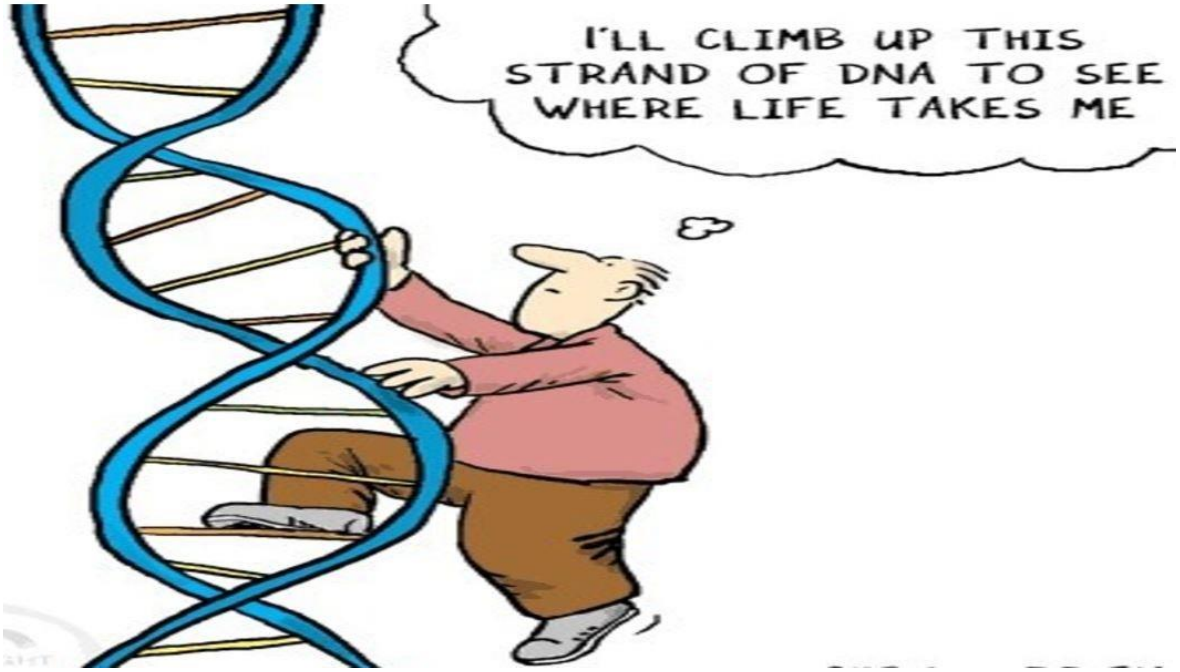
a) CDMO*: biotech businesses want to focus on research and will outsource most of their manufacturing activities. We think a big beneficiary of this trend would be CDMO.

b) M&As: biotech businesses work on breakthrough technology to cure diseases. We have observed an also noticed increased interest in rare diseases by big pharma which could be interesting takeover candidates and continue to track them.

c) Technology: increasing adoption of technology in healthcare such as robotics, artificial intelligence, and machine learning have led many technology businesses to design products to tap into this trend. There are a few businesses doing some interesting work in the space and we continue to track them.

* CDMO: Contract Development and Manufacturing

#7: Indian Molecular Diagnostics Industry – 15.09.2021



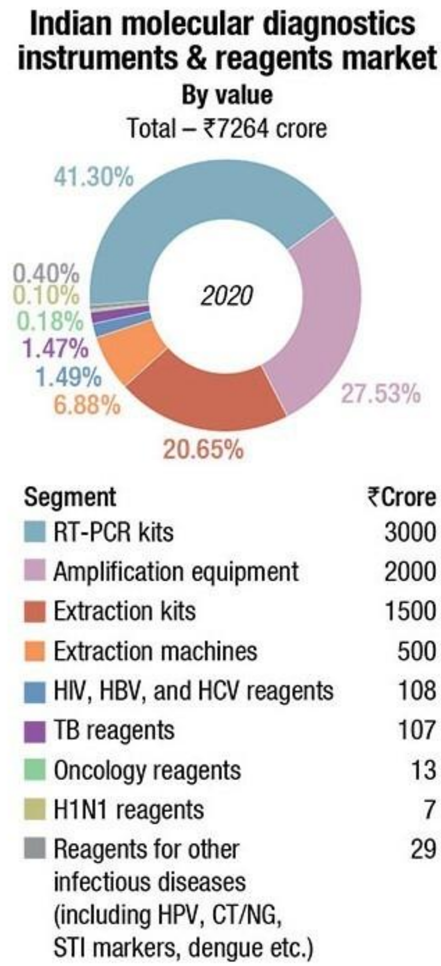
"Innovation continues to happen at the edge" Jeff Pulver

A major disruption that has gained momentum in the sleepy diagnostic industry over the last year or so has been in the molecular diagnostic industry. In this post, we discuss India's rapid adoption of molecular diagnostic tool kits in Covid-19 testing.

Over the last decade, the increasing prevalence of infectious diseases has led to the growth of the Molecular Diagnostic* (MD) market in India. As of 2020, the Indian MD market is estimated to be around $920 million and is expected to grow by 10% CAGR until 2026.

MD has always played a crucial role in the healthcare industry by helping in early detection and monitoring various life-threatening diseases.

Since the start of the pandemic, India has been expanding its testing strategies as per the changing regulatory paradigm, which until now has played an important role in the containment of the virus.



With the pandemic, there has been an increase in demand for RT-PCR kits, extraction machines and kits, and amplification testing equipment which accounted for 96% of the INR 72,640 million Indian MD equipment market in 2020.

Recent Development:

Innovation and technology have been the key drivers in the development of diagnostic products.

Healthcare manufacturers have aligned resources to develop COVID-related products, newer and more technologically advanced equipment and kits were introduced in the market.

A few examples of businesses reaffirming their commitment to growth trends are:

· **Siemens Healthineers** announced manufacturing of molecular testing kits at its state-of-art facility at Vadodara, Gujarat, India. Initially, the company will have a production capacity of 25 million tests per annum and will start supplying molecular test kits from September 2021.

· **Voxtur Bio**, a Mumbai-based (Invitro Diagnostic Device) IVD player, was the first company in India to receive a manufacturing license for developing antibody-immunoglobulin M (IgM) and immunoglobulin G (IgG) – based rapid test kits. Voxtur Bio plans to expand its product portfolio with the development and manufacturing of advanced diagnostic tools.

· **Roche** recently announced its acquisition of TIB Molbiol Group. This acquisition will enhance Roche's broad portfolio of molecular diagnostics solutions with a wide range of assays for infectious diseases.

Risks:

a) Indian Molecular diagnostics industry is still in its infancy compared to developed markets.

b) The industry is not well represented during most government policy aspects, as it continues to be clubbed under the pharmaceutical sector. Thus, the industry has to depend on government support to develop.

c) The industry faces a dearth of skilled professionals who can promote the agenda for innovation.

Conclusion:

Although it is still in its early days, we think that an increasing adoption of molecular testing due to its greater efficiency compared to other testing options and improving government policy environment will be a massive tailwind for growth in the diagnostic testing industry.

We are keenly watching how some of these trends develop and their key beneficiaries.

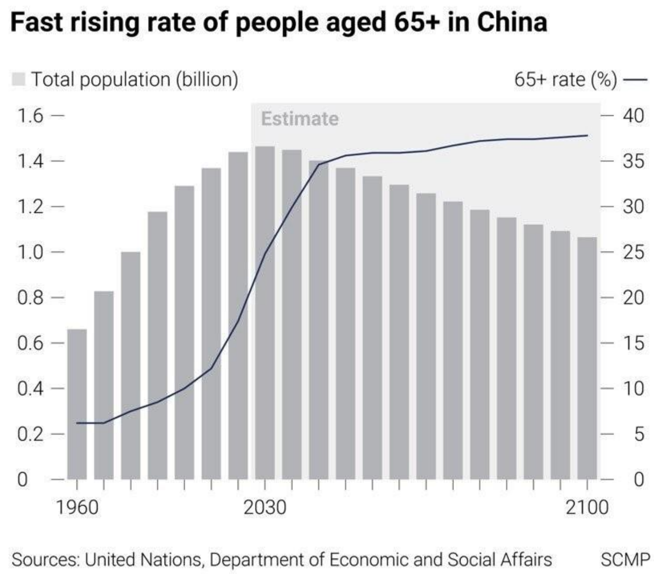
*Molecular Diagnostics are laboratory-based testing techniques that rely on the detection of individual biologic molecules.

#8: Greying China – 22.09.2021

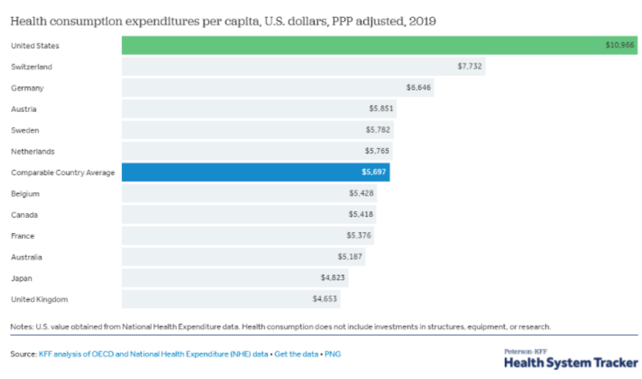
"Old age and the passage of time teach all things." Sophocles

We have seen a lot of interest in the rising consumption patterns of younger demographics in China. We thought it might be interesting to look at the trends of healthcare services by the older cohort (65+).

The population of over 65 in China is currently at 191 million (18% of the population). By 2050, this is expected to double to 350 million. The size of China's elderly-care industry is predicted to be 10 trillion yuan ($1.57 trillion) by 2024 and is growing at a CAGR of 20 percent. The average per capita healthcare expenditure works out to $8,200 for this group. This compares to the per capita expenditure of $501 by the rest of the Chinese population!



To put it into perspective United States spends $3.3 trillion (16% of GDP) on a population of 328 million. This comes to a per capita expenditure of $10,000. While the similar amount for UK is $4,000.



We find it particularly interesting that China's 65+ cohort spends are comparable to the average per capita healthcare expenditure of a developed nation!

One of the biggest drivers for this trend has been that elderly in China have enjoyed a prosperous two decades which has led to large wealth accumulation.

Our view

We think businesses catering to the grey-haired population will enjoy tailwinds over the next decade. Earlier this year we invested in a leading knee implant player, AK Medical (HK:1789), which has been facing temporary headwinds due to government regulations. Given our long-term outlook for the industry, we were comfortable entering the position.

We continue to look for businesses that will benefit from this demographic trend.

#9: Seeking the holy grail of steady returns in Europe! – 29.09.2021

“Listen, business is easy. If you’ve got a low downside and a big upside, you go do it. If you’ve got a big downside and a small upside, you run away.” Sam Zell

European healthcare property businesses (such as hospitals, care, and nursing homes) are attracting a lot of interest as they provide a stable return profile (the holy grail). Imagine investing in an asset class that gives you better returns than sovereign bonds and seeks to protect capital. Who wouldn't want that? Given the aging demography, there will be an increasing demand for these services.

Annual returns in healthcare remain one of the highest in listed European property earning 5.5 percentage points more than 10-year government bonds (Green Street). Returns for care homes are still higher!

Investor enthusiasm towards new issues in this sector gives us a hint at the favorable sentiment. Last week Icade Santé, Europe's largest healthcare property owner, announced that it would raise €800m of equity to fund its growth. The Initial Public Offering is being priced at €6.4 bn. The business has an EV of €8.6 bn and generated an EBITDA of €573 mn in 2020 which puts the valuation at 11x EV/EBITDA.

Our View

We expect increased regulatory measures might be imposed on the sector (increase in healthcare worker pay) which might impact the economics of the industry and lead to an unfavorable Risk Reward ratio. We continue to monitor the developments and will update our thesis as the situation evolves.

#10: Merck is in the news – 06.10.2021

"Only those who will risk going too far can possibly find out how far one can go." – T.S. Eliot

So lately Merck has been in the news earlier this week as it announced interim results of its Phase 3 trials for an antiviral pill that could reduce covid 19 hospitalization or deaths by 50%.

Merck is developing antiviral treatment in partnership with Ridgeback Associates, a Miami based biotech business. They are competing against Pfizer to develop a pill that could be prescribed shortly after infection preventing severe disease. Currently, the only approved treatments for covid in the US are moloclonal antibodies developed by Regeneron, Eli Lilly and GSK administered intravenously.

If the US FDA authorizes the product it would be the first of its kind twice-daily pill prescribed for five days to covid patients. This will indicate significant progress towards the fight against covid.

Merck expects to produce 10 million courses of treatment by the end of 2021, with more doses expected to be produced in 2022. Merck entered into a procurement agreement with the U.S. Government under which Merck will supply approximately 1.7 million courses of molnupiravir to the U.S. government, upon EUA or approval from the U.S. FDA. The US government is paying roughly $700 per course of treatment, according to its contract with Merck. So a great outcome for Merck!

Merck announced the acquisition of Acceleron Pharma for $11.5 bn probably the largest purchase over the last decade. The acquisition aligns with Merck's strategy to diversify from Ketruda, a blockbuster cancer drug, which accounts for 37% of its revenues. Keytruda faces patent cliff by 2028.

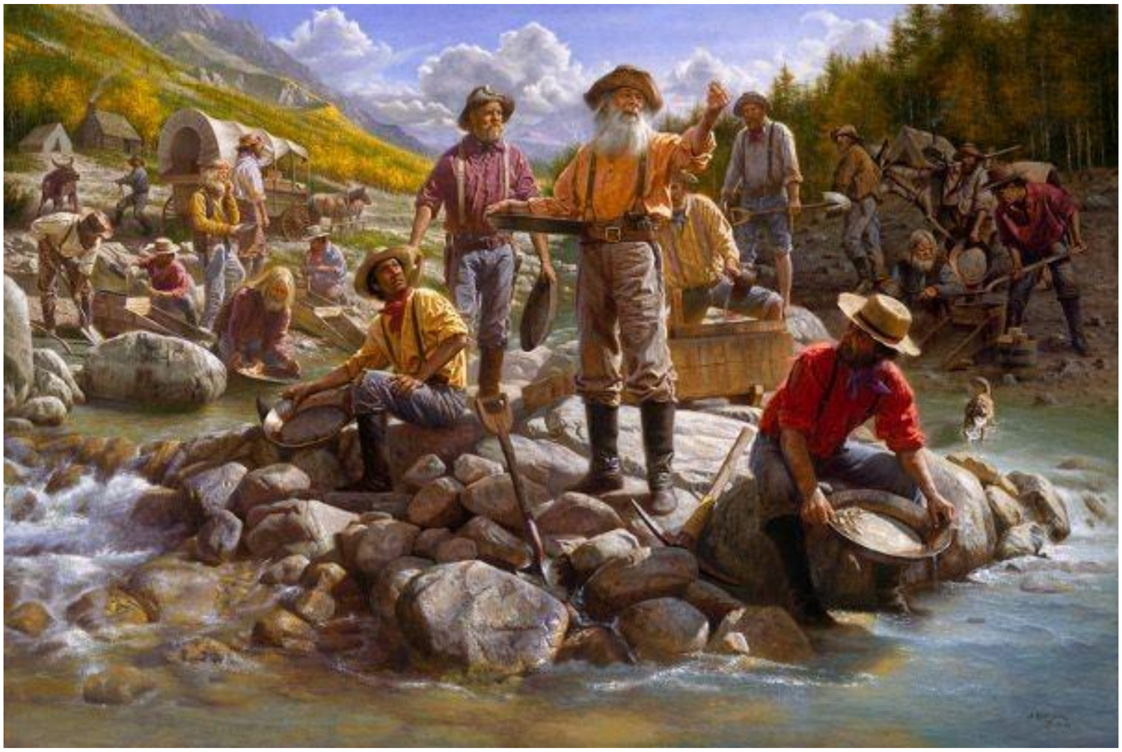
Through Acceleron, Merck gains access to the company's late-stage cardiovascular drug Sotatercept. With an expected launch in 2024 or 2025 and exclusivity in the market as far as 2037, Merck's executives said the drug could peak at multi-billion-dollar sales.

Putting the money back into the business!

Our View

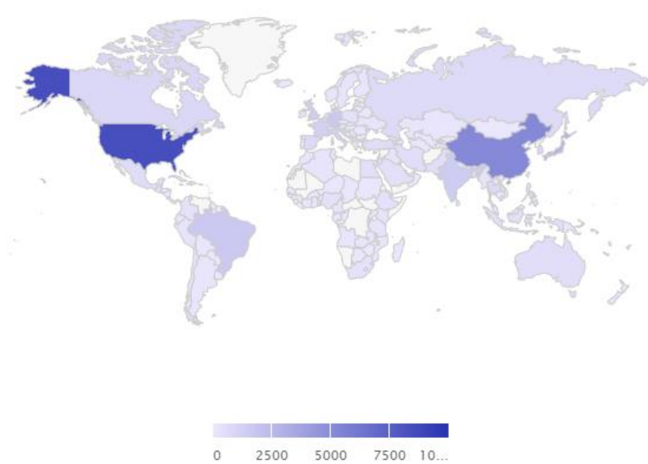
Our view has been that a lot of large pharma businesses which were created on the back of the success of a single product are now looking for new avenues of growth as those core molecules face patent cliffs. We keep looking out for such M&A candidates which are potential acquisitions targets.

#11: A breath of fresh air! – 13.10.2021



"During the Gold Rush, most would-be miners lost money, but people who sold them picks, shovels, tents and blue-jeans (Levi Strauss) made a nice profit" - Peter Lynch

During our research we look at a range of sub-industries within healthcare. We wanted to highlight a few interesting data points on the asian oral care industry which has been experiencing some tailwinds as people focus on oral hygiene after going maskless!



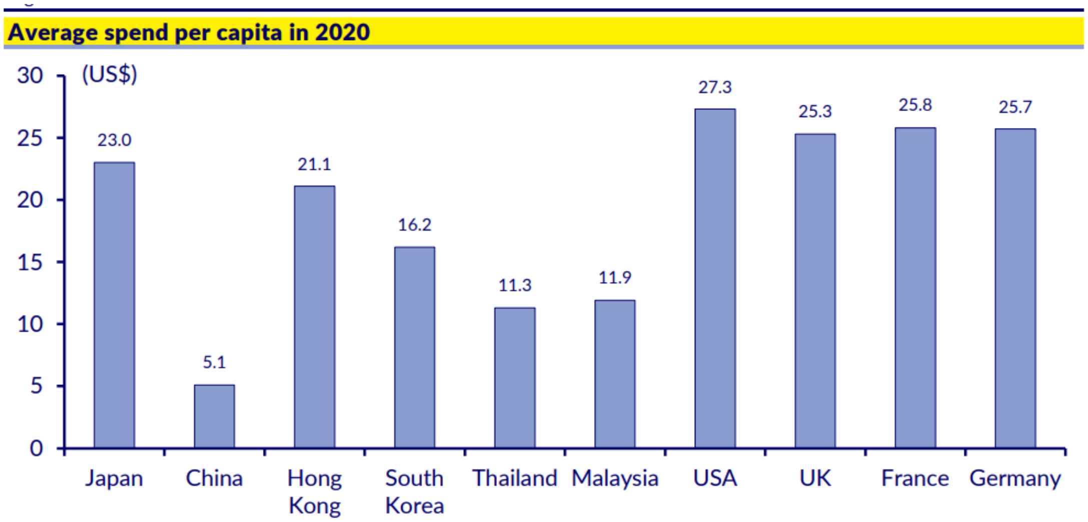
Top 5 (2020) in million USD (US$)	
1. United States	8,387
2. China	5,169
3. Japan	2,854
4. Germany	1,709
5. Brazil	1,633

Most recent update: Oct 2020

Source: Statista

Global Oral Care Industry is estimated at $48 bn in 2020 and estimated to grow by 6.3% over the next three years. Oral care market in North America and Europe is estimated at $21 bn (44% of the global market). Although both these regions account for only 16.2% of the global population. While China and India where the market size is c.a $8 bn (c.a. 17% of the global market) have a population that accounts for 35% of the global population. The discrepancy can be explained by the low per capita usage in Asian countries vs developed western countries.

As per the data below developed markets spend are 4-5x of spends in China which suggests possibilities of higher growth over a longer period of time driven by increasing urbanization and increasing user adoption.



Source: CLSA, Euromonitor

Another interesting trend that we noticed was that top 5 players (all western businesses) by market share still have a giant share of the market (41%) but this share has been reducing (was 46.3% in 2011) over the last decade.

Asia Pacific oral market share

(%)	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Colgate-Palmolive	21.9	22.4	23.9	24.5	24.5	23.6	23.3	22.2	21.1	20.8
Procter & Gamble	10.4	10.5	10.9	10.7	10.4	9.9	9.6	9.5	9.0	9.0
Unilever	8.7	8.6	8.9	8.8	8.7	8.2	7.9	7.2	6.9	6.7
Lion	**7.9**	**7.6**	**6.5**	**6.1**	**5.6**	**6.1**	**6.0**	**6.0**	**6.0**	**6.1**
GlaxoSmithKline	5.3	5.4	5.3	5.1	5.0	5.2	5.3	5.3	5.3	5.4
Yunnan Baiyao	1.9	2.6	3.4	3.9	4.5	4.5	4.8	4.7	4.6	4.6
Guangzhou Weimeizi Personal Care	0.5	0.7	0.9	1.1	1.7	2.4	3.0	3.6	3.6	3.6
Sunstar	4.6	4.4	3.6	3.4	3.2	3.5	3.2	3.1	3.1	3.2
LG Household & Health Care	2.0	1.9	2.1	2.2	2.3	2.3	2.5	2.3	2.2	2.2
Koninklijke Philips	-	-	0.6	0.7	0.9	1.1	1.5	1.7	2.2	2.1

Source: CLSA, Euromonitor

Our hypothesis is that over the years a lot of local players identified the oral care market as a high return on capital, sticky and recurring revenue business (highly improbably you would discontinue brushing daily). These local businesses have attacked the turf of established businesses. We feel that western businesses still have an urban city-centric model which has been now saturated. We have seen local businesses have built a niche in non-urban centers and started chipping away on the established western businesses at the fringes in urban areas.

Our View

We think increasing demand penetration in Asia Pacific provides strong tailwinds opportunities to play the oral care space. One of the ways to play the theme is by betting on businesses that supply the raw material for oral care. We have identified potential investment opportunities within the stomatology formulations and dental x-ray space.

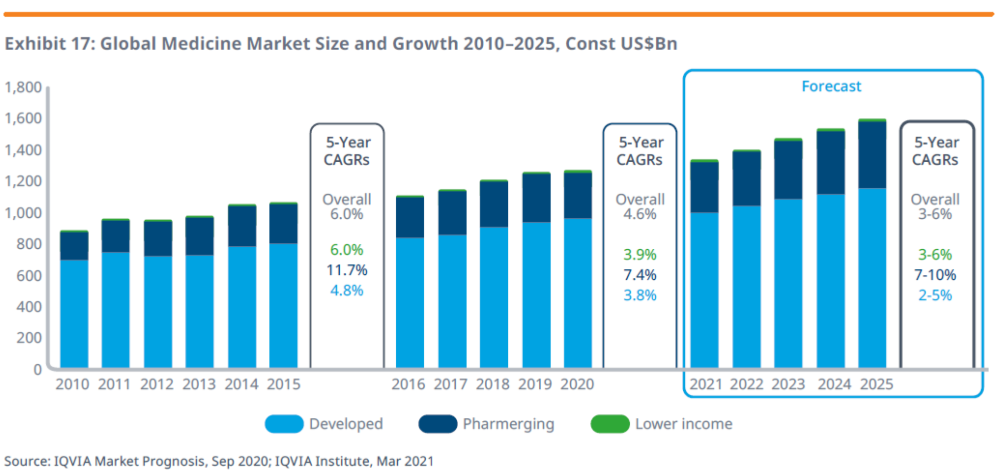
#12: Insights from Iqvia's "Global Medicine Spending and Usage Trends: Outlook to 2025" – 28.10.2021

"The trend is your friend" Martin Zweig

As regular readers would know that we believe in identifying the big trends and riding those. It's far easier to swim with the tide rather than against it.

We came across a fascinating report released by IQVIA earlier this year in April titled "Global Medicine Spending and Usage Trends:Outlook to 2025". Some of the observations we found quite interesting were:

a) Global medicine spending i.e. the amount spent on buying medicines from manufacturers (before discounts and rebates) was estimated at $1.2 trillion in 2020 and is expected to grow $1.6 trillion by 2025 growing by 3–6% per annum. This growth would be driven by Pharmaemerging markets (growing between 7-10%).



b) The US still accounts for c.a. 41% of the total global spend. To put it into some perspective US accounts for c.a. 4.7% of the global population!

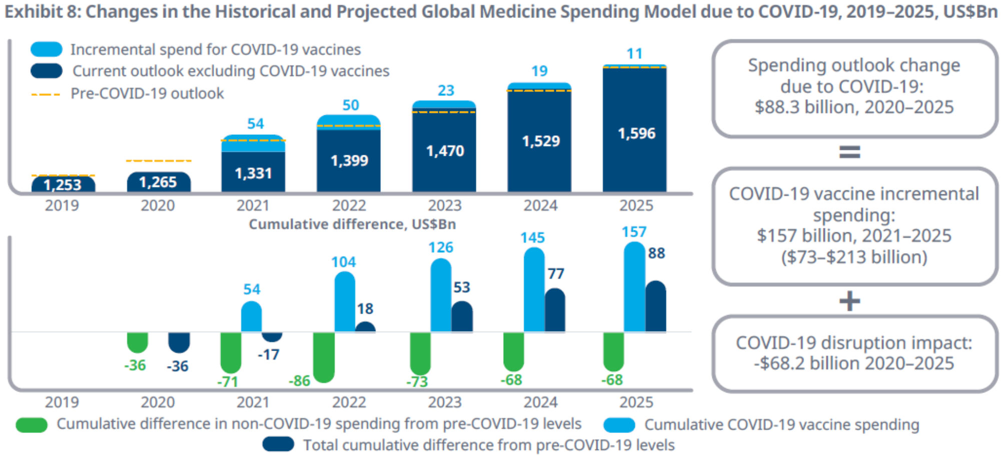
Exhibit 24: Global Invoice Spending and Growth in Selected Countries

	2020 SPENDING US$BN	2016–2020 CAGR	2025 SPENDING US$BN	2021–2025 CAGR
Global	1,265.2	4.6%	$1580–1610	3–6%
Developed	959.5	3.8%	$1130–1160	1.5–4.5%
10 Developed	847.2	3.8%	$990–1020	1.5–4.5%
United States	527.8	4.2%	$605–635	2–5%
Japan	88.2	-0.2%	$75–95	-2–1%
EU5	180.4	4.4%	$215–245	2–5%
Germany	54.9	5.3%	$65–85	3.5–6.5%
France	36.3	2.4%	$43–47	1–4%
Italy	33.3	4.2%	$38–42	2–5%
United Kingdom	30.2	5.3%	$38–42	2.5–5.5%
Spain	25.7	4.6%	$28–32	1.5–4.5%
Canada	22.8	4.8%	$28–32	2–5%
South Korea	16.2	6.8%	$18–22	4.5–7.5%
Australia	11.8	3.3%	$13–17	1–4%
Other Developed	112.3	4.2%	$125–155	2.5–5.5%
Pharmerging	290.8	7.4%	$415–445	7–10%
China	134.4	4.9%	$170–200	4.5–7.5%
Brazil	28.7	10.7%	$43–47	7.5–10.5%
Russia	17.5	10.8%	$33–37	11–14%
India	21.1	9.5%	$28–32	7.5–10.5%
Other Pharmerging	89.1	9.6%	$120–150	8.5–11.5%
Lower Income Countries	15.0	3.9%	$18–22	3–6%

Source: IQVIA Market Prognosis, Sep 2019; IQVIA Institute, Dec 2019

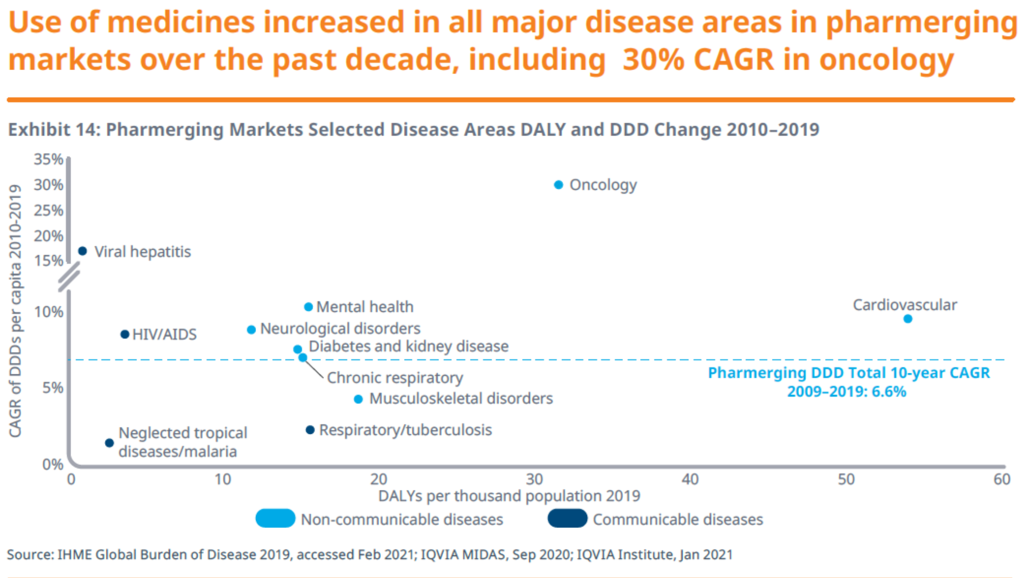
c) Due to the covid there might be near-term impact on medical spending by $68 bn. Although, as per estimates the incremental spending on the vaccine and booster shots will result in incremental spending of c.a. $157 bn. Thus leading to a net increase of $68 bn over the next five years.

Exhibit 8: Changes in the Historical and Projected Global Medicine Spending Model due to COVID-19, 2019–2025, US$Bn

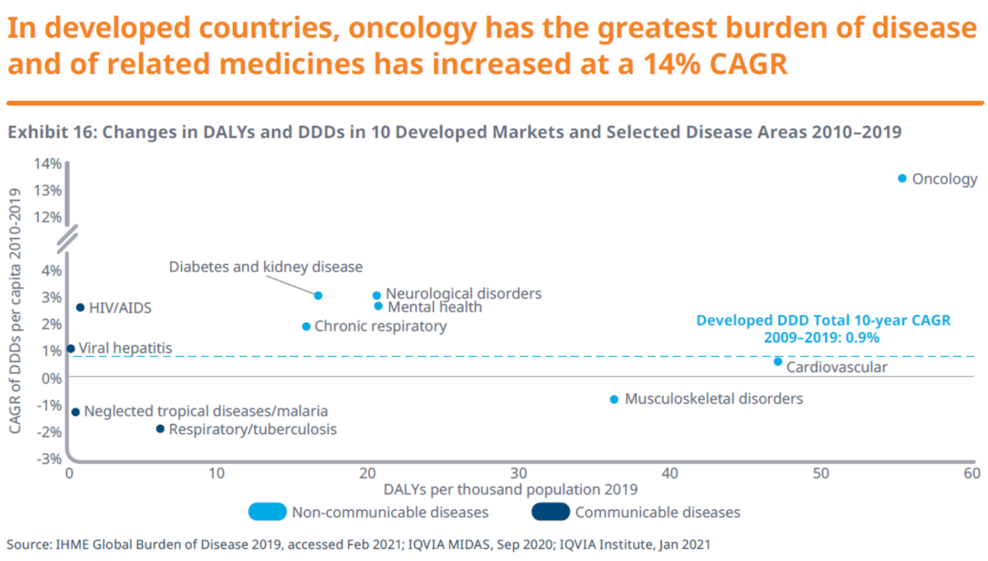


Source: IQVIA Market Prognosis, Sep 2020; IQVIA Institute, Mar 2021

d) There has been a general increase in the incidence of oncology across Pharmerging and Developed countries.



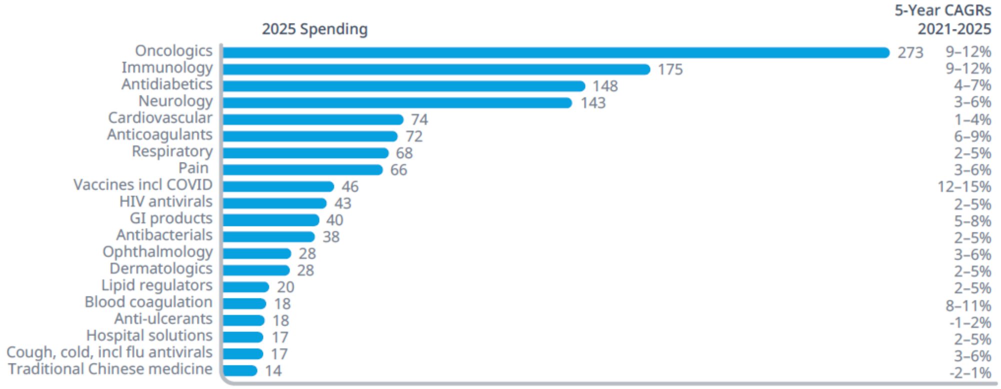
In Pharmerging countries, common communicable diseases have seen falling DALYs as treatment availability has increased. Oncology and Cardiovascular seem to be the most common disease across this segment.



There has been a notable increase in the incidence of oncology as well in developed markets. Significant improvement in cancer care has led to increasing in survival rate and quality of life.

e) Oncology and immunology have been identified as the fastest-growing (9–12%) therapies until 2025 given the high incidence rates around the world. New oncology treatments will continue to be launched which will be impacted by the biosimilars launches.

Exhibit 32: Top 20 Therapy Areas in 2025 in Terms of Global Spending with Forecast 5-year CAGRs, Const $US



Source: IQVIA Institute, Feb 2021

While vaccines, including COVID 19 vaccines, will be the fastest-growing category over the next five years at 12–15%. Though the growth will slow down as the pandemic wears out.

Neurology spending is expected to be $140 billion by 2025 (3-6% growth). There might be a few neurological niches disorders that might grow at a much higher rate as new drugs are approved.

Our View
We are focusing on identifying businesses engaged in advanced oncology and immunotherapy research.

Further, we find some trends such as low-cost generic medicine from low-cost destinations* (such as India) entering high-cost markets such as China and Japan as governments focus on making healthcare more affordable.

* India supplies 40% of all generic medicines in US and 25% of medicines in UK

#13: Overview of healthcare in Russia – 10.11.2021

"Every success story is a tale of constant adaption, revision and change. " Richard Branson

As we scour the globe to identify businesses with strong competitive advantages we use top-down analysis to focus on ideas. We identify countries that are committing resources to improve the healthcare ecosystem. We were quite intrigued with Russia's efforts to boss healthcare systems and would like to highlight a few findings. Over the next few weeks, we will detail some sub-sectors/businesses we find fascinating.

Overview:

Russia is the largest country in Europe by population with nearly 146 mn. people as of January 2021. Russia has a rapidly aging population with 22.4% of the population aged over 60 in 2020. The Russian healthcare services market was valued at RUB 3.8 trillion (c.a USD 54bn) in 2020

Following the break up of the Soviet Union in 1991, Russia inherited an inefficient public healthcare system. Since then, the healthcare network has contracted significantly because of government policies aiming to optimize the hospital network, reduce the overabundant number of beds, and increase the salaries of healthcare professionals. Russian healthcare system was ranked as last out of the 55 developed countries based on the efficiency of state healthcare systems.

The number of hospital beds of 7.1 per thousand people and the number of physicians of 4.9 per thousand people in Russia is significantly higher than in developed and other emerging economies. However, the government reform to promote increasing private participation is expected to boost healthcare infrastructure.

At a per capita expenditure of $609 (2018) Russia is better placed than many emerging economies. Russia spent 5.27% of its annual GDP on healthcare in 2016. However, this is below the current global average of around 10%.

	Total Health Expenditure per capita, 2018	Total Health Expenditure, 2018	
	(U.S.$)	(U.S.$ PPP)	(% of GDP)
Germany	5,472	6,098	11.4%
UK	4,315	4,620	10.0%
Israel	3,324	3,207	7.5%
South Korea	2,543	3,214	7.6%
UAE	1,817	3,173	4.2%
Poland	979	2,015	6.3%
Brazil	848	1,531	9.5%
Russia	**609**	**1,488**	**5.3%**
South Africa	526	1,129	8.3%
Malaysia	427	1,194	3.8%
Turkey	390	1,171	4.1%
Georgia	313	796	7.1%
Thailand	276	723	3.8%

Source: WHO, NEO Center estimates

Every citizens and resident have the right to free healthcare which is provided by the state through the Federal Compulsory Medical Insurance Fund (OMI or Obligatory Medical Insurance).

This insurance is funded through payroll and employer contributions which is overseen by the Ministry of Health. Employers pay about 2% to 3% of salaries into a social tax, part of which is used to fund the healthcare system.

OMI based care is comprehensive which covers the cost of inpatient care, all procedures that require an overnight stay at the hospital, chronic conditions, maternal and newborn care, and vaccinations.

The private health insurance market, Voluntary Health Insurance ("VHI") has grown rapidly due to dissatisfaction with the level of services provided by state hospitals.

Types Healthcare System:

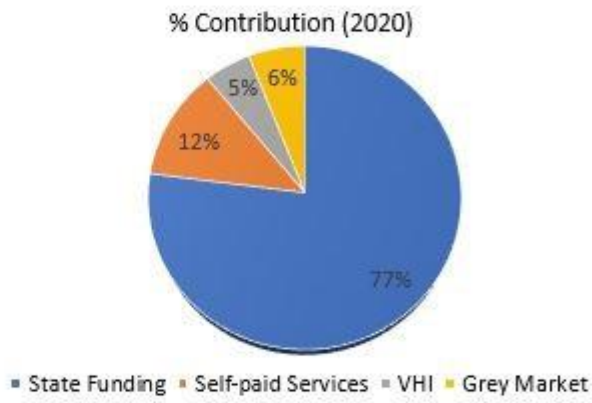
The Healthcare system is composed of four systems: public, private, parallel, and NGO.

- *Public*: is the biggest with federal, regional, and municipal authorities managing polyclinics, hospitals, and research centers.
- *Private:* is small and is primarily concentrated in urban areas.
- *Parallel:* is operated separately and is primarily for ministerial personnel and their families and for those covered by Voluntary Health Insurance (VHI).
- *NGO:* focuses on advocacy. It works in collaboration with the government and international organizations including the global funds to Fight AIDS, tuberculosis and malaria.

Sources of Funding:

There are four main sources of funding: State Funding, Self-paid Services, VHI, and the grey market:

- *State Funding*: Mandatory Health Insurance (MHI) covers all citizens, providing financing for the majority of medical services with few limitations.
- *Self-paid Services:* Direct payments made by individuals and companies to healthcare service providers.
- *VHI: p*ayments made by companies and individuals to private health insurance policies.
- *Grey Market: u*ndocumented direct payments to physicians, mostly in state hospitals and clinics.



COVID-19 demonstrated the significance of healthcare funding, as the number of cases in Russia was highest across the world.

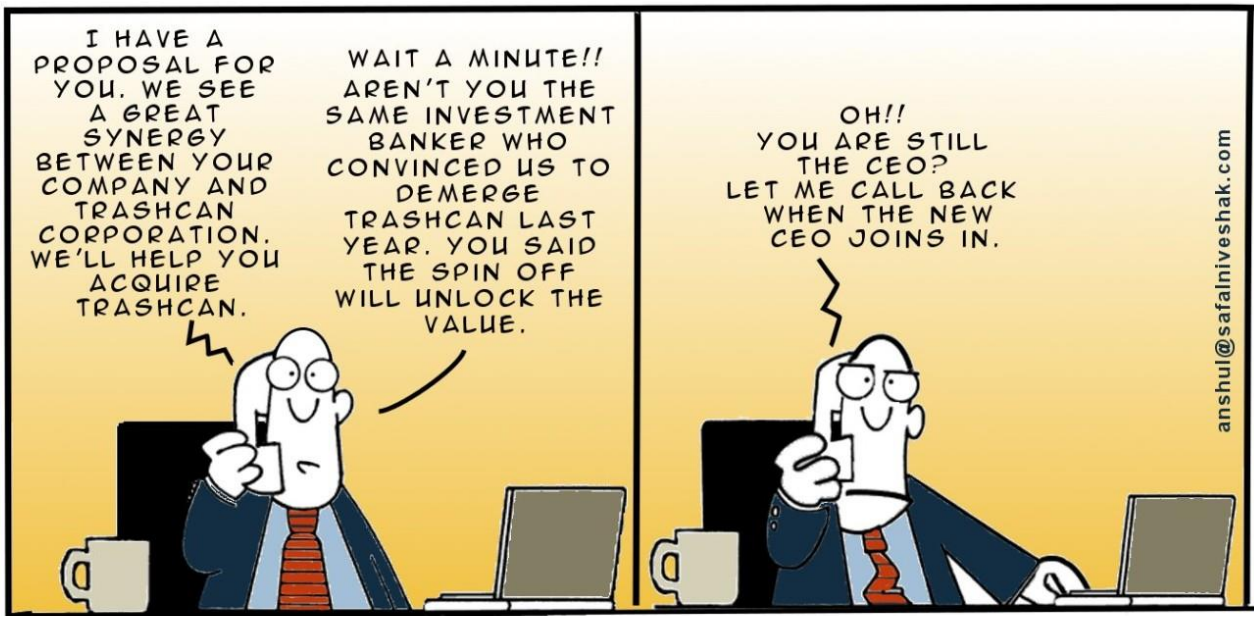
Conclusion:

While reforms introduced in the past two decades have brought stability and addressed a few structural issues but a lot needs to be done. For example, all citizens are entitled to MHI but in practice, access to healthcare and quality of medical services is largely determined by socioeconomic status and other factors. Private medical services are prevalent in urban areas and big cities while rural areas lack healthcare infrastructure.

The National Healthcare Project (NHP) has designed developmental projects around primary care and increasing services quality at public healthcare institutions.

We expect healthcare services to continue evolving as the government strives to improve access and increase penetration of private healthcare services.

#14: Breakup is in the air! – 17.11.2021



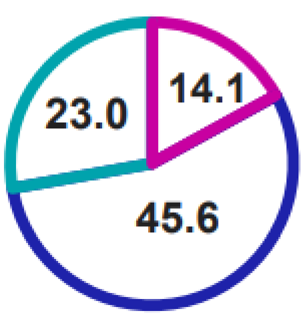
"Something out of the ordinary course of business is taking place that creates an investment opportunity. The list of corporate events that can result in big profits for you runs the gamut—spinoffs, mergers, restructurings, rights offerings, bankruptcies, liquidations, asset sales, distributions." Joel Greenblatt

The last few weeks the news cycle has been about major corporate actions of break up of old-style conglomerates (Toshiba, GE and J&J) across the globe. These actions create shareholder value as it simplifies corporate resources to compete freely and lets the shareholders decide which business they want to be part of.

This week we will discuss why a split of GE and J&J could be possibly value accretive to shareholders.

The consumer health division accounted for 17% of J&J's total revenues (2020).

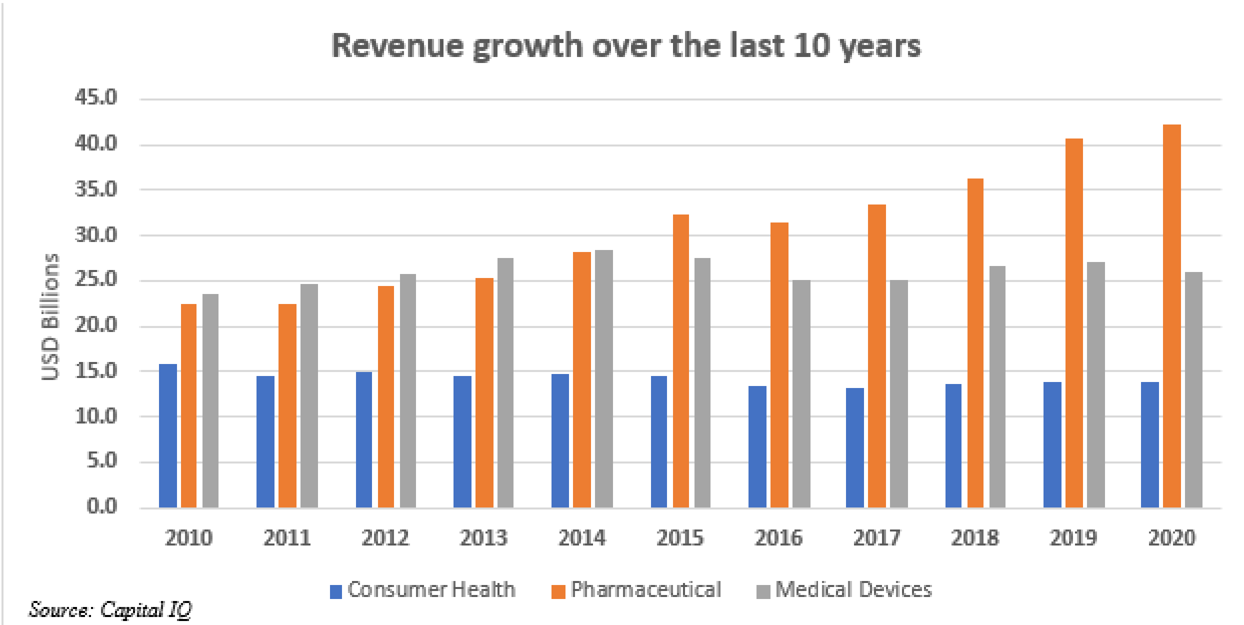
Sales by Business Segment
Dollars in Billions



Percent Change vs. 2019

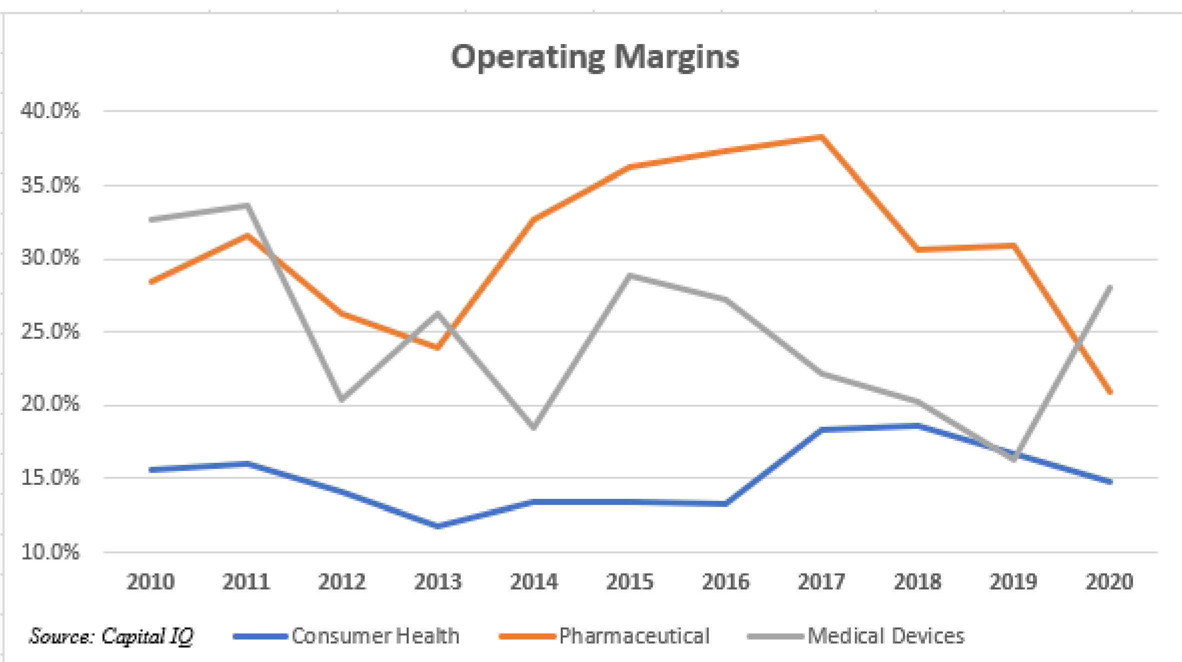
	Reported	Operational[2]	Adjusted Operational[5]
Consumer Health	1.1%	3.0%	3.1%
Pharmaceutical	8.0	8.2	8.4
Medical Devices*	-11.6	-11.4	-10.5
Worldwide	0.6%	1.2%	1.5%

*2020 Medical Devices decline due to COVID-19 related restrictions

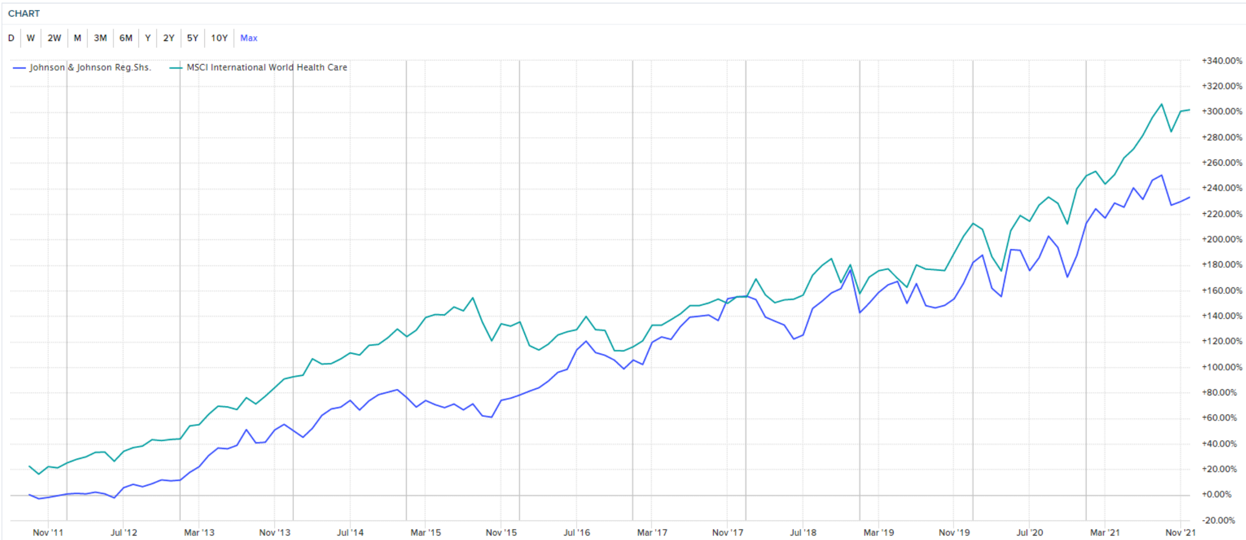


Over the last decade, the consumer healthcare business has been flat whereas the growth for the business was driven by pharmaceutical (6.5%).

The story isn't very different from an operating margins perspective. The operating margins of the consumer health division have struggled to rise above the mid-teens. Whereas Pharma and Medical device enjoys much higher operating margins.

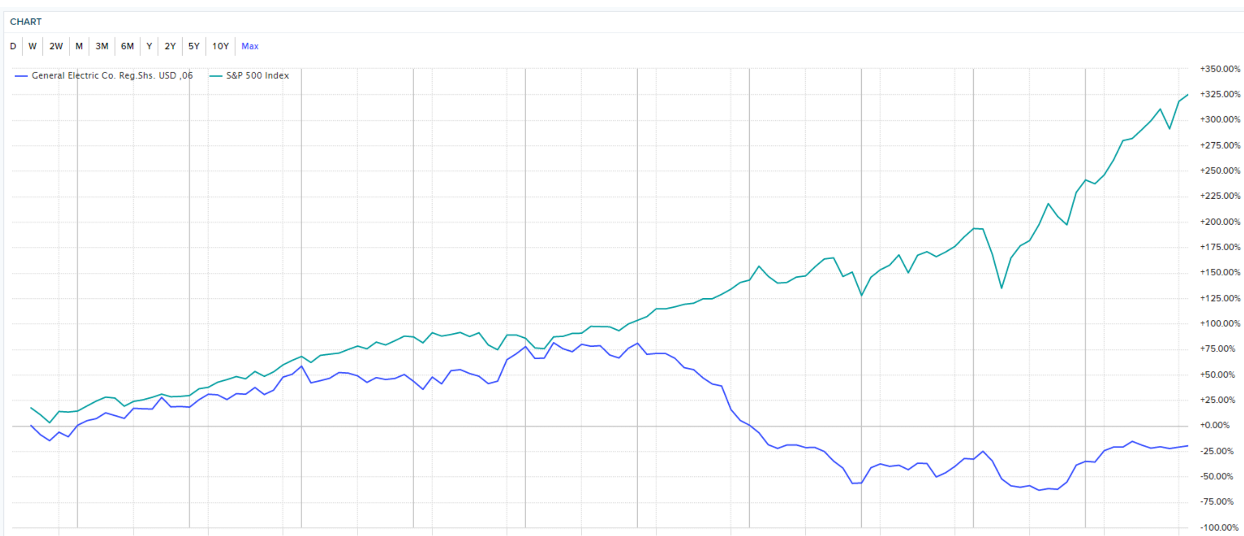


The result was that J&J's stock price has consistently underperformed the MSCI international Healthcare Index over the last decade. This was possibly a result of the tardy performance in the Consumer division. We would expect this trend to reverse as better economics of the healthcare business will drive higher valuations for the company post demerger.



Moving on to our next example of GE was once considered as the most valuable company in 2000 had reached a market cap of $600 bn. Its management training program (which the author aspired to be in back in the day) was famous for producing world-class business managers.

The wealth destruction in GE is quite stark given gap between share price performance and S&P 500 continued to widen over the past five years. This was the result of aggressive accounting, terrible capital allocation decisions and bad corporate culture (chronicled in the book Lights Out) during Jack Welch's and Jeff Immelt's period as the CEO.



GE had few good businesses such as GE Healthcare and Consumer which earned a respectable return on invested capital with reasonable growth which were pulled down by cyclical financial services business and capital intensive aviation business.

Henry Culp (ex-CEO of Danaher) was brought on board to steer the ship at GE in 2018. Over the years he has been right-sizing the ship and preparing the business for an eventual breakup of the company.

Last week in an announcement by GE we learnt that GE Healthcare will be spun off in 2023, with GE retaining a 19.9 per cent stake in the unit. GE Renewable Energy, GE Power and GE Digital will be combined into one energy-focused company that will be spun off in 2024. Once these transactions are completed, the original GE will focus on aviation.

We think it's a positive move by the conglomerates and we continue to evaluate these ideas for the fund's portfolio.

#15: Will Augmented Reality usher in a paradigm shift in healthcare? – 24.11.2021

"Nothing is constant but change"Heraclitus

The past few weeks have been busy for the team as we logged in to listen to the latest earnings calls, which are scheduled from the wee hours of the morning to late at night due to the wide distribution of our universe, and updated our assessment of the business.

We wanted to share an interesting observation. One of the management teams of an emerging market mid-market hospital business was explaining how it was tackling the issue of talent retention with the help of Augmented Reality (AR) or as popularized by Facebook as the "Metaverse". We were intrigued since we were only aware of the social and entertainment use cases of the metaverse.

We found out that hospitals struggle to find specialists to move to Tier 2/3 cities. So businesses have leveraged technology to support remote locations through augmented reality wherein an avatar of a specialist walks through local doctors on surgical procedures and consults with walk-in patients. We are in the early stages of a paradigm shift in healthcare delivery.

Above is an example of a business that offers products in AR.

Metaverse's origins (like a lot of technology like flying cars) can be traced to a science fiction novel by Neal Stephenson in 1992. The term virtual reality was in fact coined in 1932 by a french dramatist. Over the decade the concept has been increasingly used from games, movies to other entertainment avenues.

The global AR market is valued at USD 17.67 billion in 2020. It is expected to grow by 43.8% from 2021 to 2028. The rapid growth is predicated on multiple application use for the technology ranging from production, gaming, social media to healthcare.

Some of the use cases for healthcare are:

a) Medical training: Medical schools have been incorporating augmented reality into their curriculum to provide students with experiential learning. Augmented Reality programs can replicate patient and surgical encounters, allowing medical students to visualize and practice techniques during training.

b) Reduced healthcare cost: As highlighted above one could have a digital avatar of experts performing surgeries at remote locations thus reducing the healthcare cost. The two best examples of this are

Surgical assistive tools such as Microsoft Hololens can help surgeons with surgical procedures.

Nurses and physicians are now using augmented reality to enhance vein identification. This solves the problem of locating a vein which can be difficult for many individuals in the event patient's skin is intensely pigmented or has tiny blood veins.

c) Pharmaceutical industry: another application could be by big pharma to highlight positive effects of prescription drugs (vs its competitors)

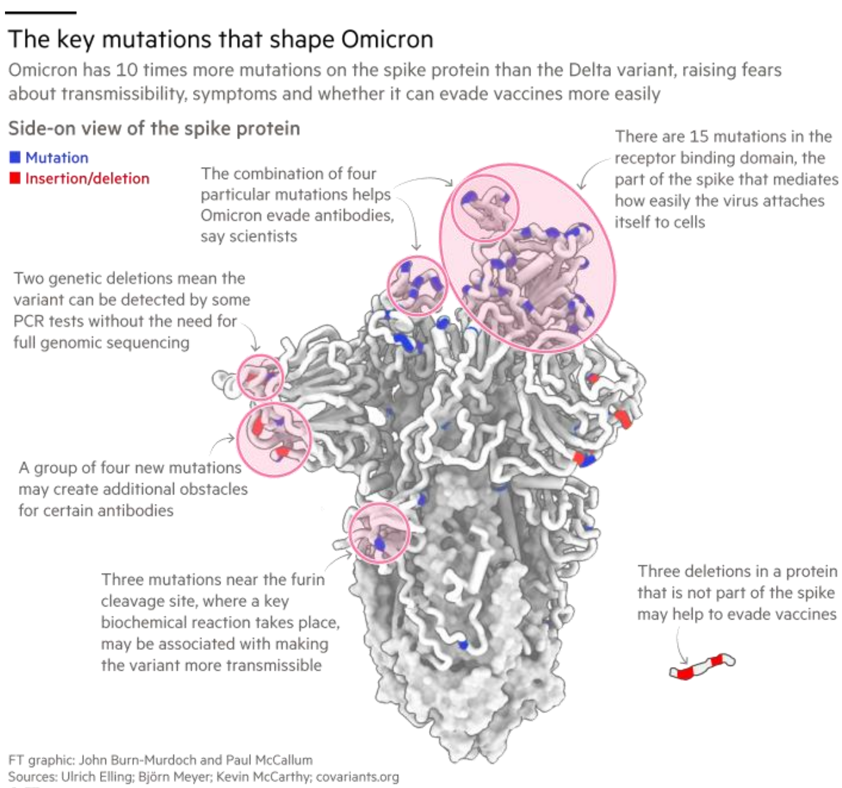
Conclusion

Given the rapid pace of technology adoption, we think it will be a key disruptor as well as a facilitator for many healthcare services business models. We are looking to identify businesses spearheading this change and gauge how businesses are adopting new technologies to increase efficiencies.

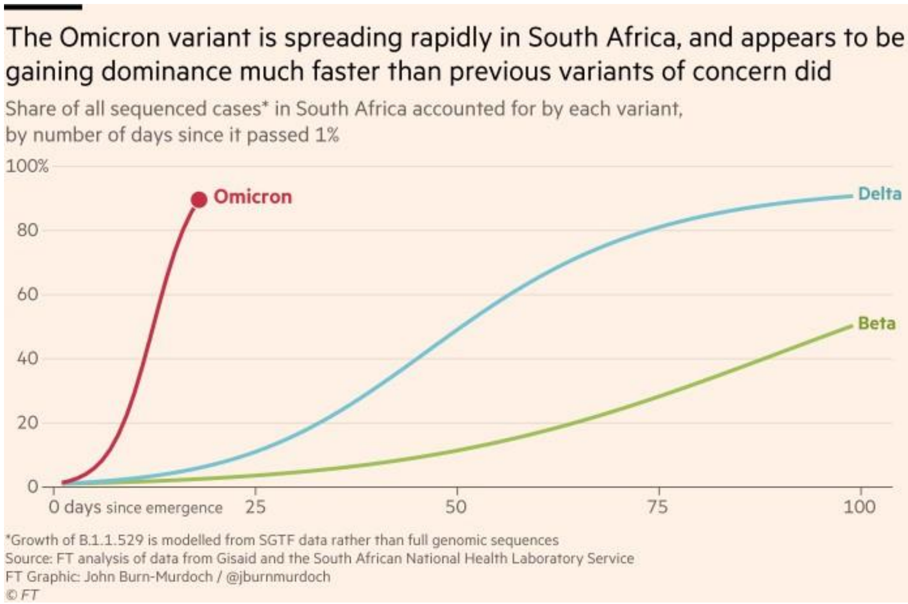
#16: Omicron – 01.12.2021

As we discover more about the Omicron variant we thought it would be helpful to share some of our findings of the virus and what are vaccine manufacturers doing to combat the new variant

On 26th November 2021 WHO released a statement identifying a new strain of the coronavirus (Omicron) which was spreading at an increasing rate.



Epidemiologists are concerned that the genetic structure of the Omicron is different from the earlier version of the coronavirus therefore it can avoid body immune defenses which have been trained to fight the earlier version of the coronavirus disease. Given this reasoning, it makes sense that Omicron is the fastest spreading variant.



Experts are divided on whether this strain would be more harmful than the earlier strains given we already have vaccines for the earlier strains.

Following are some of the updates from vaccine manufacturers regarding the vaccine:

a. Moderna announced a strategy to address the new Omicron variant. The three lines of defense are 1) a higher-dose booster of mRNA-1273 (100 µg) has been evaluated, 2) two multivalent booster candidates designed to anticipate mutations such as those that have emerged in the Omicron variant have been studied and 3) an Omicron-specific booster candidate (mRNA-1273.529) was rapidly advanced.
b. Pfizer and BioNTech commented that they expect to be able to ship a new vaccine tailored to the emerging Omicron variant in approximately 100 days.
c. AstraZeneca said it is examining the impact of the Omicron variant on its current vaccine and antibody cocktail. It had developed, in collaboration with Oxford University, a vaccine platform that enables it to respond quickly to new variants.
d. Johnson & Johnson mentioned it is closely monitoring the Omicron variant and is already testing the effectiveness of its vaccine against the new variant.
e. Novavax is developing a vaccine that contains the mutated spike protein in the Omicron variant so individuals can develop an immune response. The testing and manufacturing of the new vaccine will likely take a few weeks.

Our view
Will this be a repeat of what happened in March 2020? What will be its impact on the markets?

Given the uncertainty around the new variant and possible vaccine, it's too early to conclusively say anything.

Although, as new variants evolve big pharma will keep developing vaccines against new variants. Maybe one day we have a universal vaccine that can fight all corona variants. Given the manufacturers have an initial understanding of the virus they might be faster to market this time. We also have a better understanding of the transmissibility of the diseases and practice measures such as masks wearing to reduce transmission.

#17: Is Lifesciences a good space to invest? – 08.12.2021

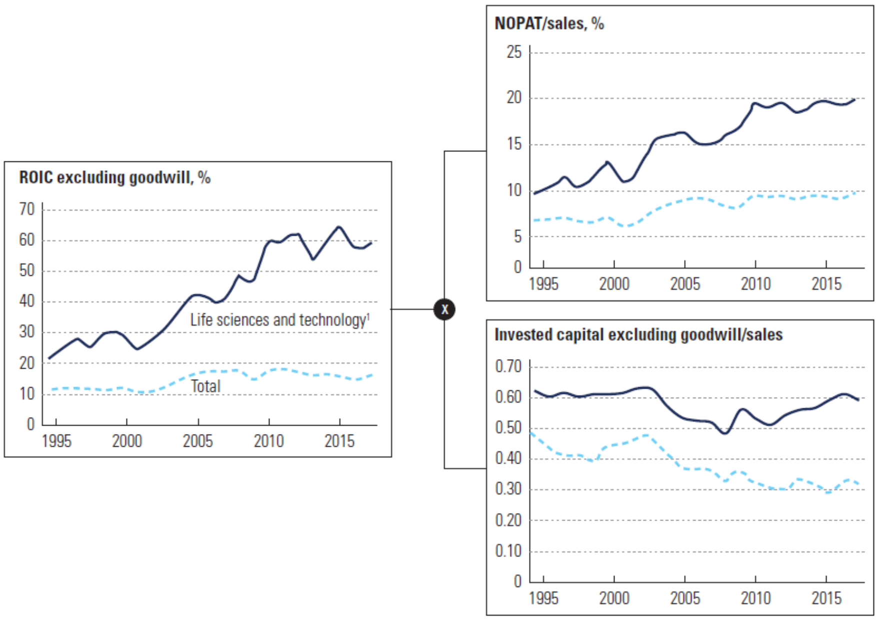
"Over the long term, it's hard for a stock to earn a much better return that the business which underlies it earns. If the business earns six percent on capital over forty years and you hold it for that forty years, you're not going to make much different than a six percent return – even if you originally buy it at a huge discount. Conversely, if a business earns eighteen percent on capital over twenty or thirty years, even if you pay an expensive-looking price, you'll end up with one hell of a result." Charlie Munger

As the year winds down we have been reflecting on what makes for a good investment. Although everyone is aware of the growing importance of life scenes we wanted to look at data points on how life sciences have fared in the past.

While investing in a business we focus on a) Return on Invested Capital (ROIC) and b) Growth as the key drivers of value creation.

The following exhibit shows the aggregate ROIC of US-based non-financial companies vs the life sciences and technology sector. ROIC within life sciences and technology has been increasing over the last two decades. The primary driver for this has been the increase in operating margins which have increased up from 17% in 1995 to 38% in 2017.

EXHIBIT 8.5 **Disaggregating ROIC of U.S.-Based Nonfinancial Companies, 1995–2017**



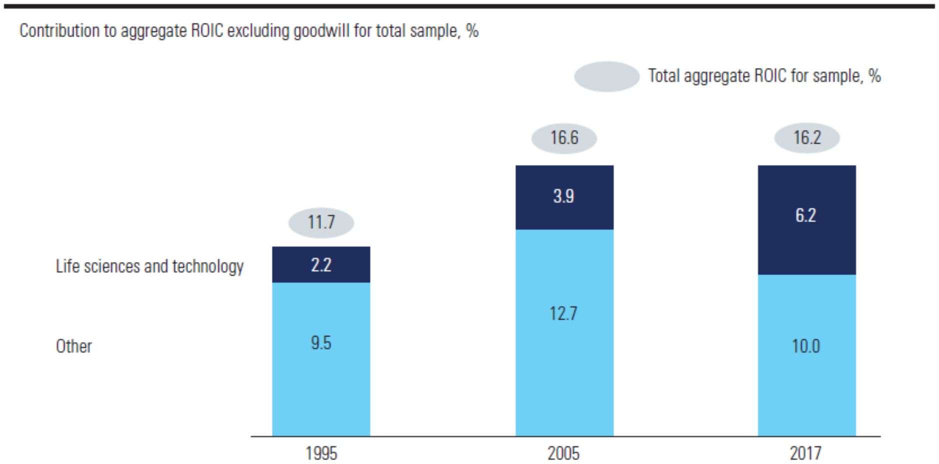
Note: ROIC, NOPAT/sales, and invested capital/sales are aggregate metrics.

[1] Life sciences and techonology sectors comprise pharmaceuticals, biotechnology, health-care equipment and supplies, information services and software, and technology hardware, storage, and peripherals.

Source: Corporate Performance Analytics by McKinsey.

The impact of the increase in ROIC can be seen on the broader ROIC data set. During 1995 ROIC from these two sectors accounted for only 2.2% of the total ROIC from the broader economy out of a total of 11.7% while by 2017 the weight increased to 6.2% pushing up the ROIC of the aggregate economy to 16.2%!

EXHIBIT 8.6 **Contribution of Life Sciences and Technology Industries to the Broader Economy, 1995–2017**

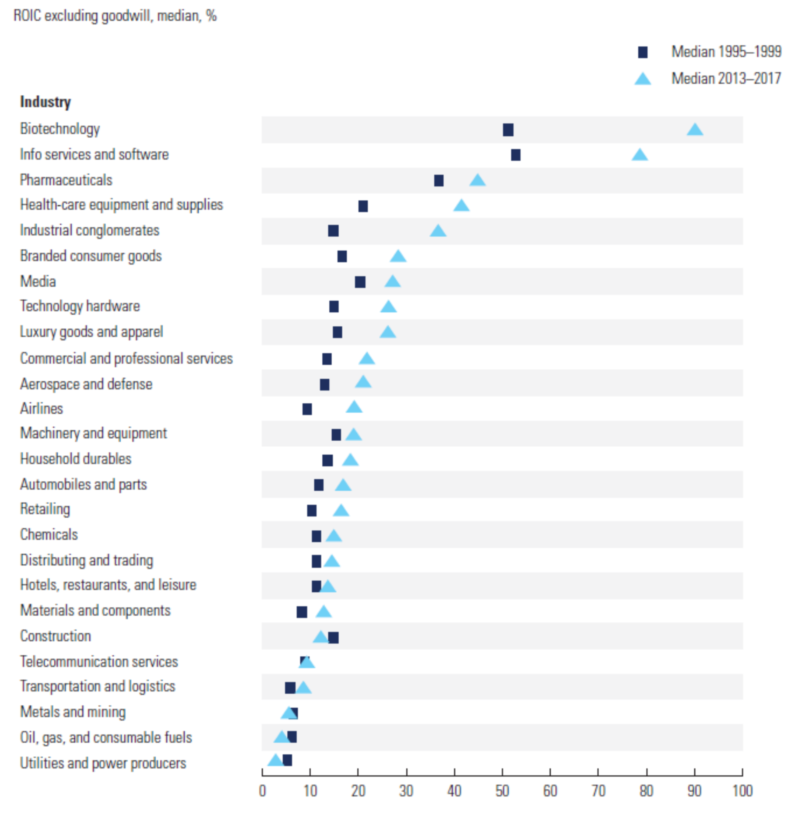


Source: Corporate Performance Analytics by McKinsey.

The next question was which sector does the aggregate broader economy ROIC comprise of? The data point below shows median returns on capital invested across industries in the US between 1995-1999 and 2013-2017.

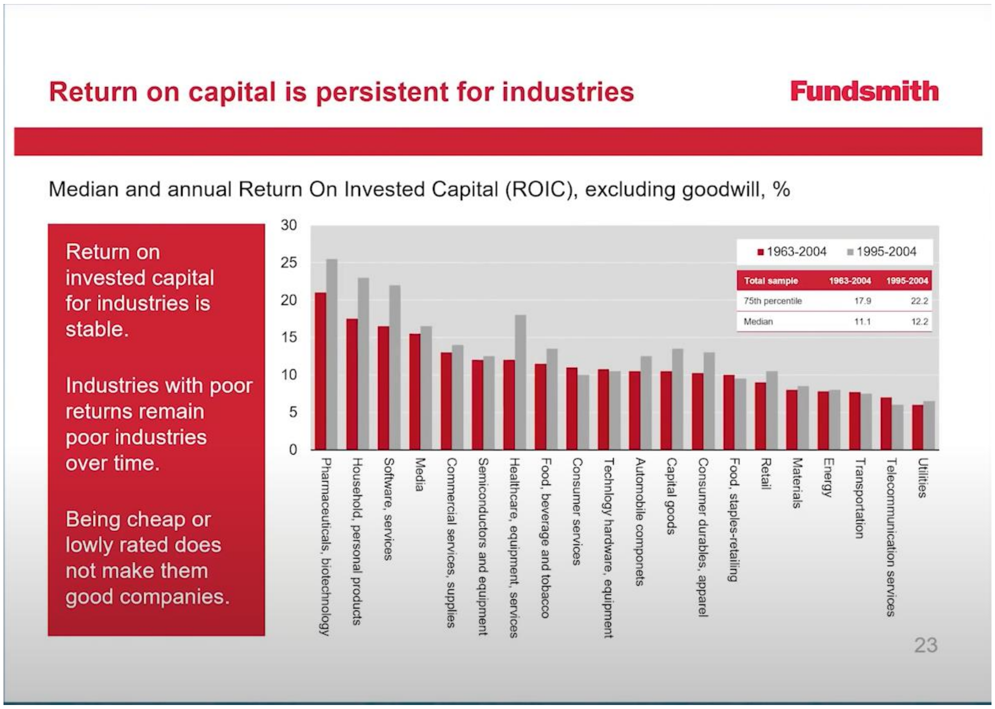
There is a large dispersion in ROIC across sectors (an even greater variation even within the sector as explained below) during the stated period. As you can observe Biotech, Information and Technology and Pharmaceuticals rank among the top 3 sectors as ranked by ROIC. These businesses have strong competitive advantages such as patent protection on a drug or process, network effects, platforms etc. While sectors such as utilities, oil and gas, and telecom have the worst ROIC historically.

EXHIBIT 8.7 **ROIC by Industry, 1995–2017**



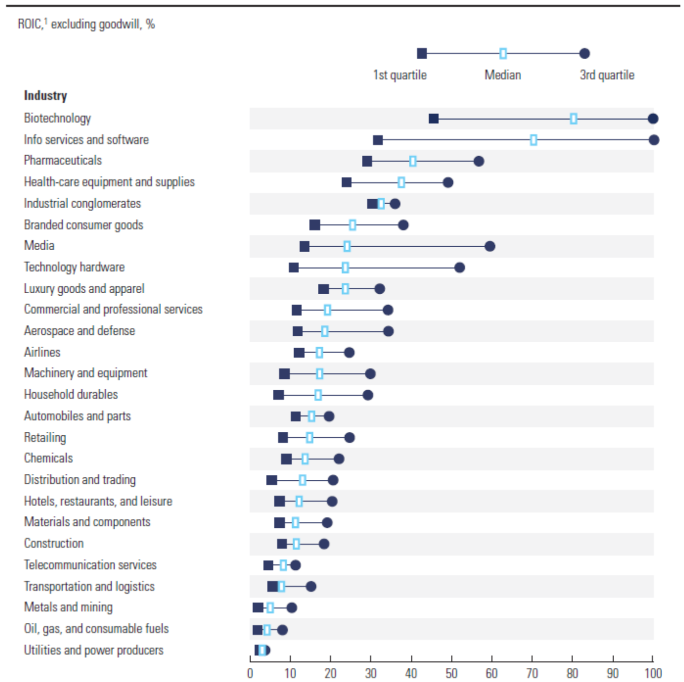
Source: Corporate Performance Analytics by McKinsey.

While editing this post we came across a presentation by Terry Smith where one of the slides provides a longer range of data on ROIC's. If we look at two blocks of the period (1963-2004 and 1995-2004) Pharma and Technology rank consistently in the highest ROIC quartile over longer periods of time.



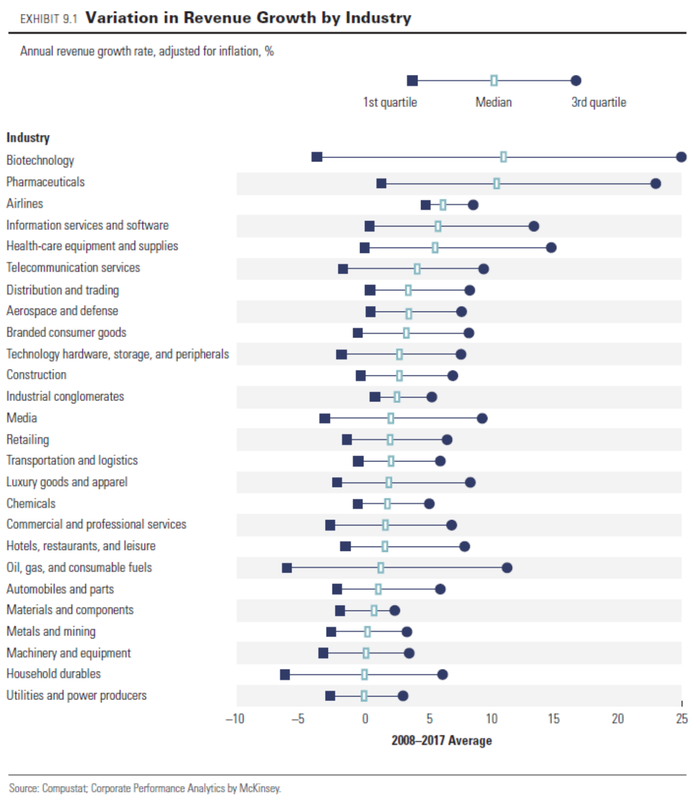
Another interesting aspect is that within industries the variability of ROIC between the 1st quartile and 3rd quartile also tends to be high. For example, within the top quartile in biotech, you could have massive winners which could be due to successful drug discovery or charging high prices to a small set of users. While other biotech names could yield a much lower ROIC due to a higher capital base (due to captive manufacturing units etc).

EXHIBIT 8.8 **Variation in ROIC within Industries, 2015–2017**



[1] Scale limited to 100% for presentation purposes.
Source: Corporate Performance Analytics by McKinsey.

Coming to our next leg of value creation i.e. growth is where things get a bit unclear.



For businesses, all growth cannot be valued equally. Growth could be driven by industry cycles (tailwinds or headwinds), acquisitions, or product/geography extensions. The latter factors are much more valuable than the former ones and valuation would depend on case to case basis.

*"Not surprisingly, the fastest-growing sector over this period was biotechnology, which in 2008 was still a small industry that fueled impressive growth from a wave of innovative, blockbuster drugs. Makers of traditional pharmaceuticals delivered the second-highest growth, but mostly driven by consolidation rather than innovation, as many of the highest-selling drugs from the 1990s came off patent."**

Conclusion

Growth and ROIC within biotech have a wide degree of variability which does not make a great investment candidate as predicting successful outcomes depends a lot on chance (and not skill)! In the past, we did put on small biotech positions due to an asymmetric risk-reward ratio.

The pharmaceutical space also had a wide spectrum of growth variability due to patent cliffs and constant M&A within but they have far more stable ROIC's. Therefore, one would have to look on a case-by-case basis.

While healthcare equipment shows that it has a tighter range of ROIC and growth which gives higher predictability to the business model.

We believe that markets assign predictable businesses with higher multiples and are constantly looking out for such businesses at below intrinsic value.

** Valuation: Measuring and Managing the Value of Companies, 7th edition*

#18: Oracle forays into healthcare – 06.01.2022

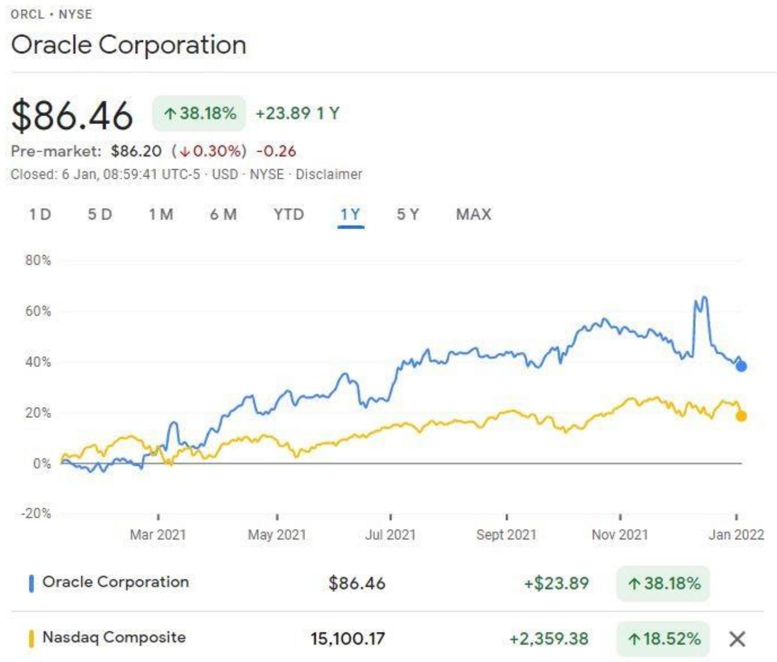
"Americans make money by playing `money games,' namely mergers, acquisitions, by simply moving money back and forth ... instead of creating and producing goods with some actual value." Akio Morita (Co-founder of Sony)

Oracle's $28 bn (valued the business at 25x current year's earnings) all-cash acquisition of Cerner Corporation took place during the last week of 2021 and made it a spectacular year for Cerner's shareholders.

Cerner provides software services to large US hospitals, clinics, diagnostic centers. While Oracle is a provider of ERP, human resource, customer service management, and supply management software.

At the face of it, the street had mixed feelings some saw potential synergy between Cerner's client and Oracle cloud infrastructure. While there are others who flag the unsuccessful attempts made by the likes of Google (Cerner's current CEO headed Google's healthcare venture) and Apple to tackle the burgeoning US healthcare system.

We think Cerner's dominant market share (25%) in an oligopoly industry with high barriers to entry, customer stickiness and high roc's make it a great business. Oracle on the other hand has had challenges on growth (albeit on a high base) which led to some strange bids (TikTok US business) to stay relevant. The business has underperformed the NASDQ composite over the last year so there could be some pressure on the management to do something.



Further, the Cerner acquisition is seen as a response to Microfost acquisition of Nuance to facilitate its cloud strategy in healthcare.

It's too early to agree with Mr Morita but we think there will be an increase in the digital solutions offerings within this space and healthcare players might benefit from this. We would watch out for other players in this space and watch out for consolidation within the healthcare IT names.

#19: Learnings from Nick Sleep – 12.01.2022

This week we take a break from the healthcare updates and share some observations from Nomad partnership letters.

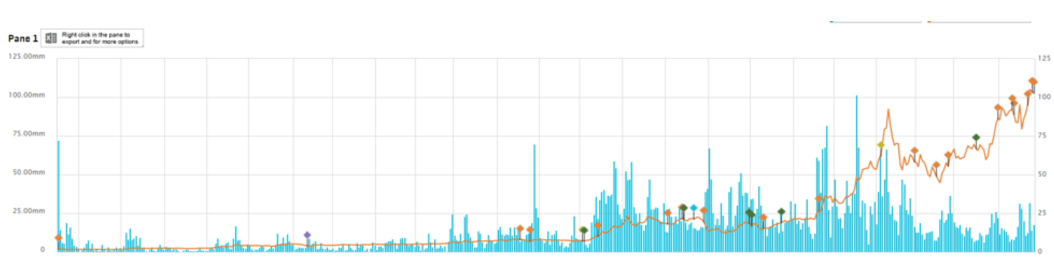
"To make money in stocks you must have the vision to see them, the courage to buy them, and the patience to hold them." ~ George Baker

Nick Sleep is one of the most successful long-term buy and hold investor. Sleep managed the Nomad Investment Partnership for over a decade, along with his partner Qais Zakaria, delivering an annualised total return of 20.8% over twelve years since its inception in September 2001, compared with 6.5% for its benchmark MSCI World Index.

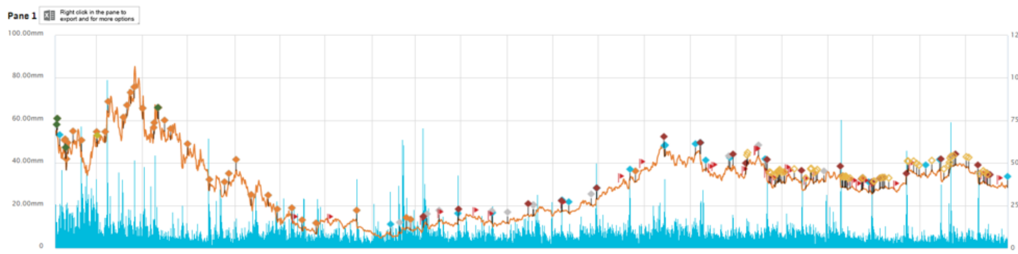
Sleep's letters are a treasure trove of investing wisdom for investors like us benefiting from his incredible clarity of thought. In his letters, Nick explains how he analyses and selects businesses. There are so many lessons to take away from his incredible collection of investment letters. But some of my favourite learnings are given below:

Long term horizon
It's all about the long term. Let's take an example to illustrate this. If we were to give you the following charts which business would you rather invest your money in Company A or Company B?

Company A*



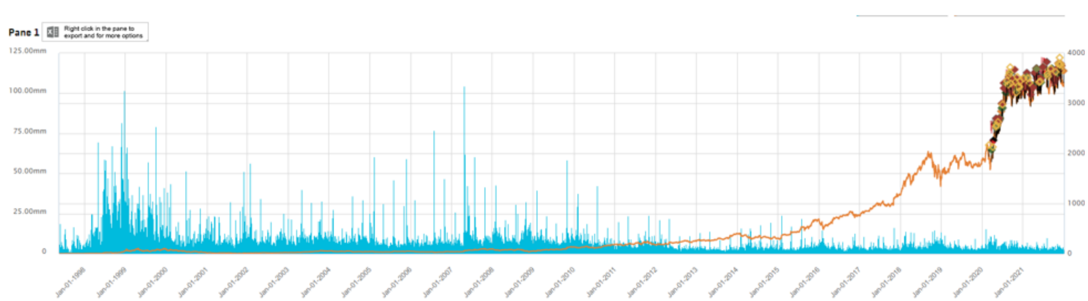
Company B**



Most of us would say Company A since we all love upward trending momentum. Not surprisingly these are share prices of the same business i.e Amazon. The first chart is Amazon's share price from June 1997 to April 1999 during which period the stock price went from $4 to almost $100 delivering a 25x return over a short time frame. While the second chart highlights the period between April 1999 to March 2006 after the bubble burst where the stock first corrected from its height of $100 to $ 40 in 2006 (after touching a low of $6).

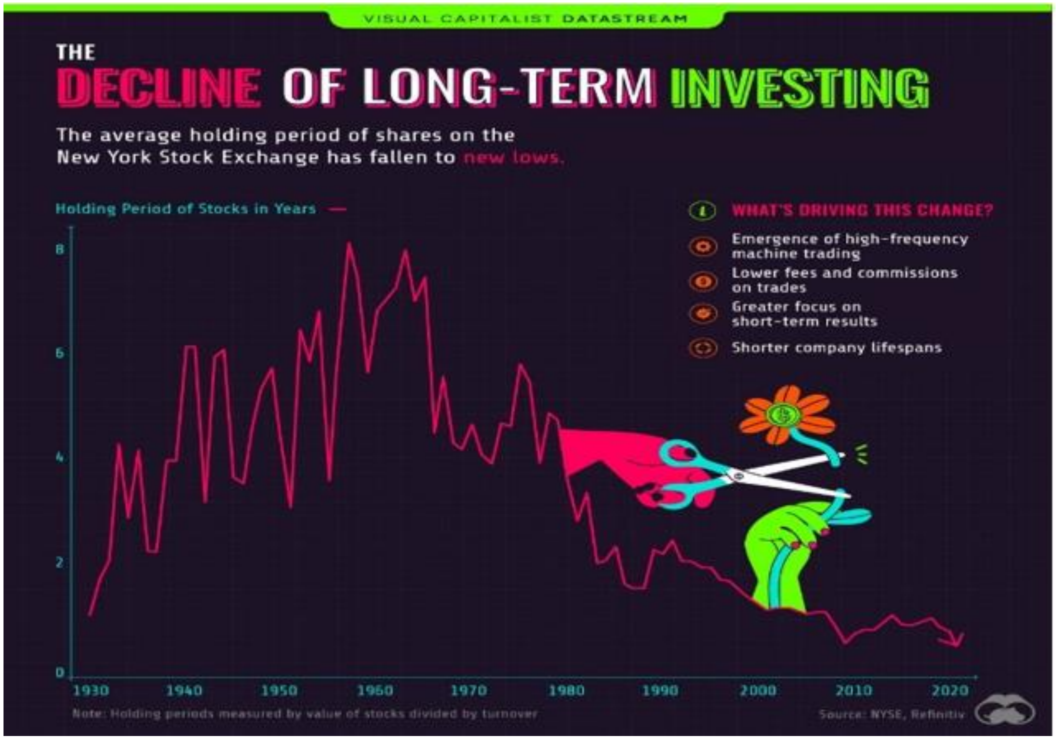
Although if you extend the time frame and looked at the 25-year period, the result doesn't appear so terrible with the stock price going from $4 to $3,572. As I type this into my BAII plus calculator, I come up with an astonishing return of 30%+ which probably ranks this return in the top 1 percentile. The question though is that how many of us would have been able to ride this along all the way to the end.

March 1997-January 2022



There are many businesses which make decisions based on the next three to five years and then there is Jeff Bezos, who was investing for the next two decades.

Imagine the competition you face if your investment horizon is in decades. Long-term horizon gives you the much needed edge in a world that is so obsessively focused on the short term. In fact, New York Stock Exchange data shows that that average holding period of shares on NYSE is less than one year driven by various factors such as emergence of HFT's, lower trading fees and focus on shorter term results.



As Charlie Munger says, "The first rule of compounding is to not interrupt it unnecessarily."

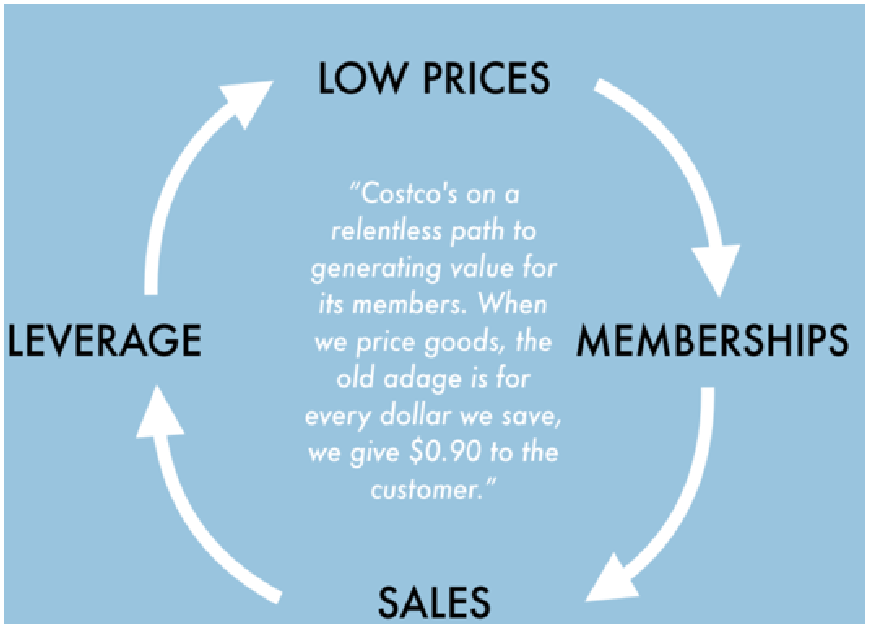
The critic reading this will complain about how we cherry picked our example since for every Amazon out there is a Circuit City (highlighted in Good to Great). Our intention is to develop and identify patterns and incorporate it into our investment process to increase our chances to pick the next Amazon.

Scale economics shared

One should bet on the lowest cost provider who passes on cost-savings to customers in the form of lower prices. The customer reciprocates by buying more products from that company due to lower prices. The business can achieve greater economies of scale and passes on these new savings leading to even lower prices. This leads to higher profitability for the business and its shareholders.

Thus, creating a virtuous cycle which benefits all stakeholders. Do you see where am I going with this? This forces competitors to operate at sub-economic returns due to their inability to compete which eventually leads to their exit.

Costco is a great example which benefits from this. Costco forgoes short-term profits on merchandise by undercutting its competitors on price in order to make long-term profits on memberships***.



It takes considerable time to achieve such economies of scale.

Management and Incentives

Nick mentions that "Almost ninety percent of the portfolio is invested in firms run by founders or the largest shareholder, and their average investment in the firms they run is just over twenty percent of the shares outstanding." Look out for businesses run by super high-quality thinkers with skin in the game.

It is the incentives that reinforce good behaviour. Incentives might not give you sure shot guaranteed results but at least it would raise the probability of the desired outcome. As Charlie Munger says, "Never, ever, think about something else when you should be thinking about the power of incentives."

Let's back up this theory with an example. Kevin Johnson, CEO of Starbucks held $182 million worth of shares of the company. On further inspection, you would notice that 92% of it was in stock options and only $15 million was directly owned (which is still a lot when compared to his compensation of $19.2 million in 2019). One would presume that he was incentivised to do the right thing for the shareholders to create value in the long run.

But here's what happened instead. One of the long-term incentives to earn compensation was that "Management should aim to return $25 billion to shareholders over 3 years either through dividends or share repurchases." You can guess what happened next. The CEO gave out $25 billion to the shareholders.

STARBUCKS 2017-2020

Dividends: $5B

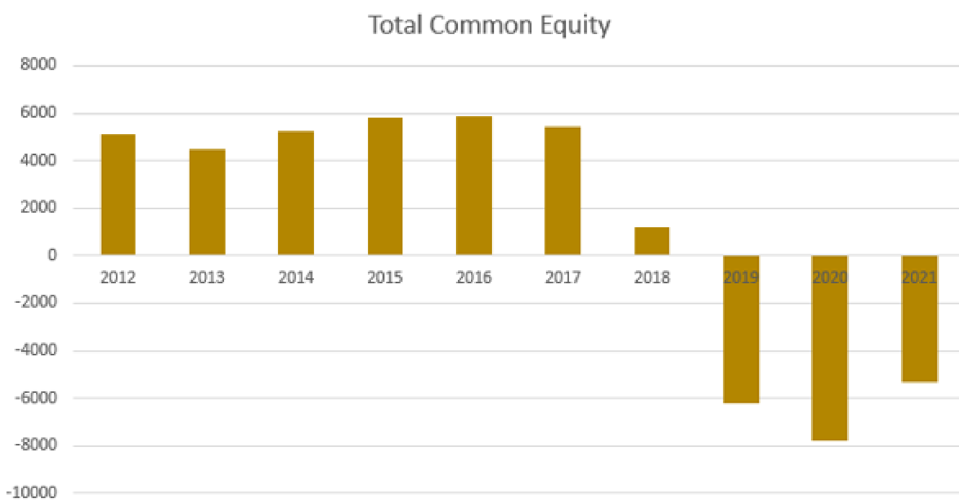
Buybacks: $18.7B

The only issue was that he gave out more cash to the shareholders than the company generated.

STARBUCK'S PROFIT

2018:	$10B	($7B one time royalty)
2019:	$3.3B	
2020:	$0	
Total:	$13.3B	

All of this because the CEO was incentivized to misallocate capital. Starbucks went from significant amount of equity in their book to a deficit leaving them highly reliant on the future profits of the business to pay for their debts.



In 2014, Nick Sleep and Qais Zakaria closed the Nomad Investment Partnership. However, they continue to actively invest money under a different structure. Idea generation is tough.

There is a lot of heavy lifting involved in the homework. The road is less travelled and hard to follow. We, at Lacuna, enjoy the homework.

#20: A quick analysis on BioNTech – 26. 01.2022

"Invert always Invert" Charlie Munger

The last few months have been quite interesting as financial markets went through a period of high volatility. Although the headline S&P held strong there was a silent prick in high growth and high valuation names. This environment presents a great opportunity to pick stocks as prices for many businesses reached below our intrinsic value. It also presented us with a problem of weeding out the names which corrected a fair bit but were hard to put an intrinsic value estimate on. These names go into our digital too-hard pile (similar to Mr. Buffet's "Too hard" box as pictured above). We highlight this dilemma through a case study and invite suggestions on how we could think through the problem better.

One of the businesses that popped up on our screener was BioNTech SE, a German biotech business, that develops and manufactures active immunotherapies. It has been in the limelight for its development in the covid vaccine with Pfizer.

Valuation Multiples based on Current Capitalization					
For the Fiscal Period Ending	12 months Dec-31-2020A	LTM 12 months Sep-30-2021A	12 months Dec-31-2021E	12 months Dec-31-2022E	12 months Dec-31-2023E
TEV/Total Revenue	64.5x	2.2x	1.7x	1.9x	2.8x
TEV/EBITDA	NM	2.9x	2.2x	2.3x	4.0x
TEV/EBIT	NM	2.9x	2.2x	2.3x	4.1x
P/Diluted EPS Before Extra	NM	4.8x	3.7x	3.7x	6.5x
P/BV	23.5x	3.7x	2.8x	1.6x	1.3x
Price/Tang BV	26.5x	3.8x	-	-	-

*Source: Capital IQ**

The business screened quite cheap at 4x next year's earnings implying that if one bought into this business you could recover your investment in four years (i.e. a 25% IRR). The serotonin in our brains kicked in and we wanted to analyze the situation further!

Source: Thomson Reuters

As you would have noticed the price of the stock has halved over the last two months! The questions we were debating were whether the correction was due to deterioration in business fundamentals or plain market volatility. So we looked under the hood to check on what was going on.

BionTech SE DCF Analysis

No of shares o/s	241.5								
CMP (USD)	147								
USD/EUR	0.9								
Discount Rate	12%								
Tax	31%								
Market Cap (EUR)	31,262								
Less Cash	2,394								
Enterprise Value	28,868								
(Mn Eur)	1	2	3	4		As a % of revenues			
Revenues	**2022**	**2023**	**2024**	**2025**		**2022**	**2023**	**2024**	**2025**
COVID	15,029	9,591	7,031	5,384					
R&D	189	189	189	189					
Pipeline				58					
Total Revenues	15,218	9,780	7,220	5,631					
COGS	1,826	1,174	866	676		12.0%	12.0%	12.0%	12.0%
Gross Margins	13,392	8,606	6,354	4,955		88.0%	88.0%	88.0%	88.0%
R&D	1,403	1,613	1,774	1,863		9.2%	16.5%	24.6%	33.1%
SG&A	463	532	559	576		3.0%	5.4%	7.7%	10.2%
EBITDA	11,526	6,461	4,021	2,516		75.7%	66.1%	55.7%	44.7%
Less Tax	3,573	2,003	1,246	780		23.5%	20.5%	17.3%	13.9%
Net Income	7,953	4,458	2,774	1,736		52.3%	45.6%	38.4%	30.8%
(Source: UBS)									
Discounted Cash Flow	7,101	3,554	1,975	1,103					
	13,733								

Source: Internal Analysis

We did a quick discounted cash flows analysis and used sell-side estimates to understand revenue build-up over the next two years.

The business is expected to deliver revenues of €32 bn (primarily driven by covid vaccines) over the next three years which generates approximately €15 bn of net income. We discounted the net income to compare it to the current Enterprise Value (EV).

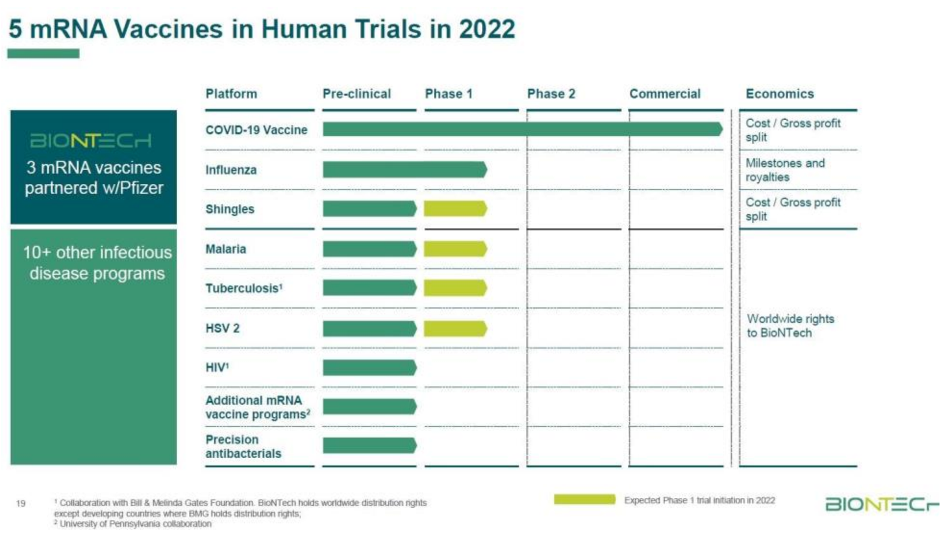
We used a 12% enterprise discount rate. Some folks might argue for a lower rate given the low-interest-rate environment. We could spend a separate post discussing the appropriate discount rate but internally we reasoned that a 12% return hurdle is reasonable considering the wide variability of outcomes in cashflows. We arrive at the value of €13.7 bn for the covid cash flows for the next three years.

Note	Covid Terminal Value	
	Revenues	3,000
	EBIT	10%
	EBIT	300
	Multiple	10
	Terminal Value	3,000
	Discounted Value	1,907

As the next step, we assigned a Terminal Value to the covid cash flows emanating from covid vaccines post 2025. Leveraging on the sell-side expertise we assumed that the covid vaccines have a steady-state revenue of 3 bn to eternity with steady-state EBIT margins of 10% (increasing number of players setting up vaccine capacities). We assigned a 10x multiple discounted it back and arrived at a value of €1.9 bn.

Value of Pipeline		
DCF of Covid Revs	13,733	47.6%
Terminal Value of Cov	1,907	6.6%
Pipeline Valuation	13,228	45.8%
	28,868	100.0%

If we sum the values of covid vaccines and subtract them from the current EV we arrive at the implied value of the pipeline at €13 bn.



Source: BionTech SE JP Morgan Healthcare presentation

Now let's try to compare our numbers with narratives. As a next step, we try to estimate the value of the pipeline based on the market size, number of competitors, and complexity of the molecule. Most of the Company's pipeline (except covid) are under Phase 1 trials which presents a challenge. Typically, we assign no value to molecules in Phase 1 or earlier given high failure rates.

Further, the street expects revenues from these molecules to materialize in 2025 while the implied valuation that we did suggested a 45% value assigned to the pipeline. This did not present us with any margin of safety so we had to give this opportunity a pass.

This post discusses the way we look at the valuations of a business and should not be considered as any comment on the quality of the business. Given our limited circle of competence in assessing biotech businesses and wide variability of outcomes, we would not have been able to accurately value the pipeline (accounts for 45% of the business value).

Note: Capiq estimates are based on consensus analyst estimates while our estimates are based on UBS estimates.

#21: A meltdown in the European homecare operator space – 02.02.2022

"It takes 20 years to build a reputation and five minutes to ruin it." Warren Buffet

To kick things off we would like to wish our Chinese readers a very Happy New Year of the Tiger!

We have been closely following the developments in the European care home operators. For the un initiated stock price of one of the leading businesses collapsed after a journalist revealed some unsavory practices practiced by home care operated by Orpea.

It seems that the residences (some of which were priced for Euros 10,000+) did not have hygienic living conditions and the home care operators prioritized the profits of the care center above the needs of the elderly. If these findings are true this practice is quite deplorable.

We believe that businesses operate in a social ecosystem where they impact various stakeholders so it is essential to recognize the perspectives on each stakeholder. We were influenced by the post on vantage points as written about by Prof Bakshi and tried to analyze the situation from the viewpoint of various stakeholders.

a) View of the business analyst: the entire European home care market underwent a correction on fears of increasing government regulation or people no longer opting for home care services. Share price on average corrected in the range of 10-50% which might be harsh for a steady-state business that provides a high certainty of income. It might seem that the markets might have thrown the baby out with the bathwater.

These types of events happen all the time in history if we dial back and look at the Salad oil where Warren Buffet took a large position (40% of his portfolio) in American Express after the stock sold off after the scandal. A few years back we were also faced with a similar situation when a book called "Bottle of Lies" was released making scathing remarks at the production facilities of some large Indian US generic businesses. Prices of these businesses fell like nine pins and we were able to buy businesses at a steep discount during the sell-off.

We were able to identify some smart management teams who were able to learn, adapt and evolve from this event and take corrective action.

b) View of the customer: the decision-maker (the children or the elderly themselves) in this case will do in-depth diligence before they choose a care home. Which we think is essential as customers will better understand the living conditions they can expect post they move in. Although, we question whether the decision-makers really aren't conducting proper diligence already?

c) View of the Company: We think businesses will have to reorganize their process and people. Orpea's Board acted quickly to prevent the damage and fired it's CEO. Senior Management teams would have to take a close and hard look at personnel incentive structures driving such bad behavior as they are held accountable to higher standards.

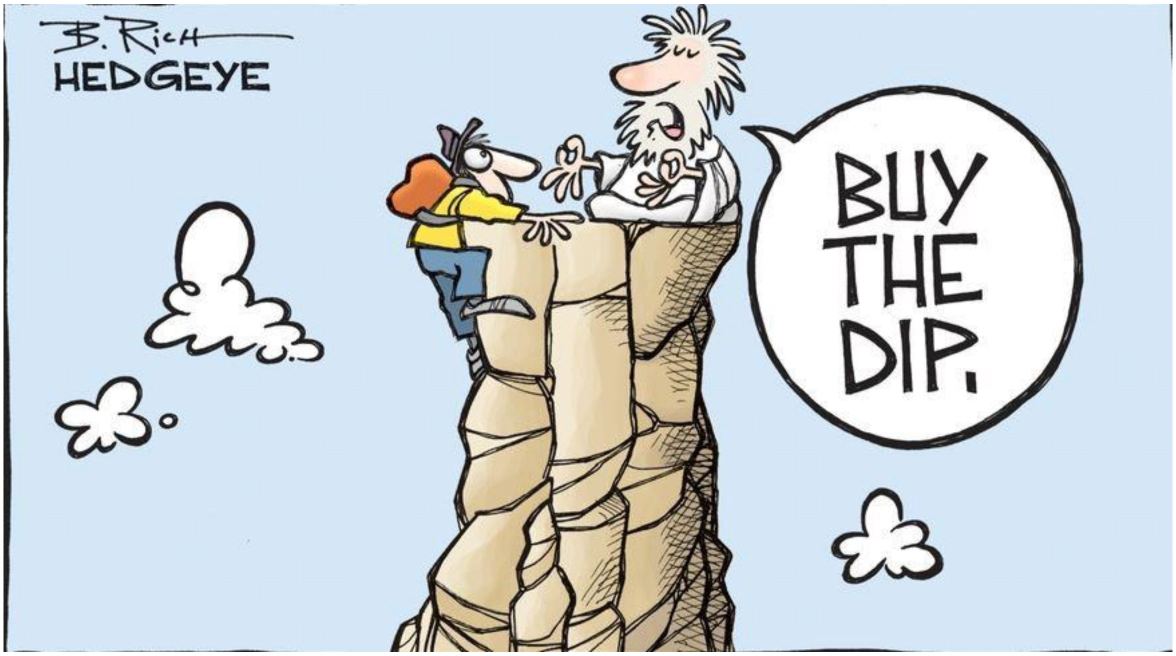
d) View of the Government: people would expect their elected officials to come up with strict regulations to govern this space. In an increasing regulatory regime, some players might not even find it profitable to continue operating and exit the market which will benefit existing players.

Would this be a game of last man standing?

Conclusion

One of our portfolio businesses operates in the home care space and it's share price was adversely impacted but is still what we think is the intrinsic price. We continue to monitor development in this space closely.

#22: Time to buy the dip (a case study)? – 09.02.2022



What do you call a stock that's down 90%? A stock that was down 80% and then got cut in half. - David Einhorn

Unless you have been living under a rock you may have taken notice of the train wreck in the high growth end of the market since the beginning of the year. Frequent debates on business channels whether to buy the dip (because it worked the last time) is a great example of recency bias.

We have avoided many richly valued names over the past few years since we thought the market was baking in very optimistic projections about business performance and stuck to the value range of the market. With the following quick case study, we wanted to show that there could be possible over-optimism even after a large price correction.

We like business models which require little or no capital to grow as you can command a premium valuation in the market. Healthcare services businesses fit perfectly within this framework. Selectquote Inc (NYSE:SLQT) was one of the businesses which we were tracking which had a market cap of c.a. $3 bn business when we started tracking it last autumn.

Source: CapIQ

The stock experienced a sharp correction (40%) on missed earnings guidance but it looked reasonable from a quantitate (EV/EBIT and P/E) perspective.

Valuation Multiples based on Current Capitalization					
For the Fiscal Period Ending	12 months Jun-30-2020A	LTM 12 months Dec-31-2020A	12 months Jun-30-2021E	12 months Jun-30-2022E	12 months Jun-30-2023E
TEV/Total Revenue	8.1x	5.8x	4.8x	3.5x	2.9x
TEV/EBITDA	29.7x	19.2x	18.8x	13.6x	10.7x
TEV/EBIT	30.9x	20.8x	20.5x	14.6x	11.3x
P/Diluted EPS Before Extra	NM	27.5x	29.9x	20.4x	16.1x
P/BV	7.9x	6.8x	6.3x	4.8x	3.7x
Price/Tang BV	9.1x	7.7x	-	-	-

Source: CapIQ August 2021

The sell-side (like the mermaids in Homers Ulysess) tried to serenade us with voluminous research to prove how undervalued the stock was. We stuck ourselves like Ulysess to our research process mast trying to understand the business model and then figuring out the intrinsic value. Given the intense competitive intensity in the industry, I wanted to see how things played out over the next few quarters on customer acquisition and margins.

Fast forward to earlier this week the company missed its guidance by a mile and the stock dropped like a stone (down 50%). At this point, the sell-side could not cut its earnings estimates and target price fast enough. We expect they might even drop coverage on the business as it becomes less attractive to institutional buyers (market cap of SLQT is now <$500 m).

Source: CapIQ

We will track how this plays out but my hypothesis is that there could be some churn in the industry and uncompetitive players will leave the industry which will make businesses economics attractive again. We will do a follow-up maybe next year and find out.

Conclusion
a) If a stock loses more than 50% of its value (other than a general market decline) it does not imply that it's cheap. Do scroll back to read Mr. Einhorn's advice at the top.

b) A business analyst's primary focus should be to understand business dynamics and assess whether they are improving.

#23: Disruptive Innovation – 23.02.2022

"True disruption means threatening your existing product line and your past investments. Breakthrough products disrupt current lines of businesses." — Peter H. Diaman

This week we take a break from healthcare chatter and talk about a business strategy framework we use to analyze businesses.

Sixty years ago, the average life span of a company in the S&P 500 was over fifty years while today it's less than fifteen. New businesses with innovative business models keep challenging the staid old ones. This creates pressure on existing businesses, to change and as you would realize change is hard (you should ask the co-author of this article) especially for a company with a long legacy. To take advantage of this change, you need to understand how it happens and way to monetize it.

"Disruptive Innovation" as proposed by Professor Clayton M. Christensen is a useful framework to look at such business scenarios. It starts with a new business entering a market, disrupting the space by targeting customers overlooked by established players (it's too small or unprofitable to service). Over time new entrants' foray into the established customer segment and start taking away market share and by the time established players realize what's happening it's already too late.

Recently, we came across an example in the banking space. The Brazilian fintech company Nubank is now the largest neobank in the world, with 48 million customers and a $47 billion valuation. That valuation is slightly higher than that of Itau's market cap, the largest state bank in Brazil of more than 75 years of age. Before we talk more about Nubank, let's try to understand what made it so successful in the first place and try to identify gaps as to why such an enormous opportunity existed in Brazil's financial space.

In Brazil, financial services have low adoption rates. 33% of households are either unbanked or underbanked. Cash is still the predominant payment method accounting for 90%+ of payments. This can be attributed to lack of financial services as banks mostly cater to the affluent.

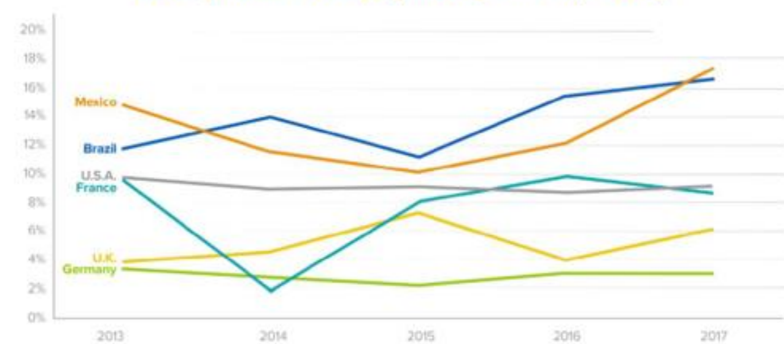
Much of the Population in Latin America Is Underserved by Banks

Country	Number of Banks	Concentration	Debit Cards	Credit Cards	Unbanked
Brazil	174	Top 5 Banks: 80%	70%	33%	33%
Mexico	51	Top 5 Banks: 69%	37%	30%	50%
Colombia	25	Top 5 Banks: 77%	52%	26%	32%

Sources: ENIF, World Bank, Capital IQ, Financial Superintendence of Colombia, Verisk Financial Research, Reuters, Statista, Bankscope

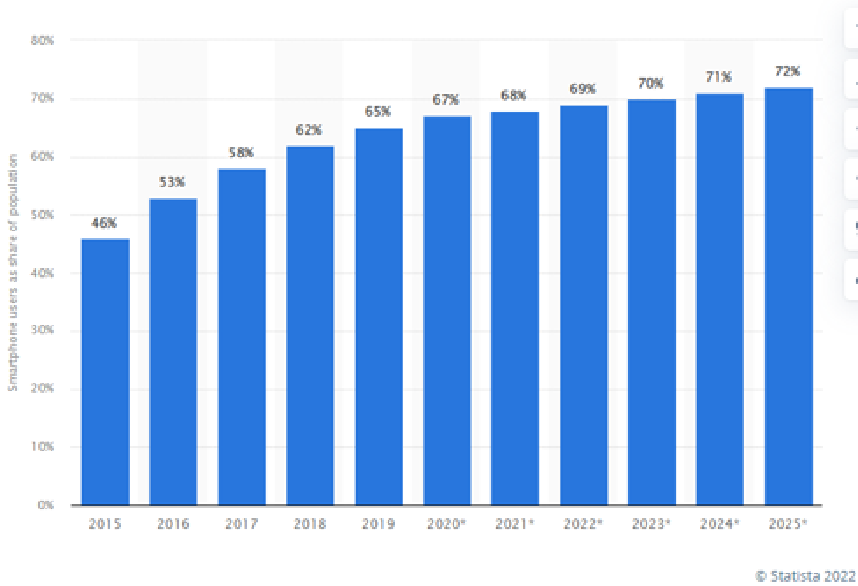
Brazilian banks for 20 years have been the most profitable in the world with Return on Equity hovering around 20%, that's twice that of American banks. You have five banks that own 90% of the markets. They charge the highest interest rates in the world. How was this possible? You may ask. Nobody was competing with these big banks (probably due to regulatory barriers) and big banks had no incentives to innovate.

Average Return on Equity Among Banks by County



Source: Federal Reserve Economic Data (FRED)

Most banks didn't have a mobile app and in-person banking for majority of their users. David Velez, CEO of Nubank sensed a window of opportunity through mobile. This was in 2012, where the smartphone penetration was starting to grow very fast in Brazil. The speed of technology adoption in Brazil is one of the highest in the world.



Smartphone Penetration in Brazil

What gave them the edge to compete?

Inequity is a breeding ground for disruption. That's what's happening in banking. The Central Bank of Brazil supported competition in the market and tried to remove all those barriers. Nubank offered basic services of a bank, with one less expensive and cumbersome feature: the branch.

Being a fully digital company, they had no need for expensive backend branches. This helped them to be more efficient by servicing 50 time more customers per human, than traditional banks. Ultimately, that translates into significant cost efficiency which is passed to the end consumer via lower fees. Another few advantages comes from analytics infrastructure to use data and make different decisions. It also built an in-house FICO model to underwrite most of the population. Since 2014, it incurred zero customer acquisition costs and has grown by word of mouth.

Nubank's rapid growth from 1 million applications in 2016 to more than 48 million in a few short years seems to come out of nowhere. Nubank figured out early on what has since become obvious to the rest of the world.

Currently, Nubank is unprofitable as its technology expenditure is front loaded and charged off in the P&L since accounting rules do not allow operating expenditure to be capitalized.

We envision two scenarios playing out:

1. The business focuses on profitability as operating leverage plays out (profit growth outpaces revenue growth).

2. Management continues to sacrifice short-term profits and continues to reinvest in the business i.e. further operating losses to the income statement.

Gazing into our crystal ball, we do not have a very clear idea which scenario will play out given multiple variables (competitive intensity, will shareholders play ball etc.).

What we do know is that disruption in a complacent industry leads to radical changes in business models. We have witnessed the impact of disruption play out in multiple sectors over multiple cycles (low-cost airlines, generics drugs etc.).

As value investors we don't think we can avoid innovative disruptive models, but we do not need to catch them early on as these businesses are fraught with instability and risks. For every Southwest airline or Amazon, we can quote multiple failures. One has ample opportunity to invest even after a disruptive agent has entered the industry.

We constantly look out for interesting business models and try to identify tailwinds/ headwinds in that sector to find the next disruptor. We do feel that there is a lot more of such stories to be witnessed in 2022 than we saw in the recent years and that's a very good thing.

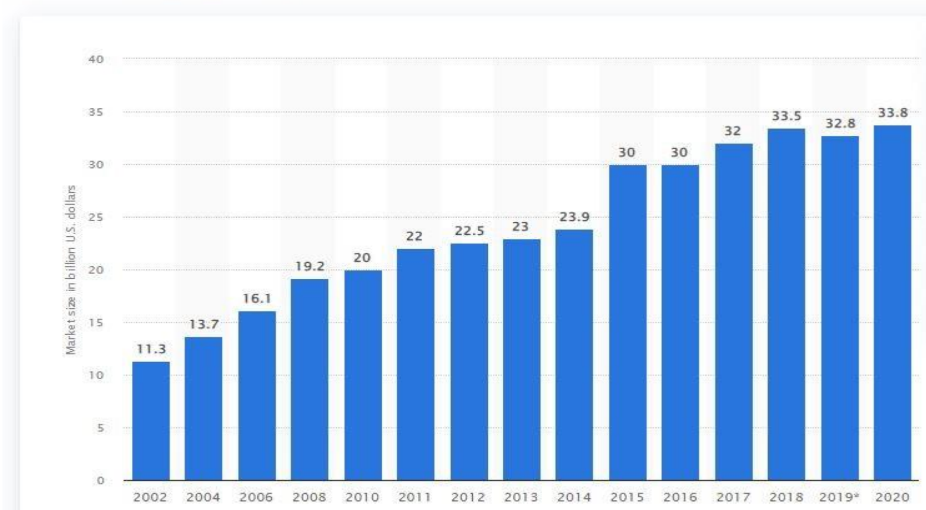
#24: Is the market throwing the baby out with the bathwater with Covetrus Inc.? – 03.03.2022

We tend to benefit in life when we sacrifice something today, to gain something tommorrow. That is true for companies. That is true for individuals. - Thomas Russo

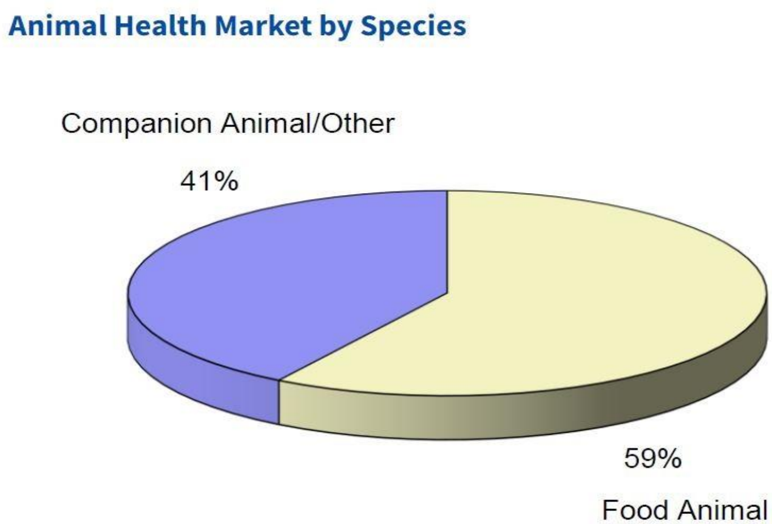
The phrase to throw the baby out with the bathwater means to discard something valuable along with other things that are undesirable. It is a loose translation from the German phrase "das Kind mit dem Bade ausschütten" literally to empty out the child with the bath, first recorded in 1512. Usage of the phrase has been in vogue since 1512.

Global animal health market size from 2002 to 2020

(in billion U.S. dollars)



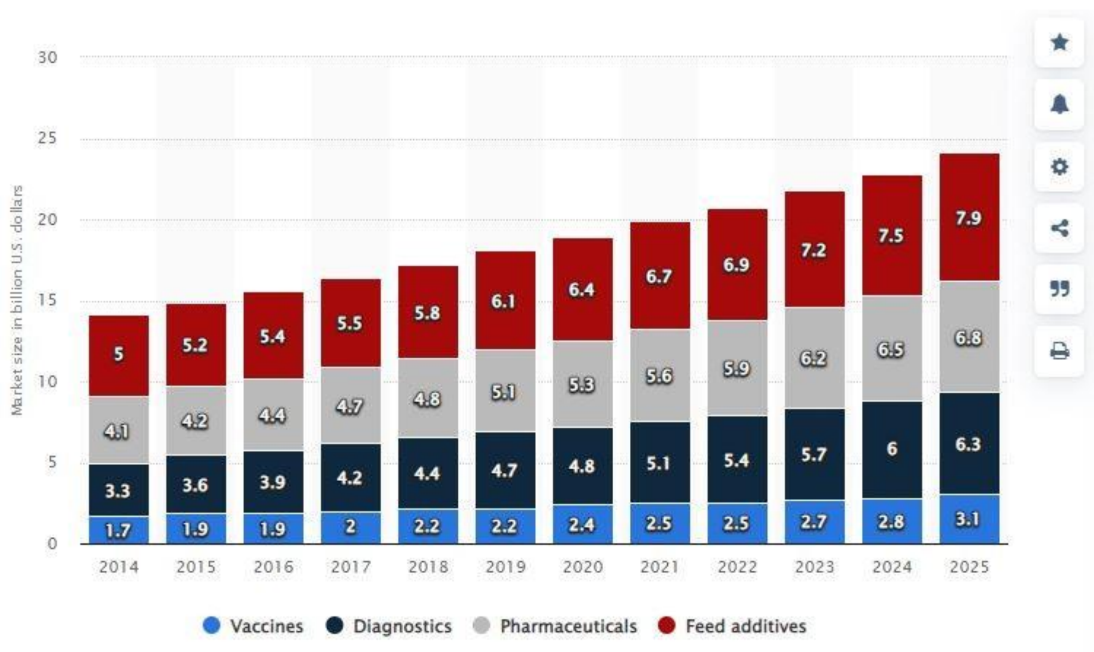
Animal healthcare has been a segment that has piqued our interest for a while. The global animal healthcare market is estimated at $33.8 bn and has been growing at 5.8% over the last decade.



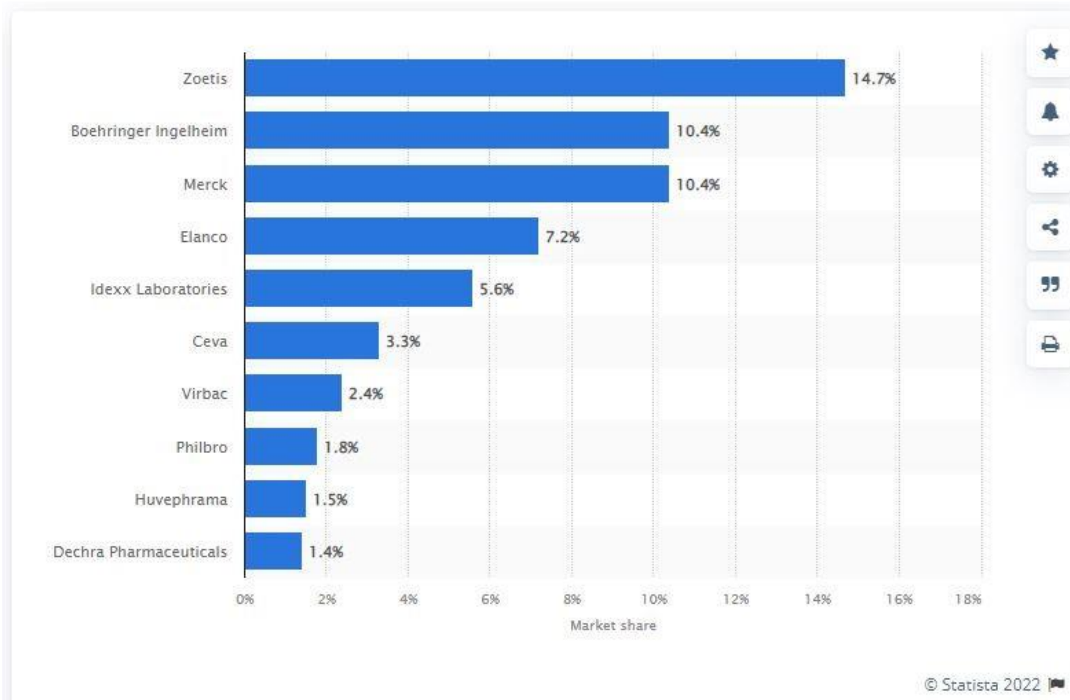
The market is further split into companion animals (41%) and food animals (59%). The size of the companion animals' market has been growing at a rapid pace due to trends larger trends such as the humanization of pets.

Source: https://www.healthforanimals.org/about/our-sector/

Segment wise size of the animal health market in North America from 2014 to 2025



The North American market animal is estimated at $ 20 bn of which the diagnostics and pharmaceutical segment account for half of the total spending. Zoetis (spun off from Pfizer) is the largest animal healthcare business ranked by revenues.



The animal healthcare market is quite concentrated with 43% of the market share with top four businesses.

One of the businesses which we found interesting in this space was Covetrus Inc (a spin-off from Henry Schein). The stock price has derated over the last year as the business has been building out its digital platform and diversifying from its physical distribution business to stop market share loss to digital players (Amazon and Chewy). Our variant perception suggests that the market is ignoring the benefits of such hybrid distribution solution and penalizing the company for short-term negative earnings.

Background

Covetrus Inc. (NASDAQ: CVET), was formed in 2018 as a combination of Henry Schein Animal Health Business (supply chain services) and Vets First Choice business (Software and Prescription Management business).

Covetrus (In mn.)						
Summary	**2017**	**2018**	**2019**	**2020**	**2021**	***CAGR***
Revenues	3,580.0	3,778.0	3,976.0	4,339.0	4,575.0	***6.6%***
Cost of Sales	2,928.0	3,094.0	3,227.0	3,541.0	3,717.0	
Gross Profit	**652.0**	**684.0**	**749.0**	**798.0**	**858.0**	***7.0%***
Gross Profit %	***18.2%***	***18.1%***	***18.8%***	***18.4%***	***18.8%***	
S,G&A	517.0	547.0	808.0	867.0	881.0	
% Sales	*14.4%*	*14.5%*	*20.3%*	*20.0%*	*19.3%*	
Goodwill Impairment	-	-	938.0	-		
Operating Income	**135.0**	**137.0**	**-997.0**	**-69.0**	**-23.0**	***n.m.***
Operating Income %	***3.8%***	***3.6%***	***-25.1%***	***-1.6%***	***-0.5%***	

The business has been growing at a mid-single-digit primarily supported by its distribution business. New management was brought on board in 2019 which focused on developing a new division.

Business Revenues	**2017**	**2018**	**2019**	**2020**	**2021**	***CAGR***
Supply Chain Services	3,478.0	3,689.0	3,678.0	3,926.0	4,084.0	***4.1%***
% Sales	*97.2%*	*97.6%*	*92.5%*	*90.5%*	*87.2%*	
Software Services	101.0	101.0	99.0	96.0	99.0	***-0.5%***
% Sales	*2.8%*	*2.7%*	*2.5%*	*2.2%*	*2.1%*	
Prescription Management	-	-	246.0	406.0	503.0	***43.0%***
% Sales	*0.0%*	*0.0%*	*6.2%*	*9.4%*	*10.7%*	
Eliminations	-1.0	12.0	47.0	89.0		
Total Revenues	**3,580.0**	**3,778.0**	**3,976.0**	**4,339.0**	**4,686.0**	***7.0%***

Supply chain services (distribution) which constitute the majority (87%) of the business revenues have been growing at a stable clip of 4% while the prescription management (digital platform) business accounts for 10% of total revenues and is growing at a fast clip.

Market Size

There are c.a. 30-35k veterinarians in the US of which Covetrus services 11k veterinarians (30% market share) while Patterson Companies Inc and ABC also have sizeable market shares.

Strategy

The business is trying to execute its integrated strategy of being a one-stop-shop for veterinarians and taking care of procurement, distribution, software management, and customer billing thereby extracting more value from the chain.

Risks

a) Execution: the business still faces execution risks as it scales its digital platform. The probability of that is low in our view since a lot of setup cost has already been incurred. Further, they can leverage their existing direct relationship with veterinarians.

b) Switching cost: veterinarians could switch to competitor firms. We foresee this risk as low as Covetrus strives to become an integrated services provider and lock in veterinarians on its platform.

c) Size: The business caters to a niche market of 35k veterinarians in North America which could be exhausted in the next few years. How the next leg of growth (i.e. International market) plays out might entail some execution risk.

Valuation

As per our estimates, the business should grow by 6-7% c.a as the business scales its digital and software platforms.

We think the business should achieve a steady-state operating margin of c.a. 5.5% by 2025 as expenses on account of digital platform level off and it enjoys operating leverage. The business should be able to achieve asset turns of 4-5x as it's an asset light distribution business to achieve a return on capital employed of c.a. 15-20%.

Management has guided to a non-GAAP EBITDA of $245-255 mn for 2022 which values it c.a. 12x EV/EBITDA (2022).

Conclusion

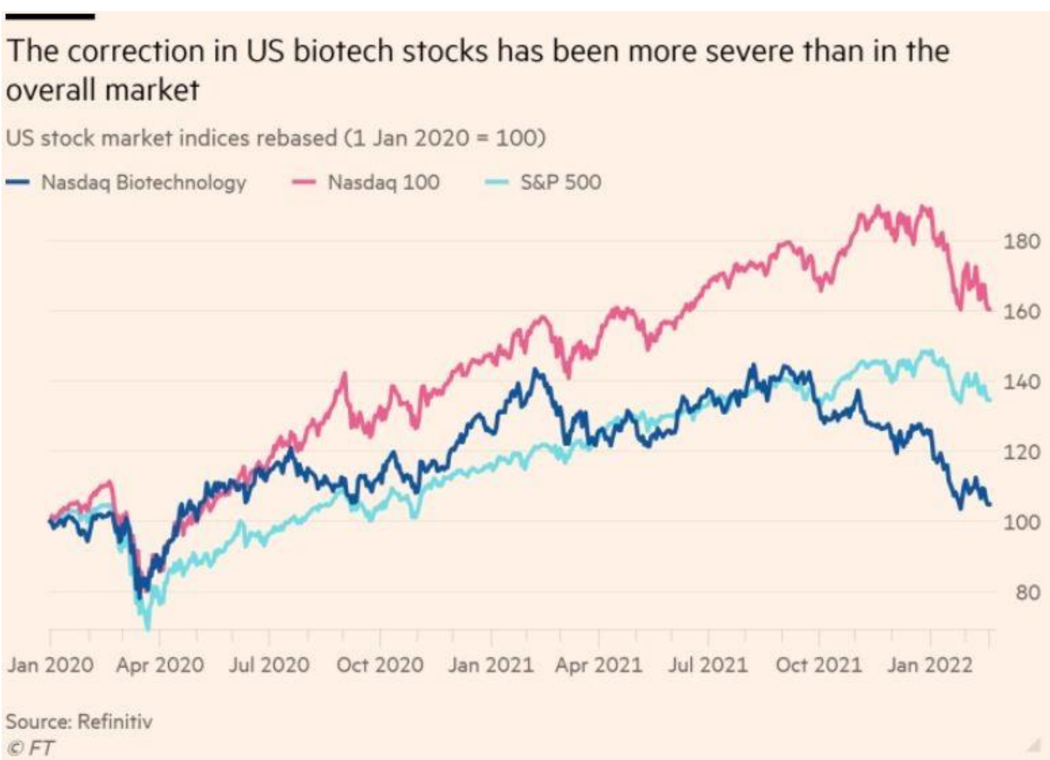
We think Covetrus is a fairly defensible business with resilient cash flows trading at below mean historic multiples. We would continue to monitor for the new management's execution.

#25: Opportunities emerging in biotech? – 09.03.2022

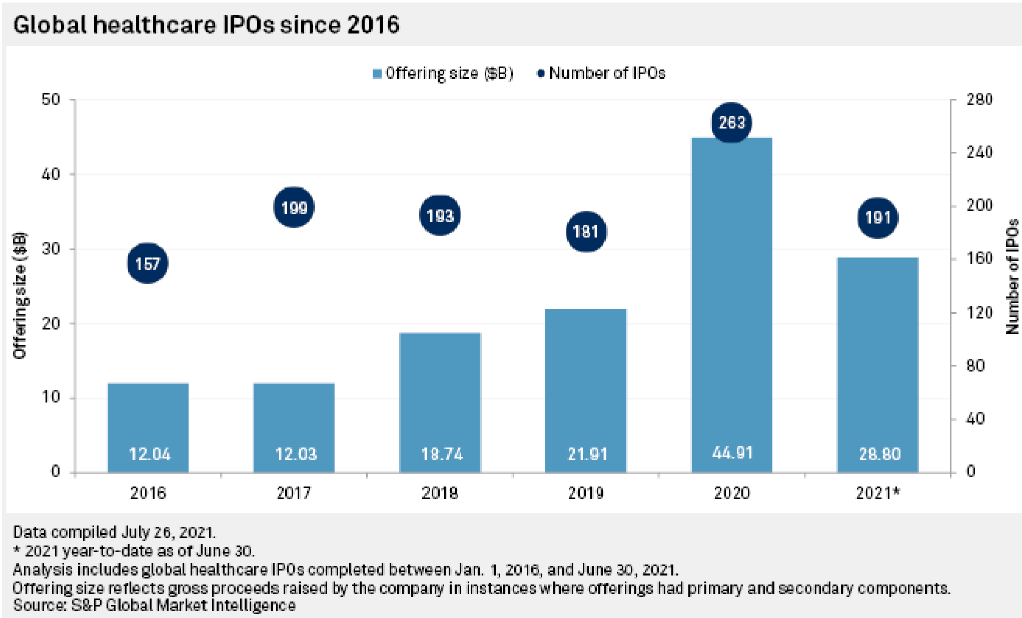
"Men, it has been well said, think in herds; it will be seen that they go mad in herds, while they only recover their senses slowly, and one by one." Charles Mackay

As we see the go-go stocks of 2021 we are reminded of the quote by Charles Mackay. We will discuss some interesting developments underway in one of the niches of the market and some opportunities where we see value emerge.

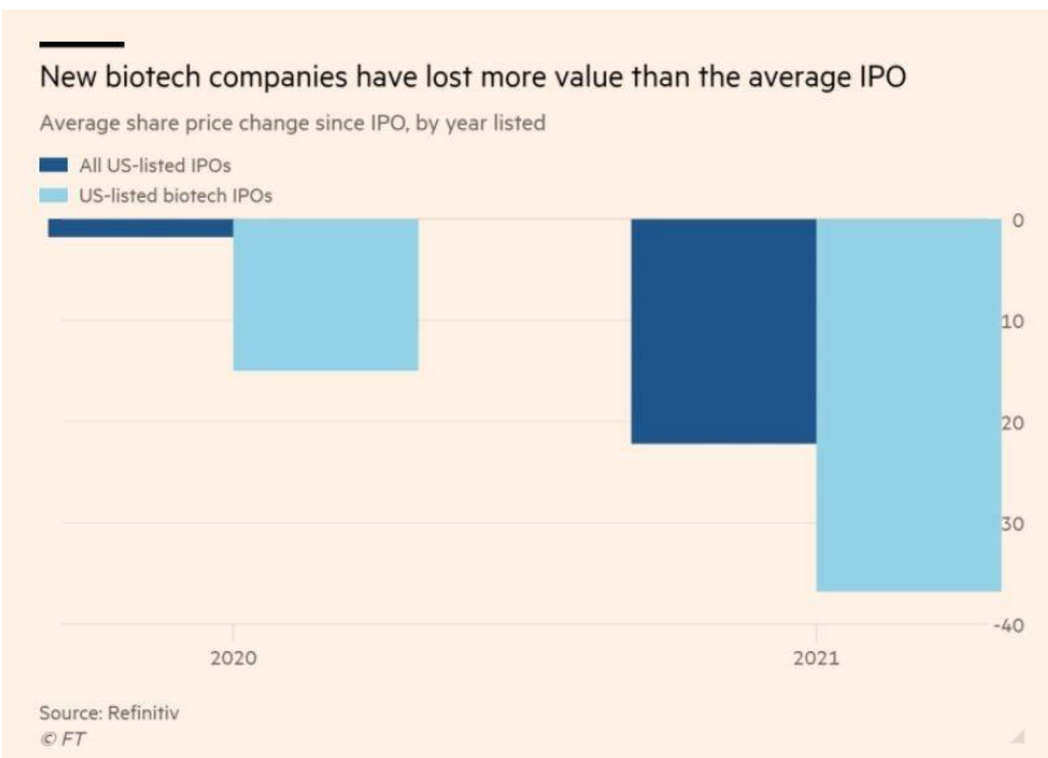
The NASDAQ Biotech index has been underperforming the S&P 500 and NASDAQ 100 by a wide margin since the last six months.



Until July 2021 the total funds raised by global healthcare IPO's was USD 28.8 bn. Biotech businesses, most of them loss-making raised a staggering $32.7 bn in IPO over the last two years. Some businesses are now trading at negative Enterprise Value i.e. where the current cash on the books is more than the market cap!



Biotech groups that listed in 2021 are trading on average 37% below their IPO price, compared with a 22% fall for all newly US-listed businesses. We have seen this story play out so many times and as a rule we have never subscribed to IPO's.



The biotech space attracted a lot of novice investors who were attracted to these IPO's since healthcare was a "hot sector" but they forgot the risks associated with investing in early-stage drug development businesses. This isn't a new phenomenon and recurs every few years.

“Bull markets are born on pessimism, grow on skepticism, mature on optimism and die on euphoria. The time of maximum pessimism is the best time to buy, and the time of maximum optimism is the best time to sell - Sir John Templeton, February 1994"

This phenomenon has encouraged us to think about implications for players in the value chain:

a. IPO investor: ranging from institutional to individual investors who jumped invested outside their circle of competence are now exhibiting loss aversion and sticking with their choice. They anticipate that this is the bottom and hope to recover their original capital back.
b. Biotech business: they might be the real victims here as many of these businesses sought the capital markets to raise funds to help raise funds for to develop drugs to cure complex diseases. Unfortunately, public markets might not give them a chance in the near future. For the already listed ones, they might have to show near-term progress to be credible.
c. Vendors: smaller CDMO's benefitted from the biotechs that outsourced capital-intensive activities to players in low-cost countries as these biotechs focused on R&D. The CDMO players will now be impacted by this funding crunch.
d. Competitors: big pharma is a potential acquirer for this biotech business as they patent cliff for a lot of successful blockbuster molecules. Given the sharp drawdown in biotech valuations, the M&A lawyers and bankers are probably firing up their computers to prepare for more M&A deals. So we would expect quite a bit of M&A action over the next few years.

Select branded drugs losing US exclusivity at largest biopharma companies by market capitalization

Company	Drug name	US loss of exclusivity (projected)	2021 global sales ($M)
Johnson & Johnson	Stelara	2023	9,134
	Simponi	2024	2,276
	Imbruvica	2027	4,369
Roche Holding AG	Lucentis	2022	1,470
Pfizer Inc.	Inlyta	2025	1,000
	Xeljanz	2025	2,455
	Prevnar 13	2026	5,272
	Eliquis	2026	5,970
	Ibrance	2027	5,437
	Xtandi	2027	1,185
AbbVie Inc.	Humira	2023	20,694
	Imbruvica	2027	5,408
Novo Nordisk A/S	Victoza	2023	2,300
	Saxenda	2023	1,281*
Eli Lilly and Co.	Cyramza	2026	1,033
	Trulicity	2027	6,472
Merck and Co.	Januvia	2023	5,288
	Gardasil	2028	5,673
	Keytruda	2028	17,186
	Lynparza	2028	989
Novartis AG	Gilenya	2023	2,787
	Tasigna	2023-2024	2,060
	Promacta	2023-2025	2,016
	Jakavi	2027	1,595
	Entresto	2027	3,548
AstraZeneca PLC	Lynparza	2022-2024	2,748
	Brilinta	2024	1,472
	Farxiga	2025	3,005
Bristol-Myers Squibb	Revlimid	2022	12,821
	Yervoy	2025	2,026
	Eliquis	2026	10,762
	Opdivo	2028	7,523
Amgen Inc.	Prolia	2025	3,248
	Kyprolis	2027	1,108
	Otezla	2028	2,249
	Enbrel	2029	4,465
Sanofi	Dupixent	2027	5,249
	Alprolix	2028	414
GlaxoSmithKline PLC	Benlysta	2025	1,190
	Shingrix	2026	2,343
	Anoro Ellipta	2027	686
	Trelegy Ellipta	2027	1,658
	Bexsero	2027	885

Drug type:
Bone health, Cardiovascular, Diabetes, Hematology, Immunology, Multiple sclerosis, Oncology, Ophthalmology, Pulmonary, Vaccine

Data as of Feb. 17, 2022.
* Includes Wegovy sales.
Sources: company forms 10-K; annual reports

Conclusion

We continue to assess opportunities available within the space given the impact on players within the chain.

#26: Understanding the chemical balance – 16.03.2022

Sleuthing is about more than chatting up people. Exclusive information resides in three physical aspects of a company, of which people are only one. The three are (by descending order of importance):

(1) *PEOPLE (the company's own, its customers, and its suppliers)*
(2) *PRODUCT (both the company's own, including services and those it consumes as supplies, as well as competing products)*
(3) *PLANT (factories or offices where the work is done) and PERIPHERY (everything else that impinges on the company from the outside, or that the company impinges on, and so leaves physical traces). - The Sleuth Investor by Avenir Mandelman*

Recently, we visited manufacturing facilities of two small-cap Indian businesses (Ami Organics Ltd and Anupam Rasayan) at Sachin (267 kilometers from Mumbai) in the manufacturing heartland of Gujarat.

These visits help us connect financial numbers in our excel models to reality on the ground, understand the manufacturing process, and connect with management teams in person.

Ami Organics ("Ami")

Description of the business

Ami manufactures pharmaceutical intermediates used for manufacturing Advanced Pharmaceutical Intermediates and New Chemical Entities. Over 90% of its revenues are derived from pharmaceutical intermediates and the remaining from specialty chemicals. Ami provides nearly 450 pharma intermediates for APIs across 17 key therapeutic areas to more than 150 customers both in India and globally.

Plant Visit

We visited the Sachin facility (Unit I) of Ami which focuses on the manufacturing of pharma intermediates. The plant is spread over an aggregate land area of 8,250 square feet meters with an installed capacity of 2,460 metric tonnes per annum.

Mr. Ram Mohan Lokhande heads the operations for the three manufacturing facilities. He took us around the facility and explained the manufacturing process. For someone like me who has never been to a chemical plant before, he was happy to answer all the naïve questions we asked. We also visited the R&D center where Dr. Pramod Pandey, Head of analytical research, showcased the state-of-the-art laboratory.

We were a part of a team of 20 financial analysts and peppered the divisional heads with our questions until the cows came home.

Some observations from the plant visit:

a) Focus on Efficiency
The facilities were set up quite systematically with usage information and details of timely maintenance of equipment placed near to the equipment for the production manager to access at regular intervals. What we liked about the manufacturing plant was that every equipment in the manufacturing process is interconnected and built in a way to reduce time and increase the efficiency of the whole production process. We found it commendable that a small-cap Indian business was so focused on efficiency.

b) Importance to R&D
R&D laboratories were equipped with modern equipment with the latest technology. The laboratory was split in two – with one focusing on innovative methods to increase yields from the current process, devising new methods to reduce the time of the existing production process, and developing catalysts while the other section tests these methodologies before executing them in the production process.

c) Insistence on quality
Samples were sent both during the production and the final output to the R&D laboratory for quality checks. The final intermediates were stored at the containers in the warehouse for further dispatch to the customers. A sample of final intermediates which are to be sent to their customers is stored by Ami for 5 years for further evaluation by the customer in case of any discrepancies.

Our next stop was the plant visit to Anupam Rasayan which was just 2.2 km away from Ami's facility.

Anupam Rasayan("Anupam")

Description of the business
Anupam is a specialty chemicals manufacturer. It operates across two verticals - (i) Life Science-related Specialty Chemicals (catering to agrochemicals, personal care, and pharmaceuticals), and (ii) Other Specialty Chemicals (servicing specialty pigments & dyes, and polymer additives).

It manufactures products for over 53 domestic and international customers, including 17 multinational companies and it operates via its six manufacturing facilities in Gujarat, India, with four facilities located at Sachin, Surat, and two located at Jhagadia, Bharuch with an aggregate installed capacity of 23,438 metric tonnes.

Plant Visit
We visited unit six of Anupam which underwent a large Capex investment and was commercialized during Q4'21. The unit has a new in-house R&D facility of which some parts are operational, and the rest of the lab is expected to be operationalized by end of this month.

Mr. Ravish Chaudhary and the unit head took us around the fluorination plant which had a newly built R&D laboratory.

Some observations from the plant visit:
a) Focus on Automation
Anupam offers large-scale multi-step synthesis to its clients which involves complex chemical reactions. Their facilities had glass-lined, titanium-clad and stainless-steel automated reactors minimizing the number of employees.

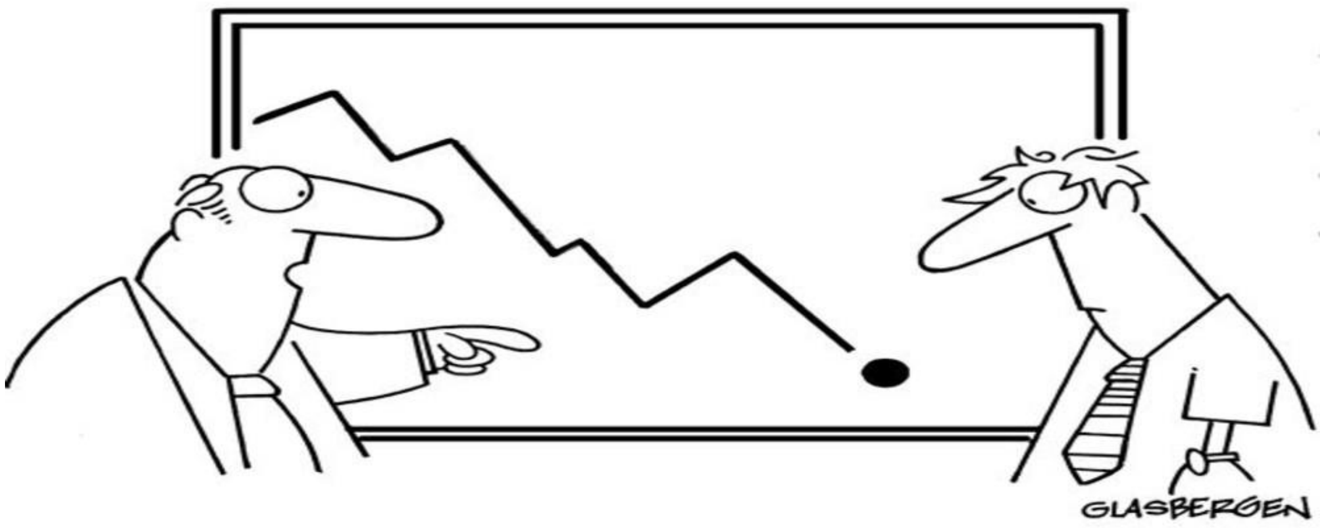
b) Spacious and technology advanced R&D laboratory
The R&D laboratory was partly operational while the rest was expected to be operational by end of March 2022. Throughout the visit, we observed how flow and photochemistry technologies were used to evaluate new active compounds. While Ami developed its own catalysts to be used in these technologies, Anupam imported catalysts from other companies.

Conclusion

A few takeaways for me: these visits help to correlate the ground reality with financial statements. For example, if a business estimates that it cost USD 20 million to construct a plant, we can visualize what does this USD 20 million investment look like. Further, we can benchmark facilities and Capex with peers in the industry.

Not only do we develop a better understanding of the manufacturing facilities but are also better able to appreciate the complexities and innovative drive of these companies to excel in their respective markets. Also, not to forget – it is a great chance to build network and exchange notes with peers in our investment world!

#27: Graphs! – 23.03.2022

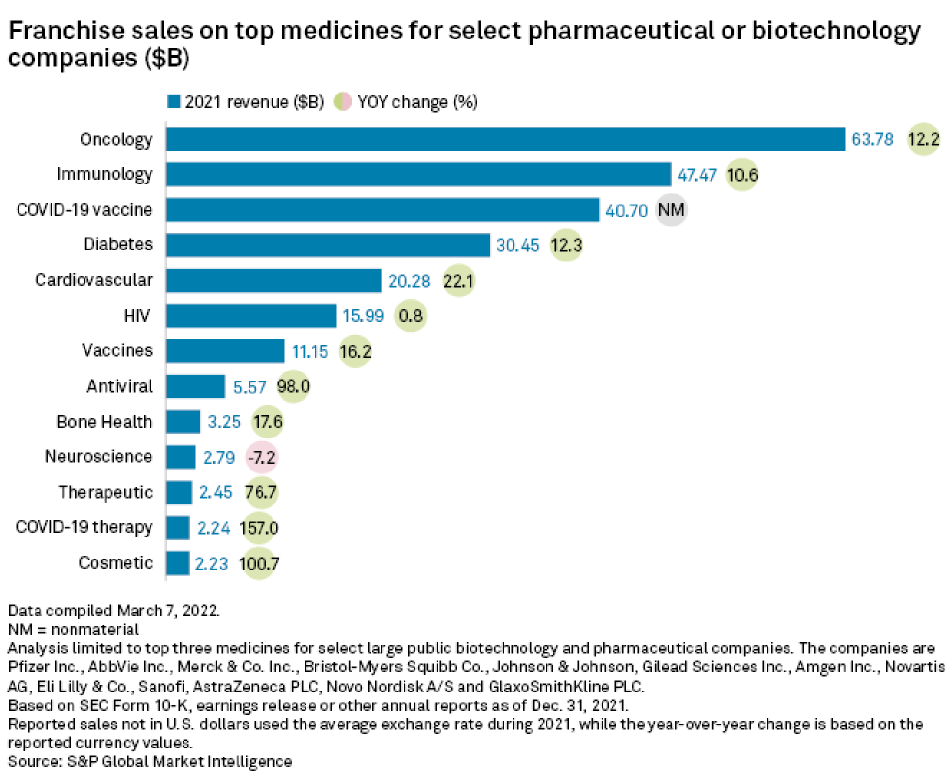


"I put a little ball at the end, so it looks like it will bounce back."

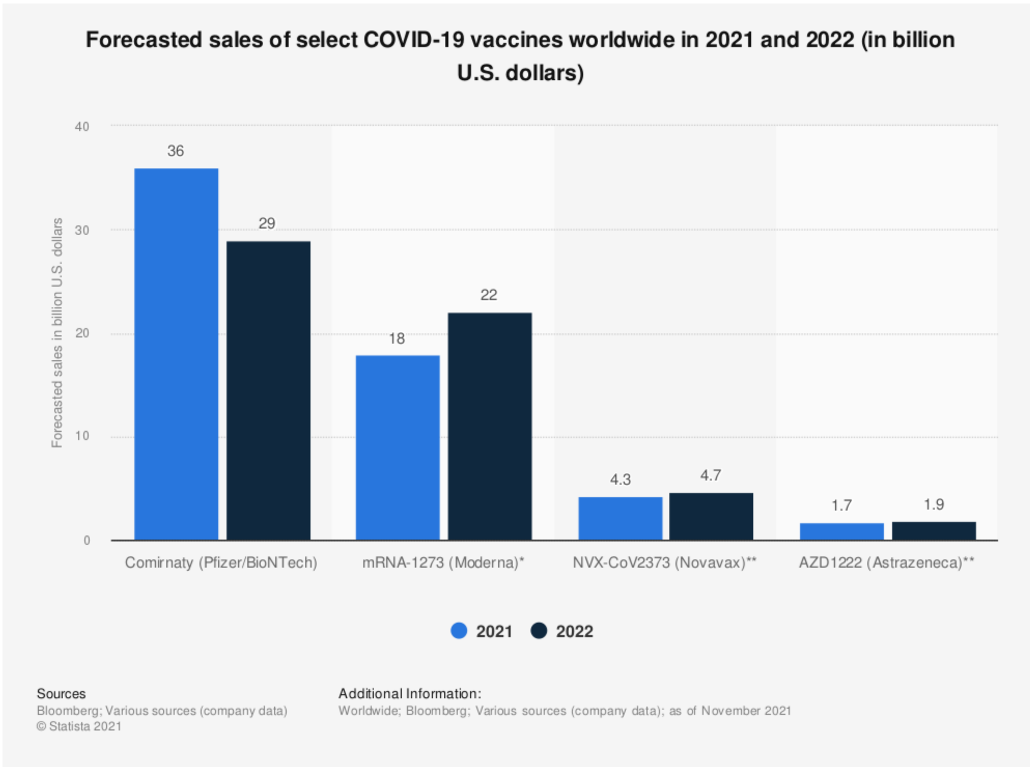
Mankind invented a system to cope with the fact that we are so intrinsically lousy at manipulating numbers. It's called the graph.- Charlie Munger

This week we thought of looking at a few interesting charts flagging some trends:

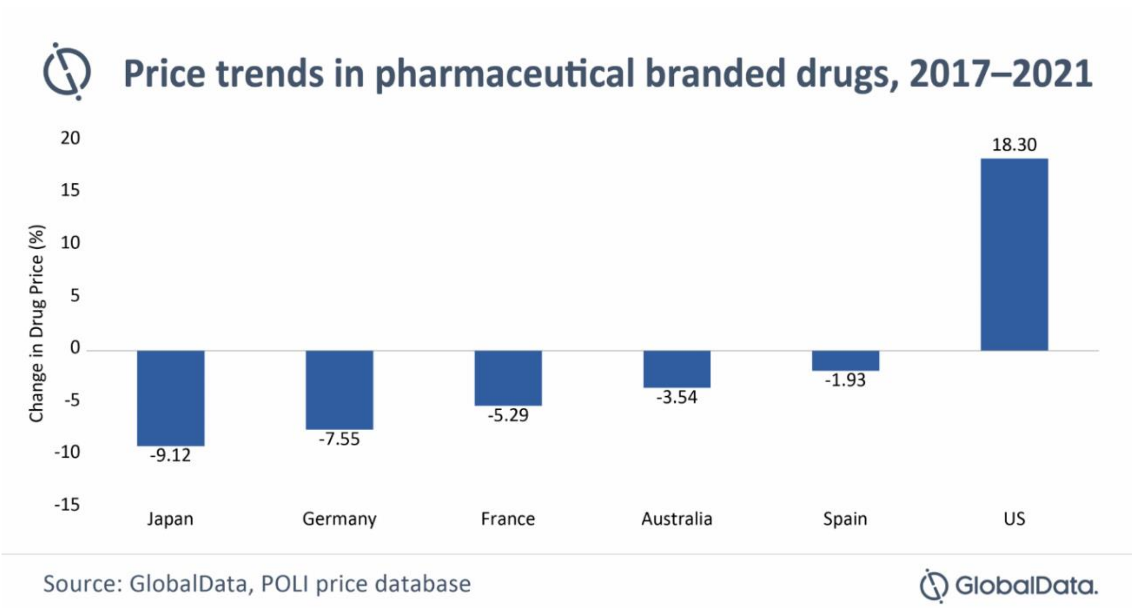
a) Medicine spends: Oncology at $ 64 bn accounts for the highest revenues across therapies globally implying a growth of 12%. Covid vaccines revenues ranked as the third-highest at over $40 bn.



In fact, Pfizer Inc. and BioNTech SE's COVID-19 vaccine Comirnaty recorded $ 36 billion in 2021 outstripping the sales of the best-selling pharmaceutical product from AbbVie Inc.'s blockbuster Humira. This is expected to trend lower in 2022 as we approach the end of the pandemic.



b) Prices of branded pharmaceuticals in the U.S. increased by 18.3% from 2017 to 2021. While prices for similar products in other developed markets have either declined or were stable.

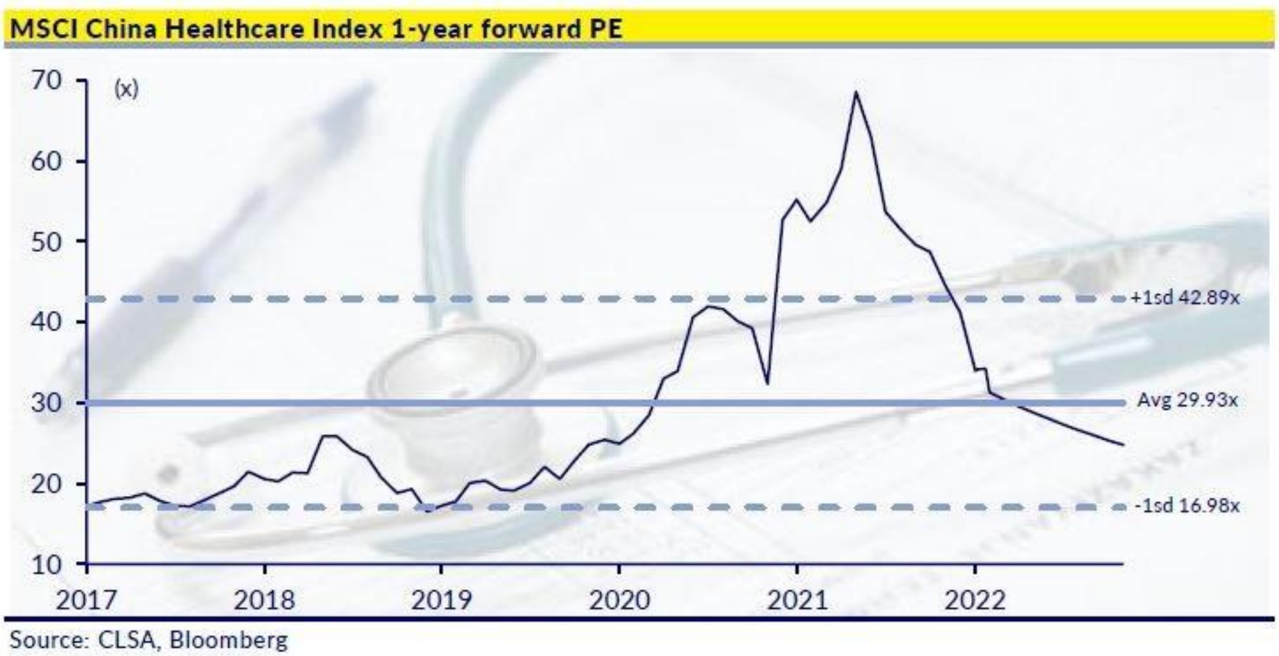


There has been a lot of debate around increasing US healthcare costs due to opaque pricing which will escalate in an inflationary environment. Further, an aging demographic and strict immigration policies creates pressure on-healthcare budget.

The above is a great primer on the US healthcare distribution system.

c) Lastly, the MSCI China Healthcare index is trading below its long-term average. Over the last year, there has been a general exodus due to a variety of reasons which has led to a sharp deterioration in valuations.

One of the leading reasons cited for contraction in P/E in healthcare has been pronouncements by the Chinese government which will lead to lower economics for healthcare businesses (they are still way above cost of capital). We have been tracking these changes since 2018 and believe that they are positive changes that will improve accessibility and quality of healthcare thus extending the growth outlook for the sector.



#28: Have you seen a Rainbow? – 07.04.2022

"I think you may have found the 'how many is too many people in a Zoom meeting' threshold"

"The person who turns over the most rocks wins the game." Peter Lynch

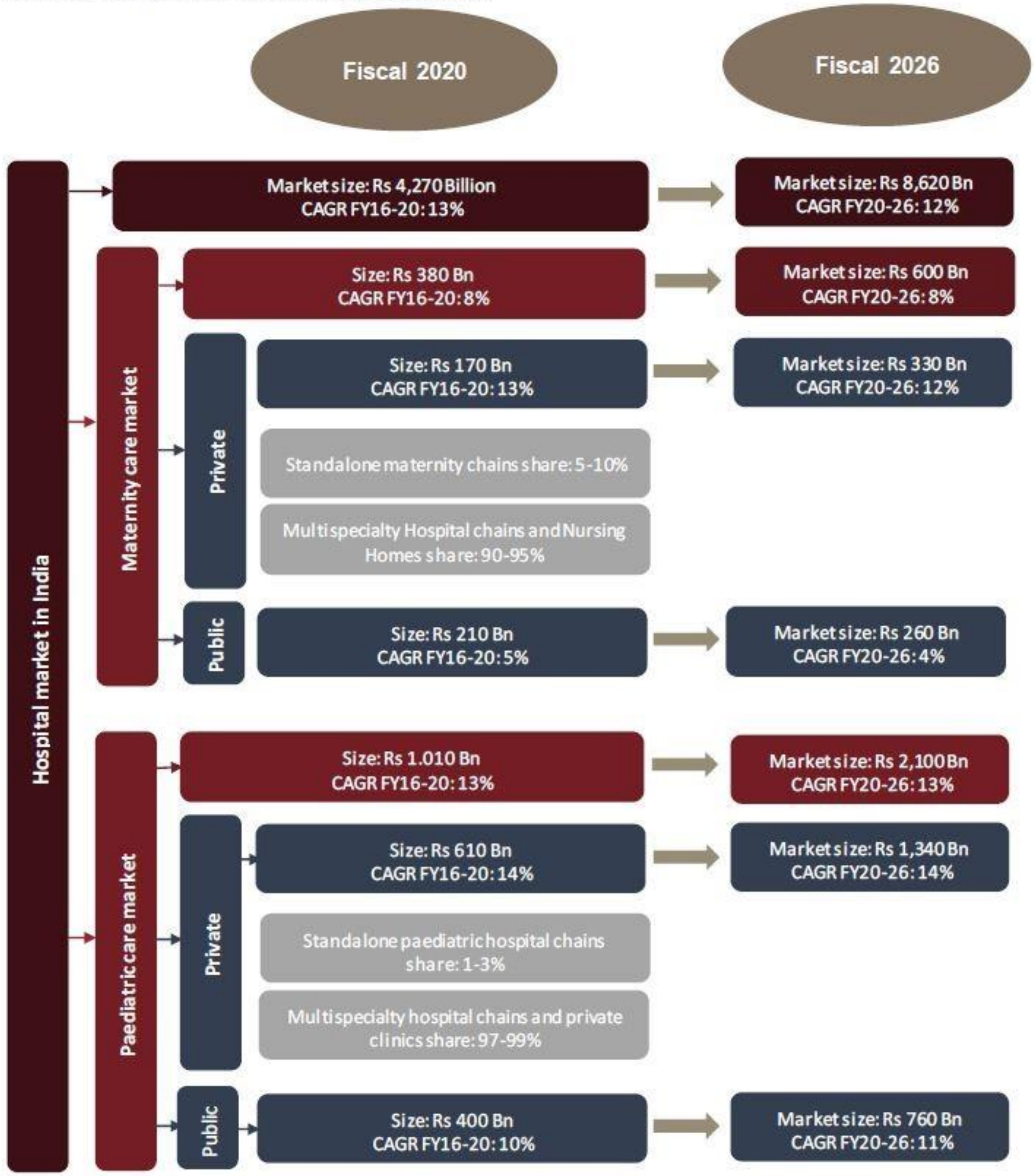
We are back after an unscheduled break. Over the past couple of weeks we were busy turning a few rocks of our own. We attended a business conference (yes still via Zoom), made a few plant visits and interacted with a number of industry experts (will share insights in the following weeks).

We continue to be excited by the entrepreneurial energy displayed by management teams as they navigate businesses through these challenging times.

Recently, we interacted with the management team of India's leading pediatric hospital which recently filed for listing (hint: it's in the title) and were fascinated to see some of the industry statistics.

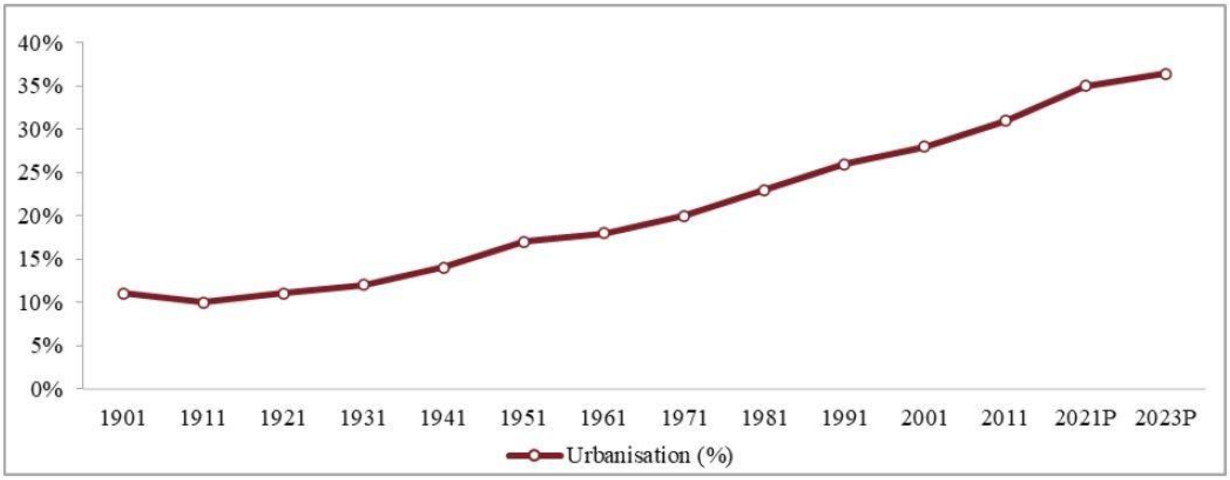
Indian Hospital market size is estimated at $56 billion which is expected to grow by 12% over the next five years to $113 bn. The size of the maternity and pediatric is estimated to be c.a.$19 bn (1/3 of the total market) which is expected to grow to $35 bn over the next five years driven by urbanization and increasing per capita income.

Maternity and paediatric healthcare market in India



Source: CRISIL Research

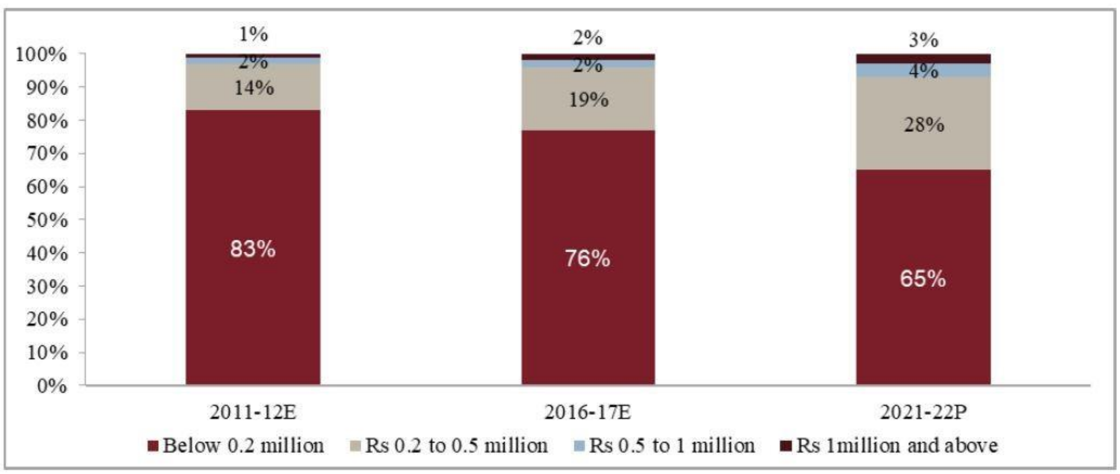
Urban population in India (% of total population)



Source: UN World Urbanisation Prospects: The 2018 revisions

Increasing urbanization is a feature of an emerging economy. You would notice a similar trend in China when farmers left rural land to move into the city to work in factories which led to globalization over the last decade.

Income demographics



Source: CRISIL Research

Increase in per capita income will lead to higher discretionary spends.

Maternity Care Market:

Overview

Global maternity health parameters

Countries	Total fertility rate, per woman (2015-2020)	No of pregnancies (2020)	Maternal mortality ratio maternal deaths per 100,000 live births	Neonatal mortality rate (deaths within 28 days per 1,000 live births)
India	2.2	**36.7**	145	22.7
China	1.7	28.6	29	4.3
Brazil	1.7	4.9	60	8.1
South Africa	2.3	1.4	119	10.7
United States	1.8	6.2	19	3.5
United Kingdom	1.8	1.2	7	2.6

Source: United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019

As a developing country, India lacks the necessary healthcare infrastructure and ranks worst in maternal and neonatal mortalities in comparison to other emerging markets. The government has launched many initiatives but the space still remains underpenetrated.

Estimated annual pregnancies

Area	Value	FY 2014-15	FY 2019-20
Estimated number of annual pregnancies	Numbers in millions	37.4	36.6
Pregnant women registered for ANC (reported pregnancies)	% of estimated annual pregnancies	95.5%	97.0%
Live births	Nos in Million	26.2	25.4

Source: United Nations Population Fund – UNPFA, Health Management Information System (HMIS), Govt. of India

India reported c.a. 37 million pregnancies every year and 70,000 (c.a. 26 million every year) live births per day. Just to contextualize this represents 16.6% of the number of children born worldwide.

Maternity care

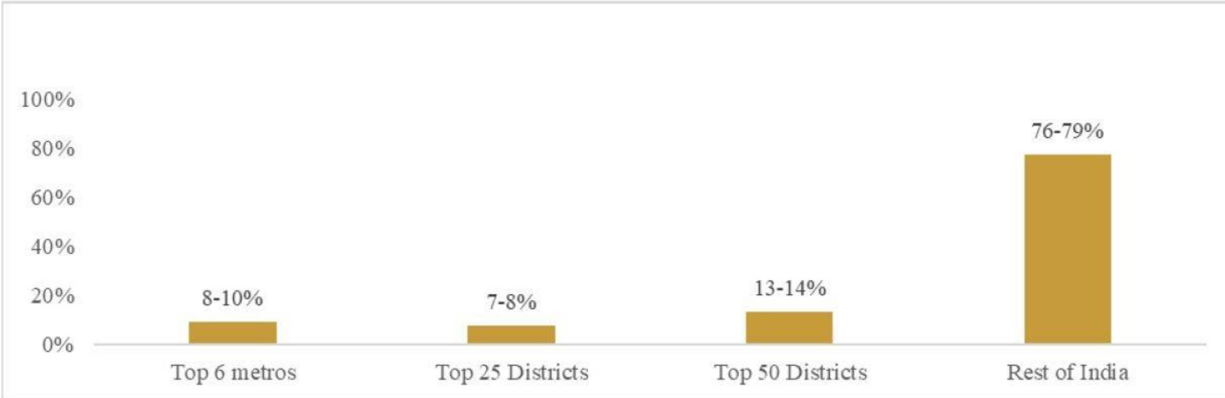
Maternity Care	FY 2015-16	FY 2019-20
	%	%
Mothers who had an antenatal check-up in the 1st Trimester	58.6%	70.6%
Mothers who had an antenatal check-up least 4 antenatal care visits	51.2%	79.0%
Mothers who received postnatal care from a doctor/nurse/LHV/ANM/ midwife/other health personnel within 2 days of delivery	62.4%	75.3%

Source: National Family Health Survey (NFHS)- 4 and National Family Health Survey (NFHS)- 5

Average data of 17 states namely, Andhra Pradesh, Assam, Bihar, Goa, Gujarat, Himachal Pradesh, Karnataka Kerala, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Telangana, Tripura, West Bengal for FY20 data

There has been improvement among women registered for ANC (Antenatal Care) over the last four years which we assume was largely driven by urbanization and higher income earned by families.

Total number of pregnant women registered for ANC

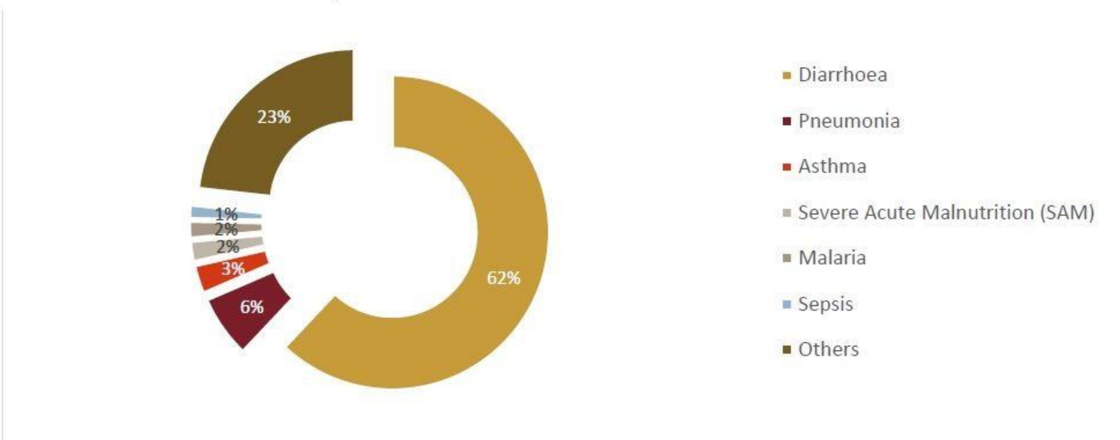


Source: Health Management Information System (HMIS), Govt. of India

This chart supports the data that metro cities contribute to 8-10% of the women registered for ANC while they have a population of 7.2%.

<u>Pediatrics*</u>

Overview of childhood disease profile in India*

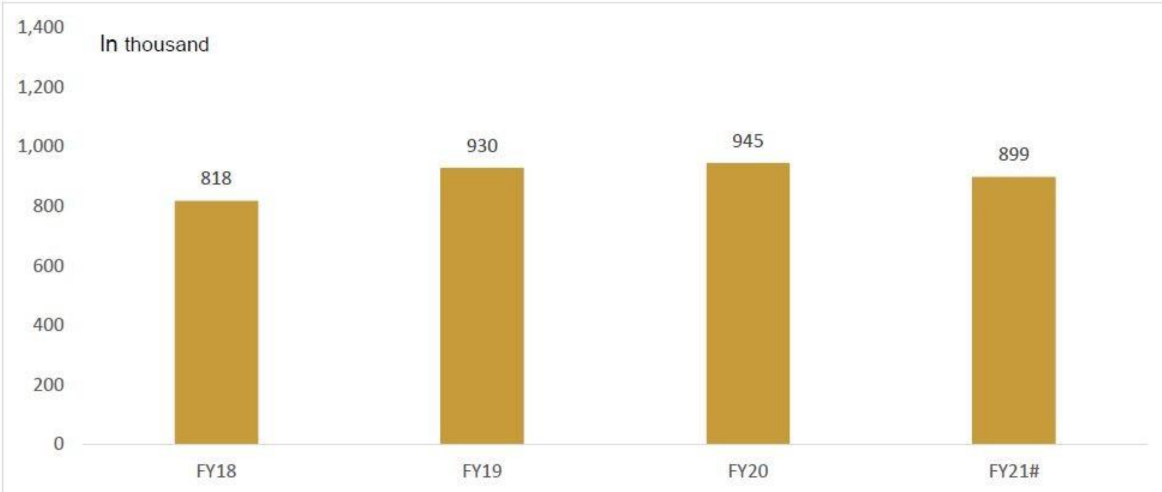


**Share is average of cases reported for children in age bracket 0-5 years between FY18-21*

Source: Health Management Information System (HMIS), CRISIL Research

The number of Diarrhea cases contributes to over 60% of the children's cases. Diarrhea is characterized by abnormally loose or watery stools and according to WHO, it is the second leading cause of death in children under five years old.

Number of pre term new-borns* (< 37 weeks of pregnancy)



*Calculated using estimated live birth through HMIS

#Provisional data

Source: HMIS, CRISIL Research

Some data points such as the number of new preterm borns have increased during the last three years might indicate that either healthcare continues to be unavailable to the needy or these were cases that being unreported but are now being reported.

Number of new-born having weight less than 2.5kg*

*Calculated using estimated live birth through HMIS

#Provisional data

Source: HMIS, CRISIL Research

Underweight newborns who survive are at a higher risk of Stunting**.

Conclusion

We wondered how were the private hospitals addressing such a large opportunity and whether pediatrics hospitals were operating a niche thereby establishing a moat around their business?

a) Large hospitals focusing on profitability:

Large hospitals added ~67% of incremental beds in Tier II and III locations (under owned and leased models) in last four fiscals

Note: Based on city category classification followed by 7th Pay Commission, tier I – X cities (top 8 cities), tier II – Y cities (next 88 cities)
Source: Company reports, CRISIL Research

Over the last five years capacities have been added in Tier I and II cities since these offer better breakeven metrics.

b) Focus on quicker turnaround:

Ailment	ALOS	Remarks
Cardiac	5 days	In complex, surgical cases, ALOS is 7-8 days Angiography – day care; and angioplasty – 2 days
Orthopedics	3-4 days	
Oncology	5-6 days	Hospitalization is for surgical cases only. For chemotherapy, there are day-care beds and for radiotherapy, no stay is required
Neurosurgery	8-10 days	Would vary on case-to-case basis depending on the complexity of the case
Ophthalmology	1 day	Day care
C-section	6-10 days	In caesarian deliveries, length of stay is longer in public than in private health facility
Childbirth	1-4 days	Day care in 20% of the cases

Source: CRISIL Research

Most hospitals focus just on the childbirth market since it's a quicker turnaround time business and doesn't need a lot of investment to hire pediatricians or specialized doctors. Therefore, pediatric hospital might just be creating a separate segment for themselves and could have a rainbow in their future.

*Paediatrics is the specialty of medical science concerned with the physical, mental, and social health of neonates, children, and adolescents.

**Stunting is the impaired growth and development that children experience from poor nutrition, repeated infection, and inadequate psychosocial stimulation

Neonatology is a subspecialty of pediatrics that consists of the medical care of newborn infants (0-28 days), especially the ill or premature newborns.

#29: How the Pandemic Has Changed the Game for CDMOs – 21.04.2022

"One of the things we have learnt over the last few years is our most profitable insights have come from recognizing the deep reality of some businesses, not from being more contrarian than everyone else." – Nick Sleep

Over the last decade, the pharmaceutical industry has been relying on contract development and manufacturing organizations (CDMOs) for the development of clinical candidates, registration, market authorization, and manufacturing of products. The pandemic only threw open more opportunities.

Windlas Biotech (or "the Company) NSE:WINDLAS came across our radar as the stock corrected by 41% since its IPO in August 2021 (along with other pharma players). At the current market price, the stock price trades at an EV/ EBIT of 12.3x (v/s average CDMO multiples at 21.5x) which implies greater uncertainty around the business model. As business analysts, we are more interested in understanding the economic drivers of the Company than just simply cheap valuation. As part of the diligence, a team member visited the plant located in the picturesque town of Dehradun, India to get a touch and feel for the business. Following are some of the key takeaways from the visit.

Background

Windlas claims to be amongst the top five domestic formulators by revenue. It is emerging as a viable alternative to in-house development and manufacturing by drug manufacturers. It is in the Dehradun plant that all formulations, blending, coating, packaging, and shipment take place.

Industry

CDMO market was valued at US$ 183.6 billion in 2021 and is expected to reach US$ 289.6 billion by 2027. So today, let us talk about CDMOs and what is happening here. CDMO pipelines have been expanding at a rapid clip resulting in impressive growth rate and higher valuations.

Segment

The company has three key business segments— i.e., CDMO (85% of its revenues), domestic trade generics and OTC brands (10%), and exports (5%). The Company grew by 26%, 45%, and 78% across its CDMO, domestic trade generics, and exports verticals, respectively, in FY21.

a) CDMO: The Company has strong relationships across top clientele in the domestic pharma industry. The value proposition lies in product development. It offers pharma companies not only the flexibility to ramp up production but also to innovate new drugs and bring them to market quickly at lower costs (due to lower investments in plants, machinery, laboratory, and people).

In a bid to boost growth, the Company revamped its marketing team with the hire of a new Chief Business Office from GVK Bio.

b) Trade Generics & OTC: The company supplies unbranded generic medicines and OTC to Tier 3 and 4 towns in India where branded products are unavailable. Government's push towards higher adoption of trade generics with schemes such as Jan Aushadhi Yojana act as a strong tailwind. Trade generics are expected to gain a 15% market share of the 0.8 million chemist outlets in India over the medium term. With over 0.6 million villages in India, the trade generics market has a long runway to grow.

Unlike branded players, Windlas doesn't need to maintain a large sales force. Retailers are incentivized to push trade generics which get them margins of c.a. 50% (vs 15% on branded products). At the same time, customers obtain medicines at a c.a.15% discount compared to branded products.

Procurement Process

· With an increase in outsourced manufacturing, the Company has to ensure the quality of raw materials. Windlas procures raw materials domestically which undergo a quality check before they're approved for manufacturing.

· Finished products are being moved to the storage room with serial numbers being entered into their database that allows the Company to track each shipment while also going through quality control at multiple stages.

· As per the Vice President of Quality Control, less than 4% percent of products show any issues which are eventually discarded.

Customers

The Company believes in having a long-term relationship with its clients. It has a high client concentration risk with its top 10 clients contributing 57% of revenues. However, the long-term nature of CDMO contracts and the healthy credit profile of the customers provide better revenue visibility and reduce the risk of bad debts.

Risks:

a) The company remains exposed to competition and inherent regulatory risks: In 2020, US FDA issued a warning letter citing several violations of good manufacturing practice regulations. Following the review, the company hired experts from the industry and claims to have resolved all issues raised in the letter.

However, it abandoned plans to enter the US market due to competitive intensity. Based on our observation, we found the manufacturing plant to be visually clean with good quality control practices in place. The plants with "Air-Controlled rooms" seemed to be dust-free.

b) High dependence on a few customers and all manufacturing facilities in a single state (Dehradun) are other key risks.

Capital allocation

· With equity infusion of Rs. 1.7 bilion during the IPO. The Company's net worth improved significantly and it also repaid its Rs. 200 million term loans.

· Currently, the Company has net cash of Rs. 2.0 billion of which Rs 500 million will be used to fund capex for injectables (higher-margin business, to be operational by 2024), Rs. 500 million for growth working capital, and the balance for acquisitions.

· As per the management, an acquisition would be interesting if it either increases the breadth of the product offering into newer segments such as hormones, steroids, protein powder, nutraceuticals, Ayurveda or expand its geographical presence.

Valuation

The Company expects to double its revenue and profitability in the next five years driven by the launch of new products, higher contribution from existing clients, and a wider geographical presence.

· With no significant debt obligations, we expect it to generate operating cash flows of Rs. 350-400 million in the coming year. With a market cap of Rs. 5.2 billion (1/3rd of which lies as cash on the balance sheet), stock trades at EV/ EBIT of ~12.3x.

Conclusion

Any adverse development on the regulatory front can impact earnings prospects. We will closely track the business and watch out for execution on capex.

The Company looks like a reasonable business with high risk and is probably fit only for investors with the right temperament and a disciplined approach to risk.

#30: Insights from IQVIA's "The Use of Medicines in the U.S. 2022: Usage and Spending Trends and Outlook to 2026" – 28.04.2022

"We must solve the problem in healthcare by curbing out-of-control costs that erode paychecks for working families and push quality coverage out of reach for millions of Americans" - Paul Ryan .

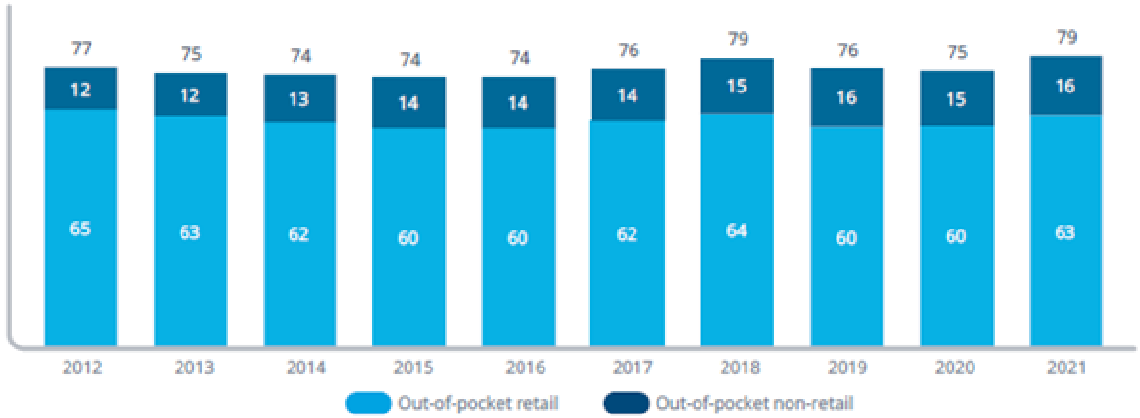
As some of our investments are in US, we are in a continuous process to identify the key trends within the massive US healthcare ecosystem.

We came across yet another fascinating report by IQVIA - " The Use of Medicines in the U.S. 2022" which was released a couple of days back. We were intrigued about the latest developments in the out-of-pocket costs incurred by the patients in US.

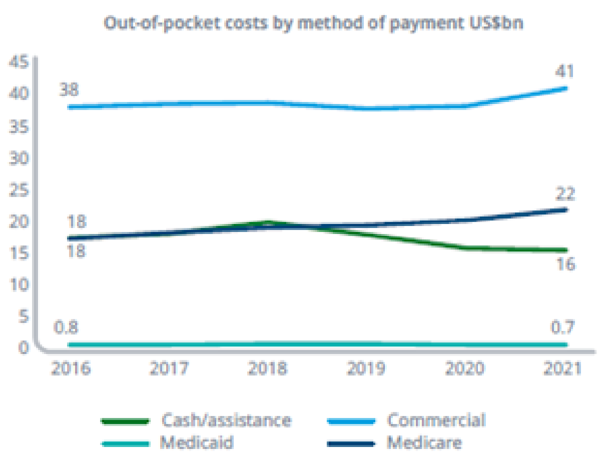
Some of our key observations are as follows –

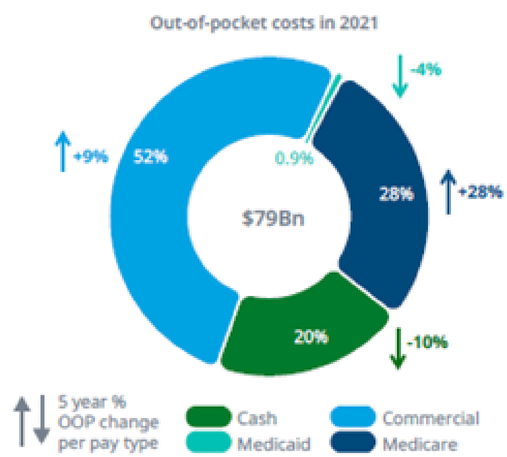
a) Patient out-of-pocket costs increased by $ 4bn. in 2021 returning to its pre-pandemic levels. The growth was driven by retail out-of-pocket costs (grew at 5% in 2021) while the non-retail out-of-pocket costs have been flat over the last four years.

Retail out-of-pocket expenses reduced at the time of pandemic because of slower utilization and reduction in use of healthcare services.



b) Over the last 5 years, out-of-pocket costs increased for commercial and Medicare beneficiaries by 9% and 28% respectively while it reduced for Medicaid and cash. Out of the total out-of-pocket costs in 2021, commercial accounted for the largest proportion (52%) of the pie followed by Medicare 28%, cash 20% and Medicaid < 1%.



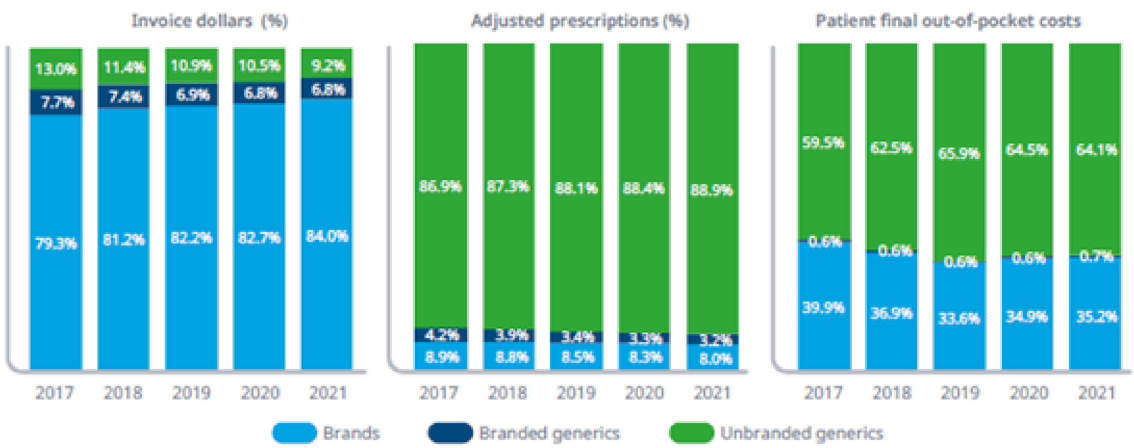


c) Even though the average amount paid out-of-pocket per retail prescription has decreased from $10.1 (2016) to $9.4 (2021) across products, uninsured patients have experienced an increase in rates.

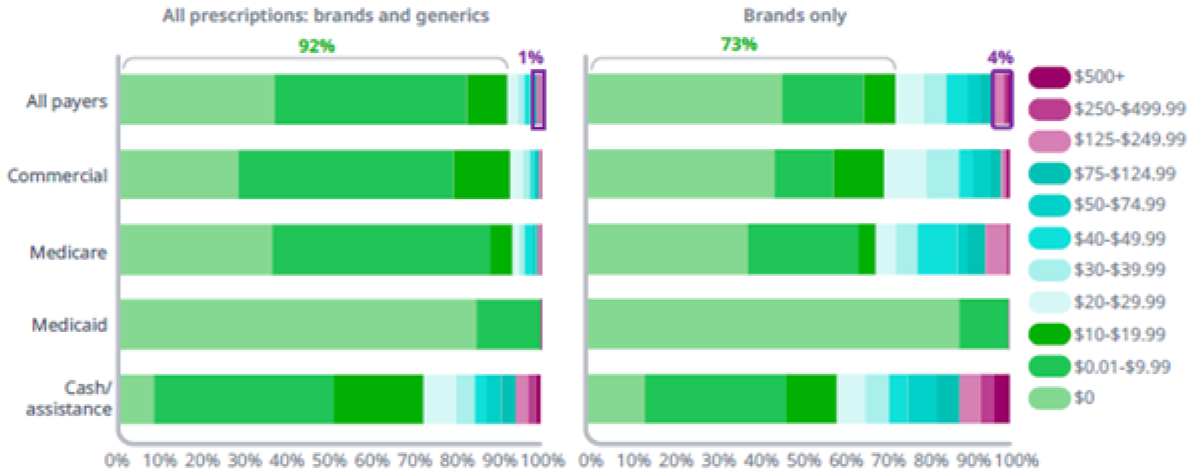
Insured individuals stand to benefit from lower costs compared to non-insured. The costs differences will incentivize cash-paying uninsured customers to obtain insurance.

d) Over the last five years, even though the share of branded medicines within the invoice-level spending have increased whereas the branded expenses out of pocket patient cost has been steadily declining. One possible reason could be that commercial insurance has been increasing the number of branded products under its purview.

Generics have dominated both the total prescription share (92%) and total out-of-pocket expenses (64.8%) even though its share within the invoice-level spending shrank from 20% (2017) to 16% in (2021).



e) Over 92% of branded and generic prescriptions have a final out-of-pocket cost below $20, and > 1% have a cost above $125.



Our View

Based on IQVIA report over 250 new drugs are expected to launch within the next 5 years. Competition between manufactures and payers with respect to drug pricing would ensure that the prices of protected brand will either remain flat or will decline over the next few years.

With increasing number of branded medicines going off-patent over the next few years along with launch of innovative branded drugs by pharmaceutical companies, it would be interesting to not only track the price movements within branded and generics space but also track the proportionate share of branded medicines in the final out-of-pocket costs.

#31: Covetrus Inc - Is a Private Equity Takeover on Cards? – 25.05.2022

"I think good private equity investors create a lot more economic value than they destroy" – Bill Ackman.

We have a short update on 'Covetrus Inc.' – an investment idea shared with you on our weekly HC Observer post on March 4, 2022.

Quick recap about the company

Covetrus Inc. (NASDAQ: CVET), formed in 2018, is a combination of Henry Schein Animal Health Business (supply chain services) and Vets First Choice business (Software and Prescription Management business). Supply chain services (distribution) which constitute the majority (87%) of the business revenues have been growing at a stable clip of 4% while the prescription management (digital platform) business accounts for 10% of total revenues and is growing at a fast clip.

The business has been growing at a mid-single-digit primarily supported by its distribution business. New management was brought on board in 2019 which focused on developing a new division.

The stock price has derated over the last year as the business has been building out its digital platform and diversifying from its physical distribution business to stop market share loss to digital players (Amazon and Chewy).

Our variant perception was that the market is ignoring the benefits of such hybrid distribution solution and have been penalizing the company for short-term negative earnings.

Shareholder Structure
Private Equity (PE) Firm, Clayton, Dublier & Rice LLC, has a 24% shareholding in the company. Other Institutional investors like BlackRock, The Vanguard Group, and Wellington Management hold more than 5% shareholding in Covetrus.

Private Equity Offer
In a recent SEC filing by Covetrus, the company acknowledged that it has received a non-binding acquisition offer letter from private-equity companies Clayton, Dubilier & Rice and TPG Global. These private equity firms have offered to pay $21 per share (around $2.9bn.) to acquire all outstanding shares of Covetrus in an all-cash transaction.

The proposal doesn't create any legal obligations and the companies didn't provide any assurances that a definitive agreement will be reached, the filing further said.

CD&R already owns a 24.2% stake in Covetrus, which comes in at more than 33.6mn. common shares. The private-equity firm began buying up shares from February 2019, and has been building its stake since.

Shares of Covetrus were surging on Friday (20th May) after the news came out. The share price increase to $20.2, a 12.3% increase on the same day.

PE Firms drooling over the vet industry
The veterinary industry continues to see significant interest from private equity firms looking to take a bite out of the fragmented industry.

Over the last 2-3 years, a lack of strategic buyers, a private pay revenue stream, and a largely recession-proof market are all factors that have PE firms flocking to the space. The veterinary space offers also solid profitability, with EBITDA margins ranging from 15 to 20%.

The private equity play into the veterinary space started in 2017 when Mars Inc. paid $9.1bn, or 18x EBITDA, for VCA and its 800 animal hospitals. Since then, KKR acquired PetVet Care Centers from Ontario Teachers' Pension Plan, L Catterton, and other existing shareholders, while OMERS Private Equity acquired a minority stake in Ares-backed NVA.

Lacuna Perspective
During our research process in early 2022, we applied a Private Market Valuation (PMV) framework to Covetrus and its 3 operating segments – the distribution business, the veterinary software business, and the prescription management business.

Based on our PMV analysis, we realized that the market was just valuing its animal health distribution business & software business while fully ignoring the in-place value and future potential that its prescription management business provides. At the time, Covetrus stock offered a favorably skewed Risk-Return-Profile, being available for a c. 30% Margin of Safety to its PMV analysis derived intrinsic value, which we believed could even grow over time due to the existence of a promising runway for reinvestment opportunities.

We thought that both the software and prescription management business is still in the development phase with significant potential for future growth and margin expansion, which is where the currently bidding PE investor seems to agree with us.

We are curious to see what happens with the takeover offer and don't see any reasons to divest from our holding in Covetrus at the proposed all-cash deal price. The offered premium isn't attractive enough to throw in the towel yet and we are willing to sit tight and look whether an improved or competing offer might come around the corner.

#32: Bristol Myers Squibb – Is steep patent cliff a concern? – 16.02.2022

"I will tell you how to become rich. Close the doors. Be fearful when others are greedy. Be greedy when others are fearful." — Warren Buffett

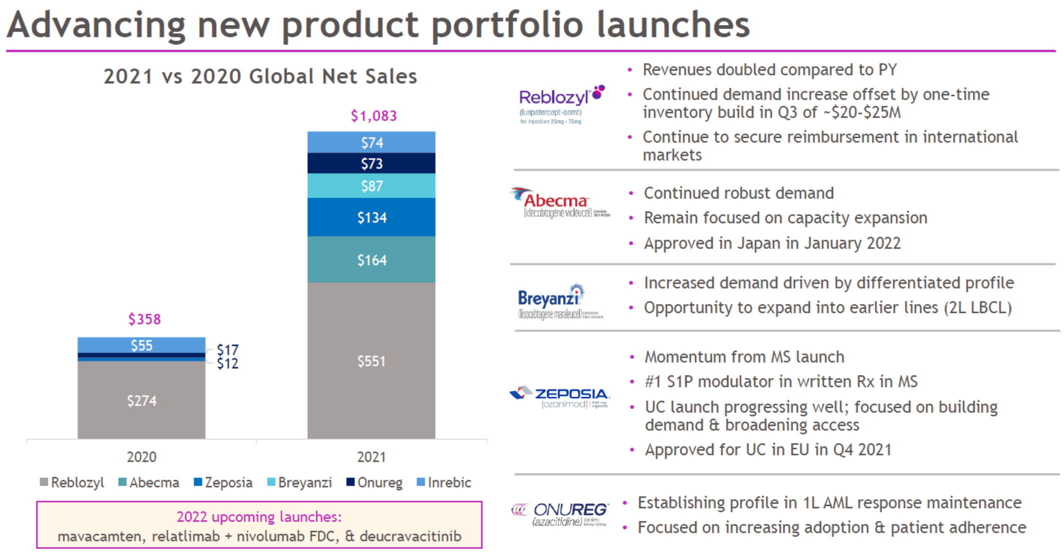
We want to a share a brief note on one of our portfolio companies – 'Bristol-Myers Squibb'

About the Company

Bristol-Myers Squibb ("BMY") develops biopharmaceuticals across four therapeutic areas: oncology, cardiovascular, hematology, and immunology. The company is foraying into the neuroscience space where most of the drugs are in early-stage clinical trials.

How Robust is the pipeline?
Like all the big pharmaceutical companies across the globe, the future growth of BMY is dependent on bringing the right balance between an upcoming patent expiration and the potential pipeline strength. The top three key products of BMY – Revlimid, Eliquis, and Opdivo which contributed 67% of 2021 revenues are nearing patent expiry over the next five years. BMY has one of the largest drug pipelines amongst its US peers which makes the management confident in mitigating the patent cliff risk, as the new product's market share will grow along with increasing applications.

Revenue from the recent launches has nearly tripled in 2021, and the management expects continued growth from these launches as they gain more market share and get further approved for other applications. Additionally, BMY is expecting approval of three more products in 2023.



Lacuna's perspective

Despite the recent run-up of the stock price (YTD ~21%), we believe that the market is still undervaluing the pipeline growth and the current valuation reflects the negative market sentiments about the upcoming patent cliff. The company is run by a strong management team that has previously demonstrated its ability to develop and commercialize new products at a massive scale.

After adjusting for cash, the company is currently in a net debt position of USD 30bn. This number appears to be daunting, however, we do not see it as high risk because of the company's ability to generate free cash flow. From 2019-21, BMY has doubled its free cash flow from about USD 8bn. to USD 15bn. We believe this track will continue and the company will be able to pay off its debt along with generous dividend payments to its shareholders.

#33: Diagnostic Industry – A current favorite in the Indian Healthcare Space? – 08.06.2022

As India grappled with the pandemic, the healthcare industry as a whole, including the diagnostic sector is left shaken. In the last one to two years, the sector has witnessed some noteworthy developments primarily in the diagnostic space which witnessed increasing investments and extensive capital expansion with hub and spoke model for some of the major players.

Majority of the existing diagnostic players have witnessed robust growth; capital expansions and were able to navigate through the pandemic by offering COVID-19 related RTPCR tests. These tests contributed significantly to the companies' revenue and the quarterly results were a clear indication of that. In terms of acquisitions and partnerships, there have been some major acquisitions and private investments within the space. The year 2021 was termed as 'Year of Deals" for diagnostic sector among the industry peers.

Consolidation within the existing major diagnostic players –

- SRL Diagnostics acquired Kerala based DDRC, thus making them one of the largest path lab chains in the country.
- Dr Lal Pathlabs acquired Suburban Diagnostics for INR 12bn.
- Pharmeasy bought 66% stake in Thyrocare for INR 46bn.
- Metropolis Healthcare acquired Dr. Ganeshan's Hitech Diagnostic Centre for INR 6bn.

Apart from the consolidation activities within existing diagnostic players, a fund-raising trend has been observed in the industry where the regional players are backed by Private Equity (PE) funds. Similar cycles and trends were seen in the earlier years as mentioned below –

- 2005 – 2007: Funds backed the then regional players like LPL, Metropolis, and Thyrocare.
- 2011 – 2013: Funds backed Medall, Suburban, SRL, Core Diagnostics, Suraksha, and Medgenome.
- 2015 – 2017: Funds backed Vijaya Diagnostics, Apollo, iGenetic, and Krsnaa Diagnostics.

· 2020-2022: Funds backed Atulaya Healthcare, Sterling Accuris, Orange Diagnostics, Pathkind Diagnostics, and so on.

However, the difference in the current cycle is the level of consolidation activities that were never seen before.

Along with the abovementioned consolidation and fund-raising activities, the competition within the industry is going to be more cutthroat with hospitals focusing on diagnostics. Hospitals such as Apollo, Max Healthcare, Aster DM, Manipal have been investing into the diagnostic space and expanding their presence.

The industry has also attracted several deep pocket corporate houses which are foraying into the space through some heavy investments. Some of these investments are listed below –

· Adani Group forays into diagnostic space by setting up a subsidiary for healthcare related services.

· Lupin announced the launch of its diagnostic business as a part of their diversification strategy. The company further plans to open 100 labs in the next 3 years.

· Bharat (Former chairman of Bharat Serums & Vaccines) is focusing have established Rivaara Labs (next-generation diagnostics labs).

· Dr. GSK Velu (former co-founder of Metropolis) founded his next healthcare venture – 'Neuberg Diagnostics' which already roped in 5 diagnostic labs present across Karnataka, Gujarat, Tamil Nadu, South Africa & UAE.

With heavy investments by existing players and the new entrants in the diagnostic space, many players are bringing in different expertise by leveraging their healthcare experience. However, intense competition and consolidation changes along with disruptive pricing can lead to volume anxiety for diagnostic companies.

In terms of valuation, shares of diagnostic companies had been overvalued until recently the valuations have been inching down to their mean valuations. The January-March quarter (fourth quarter) results of the largest listed players in the diagnostic space did not portray a healthy picture i.e., competitive pressure, disruptive pricing, lower COVID revenues, and higher costs negatively impacted the operational performance.

Over the last 2 days, the investor sentiment that an uptick in Covid-19 cases could lead to increased testing which would drive the profitability and revenue growth, is driving the stock prices of diagnostic companies. The current news trends could keep the stock prices volatile but in the long term such high valuations do not look sustainable.

The pandemic has led to some interesting collaborations among the key players and with new entrants venturing into the space, the Indian diagnostic landscape has undergone some significant changes. While there will further be consolidation opportunities within the existing players, we believe that there will also be more fund raising as PEs will continue to back some regional diagnostic players.

The diagnostic industry will need to broaden its horizons to stay profitable in the long term by focusing on newer diagnostic models as some routine tests might go mainstream and onto wearables and other consumer-centric devices.

#34: NRDL – an expensive ticket to access Mainland China -15.06.2022

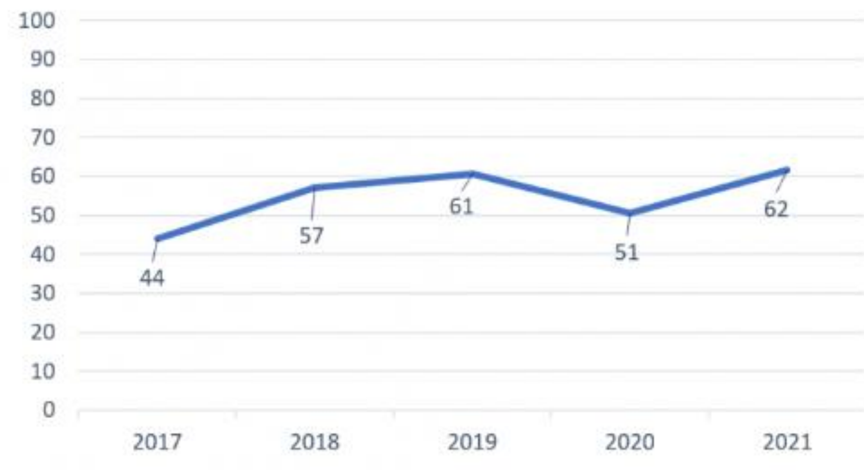
In this post, we try to throw some light on one of the regulatory aspects of the China Healthcare market.

What is NRDL?
The National Reimbursement Drug List (NRDL) is a part of the Chinese Government's plan to make healthcare affordable and accessible. Inclusion of the drugs on the NRDL means that they will be fully or partially reimbursed at a national level and in general, are the only products prescribed by the public hospitals.

The NRDL established in 2000, was updated only three times before 2017 and focused mostly on the reimbursement of generic drugs. Innovative medicines have faced an enormous struggle to achieve reimbursement. Any product seen as too new or too costly would most likely not make it to the list. Moreover, the list was rarely updated, meaning a lag in evaluating and accepting new medicines.

However, the transformation of the NRDL since 2017 has been substantial; after 8 years of no updates, China agreed that as part of the Healthy China 2030 policy the NRDL would be updated annually. Since then, almost 300 drugs have been added to the NRDL and it now contains a total of 2860 medicines; 1,486 Western-made medicines alongside 1,374 Chinese-patented medicines.

Annual price negotiation with National Healthcare Security Administration (NHSA) has become compulsory for all novel treatments to obtain NRDL inclusion since 2017. In the 2021 NRDL update, 85 novel treatments were selected for the price negotiation, and 67 (79%) were successfully negotiated and included in the NRDL. The average discount rate reached its highest in 2021 at 62%. The increased discount is especially applicable to Western manufacturers who historically set higher prices. The growing number of drugs from local manufacturers generates downward pricing pressure and results in competitive pricing in national reimbursement negotiations for drugs with the same class or within the same indication.



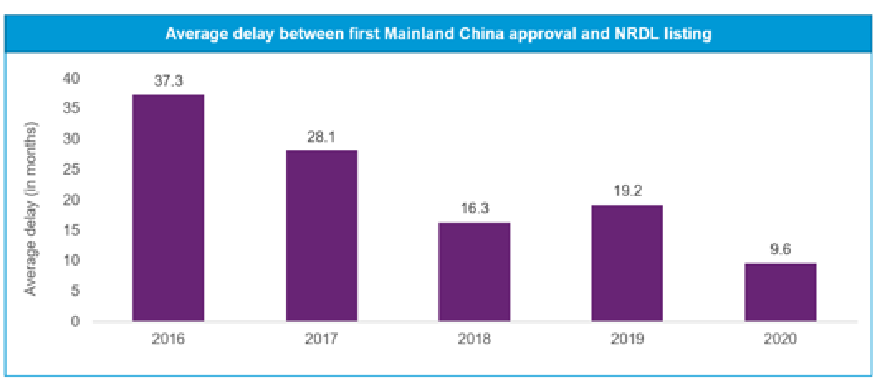
Source: NRDL

Why NRDL is an important key to the market?

1) Huge market - As the most populous country in the world with 1.4 billion inhabitants, China has the potential to be an attractive market for pharmaceutical companies. The value of the Chinese market, second only to the US, is estimated to reach USD 161bn by 2023. Gaining access to the NRDL would, therefore appear to be a golden ticket for pharmaceutical companies' sales.

2) Branded therapies see a major boost in sales – Most branded therapies see a sharp sales surge post-NRDL inclusion, despite incurring huge price cuts in negotiations. Roche reported more than two and three times higher sales of Herceptin and Avastin, respectively, in the two years following their NRDL inclusion, even though both had price cuts of more than 60%.

3) Decreasing the time lag between approval and NRDL inclusion - The average time delay between the first Mainland China approval and NRDL listing has reduced from 37 months in 2016 to just 10 months in 2020. Reducing delays in NRDL inclusion will allow drug manufacturers to reach the patients in China sooner and maximize market penetration before they lose patent protection.



Source: Clairvite

4) Increased transparency - In addition to faster approval, there has been an increased degree of transparency in the NRDL decision-making. For the first time in history, the submission materials of the 271 successful applications which passed the formal

review stage were made public. Historically, understanding the decision process to secure access to NRDL has been challenging and haphazard.

Recent updates

In its annual update Dec-2021, 74 drugs entered the list, out of which 67 drugs that were added pertain to novel therapies reimbursed for the first time in China.

The contribution to the above novel therapies from the local manufacturers was around 63%. For the first time, it exceeded Western Manufacturers.

Price negotiation with the NHSA resulted in an average discount of 62% on the list price.

On Jun-13, 2022, NHSA released a draft paper for innovation drug price renewal in the NRDL. It has come up with clear negotiation rules for the future participating companies which will enable them to better plan their pricing and negotiation strategy to enhance the innovation drug life cycle rule.

Conclusion

In our view, NRDL is one of the main pathways to access the Chinese market. Though Manufacturers face enormous pricing pressure due to the negotiations to get the drugs listed, the compromises are necessary given the huge patient population it provides access to.

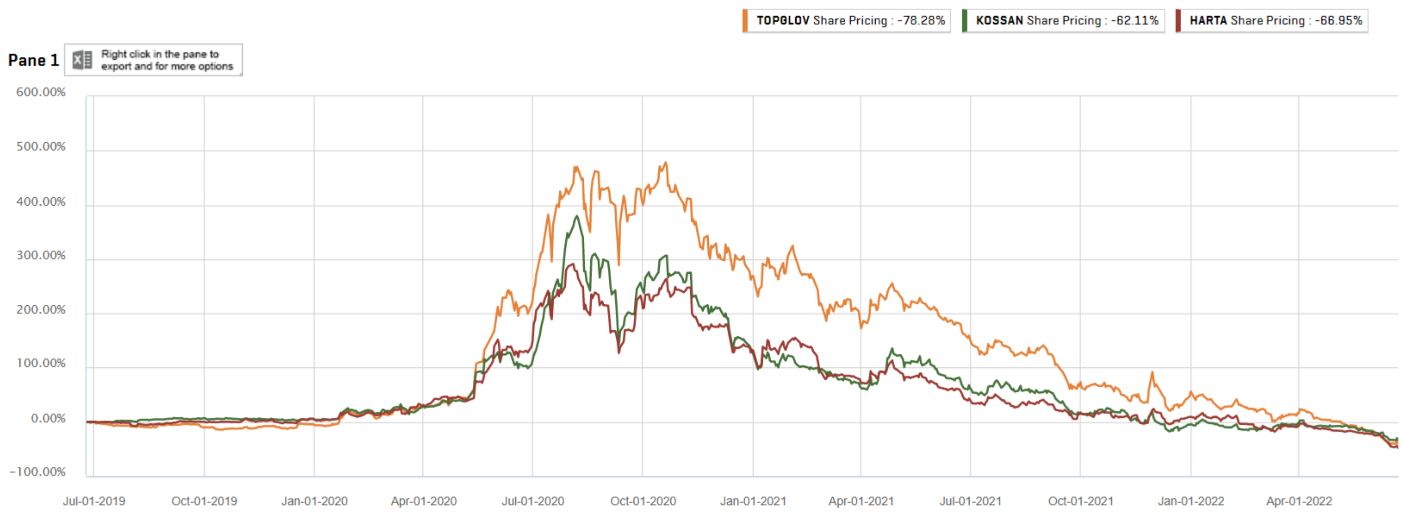
#35: Back to square one! – 22.06.2022

"It's only when the tide goes out, that you learn who's been swimming naked."

While the buzz words in the last few weeks in the investment community have been crypto, tech stocks, and inflation; in this post, we would like to draw your attention to the gloves manufacturing industry in Malaysia, the leading country in this space with 65% of global market share.

The top three glove manufacturers in the world; Top Glove Corporation (KLSE: TOPGLOV), Kossan Rubber Industries (KLSE: KOSSAN), and Hartalega Holdings (KLSE: HARTA) witnessed a euphoric run on the back of the Covid-19 outbreak which was declared as a global pandemic by WHO in March-2020.

As you can see in the chart below, all the three player's stock prices zoomed over 250% in a short span of fewer than 3 months! However, the euphoria was short-lived.



Source: CapIQ

Gloves being an essential part of the PPE kit, saw a surge in demand and selling prices owing to the pandemic, and soon the three stocks zoomed up creating anomalous returns for the investors who got into the ride at right time.

However, the industry is now no longer the darling of investors, as the concern grows about the pricing power the companies will enjoy in a market suffering from oversupply. The market attracted a lot of new entrants, especially from China, which has put pressure on the margins even for the efficient players. Also, amid rising inflationary costs and competition, the players have had a difficult time passing its cost to the buyers.

Earnings of the glove makers have started to normalize following a drop in demand while output has risen from both existing and new players. It will take several years for the excess capacity to be digested unless there is an exit of new entrants plus significant delays in the existing expansion plans.

However, it is not all bad. Most of the players are sitting on a good cash pile which should help them to pass the storm. The right cue for the investors in the coming years would be if there is an uptick in the capacity utilization and their ability to pass on the additional cost pressure to the customers.

#36: The Outsourcing Market – 29.06.2022

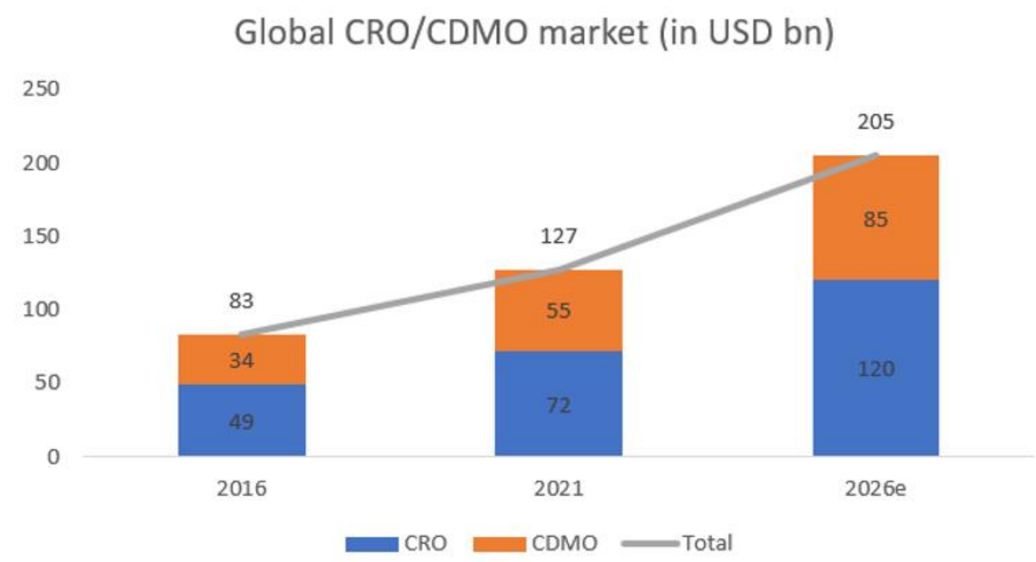
In our Lacuna Healthcare Observer #3: CDMO an industry in structural tailwinds, we discussed factors that have led to the tremendous growth in the outsourcing industry. In today's post, we dive deeper into understanding the moat of the industry, and the rise and challenges of the two major geographies which are currently the hotbed for the outsourcers.

Quick recap

The global pharmaceutical industry has undergone a dramatic change over the past decade as most innovator companies experiencing a patent cliff. There has been a rise in R&D spending and capital flow toward the biotech industry. The development of new medicines involves a tedious process as the process from drug development to commercialization takes 8-10 years and costs around USD 1,5 - 2bn.

The innovators across the globe are targeting to lower their R&D costs and improve efficiency leading to an increase in the pace of outsourcing. Also, the companies not only bank upon their internal research, but also look for promising candidates through acquisitions and in-licensing from small biotech companies. These are the main reasons for the growth of the CDMO industry over the last decade.

The Pharma Outsourcing market is expected to grow at a Cagr of 11% over the next 4 years, reaching USD 200bn by 2026.



Source: Samsung Biologics Annual Report

Barriers to entry

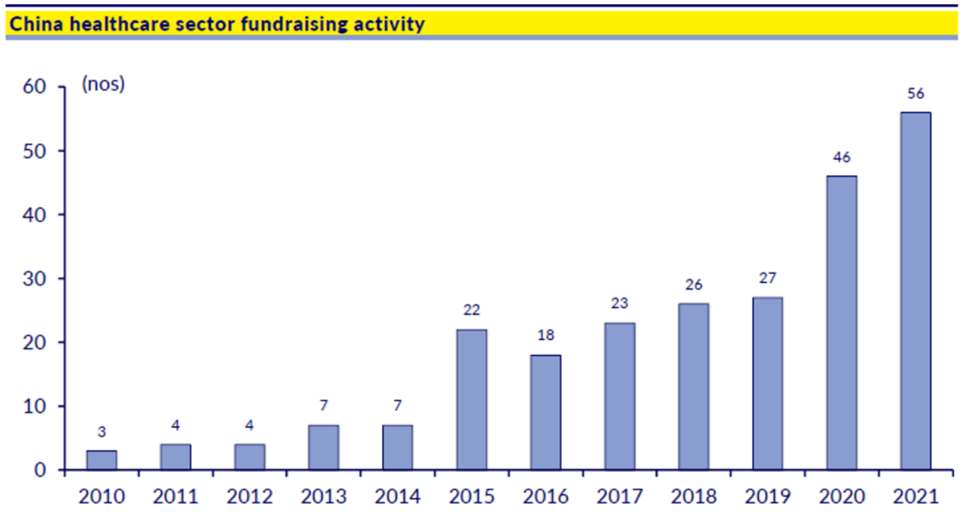
The industry has high entry to barriers due to,

1. The steep upfront cost of setting up a lab/manufacturing facility and long gestation periods – It can remain underutilized for many years if the firm is not able to land a sizeable contract.
2. High switching costs – This cost remains high as the outsourcer has to go through the entire regulatory process of validating a new partner, and hence the opportunity to save 10-15% cost will not lead to a switch.
3. Ability to protect intellectual IP – Companies would like to choose a partner more on its ability to protect intellectual property rights than cost.

Major Geographies for CROs and CDMOs

Over the last decade, two geographies have taken the most advantage of the rise in the global outsourcing market; China and India.

In the last decade, China's pharmaceutical industry has seen a complete transformation. From <5% share in the global innovation pipeline in 2015, the share increased to ~15% in 2020. This transition has happened on the back of the government's reforms on tax incentives, industry-supported innovation hubs, and forming academic-industrial alliances. This has led to a massive push in the funding activity for the sector. This has led to a sizeable increase in fundraising activity for this sector



Source – CLSA

However, the major R&D outsourcing hub of the world is now facing challenges as many western firms are looking at outsourcing alternatives to diversify their supply chain owing to regulatory risks and geopolitical rifts between the US and China.

On the other hand, in the past few years, India has done exceedingly well in attracting the western firms for their outsourcing requirements by setting up labs closer to customers, acquiring manufacturing plants in developed countries, and developing niche capabilities like antibody-drug conjugates and peptide-active pharmaceutical ingredients (API) which bring them on par with global peers. The Indian CRO/CDMO industry is still at a nascent stage. It is expected that the industry will keep growing at a 15-20% growth rate from FY22-25, beating its historical growth rate from FY19-22.

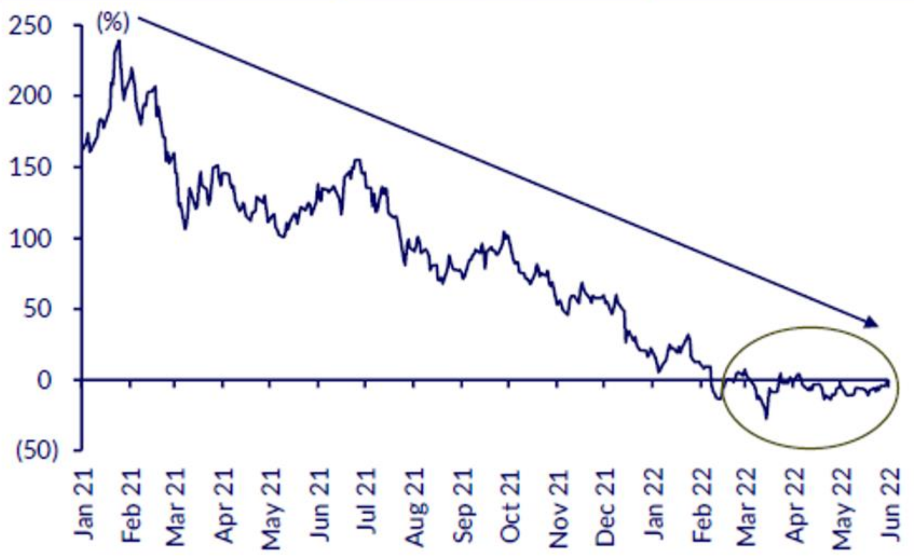
However, India has its own set of challenges -

1. India's track record in the development of generic drugs and process chemistry is unparalleled. However, it lacks the mindset and the culture to create an environment for innovation necessary for successful biotech industry.
2. Not enough funding activity for this sector compared to its peers owing to the lack of incentives from the government to invest in R&D.
3. A disconnect between industry requirements and academia.
4. Clinical trial regulations are very stringent and cumbersome in India.

Valuation differential

Before the deep correction which started in mid-2021, the Chinese CROs and CDMOs traded at a sharp premium compared to the Indian CROs and CDMOs given their higher growth and scale benefits. However, due to the geopolitical tension between the US and China's governments, the stocks have corrected meaningfully as the western companies have started looking for alternatives to de-risk their supply chains. The Indian companies are now trading in line with their Chinese peers.

Premium of Chinese companies over Indian companies



Source - CLSA

The estimated Revenue and EBITDA cagr, though slightly lower than the Chinese peers, are attractive for the investors and better compared to its other global peers. We believe that the Indian companies with niche capabilities, a global footprint, and relationships with foreign pharma and biotech companies will succeed. As western companies look for an alternative to China, Indian companies with global skillsets stand to gain.

#37: Smart Hospitals – 06.07.2022

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Technological enablement, automation, and digitization are affecting industries today in profound ways. Healthcare delivery is no exception. According to Dr. Raja Dutta, the co-founder and Director of Avisa Smart Hospitals, "*Digital technology could help transform unsustainable healthcare systems into sustainable ones with increased operational efficiency and growth, equalize the relationship between medical professionals and patients, and provide cheaper, faster and more effective solutions for diseases*". He has transformed a few hospitals in India and the UAE into smart hospitals with adoption of digital technology and automation.

As the population grows, the demand for healthcare services is rapidly increasing especially during and after the COVID-19 crisis. Along with the surging demand, patients have ever-increasing expectations about the quality of the healthcare treatments they undergo and the services they are provided with.

Over the past few years, the old model of hospitals as stand-alone facilities that provide all services is disappearing rapidly. Increasingly, hospitals are becoming just one component of larger, interdependent ecosystems that include multiple other facilities (e.g., primary care providers, clinics, pharmacies, rehabilitation centers).

What is a smart hospital?

Smart hospitals are those hospitals which have a modernized infrastructure, integrating digital and physical assets in a unified framework that ties the institution's various clinical and business workflows and assets together.

The smart hospital framework involves three essential layers – data, insight and access.

· Data – Personal health records (Data) can be collected from primary care providers and independent service centers. These records could serve as the foundation for the information system.

· Insight – Collecting data is not enough. It must be integrated together to derive 'smart' insight, which can be done by feeding it into analytics or machine learning software.

· Access – It must be accessible to the user through an interface, including a desktop or a smartphone, to empower them to make critical decisions faster, improving their efficiency.

The critical component for smart hospitals is the ability to provide a valuable insight, which was simply not possible or available earlier. This is what makes a hospital a step further from being just digital, making it truly smart.

Trends driving smart hospitals

· Shift towards health management – Over the last few years, there has been a shift in focus from disease treatment to health management. The change is being driven both by a) patients - who want longer, healthier lives, and b) by payers - who are facing budgetary pressures.

· Demand for quality services – Historically, diagnostic and treatment errors have been very common in healthcare. However, many patients are becoming more informed about healthcare decisions and thus there is a need for fundamental transformation to improve the quality of care. AI, robotics, and other new technologies can improve treatment precision and dramatically decrease the probability of error.

By 2030, the world will be home to more than 8.5bn. people, so pressures on the healthcare system will only increase as time goes on. In order to tackle upcoming problems, majority of the hospitals are beginning to utilize technologies and scientific advancements in healthcare delivery.

Conclusion

Today's world is rapidly evolving but our hospital infrastructure is often left to play catch up, there are countless hospitals that are over 100 years old and are still in operation with limited possibilities of advancement. However, we are also noticing implementation of digital solutions in some hospitals as steps in their journey to become 'smart'.

Although we do not imagine a significant number of hospitals to become smart in the coming few years, we do expect most of the existing hospitals to implement smaller solutions in a piecemeal approach, with integrations happening with each subsequent implementation to ensure building a 'smart' network of solutions.

#38: India x Germany – 21.07.2022

With the Indian team enjoying some Bavarian Summer

"Coming together is a beginning, keeping together is a progress, working together is success" – Henry Ford.

We at Lacuna believe in constantly improvising our processes, ideas and philosophy and this week has been all about getting under one roof and working on building a roadmap towards a bigger picture.

#39: Investing during the current inflationary world! – 05.08.2022

"Investing is the single most effective way to get rich. Inflation can be bad for individuals when you just keep your money sitting in a bank account and do nothing else with it." - Ramit Sethi

Since the beginning of the 2000s era, capital markets have exhibited a fair amount of variety.

While a financial meltdown that brought the global financial system to the brink of extinction took place in the first decade of the new millennium, an environment of artificially low-interest rates and hence artificial inflation of risk asset valuations dominated the 2010s up until recently. Another regimen change appears to be in motion since the advent of the pandemic in 2020.

High inflation is ushering in an era of rising interest rates. It has risen to levels that many parts of the developed world have not seen for 40 years – exceeding 8% in the U.S. last month alone. Rightly, investors have become more concerned about the implications of the inflation boogeyman on their portfolios.

So far, according to Bloomberg estimates, more than $11 trillion has been wiped out from the global stock market this year.

As a billionaire investor, Warren Buffet, once said "Be greedy when others are fearful," we need to invest to claw back some of the lost spending power. Of course, the next question for investors would be, where should we invest at this point?

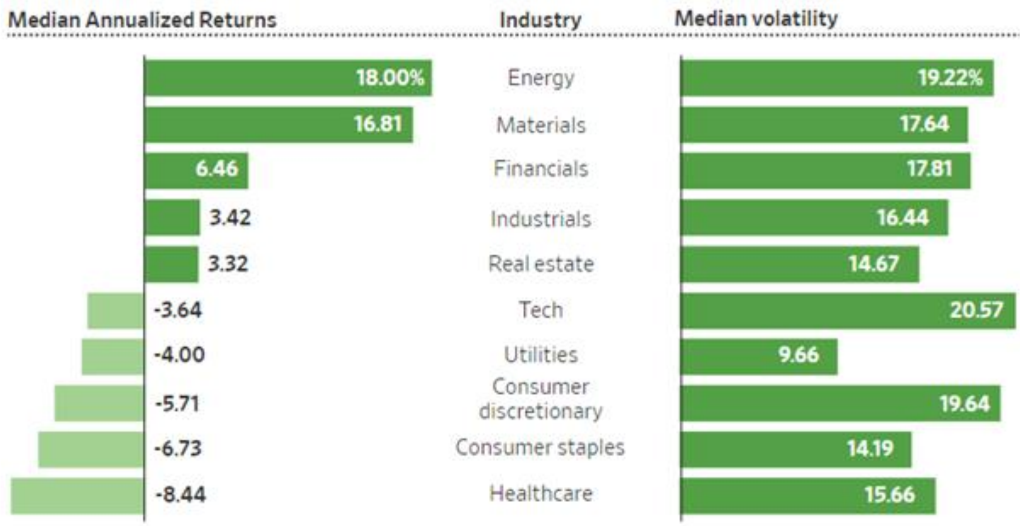
Investors commonly hear that when inflation surges, it is best to put your money into physical assets that track the jump in prices, with real estate often suggested as the best option. But the problem with real estate is that housing prices have already risen dramatically and don't look like particularly attractive values from a historical context. Also, real estate cannot be bought quickly or easily, and acquiring them often entails significant transaction costs.

An alternative solution would be to rebalance your stock portfolio towards industries that have historically exhibited positive inflation sensitivities.

Derek Horstmeyer (George Mason University) conducted a research study to analyze how companies performed across ten sectors during inflationary-spike periods. He published his findings in Wall Street Journal in June 2022 (Horstmeyer, 2022).

For his study, he gathered data of the last 50 years on the return of all the stocks listed in New York Stock Exchange or Nasdaq. Alongside, he studied the consumer-price index for the same period and found three spikes in prices during which the inflation rate doubled in less than 24 months - March 1973 to May 1975, April 1978 to September 1980, and February 2021 to March 2022. He categorized each company into their respective sectors and examined how the median stock in each industry performed during those three inflation-spike periods.

The table below represents his study findings**.** It shows negative results for sectors such as healthcare, tech, and consumer discretionary**.**



*The inflation-spike periods are March 1973-May 1975, April 1978-September 1980 and February 2021-March 2022.
Source: Derek Horstmeyer, George Mason University

Conventional wisdom suggests the readouts are understandable because these sectors have historically shown above-average interest rate sensitivity and environments of rising inflation are typically accompanied by a rising rate cycle. On the other hand, the performance of consumer staples and utilities might surprise investors because these types of stocks are typically perceived as safe havens during rough times.

As healthcare-focused investors, we need to be aware of empirically evident correlations like in Horstmeyer's study, which could affect the performance of the portfolio of healthcare stocks in our Lacuna Global Health Plus fund.

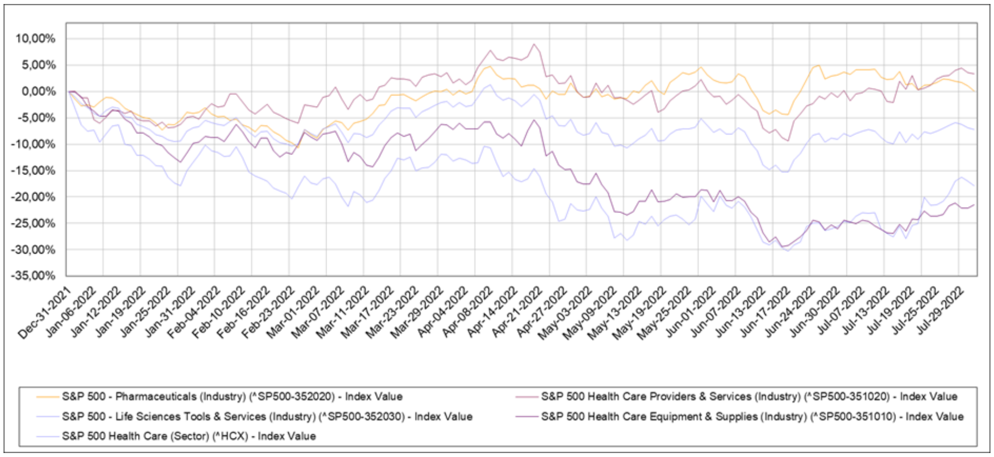
We believe that not all healthcare stocks are created equal and that nuance in terms of sub-industry exposure in the healthcare sector matters a lot.

The previously mentioned study also neglects implications from the time-variability in relative valuation of the healthcare sector as a whole and on sub-industry level, which should be quite relevant considering the circumstance that high inflation has historically tended to hurt high P/E multiples.

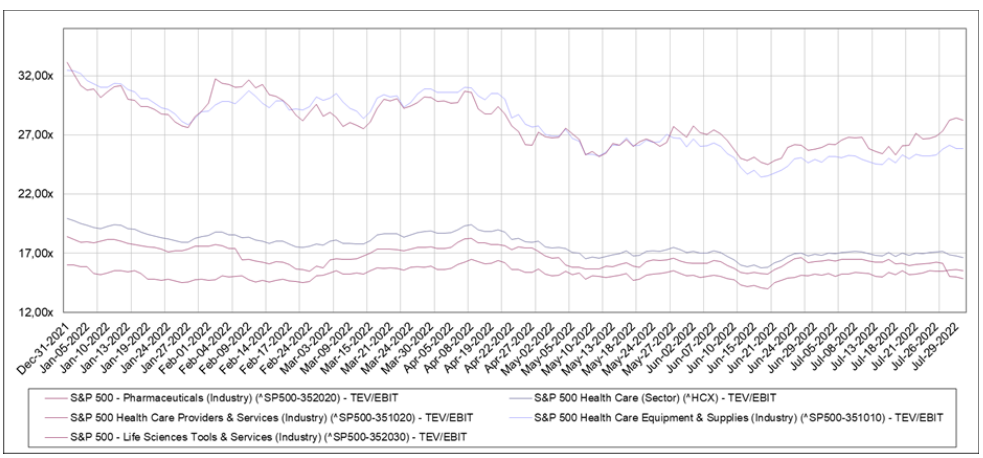
Healthcare stock performance during the current inflationary spike

As we can see in the illustrations below, the performance across healthcare sub-sectors differs significantly in the current inflationary period.

While HC Equipment and Lifesciences have been the worst performing subsectors (both in terms of absolute and relative returns), pharmaceutical and HC services have held up well and even outperformed the S&P500.



Source: S&P Capital IQ.



Source: S&P Capital IQ.

Both sub-sectors that got crushed amidst inflationary pressure and rising rates were the ones with the **m**ost demanding relative valuation and subsequently highest cash flow duration going into the current year.

Interest rates are like gravity and when they rise especially high duration assets that have a higher intrinsic value dependency on the present value of cash flows in the distant future tend to be affected most.

When we speak about HC services - Hospitals, physicians, pharmacies, and other providers have contractual arrangements with government and private health plans to specify the reimbursement terms like fee schedules or value-based care. These contracts typically renew annually and can have built-in inflators, some of which might be indexed to the consumer price index. HC equipment and life sciences sub-sector have been worst hit due to halted production operations and chaos in global shipping while many companies faced supply chain disruptions due to lockdowns, labor shortages and inflationary logistic cost.

When it comes to defensive sectors, we believe that healthcare sector can mitigate the inflationary risks. Particularly the HC service and pharmaceuticals sub-sectors shouldn't suffer from meaningful demand destruction amidst an environment of rising prices and should be able to pass on inflation over time – who would turn down non-discretionary medical care because of increasing price.

Lacuna's take on investing during the time of inflation –

Warren Buffet, during a 2015 shareholder meeting, noted that: "*The best businesses during inflation are the businesses that you buy once and then you don't have to keep making capital investments subsequently*," while you should avoid "any business with heavy capital investment."

During inflationary times, we generally look to invest in those companies that have sufficient pricing power to pass on inflation over time and don't exhibit meaningful capital intensity when it comes to maintaining as well as expanding operations.

Going into 2022, we were already underweight medical equipment and Life Sciences business due to our concerns about valuations having become too rich in these industries. We increased our exposure towards HC services and pharmaceutical players at that point in time, which were more attractively valued in a historical context and less of a crowded trade. Consequently, fitting very well into our value investing inspired framework.

As a result, our portfolio "P/E" was at a substantial discount vs. the benchmark portfolio, which introduced lower "valuation risk" to our portfolio and sheltered us from the ramifications of rising interest rate levels and consequently higher market discount rates. Hence, reducing the scope for multiple compression on a portfolio level and helping us to significantly outperform our benchmark YTD.

There is number of holdings in our book that post substantially positive returns amidst a falling market environment, with two of them quickly portrayed below:

Aster DM healthcare – It is an Indian hospital-based business which has presence in GCC countries and India. While the company grew its GCC business through greenfield expansions, they have started expanding their India business through an asset-light model, which has proved highly accretive to return ratios. During COVID, they ventured into the diagnostic and e-pharmacy space which helped them offset temporary margin pressure from lost volume in elective procedures. Nearly, 50% of their GCC revenues is derived from government, where they were able to pass on inflationary pressures, while growth in the e-pharmacy and diagnostic space has increased sustainable profitability on group level. Aster is up 35% YTD.

Bristol-Myers Squibb Co. – This company develops biopharmaceuticals across four therapeutic areas: oncology, cardiovascular, hematology and immunology. The share price was penalized last year as their top three products, which contributed 67% of 2021 revenues, are nearing patent expiry over the next five years. However, the market underappreciated the growth potential in BMY's pipeline, when sentiment was mostly obsessed with the on first level thinking obvious threat of an upcoming patent cliff. The company is run by a strong management team which has previously demonstrated its ability to develop and commercialize new products at a massive scale. We believe this track record will continue and thus stay invested in the stock. BMY is up 17% YTD.

#40: Chinese Birth Rate – A Looming Headwind! – 10.08.2022

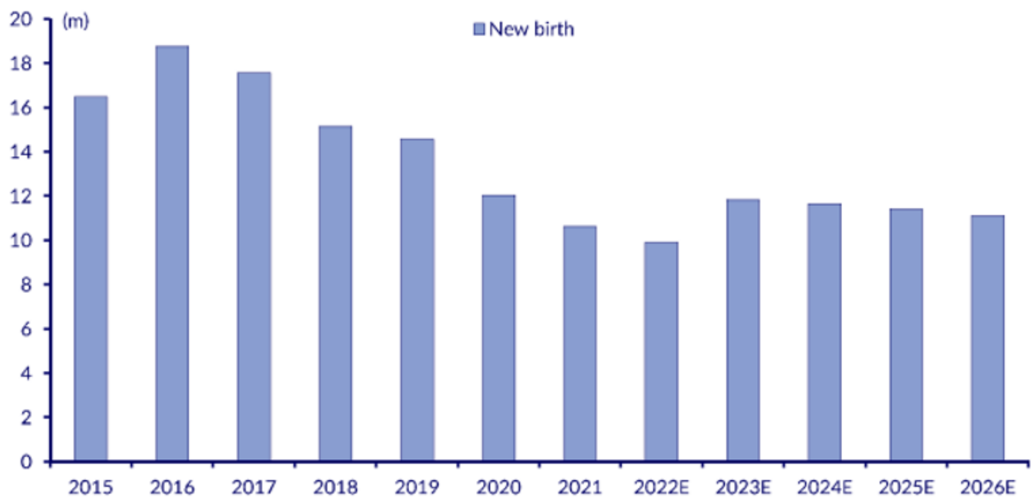
Introduction

Over the last decade, China has been the leading market for the Infant Milk formula (IMF) products, which has attracted not only domestic but foreign players to make inroads and increase their market share. Historically, the market has seen headwinds from quality concerns of the products, where the foreign players dominated owing to their better-quality standards.

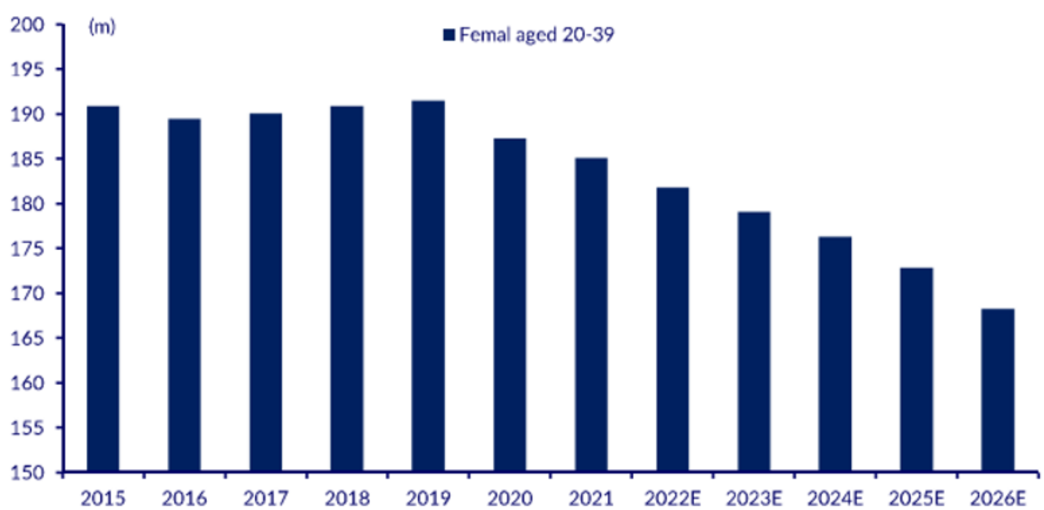
However, the market dynamics are now changing at a quicker pace as China sees a declining birth rate over the coming years!

Declining Birth rate

Chinese mothers gave birth to just 10.62mn babies in 2021 compared to 12mn in 2020. This year, the number is expected to be 9.9mn in 2022. As per CLSA estimates, the number may improve in 2023, however from a historic point of view, the declining birth rate has been quite evident. An important driver of lower births in recent times has been the declining number of women of childbearing age. The number of women in this age group has fallen from 217mn in 2000 to 185mn in 2021.



Source: CLSA

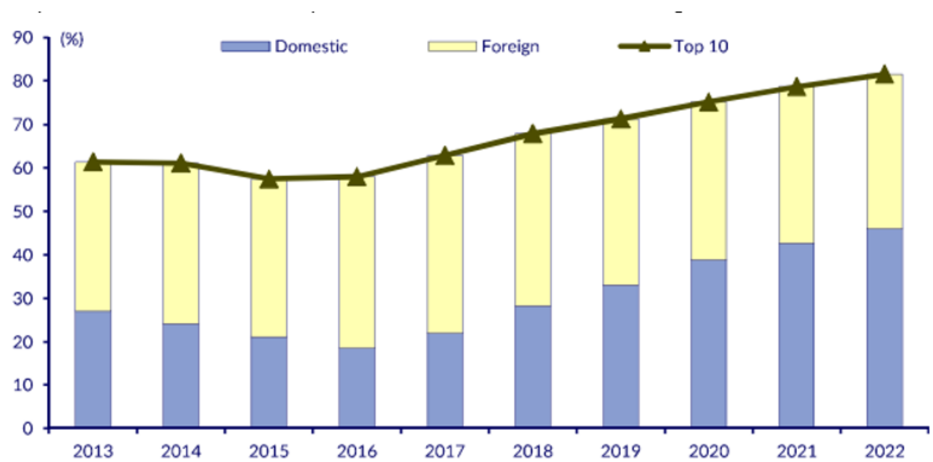


Source: CLSA

What does this mean for the IMF market?

The declining birth rate has intensified the competition amongst the IMF players. While the birth rate will directly impact the industry with a lower volume growth (3-4% CAGR over 2023-2026), we believe there will be other trends in the market that an investor needs to look at:

1. Companies will focus on premiumization – The Average Selling Price (ASP) will keep driving up as consumers would prefer quality products. Companies may have an incentive to offer discounts in the competitive market, however, discounts and price wars are neither sustainable nor beneficial to brand reputation.
2. The intensifying competition will lead to consolidation – Consolidation has already been taking place in the last few years and we believe this trend to remain intact going forward as the competition increases as the companies aim to not concede their existing market share.



Source: CLSA

3. Diversified product portfolio and enhancement of supply chain – Along with positioning itself amongst the premium IMF categories, the companies have been focusing on leveraging their production technology and existing supply chain to extend their product lines by distributing nutritional and Adult Milk Formulas (AMF) products to enjoy incremental growth. Investors may worry about the possible failures of new business expansion plans, but the IMF players need to defend themselves against the troubles caused by the declining birth rate.

#41: Need a hearing aid? Now get it over the counter! – 17.08.2022

According to the World Health Organization, Hearing loss is the third most common chronic physical condition affecting people of all ages in USA. As per CDC (Centers for Disease Control and Prevention), nearly 16% of adults in the U.S. report hearing trouble. The National Institute on Deafness and Other Communication Disorders states *"approximately one in three people in the United States between the ages of 65 and 74 has hearing loss, and nearly half of those older than 75 have difficulty hearing."*

The cost of hearing aid devices ranged between $1,000 to $6,000 per year and consumers must spend additional time and money getting examined and fitted by a specialist. These costs were not typically covered by traditional Medicare or other insurers. Surveys from numerous health organizations have found that hearing aids are under-used, with cost and stigma being top reasons people don't wear them. A survey conducted by Healthy Hearing revealed that about one-third of people with hearing loss wear hearing aids.

FDA allows hearing aids to be sold over the counter

On 16th August 2022 i.e., yesterday, the **US FDA** (Food and Drug Administration) issued draft guidelines for over the counter **(OTC)** hearing aid**s** i.e., under the new rule, people with mild to moderate hearing loss should be able to buy hearing aids online and in retail stores as soon as October, without being required to see a doctor for an exam to get a prescription.

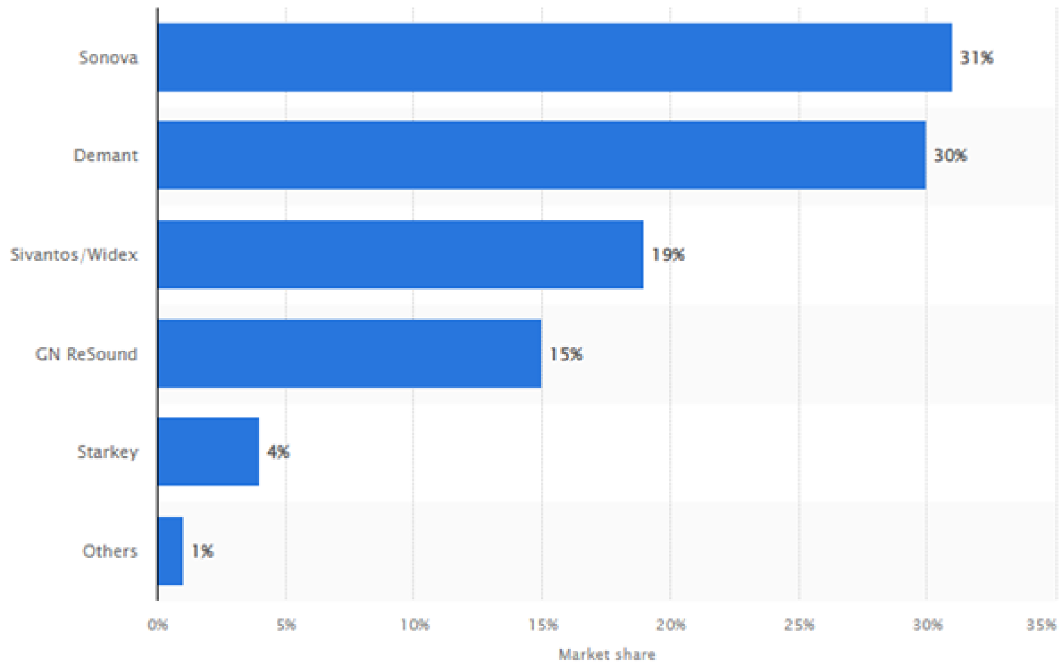
This rule would result in lowering the costs of hearing aids and leading to $3,000 in savings to American families for a pair of hearing aids and giving people more choices to improve their health and well-being. However, the rule applies only to certain air-conduction hearing aids for people ages 18 and older who experience mild to moderate hearing impairment, meaning those that are intended for pediatric use or severe hearing impairment will remain prescription devices.

It also does not apply to "personal sound amplification products," consumer products that help people with normal hearing amplify sounds.

About the US hearing aid market

The new regulations will create a new category of hearing aids that supersede state-level regulations requiring patients to visit physicians or audiologists to get prescriptions and fittings. The FDA is currently working with manufacturers to ensure the over-the-counter devices are of "good quality" and meet the agency's performance criteria.

An **investigative report** released by Senators Chuck Grassley, R-Iowa, and Elizabeth Warren, D-Mass., in June 2022 found that the top five hearing aid manufacturers control the entire market. As can be seen in the image below – Sonova and William Demant control more than 50% of the market.



Source: Statista, 2022.

We believe that this new rule is designed to help increase competition in the market while also ensuring the safety and effectiveness of OTC and prescription hearing aids.

Lacuna's Observation

With this new rule, we believe that the US hearing aid industry will open and the barriers to addressing hearing loss will gradually fall making these devices become more accessible for everyone. We also believe that the industry is going through another big change with tech companies like Bose and Apple entering the market.

It would be interesting to watch how the current top 5 companies adhere to these new changes and how well are they able to sustain their market share in the future.

#42: Pfizer's Shopping Spree – 25.08.2022

"We're buying the company, the brand, the building ... but mostly we're buying the golden eggs."

"The individual investor should act consistently as an investor and not as a speculator." — Ben Graham

Introduction

Pfizer (NYSE: PFE) is one of the large biopharmaceutical names based out of the US, which became more famous over the last year due to its Covid-19 vaccine. The company focuses on developing and manufacturing vaccines and prescription drugs across therapeutic areas such as Oncology, cardiovascular, immunotherapies, and rare diseases.

In 2021, the biopharmaceutical giant clocked USD 81,2bn in sales, out of which over 45% of the total sales were contributed by Cominarty, the vaccine used to treat covid-19.

Continuing the momentum, Pfizer delivered another robust set of results in Q2FY22, where it generated USD 27,7bn out of which USD 16,9bn was generated from its Covid franchise (Cominarty and Paxlovid). The ongoing strong set of results has helped the company to generate more than double the average free cash flow (FCF) it had been generating in the past. In 2021, the company generated FCF of almost USD 30bn which is 2,5x of the FCF generated in 2020.

This has not only helped the company to de-lever its balance sheet but also helped the management to start building a stronger product portfolio.

So what lies ahead?

While the company is reporting excellent numbers due to its Covid franchise, investors fear that these numbers would not keep growing. Eventually, the number will come down. Along with that 7 of its drugs across different therapeutic areas are going to lose its patent protection by 2027. In 2021, these drugs contributed ~USD 24bn in the total revenue (54% of the total revenue excluding covid franchise).

In short, Pfizer is facing a huge patent cliff and needs to fill the vacuum which will be created on account of patent expiration.

While Pfizer has its own in-house pipeline with over 80 products across different clinical stages, the management has been actively looking for inorganic opportunities to maintain its topline. As mentioned above, excess cash flow has further strengthened the inorganic growth way.

In the last few months, Pfizer has completed the below-mentioned acquisitions.

Compay Acquired	Consideration Paid	Business of the acquiree
Global Blood Therapeutics	All outstanding shares of GBT were acquired for USD 68,5 per share in cash for a **total enterprise value of USD 5,4bn**. Based on 2021 revenue, **Pfizer ended up paying P/S 27x.**	Biohparmaceutical Company dedicated to discovery and development of life-changing treaments of sickle cell companies.
ReViral	**Total Consideration of USD 525mn**, out of which USD 100mn is contingent upon future development milestones.	Clinical stage biopharma company focused on discovering and developing novel antiviral therapeutics and target respiratory syncytial virus.
Biohaven	Paid USD 148,5 for all outstanding shares in cash. **Total consideration amounts to USD 11,6bn.** Based on Biohaven's 2021 revenue, **pfizer ended up paying P/S of 25x.**	Maker of NURTEC ODT, an innovative migraine therapy drug. The product portfolio also includes pre-clinical assets.

Lacuna's view

We see Pfizer approaching a huge patent cliff for which the management along with the in-house pipeline is looking for inorganic opportunities. The nature of these acquisitions appears to be expensive, and we are cautious of the future capital allocation decisions in the light of the company generating anomalous cash flows and would like to refrain from speculating. But you never know, the market can surprise us in ways we don't expect to!

Investment Insights

1: Caplin Point Laboratories – 25.08.2022

"Well, now we know what not to do."

There's a rule of fishing that's a very good rule. The first rule of fishing is "fish where the fish are," and the second rule of fishing is "don't forget rule number one." Charlie Munger!

From this month onwards we will feature a business that we find interesting and might own/would have owned in the past. We want to showcase how we think about these business models.

Caplin Point Laboratories ("or the Company") is a mid-size Indian pharmaceuticals business selling branded formulations in Latin American (LATAM). We have been impressed by the way the entrepreneur built the business over the last decade with internal cashflows. He focused on doing things differently from the industry, for example focusing on difficult markets such as LATAM, while the rest of the industry chased crowded lucrative markets.

Markets consistently undervalued the business since LATAM markets were considered as too small, riskier, and difficult to track compared to developed counterparts in the US and Europe. However, the business consistently generated cash flows, never levered the balance sheet, and grew earnings by 35% CAGR over the last five years.

We consider the following strengths of the business:

a. Entry Barriers: The Company has created a niche for itself in LATAM and has a market-leading position in some of its markets. These markets are difficult to enter given varied regulations and demographic patterns. Caplin Point is present across 15,000+ retail pharmacies and distributors, entrenching its position.

b. Growth: the launch of new business ventures such as injectables, oncology API, and foray into Mexico will fuel the next leg of growth of the business.

c. Management: owner-operator management who owns 70% of the business.

"Topline is vanity Cash flow is Sanity." – CC Parthipan (MD of the Company)

Some risks that the business faces:

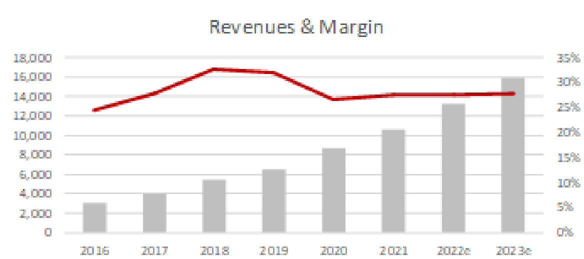
a. Longer working capital: to make inroads in other LATAM markets the company bids for tender contracts which have led to increase in working capital days. Management explains this to be an entry strategy once it secures a foothold in these markets it intends to scale back on these tender contracts.

b. Forex risk: some of the LATAM markets are infamous for political and economic instability this could create challenges on forex. The Company averts this risk by billing its distributors in USD.

c. FDA: with scale-up of injectables business and launch of other products in the US might lead to increased scrutiny from the FDA. The FDA inspected the facility in 2019 and hasn't found any issues since then.

We think Caplin can grow by 15%+ over the next five years. It presents a good investment opportunity to play on LATAM growth with the optionality of tapping injectables markets that are not yet priced in.

Financials (INRmn)	2016	2017	2018	2019	2020	2021	2022e	2023e
Growth	23%	30%	34%	20%	33%	23%	25%	20%
Revenue	3,088	4,016	5,398	6,487	8,632	10,613	13,266	15,919
EBITA Adj	758	1,116	1,758	2,082	2,292	2,917	3,646	4,418
EBITA Margin	25%	28%	33%	32%	27%	27%	27%	28%
Net Profit	584	955	1,446	1,766	2,151	2,514	3,066	3,749
Net Profit Margin	19%	24%	27%	27%	25%	24%	23%	24%
EPS in INR	7.74	12.65	19.06	23.23	28.20	31.71	39.06	47.76



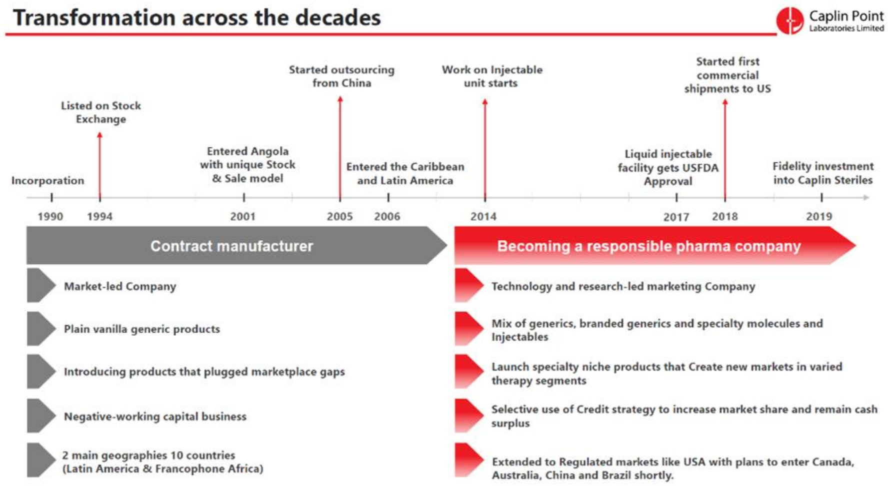
Market Cap in INR	64.538 mn
Market Cap in €	740 mn
Enterprise Value in €	690 mn
P/E 2022e	20.7x
EV/EBITA 2022e	15.8x
Lacuna Scoring	
Growth	4/5
Economic Moat	3/5
Management	4/5
Valuation	3/5

It's currently valued at 16x EV/EBIT (2022) and P/E of 21x (2022).

Business Overview

Mr. C. C. Paarthipan started the business to cater to the Indian domestic market in the '90s. Businesses do not grow in a straight line due to changing internal and external environments. Understanding the challenges faced by entrepreneurs and how they overcome these challenges gives useful insights into management's character. The business faced multiple headwinds in the ensuing decade closed down its domestic business.

During 2000's, the Company saw untapped opportunities to service unregulated markets such as West Africa, Central American, and the Caribbean region. These markets were considered tough and far too smaller (compared to the US) for its competitors to focus on. This gave the Company an opportunity which it grabbed immediately.

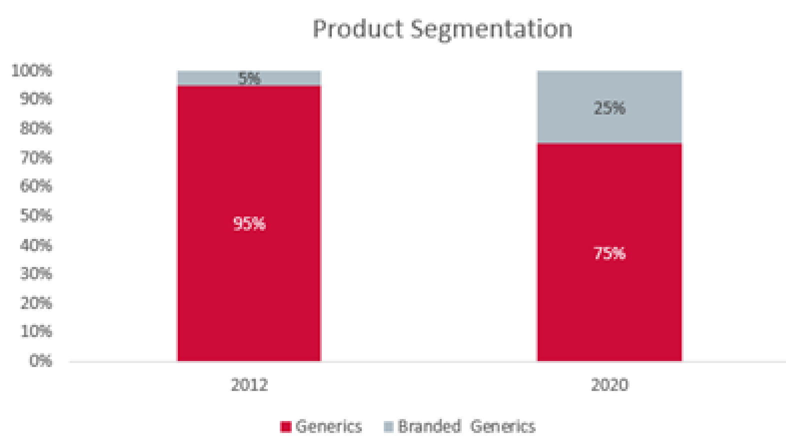


Source: Company presentation

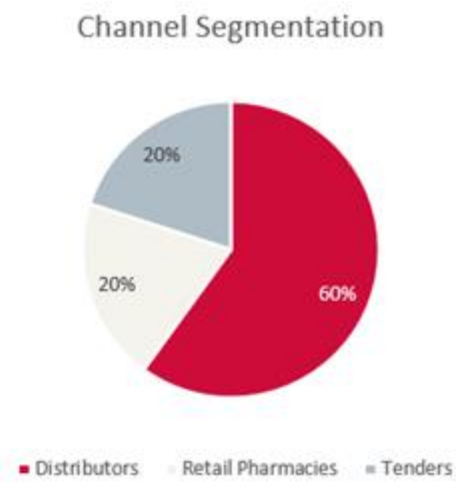
Now the Company is transitioning from a pure-play contract manufacturer into a branded generic formulations business.

Segmental Overview

The Company began with the production of plain vanilla generics. Over the years it has changed its mix towards higher profitability branded generics. Going forward, the management plans to add complex molecules and injectables to its product portfolio, which will catapult the business to its next level of growth.



Historically, LATAM contributed to over 80% of revenues. The business is now building a US injectables business.

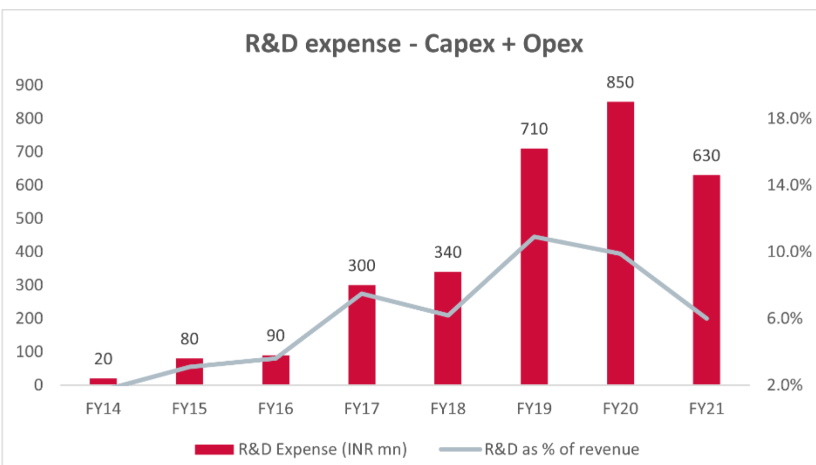


The Company sells through distributors network in LATAM and now has over 15,000 points of sales which include retail pharmacies and distributors. The Company intends to enter newer markets by bidding for government tender contracts to secure a strong position in the market and then widen its retail presence.

The company raised USD 30 million from Fidelity in 2019 for the injectables business and now has cash aggregating to $65 Mio on the balance sheet – ensuring further expansion. Over the course of the next five years, the management is planning to generate 30% of the total revenue from the US market.

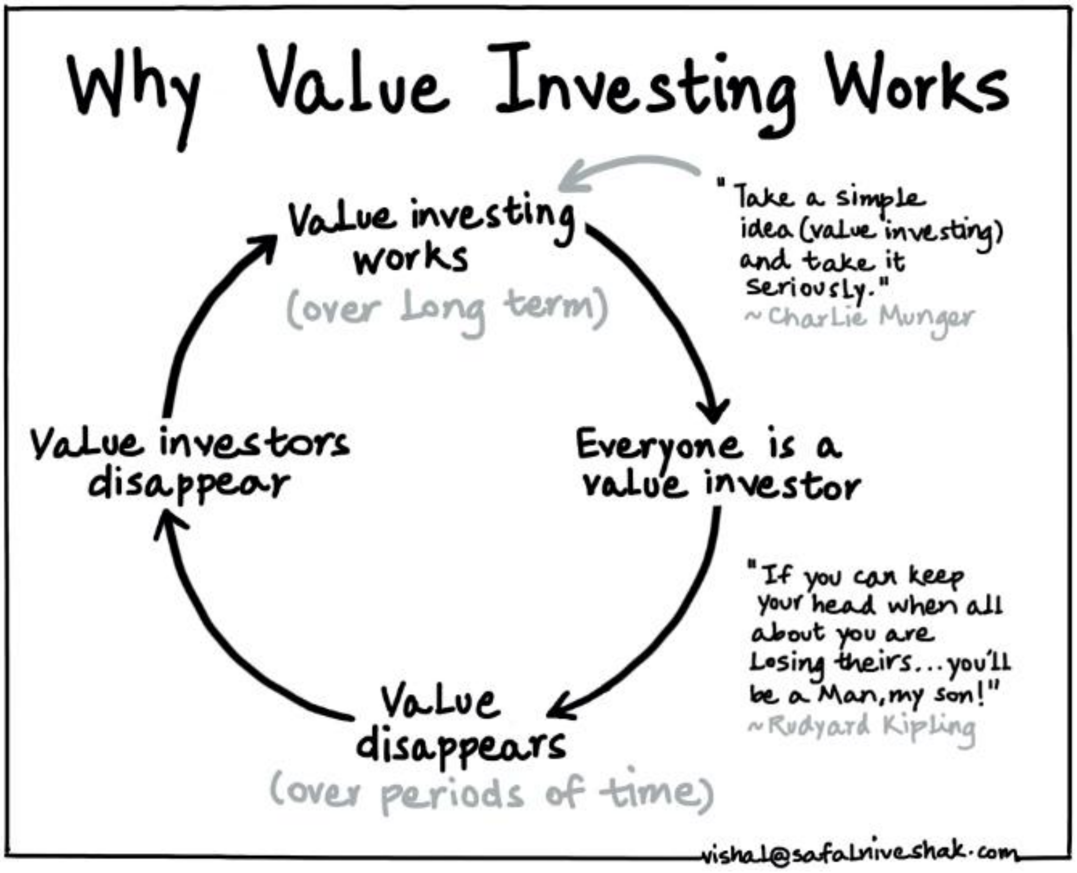
Future Outlook

We expect the company to maintain a double-digit growth as it plans to expand its product range to include complex molecules and injectables. Over the years the Company has focused on building its R&D team and has doubled R&D spend has more than doubled over the last four years.



Source: Annual Report/Management Presentation

2: Value Stocks – Those declared dead live longer?! – 14.07.2022



"The safest and most potentially profitable thing is to buy something when no one likes it." – Howard Marks

A New Value Cycle – Where are we and is there room to run?

If we can think of a setup that resembled the investment profile described in this posts initial quote from Howard Marks, the extended dry spell of value stocks between 2009 and late 2020 is the first thing that comes to our mind.

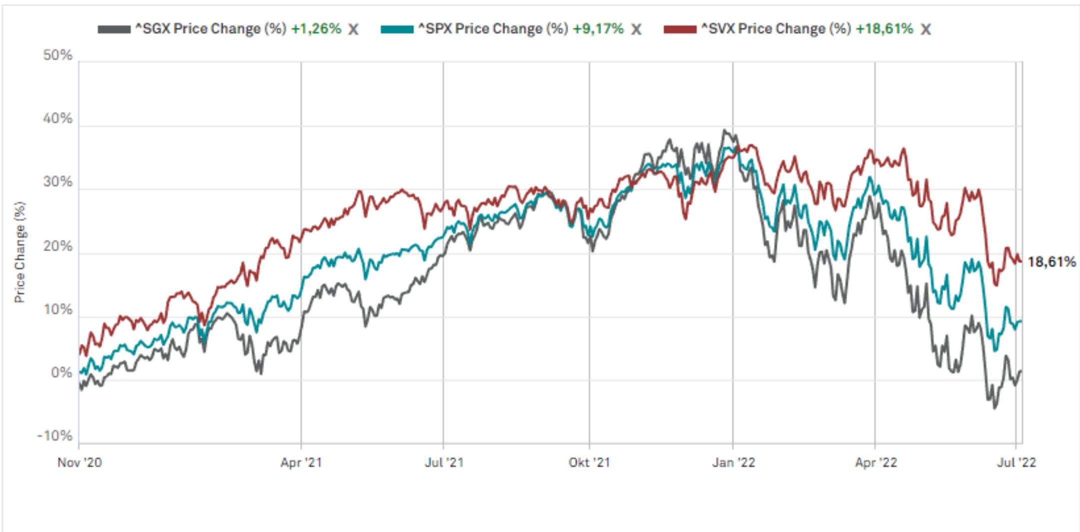
Value stocks, defined as stocks that trade at a low – equating to "cheap" - relative valuation versus a measure of firm fundamentals like sale or earnings, truly went out of fashion during the years leading up to 2020's pandemic and even more so in the market environment after the Covid selloff.

During this period investors were truly obsessed with chasing after secular growth companies and looking for generational winners that might become the next Alphabet or Amazon. Probably, because many investors are to some extent susceptible to historic myopia, they thought crowding into the trade that worked best for most of that period must be a good idea.

Of course, this "herding" contributed to rising relative valuations in the "growthier" end of the market spectrum, an unprecedented blowout of the relative valuation spread between value and growth stocks, and finally a transition from "just" historically very elevated market valuation levels to a full-fledged mania culminating in a blow-off top in the S&P500 in early 2022. One might argue that the lately observable bursting of the bubble in growth stocks was to some extent an inevitable consequence, bearing basic investing arithmetic wasn't rendered obsolete, but hey arguing in hindsight is always easier, isn't it?!

Coming back to the subject of this blogpost, the decade+ outperformance of growth over value ended already before the broader market slid into bear market territory. "Pfizer Monday" or the 9th of November 2020, appears to have been the turning point in the Growth-Value cycle dichotomy.

As the following illustration based on the S&P500 Value Index shows, "cheap" stocks started their outperformance versus its growth antagonists and the broader market since BioNTech/Pfizer disclosed the high efficacy of their Covid-vaccine in late 2020, allowing for fantasies around a leap forward from lockdown restriction and social distancing blues to a new normal.



Source: S&P Market Intelligence. Red line = S&P500 Value, Blue line = S&P500, Grey line = S&P500 Growth.

Arguments for why value stocks regained its lead versus growth stocks are manifold, but from the rearview mirror the interaction of 3 forces seems critical in creating a favorable setup for the subsequent value run:

1) Improving outlook for economic recovery ("Reopening Trade") and prospect of years with solid economic growth ahead

2) Potential reversal of the disinflationary environment of the post GFC era – Combining meaningful fiscal and monetary stimulus during the pandemic was more likely than not to bring higher inflation down the road

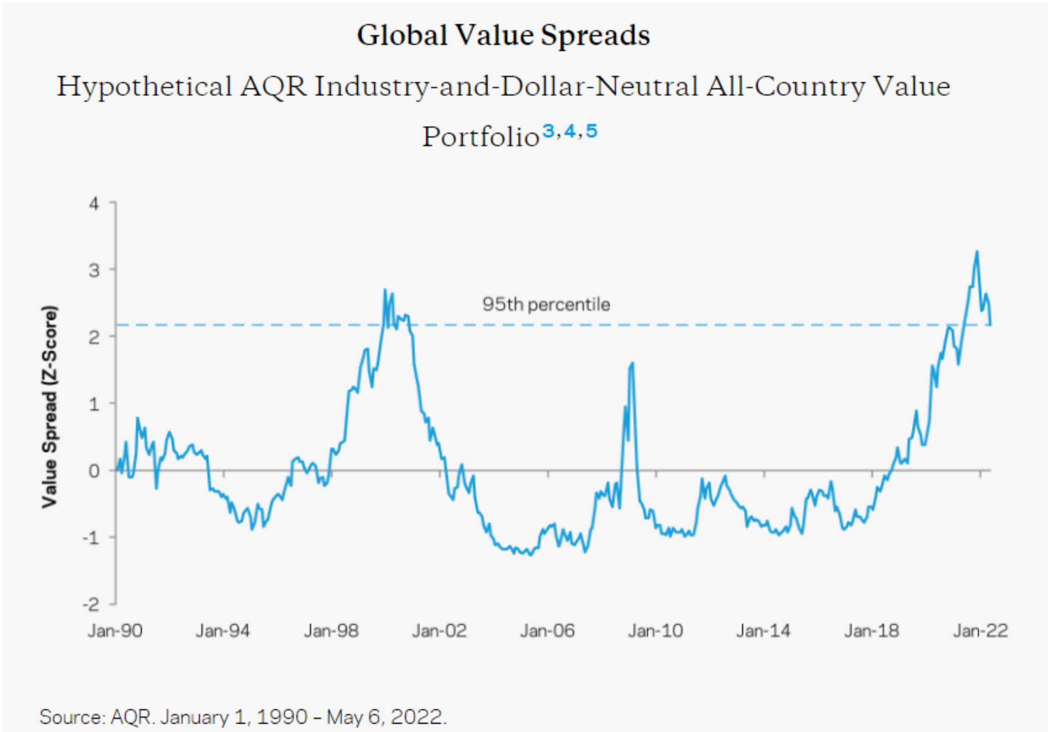
3) Valuation spreads between value and growth stocks compared favorably to previous strong value cycles.

Higher economic growth, higher inflation and a wide valuation spread between value were historically promising preconditions for strong value cycles.

At this point in time, we are 20 months into an outperformance of value stocks and the obvious question is how much further can it go? Let's investigate the current state of the 3 pro-value cycle catalysts that helped facilitate today's value run.

Let's start with the valuation spread. A common theme when value cycles approach their late stage are tight valuation spreads and a final reversal typically coincides with an overshooting of value itself. Looking at the exhibit from AQR below, we can see that the value spread observable in global equities sat still at the 95% percentile recently and was just slightly below spread levels seen during the Dot.com bubble.

While the spread has undoubtedly reverted, the current valuation backdrop for value stocks remains still quite favorable.



Source: AQR, Still Crazy After all this YTD.

The matters of economic growth and inflation must be analyzed in tandem.

Geopolitical events around the Russia/Ukraine war and Central Banks realizing the need for a monetary tightening cycle to combat high inflation have contributed to a significant deterioration in the global economic growth outlook. At the same time, concerns mount that higher inflation could accompany us for longer, against the Fed's initial narrative of "transitory inflation". A potential "stagflation" environment, characterized by low economic growth and high inflation, has become a possibility.

Brandes Partners explains in a recent paper that the two dynamics have typically an opposing impact on the performance of value stocks.

On the one hand, environments of lower economic growth had a negative impact on the performance of the value factor.

On the other hand, rising rates and inflationary periods were typically favorable for value.

Interestingly, two of the strongest value cycles in history took place during market regimens that appear to have parallels to today's world - the 1970s post Nifty-Fifty era and the aftermath of the Dot.com bubble burst in the early 2000s.

In both periods, the market was coming out of a phase characterized by speculation that drove asset valuations to elevated levels and valuation spreads between value and spreads got substantial.

If history was a reasonable guide, the current macro environment looks still net positive for value, even though economic growth might be subdued or maybe completely absent over the next years.

The following exhibit shows the average performance of different equity style factors during inflationary periods – in a nutshell, value and large caps performed best during periods of higher inflation.

Returns During Inflationary Periods	Value	Growth	Large	Small	S&P 500	LT Treasury Bonds	Gold
% Positive	83%	75%	75%	67%	67%	75%	58%
% Outperform S&P 500	92%	50%	83%	58%	n.a.	50%	58%
Average Return	9.2%	2.6%	5.9%	3.8%	2.0%	3.3%	3.9%

12 Inflationary Periods Based on CPI: 2/29/40–5/31/42, 6/30/44–3/31/47, 6/30/44–3/31/47, 7/31/50–7/31/53, 9/30/55–3/31/57, 9/30/60–2/29/64, 1/31/66–11/30/70, 1/31/73–2/28/75, 11/30/77–6/30/80, 6/30/83–5/31/84, 2/28/87–2/28/91, 11/30/03–9/30/06, 10/31/10–1/31/12.

Source: Bank of America "The Thundering Word" March 11, 2021, based on data from Bloomberg, Dartmouth University Data Library, FactSet, BofA US Equity & Quant Strategy. Inflation based on core CPI since 1958 and CPI since 1937. Value and Growth based on Fama-French High Book/Price and Low Book/Price factors. L-T Treasury Bonds based on Ibbotson 15+ Maturity Government Bond Index. Small and Large Size based on Fama-French Small and Big factors.

Source: Brandes Partners, Is the Value Run Over?.

But what if we would not only experience slower economic growth but head into a full-fledged recession? Looking at leading indicators for real economic activity like PMIs for the US or Eurozone indicates that the global economy might approach a phase of economic contraction. Using the S&P500 as proxy for economic activity, it looks as if we are already in a bear-market recession.

On the question whether a recession might put an end to the running outperformance of value stocks we'd say nothing is certain, but there's empirical evidence that value stocks perform quite favorably during recessionary bear markets.

Rob Arnott's firm Research Affiliates finds in corresponding paper that value stocks tend to outperform strongly in bear markets and over the full cycle of a recession recovery, bearing the recession was preceded by the bursting of a bubble, which was characterized a by wide valuation spread between value and growth stocks. Can one identify the latter aspect in today's market? We think yes.

Table 2. Value and Market Performance in Recessions and Recoveries, United States, 1963–2019

	Bear Market	Fiscal Tightening/ Vietnam War	Nifty Fifty/ Oil Crisis	Iran Oil Crisis / Monetary Policy Tightening	Monetary Policy Tightening	Tech Bubble Crash	Global Financial Crisis	Number of Positive Outcomes	Average	Average When Bubble	Average When Shock to Fundamentals Only
During Bear Market	Cap-Weight Cumulative Return	–29.4%	–39.0%	–16.5%	–14.1%	–43.8%	–50.2%	0 out of 6	**–32.2%**	*–41.4%*	*–27.5%*
	P/B Based Value Cumulative Return	–36.8%	–25.9%	7.0%	–28.4%	0.7%	–59.1%	2 out of 6	**–23.8%**	*–12.6%*	*–29.3%*
	Composite Value Cumulative Return	–34.2%	–25.7%	10.1%	–21.6%	20.2%	–59.8%	2 out of 6	**–18.5%**	*–2.7%*	*–26.4%*
	P/B Based Value Excess Return	*–7.4%*	*13.1%*	*23.6%*	*–14.3%*	*44.5%*	*–9.0%*	*3 out of 6*	***8.4%***	*28.8%*	*–1.8%*
	Composite Value Excess Return	*–4.8%*	*13.3%*	*26.7%*	*–7.5%*	*64.0%*	*–9.7%*	*3 out of 6*	***13.7%***	*38.7%*	*1.2%*
Subsequent Two Years	Cap-Weight Cumulative Return	57.1%	80.2%	54.5%	46.8%	41.7%	88.3%	6 out of 6	**61.4%**	*60.9%*	*61.7%*
	P/B Based Value Cumulative Return	53.1%	111.9%	77.4%	86.9%	61.0%	123.2%	6 out of 6	**85.6%**	*86.5%*	*85.1%*
	Composite Value Cumulative Return	49.8%	111.4%	79.6%	70.7%	57.7%	141.4%	6 out of 6	**85.1%**	*84.6%*	*85.4%*
	P/B Based Value Excess Return	*–3.9%*	*31.7%*	*22.8%*	*40.1%*	*19.4%*	*34.9%*	*5 out of 6*	***24.2%***	*25.5%*	*23.5%*
	Composite Value Excess Return	*–7.2%*	*31.2%*	*25.1%*	*23.9%*	*16.1%*	*53.1%*	*5 out of 6*	***23.7%***	*23.7%*	*23.7%*
Full Period	Cap-Weight Cumulative Return	10.9%	9.9%	29.0%	26.1%	–20.3%	–6.2%	4 out of 6	**8.2%**	*–5.2%*	*15.0%*
	P/B Based Value Cumulative Return	–3.2%	56.9%	89.8%	33.8%	62.2%	–8.8%	4 out of 6	**38.5%**	*59.5%*	*27.9%*
	Composite Value Cumulative Return	–1.4%	57.1%	97.8%	33.8%	89.6%	–3.0%	4 out of 6	**45.7%**	*73.4%*	*31.8%*
	P/B Based Value Excess Return	*–14.1%*	*47.0%*	*60.8%*	*7.7%*	*82.5%*	*–2.6%*	*4 out of 6*	***30.2%***	*64.8%*	*13.0%*
	Composite Value Excess Return	*–12.3%*	*47.3%*	*68.8%*	*7.7%*	*110.0%*	*3.1%*	*5 out of 6*	***37.4%***	*78.6%*	*16.9%*

Note: Gray columns represent market downturns that were preceded by an asset bubble. White columns represent market downturnsthat were preceded by a shock to fundamentals.
Source: Research Affiliates, LLC, based on data from FactSet, CRSP, and Compustat.

Source: Research Affiliates, Value in Recessions and Recovery.

Taking all factors into account - historical precedent, economic fundamentals and the still undemanding starting valuation of value stocks - we believe that the outlook for value remains promising.

Of course, shorter-term interruptions are to be expected on the path of an extended value cycle, no natural process follows a straight line.

Hence, maintaining a tactically higher tilt towards shorter-duration value equities appears reasonable in our view, even after a 20-month outperformance versus growth equities.

How to Play the possibility of an extended Value Cycle?

If one believes there's a good chance that we are only in the early phase of a multi-year value cycle, the ultimately relevant question from an investor's point of view is what would be the best way to bet on a continued outperformance of value stocks and set oneself up to benefit from the promising absolute and relative future return potential "cheap" stocks still offer from here?

There are several options that come to mind and could fit its purpose, but no one is perfect:

1. Investing in Value-ETFs: Gives you exposure to the "cheapest" stocks within a reference equity universe. However, the way standard "value indices" are constructed tends to introduce two problems: a) Low multiple large cap stocks make up for much of the underlying portfolio, whereas the value effect is found to be profoundly strong in smaller capitalization stocks; b) Typical value indices don't control for sector exposure and you're inherently taking large sector bets, which is quite the opposite of what people typically look for when investing into diversified pool vehicles.

2. Invest in actively managed "Value" funds: You can pick managers that term themselves "value investors", because they buy statistically cheap stocks. While this doesn't necessarily go hand in hand with our internal view on value investing – we think it's a philosophy, not a factor – the right fund might be a good way to get exposure to cheap stocks and a good manager might be able to add some extra return. An investor must however figure out whether paying a higher expense ratio for an active value manager is worth it. If a respective value strategy doesn't have a high active share versus a corresponding value benchmark index, sticking to the Value-ETF might be a better tradeoff.

3. Mechanically constructing a portfolio of cheap stocks: Picking stocks solely based on their statistical cheapness does only work out when practiced in a highly diversified manner, leading to portfolios that contain several dozens of stocks. We think this is too much hustle to bet on a continued outperformance of cheap stocks and would lead to a quite messy as well as unbalanced portfolio composition. After all there's no guarantee that value stocks will continue their strong performance and you don't want to put all your eggs in one basket. Hence, we think this is the least advantageous option.

As stock pickers and intrinsic value investors, none from the options above was really a viable solution to us. Nevertheless, we felt the theme of value stocks regaining popularity and being reconsidered as a building block for investor portfolios might have plenty of further room to run. Hence, we strived to find an alternative way of playing this theme within the boundaries of our investment mandate for the Lacuna Family Office funds.

We always stress that creativity is a key ingredient for success in discretionary investment management and fortunately we were creative and lucky enough to identify a setup that allows us to play the theme of a multi-year value cycle lying ahead of us while we can stick to what we do best – buying stocks at a meaningful discount to their intrinsic value.

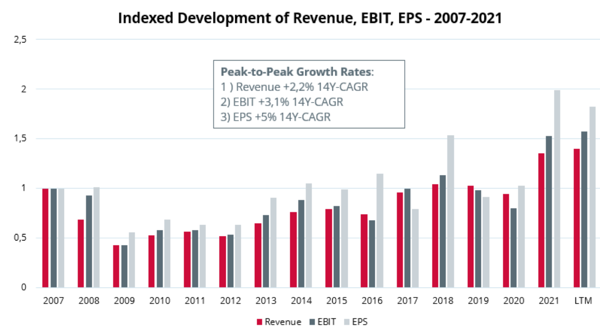
Not naming the specific stock, as we are a still building a position, we chose to invest in a publicly listed US-based asset manager with a long history as well as strong reputation in the value investing community and an exclusive focus on running actively managed value strategies.

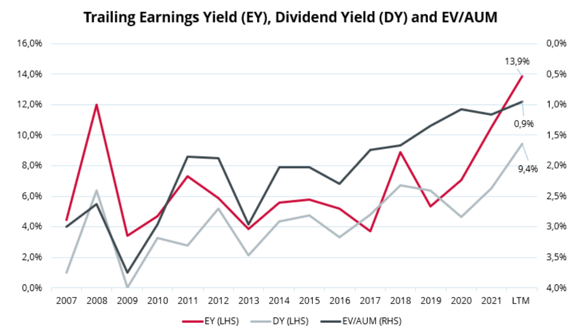
The stock itself trades at quite undemanding relative valuation levels, after going nowhere for about 12 years. At current prices, we can buy the stock at 7,3x Trailing P/E and a high-single-digit trailing dividend yield.

Despite the lackluster stock price performance, the fundamentals of the business don't look as bad as stock price performance and relative valuation would suggest.

The earnings power of the business increased over time, helped by steady AUM growth and consistent above-average profitability levels versus some of its active (value) manager peers.

The exhibits below display the progression of firm fundamentals vis a vis relative valuation metrics:





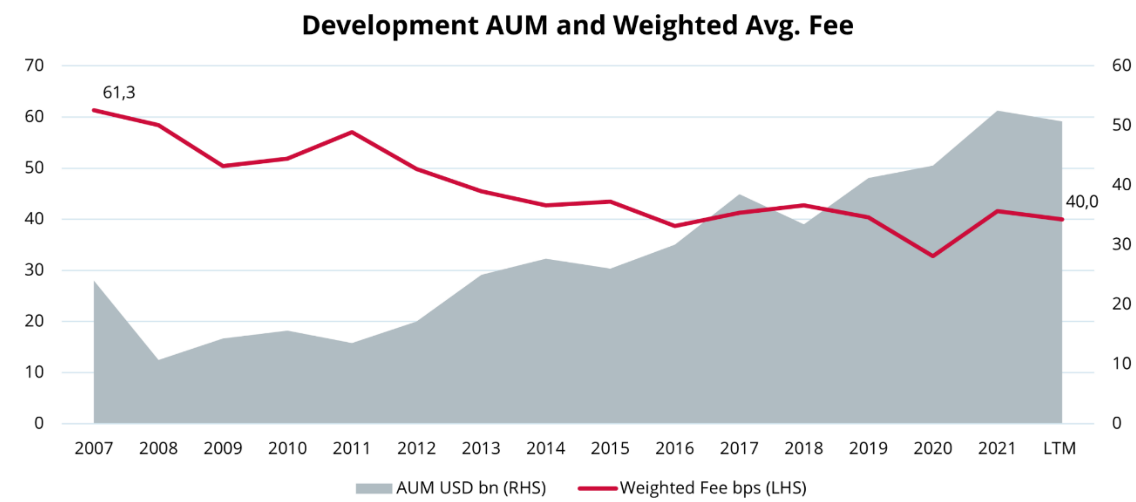
Source: Data from S&P CIQ, Company Filings, Chart by Lacuna.

We think the company's fundamental performance during the investigated period was respectable, considering an operating environment that was full of headwinds.

One the one hand there was the rise of passive investing and the associated emergence of an industry-wide trend of fee deflation, as low-cost indexing continued to take market share and exacerbated competition amongst active managers for what's left over.

On the other hand, and specifically relevant for our holding due to its exclusive focus on value strategies, the longest ever recorded underperformance of value versus growth stocks ended not that long ago.

As visible in the subsequent illustration, our holding was not spared either by the challenge of fee pressure:



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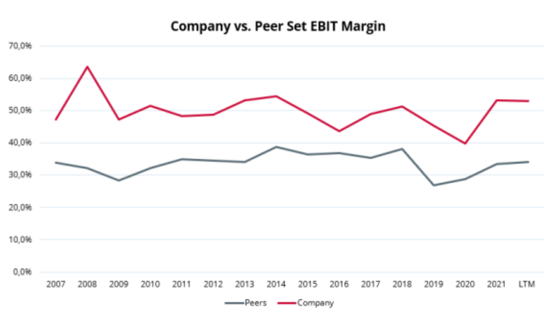
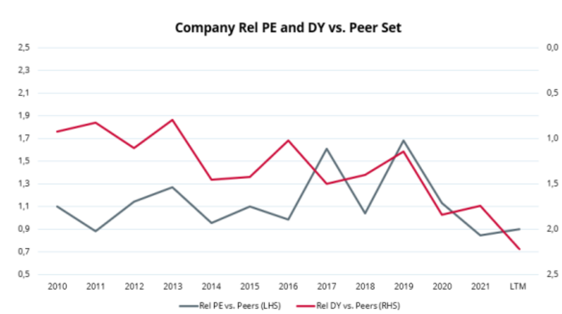
Source: Data from S&P CIQ, Company Filings, Chart by Lacuna.

Sustainable growth in its AUM base through ongoing product innovation, strong return performance across its fund offerings, gradual expansion into overseas markets, and maintaining best-in-class cost-efficiency allowed an overcompensation of the 33% reduction in blended fees on AUM, over the last 15 years.

Accordingly, operating profits grew at modest but steady rates over time, allowing for attractive as well as increasing distributions to shareholders.

Although there's no doubt that the valuation of the firm is attractive on an absolute level, we think the relative valuation discount to its peer group makes the stock once more appealing, in the context of achieving on par to superior operational performance:





Source: Data from S&P CIQ, Company Filings, Chart by Lacuna.

While the publicly listed active asset managers have experienced structural valuation compression over the past 10 years, our holding was hit by a double-whammy due to their exclusive value focus. When consensus views active asset management as melting ice cube type business, being on top of that a pure value shop at a time when everyone craves for growth stocks wasn't particularly helpful.

All of that culminated into an in our view unreasonably low recent valuation for this business.

Using EV/AUM as a valuation short-cut to figure out a back-of-the-envelope fair value for the in-place business, we see that peers trade on average at c. 1,3% EV/AUM, private market transactions are done at c. 1,4% EV/AUM, and the firm itself traded on average at c. 1,7% EV/AUM in the past 10 years.

Blending respective figures gives an implied fair EV/AUM of 1,5%. Assuming the latest level of AUM is sustainable, we come up with a 58% upside to the current stock price (latest EV/AUM at 0,9%).

Nassim Nicholas Taleb said in his book *Skin in the Game* that it was important to minimize one's exposure to tail risks while maintaining one's exposure to tail returns.

We think this setup is naturally embedded in the stock we are discussing. Particularly, as one of the firms' headwinds over the past decade, might become a tailwind going forward – the specialization in value strategies. Many investors display performance chasing attitudes and see their portfolio allocations running behind the asset classes that have done best over a short-term reference period. Of course, this is the worst possible behavior for long-term return generation, but the existence of this cognitive bias is a matter of fact. As Keynes once said, *"it is better for reputation to fail conventionally than to succeed unconventionally"*.

Considering the meaningful outperformance of value stocks since Pfizer Monday in 2020 as well as the less severe drawdown during this year's ongoing market turmoil, one could imagine that it won't take much longer until investors increasingly question whether their portfolios were underexposed to value stocks.

Then a reallocation wouldn't look like the worst idea, because after all value has worked best in the two years up to this point?!

Our holding is a household name in value investing and due to their size and reputation at the top of the list of large institutional allocators when it comes to managing their exposure to valuation-focused active equity strategies. Consequently, the firm would be able to benefit handsomely from capturing net inflows into value strategies in case a large-scale, longer-term reallocation towards value was set to take place.

As the firm's CEO and founder said during the 1Q22 Earnings Call, *"pipeline is building slowly but surely as we typically see after value cycles take hold"*.

Looking for a historical precedent of what may lie ahead for the firm in terms of fund flows, the era post Dot.com bubble burst (2002-2006) might prove instructive. During that time, a multi-year trend of reallocating towards value strategies has led to a 9x increase in the firm's AUM.

Of course, today's much higher starting base of AUM makes it impossible to experience growth rates like the last strong value cycle in the Dot.com bubble aftermath, but we think the analogy indicates that there's fair chance to experience faster growth in AUM than in the last decade.

Our "tail returns" scenario looks like this: The firm states that the capacity of its portfolio of fund vehicles amounts to roughly 100bn USD in AUM. AUM grew at a 9% CAGR over the last decade. Approaching 100bn USD in a blue-sky scenario would imply 15% CAGR from the current AUM base over the next 5 years. Not impossible per se. The firm's focus on institutional clients makes the business model highly scalable, meaning higher amounts of AUM should be easily serviceable without having to meaningfully ramp up the cost base, which could enable further margin expansion from the already respectable profitability levels. Factoring some further fee compression of 3-4% p.a. and taking a P/E of 10x as legitimate exit multiple, we come up with a total return potential of up to 35% p.a. over a 5-year investment horizon.

Assuming a structural reallocation towards value strategies won't occur, the firm will grow its AUM by just 5% p.a. while other assumptions are unchanged, we still come up with a total return potential of c. 20% p.a. over a 5-year investment horizon.

Could it be that the market is preemptively discounting the stock for an inevitable deterioration of AUM and run-rate profitability should the current bear market keep going? Yes, that's probably the case, we might be only halfway through a deep bear market and asset management is an inherently cyclical business, which could mean that the firm's current level of run-rate profits might not be recouped over the next 2-3 years and that a further drawdown might eventualize. Though we think that is again the reason why time horizon arbitrage can possible be applied to gain an edge in this investment setup.

However, circumstances such as the stock already correcting by +40% over the past 12 months, relative valuation sitting close to historic lows, a healthy margin of safety compared to the firm's normalized earnings power value and our subjective view that the business is more likely than not approaching an inflection point where it might become a net beneficiary of emerging fund flow dynamics give us a reasonable comfort underwriting underlying cyclical risks. In addition to that, investing alongside a management team that has meaningful skin in the game through controlling a 51% economic interest and having a strong balance sheet with meaningful capacity to suffer in place let us also sleep better at night.

To summarize everything, we think that the stock discussed above is in some sense a "levered long" on the possibility that we are only early into an extended value cycle. The expected return profile is favorably skewed through buying the in-place business at a healthy margin of safety, while we are provided with cost-free exposure to positive optionality around future earnings growth. As Pabrai would phrase it, *"Heads I win; Tails I don't lose much"*.

In markets, things often stay the same until they become uniformly accepted. Our feeling is that we are still far away from the situation that most investors want to have a core allocation to value in their portfolios.

Hence, it appears to us that the last chapter of this currently running value cycle has not yet been read.

Cheers