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Catalent's Tumble: From Biotech Boom to Shareholder Scrutiny

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A Project carried out on the Master in Finance Program, under the supervision of:

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Abstract

The following paper represents an Equity Research report on Catalent Inc. The below section is the first part of a two-part series and focuses on the company itself, and its intrinsic valuation. The aim of this part is to provide an in-depth analysis of Catalent, its operations and the current company-specific environment to facilitate the final intrinsic valuation. The company analysis includes a segment overview, the acquisition strategy, a SWOT and Porter's Five Forces analysis, as well an exploration of current shareholder allegations. Lastly, a final implied share price is examined, leading to the recommendation of selling the shares of Catalent Inc.

Keywords: Equity Research, Valuation, Healthcare, CDMO

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This report is part of the Catalent Equity Research report (annexed), developed by Adrian Becker and Steven Nicholas Clark and should be read as an integral part of it.

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Introduction

This equity report on Catalent, the first of two individual components, provides a detailed analysis crucial for an informed investment decision. We commence with a comprehensive company overview, delving into Catalent's business segments and its history of mergers and acquisitions, laying the foundation for understanding its current market dynamics. Further, we conduct a SWOT analysis and employ Porter's Five Forces framework, offering deep insights into Catalent's strategic positioning and the competitive landscape it navigates. A pivotal section of this report addresses the pressing challenges faced by Catalent, especially focusing on allegations from shareholders, which significantly impact its market perception and operational integrity. The core of this first part is our intrinsic valuation analysis. Here, we project Catalent's financial statements and analyze its cost of capital. This analysis leads us to an intrinsic valuation, conduction Discounted Cash Flow and Monte Carlo methodologies, providing a deep understanding of Catalent's value.

Concluding this first segment of our analysis, we arrive at a decisive recommendation to sell Catalent shares. This recommendation stems from an exhaustive assessment of various facets of Catalent's business and market operations, aiming to provide a well-rounded view for stakeholders.

The second part of this comprehensive equity report explores the broader market analysis with a focus on analysing the segments' underlying markets of biologics, pharmaceutical, and consumer health. It includes an financial analysis, a relative valuation using transaction and trading multiples, and an assessment of Catalent's Environmental, Social, and Governance performance alongside potential risk factors.

Company Overview

Exhibit 1 - Catalent, Inc. Highlights

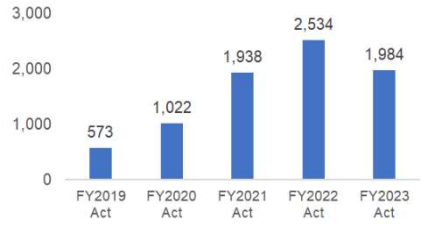
Headquarters	Somerset, NJ, USA
CEO	Alessandro Maselli
Employees	17,800
Ownership	Listed at NYSE
Market Capitalization	7.0
Revenues	4.3
Revenues in North America	64.4%
Revenues in Europe	29.2%
EBITDA	0.3
EBITDA margin	6.6%
Market Share	2.4%

All data in USDbn, if not stated otherwise

Source: Company Information, Analysts' Research

Catalent, Inc. ("Catalent") engages in servicing the pharmaceutical industry and has established itself as a self-proclaimed global leader in Contract Development and Manufacturing Organization (CDMO) services. As a CDMO, Catalent provides a comprehensive range of services spanning from the initial stages of drug form and substance development to conducting clinical trials and supporting with the approval process with regulatory authorities such as the US Food and Drug Administration (FDA). Additionally, Catalent manufacturers a wide variety of drugs on behalf of pharmaceutical companies. These companies often outsource the production of drugs that yield low margins or are nearing the end of the patent lifecycle. Catalent has the advantage to continue production even after the original patents expire, as the original pharmaceutical companies are being replaced by generic drug manufacturers.

Exhibit 2 - Revenue Development (L5Y)



Source: Company Information

Before becoming known as Catalent, the company comprised the pharmaceutical technologies and services business of the US-based healthcare company Cardinal Health. Cardinal Health sold the division in 2007 to the private equity firm Blackstone, resulting in the formation of the standalone company, Catalent Pharma Solutions. In 2014, Blackstone decided to offer Catalent to the broader public by initiating an IPO on the New York Stock Exchange, raising approximately USD 823.0m[1]. Since then, the company expanded internationally and has grown into a globally operating healthcare firm with over 17,800 professionals. As of financial year (FY) 23, Catalent generated total revenues of USD 4.3bn mainly in the US (64.9%) and Europe (35.1%).

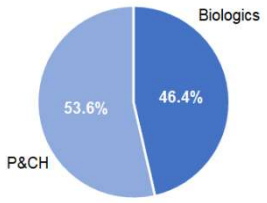
The company's shares are traded on the New York Stock Exchange, with 96.9% of them in free float and without a majority shareholder. Notably, a few significant institutional investors hold shares above the 5.0% threshold, with The Vanguard Group owning the largest stake at 10.9%[2]. Central to Catalent's corporate governance structure is the Board of Directors, which is responsible for high-level strategic decisions and ensuring corporate accountability. Board Members are elected by a majority vote but altering the board size requires a two-thirds majority at the annual general meeting. The board currently consists of 15 members which have an average tenure of 5.2 years. Notable members of the board include John Greisch, the Executive Chairman who acts independently, and Steven Barg, the global Head of Engagement at Elliott. This is because Elliott initiated a strategic activist campaign in August 2023, that resulted in a collaborative agreement

[1] Based on company information

[2] Retrieved from the data provider FactSet

between both Elliott and Catalent. In line with the agreement, Elliott appointed new board members and established an operational and strategic review committee with the aim of assessing the company's business, strategic plans, operations, and capital allocation priorities. Implementing the Board's strategies is the Executive Management team, led by the CEO Mr. Alessandro Maselli, which oversees day-to-day operations. The management team's average tenure is 6.2 years. The governance framework also includes specialized committees focusing on areas like financial integrity and executive compensation. Additionally, Catalent has appointed Ernst & Young as its auditing firm to ensure the accuracy of its annual reports, being regularly published after financial year end in June[3].

Exhibit 3 - Revenue Split per Segment



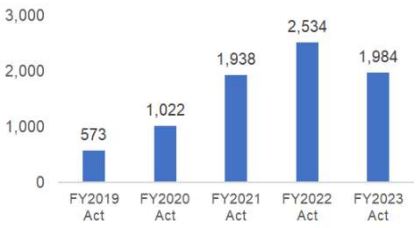
Source: Company Information

Segment Overview

In 2023, the company announced a reorganization of its business activities. This restructuring resulted in the division of the company into two segments: **Biologics** and **Pharma & Consumer Health**.

The **Biologics** segment, accounting for 46.4% of FY23 revenues, comprises the development and manufacturing of a wide range of biologic products, including proteins, cell and gene therapies, plasmid DNA, iPSCs, and vaccines. During the course of reorganization, it has expanded its offerings, integrating analytical development and testing services for large molecules previously provided by the Oral and Specialty Delivery segment. Additionally, it handles the formulation, development, and manufacturing of dose forms such as vials, prefilled syringes, and cartridges. Notable customers of this segment include Moderna, Johnson & Johnson, BMS, AstraZeneca, and Sarepta Therapeutics.

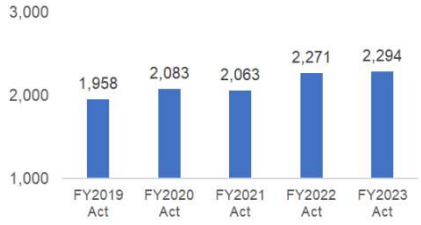
Exhibit 4 - Biologics Revenue Development



In USDm; Source: Company Information

The **Pharma and Consumer Health** segment **(P&CH)** consolidates the three pre-reorganization segments (Softgel and Oral Technologies, Oral and Specialty Delivery, Clinical Supply Services), and accounts for 53.6% of FY23 revenues. This segment comprises the production of consumables such as complex oral solids, soft capsules and softgel formulations, Zydis fast-dissolve technologies, as well as gummy, soft chew, and lozenge dosage forms. Within the softgel capsule segment, Catalent is recognized as the global leader. These capsules are known for their enhanced bioavailability, especially for poorly soluble molecules, and their ease of swallowing. Furthermore, it provides comprehensive clinical trial development and supply services, and also comprises a global network for clinical distribution, including labelling, packaging, and cold-chain storage, as well as fill and finish services. The segment serves global pharmaceutical companies including Pfizer, Novartis, Bayer and AbbVie.

Exhibit 5 - P&CH Revenue Development



In USDm; Source: Company Information

[3] Based on Catalent's corporate governance guidelines

M&A History

Catalent's Biologics segment especially has seen high growth, fueled by an extensive expansion strategy. Recognizing the strategic significance of cell and gene therapies, and other emerging biopharmaceutical approaches, Catalent started to develop a distinctive biologics platform. Since 2011, it actively acquired more than 15 companies (Figure 1) operating in areas such as drug development and manufacturing of pharmaceutical and nutritional products as well as extending the range of services into the contract research organization (CRO) space.

Figure 1 - Overview of Catalent's Acquisition History

Year	Target Company / Asset	Sector	Deal Value (USDm)
2011	Aptuit Inc. (Clinical Trial Supplies business)	Pharmaceuticals	410
2012	R.P. Scherer	Pharmaceuticals	n.a.
2013	Zhejiang Jiang Yuan Tang Biotechnology	Pharmaceuticals	n.a.
2013	RelthyLaboratories	Pharmaceuticals	n.a.
2014	Catalent Micron Technologies	Pharmaceuticals	n.a.
2016	Pharmatek Laboratories	Pharmaceuticals	n.a.
2016	Accucaps Industries	Pharmaceuticals	75
2017	Cook Pharmica	Pharmaceuticals	950
2018	Juniper Pharmaceuticals	Pharmaceuticals	111
2019	Paragon Bioservices	Biotechnology	1,200
2019	Bristol-Myers Squibb (Anagni facility)	Pharmaceuticals	50
2020	MaSTherCell	Pharmaceuticals	315
2020	Teva Takeda Pharma (Clinical Packaging facility)	Services (other)	n.a.
2020	Skeletal Cell Therapy Support	Biotechnology	14
2021	Acorda Therapeutics (INBRIJA manufacturing business)	Pharmaceuticals	80
2021	Delphi Genetics	Biotechnology	55
2021	Hepatic Cell Therapy Support	Biotechnology	15
2021	RheinCell Therapeutics	Biotechnology	26
2021	Bettera Brands	Biotechnology	1,000
2022	Erytech Pharma (US manufacturing unit)	Healthcare Consumer Goods	45
2022	Metrics Contract Services	Pharmaceuticals	475

Source: Company Information, Analysts' Research, Mergermarket

While smaller pharmaceutical manufacturers were acquired infrequently in the period from 2011 to 2015, Catalent began to actively expand in 2016 by investing in biologics-focused businesses and facilities, that focused on i.a. drug development and manufacturing operations. In 2017, this expansion started to kick off with Catalent's to date largest acquisition of Cook Pharmica (transaction value of ~USD 950.0m). The US-based provider of development solutions and delivery technologies for drugs, biologics, and consumer health products, complemented Catalent's existing biologics capabilities and strengthened its position as a leading company in biologics development and analytical services[4]. Two years later, Catalent added Paragon Bioservices (transaction value of ~USD 1.2bn) to the Group. By acquiring the leading viral vector development and manufacturing partner for gene therapies and vaccines, Catalent secured new expertise in one of the fastest-growing areas of healthcare[5]. In 2022, Catalent completed another significant acquisition of Bettera Brands (transaction value of ~USD 1.0bn), a major manufacturer in the high-growth gum, chewable and lozenge segments, enabling

[4] Based on company information
[5] Based on company information

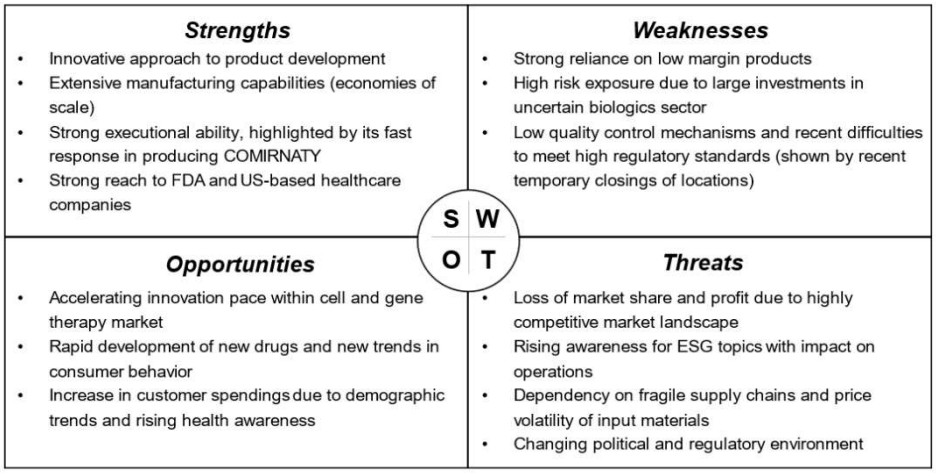
Catalent to expand its existing consumer health technology platform with a broader range of technologies and readily available product libraries. Bettera Brands leverages synergies with Catalent's network of consumer health manufacturing facilities and provides formulation development, supply and delivery solutions for the global consumer health and beauty markets[6].

Market Analysis

SWOT Analysis

To analyze Catalent's current standing within the industry, we conducted a SWOT analysis (Figure 4), as it is characterized by a blend of strengths, weaknesses, opportunities, and threats, each playing a crucial role in assessing its performance.

Figure 4 - Overview of Strengths, Weaknesses, Opportunities, Threats for Catalent



Source: Company Information, Analysts' Research

We see Catalent's key **strengths** as rooted in its innovative approach to product development and extensive manufacturing capabilities. Strong executional ability, as well as the ability to foster enduring customer relationships has led to a loyal customer base. However, we also recognize certain **weaknesses** in Catalent's business model. A primary concern, as we see it, is the company's reliance on low margin products and the stringent regulatory environment of the pharmaceutical industry. Adapting to regulatory changes can be both costly and time-consuming, potentially impacting the company's operational efficiency. Looking at the **opportunities**, we believe Catalent is well-positioned to benefit from the growing demand for advanced drug delivery technologies, as well as the fast innovation pace of cell and gene therapies. This equips Catalent with the opportunity to expand its product offerings and leverage its expertise in those areas. On the flip side, we identified several **threats** in Catalent's operational environment. The

[6] Based on company information

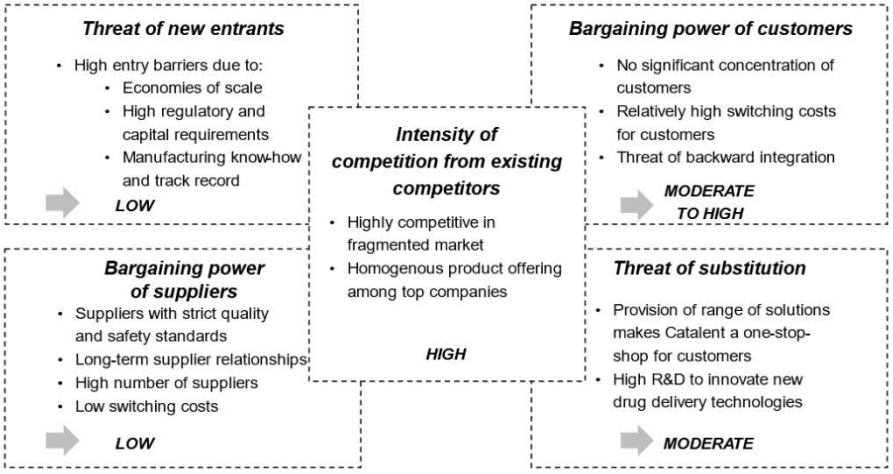
pharmaceutical services industry is highly competitive, and we believe this intense competition could impact Catalent's pricing power and market position. Further, the dependency on fragile supply chains may impede additional costs for Catalent.

In summary, our analysis suggests that Catalent's future success hinges on its ability to capitalize on its strengths in innovation and customer relationships while addressing its weaknesses, particularly its low margin product focus and regulatory adaptability. Seizing opportunities in advanced drug delivery technologies and cell and gene therapies, coupled with effectively managing threats from competition, and economic uncertainties will be crucial.

Porter's Five Forces

Our analysis of Catalent through Porter's Five Forces model reveals a nuanced competitive landscape (Figure 5).

Figure 5 - Overview of Catalent's exposure to market threats (Porter's Five Forces)



Source: Company Information, Analysts Research

The threat of **new entrants** is perceived as relatively low. High barriers, already surpassed by Catalent, and a strong track record suggest a reduced threat from new competitors, allowing the company to concentrate on innovation and market leadership. In terms of **customer bargaining power**, we estimate a moderate to high risk, mainly based on a low degree of customer concentration, and the assumption of high switching costs due to regulatory considerations. However, the highly fragmented market environment and the possibility of backward integration by some customers remain a strategic risk. The **bargaining power of suppliers** is expected to be low due to high quality and safety standards and long-term supplier relationships with Catalent. The regulatory environment and the availability of raw materials from various sources further reduce this power[7]. The threat of **substitution** for Catalent's offerings is also perceived as moderate, as

[7] According to PricewaterhouseCoopers

we see Catalent as a one-stop-shop for customers, who demand a range of pharmaceutical offerings. Lastly, we observe that **competitive rivalry** is a significant factor for Catalent. The company operates in a competitive and fragmented pharmaceutical and biotechnology services industry, where factors like service quality, client relationships, pricing strategies, and innovation capabilities may be crucial.

Current Challenges

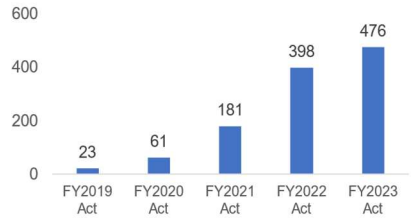
Throughout the years FY22 and FY23, Catalent experienced multiple challenges including the effects of pandemic-related changes and internal issues, such as reduced vaccine agreements, an FDA citation, and sluggish productivity. Shareholders accusing the management and members of the board of breaching fiduciary duties, unjust enrichment, waste of corporate assets, and violations of Sections 10(b) of the Securities Exchange Act of 1934[8]. This culminated in the resignation of its CFO, Thomas Castellano, in April 2023. Additionally, the firm's stock value experienced a considerable decline, dropping from over USD 140.0 in September 2021 to USD 38.9 on December 1st, 2023 accompanied by shrinking revenues, with a particular decline of 32.0% in Biologics sales during the third quarter of FY23.

Financial

- ### Accounting related

Central to the allegations against Catalent is the assertion that the company may have inappropriately accelerated the recognition of revenue through its accounting practice. In 2019, Catalent changed its revenue recognition practice to ASC 606 guidelines, which allow the company to measure revenues based on the consideration specified in its contracts and based on a percentage of completion. However, they can only be invoiced after all contractual obligations have been met. This allows Catalent to prematurely realize revenue in its income statement resulting in a gap between accounting revenues and actually realized revenues. This is especially pronounced as many of Catalent's contracts have a lengthy duration of 9-12 months. According to Catalent's CFO, the premature revenues are recognized as contract assets, which are classified under prepaid expenses on the balance sheet. However, short-term contract assets within prepaid expenses must be reclassified after 12 months, either as accounts receivable if billed or as other long-term assets if not billed[36]. This is concerning for two reasons, firstly in an attempt to offset the revenue decline, Catalent may have accelerated the

Exhibit 13 - Contract Asset Development



in USDm; Source: Company Information

[8] Based on *"Catalent Leaders Allegedly Misled Investors on Revenue, Demand" (*Bloomberg Law)

completion of various products in FY23 that would typically have been completed in FY24 adversely affecting future revenues. Secondly, due to the high growth in contract asset and hence working capital over an extended period raises questions about Catalent's ability to manage working capital efficiently, particularly as customer advances (contract liabilities) did not follow a similar trend and instead decreased. The company substantially delayed its annual report filing for the previous financial year for more than five months, which could intensify these concerns and cast further doubt on the alleged accounting irregularities.

- ## Acquisition related

Catalent has faced scrutiny over its acquisition strategy, with critics alleging that the company's aggressive expansion through acquisitions may not have yielded the anticipated strategic benefits. Concerns have been raised about the due diligence process and the integration of acquired entities into Catalent's broader operations. There is a suggestion that Catalent may have overpaid for acquisitions, potentially eroding shareholder value[9]. These acquisitions, while intended to bolster Catalent's market position and expand its capabilities, will now be under the microscope for their return on investment and impact on the company's financial health. To examine whether Catalent overpaid for these acquisitions, the average Enterprise Value-to-Sales (EV/Sales) multiple was analyzed. Catalent paid an average of 3.6x EV/Sales multiple for its acquisitions. In comparison, a comparable transactions analysis indicates that the average multiple for similar transactions over a 5-year period is approximately 6.5x EV/Sales. Consequently, Catalent's purchase prices appear reasonable in this context. However, there are two notable exceptions: MaSTherCell and Paragon Bioservices. For the acquisition of MaSTherCell in 2020, Catalent paid USD 315.0m for a company generating only USD 20.0m in revenue, resulting in an EV/Sales multiple of approximately 15.8x. MaSTherCell offers advanced technology and capabilities in cell therapy development and manufacturing, including manufacturing facilities across the United States, Europe, Asia, and a product development facility in Israel[10]. In 2019, Paragon Bioservices was acquired for USD 1.2bn, despite having revenues of USD 101.0m, representing an EV/Sales multiple of 11.9x. Paragon Bioservices possesses extensive expertise in cell and gene manufacturing, with a facility in the United States and around 380 employees. Catalent expected this acquisition to pay off swiftly through an anticipated doubling of revenue in the following year, with 90.0% of those revenues already secured. Whether this optimistic revenue growth projection was achieved is unclear.

[9] Based on Seeking Alpha
[10] Based on company information

Operational

The accusations also pertain to Catalent's work related to manufacturing of over 100 COVID-19 products between August 2021 and October 2022 for important clients such Pfizer, Moderna and AstraZeneca. The legal action alleges that Catalent compromised safety protocols to manage swift demand, resulting in regulatory problems at its sites[11]. These regulatory problems are evident in Catalent's competitive position, as it was initially commissioned by Novo Nordisk as the sole producer of the weight loss medication Wegovy. Catalent's Brussels-based factory, responsible for filling the Wegovy pens, has consistently breached US sterility regulations and didn't perform necessary quality controls. As a result, Catalent failed to deliver the targeted production volume, leading to Novo Nordisk contracting an additional CDMO (Thermo Fisher) to manufacture the pens, causing Catalent to potentially face reduced business revenues[12]. Also, at its gene therapy manufacturing site in Harmans, Maryland, operational issues pertain. The company overestimated the ramp-up in production capacity, resulting in lower revenue projections. Delays were also caused by regulatory inspections, which resulted in lost production of batches and unrecoverable revenues in FY23. Subsequent regulatory inspections further impeded efforts to tackle those operational challenges, ultimately impacting the company's FY23 outcomes[13]. The third site affected was in Bloomington, Indiana, where the FDA's inspection resulted in observations highlighting missed sanitization procedures, inadequate equipment validation, and the failure to maintain and clean equipment properly. Catalent acknowledges these concerns, stating they take regulatory observations seriously. The company has submitted corrective actions to address the issues and is cooperating with the FDA's review process.

Valuation Assumptions

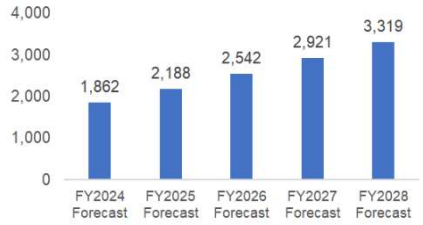
Operating Model Projections

Revenue forecasts for Catalent have been constructed using historical average growth rates for its two segments, along with estimated overall market developments, based on our own perception and market analysis. Catalent operates in a market where intellectual property and safety requirements are crucial, leading to a high emphasis on confidentiality. As a result, specific revenue breakdowns and product-based information were not readily available. We made considerable efforts to obtain more detailed data by reaching out to Catalent's

[11] Based on *"Lawsuit: Catalent cut corners on safety, engaged in fraudulent schemes, lied to investors"*
[12] Based on *"Novo hires Thermo Fisher as second manufacturer for Wegovy"*
[13] Based on *"Catalent flags problems at its manufacturing plants"*

investor relations department, but unfortunately, they were unable to assist us.

Exhibit 27 - Biologics Revenue Projections



In USDm; Source: Company Information

For the Biologics segment, growth forecasts have been specifically tailored using projections for the segment's underlying market, driven especially by the promising cell and gene therapy, and mRNA product market prospects. We estimate Catalent's Biologics segment to grow at a CAGR (24'-31') of 13.6%, which is above the expected market growth of 10.9%. The forecast is based on the assumption that the company will focus on resolving operational issues during FY24. This suggests that Catalent is leveraging its increased spare capacity, which emerged as a result of the decline in COVID-19 related products, to address its production inefficiencies. Furthermore, we anticipate that this excess capacity will facilitate a significant uptake of new products by the end of FY24, bolstered by Catalent's robust standing in the cell and gene therapy market. Over the long term, we estimate the revenues to decelerate towards the segment's market growth rate, based on the assumption that the Biologics segment will become more and more competitive. The estimated growth rate is on the very lower end of management's expectation. The management estimates a growth rate of the segment to be between 10-15%[14].

However, our expectations are below the historical CAGR (17'-23') of 33.5% due to concerning recent events, impacting the outlook. Firstly, the promising Elevydis manufacturing agreement with Sarepta recently encountered unforeseen challenges. The product's therapy did not achieve its primary efficacy endpoint in critical phase 3 trials, impacting Catalent's revenue forecasts. With the trial results causing a reevaluation of Elevidys' market prospects, Catalent's anticipated revenues of USD 450.0m, assuming a price tag of USD 400,000, could dramatically decrease to approximately USD 150.0m in FY25 and beyond[15]. Secondly, Catalent initially served as the sole manufacturer of Wegovy, however, due to temporary production issues, Thermo Fischer was selected as a second manufacturer. We assume that this is expected to adversely impact Catalent's revenue forecast. Thirdly, orders related to COVID-19 are on a declining trend, with an expected decrease to about USD 130.0m in FY24 compared to USD 639.0m in FY23. We anticipate that those revenues will continue to decrease, potentially reaching negligible levels for the Biologics segment.

Exhibit 28 - P&CH Revenue Projections

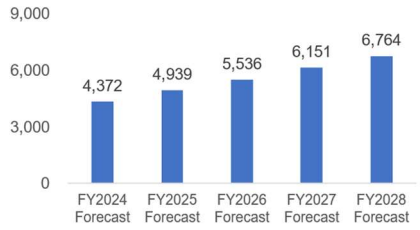
In USDm; Source: Company Information

The P&CH segment is estimated to grow at a CAGR (24'-31') of 6.5%, outperforming the estimated annual market growth of 5.2%. Market drivers' growth rates, such as the oral dosage forms market's (estimated CAGR of 6.4%) and the increasing demand for nutritional products (estimated CAGR of 8.4%) support our assumption. However, as the underlying markets also face highly competitive

[14] According to company information

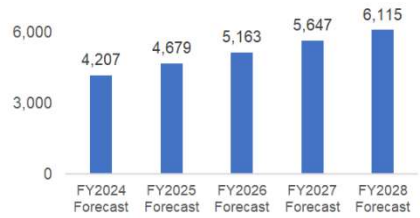
[15] Based on *"Catalent faces another possible revenue 'cliff' after Sarepta's gene therapy trial miss"* (Fierce Pharma)

Exhibit 29 - Total Revenue Projections



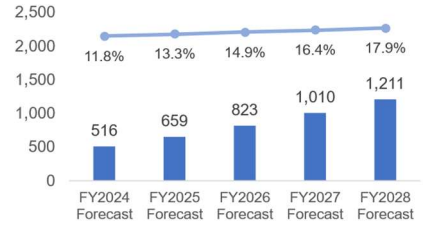
In USDm; Source: Company Information

Exhibit 30 - Operating Expenditures Projections



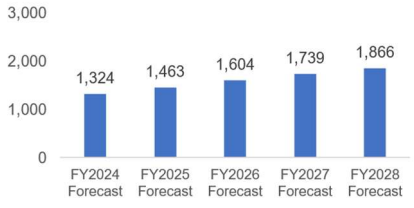
In USDm; Source: Company Information

Exhibit 31 - EBITDA and EBITDA margin Projections



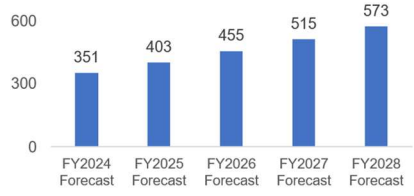
In USDm; Source: Company Information

Exhibit 32 - Net Working Capital Projections



In USDm; Source: Company Information

Exhibit 33 - Capital Expenditures Projections



In USDm; Source: Company Information

environments, we expect the segment's revenue to approach the estimated market growth rate of 5.2% over the long term. Here, we disagree with Catalent's management, which expects the P&CH segment to grow between 6-10% in the long-term[16]. We expect the overall revenues to grow mainly organic at a CAGR of 9.8%, as we assume a more restricted acquisition activity in the upcoming years.

The operating costs are mainly explained by COGS and SG&A. COGS are estimated to be in line with historical levels, leading to an average of 68.2% relative the total revenue. We expect SG&A to be mainly dependent on the number of employees. Therefore, we regressed the historical numbers of employees and SG&A, resulting in the assumption that every employee contributes USD 50,000 to the total SG&A expenses. The workforce is estimated to grow at a rate of 70.0% of total revenue's, due to the assumption of significant economies of scale and increasing efficiency. This leads to the assumptions of a growing EBITDA with an average margin of 18.0%, which is, due to conservative expectations, slightly below the historical average of 19.7%. Depreciation and amortization (D&A) are estimated to increase slightly compared to historical levels to an average of 8.2% of total revenues. The higher level of depreciation accounts for the acquired assets throughout the last years. Lastly, income taxes are estimated by using the US statutory tax rate of 21.0%[17].

The cash flow from operations is, despite the development of net income and D&A, further impacted by changes in NWC. Changes in NWC were estimated through the historical cash conversion cycle items DIO, DSO, and DPO (Figure 6). The forecast predicts that the management is capable of efficiently managing NWC in the future. Hence, we estimate a normalization of NWC as a percentage of sales, gradually dropping from the peak in FY23 of 32.7% to 25.6% by FY31. This decrease is primarily attributed to a reduction in inventories and contract assets to adjust for the considerable accumulation during the COVID-19 period. The cash flow from investments is mainly explained by Capex, which is split into maintenance and expansion Capex. As the management stated to be cautious in considering new investments[18], we assume mainly Capex for the maintenance of existing assets, rather than expansion or acquisition of new assets. We expect that Capex equals the average of 8.8% of total revenues throughout the forecast period, which is slightly above D&A levels. This supports our perception that Catalent is growing mainly on an organic basis. The cash flow from financing activities is estimated to solely depend on proceeds of borrowings, as we don't expect any transactions with shareholders throughout the future. According to management statements, Catalent's long term leverage target equals 3.0x (Financial

[16] Based on company information
[17] According to *"Corporate – Taxes on corporate income"* (PwC)
[18] Based on company information

Debt/EBITDA)[19], which we considered as plausible. Catalent had historically relatively high leverage levels of around 4.8x to finance the numerous acquisitions. Since we assume no significant transaction with shareholders and no significant expansion Capex, leverage will decrease to 3.0x and stay at this ratio afterwards. As we expect mainly organic growth, PP&E grows with the forecasted Capex less the D&A. As Capex is only slightly above D&A this is in line with the estimate of no new large-scale investments and overall steady organic revenue growth. All other financial statement items were forecasted based on overall revenue growth, as we expect them to depend on overall business developments.

Exhibit 34 - Long-Term Growth Rate Components

Long-Term Return on Capital	2.0%
Long-Term Macroeconomic & Healthcare Growth Trer	3.2%
Catalent's Inflation Exposure Approximation	4.5%
Long-Term Growth Rate	3.3%

Source: Own Analysis

As Catalent's terminal growth rate, we applied three different methods considering multiple factors. We observed Catalent's long term growth rate of 2.0% implied by its specific return on new invested capital. Second, we considered the overall healthcare market's long term growth rate of 3.2%, based on industry metrics such as the world population or the development of specific diseases. Third, we calculated Catalent's specific inflation exposure of 4.5%, based on the company's geographic reach, to consider macroeconomic impacts. Hence, after weighing in the different percentages, we assume a perpetuity growth rate of 3.3%.

Cost of Capital

▪ Cost of Equity

Exhibit 35 - Cost of Equity Assumptions

Market Yield on 10-Year US Treasury Securities	4.3%
Equity Market Risk Premium*	5.0%
Unlevered Beta	0.05
Relevered Beta	0.99
Equity Proportion	0.67
Cost of Equity	10.6%

**based on Damodaran (NYU)*

Source: Own Analysis

The Capital Asset Pricing Model is used to calculate the cost of equity (ke). As an estimation for the nominal risk-free rate, the return of 4.3% derived from a 10-year US treasury bonds as of December 1st, 2023, was used[20]. For the beta estimation, the monthly returns of the MSCI World were regressed against Catalent's stock returns for a five-year time frame. The resulting beta amounts to 1.3 within a confidence interval of 0.7 to 1.8. Considering this rather broad confidence interval, we also derived the beta of the peer companies, which results in an un- and re-levered median beta of 0.7, which lies within the confidence interval, and therefore being covered by the sensitivity analysis (Figure 7).

[19] Based on company information

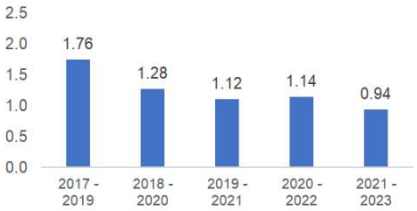
[20] https://fred.stlouisfed.org/series/DGS10 as of 12/01/2023

Figure 7 - Sensitivity Analysis of Cost of Equity

Sensitivity - Cost of Equity (beta and ke)		Beta				
		0.71	*0.98*	*1.26*	*1.53*	*1.80*
Risk free rate	*2.8%*	9.1%	9.1%	9.1%	9.1%	9.1%
	3.3%	9.6%	9.6%	9.6%	9.6%	9.6%
	3.8%	10.1%	10.1%	10.1%	10.1%	10.1%
	4.3%	10.6%	10.6%	10.6%	10.6%	10.6%
	4.8%	11.1%	11.1%	11.1%	11.1%	11.1%
	5.3%	11.6%	11.6%	11.6%	11.6%	11.6%
	5.8%	12.1%	12.1%	12.1%	12.1%	12.1%

Source: Company Information, Own Analysis

Exhibit 36 - Rolling Beta Development



Source: Own Analysis

Catalent's rolling beta based on three-year time frame remained relatively dynamic over time with the lowest measured value at 0.9 during FY21 to FY23. We attribute this to the investor behavior throughout the pandemic with a much higher cyclicality of the healthcare stocks. Using the above-mentioned (peer independent) beta of 1.3, the risk-free rate of 4.3%, and the expected market risk premium (as suggested by Damodaran, NYU[21]) of 5.0%, results in ke of 10.6%.

▪ Cost of Debt

Exhibit 37 - Cost of Debt Assumptions

Yield-to-Maturity of outstanding Bonds	6.9%
1-year Default Rate*	2.4%
Loss Given Default**	24.0%
Debt Proportion	0.33
Cost of Debt	6.4%

** based on credit rating B+/B1*
*** based on global credit data*
Source: Own Analysis

As Catalent issued various tranches of debt, we used those traded securities for deriving Catalent's cost of debt (kd). In total, the outstanding amount of those bonds sums up to about USD 2.6bn, reflecting Catalent's increased exposure to debt capital markets. To derive kd, the Yield to Maturity (YTM) of each bond tranche was calculated, leading to a weighed YTM of 6.9%. Before using this YTM as an approximation, we adjusted for a default scenario with an estimated default rate of 2.4% (based on Catalent's current credit rating[22]) and a loss given default of 24.0%, which we estimate to be similar to the historical rate of 24.0% of large-scale companies[23]. Considering this scenario, in which the bond investors would face a lower return, we estimate kd 6.4%.

▪ Catalent's Cost of Financing

Exhibit 38 - Weighted Average Cost of Capital Assumptions

Cost of Equity	10.6%
Equity Proportion	0.67
Cost of Debt	6.4%
Debt Proportion	0.33
Tax Rate*	21.0%
Weighted Average Cost of Capital	8.8%
Long-Term Growth Rate	3.3%

** based on statutory US tax rate*
Source: Own Analysis

Using a cost of equity of 10.6% with an equity portion of 67.4%, and a cost of debt of 6.4% with a debt portion of 32.6%, we estimate Catalent's weighted average cost of capital (WACC) to be 8.8%. Here, we assume that Catalent is targeting this previously mentioned capital ratios, which is based on historical levels, throughout the forecast period. Compared to today's debt ratio of above 0.5, the used debt ratio seems rather low. However, our assumption holds, as the company's management considered current levels as unusually high, due to recent acquisitions being financed with increased amounts of debt[24]. For the next years,

[21] Based on Damodaran (NYU)
[22] Based on S&P Global Ratings Credit Research & Inisghts
[23] Based on *"LGD Report Large Corporates 2020"* (Global Credit Data)
[24] Based on company information

we expect Catalent to not have any further significant acquisitions, which supports our scenario of a decreasing debt ratio. Also, the WACC sensitivity with the cost of equity between 9.1% and 12.1% (derived by different levels of beta; Figure 7) and the cost of debt between 5.4% and 8.4% was tested (Figure 8).

Figure 8 - Sensitivity Analysis of Cost of Capital (WACC)

Sensitivity - WACC (re and kd)		Cost of Equity (ke)				
		9.1%	9.8%	10.6%	11.3%	12.1%
Cost of Debt (kd)	4.9%	7.4%	7.9%	8.4%	8.9%	9.4%
	5.4%	7.5%	8.0%	8.5%	9.0%	9.5%
	5.9%	7.6%	8.1%	8.6%	9.1%	9.6%
	6.4%	7.8%	8.3%	8.8%	9.3%	9.8%
	6.9%	7.9%	8.4%	8.9%	9.4%	9.9%
	7.4%	8.0%	8.5%	9.0%	9.5%	10.0%
	7.9%	8.1%	8.6%	9.1%	9.7%	10.2%

Source: Company Information, Own Analysis

Valuation Analysis

Intrinsic Valuation

▪ Discounted Cash Flow Method

Exhibit 39 - Share Price Derivation with DCF

Enterprise Value	9,800
Net Debt	4,990
Equity Value	4,810
Additional: non-core assets	331
Equity Value (adj.)	5,141
Implied Price per Share	28.56

In USDm; Source: Own Analysis

The DCF valuation for Catalent is predicated on the presumption that the company aims for a specific capital structure. This assumption aligns with management's targets and the prior estimate, which anticipates no major acquisitions and, consequently, minimal expansion Capex requiring no issuance of additional debt. Therefore, we employed the WACC method by calculating a WACC of 8.8%. To derive Catalent's implied share price, we discounted the unlevered free cash flows (UFCF) separately with the WACC, as we expect a long-term debt ratio of 0.3 being targeted. Furthermore, the terminal value of the last UFCF has been calculated by applying the Gordon Growth Formular with the previously explained perpetual growth rate of 3.3%. To conclude, we derived an enterprise value of USD 9.8bn, implying an equity value of USD 4.8bn, which equals a share price of USD 28.6. We further conducted a sensitivity analysis (Figure 9) to measure the perpetuity impact on the implied enterprise value.

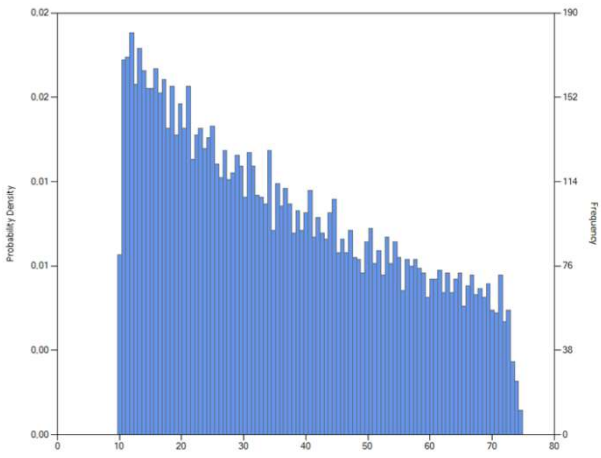
Figure 9 - Sensitivity Analysis of Enterprise Value

Sensitivity - Enterprise Value		WACC				
		7.8%	8.3%	8.8%	9.3%	9.8%
Terminal Growth Rate	1.7%	9,864	8,973	8,212	7,556	6,985
	2.2%	10,531	9,516	8,660	7,930	7,299
	2.7%	11,332	10,158	9,183	8,361	7,659
	3.2%	12,310	10,927	9,800	8,863	8,073
	3.7%	13,531	11,868	10,540	9,456	8,556
	4.2%	15,101	13,042	11,444	10,168	9,127
	4.7%	17,191	14,551	12,573	11,038	9,812

Source: Company Information, Own Analysis

Further, we conducted a Monte Carlo simulation. The analysis mainly targeted variables we estimate as highly uncertain, such as revenue growth, WACC, and terminal growth rate. In this Monte Carlo analysis, 10,000 iterations were performed, considering the different estimated distributions of these key variables (Figure 10).

Figure 10 - Monte Carlo Simulation



Assumptions	
Revenue Growth	13.3%
Revenue Growth Average (23'-34') *(23'-34')*	9.4%
Revenue Standard Deviation *(17'-23')*	12.6%
Max Growth *(16'-23')*	29.2%
Min Growth *(16'-23')*	-11.0%
WACC	12.6%
Growth Rate	3.0%
Statistics	
Minimum	9.69
20th Percentile	18.06
Median	**33.34**
80th Percentile	54.42
Maximum	74.92
Average	36.06
Range	65.23
Variance	324.13
Standard Deviation	18.00
Skewness	0.39
Kurtosis	-1.01

Source: Own Analysis

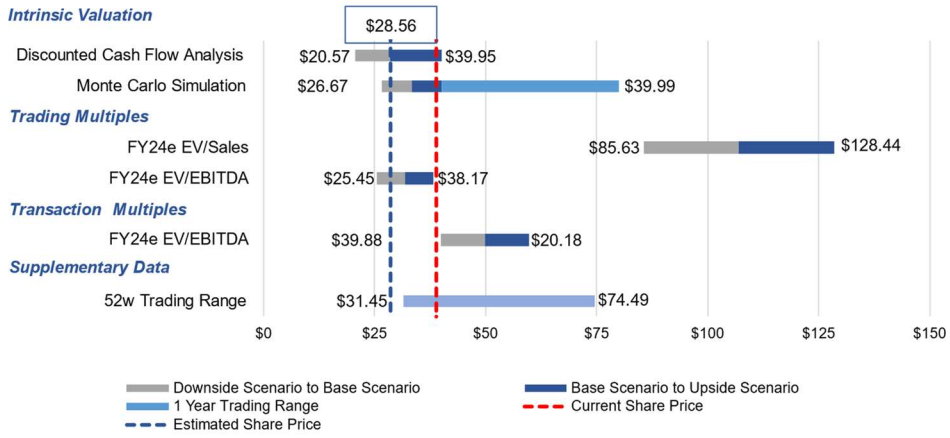
The simulation resulted in a median price of USD 33.3 per share. While this figure exceeds our implied share price from the DCF analysis, it remains lower than the current market share price of USD 38.9. According to this result, the current share price falls within the 60th percentile of the distribution, indicating the current share price to be higher than more than 60.0% of the values generated in the distribution and hence results in a greater probability of an intrinsic price below the current share price, which is in line with our valuation.

Implied Recommendation

Catalent's financial performance and market dynamics have been subject to rigorous analysis, revealing a company facing significant headwinds. The downturn in its Biologics segment and the decline in COVID-19 related revenues have highlighted concerns around its sustainable growth and profitability. The company's aggressive acquisition strategy has not yet proven to be a catalyst for sustainable value creation. In the competitive biopharmaceutical CDMO landscape, Catalent contends with strong competitors putting its market share at risk. The absence of consistent positive free cash flows underscores the liquidity concerns, which are critical for the company's long term growth prospects. The anticipated decline in revenue and profitability issues present a strong case for a market correction. In addition, eroding shareholder trust, exacerbated by the

company's delay in issuing annual reports past both the promised date to shareholders and the SEC's legal deadline, undermines the foundation for substantial stock purchases and subsequent price rallies.

Figure 12 - Range of Implied Share Values



Source: Own Analysis

As seen in Figure 12, the valuation led by multiples implies slightly to significantly other results, which we think is distorted due to Catalent's current issues being company specific and therefore not being reflected in the industry. As a result, we analyzed market and transactions valuations, but decided to include them only as a comparison, but not affecting our resulting implications for Catalent's share price in our valuation.

Based on all the above-mentioned assumptions, we derive a final 12-month price target of USD 28.6. This represents a decrease from the current share price of USD 38.9, suggesting a re-evaluation of the stock is prudent. Given an implied discount of -26.5%, we recommend a sell rating on Catalent.

CATALENT INC.

COMPANY REPORT

HEALTHCARE

19 DECEMBER 2023

STUDENT: A. BECKER, S.N. CLARK

53376/53115@novasbe.pt

Catalent Inc.

Equity Report

- Catalent Inc. is a leading CDMO mainly serving pharmaceutical companies across the US and Europe. Throughout the recent years it has been significantly betting on the cell and gene sector through an aggressive acquisition strategy. In line with these efforts and the COVID-19 induced uptick, the company has experienced high double-digit revenue growth.
- Following this uptick, the company is now facing multiple operational challenges at its production facilities, alongside vanishing revenues, and higher costs. This downturn has already led to a substantial drop in share price, which plummeted from USD 140.0 in September 2021 to USD 38.9 by December 2023.
- Our analysis anticipates considerable growth in the Biologics segment driven by technological advancement and an overall sicker and ageing population. Despite of Catalent benefiting from the rapid advancement in cell & gene therapy, our DCF valuation suggests a target share price of USD 28.6. Hence, the current share price as of December 1st of USD 38.9 implies that Catalent seems to be overvalued.

Company description

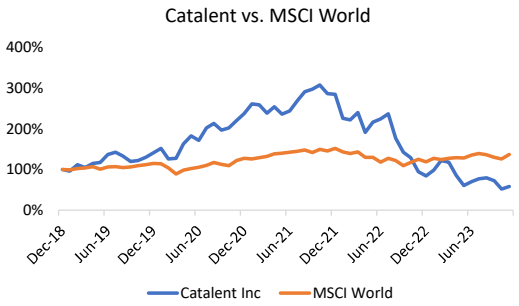
Catalent Inc., headquartered in New Jersey (USA), is a listed provider of CDMO services, including a wide range of development services and the contract manufacturing of drugs for pharmaceutical companies. Catalent emerged from a spin-off of Cardinal Health's pharmaceutical division in 2007 and is divided into the Biologics and Pharma and Consumer Health segments. In FY23, the Biologics segment accounted for 46.4% of its revenues and the Pharma and Consumer Health for 53.6%.

Recommendation:	**SELL**
Price Target FY24:	**$28.56**
Price (as of 01-Dec-23)	**$38.85**

Reuters: CTLT.N, Bloomberg: CTLT

52-week range ($)	31.45 - 74.49
Market Cap ($m)	6,993.0
Outstanding Shares (m)	180.0

Source: Company Information



Source: Company Information

(Values in USD millions)	2023A	2024E	2025F
Revenues	4,276	4,372	4,939
Gross Profit	1,060	1,377	1,559
EBITDA	285	516	659
EBIT	(137)	165	260
EBT	(315)	(27)	53
Net Income	(232)	(20)	41
EPS	n.a.	n.a.	0
D&A	(422)	(351)	(399)
Capex	962	351	403
UFCF	(620)	206	62

Source: Company Information, Analyst Estimates

THIS REPORT WAS PREPARED EXCLUSIVELY FOR ACADEMIC PURPOSES BY [INSER STUDENT'S NAME], A MASTER IN FINANCE STUDENT OF THE NOVA SCHOOL OF BUSINESS AND ECONOMICS. THE REPORT WAS SUPERVISED BY A NOVA SBE FACULTY MEMBER, ACTING IN A MERE ACADEMIC CAPACITY, WHO REVIEWED THE VALUATION METHODOLOGY AND THE FINANCIAL MODEL.
(PLEASE REFER TO THE DISCLOSURES AND DISCLAIMERS AT END OF THE DOCUMENT)

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Company Overview

Exhibit 1 - Catalent, Inc. Highlights

Headquarters	Somerset, NJ, USA
CEO	Alessandro Maselli
Employees	17,800
Ownership	Listed at NYSE
Market Capitalization	7.0
Revenues	4.3
Revenues in North America	64.4%
Revenues in Europe	29.2%
EBITDA	0.3
EBITDA margin	6.6%
Market Share	2.4%

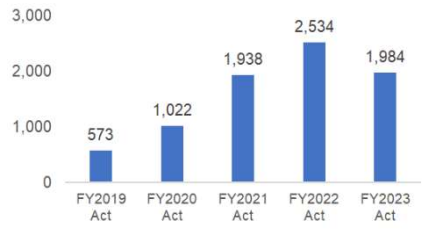
All data in USDbn, if not stated otherwise

Source: Company Information, Analysts' Research

Catalent, Inc. ("Catalent") engages in servicing the pharmaceutical industry and has established itself as a self-proclaimed global leader in Contract Development and Manufacturing Organization (CDMO) services. As a CDMO, Catalent provides a comprehensive range of services spanning from the initial stages of drug form and substance development to conducting clinical trials and supporting with the approval process with regulatory authorities such as the US Food and Drug Administration (FDA). Additionally, Catalent manufacturers a wide variety of drugs on behalf of pharmaceutical companies. These companies often outsource the production of drugs that yield low margins or are nearing the end of the patent lifecycle. Catalent has the advantage to continue production even after the original patents expire, as the original pharmaceutical companies are being replaced by generic drug manufacturers.

Before becoming known as Catalent, the company comprised the pharmaceutical technologies and services business of the US-based healthcare company Cardinal Health. Cardinal Health sold the division in 2007 to the private equity firm Blackstone, resulting in the formation of the standalone company, Catalent Pharma Solutions. In 2014, Blackstone decided to offer Catalent to the broader public by initiating an IPO on the New York Stock Exchange, raising approximately USD 823.0m[1]. Since then, the company expanded internationally and has grown into a globally operating healthcare firm with over 17,800 professionals. As of financial year (FY) 23, Catalent generated total revenues of USD 4.3bn mainly in the US (64.9%) and Europe (35.1%).

Exhibit 2 - Revenue Development (L5Y)



Source: Company Information

The company's shares are traded on the New York Stock Exchange, with 96.9% of them in free float and without a majority shareholder. Notably, a few significant institutional investors hold shares above the 5.0% threshold, with The Vanguard Group owning the largest stake at 10.9%[2]. Central to Catalent's corporate governance structure is the Board of Directors, which is responsible for high-level strategic decisions and ensuring corporate accountability. Board Members are elected by a majority vote but altering the board size requires a two-thirds majority at the annual general meeting. The board currently consists of 15 members which have an average tenure of 5.2 years. Notable members of the board include John Greisch, the Executive Chairman who acts independently, and Steven Barg, the global Head of Engagement at Elliott. This is because Elliott initiated a strategic activist campaign in August 2023, that resulted in a collaborative agreement

[1] Based on company information
[2] Retrieved from the data provider FactSet

between both Elliott and Catalent. In line with the agreement, Elliott appointed new board members and established an operational and strategic review committee with the aim of assessing the company's business, strategic plans, operations, and capital allocation priorities. Implementing the Board's strategies is the Executive Management team, led by the CEO Mr. Alessandro Maselli, which oversees day-to-day operations. The management team's average tenure is 6.2 years. The governance framework also includes specialized committees focusing on areas like financial integrity and executive compensation. Additionally, Catalent has appointed Ernst & Young as its auditing firm to ensure the accuracy of its annual reports, being regularly published after financial year end in June[3].

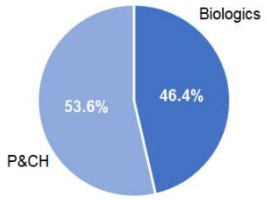
Segment Overview

In 2023, the company announced a reorganization of its business activities. This restructuring resulted in the division of the company into two segments: **Biologics** and **Pharma & Consumer Health**.

The **Biologics** segment, accounting for 46.4% of FY23 revenues, comprises the development and manufacturing of a wide range of biologic products, including proteins, cell and gene therapies, plasmid DNA, iPSCs, and vaccines. During the course of reorganization, it has expanded its offerings, integrating analytical development and testing services for large molecules previously provided by the Oral and Specialty Delivery segment. Additionally, it handles the formulation, development, and manufacturing of dose forms such as vials, prefilled syringes, and cartridges. Notable customers of this segment include Moderna, Johnson & Johnson, BMS, AstraZeneca, and Sarepta Therapeutics.

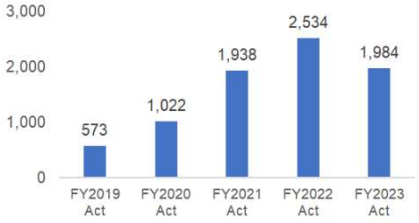
The **Pharma and Consumer Health** segment **(P&CH)** consolidates the three pre-reorganization segments (Softgel and Oral Technologies, Oral and Specialty Delivery, Clinical Supply Services), and accounts for 53.6% of FY23 revenues. This segment comprises the production of consumables such as complex oral solids, soft capsules and softgel formulations, Zydis fast-dissolve technologies, as well as gummy, soft chew, and lozenge dosage forms. Within the softgel capsule segment, Catalent is recognized as the global leader. These capsules are known for their enhanced bioavailability, especially for poorly soluble molecules, and their ease of swallowing. Furthermore, it provides comprehensive clinical trial development and supply services, and also comprises a global network for clinical distribution, including labelling, packaging, and cold-chain storage, as well as fill

Exhibit 3 - Revenue Split per Segment



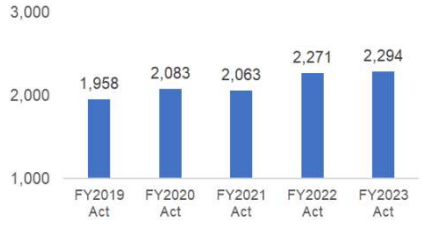
Source: Company Information

Exhibit 4 - Biologics Revenue Development



In USDm; Source: Company Information

Exhibit 5 - P&CH Revenue Development



In USDm; Source: Company Information

[3] Based on Catalent's corporate governance guidelines

and finish services. The segment serves global pharmaceutical companies including Pfizer, Novartis, Bayer and AbbVie.

M&A History

Catalent's Biologics segment especially has seen high growth, fueled by an extensive expansion strategy. Recognizing the strategic significance of cell and gene therapies, and other emerging biopharmaceutical approaches, Catalent started to develop a distinctive biologics platform. Since 2011, it actively acquired more than 15 companies (Figure 1) operating in areas such as drug development and manufacturing of pharmaceutical and nutritional products as well as extending the range of services into the contract research organization (CRO) space.

Figure 1 - Overview of Catalent's Acquisition History

Year	Target Company / Asset	Sector	Deal Value (USDm)
2011	Aptuit Inc. (Clinical Trial Supplies business)	Pharmaceuticals	410
2012	R.P. Scherer	Pharmaceuticals	n.a.
2013	Zhejiang Jiang Yuan Tang Biotechnology	Pharmaceuticals	n.a.
2013	RelthyLaboratories	Pharmaceuticals	n.a.
2014	Catalent Micron Technologies	Pharmaceuticals	n.a.
2016	Pharmatek Laboratories	Pharmaceuticals	n.a.
2016	Accucaps Industries	Pharmaceuticals	75
2017	Cook Pharmica	Pharmaceuticals	950
2018	Juniper Pharmaceuticals	Pharmaceuticals	111
2019	Paragon Bioservices	Biotechnology	1,200
2019	Bristol-Myers Squibb (Anagni facility)	Pharmaceuticals	50
2020	MaSTherCell	Pharmaceuticals	315
2020	Teva Takeda Pharma (Clinical Packaging facility)	Services (other)	n.a.
2020	Skeletal Cell Therapy Support	Biotechnology	14
2021	Acorda Therapeutics (INBRIJA manufacturing business)	Pharmaceuticals	80
2021	Delphi Genetics	Biotechnology	55
2021	Hepatic Cell Therapy Support	Biotechnology	15
2021	RheinCell Therapeutics	Biotechnology	26
2021	Bettera Brands	Biotechnology	1,000
2022	Erytech Pharma (US manufacturing unit)	Healthcare Consumer Goods	45
2022	Metrics Contract Services	Pharmaceuticals	475

Source: Company Information, Analysts' Research, Mergermarket

While smaller pharmaceutical manufacturers were acquired infrequently in the period from 2011 to 2015, Catalent began to actively expand in 2016 by investing in biologics-focused businesses and facilities, that focused on i.a. drug development and manufacturing operations. In 2017, this expansion started to kick off with Catalent's to date largest acquisition of Cook Pharmica (transaction value of ~USD 950.0m). The US-based provider of development solutions and delivery technologies for drugs, biologics, and consumer health products, complemented Catalent's existing biologics capabilities and strengthened its position as a leading company in biologics development and analytical services[4]. Two years later, Catalent added Paragon Bioservices (transaction value of ~USD 1.2bn) to the Group. By acquiring the leading viral vector development and manufacturing

[4] Based on company information

partner for gene therapies and vaccines, Catalent secured new expertise in one of the fastest-growing areas of healthcare[5]. In 2022, Catalent completed another significant acquisition of Bettera Brands (transaction value of ~USD 1.0bn), a major manufacturer in the high-growth gum, chewable and lozenge segments, enabling Catalent to expand its existing consumer health technology platform with a broader range of technologies and readily available product libraries. Bettera Brands leverages synergies with Catalent's network of consumer health manufacturing facilities and provides formulation development, supply and delivery solutions for the global consumer health and beauty markets[6].

Market Analysis

General Market Drivers

Exhibit 6 - Selected Key Macro-Healthcare Market Drivers

World population growth	CAGR of 0.7%
People aged above 65	CAGR of 2.5%
Alzheimer patients	CAGR of 3.2%
Diabetes patients	CAGR of 3.0%
Cancer patients	CAGR of 2.0%
Incidence of diseases	20% of global population in 2040

Source: Analysts' Research

We understand the global pharmaceutical industry to be closely linked to demographic and health-related developments. We estimate the global population to increase steadily at a CAGR of 1.0%, taking the world's population from 8.1bn in 2024 to 9.7bn by 2050. In addition, the demographic shift towards an older population is expected to have positive implications for the healthcare sector. The segment of people aged 65 and above is poised for substantial growth, with an anticipated CAGR exceeding 2.8% (24'-50'). This demographic shift will see this age group expand from 829.3m individuals in 2024 to 1.7bn in 2050 representing an increase from 10.2% to 17.5% of the overall world population[7]. Therefore, the world population not only rises in number, but it also gets older on average. Additionally, the industry is influenced by the increasing prevalence of various diseases. The market size for pharmaceutical treatments of one of the world's most widespread disease, Alzheimer, is expected to grow at a CAGR of 15.2% (21'-30'), based on our analysis. This upward trajectory implies a substantial increase, from 57.0m cases in 2019 to more than 153.0m cases by 2050[8]. Also Diabetes is emerging as a major health concern, with an estimated 1.3bn patients by 2050. This surge in cases reflects a CAGR of 3.0% (21'-50')[9], highlighting the need for effective management and treatment strategies. Our analysis estimates that the market for diabetes treatments is growing at a CAGR of 6.7% (23'-32') reaching approximately USD 118.0bn in 2032. Another disease offering potential for the exploration of successful treatment methods is cancer, which has an estimated

[5] Based on company information
[6] Based on company information
[7] Based on database provided by The World Bank
[8] Based on *"New study predicts the number of people living with Alzheimer's diseases to triple by 2050"* (Alzheimer's Disease International)
[9] Based on the IDF Diabetes Atlas, a data portal provided by the International Diabetes Federation

incidence of over 10.3m cases globally. This number is also expected to increase, with a CAGR of 2.3% (20'-40') reaching 30.2m in 2040. The underlying oncology drugs market size also assumed to grow with a CAGR of 7.5% (23'-30'), and is expected to reach about USD 274.4bn in 2030[10]. Overall, we estimate that the incidence of diseases is increasing, in 2040 almost 20% of global population are expected to live with major illnesses[11].

As Catalent's segments differ in product category and their focus, we assessed their development individually by investigating both segment's target markets and their key drivers.

Biologics

We estimate the Biologics segment to be mainly driven by the key trends of cell and gene therapy, as the segment includes the development and manufacturing of advanced therapeutics such as plasmid DNA, viral vectors, vaccines, IPCs, and autologous and allogeneic cell therapies.

Gene therapy employs techniques to replace or repair defective DNA, aiming to restore normal cell function or prevent genetic disorders. Genetic diseases occur when DNA is missing information or contains faulty protein instructions. The two main strategies, gene augmentation and gene editing, address these defects. Augmentation introduces correct DNA using vectors like adeno-associated viruses to provide cells with the right protein-making instructions. Gene editing, alternatively, precisely alters DNA to fix errors, expanding the range of treatable genetic conditions. This field shows promise for treating conditions such as hemophilia, neurodegenerative and muscular diseases, and is poised to significantly advance the management of genetic disorders[12].

Cell therapies are revolutionizing medical treatment by using human cells for tissue repair or therapeutic functions, focusing on cell replacement and augmentation. Cell replacement involves growing cells in a lab to replace damaged tissue, using either the patient's own cells (autologous) or a donor's (allogeneic), with allogeneic cells offering versatile treatment options for many patients. A key development in this field is induced pluripotent stem cells (iPSCs), which can become any cell type and are created by reprogramming adult cells, allowing for large-scale production of immune-compatible cells[13]. Additionally, cell augmentation enhances cell functionality, as seen with mRNA-based vaccines like BioNTech/Pfizer's

[10] According to *"Worldwide cancer data"* (World Cancer Research Fund International)
[11] According to *"Our health in 2040: Are we getting sicker"* (The Health Foundation)
[12] Based on *"Pharma's big opportunity to ride the next wave"* (Roland Berger)
[13] Based on *"Plasmids - the jack of all trades in the production of active ingredients"* (Novartis)

COMIRNATY COVID-19 vaccine. This method uses plasmid DNA to generate mRNA that instructs the body to produce a viral protein, activating an immune response without using a weakened virus or protein[9),10)]. The success of COMIRNATY, the first mRNA vaccine with full FDA approval, has paved the way for mass-market production of cell therapies[14]. In cancer treatment, plasmid DNA vaccines are promising, either by activating the immune system against cancer cells or by directing protein expression to kill cancer cells, with FDA approval anticipated following positive animal studies. Cell therapies target a wide range of conditions, including burns, cancers, viral infections, and degenerative diseases, offering a transformative potential for diverse medical treatments[15].

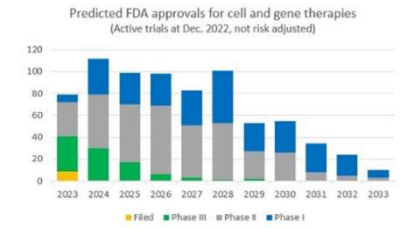
- Market Outlook

Exhibit 7 - Selected Key Drivers for Biologics Market

Macroeconomic Drivers	CAGR of 2.0%
Cell and gene therapy market growth	CAGR of 23.6%
mRNA products market growth	CAGR of 16.0%
Selected popular diseases growth	CAGR of 6.9%
Vaccines market growth	CAGR of 6.0%

Source: Analysts' Research

Exhibit 8 - Predicted FDA Approvals for Cell and Gene Therapies



Source: https://www.celandgene.com/doc/s-market-outlook-for-cell-and-gene-therapies-0001

Cell and gene therapy hold immense potential to revolutionize the pharmaceutical industry. Our analysis indicates significant growth in the global cell and gene therapy market, with an estimated CAGR of 23.6% (23'-32') and expected to reach a value of USD 103.0bn by 2032. We estimate these overall promising growth prospects to be plausible, as it is in line with the increasing number of diseases and the overall rising and aging population. Considering the broader landscape of the cell and gene therapy market, the FDA anticipates a significant uptick in approvals (Figure 2). Based on current pipelines and clinical success rates, the FDA foresees approving 10-20 cell and gene therapies annually starting from 2025 onwards, which is noteworthy when compared to the approximately 20 cell and gene therapies being approved over the past two decades. As of 2022, there are over 1,500 ongoing clinical trials for cell and gene therapies, with 90.0% of them in Phase 1 and 2 trials, indicating they are still far from commercialization[16].

Figure 2 - Announced Blockbuster Drug Development Overview

Treatment	Company	Development Phase	Expected Sales 2026
Zolgensma	Novartis	Marketed	EUR 1.6 bn
Zynteglo	Bluebird bio	Marketed	EUR 1.2 bn
MultiStem	Athersys	Phase III	EUR 1.3 bn
LN-144	Iovance	Phase II	EUR 1.1 bn
CTX001	CRISPR Tx	Phase II	EUR 1.1 bn
LN-145	Iovance	Phase II	EUR 0.8 bn

Source: https://content.rolandberger.com

Despite being in its early stages, the biologic segment has already achieved notable milestones. This includes the commercial supply agreement signed by Catalent on January 5th, 2023, with Sarepta Therapeutics. Catalent, as the

[14] Based on *"The long history of mRNA Vaccines"* (Chris Beyrer, Bloomberg School of Public Health)
[15] Based on *"Plasmid DNA for Therapeutic Applications in Cancer"* (National Library of Medicine)
[16] Based on *"2023's Market Outlook for Cell and Gene Therapies"*

exclusive CDMO, will manufacture Sarepta's gene therapy treatment, Elevidys, a product for treating the disease Duchenne muscular dystrophy. This agreement extends to Catalent's potential involvement as the manufacturer for multiple gene therapy candidates in Sarepta's pipeline, particularly for limb-girdle muscular dystrophy[17]. Furthermore, Catalent is actively involved in manufacturing GLP-1 (Glucagon-like peptide-1) agonists, used in treating type 2 diabetes and obesity. Notably, Novo Nordisk's Wegovy, a syringe-based obesity treatment, has gained significant popularity. The anticipated FDA approval of weight loss treatments such as Eli Lilly's Mounjaro underscores the demand for the manufacturing of GLP-1 treatments[18]. Significant developments in the field of cancer treatment have also emerged, as exemplified by BioNTech's announcement on October 19. They reported that the first patient has been treated in a Phase 2 clinical trial with an mRNA-based cancer vaccine, targeting up to 20 patient-specific cancer mutations[19].

Pharma and Consumer Health

Exhibit 9 - Selected Key Drivers for P&CH Market

Macroeconomic Drivers	CAGR of 2.0%
Oral dosage forms market growth	CAGR of 6.4%
Spending on OTC drugs growth	CAGR of 4.9%
Spending on nutritional supplements growth	CAGR of 8.4%
Spending on beauty products growth	CAGR of 4.5%

Source: Analysts' Research

We assess the segment as a cash cow for Catalent, characterized by low, stable, and non-cyclical growth, albeit with limited development potential. Nonetheless, this segment profits from general market developments, along with product-specific benefits and advancements. The segment encompasses a wide array of oral drug forms, including (disintegrating) tablets and capsules. Moreover, Catalent offers stick packs designed for various formulations, such as powders, granules, liquids, and gels. Although being in quite a mature and saturated state, we believe that the segment still offers some growth with new product innovations fueled by its benefits. These benefits include the typically more cost-effectiveness and simpler to produce characteristics compared to other dosage forms. Additional benefits of oral medications include their ease of transport and packaging, as well as their improved chemical and physical stability. Furthermore, they provide a non-invasive, painless, and self-administered method, eliminating the need for sterile precautions. Patients tend to find oral formulations more convenient and are more likely to adhere to their prescribed treatment compared to alternative routes such as intravenous, subcutaneous, intramuscular injections, and inhalation methods (Ingersoll and Cohen).

[17] Based on company information
[18] Based on *"Bioanalytical Assays of AAV Therapeutics"* (Journal of Bioanalysis & Biomedicine)
[19] Based on BioNTech press release

▪ Market Outlook

According to our analysis, the global oral dosage pharmaceutical market is projected to experience moderate growth, with an estimated CAGR of 6.4% throughout the period of 2022 to 2032. This growth is anticipated to drive the market value to over USD 1.0trn[20]. While this segment may not be as disruptive as the Biologics segment, several crucial demand drivers can be identified.

We estimate increasing prevalence of chronic diseases such as asthma, cancer, Parkinson and diabetes as they are closely linked to the increasingly aging population. Further, specific diseases, such as Parkinson and migraines, are predominantly treated with oral drugs to manage pain and provide immediate relief. For instance, the Parkinson Foundation reports that over 10.0m people worldwide live with Parkinson disease, with nearly 90,000 new diagnoses in the United States per year[21]. In the United States it is estimated that by 2030, over 1.2m people will be living with the condition, up from nearly 1.0m today. Oral drugs also play a critical role in medical emergencies, particularly for conditions like cardiovascular diseases. Their quick absorption and ease of swallowing, with minimal or no residue, make them essential for timely intervention. The World Heart Federation predicts that deaths from cardiovascular disease will rise from 18.9m in 2020 to 22.2m in 2030 and escalate to over 32.3m by 2050[22]. Considering the ease of swallowing aspect, softgel and stick packs offer a high comfort for people with chewing issues. Data from the Centers for Disease Control and Prevention reveals that 26.0% of adults aged 65 and above have eight or fewer teeth, and approximately 17.0% have lost all their teeth, with a growing trend[23]. Furthermore, the market for nutritional supplements, including vitamins like vitamin C and Omega fatty acids in tablet and liquid forms, is gaining popularity. We estimate this segment to grow at a CAGR of 4.5% from 2023 to 2030, reflecting increasing consumer interest in health and wellness.

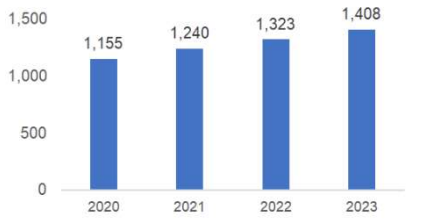
Competitive Environment

▪ Direct CDMO Competitors

The pharmaceutical CDMO sector ranks among the industries with the highest barriers to entry. Entrants to this competitive market could face growing difficulty in coping with the acute R&D expenses, demanding regulatory approval

[20] Based on *"Oral Solid Dosage Pharmaceutical Market Landscape"* (BioSpace)
[21] Based on Parkinson's statistics, provided by the Parkinson's Foundation
[22] Based on *"World Heart Report 2023"* (World Heart Federation)
[23] Based on data about oral health, provided by the Center for Disease Control and Prevention

Exhibit 10 - Global CDMO Market Development



In USDm; Source: https://www.statista.com/statistics/1413383/cdmo-market-size-globally-by-type/

Exhibit 11 - CDMO Market Shares and Herfindahl-Hisch-Index Data

Company	Revenue (USDbn)	Market Share
Lonza	6.7	4.8%
Catalent	4.8	3.4%
ThermoFisher*	2.4	1.7%
SamsungBiologics	2.3	1.6%
WuXiBiologics	2.3	1.6%
Fujifilm**	2.3	1.6%
Fareva	2.2	1.6%
Herfindahl-Hirsch-Index		51.2

** Based on most recent revenues of Patheon*
*** Revenues of Bio CDMO and LS Solutions segment*
Source: Company Information, Analysts' Research

procedures, and intellectual property limitations, which deters potential new competitors from entering the market[24]. However, only a few dominant market players exist among many smaller niche CDMOs. We observe these market players striving to establish a unique presence in a few major markets, with ongoing high M&A activity of the market participants. Due to fierce rivalry, only a limited number of larger companies have achieved a global presence, which are responsible for just ~15.0% of the total pharmaceutical CDMO sector's revenue (~USD 140.0bn in 2023[25]). This low degree of concentration is also represented by our estimated Herfindahl-Hirsch-Index of about 51.2.

Catalent's biggest competitors include i.a. Lonza, Thermo Fisher (through the acquisition of CDMO Patheon), Samsung Biologics, WuXi Biologics, Fujifilm (with its CDMO division), and Fareva (Figure 3).

Figure 3 - Overview of Selected CDMO Companies

Company	Country	Ownership	Industry Classification
Lonza	CH	public	Biotechnology and Pharmaceuticals CDMO
ThermoFisher	US	public	Life Sciences Technology
SamsungBiologics	SK	public	Biotechnology and Pharmaceuticals CDMO
WuXiBiologics	CN	public	Biotechnology and Pharmaceuticals CDMO
Fujifilm	JP	public	Biotechnology and Pharmaceuticals CDMO
Fareva	FR	private	Biotechnology and Pharmaceuticals CDMO
Siegfried	CH	public	Biotechnology and Pharmaceuticals CDMO
Recipharm	SW	private	Biotechnology and Pharmaceuticals CDMO
Boehringer Ingelheim	DE	private	Biotechnology and Pharmaceuticals CDMO
Delpharm	FR	private	Biotechnology and Pharmaceuticals CDMO

Source: Company Information, Analysts' Research

Exhibit 12 - Lonza AG Highlights

Market Capitalization	29.2
Revenues	6.7
Revenues in North America	2.7
Revenues in Europe	3.1
EBITDA	2.2
EBITDA margin	32.1%
Market Share	3.4%

All data in USDbn, if not stated otherwise
Source: Company Information, Analysts' Research

Lonza, with approximately 3.4% market share, is deemed the primary market leader and chief rival concerning revenue generation and market foothold, according to our estimations. With absolute revenues of USD 6.7bn, Lonza is the largest listed CDMO globally and a significant competitor to Catalent due to its extensive product and service portfolio[26]. Lonza's focus lies within biologics, generating biologics-related revenues of USD 3.5bn compared to Catalent's USD 2.0bn. The company focuses on cell and gene therapy development, small molecules, capsules, and health ingredients, making them highly comparable to Catalent's offerings. Lonza is a notable competitor on a global scale, with a strong presence in both the US market (USD 2.6bn compared to CATALENT's revenues of USD 2.8bn) and its primary market of Europe (USD 3.1bn compared to CATALENT's USD 1.3bn revenues). Lonza's edge in size is also accompanied by

[24] Based on *"Current trends on strategic options in the pharma CDMO market"* (PwC)
[25] Based on Statista
[26] Based on Lonza's Annual Report 2022

greater efficiency, as demonstrated by its higher FY23 EBITDA margin (30.5% compared to CATALENT's 6.2%)[27].

▪ Indirect Pharma Competitors

Aside from traditional CDMOs, there are also indirect competitors among Catalent's clientele since the large pharmaceutical companies also engage in inhouse manufacturing. Those companies profit from the benefits of having CDMOs available as an outsourcing alternative since these firms frequently outsource low margin products or lower value-adding areas of pharmaceutical manufacturing specialization. For example, Pfizer (one of Catalent's clients), runs ten manufacturing facilities in the United States alone (with a total of 35+ facilities worldwide), producing APIs, medicinal products, sterilized injectable medicines, and various other products[28]. Therefore, these pharmaceutical corporations can internally manufacture popular products such as Sildenafil / Viagra (Pfizer) or NovoLog / insulin aspart (Novo Nordisk), without relying on the support of CDMOs[29]. Moreover, the pharmaceutical conglomerates function as competitors in the M&A sector by acquiring production capacity and manufacturing expertise. Additionally, in research and development, Catalent offers services whilst larger pharmaceutical groups operate their own facilities and conduct their own research and development activities. However, CDMOs have retained significant market relevance because the pharmaceutical industry has made substantial strides in outsourcing research and production. CDMOs present attractive opportunities for mitigating risk and safeguarding their own corporate existence. Additionally, the outsourcing of production and research can significantly improve profitability by potentially reducing costs[30].

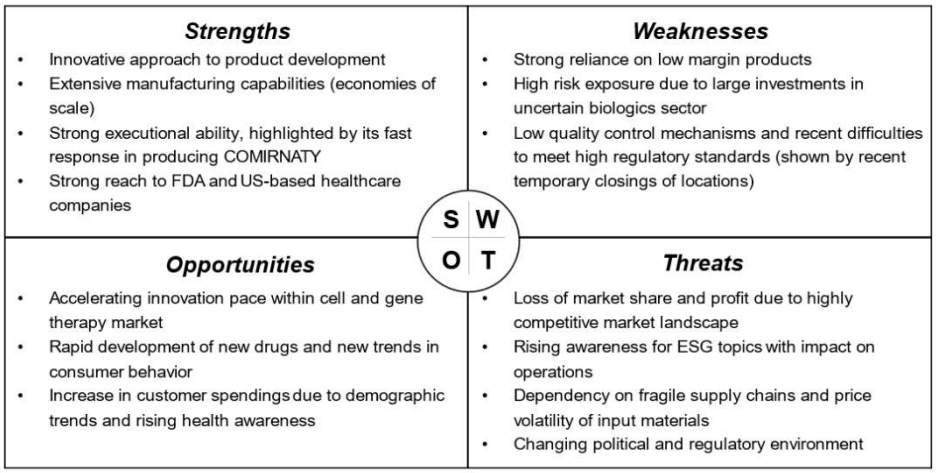
Therefore, large pharmaceutical groups can certainly act as competitors of pharmaceutical CDMOs, but their existence is also secured by smaller pharmaceutical companies that have to make use of the advantages of outsourcing.

SWOT Analysis

To analyze Catalent's current standing within the industry, we conducted a SWOT analysis (Figure 4), as it is characterized by a blend of strengths, weaknesses, opportunities, and threats, each playing a crucial role in assessing its performance.

[27] FY22 EBITDA margin of Catelent amounted to 22.5%
[28] Based on Pfizer company information
[29] Based on company information retrieved from the corporate website's of Pfizer and Novo Nordisk
[30] Based on company information of Pfizer and Novo Nordisk

Figure 4 - Overview of Strengths, Weaknesses, Opportunities, Threats for Catalent



Source: Company Information, Analysts' Research

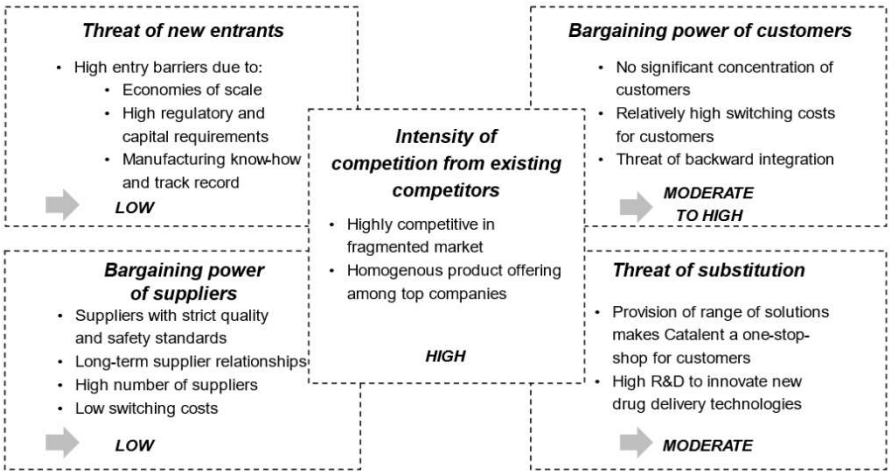
We see Catalent's key **strengths** as rooted in its innovative approach to product development and extensive manufacturing capabilities. Strong executional ability, as well as the ability to foster enduring customer relationships has led to a loyal customer base. However, we also recognize certain **weaknesses** in Catalent's business model. A primary concern, as we see it, is the company's reliance on low margin products and the stringent regulatory environment of the pharmaceutical industry. Adapting to regulatory changes can be both costly and time-consuming, potentially impacting the company's operational efficiency. Looking at the **opportunities**, we believe Catalent is well-positioned to benefit from the growing demand for advanced drug delivery technologies, as well as the fast innovation pace of cell and gene therapies. This equips Catalent with the opportunity to expand its product offerings and leverage its expertise in those areas. On the flip side, we identified several **threats** in Catalent's operational environment. The pharmaceutical services industry is highly competitive, and we believe this intense competition could impact Catalent's pricing power and market position. Further, the dependency on fragile supply chains may impede additional costs for Catalent.

In summary, our analysis suggests that Catalent's future success hinges on its ability to capitalize on its strengths in innovation and customer relationships while addressing its weaknesses, particularly its low margin product focus and regulatory adaptability. Seizing opportunities in advanced drug delivery technologies and cell and gene therapies, coupled with effectively managing threats from competition, and economic uncertainties will be crucial.

Porter's Five Forces

Our analysis of Catalent through Porter's Five Forces model reveals a nuanced competitive landscape (Figure 5).

Figure 5 - Overview of Catalent's exposure to market threats (Porter's Five Forces)



Source: Company Information, Analysts Research

The threat of **new entrants** is perceived as relatively low. High barriers, already surpassed by Catalent, and a strong track record suggest a reduced threat from new competitors, allowing the company to concentrate on innovation and market leadership. In terms of **customer bargaining power**, we estimate a moderate to high risk, mainly based on a low degree of customer concentration, and the assumption of high switching costs due to regulatory considerations. However, the highly fragmented market environment and the possibility of backward integration by some customers remain a strategic risk. The **bargaining power of suppliers** is expected to be low due to high quality and safety standards and long-term supplier relationships with Catalent. The regulatory environment and the availability of raw materials from various sources further reduce this power[31]. The threat of **substitution** for Catalent's offerings is also perceived as moderate, as we see Catalent as a one-stop-shop for customers, who demand a range of pharmaceutical offerings. Lastly, we observe that **competitive rivalry** is a significant factor for Catalent. The company operates in a competitive and fragmented pharmaceutical and biotechnology services industry, where factors like service quality, client relationships, pricing strategies, and innovation capabilities may be crucial.

Current Challenges

Throughout the years FY22 and FY23, Catalent experienced multiple challenges including the effects of pandemic-related changes and internal issues, such as reduced vaccine agreements, an FDA citation, and sluggish productivity. Shareholders accusing the management and members of the board of breaching

[31] According to PricewaterhouseCoopers

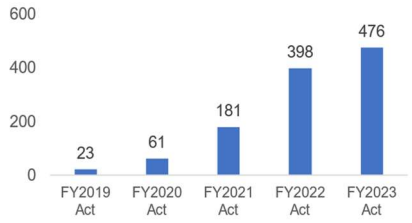
fiduciary duties, unjust enrichment, waste of corporate assets, and violations of Sections 10(b) of the Securities Exchange Act of 1934[32]. This culminated in the resignation of its CFO, Thomas Castellano, in April 2023. Additionally, the firm's stock value experienced a considerable decline, dropping from over USD 140.0 in September 2021 to USD 38.9 on December 1st, 2023 accompanied by shrinking revenues, with a particular decline of 32.0% in Biologics sales during the third quarter of FY23.

Financial

▪ Accounting related

Central to the allegations against Catalent is the assertion that the company may have inappropriately accelerated the recognition of revenue through its accounting practice. In 2019, Catalent changed its revenue recognition practice to ASC 606 guidelines, which allow the company to measure revenues based on the consideration specified in its contracts and based on a percentage of completion. However, they can only be invoiced after all contractual obligations have been met. This allows Catalent to prematurely realize revenue in its income statement resulting in a gap between accounting revenues and actually realized revenues. This is especially pronounced as many of Catalent's contracts have a lengthy duration of 9-12 months. According to Catalent's CFO, the premature revenues are recognized as contract assets, which are classified under prepaid expenses on the balance sheet. However, short-term contract assets within prepaid expenses must be reclassified after 12 months, either as accounts receivable if billed or as other long-term assets if not billed[36]. This is concerning for two reasons, firstly in an attempt to offset the revenue decline, Catalent may have accelerated the completion of various products in FY23 that would typically have been completed in FY24 adversely affecting future revenues. Secondly, due to the high growth in contract asset and hence working capital over an extended period raises questions about Catalent's ability to manage working capital efficiently, particularly as customer advances (contract liabilities) did not follow a similar trend and instead decreased. The company substantially delayed its annual report filing for the previous financial year for more than five months, which could intensify these concerns and cast further doubt on the alleged accounting irregularities.

Exhibit 13 - Contract Asset Development



in USDm; Source: Company Information

[32] Based on *"Catalent Leaders Allegedly Misled Investors on Revenue, Demand"* (Bloomberg Law)

▪ Acquisition related

Catalent has faced scrutiny over its acquisition strategy, with critics alleging that the company's aggressive expansion through acquisitions may not have yielded the anticipated strategic benefits. Concerns have been raised about the due diligence process and the integration of acquired entities into Catalent's broader operations. There is a suggestion that Catalent may have overpaid for acquisitions, potentially eroding shareholder value[33]. These acquisitions, while intended to bolster Catalent's market position and expand its capabilities, will now be under the microscope for their return on investment and impact on the company's financial health. To examine whether Catalent overpaid for these acquisitions, the average Enterprise Value-to-Sales (EV/Sales) multiple was analyzed. Catalent paid an average of 3.6x EV/Sales multiple for its acquisitions. In comparison, a comparable transactions analysis indicates that the average multiple for similar transactions over a 5-year period is approximately 6.5x EV/Sales. Consequently, Catalent's purchase prices appear reasonable in this context. However, there are two notable exceptions: MaSTherCell and Paragon Bioservices. For the acquisition of MaSTherCell in 2020, Catalent paid USD 315.0m for a company generating only USD 20.0m in revenue, resulting in an EV/Sales multiple of approximately 15.8x. MaSTherCell offers advanced technology and capabilities in cell therapy development and manufacturing, including manufacturing facilities across the United States, Europe, Asia, and a product development facility in Israel[34]. In 2019, Paragon Bioservices was acquired for USD 1.2bn, despite having revenues of USD 101.0m, representing an EV/Sales multiple of 11.9x. Paragon Bioservices possesses extensive expertise in cell and gene manufacturing, with a facility in the United States and around 380 employees. Catalent expected this acquisition to pay off swiftly through an anticipated doubling of revenue in the following year, with 90.0% of those revenues already secured. Whether this optimistic revenue growth projection was achieved is unclear.

Operational

The accusations also pertain to Catalent's work related to manufacturing of over 100 COVID-19 products between August 2021 and October 2022 for important clients such Pfizer, Moderna and AstraZeneca. The legal action alleges that Catalent compromised safety protocols to manage swift demand, resulting in regulatory problems at its sites[35]. These regulatory problems are evident in

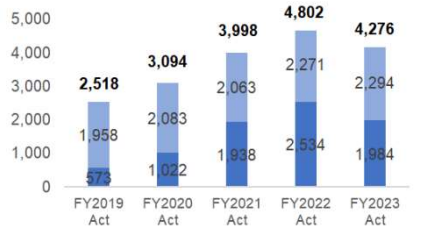
[33] Based on Seeking Alpha
[34] Based on company information
[35] Based on *"Lawsuit: Catalent cut corners on safety, engaged in fraudulent schemes, lied to investors"*

Catalent's competitive position, as it was initially commissioned by Novo Nordisk as the sole producer of the weight loss medication Wegovy. Catalent's Brussels-based factory, responsible for filling the Wegovy pens, has consistently breached US sterility regulations and didn't perform necessary quality controls. As a result, Catalent failed to deliver the targeted production volume, leading to Novo Nordisk contracting an additional CDMO (Thermo Fisher) to manufacture the pens, causing Catalent to potentially face reduced business revenues[36]. Also, at its gene therapy manufacturing site in Harmans, Maryland, operational issues pertain. The company overestimated the ramp-up in production capacity, resulting in lower revenue projections. Delays were also caused by regulatory inspections, which resulted in lost production of batches and unrecoverable revenues in FY23. Subsequent regulatory inspections further impeded efforts to tackle those operational challenges, ultimately impacting the company's FY23 outcomes[37]. The third site affected was in Bloomington, Indiana, where the FDA's inspection resulted in observations highlighting missed sanitization procedures, inadequate equipment validation, and the failure to maintain and clean equipment properly. Catalent acknowledges these concerns, stating they take regulatory observations seriously. The company has submitted corrective actions to address the issues and is cooperating with the FDA's review process.

Financial Analysis

Historical Financial Development

Exhibit 14 - Revenue Development per Segment

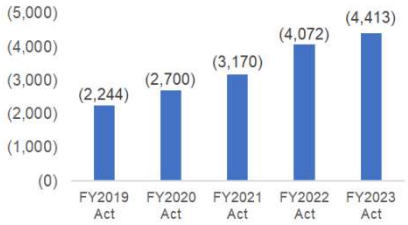


in USDm; Source: Company Information

Catalent has demonstrated impressive revenue growth, with its overall revenue increasing from USD 2.1bn in FY17 to over USD 4.3bn in FY23 (12.8% CAGR). The growth was particularly notable in the Biologics segment, which skyrocketed from USD 350.8m in FY17 to nearly USD 2.0bn in FY23, achieving a CAGR of 33.5%. This rapid expansion was, in part, due to numerous acquisitions that led to highly variable year-on-year changes, often in the high double digits. In contrast, the P&CH segment of the business expanded at a much slower pace, rising from USD 1.8bn in FY17 to USD 2.3bn in FY23. This segment exhibited a CAGR of just 4.5%, with incremental year-on-year growth typically in the low single digits. We estimate Catalent's strategic focus to be on the Biologics segment to align with the understanding that the P&CH segment offers limited growth potential. While revenues were increasing over time, the gross margin remained constant at around 31.5% throughout the period from FY15 to FY22. However, in FY23, a

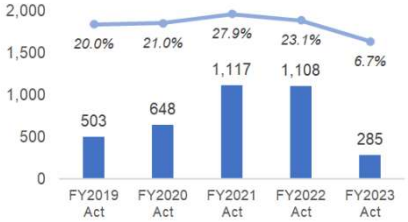
[36] Based on *"Novo hires Thermo Fisher as second manufacturer for Wegovy"*
[37] Based on *"Catalent flags problems at its manufacturing plants"*

Exhibit 15 - Operating Expenditures Development



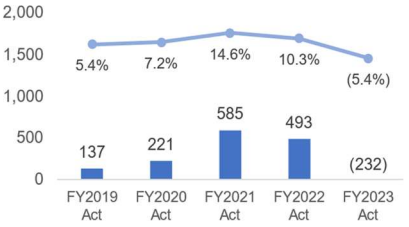
in USDm; Source: Company Information

Exhibit 16 - EBITDA and EBITDA Margin Development



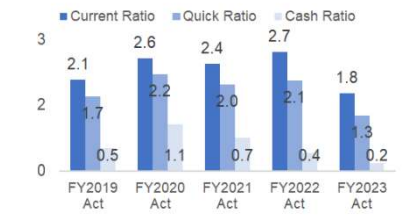
in USDm; Source: Company Information

Exhibit 17 - Net Income and Net Margin Development



in USDm; Source: Company Information

Exhibit 18 - Liquidity Ratios Development



in USDm; Source: Company Information

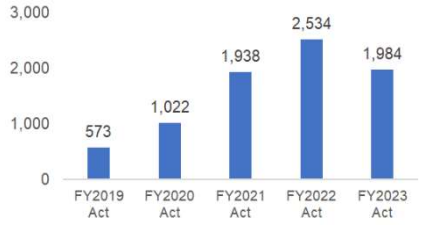
decrease was observed from 33.6% in 2022 to 24.8% in FY23. The average industry gross margin is about 34.5%, suggesting Catalent may lose ground against its competitors if gross margins fail to recover to historic levels. Regarding operating expenditures, including Cost of Goods Sold (COGS) and Selling, General & Administrative (SG&A) expenses, Catalent has maintained these as a consistent percentage of revenue, averaging 68.5% for COGS and 18.8% for SG&A. In addition, the average overhead ratio was 19.9%, which seems rather high compared to the peer group average of 8.9%, leading to the suspicion of Catalent having issues with managing its costs efficiently. As a CDMO, we estimate Catalent's primary costs being related to raw materials and energy, rental costs for manufacturing plants and offices, as well as personnel expenses. While costs for facilities and a portion of personnel are fixed in the short term, the company relies on filled order books and high plant utilization rates. Consequently, we expect EBITDA margins to be particularly sensitive to the cost of sales. Overall, Catalent has generated an EBITDA of USD 285.0m in FY23, translating into an EBITDA margin of 6.7%, which is rather low compared to the peer group average margin of 25.7%. At the income statement bottom line, Catalent generated a net loss of USD 232.0m in FY23. This reflects a net margin of -5.4% (historical average of 8.0%), while peer average is at 13.8%, supporting the previously by weaker EBITDA-margin indicated lower profitability compared to peer group. This observation is also mirrored in the return on equity (ROE), where Catalent has underperformed relative to its peers over the past year. When benchmarked against the most closely comparable firms such as Lonza (11.4%) and Siegfried (16.2%), but also against the whole peer group (9.8%), Catalent's ROE, at -5.0%, is discernibly subpar. However, the historical average of 12.2% seems to indicate an above-average return for equity holders.

To further understand the company's financial situation, we assessed liquidity ratios. In analyzing Catalent's capacity to fulfill its short-term financial commitments, we observe that Catalent's liquidity situation has been consistently improving from FY15 to FY22 and decreasing in FY23. Historically, Catalent's current ratio, an indicator of its short-term solvency, has consistently surpassed the threshold of 1.0. However, from FY22 to FY23 there has been a notable decrease in this ratio, descending from a 2.7 in FY22 to a more modest 1.8, which is below the peer group average of 2.5. This suggests a tightening in Catalent's short-term liquidity. A similar development can be observed for the quick ratio, which is the ability to meet short-term obligations assuming the firm is unable to sell any inventories. After years of increases, this ratio has also deteriorated from 2.1 in FY22 to 1.3 in FY23. As the last liquidity ratio, the cash ratio was analyzed,

indicating the ability to meet short-term obligations using only excess cash, which also declined from 0.4 in FY22 to 0.2 in FY23.

▪ COVID Impact

Exhibit 4 - Biologics Revenue Development



In USDm; Source: Company Information

During FY21 and FY22, which were significantly impacted by the COVID-19 pandemic, Catalent achieved remarkable growth, with year-on-year increases of over 20.0% in overall revenue. This surge was largely due to the company's involvement in various aspects of the COVID-19 response, including testing, manufacturing, and packaging vaccines and related products. Within this period, the Biologics segment, which includes vaccines, expanded dramatically year-over-year by 89.7% and 30.8%, with revenues climbing from USD 1.0bn (FY20) to USD 2.5bn (FY22). EBITDA margins during these years exceeded 23.0%, outperforming historical averages. This boost in profitability was attributed to high operational utilization and the realization of economies of scale, as well as accelerated processes. Correspondingly, both the cost of sales and SG&A expenses hit historical lows as a percentage of sales, at approximately 66.3% and 17.4%, respectively. However, the post-pandemic landscape has introduced new challenges for Catalent. With the waning demand for vaccines and related products as the pandemic subsides, the company has seen a contraction in revenues. In FY23, Biologics revenue decreased to USD 2.0bn, marking a year-on-year decline of 21.7%. Catalent reported COVID-19-related revenues of USD 639.0m for FY23, a significant drop of 50.0% compared to the prior year. A substantial portion of these revenues came from "take-or-pay" contracts[38], which ensured a minimum revenue stream irrespective of the actual order volume, thereby cushioning the financial impact. Without such agreements, the decline in revenues could have been even higher.

▪ Inorganic Revenue Growth

Exhibit 19 -Revenue Growth Decomposition (Organic vs. Inorganic)

Year	Organic Growth	Inorganic Growth
2016	11.4%	0.9%
2017	14.9%	3.8%
2018	-9.4%	11.6%
2019	16.2%	6.7%
2020	15.2%	14.0%
2021	17.1%	3.0%
2022	-16.0%	5.0%

Source: Company Information, Analysts' Research

Between 2016 and 2022, Catalent invested over USD 4.4bn in 15 acquisitions mainly operating in the Biologics segment. The cost of these acquisitions seemed to be rather high, considering that the total investment is almost equivalent to the company's current total revenue. The acquisitions had a combined revenue of USD 1.1bn at time of their purchase. This constituted 25.7% of Catalent's overall revenue for FY23 and an even more significant 55.4% of the Biologics segment's revenue for the same fiscal year. After adjusting for the revenue contributions from these acquisitions, Catalent's organic growth rate becomes more modest. The revenue, excluding the acquisitions, increased from USD 1.8bn in FY16 to USD

[38] According to company information

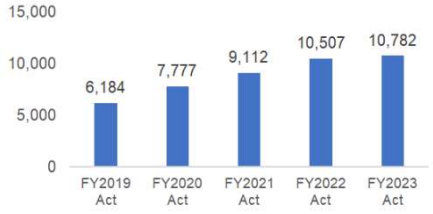
3.2bn in FY23. This represents a CAGR of just 8.6%. It is important to consider that the CAGR calculation still includes the revenue growth generated by the acquired companies after their integration into Catalent, suggesting that the true organic growth rate, excluding the acquisitions' contributions, may be even lower.

▪ Balance Sheet

Throughout the years of FY15 and FY23 the balance sheet of Catalent massively expanded and even outpaced revenue growth. The operating assets and liabilities more than tripled driven by sharp increases in current operating assets (trade receivables, prepaid expenses and inventories), property, plant and equipment (PP&E), as well as goodwill (acquisition of many facilities). Accrued liabilities followed the trend, with pension liabilities being the exemption as they slightly decreased. To finance the massive growth Catalent took on around USD 2.5bn in financial debt. As mentioned in the *Current Issues* section, Catalent's revenue recognition practice resulted in surging contract and other long-term assets. These contract assets increased from USD 181.0m in FY21 to USD 476.2m in FY23. Other long-term assets comprising recognized revenues that are yet to be invoiced after a 12-month period also increased from USD 268.0m to USD 348.1m in the same time period. Trade receivables reached UD 977.0m in FY23, resulting in a combined sum of USD 1.8bn, or 42.0% of FY23 revenues. Those revenues have been recognized but are yet to be paid or even invoiced.

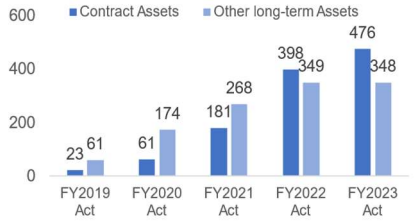
The increase in contract assets and receivables raises concerns about Catalent's working capital management. Here, we see Catalent facing challenges in balancing its financial strategies with operational demands. In accordance with this, Catalent's average sales outstanding period has historically always exceeded its average payable period (Figure 6).

Exhibit 20 - Total Assets Development



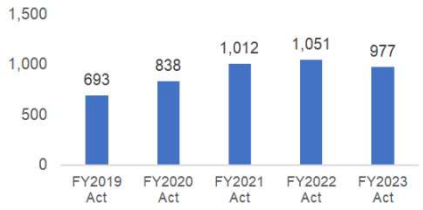
in USDm; Source: Company Information

Exhibit 21 - Contract Assets and other long-term Assets Development



in USDm; Source: Company Information

Exhibit 22 - Trade Receivables Development



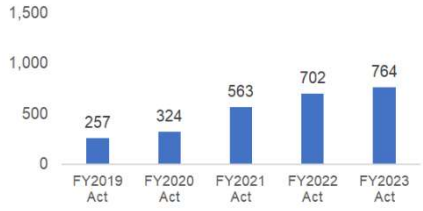
in USDm; Source: Company Information

Figure 6 - Cash Conversion Cycle Composition

	FY2015 Act	FY2016 Act	FY2017 Act	FY2018 Act	FY2019 Act	FY2020 Act	FY2021 Act	FY2022 Act	FY2023 Act
DIO	40	45	48	45	55	56	78	80	87
YoY Change		*12.3%*	*6.0%*	*(6.1%)*	*22.8%*	*2.2%*	*38.7%*	*3.5%*	*7.9%*
DSO	74	82	86	82	100	99	92	80	83
YoY Change		*10.3%*	*4.9%*	*(4.2%)*	*22.0%*	*(1.6%)*	*(6.5%)*	*(13.5%)*	*4.4%*
DPO	38	42	42	41	55	56	53	48	48
YoY Change		*8.1%*	*0.8%*	*(2.2%)*	*33.0%*	*1.8%*	*(4.3%)*	*(9.2%)*	*0.5%*
CCC	76	85	92	86	101	99	117	112	122
YoY Change		*12.5%*	*7.5%*	*(6.1%)*	*17.2%*	*(1.4%)*	*17.7%*	*(4.2%)*	*8.6%*

Source: Company Information

Exhibit 23 - Inventories Development



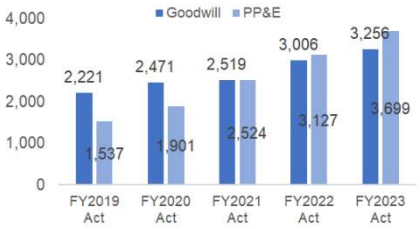
in USDm; Source: Company Information

When considering Catalent's inventories, they increased substantially from around USD 184.9m in FY17 (48 Days Inventory Outstanding - DIO) to USD 764.0m (87 DIO) in FY23. We attribute a part of this increase to safety precautions during the pandemic, as supply chains were under pressure. However, the majority of this enormous increase cannot be justified as the average DIO between FY15 and

FY18 was 44. This implies that inventories should have been at USD 388.0m in FY23. Catalent's CFO acknowledged that inventories were somewhat inflated and that the company had not sufficiently focused on them, highlighting inefficiencies in managing working capital items[39].

Furthermore, because of Catalent's acquisitions, goodwill increased significantly during the acquisition period, rising from USD 1.0bn in FY17 to over USD 3.3bn in FY22. Given that about half of the total acquisition cost cannot be directly allocated to specific purchased assets, we see the challenge of upcoming large impairments if there are doubts about the actual value of this goodwill.

Exhibit 24 - Goodwill and PP&E Development



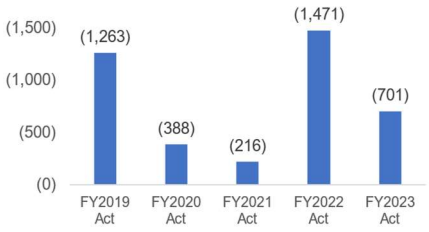
in USDm; Source: Company Information

PP&E for Catalent showcased a significant upward trend, rising from USD 885.2m in FY15 to USD 1.9bn in FY20, prior to the pandemic's onset. By FY23, this figure had nearly doubled to USD 3.7bn. The primary drivers behind this growth were strategic acquisitions, which augmented Catalent's portfolio of land and buildings, alongside enhancements in machinery and equipment. We assume those acquisitions to be essential in scaling the operational capacity and broadening its footprint in the biopharmaceutical industry.

▪ Cash Flow Statement Environment

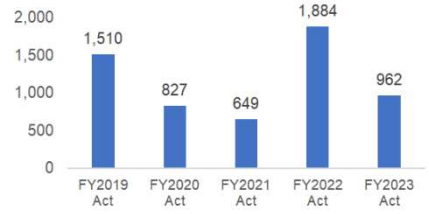
When examining Free Cash Flow, it becomes evident that, despite the temporary boost induced by the pandemic in recent years, Catalent failed to generate positive Free Cash Flow for three consecutive years. This was primarily due to the significant increase in net working capital (NWC), driven mainly by contract assets and inventories, as well as high capital expenditures (Capex). Capex have been mainly caused by the company's overall aggressive acquisition history, as already mentioned in the *Inorganic Growth* section. Even when excluding Capex for acquisitions, expenditures for PP&E exceeded operating Free Cash Flows. According to Catalent's recent Q4'23 earnings call, the management expects to achieve Free Cash Flow neutrality in FY24 while striving to reduce NWC and Capex. Despite the rapid increase in Capex, indicative of Catalent's aggressive expansion strategy, future expenditures are anticipated to be predominantly maintenance-oriented, suggesting a stabilization of Capex trends moving forward.

Exhibit 25 - Free Cash Flow Development



in USDm; Source: Company Information

Exhibit 26 - Capital Expenditures Development



in USDm; Source: Company Information

In summary, the pandemic years disrupted Catalent's financials significantly. In the post-COVID era, Catalent faces the challenge of stabilizing its financials. This involves recovering the top line from the pandemic-induced boom and implementing efficient management of NWC. If Catalent can successfully reduce

[39] According to Baird's 2023 Global Healthcare Conference

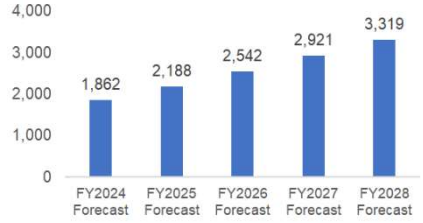
and release NWC, it could free up capital amounting to USD 1.0bn. Additionally, we assume Capex to be kept at very low levels (well below 10% of revenue).

Valuation Assumptions

Operating Model Projections

Revenue forecasts for Catalent have been constructed using historical average growth rates for its two segments, along with estimated overall market developments, based on our own perception and market analysis. Catalent operates in a market where intellectual property and safety requirements are crucial, leading to a high emphasis on confidentiality. As a result, specific revenue breakdowns and product-based information were not readily available. We made considerable efforts to obtain more detailed data by reaching out to Catalent's investor relations department, but unfortunately, they were unable to assist us.

Exhibit 27 - Biologics Revenue Projections



In USDm; Source: Company Information

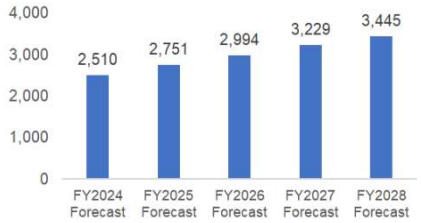
For the Biologics segment, growth forecasts have been specifically tailored using projections for the segment's underlying market, driven especially by the promising cell and gene therapy, and mRNA product market prospects. We estimate Catalent's Biologics segment to grow at a CAGR (24'-31') of 13.6%, which is above the expected market growth of 10.9%. The forecast is based on the assumption that the company will focus on resolving operational issues during FY24. This suggests that Catalent is leveraging its increased spare capacity, which emerged as a result of the decline in COVID-19 related products, to address its production inefficiencies. Furthermore, we anticipate that this excess capacity will facilitate a significant uptake of new products by the end of FY24, bolstered by Catalent's robust standing in the cell and gene therapy market. Over the long term, we estimate the revenues to decelerate towards the segment's market growth rate, based on the assumption that the Biologics segment will become more and more competitive. The estimated growth rate is on the very lower end of management's expectation. The management estimates a growth rate of the segment to be between 10-15%[40].

However, our expectations are below the historical CAGR (17'-23') of 33.5% due to concerning recent events, impacting the outlook. Firstly, the promising Elevydis manufacturing agreement with Sarepta recently encountered unforeseen challenges. The product's therapy did not achieve its primary efficacy endpoint in critical phase 3 trials, impacting Catalent's revenue forecasts. With the trial results causing a reevaluation of Elevidys' market prospects, Catalent's anticipated

[40] According to company information

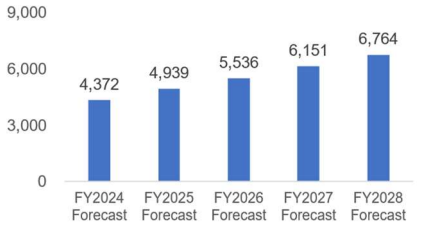
revenues of USD 450.0m, assuming a price tag of USD 400,000, could dramatically decrease to approximately USD 150.0m in FY25 and beyond[41]. Secondly, Catalent initially served as the sole manufacturer of Wegovy, however, due to temporary production issues, Thermo Fischer was selected as a second manufacturer. We assume that this is expected to adversely impact Catalent's revenue forecast. Thirdly, orders related to COVID-19 are on a declining trend, with an expected decrease to about USD 130.0m in FY24 compared to USD 639.0m in FY23. We anticipate that those revenues will continue to decrease, potentially reaching negligible levels for the Biologics segment.

Exhibit 28 - P&CH Revenue Projections



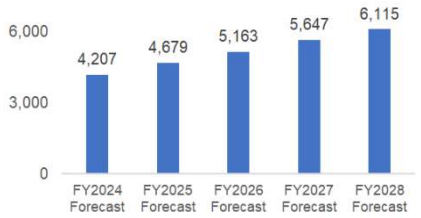
In USDm; Source: Company Information

Exhibit 29 - Total Revenue Projections



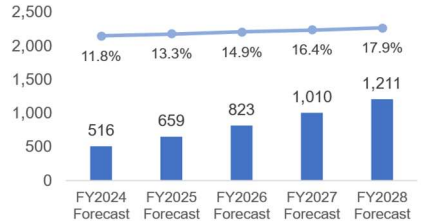
In USDm; Source: Company Information

Exhibit 30 - Operating Expenditures Projections



In USDm; Source: Company Information

Exhibit 31 - EBITDA and EBITDA margin Projections



In USDm; Source: Company Information

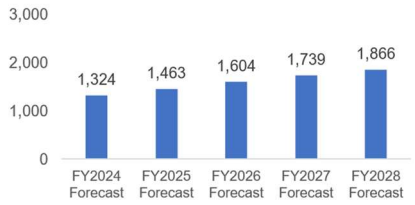
The P&CH segment is estimated to grow at a CAGR (24'-31') of 6.5%, outperforming the estimated annual market growth of 5.2%. Market drivers' growth rates, such as the oral dosage forms market's (estimated CAGR of 6.4%) and the increasing demand for nutritional products (estimated CAGR of 8.4%) support our assumption. However, as the underlying markets also face highly competitive environments, we expect the segment's revenue to approach the estimated market growth rate of 5.2% over the long term. Here, we disagree with Catalent's management, which expects the P&CH segment to grow between 6-10% in the long-term[42]. We expect the overall revenues to grow mainly organic at a CAGR of 9.8%, as we assume a more restricted acquisition activity in the upcoming years.

The operating costs are mainly explained by COGS and SG&A. COGS are estimated to be in line with historical levels, leading to an average of 68.2% relative the total revenue. We expect SG&A to be mainly dependent on the number of employees. Therefore, we regressed the historical numbers of employees and SG&A, resulting in the assumption that every employee contributes USD 50,000 to the total SG&A expenses. The workforce is estimated to grow at a rate of 70.0% of total revenue's, due to the assumption of significant economies of scale and increasing efficiency. This leads to the assumptions of a growing EBITDA with an average margin of 18.0%, which is, due to conservative expectations, slightly below the historical average of 19.7%. Depreciation and amortization (D&A) are estimated to increase slightly compared to historical levels to an average of 8.2% of total revenues. The higher level of depreciation accounts for the acquired assets throughout the last years. Lastly, income taxes are estimated by using the US statutory tax rate of 21.0%[43].

The cash flow from operations is, despite the development of net income and D&A, further impacted by changes in NWC. Changes in NWC were estimated through

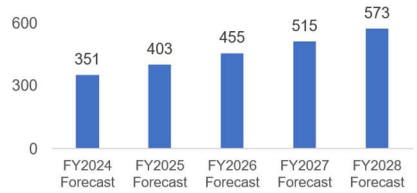
[41] Based on *"Catalent faces another possible revenue 'cliff' after Sarepta's gene therapy trial miss"* (Fierce Pharma)
[42] Based on company information
[43] According to *"Corporate – Taxes on corporate income"* (PwC)

Exhibit 32 - Net Working Capital Projections



In USDm; Source: Company Information

Exhibit 33 - Capital Expenditures Projections



In USDm; Source: Company Information

the historical cash conversion cycle items DIO, DSO, and DPO (Figure 6). The forecast predicts that the management is capable of efficiently managing NWC in the future. Hence, we estimate a normalization of NWC as a percentage of sales, gradually dropping from the peak in FY23 of 32.7% to 25.6% by FY31. This decrease is primarily attributed to a reduction in inventories and contract assets to adjust for the considerable accumulation during the COVID-19 period. The cash flow from investments is mainly explained by Capex, which is split into maintenance and expansion Capex. As the management stated to be cautious in considering new investments[44], we assume mainly Capex for the maintenance of existing assets, rather than expansion or acquisition of new assets. We expect that Capex equals the average of 8.8% of total revenues throughout the forecast period, which is slightly above D&A levels. This supports our perception that Catalent is growing mainly on an organic basis. The cash flow from financing activities is estimated to solely depend on proceeds of borrowings, as we don't expect any transactions with shareholders throughout the future. According to management statements, Catalent's long term leverage target equals 3.0x (Financial Debt/EBITDA)[45], which we considered as plausible. Catalent had historically relatively high leverage levels of around 4.8x to finance the numerous acquisitions. Since we assume no significant transaction with shareholders and no significant expansion Capex, leverage will decrease to 3.0x and stay at this ratio afterwards. As we expect mainly organic growth, PP&E grows with the forecasted Capex less the D&A. As Capex is only slightly above D&A this is in line with the estimate of no new large-scale investments and overall steady organic revenue growth. All other financial statement items were forecasted based on overall revenue growth, as we expect them to depend on overall business developments.

Exhibit 34 - Long-Term Growth Rate Components

Long-Term Return on Capital	2.0%
Long-Term Macroeconomic & Healthcare Growth Trer	3.2%
Catalent's Inflation Exposure Approximation	4.5%
Long-Term Growth Rate	3.3%

Source: Own Analysis

As Catalent's terminal growth rate, we applied three different methods considering multiple factors. We observed Catalent's long term growth rate of 2.0% implied by its specific return on new invested capital. Second, we considered the overall healthcare market's long term growth rate of 3.2%, based on industry metrics such as the world population or the development of specific diseases. Third, we calculated Catalent's specific inflation exposure of 4.5%, based on the company's geographic reach, to consider macroeconomic impacts. Hence, after weighing in the different percentages, we assume a perpetuity growth rate of 3.3%.

[44] Based on company information
[45] Based on company information

Cost of Capital

▪ Cost of Equity

Exhibit 35 - Cost of Equity Assumptions

Market Yield on 10-Year US Treasury Securities	4.3%
Equity Market Risk Premium*	5.0%
Unlevered Beta	0.05
Relevered Beta	0.99
Equity Proportion	0.67
Cost of Equity	10.6%

*based on Damodaran (NYU)
Source: Own Analysis

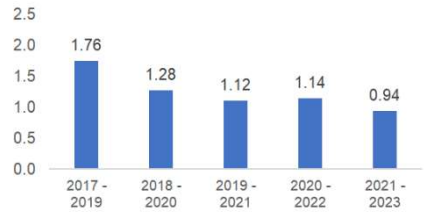
The Capital Asset Pricing Model is used to calculate the cost of equity (ke). As an estimation for the nominal risk-free rate, the return of 4.3% derived from a 10-year US treasury bonds as of December 1st, 2023, was used[46]. For the beta estimation, the monthly returns of the MSCI World were regressed against Catalent's stock returns for a five-year time frame. The resulting beta amounts to 1.3 within a confidence interval of 0.7 to 1.8. Considering this rather broad confidence interval, we also derived the beta of the peer companies, which results in an un- and re-levered median beta of 0.7, which lies within the confidence interval, and therefore being covered by the sensitivity analysis (Figure 7).

Figure 7 - Sensitivity Analysis of Cost of Equity

Sensitivity - Cost of Equity (beta and ke)		Beta				
		0.71	*0.98*	*1.26*	*1.53*	*1.80*
Risk free rate	*2.8%*	9.1%	9.1%	9.1%	9.1%	9.1%
	3.3%	9.6%	9.6%	9.6%	9.6%	9.6%
	3.8%	10.1%	10.1%	10.1%	10.1%	10.1%
	4.3%	10.6%	10.6%	10.6%	10.6%	10.6%
	4.8%	11.1%	11.1%	11.1%	11.1%	11.1%
	5.3%	11.6%	11.6%	11.6%	11.6%	11.6%
	5.8%	12.1%	12.1%	12.1%	12.1%	12.1%

Source: Company Information, Own Analysis

Exhibit 36 - Rolling Beta Development



Source: Own Analysis

Catalent's rolling beta based on three-year time frame remained relatively dynamic over time with the lowest measured value at 0.9 during FY21 to FY23. We attribute this to the investor behavior throughout the pandemic with a much higher cyclicality of the healthcare stocks. Using the above-mentioned (peer independent) beta of 1.3, the risk-free rate of 4.3%, and the expected market risk premium (as suggested by Damodaran, NYU[47]) of 5.0%, results in ke of 10.6%.

▪ Cost of Debt

Exhibit 37 - Cost of Debt Assumptions

Yield-to-Maturity of outstanding Bonds	6.9%
1-year Default Rate*	2.4%
Loss Given Default**	24.0%
Debt Proportion	0.33
Cost of Debt	6.4%

* based on credit rating B+/B1
** based on global credit data
Source: Own Analysis

As Catalent issued various tranches of debt, we used those traded securities for deriving Catalent's cost of debt (kd). In total, the outstanding amount of those bonds sums up to about USD 2.6bn, reflecting Catalent's increased exposure to debt capital markets. To derive kd, the Yield to Maturity (YTM) of each bond tranche was calculated, leading to a weighed YTM of 6.9%. Before using this YTM as an approximation, we adjusted for a default scenario with an estimated default

[46] https://fred.stlouisfed.org/series/DGS10 as of 12/01/2023
[47] Based on Damodaran (NYU)

rate of 2.4% (based on Catalent's current credit rating[48]) and a loss given default of 24.0%, which we estimate to be similar to the historical rate of 24.0% of large-scale companies[49]. Considering this scenario, in which the bond investors would face a lower return, we estimate kd 6.4%.

▪ Catalent's Cost of Financing

Exhibit 38 - Weighted Average Cost of Capital Assumptions

Cost of Equity	10.6%
Equity Proportion	0.67
Cost of Debt	6.4%
Debt Proportion	0.33
Tax Rate*	21.0%
Weighted Average Cost of Capital	8.8%
Long-Term Growth Rate	3.3%

** based on statutory US tax rate*

Source: Own Analysis

Using a cost of equity of 10.6% with an equity portion of 67.4%, and a cost of debt of 6.4% with a debt portion of 32.6%, we estimate Catalent's weighted average cost of capital (WACC) to be 8.8%. Here, we assume that Catalent is targeting this previously mentioned capital ratios, which is based on historical levels, throughout the forecast period. Compared to today's debt ratio of above 0.5, the used debt ratio seems rather low. However, our assumption holds, as the company's management considered current levels as unusually high, due to recent acquisitions being financed with increased amounts of debt[50]. For the next years, we expect Catalent to not have any further significant acquisitions, which supports our scenario of a decreasing debt ratio. Also, the WACC sensitivity with the cost of equity between 9.1% and 12.1% (derived by different levels of beta; Figure 7) and the cost of debt between 5.4% and 8.4% was tested (Figure 8).

Figure 8 - Sensitivity Analysis of Cost of Capital (WACC)

Sensitivity - WACC (re and kd)		Cost of Equity (ke)				
		9.1%	*9.8%*	*10.6%*	*11.3%*	*12.1%*
Cost of Debt (kd)	*4.9%*	7.4%	7.9%	8.4%	8.9%	9.4%
	5.4%	7.5%	8.0%	8.5%	9.0%	9.5%
	5.9%	7.6%	8.1%	8.6%	9.1%	9.6%
	6.4%	7.8%	8.3%	8.8%	9.3%	9.8%
	6.9%	7.9%	8.4%	8.9%	9.4%	9.9%
	7.4%	8.0%	8.5%	9.0%	9.5%	10.0%
	7.9%	8.1%	8.6%	9.1%	9.7%	10.2%

Source: Company Information, Own Analysis

Valuation Analysis

Intrinsic Valuation

▪ Discounted Cash Flow Method

The DCF valuation for Catalent is predicated on the presumption that the company aims for a specific capital structure. This assumption aligns with management's targets and the prior estimate, which anticipates no major acquisitions and,

[48] Based on S&P Global Ratings Credit Research & Inisghts
[49] Based on *"LGD Report Large Corporates 2020"* (Global Credit Data)
[50] Based on company information

consequently, minimal expansion Capex requiring no issuance of additional debt. Therefore, we employed the WACC method by calculating a WACC of 8.8%. To derive Catalent's implied share price, we discounted the unlevered free cash flows (UFCF) separately with the WACC, as we expect a long-term debt ratio of 0.3 being targeted. Furthermore, the terminal value of the last UFCF has been calculated by applying the Gordon Growth Formular with the previously explained perpetual growth rate of 3.3%. To conclude, we derived an enterprise value of USD 9.8bn, implying an equity value of USD 4.8bn, which equals a share price of USD 28.6. We further conducted a sensitivity analysis (Figure 9) to measure the perpetuity impact on the implied enterprise value.

Exhibit 39 - Share Price Derivation with DCF

Enterprise Value	9,800
Net Debt	4,990
Equity Value	4,810
Additional: non-core assets	331
Equity Value (adj.)	5,141
Implied Price per Share	28.56

In USDm; Source: Own Analysis

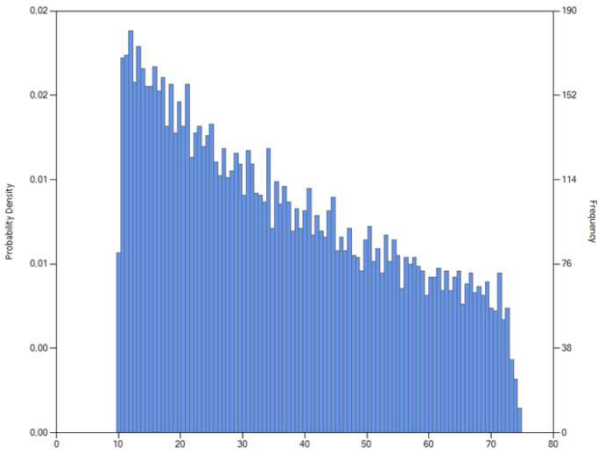
Figure 9 - Sensitivity Analysis of Enterprise Value

Sensitivity - Enterprise Value		WACC				
		7.8%	8.3%	8.8%	9.3%	9.8%
Terminal Growth Rate	1.7%	9,864	8,973	8,212	7,556	6,985
	2.2%	10,531	9,516	8,660	7,930	7,299
	2.7%	11,332	10,158	9,183	8,361	7,659
	3.2%	12,310	10,927	9,800	8,863	8,073
	3.7%	13,531	11,868	10,540	9,456	8,556
	4.2%	15,101	13,042	11,444	10,168	9,127
	4.7%	17,191	14,551	12,573	11,038	9,812

Source: Company Information, Own Analysis

Further, we conducted a Monte Carlo simulation. The analysis mainly targeted variables we estimate as highly uncertain, such as revenue growth, WACC, and terminal growth rate. In this Monte Carlo analysis, 10,000 iterations were performed, considering the different estimated distributions of these key variables (Figure 10).

Figure 10 - Monte Carlo Simulation



Assumptions	
Revenue Growth	13.3%
Revenue Growth Average (23'-34') *(23'-34')*	9.4%
Revenue Standard Deviation *(17'-23')*	12.6%
Max Growth *(16'-23')*	29.2%
Min Growth *(16'-23')*	-11.0%
WACC	12.6%
Growth Rate	3.0%
Statistics	
Minimum	9.69
20th Percentile	18.06
Median	**33.34**
80th Percentile	54.42
Maximum	74.92
Average	36.06
Range	65.23
Variance	324.13
Standard Deviation	18.00
Skewness	0.39
Kurtosis	-1.01

Source: Own Analysis

The simulation resulted in a median price of USD 33.3 per share. While this figure exceeds our implied share price from the DCF analysis, it remains lower than the current market share price of USD 38.9. According to this result, the current share price falls within the 60th percentile of the distribution, indicating the current share price to be higher than more than 60.0% of the values generated in the distribution and hence results in a greater probability of an intrinsic price below the current share price, which is in line with our valuation.

Relative Valuation

For deriving Catalent's share price based on relative valuation to its traded competitors, we first established a peer group that is reflective of its operational and financial profile. Entities within this cohort must align with Catalent's core areas of activity, as well as a global reach and margin profile (Figure 11).

Figure 11 - Peer Group Overview

Company	Market Cap (USDbn)	Industry	EBITDA margin	EV/SALES	EV/EBITDA
Thermo Fisher	200.2	Life Sciences Technology	27%	5.5x	20.1x
Lonza	29.2	Biotechnology and Pharmaceuticals CDMO	27%	6.5x	24.3x
Ajinomoto	18.6	Biotechnology and Pharmaceuticals CDMO	15%	2.1x	13.7x
WuXiBiologics	16.0	Biotechnology and Pharmaceuticals CDMO	26%	6.2x	23.5x
Bachem	6.0	Biotechnology and Pharmaceuticals CDMO	29%	11.3x	38.9x
Siegfried	4.1	Biotechnology and Pharmaceuticals CDMO	24%	2.7x	11.5x
PolyPeptide	0.7	Biotechnology and Pharmaceuticals CDMO	18%	2.9x	16.4x
		Median	**26%**	**5.5x**	**20.1x**

Source: Company Information, Analysts' Research

Exhibit 40 - Share Price Derivation with EV/EBITDA (CCA)

Catalent EBITDA FY24e	516
Median EV/EBITDA of Peer Group	20.1x
Enterprise Value	10,385
Net Debt	4,990
Equity Value	5,395
Implied Price per Share (USD)	31.81

In USDm; Source: Own Analysis

The inclusion of Thermo Fisher is notable, particularly post its acquisition of Patheon, as we understand it as a material shift within the CDMO industry. However, this inclusion must be considered with caution, as Thermo Fisher hasn't disclosed its CDMO revenues yet. Further, we decided to exclude Fujifilm from the peer group, as the company is a conglomerate offering a variety of non-CDMO related services. The comparable company analysis derives a median FY24 EV/EBITDA of 20.1x, implying a share price of USD 31.8, equaling a discount of -18.1% compared to the current price of USD 38.9.

Exhibit 41 - Comparable Transactions Analysis EV/EBITDA Derivation (Statistics)

Amount of Deals	8
Average Deal Size	4,990
Biggest Deal	20,976
Smallest Deal	890
Observation Period	Last 5 Years
Multiple Range	14.0x - 27.1x
Median Multiple	26.4x

In USDm; Source: Own Analysis

Further, we've selected recent comparable transactions from the preceding five years, each approaching at least the USD 1.0bn mark, thereby approximating Catalent's significant market presence. The average size of the deals we looked at was USD 5.6bn, approaching Catalent's market value. The inclusion of both CDMOs and Contract Research Organizations (CROs) in this analysis is

Exhibit 42 - Share Price Derivation with EV/EBITDA (CTA)

Catalent EBITDA FY24e	516
Average EV/EBITDA of Transactions	26.4x
Enterprise Value	13,632
Net Debt	4,990
Equity Value	8,642
Implied Price per Share (USD)	49.85

In USDm; Source: Own Analysis

intentional, to cover the full scope of Catalent's service spectrum. Our analysis shows a median FY24 EV/EBITDA of 26.4x, implying Catalent's enterprise value to be around USD 11.7bn, leading to a share price of USD 49.9. This price is higher than the intrinsic value we have estimated, which may result from transactions potentially including takeover premium leading to higher valuations.

Implied Recommendation

Catalent's financial performance and market dynamics have been subject to rigorous analysis, revealing a company facing significant headwinds. The downturn in its Biologics segment and the decline in COVID-19 related revenues have highlighted concerns around its sustainable growth and profitability. The company's aggressive acquisition strategy has not yet proven to be a catalyst for sustainable value creation. In the competitive biopharmaceutical CDMO landscape, Catalent contends with strong competitors putting its market share at risk. The absence of consistent positive free cash flows underscores the liquidity concerns, which are critical for the company's long term growth prospects. The anticipated decline in revenue and profitability issues present a strong case for a market correction. In addition, eroding shareholder trust, exacerbated by the company's delay in issuing annual reports past both the promised date to shareholders and the SEC's legal deadline, undermines the foundation for substantial stock purchases and subsequent price rallies.

Figure 12 - Range of Implied Share Values

Source: Own Analysis

As seen in Figure 12, the valuation led by multiples implies slightly to significantly other results, which we think is distorted due to Catalent's current issues being company specific and therefore not being reflected in the industry. As a result, we analyzed market and transactions valuations, but decided to include them only as

a comparison, but not affecting our resulting implications for Catalent's share price in our valuation.

Based on all the above-mentioned assumptions, we derive a final 12-month price target of USD 28.6. This represents a decrease from the current share price of USD 38.9, suggesting a re-evaluation of the stock is prudent. Given an implied discount of -26.5%, we recommend a sell rating on Catalent.

ESG Considerations

In analyzing Catalent's sustainability profile, we evaluated Catalent's individual efforts. This evaluation, grounded in Environmental, Social, and Governance (ESG) criteria, reveals a complex yet progressive picture of Catalent's sustainability endeavors. The company demonstrates environmental consciousness, notably achieving a 38.0% reduction in carbon emissions since its FY20 fiscal baseline, nearing its 42.0% reduction target for FY30[51]. To be able to evaluate Catalent's ESG efforts, we analyzed selected ESG metrics and compared them with other pharmaceutical CDMO companies (Figure 13). Those comparisons must be handled carefully, as there is no globally common standard of ESG reporting, which makes it challenging to find relevant data. However, we focused on presenting ESG data in a comparable way to avoid distortion by reporting differences.

Figure 13 - Analysis of ESG-Performance Measures

Company	Woman in Executive roles (%)	Woman in workforce (%)	Water consumption / employee (tm³)	Non-hazardous waste intensity*	GHG Emissions / employee**	Electricity from renewable sources (%)	CEO remuneration / employee (tUSD)
Lonza	14%	36%	-	-	-	-	-
ThermoFisher	18%	46%	0.2	1.9	4.7	36%	0.7
WuXiBiologics	29%	47%	0.2	1.5	14.2	-	1.0
Recipharm	14%	19%	0.2	9.2	8.7	86%	-
SamsungBiologics	14%	41%	0.6	3.3	30.0	-	0.8
Siegfried	25%	-	1.6	10.4	16.0	73%	1.0
Fujifilm	0%	-	0.5	-	-	-	-
Polypeptide	20%	-	-	-	-	-	0.3
Boehringer Ingelheim	20%	-	0.1	-	6.7	68%	-
Average	**17%**	**38%**	**0.5**	**5.2**	**13.4**	**66%**	**0.8**
Catalent	**20%**	**44%**	**0.1**	**18.1**	**7.4**	**81%**	**0.7**

** calculated as (tons / USD revenue)*

** GHG emissions include Scope 1 and Scope 2 emissions

Excluded Peer Companies with insufficient publishing of ESG data; Source: Company Information, Analysts' Research

Catalent's environmental stewardship outshines the industry in several areas: the water consumption per employee is significantly lower at 0.1 thousand m³ compared to the industry's 0.5, and its commitment to renewable energy is commendable, with 81.0% of its electricity sourced from renewables, surpassing the industry average of 66.0%. However, it falls behind in non-hazardous waste

[51] Based on Catalent's 2022 Corporate Responsibility Report

intensity, recording a concerning 18.1 against the industry's 5.2. In the social pillar, Catalent's commitment to diversity and inclusivity is evident. With 20.0% female representation in executive roles and 44.0% across its workforce, Catalent exceeds the industry averages of 15.0% and 38.0%, respectively. These figures underscore Catalent's efforts in promoting gender equality, though there is room for improvement in leadership diversity. Governance-wise, Catalent upholds robust ethics and compliance programs. Its CEO remuneration per employee at 0.7 thousand USD is slightly lower than the industry average of 0.8, indicating a balanced approach to executive compensation.

Catalent's ESG performance, while showing areas of excellence, also highlights sectors where it trails industry-leading practices, particularly in waste management. These aspects depict Catalent as a company earnestly striving towards sustainability, yet with steps still to be taken to align fully with the industry's best practices.

Risks

We estimate Catalent having exposure to numerous risk factors, some of which are of special consideration, as we estimate them to have the either high probability or the biggest potential impact on Catalent's operational efficiency and financial stability.

We estimate Catalent to face significant risks due to regulatory non-compliance. The pharmaceutical industry is under strict oversight to ensure hygiene standards, product safety, and the prevention of competition-harming practices. Such non-compliance may imply severe consequences, including revenue losses, legal costs, and operational disruptions. Further, evolving regulatory requirements can result in rising operating costs and a reduction in productivity. In our assessment, the probability of these regulatory risks is quite high, as shown by the case of Novo Nordisk's Wegovy, and the economic impact on Catalent's operational efficiency and financial stability could be substantial.

Further, Catalent's acquisition strategy since 2016 implies significant risks related to the successful integration of the acquired companies. These acquisitions potentially include various challenges, such as the diversion of management's attention, reductions in achieving estimated synergies, and the risk of not meeting intended value creation plans. The strategy also required substantial debt financing, potentially (but not likely) resulting in liquidity shortages. If these acquisitions won't be successfully integrated, Catalent may face additional costs,

further impacting its financial results. We assess the probability of these risks to be considerable, and their potential economic impact on Catalent to be significant.

Other risk factors

Another risk factor is tied to the fluctuating R&D investments of pharmaceutical companies. In our view, if these companies significantly cut back on their R&D spending, Catalent could experience a decrease in testing, development, and clinical supply operations. A reduction in R&D activities could lead to a delay in orders for new drugs, directly affecting Catalent's revenue. We assess this risk as moderately likely, considering the variable nature of pharmaceutical R&D investment. We estimate the potential economic impact to be substantially negative.

Moreover, Catalent faces considerable competition in a fragmented market. This competition comes from multiple sources, such as smaller firms specializing in niche products, and regional entities, as well as the internal practices of its customers from the pharmaceutical sector. Some of the competitive factors include proprietary technologies, product quality and pricing, as well as manufacturing and delivery speed. However, believe that the probability of intensified competition is low, despite the potential emergence of new entrants from cost-attractive regions in Asia (i.a. China and India). The economic impact, in our perception, is significant, as the potential loss of market share results in decreasing revenues.

Further, supply chain disruptions pose a risk that we estimate as increasingly likely, considering the recent global events. Catalent's reliance on third-party suppliers for essential materials presents a risk to disruptions from geopolitical tensions or natural catastrophes. We estimate that the economic consequences of such disruptions could be severe, leading to lost sales and higher costs. These risks, based on our analysis, could directly challenge Catalent's operational efficiency and financial stability, therefore supporting our sell recommendation.

Appendix

Financial Statements

Income Statement

	2023A	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E
Biologics	1,984	1,862	2,188	2,542	2,921	3,319	3,727	4,137	4,539	4,980	5,464	5,994
Pharma and Consumer Health	2,294	2,510	2,751	2,994	3,229	3,445	3,620	3,718	3,890	4,105	4,331	4,571
Revenue	**4,276**	**4,372**	**4,939**	**5,536**	**6,151**	**6,764**	**7,347**	**7,855**	**8,429**	**9,085**	**9,795**	**10,565**
Cost of sales	(3,216)	(2,995)	(3,379)	(3,784)	(4,199)	(4,612)	(5,004)	(5,350)	(5,741)	(6,187)	(6,671)	(7,195)
Gross profit	**1,060**	**1,377**	**1,559**	**1,752**	**1,952**	**2,152**	**2,343**	**2,505**	**2,688**	**2,897**	**3,124**	**3,369**
Gross profit margin in % of total revenue	24.8%	31.5%	31.6%	31.7%	31.7%	31.8%	31.9%	31.9%	31.9%	31.9%	31.9%	31.9%
SG&A	(831)	(884)	(982)	(1,083)	(1,185)	(1,285)	(1,380)	(1,461)	(1,551)	(1,654)	(1,764)	(1,882)
Other operating income (expenses)	(366)	(327)	(317)	(296)	(264)	(217)	(158)	(85)	(91)	(98)	(106)	(114)
D&A neutralization	422	351	399	450	507	562	604	646	702	757	816	880
EBITDA	**285**	**516**	**659**	**823**	**1,010**	**1,211**	**1,410**	**1,605**	**1,748**	**1,902**	**2,070**	**2,254**
EBITDA margin in %	6.7%	11.8%	13.3%	14.9%	16.4%	17.9%	19.2%	20.4%	20.7%	20.9%	21.1%	21.3%
Depreciation & amortization	(422)	(351)	(399)	(450)	(507)	(562)	(604)	(646)	(702)	(757)	(816)	(880)
EBIT	**(137)**	**165**	**260**	**373**	**503**	**649**	**806**	**960**	**1,046**	**1,145**	**1,254**	**1,374**
EBIT margin in %	(3.2%)	3.8%	5.3%	6.7%	8.2%	9.6%	11.0%	12.2%	12.4%	12.6%	12.8%	13.0%
Other expense	6	(15)	(6)	(13)	(13)	(14)	(15)	(16)	(18)	(20)	(21)	(23)
Finance income (expenses)	(184)	(177)	(201)	(224)	(252)	(264)	(292)	(307)	(334)	(364)	(396)	(431)
EBT	**(315)**	**(27)**	**53**	**137**	**238**	**371**	**499**	**637**	**693**	**762**	**837**	**920**
Income taxes	83	7	(12)	(29)	(50)	(78)	(105)	(134)	(146)	(160)	(176)	(193)
Net income	**(232)**	**(20)**	**41**	**108**	**188**	**293**	**394**	**503**	**548**	**602**	**661**	**726**
Net margin in %	(5.4%)	(0.5%)	0.8%	1.9%	3.1%	4.3%	5.4%	6.4%	6.5%	6.6%	6.8%	6.9%

Cash Flow Statement

	2023A	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E
Operating CF												
Net income	(232)	(20)	41	108	188	293	394	503	548	602	661	726
D&A	422	351	399	450	507	562	604	646	702	757	816	880
Non-cash foreign currency transaction losses (gains), net	(9)	-	-	-	-	-	-	-	-	-	-	-
Amortization and write-off of debt financing costs	8	-	-	-	-	-	-	-	-	-	-	-
Asset impairments charges and gain/loss on sale of assets	98	11	11	11	11	11	11	11	11	11	11	11
Stock-based compensation	35	-	-	-	-	-	-	-	-	-	-	-
Provision for deferred income taxes	(127)	-	-	-	-	-	-	-	-	-	-	-
Provision for bad debts and inventory Change in operating assets and liabilities:	143	-	-	-	-	-	-	-	-	-	-	-
Increase in trade receivables	(53)	(28)	(137)	(145)	(151)	(152)	(147)	(131)	(148)	(157)	(170)	(184)
Increase in inventories	192	138	(38)	(32)	(22)	(11)	4	14	18	(53)	(58)	(63)
Increase in accounts payable	(21)	(32)	47	49	50	49	45	38	43	56	60	65
Other assets/accrued liabilities, net - current and non-current	(128)	-	-	-	-	-	-	-	-	-	-	-
Cashflow from operating activities	**254**	**420**	**323**	**441**	**583**	**752**	**911**	**1,081**	**1,175**	**1,215**	**1,321**	**1,436**
Investing CF												
Acquisition of property and equipment and other productive assets	(583)	(332)	(376)	(432)	(487)	(540)	(587)	(647)	(902)	(757)	(816)	(881)
Purchases of marketable securities	89	-	-	-	-	-	-	-	-	-	-	-
(Settlement on) proceeds from sale of subsidiaries	8	-	-	-	-	-	-	-	-	-	-	-
Payment for acquisitions, net of cash acquired	(474)	(19)	(27)	(23)	(28)	(32)	(36)	(38)	(53)	(45)	(48)	(52)
Payment made for investments	(2)	-	-	-	-	-	-	-	-	-	-	-
Cashflow from investing	**(962)**	**(351)**	**(403)**	**(455)**	**(515)**	**(573)**	**(622)**	**(685)**	**(955)**	**(802)**	**(865)**	**(933)**
CF from Financing												
Proceeds from borrowings	715	56	39	(5)	113	(210)	92	(117)	428	462	504	551
Payments related to long-term obligations	(230)	-	-	-	-	-	-	-	-	-	-	-
Financing fees paid	(4)	-	-	-	-	-	-	-	-	-	-	-
Exercise of stock options	4	-	-	-	-	-	-	-	-	-	-	-
Other financing activities	36	-	-	-	-	-	-	-	-	-	-	-
Cashflow from financing	**521**	**56**	**39**	**(5)**	**113**	**(210)**	**92**	**(117)**	**428**	**462**	**504**	**551**
Change in Cash	**(169)**	**125**	**(41)**	**(20)**	**182**	**(31)**	**381**	**279**	**648**	**875**	**960**	**1,054**

Balance Sheet

	2023A	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E
Assets												
Current Operating Assets												
Operating Cash	86	87	99	111	123	135	147	157	169	182	196	211
Inventories	764	626	664	697	718	729	725	711	693	746	804	867
Prepaid expenses and other	658	742	724	696	655	601	534	455	480	512	546	583
Trade receivables	977	1,005	1,142	1,287	1,438	1,591	1,738	1,868	2,016	2,173	2,343	2,527
Non-Current Operating Assets												
Property, plant, and equipment, net	3,699	3,644	3,752	3,847	3,893	3,912	3,982	4,058	4,259	4,321	4,385	4,456
Intangible Assets	4,056	3,964	3,862	3,764	3,687	3,620	3,555	3,493	3,446	3,391	3,339	3,291
Thereof Goodwill	3,256	2,961	2,861	2,764	2,719	2,684	2,637	2,584	2,551	2,511	2,469	2,434
Deferred income tax assets	-	73	83	86	98	108	118	125	141	147	158	170
Total Operating Assets	**10,239**	**10,141**	**10,326**	**10,487**	**10,612**	**10,695**	**10,798**	**10,867**	**11,203**	**11,471**	**11,771**	**12,105**
Liabilities and Equity												
Operating Current Liabilities												
Accounts payable	427	395	442	491	540	589	634	672	716	771	832	897
Other accrued liabilities	544	740	813	988	1,048	1,155	1,270	1,345	1,446	1,561	1,680	1,813
Operating Non-Current Liabilities												
Pension Liability	137	127	135	158	169	183	198	209	222	237	252	269
Deferred income tax liabilities	142	83	95	114	135	149	162	167	171	189	206	225
Other liabilities	48	18	15	15	29	51	42	19	15	11	49	53
Total Operating Liabilities	**1,298**	**1,152**	**1,270**	**1,494**	**1,617**	**1,796**	**1,946**	**2,036**	**2,177**	**2,344**	**2,561**	**2,763**
Financial debt												
Current portion of long-term obligations	536	**125**	**134**	**141**	**154**	**152**	**159**	**163**	**187**	**221**	**196**	**218**
Long-term obligations, less current portion	4,313	**4,780**	**4,810**	**4,798**	**4,898**	**4,690**	**4,775**	**4,653**	**5,057**	**5,485**	**6,015**	**6,544**
Total Financial Debt	**4,849**	**4,905**	**4,944**	**4,939**	**5,052**	**4,842**	**4,934**	**4,816**	**5,244**	**5,706**	**6,211**	**6,761**
Equity												
Total shareholders' equity	**4,635**	**4,615**	**4,656**	**4,764**	**4,952**	**5,245**	**5,639**	**6,142**	**6,689**	**7,291**	**7,952**	**8,679**
Non operating Assets												
Excess Cash & Rebalancing	194	228	185	300	551	697	1,182	1,549	2,288	3,204	4,233	5,323
thereof excess cash and cash equivalents	194	232	88	55	359	385	931	1,303	2,028	2,981	3,969	5,076
thereof rebalancing position	-	(4)	97	245	193	312	251	245	260	223	264	247
Marketable securities	-	-	-	-	-	-	-	-	-	-	-	-
Other long-term assets	348	303	359	410	457	491	539	578	619	665	719	776
Total non-operating Assets	**543**	**531**	**544**	**710**	**1,009**	**1,188**	**1,721**	**2,126**	**2,907**	**3,870**	**4,952**	**6,098**

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Buy	Expected total return (including expected capital gains and expected dividend yield) of more than 10% over a 12-month period.
Hold	Expected total return (including expected capital gains and expected dividend yield) between 0% and 10% over a 12-month period.
Sell	Expected negative total return (including expected capital gains and expected dividend yield) over a 12-month period.

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