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Summary of WP Student Team

Private Equity Challenge: Investment Committee Paper: Gerresheimer AG - Valuation

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PRIVATE EQUITY CHALLENGE:
INVESTMENT COMMITTEE PAPER:
GERRESHEIMER AG - VALUATION

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Abstract

Gerresheimer is a leading medical device and packaging manufacturer for the pharma, cosmetics, and food & beverage sectors, and poses a unique investment opportunity. Gerresheimer operates a sophisticated procurement network that can be leveraged to perform a strategic shift towards the MedTech industry. This can be accomplished by carving-out its capex-heavy moulded glass division and using the proceeds to acquire leading players in this industry, namely Ypsomed and H&T Presspart, to also strengthen its recently established internal MedTech segment. This strategy is expected to realize a return of 3.8x (30.5% IRR), whereby the exit is likely to be a trade sale.

Keywords: Gerresheimer, Private Equity, Leveraged Buyout, LBO, Carve-out, Buy & Build, MedTech

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1. Company Overview

Gerresheimer is a leading manufacturer of medical devices and primary packaging for the healthcare, cosmetic and food & beverage sectors, headquartered in Dusseldorf, Germany. With 44 sites in 15 countries across the globe, Gerresheimer generates €1,656m in revenues (2021) across its three divisions: primary packaging glass (PPG), plastics & devices (P&D) and Gerresheimer advanced technologies (GAT).

Within the PPG segment, Gerresheimer manufactures glass vials, cartridges and ampoules made using borosilicate glass and moulded glass for the pharma industry (c.26% of total sales), containers for fragrances and skin care for the cosmetics industry (c.13% of total sales) and glass bottles for the food & beverage industry utilizing surplus glass in order to minimize scrap within glass production (c.7% of total sales). The PPG division constitutes the capex heaviest segment due to highly energy intensive furnaces required for the moulded glass production. Gerresheimer's global production presence and the resulting reduced shipping costs, which are generally high for glass products, are a key USP that sets it apart from competitors.

The P&D segment includes ready-to-fill plastic syringes (8% of total sales), plastic bottles for drug filling (21% of total sales), and inhalers for the treatment of respiratory diseases (25% of total sales). Customers comprise leading pharma players spanning from Novo Nordisk to GlaxoSmithKline. Contracts for medical devices in the form of “contract manufacturing” are of particular appeal due to its high margin and multi-year design. Clients outsource certain production steps, define a range of order volume to determine price per unit calculations and guarantee capex investments even in the event of order cancellation. Gerresheimer generates c.24% of its revenues with contract manufacturing. Industry wide, Gerresheimer holds an exceptional reputation for its

high-quality medical devices, which captures pharma OEMs trust and assures longstanding customer relationships.

The GAT division has been established with the acquisition of the Swiss company Sensile Medical AG in 2018, focusing on the development of smart drug delivery systems and devices in the form of wearable patch pumps and autopens for pharma and biotech companies. To date, the division generates <1% of total sales with a micropump for the drug delivery for Parkinson patients, whereby a prospectively large project for diabetes pumps was cancelled in 2019. Gerresheimer plans to develop smart inhalers for patients suffering from respiratory diseases for which Gerresheimer can offer inhalation assessment services through the acquired 60% stake in Respimatrix in 2019. Although this segment shows limited revenue generation, several contracts for the development of MedTech devices for rare chronic diseases are already signed and expected to generate >€100m top-line growth in the mid-term (Appendix I., p. 60).

2. Historical Analysis

In 2018, Gerresheimer's management level got fully replaced subsequent the resignation of former CEO Dr. Uwe Roehrhoff. The new management around CEO Mr. Dietmar Siemssen, who upholds a successful restructuring track-record at his former company Stabilus, has initiated the new vision *Formula G* at Gerresheimer in 2018. *Formula G* aims to transform the company into an innovation leader, full-service solution provider and system integrator in pharma and cosmetics. To pursue this vision, Gerresheimer committed substantial capital expenditures to plant expansions, also in emerging markets to enter underserved but high growth potential markets and access favorable production conditions, strategic acquisitions as well as the development of high value solutions encompassing ready-to-use syringes, elite vials, autoinjectors and connected devices. The capex level of the last three years climbed up to 14% of sales in 2021, which is significantly above peer

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spendings and has limited free cash flows recently (Appendix II., p. 60). Average capex can be split up into maintenance capex (c.4% of sales), growth capex (c.5% of sales) and high value solutions (c.3% of sales). Most of the capex has been devoted to machine and furnace overhauls as well as furnace replacements in the group's largest plants in Kosamba, India, and Essen, Lohr and Tettau, Germany, to high-technology and more energy efficient ones.

Overall, Gerresheimer's revenue has grown at a CAGR of 3.1% from 2017 until 2021 with even growth across its core segments (P&D & PPG) at a normalized EBITDA margin of 19% to 22%, excluding an outlier in 2019¹. The normalization of EBITDA effectively covers one-off costs in connection with the Covid-19 pandemic to maintain procurement and health & safety measures, restructuring expenses concerning for instance plant closures or mergers, and other non-recurring income and expenses. The volatility in EBITDA margins in recent years can be attributed to three main factors, comprising personnel churn in 2018 onwards due to the management initiating a cultural change as well as a high employee turnover, high transportation costs of products, especially glass, and soaring producer prices along energy costs and resin prices. Although Gerresheimer has sufficient pass-through clauses implemented in their contracts, the actual pass-through of prices have been subject to delays, which explain the slightly eroding EBITDA margin. *Formula G* has been marked by above average capital expenditures with limited top-line effects and volatile EBITDA margins until last year. However, due to common 2-3 years for new lines to materially contribute to sales in such a way that is margin accretive, Gerresheimer is expected to experience high-single digit revenue growth with an EBITDA margin improvement to 23%-25% as well as a stable capex margins at low double-digit level going forward on a standalone basis.

¹ Elevated EBITDA in 2019 stems from contingent purchase price derecognition associated with the acquisition of Sensile Medical due to unaccomplished milestones, which can be ascribed to the project cancellation for diabetes pumps with Sanofi.

3. Market

Given its ability to capitalize on several favorable market trends, Gerresheimer faces a lot of growth opportunities. This is especially true in light of the sizeable capex investments the business has made recently in capacity and product expansion. Within the PPG subsegment, one of the most prevalent trends is the shift from generic towards biologic pharmaceuticals due to stricter packaging requirement to reduce the likelihood of potential complication between the drug and the package. Owing to its reputation for high-quality vials, strong relationships with leading pharma OEMs as well as its state-of-the-art forming and production lines across the globe, Gerresheimer is equipped very well to greatly benefit from this trend in the future. The transition to ecologically friendly packaging is another key industry trend. Gerresheimer's initiative GxCircular serves as one of three internal initiatives that aims to promote recycling, reduce waste, drive eco-design, and strengthen responsible supply chain management. Overall, a CAGR of 5.1%² until 2028 is estimated for the PPG segment.

Gerresheimer's global addressable market in the P&D division amounts to roughly €11 Billion, showing an overall CAGR of 7.1% until 2028, which is mostly driven by the inhaler and syringe market, showing CAGRs of 7.5% and 10.1%, respectively. The primary drivers of the growth in this segment come from an increasing attractiveness of pharma companies outsourcing certain steps of the value chain to reduce overhead costs, add capacity and benefit from technical expertise. In anticipation of this trend, manufacturers, such as Gerresheimer, integrate vertically and enlarge their offering in end-to-end value-added services, particularly containment and co-development. Lastly, the GAT segment and the medical technology industry as a whole present ample growth opportunities. Despite significant CAGRs of 27.0% and 8.3% for smart inhalers and injectors,

² Segment CAGR is driven by subsegments: pharma (7.5%), cosmetics (4.4%), and food & beverages (4.4%)

which include wearables, auto-injectors, and pen-injectors, respectively, their respective markets are yet to grow with €0.2 Billion and €3.3 Billion in size. However, these markets are much more fragmented, leaving significant room to gain market shares and to exploit growth. The most prevalent market drivers here are the rise in chronic diseases such as diabetes, asthma, and heart diseases in combination with a high appeal for self-treatment. Demand for self-treatment or at-home-treatment has been driven by, first, the pandemic, highlighting the high level of bacteria and virus exposure present at hospitals, second, a demographic shift to people becoming older and thus also more susceptible to infections, and third, a labor shortage in the social sector making hospital visits less convenient due to longer waiting times as well as insufficient personnel for home visits.

4. Competitive positioning

With regards to the competitive landscape, Gerresheimer holds solid market positions in its core segments. From a two-dimensional perspective along quality/volume supplier and specialist/broad portfolio, Gerresheimer is positioned in the upper part of high quality as well as a broad product portfolio (Appendix III., p. 61). Along its product offering, Gerresheimer holds solid market shares of 5-15%, whereas food & beverage are lower due to being a non-core end-market as well as products in the GAT segment owed to its nascence. Moreover, the industry is shaped by quite a high level of competition, relatively low bargaining power of customer depending on the product segment and high entry barriers. OEMs commonly engage in supplier diversification for derisking purposes and potential upscaling, which highly increases the degree of competition. However, while this diversification in addition to their respective size and the corresponding revenue shares imply a high customer power, certain segments such as syringes and especially MedTech products are undersupplied, leaving manufacturers in a comfortable supply position. Moreover, this diversification also implies long-term supply contracts, where OEMs tend to be reluctant to switch

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suppliers if no quality issues are prevalent, which in combination with high upfront costs and a substantial level of required know-how limits the threat of new entrants.

Gerresheimer's selected core competitors comprise Stevanato Group, Schott and Aptar Group. While Gerresheimer has outperformed all selected core competitors in terms of LTM revenue growth (18.1%), the LTM EBITDA margin of 18.3% is, in contrast, at the lower quartile compared to its selected peers that show an average of 20.4% (Appendix IV., p. 62). However, Gerresheimer's outlook for the near future is more bullish due to two main reasons. First, Gerresheimer invested well timed into a long-term (until 2025) energy hedge capturing 90% of gas and energy in Europe, where about 60% of total energy is consumed. Since energy hedges usually cover a maximum of 2 years, Gerresheimer has made a highly strategic move that creates an edge over competitors. Second, while capex spendings still struggle to realize the desired EBITDA impact but are expected to do so in the short-term, Gerresheimer has swift pass-through clauses implemented in most of their contracts in addition to sustainable price increases that counterfeited substantial inflation and producer price increases. Hence, Gerresheimer is likely to accomplish the targeted normalized EBITDA margin of 23% to effectively compete with their competitors on this metric.

5. Investment Thesis

Gerresheimer is a highly lucrative buyout target for the following four main reasons. First, Gerresheimer is a top-tier quality manufacturer for the largest pharma OEMs that is built on trusted and enduring relationships. Second, the experienced and committed management shows a strong turnaround track-record with an ambitious growth strategy that has already initiated a roll-out into high growth segments by means of MedTech products. This management is deemed to be the optimal sparring partner for additional value creation. Third, Gerresheimer operates a highly sound

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procurement network across suppliers and clients as well as a global production footprint. The footprint spans from developed to emerging markets, allowing access to favourable manufacturing conditions in addition to familiarity with national & international regulations. What is more, Gerresheimer possesses all required certifications to manufacture device and packaging products to global customers. This network and production expertise provides an edge over adjacent players especially within the MedTech sphere, where firms often lack manufacturing capabilities (Behnam, Dey, Gambell, & Rajendran, 2019). Fourth, Gerresheimer's EBITDA level is suppressed compared to its competitors as well as to its targeted EBITDA margin, which presents a favourable entry valuation.

While all these investment highlights present an appealing investment opportunity in itself, Gerresheimer poses an ideal platform to transform the company from a broad assortment manufacturer towards an established MedTech contract manufacturer. The MedTech sector is expected to witness significant CAGR growth of 9.6%³ until 2028. Drivers for this growth comprise the necessity and corresponding demand for biometric devices, technologic innovation in the form of more frequent use of AI and ML as a basis for the internet of medical things (IoMT) and outsourcing of production to focus on product innovation. Next to these trends, other appealing factors encompass typically greater EBITDA margins of >30%⁴ and a fragmented competitive landscape that opens space to claim market share, which support entering this sector.

6. Value Creation

Our core strategy, leveraging Gerresheimer's capabilities and initiating a full shift towards becoming a major MedTech player, is built on four main value creation levers: the carve-out of

³ CAGR is based on addressable market comprising smart inhalers (13.4%), wearables (9.8%), auto-injectors (17.7%) and pen-injectors (7.0%)

⁴ For example, ResMed (33.2%), Intuitive Surgical (35.7%) or Medtronic (30.0%)

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the PPG division, strategic add-on acquisitions, operational improvements, and a consequently higher buyer attraction. The PPG division has historically been stamped as the division with the highest capex requirements and comparably low margin products. Based on our strategy to distant the firm from being a packager, a carve-out of this division is deemed to be a highly reasonable move as this would also generate sufficient cash to conduct relevant add-on acquisitions.

Relevant add-on acquisition targets are desired to generate sufficient sales, what GAT products still lack, to maximize synergies and complementary capabilities. For those reasons, Ypsomed and H&T Presspart have been identified as primary targets. Ypsomed shines as the market leader for auto-injection and infusion systems along its diabetes care and delivery systems segments. Ypsomed reached revenues of €464m at an EBITDA margin of 20.8% in 2022 with a bright outlook for the future ascribed to the demand for pen & auto-injectors and wearable pumps for patients with diabetes, as well as promising partnerships for its products. The second acquisition target is H&T Presspart, who has its expertise in the market for respiratory solutions by being the leading metered-dose inhaler actuators supplier in addition to already marketed connected inhalers, stemming from a partnership with Biocorp. The acquisition of H&T Presspart is, among others, intended to accelerate time-to-market for Gerresheimer's pipelined smart inhaler. Despite these two targets, Owen Mumford, a specialist developer, and manufacturer of diabetes autopens & injectors based in the UK, and IME-DC, a relatively small manufacturer of diabetes and insulin-related products and delivery devices, have been identified as potential backup targets or even further add-ons in case of higher-than-expected capital available for acquisitions.

The third value creation driver is operational improvement, which are partially driven by the MedTech transformation. Five identified pillars for operational improvements encompass selling (improved product mix and cross-selling within contract manufacturing agreements), operations

(automation and AI-based quality assurance), personnel (headcount and weekend operator reductions), manufacturing footprint (bundled overheads and increased low-cost production in developing countries) and R&D (key R&D hubs and crucial KPIs such as vitality index), which can realistically result in estimated EBITDA savings of c.€95m by 2027⁵.

The potential the MedTech sector entails has also been recognized by other players that have entered this sector or fostered their market position through M&A. The sector attractiveness by means of stronger margins and growth outlook that is underlined by superior patent applications as well as higher patent grants results in bidders' willingness to pay exceptionally high multiples of up to 30.6x in 2021.

7. Business Plan

The business plan accounts for three scenarios, the investment case, base case and downside case, whereby latter serves as the bank case to determine covenants by the banks. Planned acquisition date is year-end 2022, whereby the carve-out takes place in June 2023 and the add-on acquisitions at year-end 2023. The holding-period is planned to be five years due to the strategic shift requiring time to realize sufficient sales, synergies, and bottom-line effects.

With the carve-out of the PPG division for an estimated valuation of €1,762m, Gerresheimer generates sufficient cash and reduces its capex requirements to 5-7% of sales moving forward. The proceeds are used to finance the acquisition of Ypsomed for €2,492m and H&T Presspart for €133m (Appendix V., p. 62). The remaining financing needs will be covered by existing cash reserves and a 30% acquisition facility drawdown of the combined purchase price (€757m). The add-ons generate strong revenue growth and deliver sufficient synergies from leveraging

⁵ Annual savings are based on estimates retrieved from Alvarez & Marsal insight center for MedTech manufacturing companies, whereby a 75% realization of maximum improvements has been assumed.

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Gerresheimer's platform in terms of procurement efficiency and customer network, and other synergetic effects such as overhead and personnel savings from consolidation, especially through its geographical vicinity. Synergies are expected to be realized over the years, whereby they amount to €38m from Ypsomed and €3m from H&T by estimated exit in 2027.

Furthermore, carving-out the relatively low margin segment PPG and shifting towards contract manufacturing and MedTech products delivers higher gross margins. As a result of cheaper transportation, reduced energy bills and less direct personnel costs as weekend operators become abundant, as well as improved margins due to inbound know-how through acquisitions, gross margins increase from 36.5% to 46.0% in 2027. The EBITDA margin improves from 19.6% to 28.9%, primarily driven by Ypsomed's expected margin of 30.5% totaling €270m in 2027. Though, Gerresheimer is expected to incur higher R&D expenses as a result of the innovation demanding MedTech industry. Thus, R&D is estimated to increase from 0.5% of sales in 2021, which has already been increased with the GAT rollout, to 2.9% of total revenues by 2027.

The NWC needs can also be improved, predominantly from lower inventory levels which were built up as a consequence of supply chain threats, that will return to historical levels, and required raw material inventories for molded glass production, which will become abundant. Also, add-ons can benefit from Gerresheimer's strong payment terms, resulting in an overall CCC improvement by 14 days from 2021 to 2027.

8. Valuation

For Gerresheimer's entry valuation, three methodologies have been applied, namely CCA, CCT and DCF. For all relative based valuation methods, a sum-of-the-parts valuation has been executed due to Gerresheimer's cross-segment differences.

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The CCA peer selection is based on the competitive positioning for each segment. The EV/EBITDA approach has yielded EVs of €3,048m for LTM trailing and €3,184m for the forward-looking EBITDA. EV/Sales present EVs of €2,197m for the trailing and €2,764m for the forward-looking. The CTA, utilizing the same approach as in the CCA by means of sum-of-the-segments, has yielded EVs of €3,610m and €2,607m for the EV/EBITDA and EV/Sales, respectively. However, as profitability is a much more accurate factor for valuation purposes, EV/Sales is neglected in the CCA and CTA in the final valuation. The DCF as a final valuation methodology, with Gordon's growth rate and trading multiples as terminal value calculation methods, has yielded EVs of €2,523m and €3,525m, respectively. Although the DCF often yields the highest EV, it is significantly impacted by the substantial capex need Gerresheimer would face on a standalone basis. The forecast underlies the base case assumptions and a WACC of 7.9%, which incorporates an upward adjustment of 1.5% due to pressing macroeconomic circumstances surrounding markets not accounted for in WACC.

In total, a weighted enterprise valuation has been conducted on the above-mentioned methodologies, resulting in an EV of €3,255m (Appendix VI., p. 63). Nonetheless, Gerresheimer brings forth an above-normalized level of NWC and capex level, which requires upwards adjustments in the entry purchase price (Appendix VII., p. 63). Particularly, the normalized NWC level over the past 5 years has been €133m, whereas a current Q3'22 elevated NWC level is driven by higher inventories and accounts receivables and amounts to €255m. Moreover, the annualized capex normalization lies at €166m, requiring an adjustment of €91m due to superior spendings in the past two years. The final adjusted purchase price thus amounts to €3,447m.

9. LBO

In addition to the €3,447m as an entry purchase price, fees are estimated to be 5% of the EV, which comprises any fees paid to investment banks (2-3%), and DD advisors and consultants (2-3%) for the acquisition of Gerresheimer as well as add-ons. The “total uses” of €3,620m are financed by 41.7% debt and 58.3% equity (Appendix VIII., p.64) The current European debt financing environment remained quite robust in Q3 2022 (Houlihan Lokey, 2022). Though, asset-heavy sectors like manufacturing, industrial and consumer face tightened financing conditions. Gerresheimer, as a manufacturer for the pharma and healthcare sectors with a strong track record of crisis resilience, a diversified product portfolio and end-markets as well as their long-term customer contracts assuring recurring revenues, is expected to obtain bank financing. However, volatile capital expenditures in the past, the carve-out of c.50% of total assets and a high level of susceptibility to macro conditions especially in the PPG segment entail poorer financing terms. Thus, and also ascribed to an unfavorable interest environment, the acquisition is financed with a proportionately low share of debt.

The bank debt is assumed to amount to 4.2x EBITDA, composed of term loans A to C, maturing after five, six and seven years, respectively. The maturities are below common market maturity due to more restrictive lending requirements. Margins are 5.2%, 6.0% and 6.8%, respectively, to assure higher interest coverage and margins, reflecting the current interest environment. The remaining debt is financed with a Second Lien (1.0x) at an 8.3% interest rate maturing after eight years. The Second Lien requires more covenants than usual for junior debt to increase safety level for banks and to keep margins below 900 bps.

On the equity side, a management compensation package is laced up, which consists of a sweet equity component that is only fully vested in 2027, and a bonus share of fund returns. The

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respective sweet equity equals twice the management's total compensation in 2021 (€10m), making up 8.0% of ordinary equity. The equity vesting over the years is supposed to lock-in management over the holding period as the team is deemed to be crucial to successfully implement the new vision. Additionally, a bonus from the institutional return's share, on top of the ordinary equity return, is promised depending on the EBITDA accomplishment in the LTM before exit. The bonus serves as an additional incentive to realize the high expectations and eventually benefit both parties.

10. Returns

Gerresheimer's EV of €9,025m at exit is computed by a blended exit multiple for the P&D (9.9x) and MedTech (17.9x) segments, whereby the MedTech segment covers GAT, Ypsomed and the smart inhaler EBITDA contributions from H&T. The justification for the blended multiple is that Gerresheimer still operates its packaging and non-MedTech business units to a non-negligible part, which cannot be assumed to obtain the same multiple valuation as a MedTech manufacturer. The chosen multiples are assumed to be identical to the sum-of-the-segments CTA at entry, whereby the MedTech multiple is equal to the Ypsomed multiple paid due to its lion's share in EBITDA. The total created value over the holding period amounts to €6,064m, yielding a money multiple of 3.8x at an 30.5% IRR. About 57.9% of the created value stems from add-ons, whereby Ypsomed with strong revenue growth of CAGR 10.4% and an improved EBITDA margin from 23.1% to 30.5%, partially driven by leveraging Gerresheimer's platform, is a key value-adding factor. Besides, multiple arbitrage amounts to 10.5%, owed to a lower entry multiple as compared to blended multiples at exit. What is more, running the case without the carve-out and add-on acquisitions yields a 2.0x institutional MM return at an 15.0% IRR, which underlines the

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significant value the MedTech strategy entails. At the same time, it also implies that even in the standalone case, organic growth can yield returns, even though they are below expectations

The institutional strip yields a 3.6x return at an IRR of 29.2%. This return is composed of €2,918m returning to the subordinated loan at a hurdle rate of 8% and €4,679m from ordinary shares. The management enjoys a return of 42.9x at an IRR of 109.6%, whereby this incorporates the accomplishment of the exit EBITDA projected in the investment case, yielding a bonus of €25m.

11. Exit

For the targeted exit in 2027, three scenarios are considered realistic: a secondary buyout, IPO, and trade sale, whereby latter is deemed most viable. Acquisitions by MedTech strategists have boomed in recent years with a total deal value of \$67bn and deal sizes of up to \$17.4bn for PPD by ThermoFisher Scientific in 2021. At the M&A forefront within the MedTech field have been ThermoFisher Scientific, Abbott, and Medtronic, that are pioneers in the MedTech sphere and potentially interested in expanding their product portfolio by acquiring Gerresheimer as the leader for connected injectors, smart inhalers, and wearables. A sale-in-parts is also deemed likely due to Gerresheimer's still operative packaging business that makes up 18.1% of total revenues at exit, for which Baxter, Berry or Jabil potentially line up as bidders, covering a few of Gerresheimer's current competitors. A sale to a strategist would benefit from a generally higher willingness to pay as more meaningful synergies can be created when compared to financial buyers who aim at realizing returns. Although a secondary buyout in the form of a platform acquisition or co-investment from, for instance, Bain Capital, Ardian or KKR, who all hold a strong track record in MedTech acquisition, or a cross-border IPO at the NYSE delivering a smooth exit, also present feasible scenarios, history has proven a trade sale to be the most realistic option due to Gerresheimer's substantial size at exit.

12. Key Due Diligence Areas

For the proposed acquisition of Gerresheimer to proceed, a thorough DD process should be devoted to address four key risk areas around the PPG carve-out, add-on targets, operational adjustments, and market & growth drivers. First, the PPG carve-out and the divestment of c.50% of Gerresheimer's assets must be assessed in terms of asset allocation by segment, potential complications in the carve-out process and in further business continuity as well as management's willingness to undergo this carve-out. As PPG has seen significant attention in terms of expansion expenditures, it must be assessed to what extent the management might be opposed to now divesting a prospectively high growth area, but also potential reputational consequences the firm might face regarding customer loss due to their preference of a single source supplier for pharma glass products and medical devices. Second, add-on targets must undergo a full-blown DD concerning their fair value estimations, their strategic fit with Gerresheimer and the MedTech strategy, and realizable synergies and margin expectations. Although the overall approach assumes a conservative appraisal, major underestimations might result in lower returns eventually. Third, to successfully execute the strategic shift, internal capabilities must be assessed by means of sufficient R&D hubs, managerial experience, and production know-how. Moreover, projected operational improvements and efficiency losses as a result of the PPG carve-out must be validated and assessed. Fourth, key risks areas associated with the underlying market mainly refer to overstated estimates about the MedTech market in terms of growth, gainable market share and competitive position, but also product strengths in comparison to existing and new peers. Moreover, while the procurement network is deemed to be the ideal platform for this shift, it must be assessed to what extent it is susceptible to geopolitical risks and to what extent the procurement of tech-heavy products, especially in emerging markets, can be sustained.

Individual Part

1. Maximilian Bursche – Valuation

1.1. Introduction

The entry valuation of Gerresheimer plays an immensely important role as, on the one hand, overvaluations lower final returns and, on the other hand, undervaluations might potentially result in the buyout offer being turned down. Thus, to mitigate any of these two risks, I have applied several valuation methodologies from comparable company analyses (CCA) over comparable transaction analyses (CCT) to the discounted cash flow (DCF) approach in order to minimize limitations of each of them. For instance, the CCA provides a good picture of how publicly traded peers are currently valued on the market but lacks transaction premia that are typically required to acquire a company. While the CTA does account for these premia, it often does not reflect ideal comparability due to geographical, commercial or/and competitive differences. The share price has not been taken into account since we assume the firm to be privately held throughout the entire case and thus also at entry valuation.

Subsequent to the application of these methodologies, I conducted a weighted final valuation, whereby further adjustments to derive the final purchase price, particularly capex and working capital normalization, are merged into the purchase price as well.

1.2. Comparable Company Analysis (CCA)

The first valuation methodology I applied was the CCA. I considered a sum-of-the-segments valuation as most reasonable due to peers within the segments trading at very different multiples. Moreover, I utilized different approaches ranging from considered multiples (EV/sales and EV/EBITDA) to year(s) in scope (1-year looking forward, LTM trailing and the historical 10 years average) to avoid downsides inherent in each approach, such as a negative EBITDA in the GAT

segment or pressing macroeconomic factors surrounding valuation perceptions. Starting with the PPG division, core peers comprise Verallia, Vidrala, O-I Glass, Zignago Vetro and Nipro. Peers are selected based on business and product similarity, which is also aligned with Gerresheimer's perceptions in each segment. Although every peer does not have an identical business model to Gerresheimer, they are deemed to be comparable along the division. Verallia, for example, operates mainly in the food & beverage end-market through glass bottle packaging, which is only a minor part of Gerresheimer's PPG end-market. Another selected peer, Nipro, is more present in the pharma end-market through packaging products such as glass tubing. Nevertheless, they also manufacture, for example, catheter needles or safety lancets, which again deviates from Gerresheimer's product portfolio within PPG. Thus, I believe that picking a fair range of peers that are by and large similar provides a proper picture for the valuation of Gerresheimer's PPG segment.

While the EV/EBITDA trailing LTM median is higher than the forward-looking one, most likely due to worsening outlooks explained by concerns about margin pressing factors, of 8.7x vs. 8.0x, the historical 10-year average yields average median multiples of 9.3x. This might imply the lower current EBITDA levels at stable share price valuations, indicating a resilient industry. The competitors in the P&D segment, Jabil, Berry, Aluflexpack, Amcor and Daetwyler show a similar pattern at overall lower multiples. LTM trailing and forward-looking multiples lie at 8.0x and 7.1x, respectively. Opposingly, the historic 10-year average indicates a multiple of 10.0x, which underlines the above assumption.

The GAT segment encompasses the following selected competitors: Stevanato, West Pharma, Ypsomed, Aptar Group, Berry, and medmix. What is worth to mention among these competitors is that Gerresheimer closed a partnership with Stevanato, who is considered one of the closest

comps in line with our competitive positioning, for the development of high-quality RTU-syringes. While most of the competitors have already products in the MedTech market, Gerresheimer is running behind in terms of sales generation here. However, ascribed to an acquisition of Ypsomed, who is considered one of the leading players in the GAT segment for pen-injectors and diabetes wearables, Gerresheimer will soon be able to compete with them on a financial level as well. Overall, multiples of these comps show the same pattern as observed for PPG and P&D, but to a more extreme extent. While the LTM trailing and forward-looking imply multiples of 15.8x and 12.7x, the historic 10-year average lies at 16.2x. Due its more promising outlook in terms of growth, valuations of these peers are generally superior to the other segments. However, average valuation over the past 3-years showed multiples of 22.7x, which underlines a strong decrease in multiple valuations. Potential reasons could be paused M&A traction of these companies due to high interest environments or, again, uncertainty surrounding the market. (Appendix I.)

Overall, the sum-of-the-segments valuation indicates an EV of €1,276m and €1,772m for the PPG and P&D segments, respectively. As the GAT margin yields a negative EV due to its negative EBITDA margin, the EV/Sales in this segment implied EVs of €45m and €49m for the trailing LTM and forward-looking multiples. For all segments though, the EV/Sales implies significantly lower EV valuations, which is why more attention has been paid to EV/EBITDA, a more accurate approach due to measuring profitability in the denominator. Overall, EVs amount to €3,048m and €3,184m for the trailing and forward-looking approaches, respectively. The historic 10-year average, by contrast, due to the historically fewer pressing circumstances, implies an EV of €4,043m.

1.3. Comparable Transaction Analysis (CTA)

Next up is the CTA, which again relies on the same approach in terms of sum-of-the-segments for EV valuation purposes. Comparable transactions for each segment were extracted from Merger Markets and Preqin and go back until beginning of 2016 as I deem older ones to not be representative for current valuations. Comparable transactions for the PPG and P&D imply very similar median multiples of 9.6x and 9.9x, respectively, whereas deals in the P&D segment, as opposed to CCA conclusions, are slightly higher than in the PPG segment. Overall, deals in scope do not show particular patterns timewise and geographically wise. In the GAT segment, the median multiple is 15.0x, which is slightly lower than the one implied by the CCA. However, certain deals such as the acquisition of Ventura Group, one of the leading smart inhaler producers, by Philip Morris for a multiple of 5.2x show that valuations highly deviate. Overall, though, traction has picked up substantially in the past 2 years with multiples of up to 28.4x. Moreover, mostly companies in the US are subject to acquisitions, which implies the advances and M&A traction in that market. Taking the EV/sales and EV/EBITDA again due to the aforementioned justification, we obtain EVs of €2,607m and €3,610m, respectively, which again underlines the lower valuation of EV/Sales.

1.4. DCF

The DCF was conducted on the base case as underlying forecast foundation. Starting with the assumptions made for the WACC calculation, the risk-free rate (3.2%) is equal to the 10y Eurobond, which is deemed to be appropriate to reflect European bond volatility that can be considered risk-free as its default probability is near zero while capturing the latest volatility caused by the interest environment. Next, the unlevered equity beta is derived from the same peers that were considered for the CCA. These betas were then subject to unlevering based on the

respective capital structure. Across all peers, the D/E ratio lied at 1.3. Subsequently, the beta has been relevered based on the capital structure, which Gerresheimer is estimated to maintain over the course of the next years assuming no acquisition, being 1.03 which is formed by the average of the past 3 years. The market risk premium is extracted from Damodaran and based on Baa3 markets, which is 6.4%. Applying the CAPM, I derived a cost of equity of 9.2%. The cost of debt is computed taking the Damodaran credit spread of 1.87% for countries with this credit rating plus the risk-free rate. When then applying the formula to put pits and pieces together, I derived a WACC of 6.9%, However, as I deem the current market environment to not be fully reflected in this WACC due pressing macroeconomic circumstances surrounding the company, I undertook an upward adjustment of 1.5%, yielding an adjusted WACC of 7.9%.

Aligned with the base case forecast periods, the DCF forecast lasts until 2029, which is when the terminal value calculation becomes effective. For the terminal value calculation, I utilized 3 methodologies, namely Gordon's growth rate, comparable transactions, and trading multiples. The Gordon's growth rate is assumed to be 1.5% after 2029, which is rather conservative when considering that its CAGR amounts to 4.3% until 2029. EBITDA margins are also held quite constant between 22% and 23%, starting in 2023. The justification for this EBITDA margin is mainly ascribed to the management expectations being in line with our forecasts. We believe that, excluding current EBITDA margin that is subject to several macroeconomic non-repetitive factors, Gerresheimer will be able to attain this margin in the short-term due to its increased focus on high-value solutions. Thus, I believe this margin to be reasonable looking forward on a standalone basis. The tax rate is assumed to remain at 29%, which yields NOPAT ratios of 9-10%. Holding depreciation and capex levels relatively constant at 5-6% and 10% of sales, respectively, whereby capex requirements, in line with management plans, decrease to 10% in 2023. Changes in NWC

are in line with a constant 9% of sales assumption, which is the average of 2020 to estimated 2022. Discounting the resulting free cash flows appropriately yields a sum of €878m, whereas the terminal value (€1,654m) makes up 65% of the total enterprise value being €2,531m. The comparable transaction terminal value calculation draws upon the same multiple that was implied in the CTA, being 10.1x, which reveals a terminal value of €3,166m and a total enterprise value of €4,043m. The trading multiple of 8.4x yields a terminal value of €2,673m and a total enterprise value of €3,550m.

Sensitivity analysis show little variation in the multiple terminal value method. Lowering the multiple at constant WACC by 1.0x or Gordon's growth rate by 1% results in an EV dispersion of <€0.4m for comparable transactions, trading peers and Gordon's growth. Even though the leaps are quite small, the valuation is relatively stable. (Appendix II.)

1.5. Weighted Valuation

For deriving a final enterprise value of Gerresheimer, I conducted a weighted average summary of the most relevant methodologies described above. Therefore, I assigned certain weights to each of the derived EVs. First, the CTA (EV/EBITDA) has received 1/3 of the total weight. I believe the CTA to be a detrimental factor in the fair value estimation of payable prices at the market due to incorporated premia. Although this methodology without a doubt entails several downsides such as unidentical business models not fully relevant for comparison purposes or a high dependency on market environment, M&A activity, and geographic region, the sum-of-the-segments approach, and the careful selection of transactions improve this methodology's accuracy. Nonetheless, due to its time dependent downside, I assigned the CCA an identical weight that is split equally among the trailing LTM and forward-looking to somewhat counterfeited this point. Weights assigned to the CCA and CTA only concern EV/EBITDA valuations due to the aforementioned fact that they are

a more accurate estimator for a firm's value as the underlying addresses operating profitability. The historical 10-years average is neglected at that point because it provides a proper picture of multiple dispersion over time, but older multiples are no relevant factors for today's valuation. Lastly, the DCF obtains the remaining weight being equally split among the Gordon's growth approach and the trading multiple. The CTA as a terminal value calculation is excluded as transactions today might be a relatively less relevant approach. Moreover, its implied EV is significantly above other methodologies, which implies a potential overvaluation. Although the DCF is often criticized for being assumption heavy and thus susceptible to errors, it does have certain points that other valuations lack. First, it pays attention to the going concern assumption, which other relative valuation methodologies neglect. Second, it takes into account the capital structure by assuming a target ratio that the company is expected to maintain as well as a weighted average corresponding to the risk of leverage the firm is exposed to. Hence, potential concerns about being highly levered are considered. Lastly, the DCF accounts for time by discounting cash flows by the overall opportunity cost of capital.

Taking the sum of those weighted averages, I obtained an enterprise value of €3,255m for Gerresheimer, assuming the company to be held privately.

1.6. Adjustments

At acquisition dates, companies' current level of NWC must be considered and incorporated in the final purchase price. NWC levels that are above a normalized level must be paid on-top and vice versa. To obtain the normalized level of Gerresheimer's NWC, I took an average from 2017 until YTD, which resulted in €143m. Gerresheimer's estimated level of NWC being extrapolated from Q3 2022 amounts to €234m, resulting in a purchase price upward adjustment of €101m (roundings). The additional NWC stems mainly from substantial increases in inventory and

accounts receivables at unaltered accounts payables. This is most likely to be ascribed to the plant expansion in the US as well as new customer long-term contract closings and inventory stock piling in terms of safety stocks due to lessons learned from COVID. Doubtlessly, the NWC is based on our business model and must be reaffirmed at acquisition date as intra-year movements are neglected at this point.

Furthermore, the above average capital expenditures in recent years have lowered the cash significantly over the past two years, which superficially impacts net debt, resulting in a lower purchase price. These capital expenditures have been directed towards plant expansions, furnace overhauls and high-value solutions, which are investments that reap P&L benefits in the future. Hence, to value Gerresheimer appropriately today and to not benefit from less cash we are required to pay due to higher historical capital expenditures, I decided to calculate a capex normalization level and added the sum of capex above that level from the past two years on top of the purchase price. Normalized capex level has been €166m, whereas the above normalization capex investments result in a purchase price adjustment of €91m. Consistent with our overall business model and valuation approach, this number assumes 100% of the above normalization capex level to be paid on top, whereas discounts could be negotiated. (See Group Appendix VII., p.62)

Hence, the total adjusted purchase price for Gerresheimer amounts to €3,447m. Considering the equity bridge, Gerresheimer currently maintains and is expected to have existing debt of €1,306m at acquisition date. Conducting excess cash in the amount of €98m, whereby operating cash is assumed to be 2% of total revenue. As a result, I derived net debt of €1,209m. The ultimate adjustment of €146m for pensions results in an equity value of €2,093m. However, since we conduct an LBO applying our capital structure through significant debt financing, the purchase price equals the adjusted EV.

1.7. Football Field

Setting up a football field chart with all valuation methodologies, one can quickly identify certain trends and commonalities with theory. First of all, the CTA yields a higher implied multiple of 10.1x than both CCA methodologies trailing LTM (8.5x) and forward-looking (8.9x). One superior advantage this methodology brings forward as opposed to the CCA is that it mostly covers transactions of private firms, whereas CCA only concern publicly listed firms where the underlying share price in addition to the net debt is the deciding factor. Thus, the incorporated premia in the CTA addresses mostly private companies, which benefits us in our valuation due to the assumption of Gerresheimer being held privately. Moreover, premia for listed companies tend to be around 30% unless the company is positioned in a very hot sector and thus quite predictable. The contrary holds for private companies, where the dispersion of possible premia, especially due to highly varying company valuations owed to limited information and thus deviating bidding prices, tends to be much more unpredictable. Nonetheless, often no financial information about deal size, target financials, multiples, etc. are revealed, which as a consequence omits these deals, resulting in the actual median multiple being distorted. Hence, it is wise to use a combination of several valuation methodologies.

Moving on to the CCA, medians with this methodology are, by theory, typically the lowest as it is the case in our football field. This observation is justified by the fact that CCAs omit premia and concern only the current EBITDA (or forward-looking EBITDA) when compared against DCF valuations and thus no growth. However, in the case of Gerresheimer, the DCF with Gordon's growth model yields an even lower implied multiple of 7.0x. This can be explained by the cash flow problem Gerresheimer faces with the PPG division and the corresponding expansion investments. Although capex and NWC increases, which are the primary drivers for the compared

to peers relatively limited free cash flow, are expected to normalize in the foreseen future, they are still substantial due to the nature of the operating industry. Nonetheless, the Capex and NWC projections in the DCF do account for this normalization. As relative valuation methods do not account for cash flows and only concern denominators on the P&L statements, they are not subject to this limitation.

1.8. Concluding words

Overall, I am convinced that the application of several valuation methodologies and conducting a weighted average in the end has resulted in a proper valuation. On the one hand side, one can conclude that the entry price is relatively favorable for an acquisition due to its suppressed EBITDA margin, which can be explained by two major points. First of all, elevated direct costs affecting the procurement especially of moulded glass products, which has an impact on the gross margin of the PPG division. These effects comprise high energy costs, which are significant for the operation of the furnaces, high raw material costs combined with high transportation due to container and logistics personnel scarcity and an unproportionally steep growth of globalization to transportation capacity. Although Gerresheimer manages to pass on those price increases well to customers, they cannot be passed on in full and with delays, resulting in temporarily suppressed margins. Second, Gerresheimer has made substantial capex investments in expanding production capacity, just as the recent investment of \$94m in the plant in Morganton, US, that have not reaped fruits on EBITDA level. On the other hand, and connected to the second argument, the above normalization level capex and NWC numbers require on-top payments, which do not favor the acquisition. However, considering at least that lower capex investments would have resulted in a higher cash balance, which would have needed to be paid, the on-top capex investments can be neglected. Also, the higher NWC implies sales growth in the future, which thus also fosters

Individual Part: Maximilian Bursche

benefits in the future. All in all, we estimate the purchase price at acquisition to be overall more favorable, which is further reaffirmed by the strong returns that are expected.

References

Behnam, M., Dey, A., Gambell, T., & Rajendran, R. (2019, December 18). Rethinking manufacturing and distribution networks in MedTech. *McKinsey & Company*.

Houlihan Lokey, E. (2022). *MidCapMonitor*. Houlihan Lokey.

Appendix: Group Part

I. GAT Pipeline

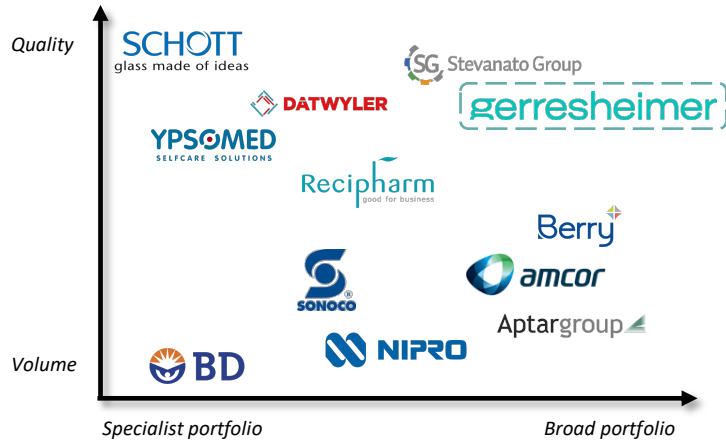
Product	Stage	Partner	First Sales	Peak Sales	In Year	Product Description
Parkinson Pump	First sales generated; suppressed due to cancelled orders	Ever Pharma	2018	<i>n.a.</i> ²	<i>n.a.</i> ²	Wearable micro-infusion pump
Heart Failure Pump	FDA approved in 2020	SQ Innovation	2022	30-40m	2026	Volume cartridge based micro pump for the furosemide treatment
Rare Lung Disease Pump	Expediated contract signed incl development	Major US Biotech Player ¹	2024	40-50m	2028	Wearable pump to deliver a drug via continuous parenteral administration
Smart Inhaler	Late-stage Customer Discussions	<i>n.a.</i>	2025	15-20m	2029	Inhaler add-on including direct data processing to devices

II. Capex Peer Level – LTM Capex/Revenue



III. Competitive Positioning (P&D, PPG & GAT)

Plastics & Devices







Primary Packaging Glass



Advanced Technology



IV. Selected Core Peer Group – Financials

			 SCHOTT glass made of ideas	
LTM Revenue	€1,729m	€893m	€2,524m	€3,184m
LTM Revenue Growth	18.1%	9.2%	12.8%	16.7%
LTM EBITDA Margin	18.3%	22.8%	21.0%	17.5%

V. Divestment & Acquisition Valuations

PPG Valuation

PPG EBITDA (2023) - Forward looking at H1 transaction	177.0
PPG Multiple (Transaction)	9.6x
Unadjusted Enterprise Value	1,699.1
Capex Adj. (Entry=Exit)	62.4
Final Purchase Price	1,761.5

Ypsomed Valuation

EBITDA (weighted average of 23/24)	139.2
Entry Multiple	17.9x
Entry EV	2,492.2

H&T Presspart Valuation

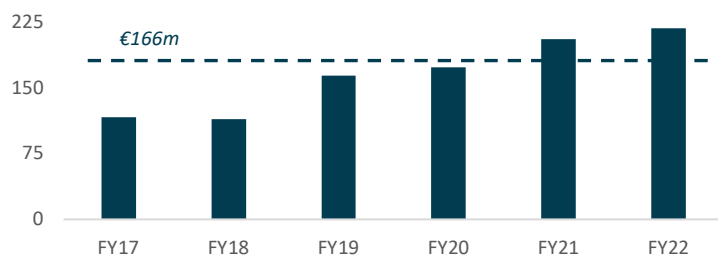
EBITDA (2023) - Smart Inhalers	1.3
EBITDA (2023) - Inhalers	11.6
Entry Multiple - Smart Inhalers	14.1x
Entry Multiple - Inhalers	9.9x
Entry EV	133.3

VI. Weighted Valuation

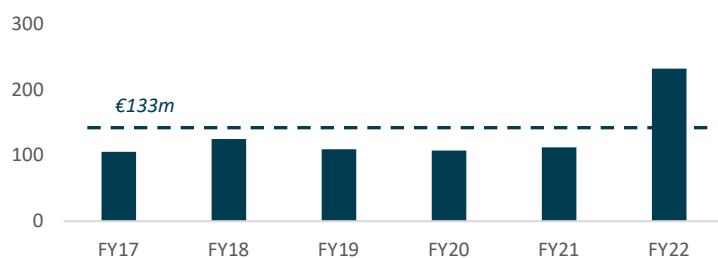
Valuation Technique	Multiple	Implied EV	Implied EV/EBITDA	Weight	Weighted EV
<i>DCF using Gordons Growth as terminal value</i>	7.0x	2,531	7.0x	16.7%	421.8
<i>DCF using Trading Multiples as terminal value</i>	9.9x	3,550	9.9x	16.7%	591.7
<i>CCA 2022 SALES</i>	1.2x	2,197	6.1x		
<i>CCA 2023 SALES</i>	1.5x	2,764	7.7x		
<i>CCA 2022 EBITDA</i>	8.5x	3,048	8.5x	16.7%	507.9
<i>CCA 2023 EBITDA</i>	7.5x	3,184	8.9x	16.7%	530.6
<i>CTA SALES</i>	1.4x	2,607	7.3x		
<i>CTA EBITDA</i>	10.1x	3,610	10.1x	33.3%	1,203.2
Sum				100.0%	3,255

VII. Capex & NWC Normalization

Capex Normalization



Working Capital Normalization



Appendix

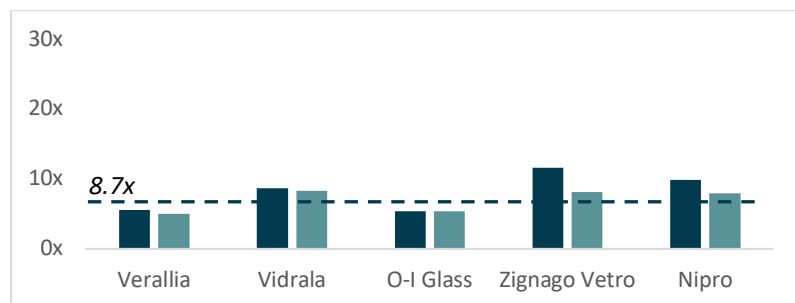
VIII. Sources & Uses

Sources	In €m	x EBITDA	Uses	In €m
Senior Debt			Equity Purchase Price	2,092
Term Loan A	215	0.6x	Existing Debt	1,306
Term Loan B	467	1.3x	Provisions for Pensions	146
Term Loan C	467	1.3x	Excess Cash	(98)
Subordinated Loan			Enterprise Value	3,447
Second Lien	359	1.0x		
Total Debt	1,508	4.2x	Fees	172
Fixed Return Instrument	1,986	5.5x		
Ordinary Equity	126	0.4x		
Institutional Investor	116			
Sweet Equity	10			
Total Equity	2,112	5.9x		
Total Sources	3,620	10.1x	Total Uses	3,620

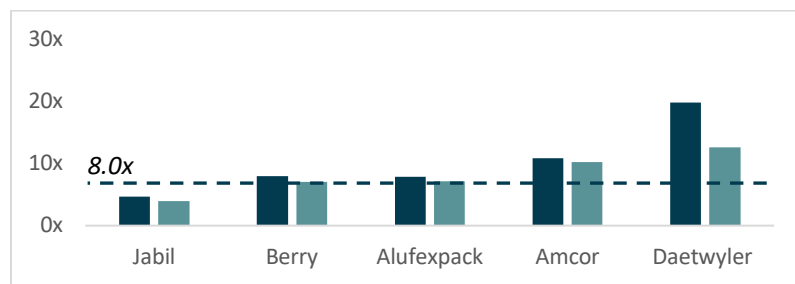
Appendix: Valuation

I. Trading Peers (EV/EBITDA)

PPG

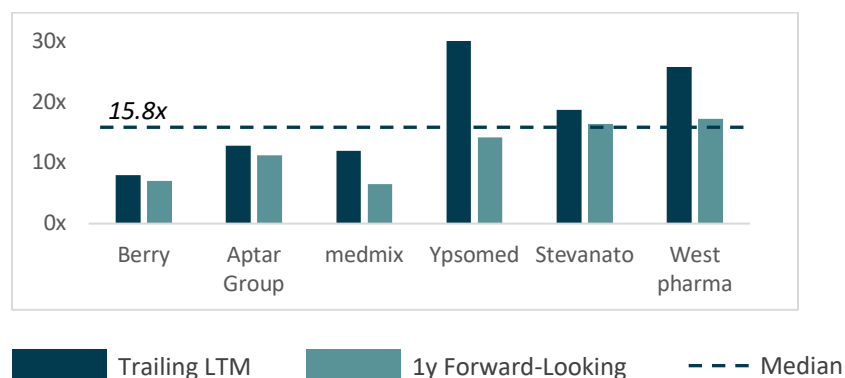


P&D



Appendix

GAT



II. DCF Sensitivities

Gordon's Growth

		WACC				
		6.9%	7.4%	7.9%	8.4%	8.9%
GG Rate	1.2%	2,885	2,651	2,452	2,281	2,132
	1.4%	2,942	2,697	2,491	2,313	2,160
	1.5%	3,002	2,746	2,531	2,347	2,188
	1.7%	3,065	2,798	2,573	2,383	2,218
	1.8%	3,132	2,852	2,618	2,420	2,249

Transaction Multiple as Terminal Value

		WACC				
		6.9%	7.4%	7.9%	8.4%	8.9%
CTA	9.1x	3,951	3,837	3,728	3,623	3,521
	9.6x	4,119	4,000	3,886	3,775	3,669
	10.1x	4,287	4,163	4,043	3,928	3,816
	10.6x	4,455	4,325	4,201	4,080	3,964
	11.1x	4,623	4,488	4,358	4,232	4,111

Trading Multiple as Terminal Value

		WACC				
		6.9%	7.4%	7.9%	8.4%	8.9%
CCA	7.5x	3,425	3,328	3,235	3,146	3,059
	8.0x	3,593	3,491	3,393	3,298	3,207
	8.5x	3,761	3,654	3,550	3,450	3,354
	9.0x	3,929	3,816	3,708	3,603	3,502
	9.5x	4,097	3,979	3,865	3,755	3,649