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DAIMLER TRUCK SPIN-OFF VALUATION AND ANALYSIS

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Investigating the Impact of Lock-up Expirations on Stock Returns in Germany

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Abstract

This study offers an insightful analysis of the corporate spin-off of Daimler Truck Holding AG from its parent company, Mercedes-Benz AG, on December 10, 2021. The valuation of Daimler Truck's stock price on its initial trading day is approached through three distinct methods: 1) intrinsic value, 2) Comparable Company Analysis, and 3) Precedent Transaction Analysis. Among these approaches, the intrinsic value method yields the most reliable output, given Daimler Truck's status as a company characterised by stable cash flows. In addition to the valuation analysis, the research project deals with the examination of lockup agreements and their impact on post-IPO stock performance in Germany.

Keywords: Valuation, Corporate Spin-Off, Abnormal Returns, Lock-Up Agreements, IPO

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1. Introduction

"Today is a historic day for Daimler Truck (...)" - *Martin Daum, Chairman of the Board of Management of Daimler Truck Holding AG* (Daimler Truck North America 2021).

This statement marks a significant milestone for Daimler Truck (DT) and encapsulates the magnitude of its decision to go public through a spin-off from Daimler AG on December 10, 2021. This spin-off disintegrated one of Germany's largest industrial conglomerates (Cünnen and Hubik 2021). Moreover, it has broad implications for the automotive industry, notably when the sector radically transforms (Splittgerber 2021). This thesis aims to assess the value of DT at the time of its spin-off and to scrutinise whether its valuation of approximately EUR 23 billion was justified. This valuation is derived from the 822,901,882 newly issued shares at an initial price of EUR 28 per share (Daimler AG 2021a). To comprehensively explore this aim, the study employs a multi-faceted valuation approach, including absolute and relative techniques.

The primary analysis of this thesis examines the spin-off in detail, incorporating market and competitive assessments to determine DT's share price. The final section synthesises the findings, critically evaluates the methodologies used, and discusses practical implications and future research directions.

2. Literature Review – Going Public

Going public is a critical juncture for firms, signifying maturity and heralding structural and managerial changes. It offers financial gains, decision-making autonomy, and heightened public visibility. While *Initial Public Offering* (IPO) is the most well-known method of going public, it is crucial to distinguish it from other approaches. IPOs involve a first-time listing of shares on an exchange and are one among several avenues for public transition. Section 2.1 elaborates on various mechanisms for going public, followed by an analysis of the underlying motivations (Deutsche Börse AG 2023).

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2.1. Types of Going Public

One prevalent approach to going public is the Initial Public Offering (IPO), allowing firms to raise capital by selling existing and new shares. IPOs often fuel company growth and provide liquidity for existing shareholders. Alternative methods include Private Placements, targeting select institutional investors; Direct Listings, sidestepping traditional IPOs to list existing Special Purpose Acquisition Companies (SPACs), formed to acquire unspecified companies within a set timeframe. Companies can also go public through Spin-offs, making a business division independent, Equity Carve-outs, partially listing a business unit while retaining majority control, or Dual Listings, appearing on multiple stock exchanges for broader visibility (Deutsche Börse AG 2023).

2.2. Motives for Going Public

Going public is crucial in a company's development, offering numerous advantages to boost financial and strategic impulses. It primarily focuses on capital acquisition, allowing companies to invest in projects and growth ventures, expanding their market presence and business scope (Lowry, Michaely and Volkova 2017). The ability to quickly and easily sell shares to access cash is a central concern post-going public, especially for investors like Venture Capitals. Being publicly listed leads to heightened public attention, allowing companies to expand their customer base, pursue attractive partnerships, and attract talents (Deloitte & Touche LLP 2020). Companies can also pursue strategic objectives through IPOs, such as separating or spinning off business divisions or subsidiaries, focusing on core business areas, and gaining independence and flexibility (Blättchen, et al. 2006). Going public can also allow companies to use their shares as currency for acquisitions, enabling mergers and acquisitions without straining the cash flow (Pagano, Panetta and Zingales 1998; Ritter and Welch 2002). Finally, going public offers a succession solution for founders lacking internal successors (Blättchen, et al. 2006).

2.3. Spin-Off in detail

Spin-offs have gained significant traction in recent corporate history, as they involve separating a business unit from its parent company to create an economically and legally independent entity (Achtleitner, Bassen and Wahl 2003). These transactions aim to enhance the parent company's enterprise value (EV) by focusing on its core business, reducing negative synergies, and improving operational efficiency (Achtleitner, Bassen and Wahl 2003; Burger, Ulbrich and Ahlemeyer 2010). Historically, conglomerate structures were used to reduce company risk and boost shareholder value (Leinwand and Mainardi 2012; Achtleitner, Bassen and Wahl 2003). However, as capital markets evolved, investors preferred to invest directly in specific companies, shifting towards pure-play corporate models emphasising transparency and core capabilities (Leinwand and Mainardi 2012; McIvor 2007). Spin-offs have been scrutinised for their impact on company value, particularly regarding share price changes (Schultze 1998; Vollmer 2014). Studies on the European capital market have shown positive wealth effects associated with spin-off activities, with significant abnormal returns observed shortly after the announcement (Veld and Veld-Merkoulova 2003; Vollmer 2014). Long-term impacts of spin-offs have been explored, with spun-off subsidiaries outperforming industry peers in the first three years post-separation, challenging the efficient market hypothesis that such positive effects should be immediately reflected in share prices (Harris and Madura 2010; Veld and Veld-Merkoulova 2003).

3. Company Profile of Daimler Truck

In the dynamic world of the automotive industry, DT is a pivotal player that significantly shapes the sector. This section focuses on DT's history, business areas, and financial situation, analysing its evolution and strategic rationale for the spin-off. This serves as a foundation to comprehend better and contextualise the subsequent sections that delve deeper into the spin-off analysis and company valuation (Daimler Truck 2023).

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3.1. Business segments and product portfolio

DT operates market-leading divisions across various regions with distinct product lines and brands. Trucks North America (TN) excels in large and small fleets, offering brands like Freightliner and Western Star and leveraging Detroit Diesel's technology for critical components. The unit boasts over 1,100 dealer and service locations. In Europe and Brazil, Mercedes-Benz (MB) leads in light to heavy-duty trucks, supported by an extensive network of truck operating centres and general distributors. Trucks Asia (TA) combines Mitsubishi Fuso Truck and Bus Corporation (MFTBC) and Daimler India Commercial Vehicles (DICV), focusing on key Asian markets through its FUSO brand and a global retail network of 2,750 locations. Daimler Buses (DB) holds sway in the EU30, Brazil, Argentina, and Mexico, offering a variety of buses under Mercedes-Benz and Setra brands. Complementing its physical products, the Financial Services division provides tailored financing solutions, insurance, fleet management, and integrated service offerings (Daimler Truck 2021).

3.2. Pre-Spin-Off organizational structure

Before the planned spin-off, Daimler AG had a hierarchical structure with 100% ownership of its subsidiaries, including Mercedes-Benz AG, Daimler Mobility AG, Daimler Truck AG, and others; please refer to *Figure 2*. Such a structure enables uniform strategies and streamlined decision-making. However, the spin-off signals an intent to harness more focused strategies and agility by creating two distinct entities (Daimler Truck 2021).

3.3. Rationale for the Spin-Off

Daimler AG made the far-reaching decision to separate its commercial vehicle business, primarily driven by dynamic changes in the market environment. Notably, new technology competitors entering the market challenged traditional business models. At the same time, the rapid advancement of electrification and digitisation demanded increased investments to stand up to technological competitors. Factors like the COVID-19 pandemic also highlighted distinct

customer needs in passenger and truck segments. While technologies such as electrification and autonomous driving are essential for passenger cars and trucks, the specific technological requirements in both segments diverge significantly. Another crucial reason for the separation was creating better conditions for implementing individual strategies. In the past, synergies between the passenger car and truck businesses were limited, diminishing the benefit of joint operations. The separation allows the passenger car business to focus on the premium segment. In contrast, the truck business can pursue its strategy without coordinating with the passenger car division. Moreover, both sectors often competed internally for investment funds. With the separation, both business areas gain direct access to the capital market, allowing them to allocate and invest their financial resources more efficiently. As part of the Daimler Group, the truck business previously had limited opportunities for independent capital raising. Finally, the decision also promises to realise value potential for shareholders. With both business areas' independent and focused alignment, the passenger and commercial vehicle businesses can more efficiently realise existing value potential. Overall, the decision to separate Daimler's commercial vehicle business represents a strategic move that enables both business areas to respond more agilely to market changes and more effectively implement their specific business strategies (Daimler AG 2021b).

4. Spin-Off analysis of Daimler Truck

The global economic landscape constantly evolves due to complex financial strategies, industry dynamics, and technology developments. Corporate spin-offs are crucial occasions that affect individual businesses and reveal broader trends within industries and the economy. DT's spin-off has attracted interest from investors, analysts, and industry observers. The company's valuation is based on historical financials and various valuation methodologies (Daimler Truck 2021).

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4.1. Market and Industry Analysis

Medium and heavy truck manufacturing is a crucial area within the automotive industry, requiring commercial vehicles to transport heavy loads across various terrains. This industry relies on cars for retail, agriculture, construction, and logistics. The need for environmentally friendly trucking solutions has become increasingly important as globalisation promotes cross-border trade and e-commerce transforms consumer behaviour (Council 2010). The global market for medium and heavy trucks includes commercial vehicles (CVs), buses and coaches (BCs), heavy commercial vehicles (HCVs), and heavy buses and coaches (HBCs) (MarketLine 2022). The COVID-19 pandemic caused a decline in the market for medium and large vehicles in 2020, with lockdown measures and lowered operational capacity causing significant decreases in demand from logistics, transportation, and heavy industries. However, the market gradually recovered and increased after the vaccination rate rose in early 2021 (Total units sold in 2020: 386,407 / 2021: 394,369 - CAGR: 2.1%) (MarketLine 2022). Daimler AG decided to spin off its truck and bus manufacturing business in late 2021 to focus on zero-emission (ZE) truck development and maintain its pole position in the market (Daimler Truck 2021). The development of ZE trucks is of utmost importance to market competitors, as quantitative studies have shown the impact of this change in transport on global environmental impact (Breed 2021). Plug-in electric cars are being explored for various applications in medium and heavy-duty industries due to their high efficiency, requiring less primary energy and emitting fewer greenhouse gases (Lloyd 2001). Despite the market's unease, Daimler AG successfully separated DT on December 10, 2021, showcasing the importance of sustainable and environmentally friendly trucking solutions in the automotive industry (Moultak 2017).

4.2. Competitive Landscape Assessment (Peer Group evaluation)

Because of fierce market competition, players compete based on prices and the worth of the vehicles they supply. The main strategies employed by market leaders to distinguish themselves

from their rivals are strong brand recognition and market diversity. Leading companies have concentrated on designing and producing electric vehicles to boost sales in the future, be ready for an era without emissions, and phase out the sale of combustion engine vehicles by 2030 (MarketLine 2022). DT competes in Europe, North America, Asia, and Latin America, with primary competitors including Volvo AB and Traton SE (both public at the time) in the European Medium- and Heavy-duty truck markets. DT is the European market leader, accounting for 19% of the market in 2021, with the closest competitor in Europe being Volvo AB, with a 15% market share (Soroka and Luman 2022). In the North American market, the competitive landscape looks different, as the demand for different types of trucks is different from the European market. Traton SE (Volkswagen), DT, PACCAR, and Volvo are the market leaders in North American medium and heavy trucks. The market participants are in Germany, the United States, and Sweden, suggesting a diverse presence of medium and heavy truck suppliers. Wabash National Corp., Federal Signal Corp., Blue Bird Corp., and The Shyft Group are additional competitors, although not comparable in size, but rather in similar distribution channels/business models. In North America, DT accounts for 37.9%, signalling a massive pole position with the Freightliner line, with the second biggest competitor being PACCAR with their Peterbilt truck line (National Automobile Dealers Association 2023). Isuzu, Hino, Tata, and Ashok Leyland are among DT's primary rivals in the Asian market. Additional competitors include Beiqi Foton Motor Ltd., a global commercial vehicle manufacturer, and Hitachi Ltd. (primarily in the construction vehicle industry), which Daimler also targets with its construction line. Since the expansion in this market will be of maximum importance for holding a leading position in the global truck market (Asia-Pacific accounts for 58.2% of the global medium and heavy trucks market value), it is emerging as the most significant market in the shift to ZE-trucks (MarketLine 2022). No additional competitors were identified for the Latin American market.

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4.3. Company Valuation based on Enterprise Value

A spin-off is when a parent company creates a new independent corporation from one of its operating divisions by issuing stock to existing shareholders. This makes multiple separate companies from the parent company (Linn, S. C., & Rozeff, M. S. 1985). DTs valuation before its spin-off is based on EV valuation methods, which result in the Equity Value when computing the Equity Bridge and subtracting it from the EV (Berk and DeMarzo 2020). A financial forecast is executed for the next five years to determine the first stock price on the Frankfurt Stock Exchange's first day of trading on December 10, 2021.

4.3.1. Financial forecast

A firm valuation relies on financial projections and business plans, which consider various inputs and assumptions. DT's financial statements and additional data from 2018-2021 are extracted to analyse the forecast. The prospectus, published by DT and several investment banks, provides detailed information on critical data and assumptions (Penman 2010). The analysis compromises drivers affecting revenues, costs, and market- and macroeconomic environment data. Financial statements are reclassified for valuation purposes, applying growth rates to income, balance sheet, and cash flow statements, and cross-checked with primary sources like annual reports and databanks (CapIQ).

4.3.1.1. Income statement

The income statement projection is crucial for valuation, identifying key drivers of costs and revenues. Revenue is the primary value driver. FY2021 financials are derived by estimating Q4 2021 financials, comparing the last three quarters of the year and last year's Q4. Revenue growth is susceptible to valuation value, and DT's revenue can be divided into five main business segments: TN, TA, MB, DB, and Daimler Financial Services. The revenue is forecasted by analysing individual developments in each geographic segment to project the company's revenue. For the TN business line, market data for the Heavy and medium-duty truck market in

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North America is analysed for a growth rate of DT sales in North America. As the North American segment makes up 97% of DT TN revenue, North America was the only geographic segment analysed for this business line. The growth rate for revenue is then calculated by averaging the growth in North American market size, the growth in road freight transported in North America (since Medium and Heavy-Duty Trucks are still the primary source of road freight transportation), the growth in Unit Sales, and an additional premium for ZE-Trucks. The ZE-truck premium is added to the revenue growth rate estimation as the truck market develops, with the main competitors competing for the pole position in the ZE-truck race. The CAGR of the TN revenue forecast period 22'-26' equals 4.2%. The development of Medium and Heavy-Duty Trucks will result in an unreasonable surge in sales in the years to come because it is anticipated that these trucks will be emission-free by 2030. The growth rate must be adjusted for this unprecedented occurrence in the truck industry and the automotive sector, as one of the primary reasons for spinning out DT was the separation to concentrate on the ZE-truck target. By taking an average of the revenue CAGR 18'-21' and the CAGR from the projected years 22'-26', the normalised year 27' is calculated by applying this growth rate, incorporating both historical and projected financials. The MB business segment, which has a major geographic concentration in Europe, is anticipated to use the same methodology and growth rate justification but with adjustments for Europe and the European market because, on average, 63.5% of its sales are generated in Europe. Latin America accounts for 12.4% of the sales in this business division, and its market for medium- and heavy-duty trucks is also considered. Its main business is the manufacturing and distribution of trucks in Europe, with its most important Truck-line called Actros. Because of the implementation of EU regulations regarding the ZE trucks, further steps were taken toward electric trucks, and the MB segment has already introduced the eActros. MB revenue CAGR for the forecast period 22'-26' equals 5.2%, slightly higher than the North American revenues, as further domination in the European market is

expected in the following years (Daimler Truck 2021). The same applies to the DB business segment revenue forecast, as this segment operates in geographical segments identical to the MB business division. The CAGR of DBs revenue forecast from 22'-26' equals 5.2%, too, as the growth in the two key markets, Europe and Latin America, will be the same for MB and DBs. As differing geographic concentrations also suggest different growth rates, the metrics used for estimating the revenue (Expected Market growth, Road Freight growth, ZE-Truck Premium, and Unit sales growth) were modified for the distinct business segments. The TA business segment, primarily focusing on Asia, contributed 15.2% of DT's overall revenues on average over the years 18' through 21'. Its main revenue contributors are the India-tailored truck brands Fuso and Bharat (Daimler Truck 2021). Given that Asia has the largest global truck market, DT's expansion in this region is crucial, particularly considering the company's goal of producing ZE trucks. The Trucks Asia business segment's revenue is again computed using the same four key factors affecting DT's influence in this market. This results in a CAGR for the projected period in the Asian Truck segment of 3.9%. Since the switch to ZE trucks is the most crucial, the MB and DB segment will have the greatest growth in the future. As a result, sales will expand faster (Basma 2022). The financial services business segment, which creates tailored financing solutions for firms and does not contribute to a regional concentration, is the most unique revenue stream in forecasting. By adding the anticipated demand for trucks with the unit sales during the forecast period and adjusting for the interest rate environment, the projection for this revenue stream is put into action as the demand for financing and leasing alternatives rises in an environment with lower interest rates. Therefore, the CAGR for this revenue stream is 2.5% over the anticipated period. All the revenue streams anticipated for the projection year add to total revenue, with a geographic breakdown highlighting developments in each of DTs' several geographic concentrations. With a normalised year FY2027 growth rate of 0.5% (calculated from the average of CAGR 18'-21' and 22'-26'), the projection period's Total

revenue CAGR is 4.8%. The historical CAGR cannot be compared because the COVID-19 fall in demand for goods and trucks generally affected most of the historical years.

Calculating the costs directly associated with manufacturing the goods or services a business sells is part of forecasting the cost of goods sold (COGS). COGS is a substantial part of an organisation's financial statement and directly affects profitability (Berk and DeMarzo 2020). The COGS forecast is based on % of Sales discounted by the average of the FY2022-2026 CAGRs of the major COGS components for DT: Different Raw materials, Personnel expenses, Energy, etc., to incorporate the developments of the market and macroeconomic developments into the future, particularly in the context of transitioning to ZE-trucks. As on average, the COGS in % of Sales for the historical period 18'-21' was 82.1%, the assumption is made that DT will be able to improve their Revenue-Cost-structure with the plan presented in the prospect and will be able to reduce and then hold a % of Sales level of 80.7% throughout the forecasted period. Based on this supposition, the COGS is projected as a percentage of sales and then adjusted for the significant future-impacting variables. DT manufactures trucks; thus, price changes will directly impact how many trucks are produced. One of the critical variables is the development of the price of raw materials. Steel, aluminium, and rubber are essential for making trucks and buses. When predicting the COGS for the next five years, it is necessary to consider several extra raw materials for electric trucks, including copper, iron ore, lithium (for batteries), and cobalt, which will be significant for the ZE-truck and bus mission. According to Euromonitor's prediction, the price level of standard raw materials will decline over the forecast period due to an average combined CAGR of (5.9%). Other than that, the average combined CAGR of the additional raw materials equals 1.3%, indicating a price level increase, especially for Lithium and Cobalt. The labour costs directly associated with the produced items are another significant factor affecting COGS. To take this factor into account, another variable is considered when developing COGS: the development of personnel costs in the major producing

countries. Household income growth in the key markets where DT operates and produces the most, whose predictions lead to an average combined CAGR of 3.5% for the forecast period, is a proxy for labour costs. The average CAGR obtained from combining all the factors is (0.4%), utilised to modify the previously determined COGS in % of Sales.

Selling, General and Administrative (SG&A) costs include personnel costs, depreciation, amortisation of fixed and intangible assets, and other administrative expenditures. These costs are unrelated to manufacturing, sales, or research and development (Daimler Truck 2021). The Depreciation and Amortization (D&A) are not included in the SG&A analysis and prediction for a valid forecast and are separately analysed. Since SG&A, in particular, moves in the same direction as Revenue develops, the projection is based on % of Revenue. To account for potential changes, the average growth in household income in Germany, where most administrative staff members are employed, is also considered, along with the average growth rate in the number of marketing, sales, and service department employees. SG&A expenses, therefore, increase with a CAGR of 6.3% for the forecast period. Research and Development (R&D) costs primarily comprise personnel and material costs. Engineers from Germany, Japan, and the United States mainly focus on ZE automobiles, autonomous driving, and further development of existing products. As a result, the estimate is based on developing future personnel expenses in the leading countries where the engineers work, using household income as a proxy, and the increase in R&D staff predicted by DT. A combined CAGR of 8.9% for the anticipated period implies a significant rise in R&D demand, consistent with the fundamental rationale for the spin-off - leadership in the ZE-truck and bus industry.

Additionally, a Patent analysis is done to indicate trends and activities to increase the validity of the R&D forecast. *(see Figure 4 in the Appendix).* The study confirms the developments assumed by the other methodology. Other operating expenses primarily consist of positions that are difficult to anticipate reliably and are thus forecasted using the conventional method,

utilising % of sales and comparing historically. D&A, previously included in operating expenses, averaged 2.2% of Sales from 18'-21' but was not forecasted using % of Revenue. For the D&A, a detailed historical PPE Schedule is extracted from the annual reports and then split into Depreciation and Amortization and Right of Use assets (RoU). Depreciation is determined from the PPE Schedule as the historical average percentage from the individual positions and applied to the forecast period (Boyko 2019). The Opening Balances and the relevant maintenance and expansion capital expenditures (CapEx) are assessed following the PPE forecast to establish the Depreciation expense after each period. The estimate shows a 41.5% increase in D&A in 2022, owing to the enormous revenue increase and thus high CapEx in this year, but then gradually dropping with (2.2%) in the projected period through 2026, indicating the CapEx reduction plan until 2025. DT intends to maintain a stable EBIT and EBITDA margin while improving till 2025 as part of its cost-cutting strategy. Historically, excluding COVID-19-affected years in which margins must be evaluated independently, the EBIT margin averaged 6.0%, and the EBITDA margin averaged 8.1%. For the forecast period 22'-26', the EBIT margin is expected to average 6.5%, beginning with 6.0% in FY2022 and increasing to 6.6% in the last forecast year FY2026. Over the forecast period, the EBITDA margin is expected to average 9.2%. The non-operating activities are not forecasted, as they mainly consist of positions that can hardly be predicted. Interest Expenses and income are computed by calculating the historical interest income in % of Cash and Cash equivalents (C&CE) and the historical interest expenses in % of debt. The percentages are then expected to remain constant over four years and applied to the predicted values of C&CE and debt from the balance sheet forecast. To ensure a viable projection, the standard corporate tax rate in Germany (30%) was applied and expected to remain constant during the forecast period.

4.3.1.2. Balance sheet

For valuation purposes, the Balance sheet is reclassified into *C&CE, Operating and Non-*

operating Invested Capital, *Debt*, and *Equity*. Operating Invested Capital, therefore, amounts to the sum of net working capital (NWC) items and tangible/intangible assets. For forecasting C&CE in the case of DT, the average C&CE level of the last four historical years is used and quarterly analysed to determine a valid future cash amount. To determine the Operating Cash (as only Excess Cash is needed in the Equity Bridge for the Net Debt calculation), an analysis is conducted, analysing the operating cash levels of the DT's peer group from the last four years. The minimal operating cash threshold is calculated by dividing the C&CE by the revenues of the 13 peers and then assessing the percentage required to operate a firm like DT (1.7% Minimum operating Cash threshold). As for Trade and other receivables, the average collection period of the historical years is calculated (Total Receivables/Revenue*365) and then applied to the forecast period, basically saying that the average days in which DTs receivables will be collected amounts to 112.5 days (Leitch 2011). Similarly, inventories are anticipated by calculating the average holding duration of past inventories and then applying the rate to the forecasted COGS, resulting in an average inventory holding duration of 82.6 days. The average Payable Period is used to predict Trade and other payables, illustrating the link between Revenue and Trade payables in the forecast amounting to 30.9 days. These parts of the cash conversion cycle were projected since they are necessary for the NWC calculation on the balance sheet, which allowed for the computation of NWC. Goodwill, intangible assets, PP&E, and RoU Assets are forecasted on a detailed schedule to identify the key drivers. For the Goodwill and intangible assets, the schedule is split into individual positions, starting with the opening balance as a base and forecasting the additions in intangible assets with the growth rate (3.2%), which is extracted as the combined CAGR of total additions (CapEx) from 18' to 25'. The rest of the intangible assets mainly consist of Goodwill (>30% of intangible assets on average for the historic years 18'-21'), patents, brands, and other trademarks (Daimler Truck 2021). Right of Use (RoU) - Assets contain, as applicable, the following amounts: the amount

of the first measurement of the lease liability (as defined above), any payments paid to the lessor on or before the lease's commencement date, less any lease incentives received (Association of Chartered Certified Accountants 2016). The RoU assets are forecasted in an asset schedule applying the average growth rate of the PPE and intangible assets to the closing balance of FY2021.

Because there is no detailed information for the forecast on the non-operating components, non-operating invested capital is calculated by subtracting total operating invested capital from net debt and equity and compared to the historical values derived from the annual report. The operating invested capital and the non-operating invested capital equal the total invested capital; nevertheless, only operating invested capital is used to calculate operating ROIC/RONIC and the respective reinvestment rate (RR) (Jennergren 2013). The operating ROIC for the years 18'-27' is calculated by the net operating profit less adjusted taxes (NOPLAT), which comes from the cash flow map and is divided by the operating invested capital. As for the operating RONIC is computed by the change in NOPLAT year-on-year (YoY) divided by the change in operating invested capital YoY. The operating ROIC in FY2019 (6.3%) is close to the average operating ROIC in the forecast period 22'-27' (6.8%), indicating a valid forecast on NOPLAT and operating invested capital, remembering the fact that the development of operating ROIC/RONIC, particularly in the COVID-19 affected years, can hardly be considered respective for forecasting. The RR is then computed with two methods (Method 1: (*1-Operating Unlevered Cashflow/NOPLAT);* Method 2: *(Δ Operating Invested Capital (incl. Other Non-Cash Adjustments)/NOPLAT)*) and is used for computing the terminal growth rate (LTGR). The LTGR will be further explained in part 4.3.2.3.

For the net debt (*debt and debt-like items – excess cash*) forecast, the single line items in the historic years 18'-21' are analysed as % of EV, which resulted from the Adjusted Present Value (APV) valuation method. To get at the Equity Value and, ultimately, the implied share price,

the net debt, known as the equity bridge, must first be subtracted from the EV (Fernández 2019). The historical average net debt-to-EV ratio is 50%, much higher than the peer group average. Deriving an average target net debt-to-EV ratio from the peer group study, applying it to the terminal year, and predicting the subsequent years by striving for the terminal value target ratio of 29% are the methods used to implement the net debt forecast. The percentage steps are 1% in the first three forecast years, 2% in years four and five, and 3% in the year of the terminal value. Equity is calculated as the difference between total invested capital and net debt for the forecast period and analysed for validity by comparing the forecast values to the historical values, in which the single line items of the equity position are summed up to the total amount.

4.3.1.3. Cashflow map

The cash flow statement is reclassified into the primary key line items used when valuing DT. Using historical data and the forecasted periods, the income statement and balance sheet are combined to create the individual cash flows for the core and non-core businesses (Gruca and Rego 2005). However, the non-core business cash flows are not forecasted because neither the non-operating invested capital nor the other comprehensive income is forecasted, as the uncertainty is too high to ensure a valid forecast in these positions. The operating unlevered cashflows[1] (assuming the company is 100% equity financed) are the main output from the cashflow map used for the cashflow-based valuation methods. The net financing profit less adjusted taxes (NFPLAT) is added to the changes in net debt, non-controlling interest, and shareholder equity for the financing cash flow. The flow-to-equity valuation approach also uses the differences in shareholders' equity, which displays the shareholder transactions year over year as a cash flow. The inverse sum of operating- and non-operating cashflows is often used to determine whether the cashflow map is accurate for the anticipated values. Still, the non-operating cashflow uncertainty is too significant in this case to allow for a reliable projection.

[1] NOPLAT subtracted by Changes in Operating Invested Capital

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4.3.2. Cost of Capital

An appropriate discount rate is needed to determine the present value of future cash flows. The commonly accepted metric for this in both practice and literature is the Weighted-Average-Cost-of-Capital (WACC), defined as:

$$WACC = \left(\frac{E}{EV} * Re\right) + \left(\frac{D}{EV} * Rd * (1 - Tc)\right) \quad (1)$$

This rate represents the expected return investors demand based on the company's capital structure, which comprises equity and debt. The two key components are the weighted cost of equity and the weighted cost of debt (Berk and DeMarzo 2020).

$$Weighted\ Cost\ of\ Equity = \left(\frac{E}{EV} * Re\right) \quad (2)$$

$$Weighted\ Cost\ of\ Debt = \left(\frac{D}{EV} * Rd * (1 - Tc)\right) \quad (3)$$

Target Equity-to-Enterprise Value (E/EV) and Debt-to-Enterprise Value (D/EV) ratios must be established for these calculations. A target E/EV ratio of 78% is derived from the average Debt-to-Enterprise (D/EV) ratio of 22% observed in the peer group. DT's future capital structure is assumed to align with this average. The sample size consists of 13 values. Because it is not particularly large, it is vital to note that excluding any data point would omit important implications for DT. Using the average as a measure thus offers a comprehensive perspective, adequately capturing the specific risk profiles within the peer group. After a detailed analysis of the equity and debt capital costs for DT, the weighted average cost of capital is 6.81%, assuming a tax burden of 30%.

4.3.2.1. Cost of Equity

The Capital Asset Pricing Model (CAPM) is applied to determine the equity cost, denoted as Re. Despite known criticisms, the CAPM is a widely used tool in financial practice. Criticism of CAPM mainly arises from assumptions that, strictly speaking, do not correspond to actual conditions and neglect factors such as liquidity, size, and other market imbalances (Stahl 2015).

Nonetheless, the CAPM provides a valuable framework for estimating the cost of equity, as it relies on readily accessible market data and aligns with a broader understanding of market risks.

$$Re\ (CAPM) = rf + ß * (rm - rf) \quad (4)$$

The risk-free return, rf, is initially used as a starting point for CAPM. This represents the expected return of a risk-free asset, typically represented by short-term government bonds of a stable country. This return serves as the basis since it is the minimum an investor would expect if not taking on additional risk (Berk and DeMarzo 2020). In the case of DT, 10-year German government bonds as of December 10, 2021, are the representative indicator for the risk-free return. Choosing a 10-year term represents a balanced compromise that considers relevance for long-term investments and avoids diminishing liquidity for bonds with terms of 20 years or longer. At this time, the yield of 10-year German government bonds was negative at -0.35% (Daske and Gebhardt 2016). Although this yield reflects the market situation, it is desirable to use a non-negative risk-free yield, as a negative yield does not align with the fundamental financial expectation that money is worth more today than in the future and that investors should expect a positive return for lending their capital (Haksar and Koop 2020). Moreover, the risk-free rate is not expected to stay negative for 10-20 years. To achieve a more realistic assessment, an annual statistical survey conducted by IESE Business School was also considered. This survey, which questioned 1,624 Finance and Economics Professors, Analysts, and Company Managers, revealed that a risk-free return of 0.6% was set for Germany (Fernandez, Bañuls and Acin 2021). Based on market-based data and expert opinions, the risk-free return average is 0.13%. A beta of 1 indicates asset alignment with market fluctuations, providing a balanced basis for DT evaluation. A beta greater than 1 indicates higher volatility than the market, while a beta less than 1 signifies lower volatility (Berk and DeMarzo 2020). This study uses the peer group average as of December 10, 2021, for the beta analysis. Specifically, the levered beta calculated by Bloomberg is used. Bloomberg calculates the beta factor through regression of

the weekly prices for the stock and the index. The comparison index used for this beta analysis is the MSCI World Index in EUR. The default timeframe for this analysis is two years, but it can be adjusted to individual needs. In this case, the study chooses three years. This decision is based on the idea that three years represent a sufficient period to adequately reflect economic fluctuations and company-specific features without excessive influence from short-term market disruptions. In addition to the raw beta, Bloomberg reports the Adjusted beta, representing an estimate of a security's future Beta.

$$Adjusted\ Beta = 0.6\ x * Raw\ Beta + 0.33 \quad (5)$$

Here, it is assumed that a security's beta approaches the market average over time (Merchant 2023). However, since this study examines the beta factor in the context of DT, it is necessary to eliminate the capital structure from the levered beta. The levered beta takes a company's debt into account. In this case, it is necessary to calculate the unlevered beta (debt-free beta) for the peer companies (Berk and DeMarzo 2020). The average of these unlevered beta factors forms the basis for this analysis. This unlevered beta is 0.74. To determine the beta relevant to DT, this study finally re-levered the previously calculated unlevered beta with the specific capital structure and associated risks of DT. This results in a final beta of 0.89 for DT. Then, there is the Market Risk Premium (MRP), representing the additional return that investors expect for undertaking average market risk. This premium is calculated as the difference between the expected return of the market, called rm, and the risk-free return, rf (Berk and DeMarzo 2020). In valuing DT, it is vital to identify an appropriate Market Risk Premium (MRP) that considers the specific characteristics and risks of the company. For this purpose, this thesis uses the MSCI World Index as a representative indicator for market returns. The MSCI World Index is a widely used benchmark for global stock markets, representing various companies from developed countries. It serves as a barometer for global stock market performance and includes more than 1,500 companies, which cover 85% of the free float-adjusted market capitalisation in each

country (Morgan Stanley Capital International 2023). Since DT is an internationally active company, the MSCI World Index reflects the diversified and global market conditions relevant to the company. Since DT's business activities are significantly linked to the Eurozone, and the company reports in EUR, it was crucial to specify the MSCI World Index in EUR. Using returns in EUR ensures that currency fluctuations and potential exchange rate risks are included in the analysis. Analysis in another currency could have led to distortions that were not in line with DT's actual operational risks and opportunities. The selected period of 18 years (2003-2021) for the analysis of market returns was determined based on the availability of the time series in EUR. Although a longer time series would have been desirable, the 18-year horizon provides a sufficient basis to recognise long-term trends and cyclical factors in the global stock market. The annual return of the MSCI World Index for the period was 9.36%. The market risk premium is obtained after deducting the risk-free return of 0.13%. This premium reflects the additional return an investor would expect to take the risk of investing in the global stock market compared to a risk-free asset (Berk and DeMarzo 2020). It represents a key parameter in the CAPM model and significantly contributes to determining DT's cost of equity. According to the application of the CAPM to determine the cost of equity for DT, the calculated capital cost amounts to 8.33%. This value reflects the expected return that equity holders demand for their investment in the company.

4.3.2.2 Cost of Debt

Calculating the cost of debt (Rd), especially in the context of a multinational company like DT, is a complex process that does not allow for a uniform approach. Instead, it is necessary to determine individual costs of debt through approximation. In this sense, four methods are used to provide a specific estimate for DTs cost of debt. The first method considers the bonds issued by DT, with the three bonds having the most extended maturities (10, 7, and 5 years) selected. An average of these bonds' Yield to Maturity (YTM) is used as it reflects the total returns an

investor would expect if he held the bond until maturity. However, since this number does not fully capture the risks, it must be corrected for the Estimated Loss Given Default for the Credit Rating of BBB+. As the bonds were issued in USD, and DT reports in EUR, there is a specific currency risk (Berk and DeMarzo 2020). The theory of Interest Rate Parity (IRP) accounts for this risk. In this context, the forward rate should be equivalent to the spot rate multiplied by the interest rate of the home country and divided by the interest rate of the foreign country, assuming the conditions for the application of IRP are met (Berk and DeMarzo 2020). A premium or discount can now be derived from comparing the EUR forward rate with the EUR spot rate. The cost of debt for this method is 2.65%. The second method relies on the Corporate Yield Curve in the industrial sector. This curve shows the relationship between the yields of various companies' bonds within the industry and their maturity. Analysing this curve offers insight into the average cost of debt for companies with characteristics comparable to DT (Díaz and Skinner 2001). A maturity of 10 years was selected as representative for the spin-off valuation of DT, resulting in a cost of debt of 1.77%. The third method is like the CAPM but uses a Debt Beta of 0.1 instead of an Equity Beta. This Debt Beta is aligned with the respective credit rating, and considering the other CAPM components results in a cost of debt of 1.05% for DT (Berk and DeMarzo 2020). The fourth method examines the effective interest payments on debt from 2018 to 2021 and relates them to long-term debts. The result is a cost of debt of 0.86%. Together, these four methods offer a comprehensive overview and yield an average cost of debt of 1.6% for DT. By considering various factors and approaches, this analysis provides a robust estimate of the cost of debt tailored to DTs' specific characteristics.

4.3.2.3 Long-term growth rate

The Long-Term Growth Rate (LTGR) is a critical component in corporate valuation, especially in the Discounted Cash Flow (DCF) and Economic Value Added (EVA) methodologies. For the valuation of DT, two different approaches to determining the LTGR are employed,

considering both firm-specific and macroeconomic factors. The first method is based on the Operating Return on Invested Capital (Operating ROIC) and the Reinvestment Rate (RR). The formula is defined as:

$$g = ROIC * RR \tag{6}$$

ROIC is a performance indicator measuring a company's profitability relative to the capital invested. ROIC is calculated as the Net Operating Profit Less Adjusted Taxes (NOPLAT) at time *t* divided by the Operating Invested Capital at time *t-1*.

$$ROIC = \frac{NOPLAT_t}{Operating\ Invested\ Capital_{t\_1}} \tag{7}$$

The other factor in the formula, RR (Reinvestment Rate), describes the retention rate, the proportion of net profit that is not distributed as dividends but is reinvested in the company.

$$RR = \frac{NOPLAT_t}{\Delta\ Operating\ Invested\ Capital_t} \tag{8}$$

The multiplication of these two factors yields an LTGR of 2.0%. This method is highly firm-specific and aims to quantify the internal growth potential of the company (Berk and DeMarzo 2020). The second method incorporates broader macroeconomic factors and calculates the LTGR based on the average GDP growth in various key markets. Anticipated growth rates for the USA (2.1%), Asia (4.7%), EU30 (1.8%), and Latin America (2.6%) were considered, resulting in an average nominal GDP growth of 2.8%. In addition, the expected long-term inflation rate for the European Union of 1.7% was included, leading to a nominal Terminal Value Growth Rate of 4.5%. Averaging these two approaches results in a blended LTGR of 3.3%. This methodology allows for a balanced perspective incorporating firm-specific factors and general market conditions, making the corporate valuation more robust and accurate.

4.3.3. Cash Flow-based valuation methods

Cash flow-based valuation is widely used for valuing a company based on projected future cash flows. These approaches analyse the company's ability to generate and make available to capital holders, like investment or financing projects. Standard methods include Discounted Cash Flow

(DCF), Adjusted Present Value (APV), Flow-to-Equity (FTE), and Economic Value Added (EVA). These methods help justify a company's current value by focusing on the firm's future performance for the next 5-10 years (Steiger 2010).

4.3.3.1. Discounted Cash Flow Approach

The DCF valuation methodology is widely used to value businesses with steady cash flows, typically assuming 100% equity financing. This valuation uses two DCF methodologies: the Exit Multiple approach and the terminal value growth method of the Gordon-Growth model. The Cash Flow Map's Unlevered Free Cash Flow to the Firm is used as a starting point, adjusted with statistical error, and discounted with the Weighted Average Cost of Capital (WACC) to derive Operating EV at year-end and EV at valuation date (Berk and DeMarzo 2020). The resulting EV from the DCF Perpetuity Growth method (EUR 41,515 million) is then subtracted by the calculated net debt from the balance sheet forecast (EUR 15,761 million) and the non-controlling interest (EUR 503 million) in order to get to the equity value of DT (EUR 25,251 million), which is finally needed to derive the share price from this valuation method, by dividing the equity value by the number of shares outstanding (implied share price: EUR 30.7). For the Exit Multiple Approach, which brings into consideration the market environment by considering a multiple, the forecasted EBIT is taken into consideration, as this is a crucial key performance indicator (KPI) in the heavy- and medium-duty-Truck market (Daimler Truck 2021). To derive the EV, the terminal year forecasted EBIT 27´ is multiplied by the median peer group EBIT multiple, derived from the Comparable Company Analysis (CCA) and then discounted with the WACC. The sum of the present value of the unlevered free cash flows to the firm is then added to arrive at the EV (EUR 47,954 million) and finally at the implied share price (EUR 38.5) after subtracting the equity bridge.

4.3.3.2. Adjusted Present Value Approach

The APV method considers the value of a leveraged firm to be the same as the value of the

same firm if it were wholly financed with equity plus the discounted value of the interest tax shielding from the debt its assets will support (Inselbag and Kaufold 1997). It might help an investor understand the benefits of tax breaks from interest payments or a subsidised loan at below-market rates. Leveraged buyouts are the most effective for applying the adjusted present value methodology. Unlike the DCF Valuation approach, the Unlevered Cash Flows in the APV method are not discounted by the WACC but with the Unlevered Cost of Equity to emphasise the effects of financing. As for DT, the future net debt is assumed to be determined by its EV. Therefore, interest tax shelters are also discounted using the unlevered cost of equity. The EV derived from this valuation method amounts to EUR 38,796 million, which implies a share price of EUR 27.4 after subtracting the Equity Bridge and dividing it by the number of shares.

4.3.3.3. Flow-To-Equity (FTE) approach

For the FTE approach, the Equity Cash Flows are derived from the Cash Flow Map by calculating the Δ Shareholders' Equity (Transactions w/ Shareholders) YoY, which comes from the forecasted Equity in the Balance sheet. The Equity Cash Flows are then discounted by the Levered Cost of Equity to directly arrive at the implied Equity Value (EUR 23,282 million), which implies a share price of EUR 28.3 from this approach (Borgonovo and Peccati 2004).

4.3.3.4. Economic Value Added (EVA) Approach

The EVA approach uses the variables ROIC and RONIC, which were previously explained in detail (Chapter Balance Sheet Forecast). It calculates the annual economic profit as the product of the amount of ROIC exceeding the WACC and the invested capital from the prior year. The amount of initial invested capital must be added to the anticipated yearly economic profit to arrive at the EV (EUR 35,867 million) and the implied share price (EUR 23.8).

4.3.3.5. Sensitivity analysis

The sensitivity analysis is used for the cash flow-based valuation methods to build an upper and lower bound for the valuation output. Different parameters are used for the different valuation

methods, as not every parameter is essential for every valuation method. Three sensitivity tables are created for the APV and DCF Perpetuity approach to incorporate the most essential parameters into the upper and lower bound creation. For both approaches, the tables consist of 1) Market Risk Premium (±0.4%) vs Risk-free rate (±0.4%), 2) Terminal Growth Rate (±0.5%) vs Unlevered Cost of Equity (±0.5%), 3) Loss Given Default (±1.5%) vs Probability of Default (±1%). The corresponding upper bound is then derived by taking the optimistic values from the sensitivity tables and averaging them, and the same is applied to the pessimistic values. For the FTE bounds, there are changing parameters for the three different sensitivity tables, namely 1) Target Net Debt (% of Equity) (±1%) vs Risk-free rate (±0.4%), 2) Terminal Growth Rate (±0.5%) vs Levered Cost of Equity (±0.5%) 3) Loss Given Default (±1.5%) vs Probability of Default (±1%). Different to the FTE sensitivities, the EVA bounds are built on 1) Terminal Growth Rate (±0.5%) vs Unlevered Cost of Equity (±0.5%), 2) Loss Given Default (±1.5%) vs Probability of Default (±1%) and 3) Unlevered Beta (± 0.01) vs Risk-free rate (±0.4%). The use of various parameters varies because different parameters have varying degrees of sensitivity to the valuation for various valuation methodologies.

4.3.4. Multiple-based valuation methods

The valuation of an EV is often achieved using multiples, as reported cashflow is considered the best proxy for future cashflows and is less subject to management manipulation (Liu, Nissim and Thomas 2002). For DT's implied share price, the chosen multiples are EV/Revenue, EV/EBIT, and EV/EBITDA, as depreciation effects often influence valuation outcomes, EBIT best represent DT's performance and suits as the leading indicator for valuation purposes (Daimler AG 2021b).

4.3.4.1. Comparable company analysis (CCA)

The valuation approach using trading multiples from comparable companies measures the value of DT based on the market prices of peer group companies and, in difference to the Cash Flow-

based valuation methods, does not calculate the intrinsic value of the company but rather the value of the company on the market (A. Damodaran 2007). As a result, assessing private companies using a relative valuation based on multiples of listed counterparts is useful. Theoretically, businesses with comparable performance that operate in the same sector should be valued with the same multiple (Berk and DeMarzo 2020). Therefore, one must choose between several different types of multiples that can be used to assess the value of DT. The three fundamental multiples evaluated inside the CCA valuation of DT are EV/Revenue, EV/EBIT, and EV/EBITDA. These three multiples are the three most frequently used for valuation and depend on the earnings (Lie and Lie 2002). The CCA analysis has three prominent geographic segmentations to account for the various market effects on the companies' trading multiples in various locations. To create a more reliable benchmarking strategy, all peers were classified into one of these groups: North America, Asia, or Europe. Comparable numbers for DT could be produced by computing the mean and median on each geographic segment basis, as well as a whole, as the peers were benchmarked against many margin and profitability metrics, such as EBIT margin in % and Gross margin %. Multiples can be computed using historical, present, or anticipated values. According to most of the research, forward-looking multiples (NTM) are preferable and produce more precise estimates of company value, but only when valuing companies subject to volatile and extreme growth rates, as seen in the tech sector. For DT, this is not the case as they are a producing company with stable and constantly growing cash flows (excluding COVID-19 effects)- Therefore, the multiples that the CCA valuation is based on are Last-Twelve-Months multiples (LTM), basically taking the financials of the Last-Twelve-Months and generating the multiple. Although the NTM multiples always trade lower than the LTM multiples, as future growth is implied and the denominator is, therefore, more significant than for the LTM multiples, implying a lower multiple, the NTM multiples were also considered in the CCA analysis and calculated for comparison aspects for completeness.

Group Part

Because equity multiples, such as the Price/Earnings multiple, have issues incorporating different accounting policies (Alford 1992). The fact that the analysis includes three different geographical segments in the CCA analysis is a reason for not using it, as it may produce very invalid results due to the strong diversification in peer-group heritage. As a result, EV multiples have the advantage of ignoring capital structure, which facilitates comparisons between companies with different leverage levels. Unlike equity multiples with equity value metrics in the numerator, EV multiples include net debt and an operational metric before debt repayments, such as EBIT or EBITDA. EBITDA is a measure that is difficult to interpret in the automotive industry, however, because various businesses utilise different depreciation schedules and might thus have EBITs that are considerably lower or much higher. After extracting the trading multiples for the chosen financial metrics for every peer, a geographical average and median to show the different geographical effects on the total median multiple are calculated. Here, one can see that the North American and Asian peers trade the highest (Median EBIT multiple LTM of 20.50x and 21.07x), while the European pendant trades the lowest with a median EBIT multiple LTM of 14.40x. This is mainly attributable to the two segments' faster economic growth than the expansion of the European market. This is mainly attributable to the two nations' faster economic growth than the expansion of the European market. For the final valuation, the average of every multiple from the three geographic segments was used to arrive at the EV by calculating the *financial metric LTM * the corresponding multiple* (e.g. *EBITDA LTM * EBITDA Multiple LTM*). Therefore, the study arrives at three different EVs from the computation implying three different share prices: 1) EV/Revenue implies EUR 35.5; 2) EV/EBITDA implies EUR 24.8; 3) EV/EBIT implies EUR 28.7. As can be seen, the EV/EBIT computation comes the closest to meeting the objective of EUR 28, which is consistent with the anticipation that EBIT will be the most beneficial financial parameter for valuing DT. The 33rd and 66th percentiles of the 13 comparable company multiples were taken to create the

lower and upper bound of the CCA, meaning the optimistic- and pessimistic scenarios.

4.3.4.2. Comparable transaction analysis (CTA)

Precedent transaction analysis ("precedent transactions" or "precedents") uses a multiples-based methodology to determine an inferred value range for a particular firm, division, or group of assets ("target"). It is based on multiples paid in recent M&A deals for comparable firms. A firm, or a portion of it, may be sold for various prices in an M&A, capital markets, or restructuring transaction. This is only one of the many uses for precedent transactions (Rosenbaum and Pearl 2021). The multiples derived from the CTA are usually higher than the trading comps, as the multiples are based on actual transactions, and acquirers often pay a very high premium when overtaking the company (Kaplan and Ruback 1995). The CTA includes five precedent transactions, benchmarked companies, and geographical segments like German, Swedish, US, and Chinese, incorporating DT's operations. All companies manufacture trucks, buses, or other commercial vehicles, such as forklifts and construction machinery. Given that both businesses compete in the same markets as DT, the Navistar International Corp. and the Man SE deal are the most legitimate in this CTA. The median multiples that were computed using the CTA implied share prices of EUR 34.5 (Median EV/Revenue multiple of 1.20x), EUR 20.4 (Median EV/EBITDA multiple of 11.33x) and EUR 28.4 (Median EBIT multiple of 19.70x). The median was utilised in this instance since it makes more sense for a legitimate value because five transactions were selected for the CTA. It can be observed that the share prices of CTA EBIT and CCA EBIT are >1% distant from one another and from the target price of EUR 28, which is again in line with the assumption of EBIT being the best fit for DT's valuation.

5. Conclusion

The output of this work is summarised using a football field chart, a common way for displaying the outcomes of several valuation methodologies and their averages about the real aim. This

summary graphic shows valuation outcomes for CTA and CCA and intrinsic value methodologies, including DCF, APV, EVA, and FTE.

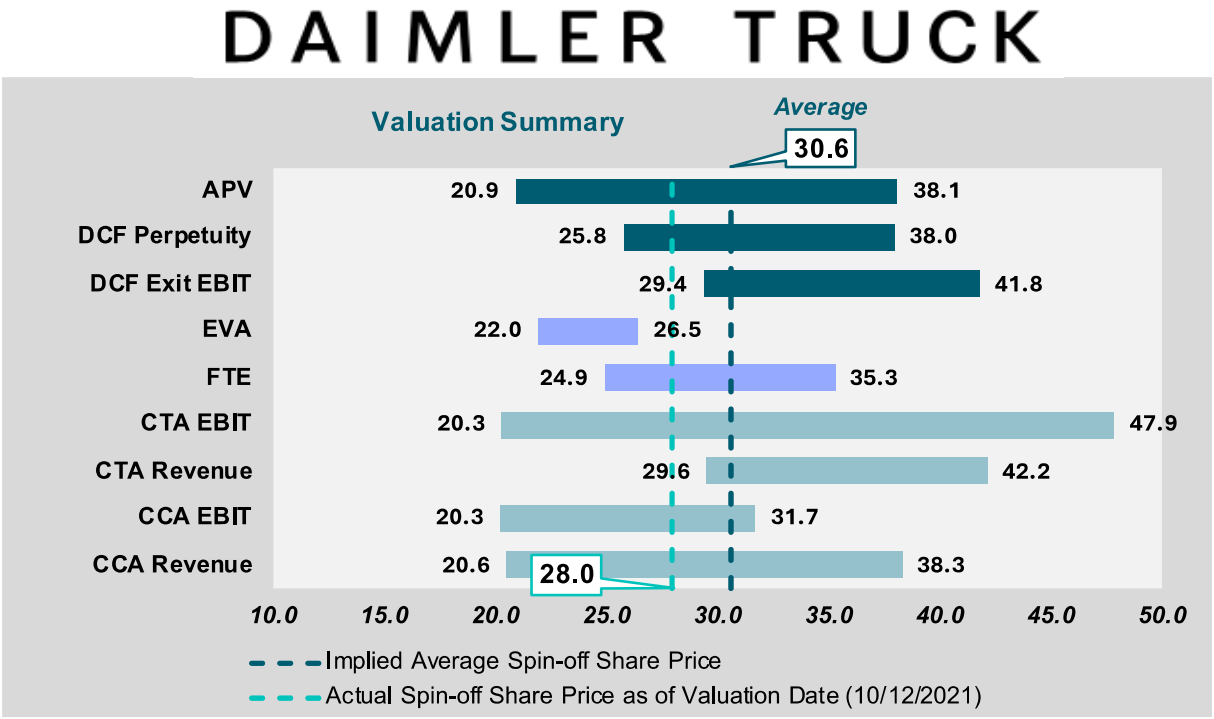

Figure 1: Valuation Output – Implied Share prices per valuation method (in Euro)

The CTA and CCA produce a broader disparity in the lower and upper bounds (ranging from a minimum of EUR 20.3 to a maximum of EUR 47.9 per share). The Cash Flow based methodologies agree, with EVA being the sole negative outlier (Average Cash Flow based valuation share price of EUR 29.7). The final valuation for DT, calculated by averaging the best estimations from all available valuation techniques, is EUR 30.6. The average approach for the valuation output is more valid than the median because the best estimates in the valuation output are primarily uniform and in line with our expectation of the final share price in the event of the corporate spin-off. The median of all best estimates equals EUR 28.7 and is, therefore, also in line with actual and implied average spin-off share prices.

1. Introduction

Initial Public Offerings (IPOs) are crucial for a company's capital growth and market positioning in the financial markets. An often-overlooked yet vital element of IPOs is the lock-up agreement, which prevents existing shareholders from selling their shares for a specified period. These lock-up periods are critical to investors and market researchers, as they can significantly influence stock prices, particularly upon expiration. This effect on stock prices affects many stakeholders, from insiders and significant shareholders to small investors and company management, necessitating strategic alignment. The full impact of lock-up expirations on stock returns, a critical research area, remains not fully explored (Berk and DeMarzo 2020; Field and Hanka 2001; Hasimzade, Myles and Black 2017).

1.1. Problem background

In recent years, financial markets have shown varied reactions to the expiration of IPO lock-up periods. Notable instances include a 7.8% drop in Airbnb's share price in May 2021 and an 11% increase in Facebook's shares in November 2012 following the end of their lock-up periods (Lenihan 2021; Boorstin 2012). Generally, studies indicate negative abnormal returns around these expirations (Brav and Gompers 2003; Field and Hanka 2001; Ofek and Richardson 2001). These market responses, especially as lock-up periods are public knowledge detailed in securities prospectuses, challenge the Efficient Market Hypothesis by suggesting that such information may not be fully reflected in stock prices.

1.2. Previous research and research gap

Previous research on the impact of IPO lock-up period expirations has primarily focused on the US market, often observing negative abnormal returns (Bradley and Jordan 2022; Ofek and Richardson 2001). Similar trends have been noted in the UK and MENA regions, though with less statistical significance (Hakim, Lypny and Bhabra 2012). Notably, these studies, including a significant 2002 study on the German 'Neuer Markt,' need to be updated, with financial

markets having evolved significantly since then (Nowak and Gropp 2002). This study seeks to fill the gap in research by analysing lock-up period expirations from 2004 onwards, providing updated insights into the German market and its recent dynamics.

2. Theoretical foundation

This study's examination of stock markets, particularly IPOs and lock-up agreements, draws upon three fundamental theories. Firstly, the Efficient Market Hypothesis (EMH) provides insights into how stock prices may reflect all available information, impacting the potential for arbitrage. Secondly, Information Asymmetry and Signaling Theory delve into the intricate relations among corporate insiders, investors, and the public, mainly focusing on the signalling role of lock-up agreements. Lastly, theories concerning Downward-sloping Demand Curves and the Liquidity Effect are employed to understand how stock supply influences prices.

2.1. The efficient market hypothesis and arbitrage opportunities

The Efficient Market Hypothesis (EMH) is central to financial theory, proposing that markets efficiently reflect all available information in stock prices, driven by rational, profit-maximising investors. This hypothesis is divided into three forms: strong, semi-strong, and weak, differing in the degree and type of information reflected in prices. The strong form suggests total information reflection, the semi-strong form implies rapid adjustment to public information, and the weak form indicates that prices only reflect historical data (Fama 1970). Deviations from EMH can lead to market mispricings and arbitrage opportunities. However, these are often limited by trading costs, risk exposure, and practical challenges like the ability to short-sell stocks, especially for new market entries (Pontiff 2006; Ofek and Richardson 2001). These considerations highlight the complexities in arbitrage and the nuanced factors affecting market efficiency.

2.2. Information asymmetry and signalling theory

The semi-strong form of the Efficient Market Hypothesis (EMH) suggests that public information is rapidly assimilated into stock prices. However, information asymmetry disrupts this balance, as some parties may have superior information, a concept highlighted by George Akerlof's 'Market for Lemons' (Akerlof 1970). In IPOs, this asymmetry is evident as corporate insiders often have more profound insights than external investors. Signalling theory addresses this imbalance, with lock-up agreements as key signals of insider confidence in the market (Brau and Fawcett 2006). Insiders' actions at the end of lock-up periods, particularly their decision to sell or hold shares, are closely watched by investors as indicators of the company's prospects, often affecting stock prices accordingly (Seyhun 1984).

2.3. Downward-sloping demand curves and the liquidity effect

The theory of Downward-sloping demand curves is vital for understanding stock price dynamics, especially in IPOs and following lock-up period expirations. This theory posits that an increase in available shares leads to a decrease in price (Hasimzade, Myles and Black 2017; Jonathan 1987). Factors influencing the demand curve's slope include share substitutability, investor diversity, the number of arbitrageurs, and their risk tolerance (Wurgler and Zhuravskaya 2002). The anticipated stock influx from lock-up expirations in efficient markets should be priced at the IPO stage. However, practical challenges like high transaction costs can prevent full arbitrage, leading to negative price impacts when the lock-up period ends (Shleifer and Vishny 1997). Conversely, the Liquidity Effect suggests that increased share availability post-lock-up can drive prices up, as enhanced liquidity lowers the required return for investors (Damodaran 2005).

3. Literature review

This literature review synthesises research on IPOs and lock-up periods, providing insights into their impact and interpretation in diverse contexts. It begins by examining IPO stock

performance post-listing and exploring behavioural and outcome patterns. The review then focuses on lock-up agreements, analysing their implications in different regions and market conditions. The primary objective is to spotlight significant trends, theoretical insights, and key empirical findings. These collectively enhance the comprehension of IPO dynamics, particularly emphasising the critical role of lock-up periods in shaping these events.

3.1. IPO stock performance

Due to limited historical data, the transition of private firms to public markets through IPOs is a critical phase marked by mixed investor expectations (Abba, et al. 2022). IPO stock performance post-listing has been a critical focus in financial literature, examining various motives like capital raising and enhancing visibility (Berk and DeMarzo 2020; Lowry, Michaely and Volkova 2017). However, IPO performance analysis often reveals underperformance. For example, Gompers and Lerner found underperformance in U.S. IPOs between 1935 and 1972. Jay R. Ritter observed similar trends from 1975 to 1984, with firms underperforming compared to industry and size-matched counterparts. (Gompers und Lerner 2003; Ritter 1991).

3.2. Characteristics and previous findings on lock-up agreements

In IPOs, lock-up agreements prevent insiders and pre-IPO shareholders from selling shares for a set period, usually 180 days, to maintain market confidence and signal commitment to the firm post-IPO (Field and Hanka 2001; Brav and Gompers 2003). These agreements, detailed in IPO prospectuses, impact the stock's trading landscape by limiting available shares for trade. Studies, including those by Field and Hanka (2001) and Bradley et al. (2000), have documented significant changes in stock prices and trading volumes around lock-up expirations, often attributed to information asymmetries and market dynamics like downward-sloping demand curves (Field and Hanka 2001; Bradley and Jordan 2022; Brau, Carter, et al. 2004; Ofek and Richardson 2001). Regional studies have shown varying effects, with some aligning with the

EMH and others noting negative abnormal returns (Espenlaub, Georgen and Khurshed 2001; Hakim, Lypny and Bhabra 2012; Georgen, Renneboog and Khurshed 2006).

4. Hypothesis

The literature review shows that IPO lock-up period expirations are often associated with negative abnormal returns, particularly in the U.S. and, to some extent, the U.K. However, there needs to be more research on the German market post-2003, as previous studies primarily focused on earlier periods or other regions. This study addresses this gap by investigating whether abnormal stock returns have occurred around the expiration of lock-up periods in German IPOs since 2004, providing updated insights into this market context.

4.1. Abnormal return at lock-up expiration

The exploration of this question aims to extend the understanding of market efficiency by the semi-strong form of the Efficient Market Hypothesis (EMH) within this market. Accordingly, the primary null hypothesis for this study is formulated as follows: *Hypothesis 1: There is no abnormal return around the expiration of lock-up periods related to IPOs on the German market.*

4.2. Length of lock-up agreement

A more extended lock-up period indicates a more substantial commitment from the insiders, while a shorter one is less restrictive. This section will explore whether the duration of the lock-up period impacts the abnormal returns observed at its expiration. The hypothesis is formulated: *Hypothesis 2: IPOs with a shorter lock-up period have a higher cumulative abnormal return than longer durations on the German market.*

4.3. Impact of Market Capitalization on Lock-up Expiration

Larger companies, typically under closer scrutiny by investors and analysts, may experience less abnormal price volatility. In contrast, smaller companies with lower market visibility and trading volumes might see increased volatility. *Hypothesis 3: Companies with smaller market*

capitalisation tend to have more cumulative abnormal returns than companies with larger market capitalisation in the German market.

4.4. Impact of specific industry on abnormal returns

This hypothesis aims to investigate whether the industry in which a company operates influences the abnormal returns observed around lock-up expiration. *Hypothesis 4: The industry in which a company operates influences the cumulative abnormal return around the expiration of lock-up periods.*

4.5. Year of expiration

Different economic climates, regulatory changes, or sector-specific developments could all influence how the market reacts in any given year. *Hypothesis 5: The year of lock-up expiration influences the cumulative abnormal return around its expiration on the German market.*

5 Methodology

This research adopts a quantitative event study method using multivariate regression analysis to examine the impact of various factors on Cumulative Abnormal Return (CAR). Precisely defined research questions drive this deductive approach. For statistical analysis, we use Stata software, which aids in minimising bias and enhancing the generalizability of the results. T-tests are employed to determine the statistical significance of the CARs. The multivariate regression model provides an in-depth perspective on the determinants of CAR patterns, enabling comprehensive testing of hypotheses concerning the effects of lock-up periods on IPO performance. This approach ensures the empirical robustness and accuracy of the findings.

5.1. Definition of event window

This study focuses on the expiration of lock-up agreements post-IPO, identified as Trading Day 0. The event window for analysis is set from five days before to five days after this date (-5, +5), capturing the period around the expiration. This timeframe is selected to align with existing literature and capture immediate market reactions. While some studies use broader or narrower

windows, this symmetric window is chosen for its balance in observing the before and after effects of lock-up expirations, ensuring consistency with previous research, notably that of Brav and Gompers (2003).

5.2. Data and sample selection (Data loss)

This study analyses companies that went public on the Frankfurt Stock Exchange from 2004 to 2023, covering a range of company sizes and sectors over 19 years. This period was chosen to update the research on the German market, particularly following the Dotcom bubble burst in 2000. As detailed in *Table 1*, the data from the Frankfurt Stock Exchange includes 1,839 stock market launches, encompassing IPOs, private placements, and dual listings. The focus is on IPOs and firms listed under the General Standard and Prime Standard, ensuring high-quality data. Essential criteria for inclusion were the availability of lock-up agreement details in the prospectus and stock price data from Bloomberg. Certain data refinement was undertaken to enhance the accuracy and reliability of the analysis. This involved visually examining the data distribution, as illustrated in the *Figure 1* box plot, which helped identify and remove extreme outliers. Data points that strayed significantly from the norm, more than 1.5 times the Interquartile Range from the quartile boundaries, were excluded.

5.3. Expected return

In calculating the expected return of stocks, this study uses the market model, utilising the STOXX Europe 600 as the benchmark for market returns. This broad index is ideal for analysing German companies as it accurately reflects the European market and offers sufficient diversification across industries and company sizes.

$$R_{i,t} = a_i + ß_i R_{m,t} + \in_{i,t} \quad (1)$$

Where $R_{i,t}$ is the expected return for stock i at time t, a_i is the stock-specific risk, $ß_i$ is the systematic risk, $R_{m,t}$ is the return of the STOXX Europe 600 at time t, and $\in_{i,t}$ is the error term.

5.4. Abnormal return

The Abnormal Return (AR) calculation is crucial, forming the foundation for subsequent statistical analysis. AR is computed as the difference between the actual return of a stock and its expected return, determined by:

$$AR_{i,t} = R_{i,t} - (\alpha_i + ß_i R_{m,t}) \quad (2)$$

where $AR_{i,t}$ represents the abnormal return for stock i at time t. This measure is essential to identify how stock returns deviate from market expectations, especially around the expiration of lock-up periods. The calculated AR values will be used for averaging, cumulative analysis, and assessing statistical significance, providing insight into the market impact of lock-up period expiration.

5.5 Cumulative abnormal return

Cumulative Abnormal Return aggregates the abnormal returns for each stock over the entire event window. It sums up the daily ARs for a specific stock, providing a cumulative measure of the stock's performance throughout the event period.

$$CAR_i(t_1, t_2) = \sum_{t=t_1}^{t_2} AR_{i,t} \quad (3)$$

6. Empirical analysis and results

Before examining the primary analysis, it is essential to validate the normality of the dataset, a fundamental assumption for statistical testing. For the CAR on day +5, detailed in *Table 3*, the dataset of 123 observations displays a distribution closely resembling a normal curve. The skewness value of -0.0989, close to 0, indicates an almost symmetrical distribution. Similarly, the kurtosis of 3.0300, slightly above the normal distribution benchmark of 3, suggests a similar distribution shape. These values point towards a CAR distribution consistent with normality, providing a solid foundation for further empirical analysis. The empirical analysis of the event study, focusing on the days surrounding the expiration of lock-up agreements in IPOs, reveals a significant trend in CAR. Notably, from day -3 to day +5 of the event window, the negative

mean CAR intensifies, with day 0 marking the beginning of a series of statistically significant negative returns. As detailed in *Table 4*, this trend culminates on day +5, where the mean CAR reaches -0.1096, accompanied by a t-value of -7.7931 and a p-value of 0.000, firmly rejecting the null hypothesis of no abnormal return on this day. Dissecting the data by the length of lock-up periods presents intriguing insights, aligning with hypothesis 2. As shown in *Table 5*, IPOs with lock-up periods of 180 days or less demonstrated a fluctuating pattern, with a notable positive spike on day -3. However, by day +5, the mean CAR for this group plunged to -0.1114, indicating a stark negative shift. IPOs with lock-up periods over 180 days exhibited a less pronounced negative mean CAR of -0.0114 on day +5. This differential suggests that the market may respond with heightened sensitivity to the expiration of shorter lock-up agreements, potentially interpreting these as signals of insider sentiment toward the firm's future valuation. The impact of market capitalisation on CAR is also evident in *Table 6* and supports hypothesis 3. Companies with a market cap below €1 billion exhibit more pronounced negative CARs by day +5, implying that smaller firms may be more susceptible to negative investor sentiment at lock-up expiration. However, it does not offer conclusive evidence regarding Hypothesis 4. While sectors such as Automotive show a unique positive mean CAR post-expiration, this contrasts the generally negative trend across most sectors. Although this highlights the potential for industry-specific factors to affect investor expectations and stock performance post-lock-up expiration, the evidence is not sufficiently robust to draw firm conclusions about the impact of specific industries on abnormal returns. While yearly trends highlight the influence of temporal and macroeconomic factors, they do not provide definitive evidence supporting hypothesis 5. For example, 2007 and 2009, marked by the financial crisis, exhibited significantly negative CARs by day +5. This suggests that market conditions specific to these years could have influenced the abnormal returns. However, due to the complexity and variety of factors at play each year, it is challenging to determine how much the year of lock-up expiration independently

impacts CARs. The multi-regression analysis, detailed in *Table 7*, underscores the complexity of factors influencing CAR. While the model is statistically significant, with an F-statistic of 5.38 and a Prob > F of 0.000, the adjusted R-squared value of 0.5769 indicates that the model does not explain over 42% of the CAR variation. This suggests that additional factors not captured in the regression significantly influence CAR during lock-up expiration.

7. Conclusion

This thorough exploration of German IPOs from 2004 to 2023 has unveiled insightful dynamics surrounding the expirations of lock-up periods. The findings reveal a consistent pattern of negative abnormal returns, most notably immediately after these expirations. This trend is particularly evident among smaller firms and those with shorter lock-up agreements, underscoring their heightened vulnerability during these critical market phases. The regression analysis suggests that other yet unexplored factors play a role in influencing market reactions to the end of lock-up periods. This study contributes to a deeper understanding of market mechanisms in the post-IPO phase, especially within the German financial market. It highlights that lock-up expirations are influenced by many factors, which is significant for all stakeholders involved in IPOs, such as company executives, investors, policymakers, and academics. These insights underscore the need for a comprehensive approach to analysing and strategising these market events. This research lays the groundwork for further investigations into the various elements affecting stock performance post-IPO. Future research could build upon these findings, delving deeper into the interplay of additional factors and market conditions to understand the complexities of lock-up period expirations.

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Appendix Group Part

Figure 2: Prior spin-off group structure *(Daimler AG 2021b)*

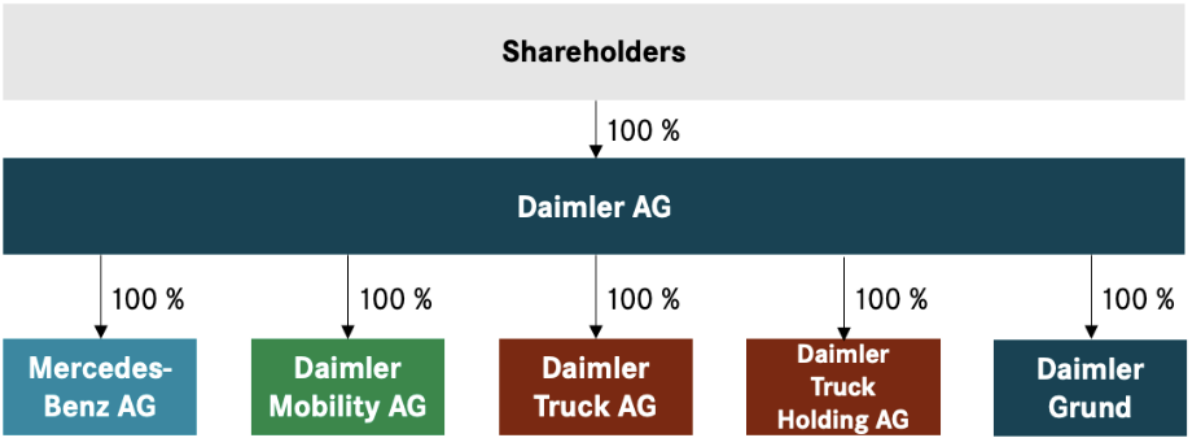


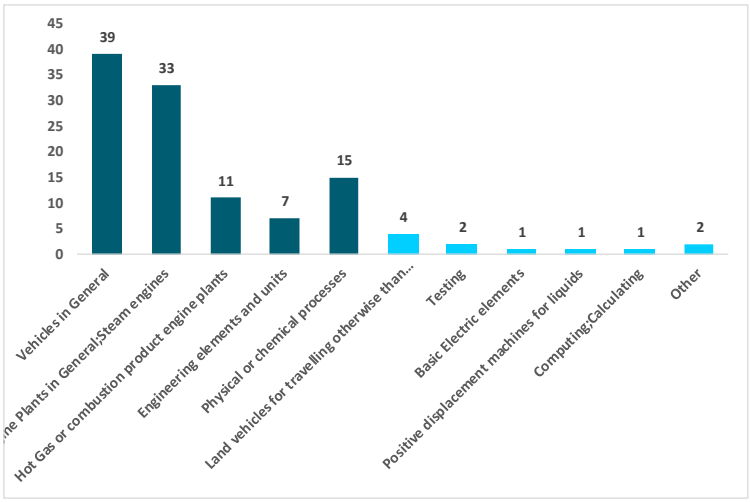
Figure 3: Daimler Truck competitive landscape (own illustration)

Appendix Group Part

Figure 4: Patents and Trademarks analysis (own illustration)

Patents and Trademarks

Vehicles in General	39
Engine Plants in General;Steam engines	33
Hot Gas or combustion product engine plants	11
Engineering elements and units	7
Physical or chemical processes	15
Land vehicles for travelling otherwise than on	4
Testing	2
Basic Electric elements	1
Positive displacement machines for liquids	1
Computing;Calculating	1
Other	2
Total	116



Appendix Group Part

Table 1: Sensitivity analysis – APV (own illustration - Share Prices (in Euro)

APV

MRP \ Rf-Rate	-0.9%	-0.4%	0.1%	0.6%	1.1%
8.2%	71.7	52.5	39.8	30.8	24.1
8.7%	56.7	42.7	32.9	25.7	20.1
9.2%	45.8	35.2	**27.4**	21.5	16.8
9.7%	37.6	29.2	22.9	17.9	14.0
10.2%	31.2	24.4	19.1	15.0	11.6

Terminal Growth Rate \ Unlevered Cost of Equity	5.9%	6.4%	6.9%	7.4%	7.9%
2.3%	30.0	23.7	18.8	14.8	11.6
2.8%	36.7	28.7	22.6	17.8	13.9
3.3%	45.8	35.2	**27.4**	21.5	16.8
3.8%	59.3	44.1	33.7	26.1	20.4
4.3%	80.7	57.1	42.4	32.3	25.0

LGD \ Probability of Default	-2.8%	-1.3%	0.2%	1.7%	3.2%
26.7%	27.9	27.6	27.4	27.1	26.9
28.2%	27.9	27.7	27.4	27.1	26.8
29.7%	28.0	27.7	**27.4**	27.1	26.8
31.2%	28.0	27.7	27.4	27.1	26.8
32.7%	28.0	27.7	27.4	27.1	26.7

Upper Bound	**38.1**
Lower Bound	**20.9**

Appendix Group Part

Table 2: Sensitivity analysis – DCF Perpetuity (own illustration) - Share Prices (in Euro)

DCF Perpetuity

MRP \ Rf-Rate	-0.9%	-0.4%	0.1%	0.6%	1.1%
8.2%	71.8	55.5	44.0	35.4	28.9
8.7%	57.6	45.5	36.6	29.8	24.4
9.2%	47.1	37.8	**30.7**	25.1	20.6
9.7%	39.0	31.6	25.9	21.2	17.4
10.2%	32.6	26.7	21.9	17.9	14.6

Terminal Growth Rate \ Unlevered Cost of Equity	5.9%	6.4%	6.9%	7.4%	7.9%
2.3%	20.9	20.9	20.9	20.9	20.9
2.8%	25.2	25.2	25.2	25.2	25.2
3.3%	30.7	30.7	**30.7**	30.7	30.7
3.8%	38.1	38.1	38.1	38.1	38.1
4.3%	48.5	48.5	48.5	48.5	48.5

LGD \ Probability of Default	-1.8%	-0.8%	0.2%	1.2%	2.2%
26.7%	30.0	30.4	30.7	31.0	31.4
28.2%	30.1	30.4	30.7	31.0	31.3
29.7%	30.1	30.4	**30.7**	31.0	31.3
31.2%	30.1	30.4	30.7	31.0	31.3
32.7%	30.1	30.4	30.7	31.0	31.3

Upper Bound	**38.0**
Lower Bound	**25.8**

Appendix Group Part

Table 3: Sensitivity analysis – FTE (own illustration) - Share Prices (in Euro)

FTE

Rf \ Target Net Debt (% of Equity)	20.5%	21.5%	22.5%	23.5%	24.5%
-0.9%	30.2	29.6	29.0	28.4	27.9
-0.4%	29.8	29.2	28.7	28.1	27.6
0.1%	29.3	28.8	**28.3**	27.8	27.3
0.6%	28.9	28.4	27.9	27.5	27.0
1.1%	28.5	28.0	27.6	27.1	26.7

Terminal Growth Rate \ Levered Cost of Equity	7.3%	7.8%	8.3%	8.8%	9.3%
2.3%	29.9	26.8	24.2	22.0	20.1
2.8%	32.7	29.1	26.1	23.5	21.4
3.3%	36.3	31.9	**28.3**	25.4	22.9
3.8%	40.9	35.4	31.0	27.5	24.7
4.3%	47.1	39.8	34.4	30.2	26.8

LGD \ Probability of Default	-1.8%	-0.8%	0.2%	1.2%	2.2%
26.7%	28.5	28.4	28.3	28.2	28.0
28.2%	28.6	28.4	28.3	28.2	28.0
29.7%	28.6	28.4	**28.3**	28.2	28.0
31.2%	28.6	28.4	28.3	28.1	28.0
32.7%	28.6	28.4	28.3	28.1	28.0

Upper Bound	**35.3**
Lower Bound	**24.9**

Appendix Group Part

Table 4: Sensitivity analysis – EVA (own illustration) - Share Prices (in Euro)

EVA

Terminal Growth Rate \ Unlevered Cost of Equity	5.9%	6.4%	6.9%	7.4%	7.9%
2.3%	22.3	22.3	22.3	22.3	22.3
2.8%	23.0	23.0	23.0	23.0	23.0
3.3%	23.8	23.8	**23.8**	23.8	23.8
3.8%	25.0	25.0	25.0	25.0	25.0
4.3%	26.6	26.6	26.6	26.6	26.6

LGD \ Probability of Default	-1.8%	-0.8%	0.2%	1.2%	2.2%
26.7%	23.0	23.4	23.8	24.2	24.7
28.2%	23.0	23.4	23.8	24.2	24.7
29.7%	23.0	23.4	**23.8**	24.2	24.7
31.2%	23.0	23.4	23.8	24.2	24.7
32.7%	23.0	23.4	23.8	24.2	24.7

Rf \ Unlevered Beta	0.72	0.73	0.74	0.75	0.76
-0.9%	28.1	26.7	25.4	24.2	23.0
-0.4%	27.1	25.8	24.6	23.5	22.4
0.1%	26.1	24.9	**23.8**	22.8	21.8
0.6%	25.1	24.1	23.1	22.1	21.2
1.1%	24.2	23.3	22.3	21.5	20.6

Upper Bound	**26.5**
Lower Bound	**22.0**

Appendix Group Part

Table 5: ROIC & RR calculations (own illustration)

Daimler Truck AG
(€ in Millions Except Per Share and Per Unit Data)
ROIC & RR

	FY2018A	FY2019A	FY2020A	FY2021A	FY2022F	FY2023F	FY2024F	FY2025F	FY2026F	FY2027F	TV
NOPLAT	1,920.0	1,927.0	-71.0	1,135.6	1,693.2	1,909.7	2,087.8	2,142.1	2,322.2	2,393.3	2,472.3
Operating Invested Capital	30,430.1	35,223.6	28,986.5	29,973.3	29,378.3	29,794.9	30,489.4	31,289.7	32,372.2	33,002.9	33,654.4
Operating ROIC	***n.a.***	***6.3%***	***(0.2%)***	***3.9%***	***5.6%***	***6.5%***	***7.0%***	***7.0%***	***7.4%***	***7.4%***	***7.5%***
Operating RONIC	***n.a.***	***n.a.***	***(41.7%)***	***(19.3%)***	***56.5%***	***(36.4%)***	***42.7%***	***7.8%***	***22.5%***	***6.6%***	***12.5%***
Operating Unlevered Free Cash Flow	n.a.	-2,866.5	6,166.1	148.8	2,288.1	1,493.1	1,393.2	1,341.8	1,239.6	1,762.6	1,820.8
Δ Operating Invested Capital (incl. Other Non-Cash Adjustme	n/a	4,793.5	-6,237.1	986.8	-595.0	416.6	694.5	800.2	1,082.6	630.7	651.5
Operating Reinvestment Rate (Method 1)	***n/a***	***248.8%***	***8784.7%***	***86.9%***	***(35.1%)***	***21.8%***	***33.3%***	***37.4%***	***46.6%***	***26.4%***	***26.4%***
Operating Reinvestment Rate (Method 2)	***n/a***	***248.8%***	***8784.7%***	***86.9%***	***(35.1%)***	***21.8%***	***33.3%***	***37.4%***	***46.6%***	***26.4%***	***26.4%***
Check	*TRUE*	*TRUE*	*TRUE*	*TRUE*	*TRUE*	*TRUE*	*TRUE*	*TRUE*	*TRUE*	*TRUE*	*TRUE*
Operating ROIC * Reinvestment Rate (Method 1)	***n/a***	***15.8%***	***(17.7%)***	***3.4%***	***(2.0%)***	***1.4%***	***2.3%***	***2.6%***	***3.5%***	***1.9%***	***2.0%***
Operating ROIC * Reinvestment Rate (Method 2)	***n/a***	***15.8%***	***(17.7%)***	***3.4%***	***(2.0%)***	***1.4%***	***2.3%***	***2.6%***	***3.5%***	***1.9%***	***2.0%***
Check	*TRUE*	*TRUE*	*TRUE*	*TRUE*	*TRUE*	*TRUE*	*TRUE*	*TRUE*	*TRUE*	*TRUE*	*TRUE*

Table 6: APV Valuation (own illustration)

Valuation Assumptions	
Valuation As-Of Date	10/12/2021
Financial Year End	31/12/2021
% of Cash Flow Generated in FY23 to Date	94%
Annualized Probability of Default	0.2%
Loss Given Default (% of NOPLAT)	29.7%
Unlevered Cost of Equity	6.9%
TV Growth Rate (Nominal)	3.3%
# Shares Outstanding	823.0

>>> Sourced from www.CapitalIQ.com

	FY2018A	FY2019A	FY2020A	FY2021A	FY2022F	FY2023F	FY2024F	FY2025F	FY2026F	FY2027F	TV
Operating Unlevered Free Cash Flow (Base)	n.a.	-2,866.5	6,166.1	148.8	2,288.1	1,493.1	1,393.2	1,341.8	1,239.6	1,762.6	1,820.8
Operating Unlevered Free Cash Flow (Default)	n.a.	(3,437.9)	6,187.2	(187.9)	1,786.1	926.9	774.2	706.7	551.1	1,053.0	1,087.7
Operating Unlevered Free Cash Flow (Statistically Exp.)	**n/a**	**(2,867.6)**	**6,166.2**	**148.2**	**2,287.2**	**1,492.1**	**1,392.1**	**1,340.6**	**1,238.3**	**1,761.3**	**1,819.4**
Discount Rate (Unlevered Cost of Equity)					*6.9%*	*6.9%*	*6.9%*	*6.9%*	*6.9%*	*6.9%*	*6.9%*
Operating Enterprise Value at year-end					41,292.4	42,664.1	44,231.0	45,958.0	47,907.0	49,468.3	51,080
Operating Enterprise Value as of Valuation Date					**38,737.4**						
Interest Tax Shield	37.5	21.9	24.0	26.9	14.8	15.0	15.3	14.5	13.7	12.5	0.0
Discount Rate (Unlevered Cost of Equity)					*6.9%*	*6.9%*	*6.9%*	*6.9%*	*6.9%*	*6.9%*	*6.9%*
PV (Interest Tax Shield) at year-end					58.6	47.7	35.7	23.7	11.7	0.0	0.0
PV (Interest Tax Shield) as of Valuation Date					**59.2**						
Operating Enterprise Value at at year-end					41,351.0	42,711.8	44,266.7	45,981.7	47,918.7	49,468.3	51,079.7
Operating Enterprise Value as of Valuation Date					**38,796.6**						

Robin Krdzevic:
Since Daimler Truck's future level of net debt is assumed to be dependent on its enterprise value, interest tax shields are discounted with the unlevered cost of equity

Equity Bridge	
Operating Enterprise Value	38,796.6
Enterprise Value	**38,796.6**
Net Debt	15,760.7
NCI	503.0
Equity Value	**22,532.9**
# Shares Outstanding	823.0
Share Price	**27.4**

Appendix Group Part

Table 7: DCF Exit Multiple Valuation (own illustration)

Valuation Assumptions	
Valuation As-Of Date	10/12/2021
Financial Year End	31/12/2021
% of Cash Flow Generated in FY23 to Date	94%
Annualized Probability of Default	0.2%
Loss Given Default (% of NOPLAT)	29.7%
WACC	6.7%
TV Growth Rate (Nominal)	3.3%
# Shares Outstanding	823.0

Discounted Cashflow Analysis (DCF) - Exit Multiple method		Projected: FY22	FY23	FY24	FY25	FY26	FY27
FCF Build Up							
EBITDA		3,699.0	3,986.7	4,210.8	4,261.3	4,488.8	4,575.4
EBIT		2,418.8	2,728.2	2,982.5	3,060.1	3,317.4	3,419.0
Tax rate		30%	30%	30%	30%	30%	30%
EBIAT (NOPAT)		**1,693.2**	**1,909.7**	**2,087.8**	**2,142.1**	**2,322.2**	**2,393.3**
(+) Depreciation and Amortization		1,280.1	1,258.5	1,228.3	1,201.2	1,171.3	1,156.4
(+/-) Changes in NWC		833.9	737.4	1,000.0	1,127.0	1,452.3	92.0
(-) Capital Expenditures		2,398.7	1,211.5	1,219.2	1,217.1	1,229.1	428.8
Unlevered FCF		**(259.2)**	**1,219.3**	**1,096.8**	**999.3**	**812.2**	**3,028.8**
% growth		*n.a.*	*-570.3%*	*-10.0%*	*-8.9%*	*-18.7%*	*272.9%*
Discount factor	Middle of period	*105.8%*	*205.8%*	*305.8%*	*405.8%*	*505.8%*	*605.8%*
Assume cash flows are generated at:	94.2%						
Midperiod adjustment factor							
Present value of Unlevered FCF		**(228.1)**	**1,005.5**	**847.7**	**723.8**	**551.4**	**1,927.1**

EXIT EBITDA/EBIT MULTIPLE APPROACH		
Terminal Year EBITDA/EBIT	4,575.4	3,419.0
Terminal Value EBITDA/EBIT Multiple	12.6x	19.8x
Terminal Value	57,615	67,775
Present Value Of Terminal Value	36,657	43,122
Present Value Of Projection Period Cash Flows	4,827.5	4,827.5
Enterprise Value	**41,485**	**47,950**
Net Debt	15,760.7	15,760.7
NCI	503.0	503.0
Equity Value	**25,221.1**	**31,686.1**
# Shares Outstanding	823.0	823.0
Share Price	**30.6**	**38.5**
Upper Bound	36.3	41.8
Lower Bound	20.2	29.4

Table 8: DCF Perpetuity Valuation (own illustration)

Valuation Assumptions	
Valuation As-Of Date	10/12/2021
Financial Year End	31/12/2021
% of Cash Flow Generated in FY22 to Date	94%
Annualized Probability of Default	0.2%
Loss Given Default (% of NOPLAT)	29.7%
WACC	6.7%
TV Growth Rate (Nominal)	3.3%
# Shares Outstanding	823.0

>>> Sourced from www.CapitalIQ.com

	FY2018A	FY2019A	FY2020A	FY2021A	FY2022F	FY2023F	FY2024F	FY2025F	FY2026F	FY2027F	TV
Operating Unlevered Free Cash Flow (Base)	n.a.	-2,866.5	6,166.1	148.8	2,288.1	1,493.1	1,393.2	1,341.8	1,239.6	1,762.6	1,820.8
Operating Unlevered Free Cash Flow (Default)	n.a.	(3,437.9)	6,187.2	(187.9)	1,786.1	926.9	774.2	706.7	551.1	1,053.0	1,087.7
Operating Unlevered Free Cash Flow (Statistically Exp.)	**n/a**	**(2,867.6)**	**6,166.2**	**148.2**	**2,287.2**	**1,492.1**	**1,392.1**	**1,340.6**	**1,238.3**	**1,761.3**	**1,819.4**
Discount Rate (WACC)					*6.7%*	*6.7%*	*6.7%*	*6.7%*	*6.7%*	*6.7%*	*6.7%*
Operating Enterprise Value at year-end					44,165.0	45,632.1	47,297.5	49,126.0	51,179.2	52,847.1	54,569
Operating Enterprise Value as of Valuation Date					**41,515.0**						

Equity Bridge	
Operating Enterprise Value	41,515.0
Enterprise Value	**41,515.0**
Net Debt	15,760.7
NCI	503.0
Equity Value	**25,251.3**
# Shares Outstanding	823.0
Share Price	**30.7**

Appendix Group Part

Table 9: Flow-to-Equity Valuation (FTE) (own illustration)

Valuation Assumptions	
Valuation As-Of Date	10/12/2021
Financial Year End	*31/12/2021*
% of Cash Flow Generated in FY23 to Date	94%
Annualized Probability of Default	0.2%
Loss Given Default (% of NOPLAT)	29.7%
Levered Cost of Equity	8.3%
TV Growth Rate (Nominal)	3.3%
# Shares Outstanding	823.0

>>> Sourced from www.CapitalIQ.com

	FY2018A	FY2019A	FY2020A	FY2021A	FY2022F	FY2023F	FY2024F	FY2025F	FY2026F	FY2027F	TV
Equity Cash Flow (Base)	n.a.	1,013.0	-1,637.0	7,715.0	-4,075.5	299.4	530.8	1,068.2	1,343.6	1,093.2	1,676.0
Equity Cash Flow (Default)	n.a.	441.6	(1,615.9)	7,378.3	(4,577.5)	(266.9)	(88.2)	433.1	655.1	383.6	943.0
Equity Cash Flow (Statistically Exp.)	**n/a**	**1,011.9**	**(1,637.0)**	**7,714.4**	**(4,076.4)**	**298.3**	**529.6**	**1,067.0**	**1,342.3**	**1,091.8**	**1,674.6**
Discount Rate (Levered Cost of Equity)					*8.3%*	*8.3%*	*8.3%*	*8.3%*	*8.3%*	*8.3%*	*8.3%*
Equity Value at year-end					25,453.5	27,273.1	29,012.7	30,359.7	31,543.4	33,076.2	34,154
Equity Value as of Valuation Date					**23,281.9**						

Equity Bridge	
Enterprise Value	**39,545.6**
Net Debt	15,760.7
NCI	503.0
Equity Value	**23,281.9**
# Shares Outstanding	823.0
Share Price	**28.3**

Table 10: Economic Value Added (EVA) Valuation (own illustration)

Valuation Assumptions	
Valuation As-Of Date	10/12/2021
Financial Year End	*31/12/2021*
% of Cash Flow Generated in FY23 to Date	94%
Annualized Probability of Default	0.2%
Loss Given Default (% of NOPLAT)	29.7%
WACC	6.7%
TV Growth Rate (Nominal)	3.3%
# Shares Outstanding	823.0

>>> Sourced from www.CapitalIQ.com

	FY2018A	FY2019A	FY2020A	FY2021A	FY2022F	FY2023F	FY2024F	FY2025F	FY2026F	FY2027F	TV
Operating Invested Capital	30,430.1	35,223.6	28,986.5	29,973.3	29,378.3	29,794.9	30,489.4	31,289.7	32,372.2	33,002.9	33,654.4
Operating ROIC	*n.a.*	*6.3%*	*-0.2%*	*3.9%*	*5.6%*	*6.5%*	*7.0%*	*7.0%*	*7.4%*	*7.4%*	*7.5%*
WACC					*6.7%*	*6.7%*	*6.7%*	*6.7%*	*6.7%*	*6.7%*	*6.7%*
Annual Operating Economic Profit					**(308.9)**	**(59.5)**	**93.6**	**101.8**	**233.5**	**228.7**	**266.2**
Discount Rate (WACC)					*6.7%*	*6.7%*	*6.7%*	*6.7%*	*6.7%*	*6.7%*	*6.7%*
PV (Annual Operating Economic Profit)					6,045.8	6,510.4	6,853.0	7,210.4	7,460.0	7,731	7,983
Initial Invested Capital					29,973.3	29,973.3	29,973.3	29,973.3	29,973.3	29,973.3	29,973.3
Operating Enterprise Value at year-end					36,019.0	36,483.7	36,826.3	37,183.7	37,433.3	37,704.4	37,956.3
Operating Enterprise Value as of Valuation Date					**35,867.2**						

Equity Bridge	
Operating Enterprise Value	35,867.2
Enterprise Value	**35,867.2**
Net Debt	15,760.7
NCI	503.0
Equity Value	**19,603.5**
# Shares Outstanding	823.0
Share Price	**23.8**

Appendix Group Part

Table 11: Discount Rate (WACC) calculation (own illustration)

Target Net Debt (% of Enterprise Value)	22.5%	>>> Peer Group Average										
Target Net Debt (% of Equity)	29.0%											
		Efe Bircan: Bloomberg levered Beta										Efe Bircan: https://stats.oecd.org/Index.aspx?DataSe
Comparable Companies - Unlevered Beta Calculation:												
Name	Ticker	Levered Beta (5y)	Total Debt	C&CE	Net Debt	Enterprise Value	Market Cap	Net Debt / E\	D/E %	Statutory Tax Rate	Unlevered Beta (5y)	Weighted
PACCAR Inc (NasdaqGS:PCAR)	NasdaqGS:P	0.98	9,253.0	2,860.9	5,654.9	33,437.3	27,782.4	0.17	0.20	25.80%	0.60	0.09
Blue Bird Corporation (NasdaqGM:BLBD)	NasdaqGM:	1.31	191.5	10.1	189.9	584.8	394.9	0.32	0.48	25.80%	0.66	0.00
Federal Signal Corporation (NYSE:FSS)	NYSE:FSS	1.11	276.5	35.6	179.6	2,597.6	2,418.0	0.07	0.07	25.80%	0.77	0.01
The Shyft Group, Inc. (NasdaqGS:SHYF)	NAsdaqGS:	1.07	48.5	32.7	32.1	1,574.7	1,542.6	0.02	0.02	25.80%	0.78	0.01
Wabash National Corporation (NYSE:WNC)	NYSE:WNC	1.60	386.7	63.1	344.9	1,165.3	820.4	0.30	0.42	25.80%	0.84	0.00
AB Volvo (publ) (OM:VOLV B)	OM:VOLV B	1.13	14,959.3	6,041.4	9,123.3	45,205.2	36,081.9	0.20	0.25	20.60%	0.72	0.14
Traton SE (XTRA:8TRA)	XTRA:8TRA	1.79	18,283.0	2,002.0	16,145.0	27,029.0	10,884.0	0.60	1.48	29.80%	0.51	0.06
Hino Motors, Ltd. (TSE:7205)	TSE:7205	1.27	1,403.1	432.8	697.5	4,657.1	3,959.6	0.15	0.18	29.70%	0.76	0.02
Isuzu Motors Limited (TSE:7202)	TSE:7202	1.26	2,438.6	3,118.0	1,080.2	9,775.9	8,695.7	0.11	0.12	29.70%	0.79	0.03
Tata Motors Limited (BSE:500570)	BSE:500570	1.81	16,974.0	3,691.7	10,636.3	30,350.7	19,714.4	0.35	0.54	25.20%	0.88	0.12
Ashok Leyland Limited (NSEI:ASHOKLEY)	NSEI:ASHO	1.43	2,807.2	172.5	2,425.4	6,693.2	4,267.8	0.36	0.57	25.00%	0.68	0.02
Hitachi, Ltd. (TSE:6501)	TSE:6501	1.35	18,468.0	7,825.9	13,476.4	59,267.8	45,791.4	0.23	0.29	29.70%	0.73	0.19
Beiqi Foton Motor Co.,Ltd. (SHSE:600166)	SHSE:60016	1.22	1,098.2	910.5	135.4	3,197.8	3,062.4	0.04	0.04	25.00%	0.88	0.01
Median:		**1.27**	**2,438.61**	**910.45**	**1,080.20**	**6,693.20**	**4,267.80**	**0.20**	**0.25**	**25.80%**	**0.76**	**0.71**
Average:		**1.33**	**6,660.58**	**2,092.09**	**4,624.68**	**17,348.95**	**12,724.27**	**0.22**	**0.36**	**26.44%**	**0.74**	
Daimler Truck AG	XTRA:DTG	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	29.80%	n/a	
Risk-Free Rate												
10y German government bond yield as of 09.12.2021	-0.35%	>>> Source: Capital IQ 10 years German Government bonds various maturities (Please refer to Tab: Input Cost of Capital)										
Average risk free investment rate in Germany 2021	0.60%	>>> Source: Statista.com										
Risk-Free Rate	0.13%	Efe Bircan: For MRP we used the past 10 years of MSCI World index										
Market Risk Premium												
MRP for international Market (MSCI World)	9.24%	>>> Source: Capital IQ daily returns of MSCI World Index (Please refer to Tab: Input Cost of Capital										
Debt Beta & Equity Beta												
October 28, 2021 **- On its way to the expected listing on the Frankfurt Stock Exchange by the end of this year, Daimler Truck had approached S&P Global Ratings (S&P) and Moody's Investor Service (Moody's) for setting up first time credit ratings. Both rating agencies now communicated solid investment grade ratings for Daimler Truck. S&P Global Ratings assigned a long-term issuer credit rating of BBB + (outlook stable) while Moody's assigned a long-term issuer credit rating of A3 (outlook stable).**	dit Rating 2021	BBB+	>>> Source: https://group.mercedes-benz.com/investors/reports-news/financial-news/20211028-daimler-truck-rating.html									
	Debt Beta	0.10	>>> Source: Corporate Finance Book, Berk and DeMarzo									
Average Unlevered Beta Equity from Peer Group	0.74											
Daimler Truck AG Relevered Beta Equity	**0.89**											
Cost of Equity												
Unlevered Cost of Equity	6.94%											
Levered Cost of Equity	8.32%											
Cost of Debt												
Approach I												
Average YTM outstanding Bonds (10y, 7y, 5y)	2.34%	>>> Source: https://www.boerse-frankfurt.de/bond/usu2340bah07-daimler-trucks-finance-north-america-llc-2-5-21-31	10 Years Maturity									
		https://www.boerse-frankfurt.de/anleihe/usu2340bag24-daimler-trucks-finance-north-	7 Years Maturity									
			5 Years Maturity									
Probability of default (BBB credit rating)	0.19%	Efe Bircan: Since the bonds were issued in USD, Daimler Truck AG faces a certain currency risk, as future payments will be made in USD. Daimler Truck reports in EUR. Accordingly, there can be certain fluctuations in the currency conversion.–	/geP0g8j_AhUPNuwKHetlDEAQFnoECBUQAQ&u									
Estimated Loss rate for given credit rating (BBB)	70.35%		ss-test-methodology-modeled-loss-rates.htm									
Estimated Loss Given Default (% of NOPLAT)	29.65%											
Forward Rate premium (interest Rate Parity)	20.05%	please refer to tab "Input Cost of Capital" for further calculation										
Cost of Debt Approach I	**2.65%**											
Approach II												
Corporate Yield Curve Industrial Sector 20 Years in EUR	1.77%	>>> Source: CapIQ Excel Plugin Corporate Yield curve 20 years.										
Cost of Debt Approach II	**1.77%**											
Approach III												
Risk Free Rate	0.13%											
Debt Beta	0.10											
MRP	9.24%											
Cost of Debt Approach III	**1.05%**											
Approach IV												
Effective Interest Rate 2018	1.03%											
Effective Interest Rate 2019	0.88%											
Effective Interest Rate 2020	0.69%											
Effective Interest Rate 2021 (Q4 projected)	0.83%											
Cost of Debt Approach IV	**0.86%**											
Cost of Debt	1.6%											
WACC												
Statutory Tax Rate	30%	>>> Source: Daimler Truck AG Annual Report 2020										
WACC	**6.70%**											

Appendix Group Part

Table 12: Terminal value growth rate calculation (own illustration)

Terminal Value GR Daimler Truck AG

€mm except per share

Valuation Date	*10/12/2021*
Currency	€
1=Print View	1

Daimler Truck AG
(€ in Millions Except Per Share and Per Unit Data)

Assumptions	
GDP Growth Key markets (2026F):	
GDP Growth USA	2.1%
GDP Growth Asia	4.7%
GDP Growth EU30	1.8%
GDP Growth Latin America	2.6%
Average GDP Growth (Nominal)	**2.8%**
Expected Long-Term Inflation Rate (European Union)	1.7%
Terminal Value Growth Rate (Nominal)	**4.5%**
g = Operating ROIC x Reinvestment Rate (Terminal Value	2.0%
Average from both approaches	**3.3%**

Krdzevic, Robin:
As > 70% of Daimler Truck´s Revenues in the forecasted year FY2027 are still from the two key markets North America and EU30, those two GDP Growth rates will be used for a valid TV Growth rate calculation and the remaining 30%

Krdzevic, Robin:
CAGR 18-21 in European Union, as this valuation represents the macroeconomic environment on 09/12/2021 the inflation rate is fairly low

Krdzevic, Robin:
The average nominal GDP growth rate is assumed to be an appropriate indicator of Daimler Truck's expected nominal terminal value growth rate (there is no need for accounting for any industry- or company-specific discount), which is expected to be realized in FY27F, so that the steady state is assumed to be reached from that year onwards.

Appendix Group Part

Table 13: Comparable Company analysis (CCA) output (own illustration)

CCA Valuation (Trading Multiples) Daimler Truck AG

€mm except per share

Valuation Date	10/12/2021
Currency	€
1=Print View	1

Daimler Truck AG

(€ in Millions Except Per Share and Per Unit Data) --> Data as of 09.12.2021 (Valuation Date of Daimler Truck IPO)

Comparable company analysis (CCA)	Current Price (€)	Equity Value (€)	Enterprise Value (€)	EV/Revenue LTM	EV/Revenue NTM	EV/EBITDA LTM	EV/EBITDA NTM	EV/EBIT LTM	EV/EBIT NTM	P/E LTM	P/E NTM
Comparables split											
North America											
PACCAR Inc (NasdaqGS:PCAR)	53.4	27,782.4	33,437.3	1.7x	1.6x	14.2x	14.4x	16.4x	15.9x	17.7x	14.2x
Blue Bird Corporation (NasdaqGM:BLBD)	16.0	436.6	584.8	0.8x	0.8x	13.8x	14.6x	20.9x	23.0x	34.4x	25.7x
Federal Signal Corporation (NYSE:FSS)	39.6	2,418.0	2,597.6	2.4x	2.2x	15.0x	13.3x	20.9x	17.7x	25.3x	22.3x
The Shyft Group, Inc. (NasdaqGS:SHYF)	43.6	1,541.7	1,574.7	2.0x	1.7x	18.2x	14.5x	22.7x	17.0x	31.0x	21.6x
Wabash National Corporation (NYSE:WNC)	16.6	820.4	1,165.3	0.7x	0.6x	11.5x	8.0x	21.6x	11.7x	30.1x	13.4x
25th percentile				0.80x	0.78x	13.80x	13.34x	20.90x	15.85x	25.30x	14.15x
Mean				**1.52x**	**1.35x**	**14.54x**	**12.95x**	**20.50x**	**17.05x**	**27.70x**	**19.41x**
Median				1.70x	1.57x	14.20x	14.35x	20.90x	17.01x	30.10x	21.60x
75th percentile				2.00x	1.66x	15.00x	14.45x	21.60x	17.66x	31.00x	22.25x
Europe											
AB Volvo (publ) (OM:VOLV B)	17.6	35,815.0	45,205.2	1.4x	1.3x	9.7x	8.9x	10.9x	10.6x	12.2x	12.1x
Traton SE (XTRA:8TRA)	21.8	10,880.0	27,029.0	0.9x	0.7x	7.1x	6.6x	17.9x	10.5x	15.4x	7.1x
25th percentile				1.03x	0.85x	7.75x	7.20x	12.65x	10.51x	13.00x	8.36x
Mean				**1.15x**	**1.01x**	**8.40x**	**7.76x**	**14.40x**	**10.54x**	**13.80x**	**9.59x**
Median				1.15x	1.01x	8.40x	7.76x	14.40x	10.54x	13.80x	9.59x
75th percentile				1.28x	1.17x	9.05x	8.32x	16.15x	10.56x	14.60x	10.82x
Asia											
Hino Motors, Ltd. (TSE:7205)	6.3	3,627.1	4,657.1	0.5x	0.5x	6.7x	6.0x	13.2x	11.5x	40.6x	21.6x
Isuzu Motors Limited (TSE:7202)	9.7	7,521.4	9,775.9	0.7x	0.6x	5.5x	6.0x	8.2x	8.3x	9.9x	10.6x
Tata Motors Limited (BSE:500570)	5.4	19,512.5	30,350.7	0.9x	0.8x	11.6x	6.7x	26.0x	20.4x	-	17.8x
Ashok Leyland Limited (NSEI:ASHOKLEY)	1.4	4,120.6	6,693.2	2.6x	-	23.0x	-	33.8x	-	NM	-
Hitachi, Ltd. (TSE:6501)	41.2	39,837.3	59,267.8	0.9x	1.0x	9.9x	7.5x	16.4x	11.6x	10.8x	11.0x
Beiqi Foton Motor Co.,Ltd. (SHSE:600166)	0.5	3,066.4	3,197.8	0.4x	-	17.5x	-	28.8x	-	149.1x	-
25th percentile				0.55x	0.56x	7.50x	6.01x	14.00x	10.70x	10.58x	10.90x
Mean				**1.00x**	**0.72x**	**12.37x**	**6.57x**	**21.07x**	**12.92x**	**52.60x**	**15.23x**
Median				0.80x	0.71x	10.75x	6.37x	21.20x	11.54x	25.70x	14.40x
75th percentile				0.90x	0.87x	16.03x	6.93x	28.10x	13.76x	67.73x	18.73x
Daimler Truck AG ETR:DTG											
Summary Statistics											
Lower Bound				0.9x	0.8x	9.6x	7.0x	16.4x	10.9x	14.8x	11.3x
Upper Bound				1.3x	1.1x	14.2x	11.9x	21.1x	15.9x	30.1x	18.5x
Median				0.9x	0.8x	11.6x	8.0x	20.9x	11.7x	25.3x	14.2x
Mean				**1.2x**	**1.1x**	**12.6x**	**9.7x**	**19.8x**	**14.4x**	**34.2x**	**16.1x**

Implied Valuation

	Revenue Multiple	EBITDA Multiple	EBIT Multiple
Implied Enterprise Value	45,493.0	36,713.9	39,864.8
(-) Net Debt & NCI	16,263.7	16,263.7	16,263.7
Implied Equity Value	29,229.3	20,450.2	23,601.1
# of Shares Outstanding	823.0	823.0	823.0
Implied Share Price	**35.5**	**24.8**	**28.7**
Upper Bound (33th percentile)	38.3	30.5	31.7
Lower Bound (66th percentile)	20.6	14.4	20.3

Table 14: Comparable Company analysis (CCA) output (own illustration)

CTA Valuation Daimler Truck AG

€mm except per share

Valuation Date	10/12/2021
Currency	€
1=Print View	1

Transaction Comp Set	Country	Enterprise Value	EV / LTM Revenue	EV / LTM EBITDA	EV / LTM EBIT	Complete Date	Target Description
Navistar International Corporation	United States	9,414.7	1.04x	19.44x	31.44x	01/07/2021	Commercial Truck Manufacturer
MAN SE	Germany	8,939.3	0.98x	9.77x	13.14x	09/11/2011	Commercial Vehicle Manufacturer (Vans, Trucks, Buses, Diesel engir
Scania AB (publ)	Sweden	5,166.1	1.45x	11.33x	14.86x	09/06/2014	Commercial Truck Manufacturer / Heavy Trucks
Sany Heavy Industry Co.,Ltd	China	506.4	2.11x	20.76x	35.82x	26/12/2014	Commercial Vehicle Manufacturer (Forklifts etc.)
KION Group AG	Germany	5,433.1	1.20x	8.50x	19.70x	02/17/2015	Commercial Vehicle Manufacturer (Construction machinery)
Lower Bound		5,251.5	1.09x	10.27x	16.41x		
Mean		5,891.9	1.36x	13.96x	22.99x		
Median		**5,433.1**	**1.20x**	**11.33x**	**19.70x**		
Upper Bound		7,817.3	1.37x	16.84x	27.68x		

Implied Valuation

	Revenue Multiple	EBITDA Multiple	EBIT Multiple
Implied Enterprise Value	44,634.6	33,033.5	39,617.3
(-) Net Debt & NCI	16,263.7	16,263.7	16,263.7
Implied Equity Value	28,370.9	16,769.8	23,353.6
# of Shares Outstanding	823.0	823.0	823.0
Implied Share Price	**34.5**	**20.4**	**28.4**
Upper Bound	42.2	39.9	47.9
Lower Bound	29.6	16.6	20.3

Appendix Group Part

Table 15: Detailed calculation of interest rate parity

Interest Rate Parity	
Spot Rate 09.12.2021	0,884564352
Base Currency Annual Interest Rate (%) USD - 10 Years Treasury Yields	1,49%
Quoted Currency Annual Interest Rate (%) EUR - 10 Years German Governm	-0,35%
Days till Maturity of the Forward Contract (10 years)	3650
Forward Rate	1,06193989
Forward Premium / (Discount)	20,05%

Appendix - Individual Part Efekan Bircan

Figure 1: Analysis Outlier in Dataset

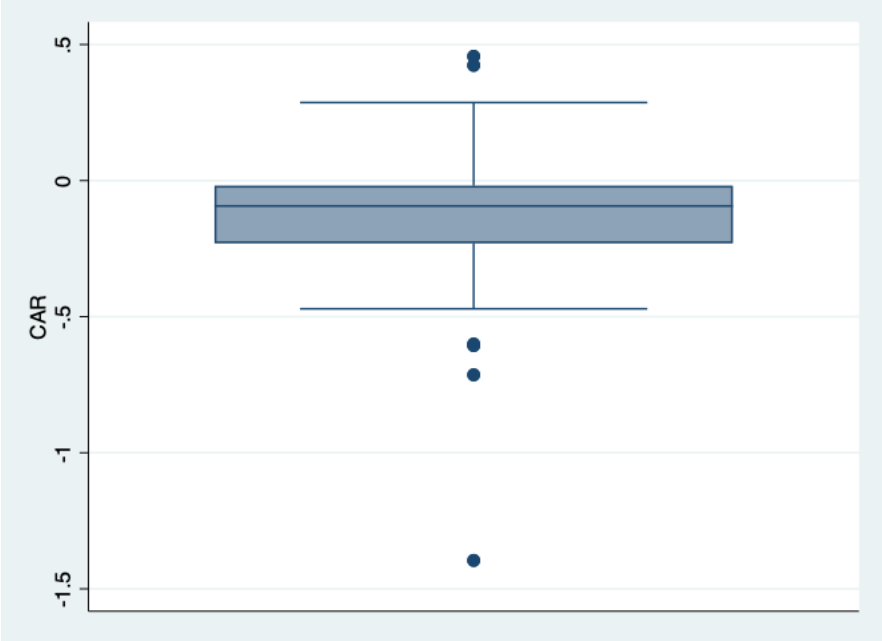


Table 1: Dataset breakdown

Dataset breakdown		
	All companies of all transaction types from March 1997 to August 2023 at the Frankfurt Stock Exchange	1,839
-	Notierungsaufnahme (NA), private placement (PP), and dual listing (DL) in the period from March 1997 to August 2023	1,130
-	IPOs before 2004	434
-	Everything that does not correspond to the Prime or General standard after 2003	94
-	No prospectus available for determining the lock-up duration	45
-	Lock-up expiration not reached	1
-	Not sufficient data	6
=	Dataset unadjusted	129
-	Outlier	6
=	Dataset adjusted	123

Appendix - Individual Part Efekan Bircan

Table 2: Overview of Sample Characteristics

Overview

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Observations	2	3	6	21	8	2	5	6	3	9	7	11	8	8	10	8	4	10	2	2	135
Marketcapitalization																					
above €1bn marketcap	0	1	2	3	3	0	2	0	0	3	4	1	4	2	4	1	1	5	0	2	38
below €1bn marketcap	2	1	3	16	5	2	3	6	3	3	3	9	4	3	6	6	3	5	2	0	85
																					123
Lock-up length																					
Lockup <=180d days	2	2	3	11	6	1	4	5	1	4	3	7	6	5	6	5	3	7	2	2	85
Lockup >180d days	0	0	2	8	2	1	1	1	2	2	4	3	2	0	4	2	1	3	0	0	38
																					123
Sector																					
Automotive	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	2	0	1	7
Banking	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Construction industry	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
Chemicals	0	0	1	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	4
Energy & Raw Materials	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Financial Services	0	0	2	4	1	0	0	1	0	0	3	3	1	0	1	2	1	0	0	0	19
Trade & Commerce	0	0	1	1	0	0	0	0	0	0	0	3	1	2	2	1	1	2	0	0	14
Industry	0	1	0	6	4	0	1	2	1	0	2	1	1	1	3	1	0	1	1	0	26
Consumer goods	1	0	0	0	0	0	2	0	1	2	0	0	0	1	0	0	0	0	0	0	7
Media	0	0	0	0	0	0	1	1	0	1	1	1	1	0	0	0	0	0	0	0	6
Food & Beverage	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Pharma & Healthcare	0	1	0	2	1	0	0	0	0	0	0	0	0	0	2	0	1	1	0	0	8
Software	1	0	0	2	0	2	0	1	0	0	0	0	0	0	1	0	1	1	0	1	10
Technology	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	2	1	0	7
Telecommunications	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	3
Transportation & Logistics	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3
Insurance	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	2
Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
																					123

Table 3: Test for Normality of Dataset

Test for Normality	Observ.	Min	Max	Mean	Std. Dev.	Var.	Skewness	Kurtosis
CAR on day 5	123	- 0.4711	0.2868	- 0.1096	0.1559	0.0243	- 0.0989	3.0300

Table 4: Testing Significance of Dataset

Event window (days)	-5	-4	-3	-2	-1	0	1	2	3	4	5
Mean of CAR	- 0.0077	- 0.0115	- 0.0221	- 0.0269	- 0.0434	- 0.0812	- 0.0760	- 0.0842	- 0.0935	- 0.0968	- 0.1096
T-value	- 0.4935	- 1.5778	- 2.4619	- 2.5583	- 3.7084	- 4.8906	- 6.3931	- 6.9531	- 7.2724	- 7.3036	- 7.7931
P-value	0.6236	0.1172	0.0152	0.0117	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 5: CAR for IPOs with lock-up agreements shorter or equal to 180 days and lock-up agreements longer than 180 days

Event window (days)	-5	-4	-3	-2	-1	0	1	2	3	4	5
Mean of CAR	- 0.0077	- 0.0115	- 0.0221	- 0.0269	- 0.0434	- 0.0812	- 0.0760	- 0.0842	- 0.0935	- 0.0968	- 0.1096
Lock-up <=180d days	0.0029	- 0.0001	0.0982	- 0.1055	- 0.0401	- 0.0789	0.0220	- 0.0206	- 0.0137	0.0152	- 0.1114
Lock-up <180d days	- 0.0349	- 0.0235	- 0.0133	- 0.0106	- 0.0002	- 0.0216	- 0.0218	- 0.0248	- 0.0166	- 0.0257	- 0.0114

Table 6: CAR for IPOs with market capitalisation below or equal to €1bn. Market capitalisation and above €1bn. market capitalisation

Event window (days)	-5	-4	-3	-2	-1	0	1	2	3	4	5
Mean of CAR	- 0.0077	- 0.0115	- 0.0221	- 0.0269	- 0.0434	- 0.0812	- 0.0760	- 0.0842	- 0.0935	- 0.0968	- 0.1096
above €1bn marketcap	- 0.0168	- 0.0164	- 0.0218	- 0.0267	- 0.0306	- 0.0415	- 0.0500	- 0.0585	- 0.0660	- 0.0642	- 0.0681
below €1bn marketcap	- 0.0016	- 0.0093	- 0.0223	- 0.0270	- 0.0491	- 0.0989	- 0.0876	- 0.0957	- 0.1058	- 0.1114	- 0.1281

Appendix - Individual Part Efekan Bircan

Table 7: Multi regression analysis

Multi regression analysis

CAR	Coefficient	Std. err.	t	P >| t |	[95% conf.	intervall]
(Constant)	- 0.1058	0.1455	- 0.7300	0.4690	- 0.3951	0.1836
MarketCap	0.0288	0.0256	1.1300	0.2630	- 0.0220	0.0797
Duration Lockup agree.	0.0272	0.0238	1.1400	0.2570	- 0.0202	0.0746
Sector						
Automotive	0.129026	0.124975	1.03	0.305	-0.119501	0.377553
Banking	0.015122	0.163863	0.09	0.927	-0.310739	0.340982
Construction industry	0.203295	0.140186	1.45	0.151	-0.07548	0.48207
Chemicals	0.094384	0.133973	0.7	0.483	-0.172036	0.360803
Energy & Raw Materials	-0.07924	0.145283	-0.55	0.587	-0.368151	0.209671
Financial Services	0.055919	0.122061	0.46	0.648	-0.186812	0.29865
Trade & Commerce	-0.00249	0.121962	-0.02	0.984	-0.245026	0.240045
Industry	0.068005	0.120748	0.56	0.575	-0.172115	0.308125
Consumer goods	-0.087404	0.116624	-0.75	0.456	-0.319325	0.144516
Media	-0.027094	0.121733	-0.22	0.824	-0.269172	0.214985
Food & Beverage	Omitted					
Pharma & Healthcare	0.077972	0.126399	0.62	0.539	-0.173385	0.329329
Software	0.006853	0.124565	0.06	0.956	-0.240858	0.254563
Technology	0.024677	0.125619	0.2	0.845	-0.225129	0.274483
Telecommunications	0.0165	0.129117	0.13	0.899	-0.240263	0.273263
Transportation & Logistics	0.060426	0.136592	0.44	0.659	-0.211201	0.332054
Insurance	-0.018242	0.130352	-0.14	0.889	-0.27746	0.240977
Utilities	0.071636	0.165907	0.43	0.667	-0.258288	0.401559
Year						
2004	-0.190016	0.109327	-1.74	0.086	-0.407426	0.027394
2005	-0.226776	0.106092	-2.14	0.035	-0.437751	-0.0158
2006	-0.176866	0.092814	-1.91	0.06	-0.361436	0.007704
2007	-0.263021	0.081283	-3.24	0.002	-0.42466	-0.101381
2008	-0.203594	0.085181	-2.39	0.019	-0.372986	-0.034203
2009	-0.158225	0.114279	-1.38	0.17	-0.385481	0.069032
2010	-0.048997	0.090567	-0.54	0.59	-0.229099	0.131105
2011	-0.148364	0.08542	-1.74	0.086	-0.318231	0.021504
2012	0.044132	0.096332	0.46	0.648	-0.147434	0.235698
2013	0.014041	0.097208	0.14	0.885	-0.179268	0.207349
2014	-0.055611	0.089365	-0.62	0.535	-0.233322	0.122101
2015	0.063626	0.083141	0.77	0.446	-0.101709	0.228962
2016	-0.040417	0.087466	-0.46	0.645	-0.214352	0.133518
2017	-0.042419	0.092933	-0.46	0.649	-0.227227	0.142388
2018	0.007605	0.084093	0.09	0.928	-0.159624	0.174834
2019	-0.011316	0.087991	-0.13	0.898	-0.186296	0.163664
2020	0.158106	0.093926	1.68	0.096	-0.028676	0.344889
2021	0.09491	0.08284	1.15	0.255	-0.069825	0.259646
2022	Omitted					
2023	-0.140182	0.112039	-1.25	0.214	-0.362985	0.082621

			Anova table		
N	123		SS	df	MS
F(38, 84)	5.38	Model	2.102409	38	0.055327
Prob > F	0	Residual	0.864365	84	0.01029
R-squared	0.7087	Total	2.966774	122	0.024318
Adj R-squared	0.5769				

Appendix - Individual Part Efekan Bircan

Table 8: Overview Sample

#	Company name	ISIN	Sector	IPO-Date	Lock-up expiration
1	IONOS Group SE	DE000A3E00M1	Software	08.02.23	09.08.23
2	Dr. Ing. h.c. F. Porsche AG	DE000PAG9113	Automotive	29.09.22	04.04.23
3	Mister Spex SE	DE000A3CSAE2	Trade & Commerce	02.07.21	27.12.21
4	Cherry SE	DE000A3CRRN9	Technology	29.06.21	27.12.21
5	hGears AG	DE000A3CMGN3	Automotive	21.05.21	22.11.21
6	SUSE S.A.	LU2333210958	Software	19.05.21	16.11.21
7	KATEK SE	DE000A2TSQH7	Technology	04.05.21	05.05.22
8	SYNLAB AG	DE000A2TSL71	Pharma & Healthcare	30.04.21	28.10.21
9	Friedrich Vorwerk Group SE	DE000A255F11	Industry	25.03.21	26.03.22
10	Vantage Towers AG	DE000A3H3LL2	Telecommunications	18.03.21	18.09.21
11	AUTO1 Group SE	DE000A2LQ884	Trade & Commerce	04.02.21	02.08.21
12	Compleo Charging Solutions AG	DE000A2QDNX9	Industry	21.10.20	22.10.21
13	HENSOLDT AG	DE000HAG0005	Technology	25.09.20	26.03.21
14	Knaus Tabbert AG	DE000A2YN504	Automotive	23.09.20	22.03.21
15	PharmaSGP Holding SE	DE000A2P4LJ5	Pharma & Healthcare	19.06.20	20.12.20
16	TeamViewer SE	DE000A2YN900	Software	25.09.19	23.03.20
17	Global Fashion Group S.A.	LU2010095458	Trade & Commerce	02.07.19	01.01.20
18	DFV Deutsche Familienversicherung AG	DE000A2NBVD5	Insurance	04.12.18	04.12.19
19	Knorr-Bremse AG	DE000KBX1006	Industry	12.10.18	12.04.19
20	Westwing Group SE	DE000A2N4H07	Trade & Commerce	09.10.18	06.04.19
21	creditshelf Aktiengesellschaft	DE000A2LQUA5	Financial Services	25.07.18	25.07.19
22	AKASOL AG	DE000A2JNWZ9	Automotive	29.06.18	29.06.19
23	capsensixx AG	DE000A2G9M17	Financial Services	21.06.18	21.06.20
24	home24 SE	DE000A14KEB5	Trade & Commerce	15.06.18	12.12.18
25	STS Group AG	DE000A1TNU68	Automotive	01.06.18	01.06.19
26	NFON AG	DE000A0N4N52	Telecommunications	11.05.18	11.11.18
27	Serviceware SE	DE000A2G8X31	Software	20.04.18	20.10.18
28	Godewind Immobilien AG	DE000A2G8XX3	Financial Services	05.04.18	31.03.19
29	DWS Group GmbH & Co. KGaA	DE000DWS1007	Financial Services	23.03.18	19.09.18
30	Siemens Healthineers AG	DE000SHL1006	Pharma & Healthcare	16.03.18	12.09.18
31	Dermapharm Holding SE	DE000A2GS5D8	Pharma & Healthcare	09.02.18	11.08.18
32	Befesa S.A.	LU1704650164	Industry	03.11.17	04.05.18
33	HelloFresh SE	DE000A161408	Trade & Commerce	02.11.17	01.05.18
34	VARTA AG	DE000A0TGJ55	Industry	19.10.17	19.10.18
35	Voltabox AG	DE000A2E4LE9	Industry	13.10.17	14.04.18
36	Delivery Hero SE	DE000A2E4K43	Trade & Commerce	30.06.17	27.12.17
37	Redcare Pharmacy N.V.	NL0012044747	Trade & Commerce	13.10.16	13.04.17
38	innogy SE	DE000A2AADD2	Utilities	07.10.16	07.04.17
39	va-Q-tec AG	DE0006636681	Industry	30.09.16	30.03.17
40	EDAG Engineering Group AG	CH0303692047	Automotive	02.12.15	30.05.16
41	Hapag-Lloyd Aktiengesellschaft	DE000HLAG475	Transportation & Logisti	06.11.15	04.05.16
42	Steilmann SE	DE000A14KR50	Consumer goods	05.11.15	05.05.17
43	CHORUS Clean Energy AG	DE000A12UL56	Industry	07.10.15	07.04.16
44	Covestro AG	DE0006062144	Chemicals	06.10.15	06.04.16
45	Scout24 SE	DE000A12DM80	Media	01.10.15	31.03.16
46	ADLER Group S.A.	LU1250154413	Financial Services	23.07.15	18.01.16
47	Deutsche Pfandbriefbank AG	DE0008019001	Banking	16.07.15	12.01.16
48	elumeo SE	DE000A11Q059	Trade & Commerce	03.07.15	07.07.16
49	Siltronic AG	DE000WAF3001	Technology	11.06.15	25.11.15
50	Allane SE	DE000A0DPRE6	Financial Services	07.05.15	07.11.15

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51	windeln.de SE	DE000WNDL110	Trade & Commerce	06.05.15	02.11.15
52	Multitude SE	FI4000106299	Financial Services	06.02.15	06.08.15
53	Tele Columbus AG	DE000TCAG172	Media	23.01.15	23.07.15
54	TLG IMMOBILIEN AG	DE000A12B8Z4	Financial Services	24.10.14	22.04.15
55	Zalando SE	DE000ZAL1111	Trade & Commerce	01.10.14	28.06.15
56	Snowbird AG	DE000A1PHEL8	Trade & Commerce	29.09.14	28.09.15
57	Braas Monier Building Group S.A.	LU1075065190	Construction industry	25.06.14	27.12.14
58	JJ Auto AG	DE000A1TNS70	Automotive	16.06.14	16.06.15
59	Stabilus SE	LU1066226637	Industry	23.05.14	27.11.14
60	SLM Solutions Group AG	DE000A111338	Industry	09.05.14	09.05.15
61	BUWOG AG	AT00BUWOG001	Financial Services	28.04.14	29.07.14
62	Bastei Lübbe AG	DE000A1X3YY0	Media	08.10.13	03.10.14
63	Vonovia SE	DE000A1ML7J1	Financial Services	11.07.13	10.01.14
64	OSRAM Licht AG	DE000LED4000	Industry	08.07.13	07.01.14
65	RTL Group S.A.	LU0061462528	Media	30.04.13	29.10.13
66	LEG Immobilien SE	DE000LEG1110	Financial Services	01.02.13	31.01.14
67	TelefÛnica Deutschland Holding AG	DE000A1J5RX9	Telecommunications	30.10.12	28.04.13
68	Talanx Aktiengesellschaft	DE000TLX1005	Insurance	02.10.12	03.04.13
69	Ming Le Sports AG	DE000A1MBEG8	Consumer goods	06.07.12	06.01.13
70	Haikui Seafood AG	DE000A1JH3F9	Food & Beverage	15.05.12	15.05.13
71	Ultrasonic AG	DE000A1KREX3	Consumer goods	09.12.11	09.06.13
72	Altech Advanced Materials AG	DE000A1KRLR0	Technology	13.07.11	19.07.12
73	China Specialty Glass AG	DE000A1EL8Y8	Industry	01.07.11	01.01.12
74	United Power Technology AG	DE000A1EMAK2	Industry	10.06.11	10.12.11
75	GSW Immobilien AG	DE000GSW1111	Financial Services	15.04.11	15.10.11
76	Powerland AG	DE000PLD5558	Consumer goods	11.04.11	10.04.12
77	NORMA Group SE	DE000A1H8BV3	Industry	08.04.11	04.10.11
78	RIB Software SE	DE000A0Z2XN6	Software	08.02.11	08.08.11
79	Stroeer SE & Co. KGaA	DE0007493991	Media	15.07.10	14.01.11
80	Joyou AG	DE000A0WMLD8	Consumer goods	30.03.10	29.09.10
81	Brenntag SE	DE000A1DAHH0	Industry	29.03.10	29.09.10
82	TOM TAILOR Holding SE	DE000A0STST2	Consumer goods	26.03.10	25.09.10
83	Kabel Deutschland Holding AG	DE000KD88880	Media	22.03.10	21.09.10
84	exceet Group SCA	LU0472835155	Technology	04.02.10	06.08.11
85	Vtion Wireless Technology AG	DE000CHEN993	Technology	01.10.09	02.04.10
86	SMA Solar Technology AG	DE000A0DJ6J9	Industry	27.06.08	27.12.08
87	GK Software SE	DE0007571424	Software	19.06.08	19.06.09
88	MeVis Medical Solutions AG	DE000A0LBFE4	Software	16.11.07	16.02.09
89	Asian Bamboo AG	DE000A0M6M79	Energy & Raw Materials	16.11.07	15.05.08
90	Hamburger Hafen und Logistik AG	DE000A0S8488	Transportation & Logisti	02.11.07	03.05.08
91	ZhongDe Waste Technology AG	DE000ZDWT018	Industry	06.07.07	06.01.08
92	InVision AG	DE0005859698	Software	18.06.07	17.12.07
93	Gerresheimer AG	DE000A0LD6E6	Pharma & Healthcare	11.06.07	07.12.07
94	Wacker Neuson SE	DE000WACK012	Industry	15.05.07	14.05.08
95	alstria office REIT-AG	DE000A0LD2U1	Financial Services	03.04.07	29.09.07
96	Accentro Real Estate AG	DE000A0KFKB3	Financial Services	02.04.07	02.10.07
97	Vita 34 AG	DE000A0BL849	Pharma & Healthcare	27.03.07	26.03.08
98	HanseYachts Aktiengesellschaft	DE000A0KF6M8	Industry	09.03.07	08.03.08
99	Symrise AG	DE000SYM9999	Chemicals	11.12.06	12.06.07
100	New Work SE	DE000XNG8888	Software	07.12.06	08.06.07

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101	SKW Stahl-Metallurgie Holding AG	DE000SKWM013	Chemicals	01.12.06	01.06.07
102	Francotyp-Postalia Holding AG	DE000FPH9000	Industry	30.11.06	30.11.07
103	Heidelberg Pharma AG	DE0006614720	Pharma & Healthcare	13.11.06	09.05.07
104	Delticom AG	DE0005146807	Trade & Commerce	26.10.06	26.10.07
105	GAGFAH S.A.	LU0269583422	Financial Services	19.10.06	18.02.07
106	VERBIO Vereinigte BioEnergie AG	DE000A0JL9W6	Industry	16.10.06	16.04.07
107	GWB Immobilien AG	DE000A0JKHG0	Financial Services	04.10.06	30.09.08
108	CropEnergies AG	DE000A0LAUP1	Industry	29.09.06	30.09.07
109	ItN Nanovation AG	DE000A0JL461	Industry	28.07.06	27.01.07
110	OVB Holding AG	DE0006286560	Financial Services	21.07.06	20.01.07
111	BAUER Aktiengesellschaft	DE0005168108	Construction industry	04.07.06	04.01.07
112	Klˆckner & Co SE	DE000KC01000	Industry	28.06.06	28.06.07
113	Air Berlin PLC	GB00B128C026	Transportation & Logisti	11.05.06	11.11.07
114	Viscom AG	DE0007846867	Industry	10.05.06	10.05.07
115	Petro Welt Technologies AG	AT0000A00Y78	Energy & Raw Materials	04.05.06	04.11.06
116	Wacker Chemie AG	DE000WCH8881	Chemicals	10.04.06	10.10.06
117	PATRIZIA SE	DE000PAT1AG3	Financial Services	31.03.06	30.09.06
118	CAMERIT AG	DE000RTM4444	Financial Services	23.11.05	23.11.06
119	Praktiker AG	DE000A0F6MD5	Trade & Commerce	22.11.05	22.05.06
120	MTU Aero Engines AG	DE000A0D9PT0	Industry	06.06.05	06.12.05
121	Epigenomics AG	DE000A0BVT96	Pharma & Healthcare	19.07.04	18.01.05
122	Diebold Nixdorf Aktiengesellschaft	DE000A0CAYB2	Software	19.05.04	18.11.04
123	MIFA Mitteldeutsche Fahrradwerke AG	DE000A0B95Y8	Consumer goods	17.05.04	03.11.04