

Value Creation under Constraint:
*Assessing Valuation, Leverage, and Return Dynamics in
the Zooplus SE Take-Private Leveraged Buyout*

Cara Diekmann

Dissertation written under the supervision of Panagiotis Dontis
Charitos

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Abstract

This thesis examines how private equity sponsors create value in public-to-private transactions, using the 2021 acquisition of Zooplus SE, a leading pan-European online pet supplies retailer, as an empirical case. The transaction culminated in a €480 per share consortium offer, representing an 85% premium to the unaffected three-month VWAP prior to the initial bid announcement. A leveraged buyout model across three scenarios and a discounted cash flow analysis are constructed from an ex-ante perspective.

The management case generates an equity IRR of 13.7% and a MOIC of 2.0x over a 5.5-year hold, marginally below the 15% lower bound of the typical private equity target return range. With debt representing only 11.9% of enterprise value, financial engineering plays a limited role, and value creation is driven primarily by EBITDA growth. The discounted cash flow analysis indicates an implied share price of €380.5 under the perpetual growth methodology, materially below the final offer price, confirming that the acquisition embeds a substantial transformation premium. The compressed return profile reflects both this premium and the structural limitation that a thin EBITDA base restricts leverage available to amplify equity returns.

The findings show that elevated entry valuations primarily compress the margin of safety rather than materially increasing return sensitivity to adverse shocks. The thesis contributes an integrated empirical analysis of a European e-commerce take-private and develops a structural feasibility framework demonstrating how elevated entry multiples constrain the traditional leveraged buyout toolkit by limiting supportable leverage capacity.

Title: Value Creation under Constraint: Assessing Valuation, Leverage, and Return Dynamics in the Zooplus SE Take-Private Leveraged Buyout

Keywords: Private Equity, Leveraged Buyout, Take-Private, E-Commerce, Zooplus, Valuation, Value Creation, Entry Multiple

Author: Cara Diekmann

Resumo

Esta dissertação analisa a forma como investidores de private equity criam valor em operações de aquisição de empresas cotadas, utilizando a aquisição da Zooplus SE em 2021, um dos principais retalhistas pan-europeus de produtos para animais de estimação online, como caso empírico. A transação culminou numa oferta de €480 por ação apresentada por um consórcio, representando um prémio de 85% face ao VWAP não afetado dos três meses anteriores ao anúncio inicial da oferta. São desenvolvidos um modelo de leveraged buyout com três cenários e uma análise de discounted cash flow numa perspetiva ex-ante.

O cenário base gera uma equity IRR de 13.7% e um MOIC de 2.0x ao longo de um período de detenção de 5,5 anos, ligeiramente abaixo do limite inferior dos retornos-alvo típicos de private equity. Com a dívida a representar apenas 11,9% do enterprise value, a engenharia financeira desempenha um papel limitado, sendo a criação de valor impulsionada sobretudo pelo crescimento do EBITDA. A análise de discounted cash flow indica um preço implícito por ação de €380,5 segundo a metodologia de crescimento perpétuo, significativamente abaixo do preço final da oferta, confirmando que a aquisição incorpora um prémio substancial de transformação.

Os resultados demonstram que avaliações de entrada elevadas comprimem principalmente a margem de segurança. A dissertação contribui com uma análise empírica integrada de uma operação europeia de take-private no setor do e-commerce e demonstra como múltiplos de entrada elevados limitam a capacidade de alavancagem suportável em operações de leveraged buyout.

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Palavras-chave: Private Equity, Leveraged Buyout, Take-Private, E-Commerce, Zooplus, Valuation, Value Creation, Entry Multiple

Autor: Cara Diekmann

Abbreviations

AFME	Association for Financial Markets in Europe
A	Actual (used as suffix for historical fiscal year data, e.g. FY2020A)
bn	billion
CAC	Customer Acquisition Cost
CAGR	Compound Annual Growth Rate
CapEx	Capital Expenditure
CAPM	Capital Asset Pricing Model
CLV	Customer Lifetime Value
D&A	Depreciation and Amortisation
DACH	Germany (Deutschland), Austria, Switzerland, geographic region
D2C	Direct-to-Consumer
DCF	Discounted Cash Flow
DIO	Days Inventory Outstanding
DPO	Days Payables Outstanding
DSO	Days Sales Outstanding
E	Estimate (used as suffix for FY2021 estimated data, e.g. FY2021E)
EBIT	Earnings Before Interest and Taxes
EBITDA	Earnings Before Interest, Taxes, Depreciation, and Amortisation
ECB	European Central Bank
EQT	EQT AB (Swedish private equity firm, acquirer in Zooplus transaction)
ERP	Equity Risk Premium
EURIBOR	Euro Interbank Offered Rate
EV	Enterprise Value
EV/EBITDA	Enterprise Value to EBITDA multiple
FCF	Free Cash Flow
FEDIAF	European Pet Food Industry Federation (Fédération Européenne de l'Industrie des Aliments pour Animaux Familiars)
FY	Fiscal Year
H&F	Hellman & Friedman (US private equity firm, acquirer in Zooplus transaction)
IFRS	International Financial Reporting Standards
IPO	Initial Public Offering
IRR	Internal Rate of Return

IT	Information Technology
LCD	Loan Connector Database (PitchBook data service)
LBO	Leveraged Buyout
LSEG	LSEG Workspace
LTM	Last Twelve Months
M&A	Mergers and Acquisitions
MOIC	Multiple on Invested Capital
NWC	Net Working Capital
P	Planned (used as suffix for forecast fiscal year data, e.g. FY2022P)
P&L	Profit and Loss
PE	Private Equity
PIK	Payment-in-Kind
PLTA	Profit and Loss Transfer Agreement (Gewinnabführungsvertrag)
RCF	Revolving Credit Facility
RoU	Right-of-use
SG&A	Selling, General and Administrative Expenses
SRH	SRH AlsterResearch AG (equity research firm)
TAM	Total Addressable Market
TLB	Term Loan B
tn	trillion
UK	United Kingdom
WACC	Weighted Average Cost of Capital
WpÜG	Wertpapiererwerbs- und Übernahmegesetz (German Securities Acquisition and Takeover Act)
Zooplus	Zooplus SE

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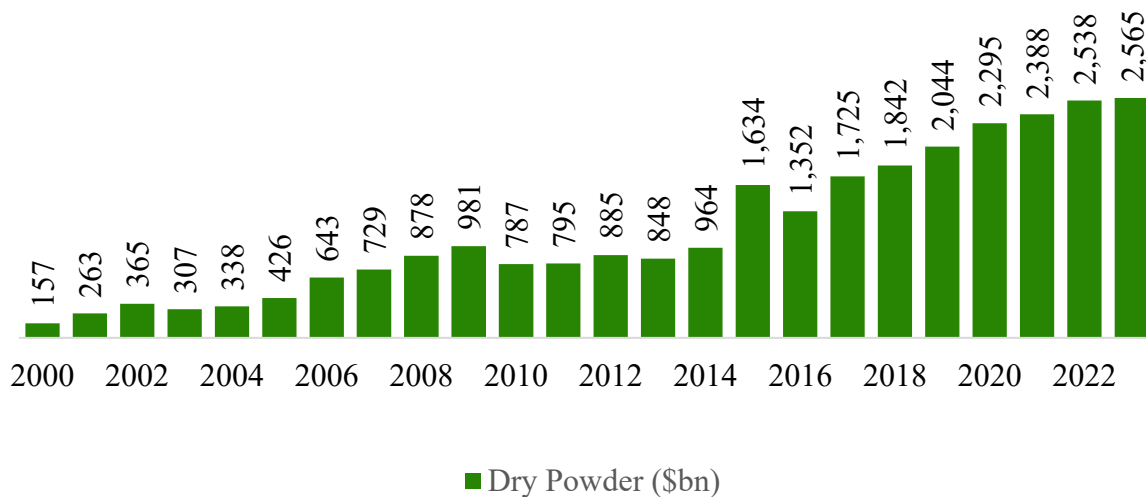
1. Introduction

1.1 Background and Motivation

In October 2021, Hellman & Friedman (H&F) and EQT jointly acquired Zooplus SE (Zooplus), Europe's largest online pet supplies retailer, at a price implying an enterprise value of $50.1\times$ Earnings Before Interest, Taxes, Depreciation, and Amortisation (EBITDA), one of the highest entry multiples observed in European leveraged buyout (LBO) history. The acquisition raises a question that sits at the heart of private equity (PE) valuation: under what conditions can a financial sponsor justify such a price, and what level of operational achievement is required to generate acceptable risk-adjusted returns when the entry multiple leaves almost no room for financial engineering?

Private equity dry powder has grown substantially over the past two decades, with \$1.6tn available for deployment by the mid-2010s, as illustrated in Figure 1, which extends to 2023 for context (Ayash 2020; S&P Global Market Intelligence 2024). This illustrates both the scale of the industry and the intensity of capital seeking investment opportunities.

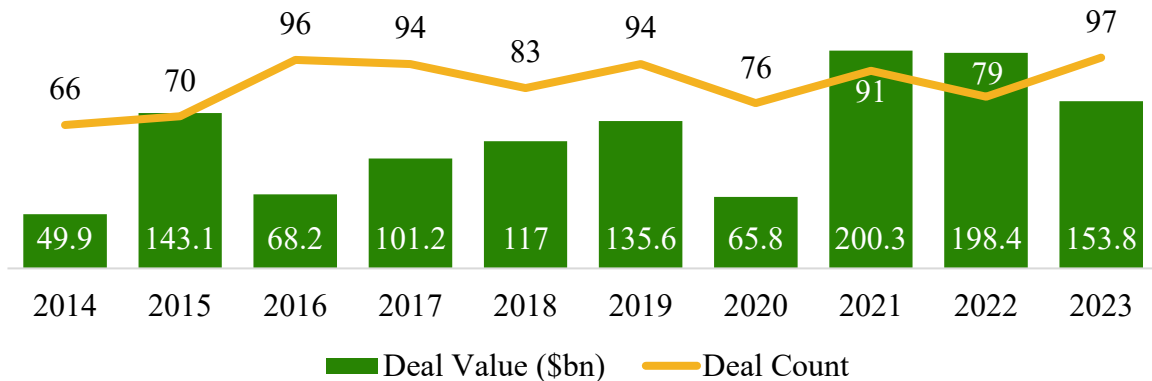
Figure 1: Global Private Equity Dry Powder (2000-2023)



Source: S&P Global Market Intelligence (2024)

Within this expansion, sponsor-led public-to-private transactions have become an increasingly prominent deal type, particularly in Europe.

Figure 2: Private Equity Take-Private Deal Activity in Europe and North America (2014-2023)



Source: PitchBook (2024)

Figure 2 illustrates the cyclical nature of take-private activity, with the 2021 peak in deal value coinciding with the Zooplus transaction.

In a take-private, a financial sponsor acquires a publicly listed company through a leveraged buyout and subsequently delists it. These transactions occur with particular frequency during periods of public market volatility, when listed companies may trade below their perceived intrinsic value, creating entry opportunities for well-capitalised sponsors. Historically low interest rates and abundant credit in the late 2010s and early 2020s reinforced this dynamic by enabling sponsors to finance acquisitions at low cost (Axelson et al. 2013, 2223).

Take-private LBOs differ fundamentally from traditional mergers and acquisitions (M&A). Corporate acquirers typically justify premium prices through synergies cost savings, revenue enhancements, and strategic complementarities with their existing operations (Trautwein 1990, 286; Sudarsanam 2010, 3). Financial sponsors, by contrast, evaluate targets as standalone investment projects and rely on capital structure optimisation, governance change, and operational improvement rather than integration with an existing business (Kaplan and Strömberg 2009, 134). The finite investment horizon of a PE fund, typically ranging from three to seven years, further reinforces the focus on measurable value realisation at exit (Kaplan and Strömberg 2009, 134; Rosenbaum and Pearl 2020, 293). Debt financing plays a central role in this structure, historically representing 60-80% of the purchase price in large buyouts, thereby enhancing equity returns and imposing financial discipline on management through mandatory debt service obligations (Jensen 1986, 323; Axelson et al. 2013, 2223; Rosenbaum and Pearl 2020, 300). At the same time, leverage amplifies downside risk and constrains strategic

flexibility, particularly where earnings are volatile or margins are thin (Kaplan and Strömberg 2009, 121).

However, the extent to which such gains reflect genuine value creation remains debated. The “breach of trust” hypothesis argues that some takeover gains may arise from reneging on implicit contracts with stakeholders, such as employees or creditors, rather than from efficiency improvements (Shleifer and Summers 1988, 33). Empirical evidence remains mixed, as many buyouts exhibit improved performance, but it is not always clear whether these gains stem from productivity enhancements or value redistribution (Kaplan and Strömberg 2009, 121).

A notable structural shift in recent buyout activity is the increasing prevalence of e-commerce and technology-driven targets. Earlier buyout waves primarily focused on asset-heavy businesses in mature industries with stable and predictable cash flows. Digital consumer platforms, by contrast, are typically asset-light, operate in highly competitive markets with thin margins, and require sustained investment in customer acquisition, logistics, and technology infrastructure (Haucap et al. 2019, 12). These characteristics challenge the traditional LBO value creation model. High leverage requires stable cash flows for debt service. In e-commerce, margins are often thin and cash flows are more volatile, limiting the feasibility of aggressive capital structures and placing greater emphasis on operational improvement as the primary return driver.

Zooplus exemplifies this tension. Founded in 1999, the company developed into a leading pan-European online pet supplies retailer, operating across approximately 25 markets and following a direct-to-consumer (D2C) e-commerce model supported by centralised procurement and a distributed logistics network, with revenues of €1.8 bn in fiscal year 2020 (Zooplus SE 2021a). Despite this scale, profitability remained structurally limited, with EBITDA margins in the low single digits reflecting the cost-intensive nature of pan-European e-commerce fulfilment.

The competitive takeover process that followed illustrates the valuation tensions inherent in such assets. H&F launched an initial voluntary offer at €390 per share in August 2021, representing a premium of approximately 40% to the undisturbed share price (Zooplus SE 2021d). EQT entered with a competing bid at €470 per share shortly afterwards, prompting H&F to increase its offer (EQT 2021). Rather than producing a winner-takes-all outcome, the process resolved through a consortium. H&F and EQT announced a joint offer at €480 per share in October 2021 (Zooplus SE 2021d; EQT 2021). Applied to 7,149,178 shares outstanding (Zooplus SE 2021a) and adjusted for a net cash balance of €74m as of 30 June 2021 (Zooplus

SE 2021c), this implied an EV of €3,358m, equivalent to approximately $50.1 \times$ EBITDA. At this valuation level, debt financing could account for only a small fraction of the purchase price, making the transaction one in which the traditional financial engineering toolkit of PE was structurally unavailable. Whether the sponsors could generate target returns through operational value creation alone, and under what conditions, is the central analytical question this thesis addresses.

1.2 Problem Statement and Research Question

Despite the growing importance of sponsor-led take-private transactions, a gap persists between the theoretical frameworks of PE value creation and the realities of individual deals. The academic literature has identified the primary mechanisms through which PE generates returns: financial leverage, governance improvement, operational improvements, and multiple expansion (Kaplan and Strömberg 2009, 121; Acharya et al. 2013, 368). These mechanisms are typically studied either across large samples or in isolation, rarely within a single integrated transaction framework.

Existing research highlights that buyout returns are highly sensitive to entry valuation and financing conditions. Axelson et al. (2013) demonstrate that periods of abundant credit are associated with higher leverage and higher purchase multiples, which in turn compress expected returns. Kaplan and Ruback (1995) show that substantial operational improvements may still be insufficient to offset the effects of an elevated entry price. This implies that value creation in leveraged buyouts is inherently constrained by the interaction between valuation, financing, and operational performance.

Yet there is limited transparency about how these constraints operate in specific transactions, particularly in European take-privates and in sectors with distinct financial characteristics such as e-commerce. Existing studies rarely integrate transaction structure, operational value creation levers, and LBO return mechanics within a single empirical framework. This limitation is particularly relevant for e-commerce businesses, where thin margins and ongoing investment requirements may constrain the effectiveness of traditional PE strategies.

Against this background, the Zooplus take-private provides a relevant empirical setting to examine these dynamics. This leads to the central research question of this thesis:

How do private equity sponsors structure and create value in take-private transactions, and what return profile does the Zooplus SE acquisition imply under realistic LBO assumptions?

1.3 Research Objectives and Hypotheses

This thesis pursues two interrelated objectives. The primary objective is to construct an ex-ante LBO valuation of the Zooplus take-private, grounded exclusively in information available at the valuation date of 30 June 2021, and to assess the return profile implied under realistic assumptions. The secondary objective is to use the case to examine how the structural characteristics of a high-multiple e-commerce take-private shape the availability and relative importance of the principal value creation levers identified in the theoretical literature.

The analysis is structured around three hypotheses, each derived from the existing theoretical literature and tested empirically through the LBO model in Chapters 6.2 and 6.4.

Kaplan and Ruback (1995, 1087) document that entry valuation is the single most powerful determinant of buyout returns, implying that at extreme entry multiples, operational improvement alone may not bridge the gap to target returns without simultaneously favourable exit conditions.

H1: Operating performance improvements are a necessary but not sufficient condition for achieving target sponsor returns in the Zooplus take-private: the high entry valuation creates a required value creation burden that operational improvement alone may not be sufficient to overcome without the concurrent achievement of a favourable exit valuation multiple.

The mathematical structure of leveraged return functions suggests that Internal Rate of Return (IRR) sensitivity to adverse deviations should increase as the entry price rises relative to the underlying cash flow base, producing increasingly asymmetric downside risk at high entry multiples (Axelson et al. 2013, 2245).

H2: At higher entry valuation multiples, a given adverse deviation in exit conditions produces a proportionally larger decline in IRR than the same deviation would at a conventional entry multiple, such that the return distribution becomes increasingly asymmetric as the entry price rises.

Kaplan and Strömberg (2009, 130) identify financial engineering as one of four primary value creation levers in leveraged buyouts, typically accounting for 30-50% of equity value creation. At a debt-to-EV ratio well below the 60-80% typical of large PE buyouts (Axelson et al. 2013, 2223), Jensen's (1986, 323) leverage discipline mechanism is structurally limited and financial engineering's contribution to equity value is predicted to be minor relative to operational improvement.

H3: Financial engineering contributes a materially smaller share of total equity value creation in the Zooplus take-private than documented in conventional leveraged buyout settings, such that the transaction's return profile is more consistent with a growth equity investment than with the standard PE buyout template.

Together, the three hypotheses examine the transaction from three complementary analytical angles: the conditions under which target returns are achievable given the entry valuation (H1), the shape of the return distribution and the nature of downside risk at extreme entry multiples (H2), and the composition of value creation drivers relative to the conventional PE model (H3). Each is derived from prior literature and tested against model output, with Section 8.2 presenting the formal evaluation of each.

1.4 Methodological Approach and Thesis Structure

This thesis adopts a single-case study approach combined with quantitative financial modelling. The Zooplus take-private is selected as an empirical case to examine the economic logic of sponsor-led buyouts within a specific transaction setting. Case study research enables an in-depth examination of complex financial relationships that are difficult to isolate in large-sample studies (Yin 2018, 15).

The empirical analysis draws on publicly available information, including company reports, takeover documents, and investor communications. A detailed LBO model is constructed, linking operating performance projections, capital structure assumptions, and exit scenarios to expected investor returns (Rosenbaum and Pearl 2020, 293). A discounted cash flow (DCF) analysis is additionally developed as a standalone cross-check on the acquisition price. This is of particular relevance given Zooplus's prior listing status, as it enables an assessment of whether the offer price reflected standalone intrinsic value or embedded a transformation premium contingent on the sponsors' value creation plan. All analysis is conducted from an ex-ante perspective, using only information available before the announcement of the final consortium offer on 25 October 2021, with the valuation anchored to 30 June 2021 as the most recent interim reporting date for which audited financial data were publicly available prior to the offer.

The remainder of the thesis is structured as follows. Chapter 2 reviews the relevant theoretical and empirical literature. Chapter 3 presents the research methodology and data sources. Chapter 4 develops the analytical framework. Chapter 5 examines the Zooplus transaction. Chapter 6

presents the valuation and return analysis, including the LBO model and DCF cross-check. Chapter 7 discusses the findings, and Chapter 8 concludes.

2. Theoretical Framework and Literature Review

2.1 Classic M&A Transactions and Acquirer Typologies

In the mergers and acquisitions (M&A) literature, a central distinction is drawn between strategic acquirers and financial acquirers, typically PE sponsors. Strategic acquirers are operating companies seeking acquisitions that complement their existing activities and generate industrial synergies, such as cost savings from consolidation, revenue synergies from cross-selling, or technological complementarities (Trautwein 1990, 286; Sudarsanam 2010, 3). Their willingness to pay is typically anchored in the incremental value of the combined entity rather than the standalone value of the target.

Financial acquirers evaluate the target as a standalone investment project whose value derives from its cash flows, risk profile, and potential for improvement during a finite holding period (Brealey et al. 2020, 810). PE sponsors do not expect synergies with an existing business. Instead, they rely on capital structure optimisation, governance changes, and operational enhancements to generate returns (Kaplan and Strömberg 2009, 121). The absence of synergies implies that financial buyers should, in principle, be more price-sensitive than strategic acquirers.

Empirical evidence supports these differences. Barger et al. (2008) and Fidrmuc et al. (2012) show that strategic buyers tend to pay higher takeover premiums than financial sponsors for public targets, consistent with the view that synergies allow strategic buyers to outbid financial investors. In a competitive sale process, this typically produces a sorting mechanism: high-synergy targets go to strategic acquirers while standalone value cases are more likely acquired by PE (Martos-Vila et al. 2013, 3-5).

Traditional M&A theory, built around synergy and industrial organisation perspectives, therefore only partially explains sponsor-led acquisitions, particularly public-to-private leveraged buyouts. In these deals, value creation is less about integration and more about reconfiguring the target's financial structure, governance, and strategy. This motivates a focused treatment of take-private transactions and LBO structuring beyond the standard M&A paradigm.

2.2 Take-private Transactions and LBO Structuring

Sponsor-led take-private transactions involve a PE fund, sometimes in consortium, acquiring a publicly listed company and resulting in its delisting and transition to private ownership. These transactions are typically structured as leveraged buyouts, where a substantial share of the purchase price is financed with debt secured by the target's assets and cash flows (Renneboog et al. 2007, 591; Rosenbaum and Pearl 2020, 297).

The literature identifies several motives for going private. A first is perceived undervaluation: sponsors and, in some cases, incumbent managers may believe that the public market price fails to reflect the firm's intrinsic value, either because of short-term earnings pressure, limited analyst coverage, or investor neglect (DeAngelo et al. 1989, 275). Renneboog et al. (2007) document that UK public-to-private transactions tend to target firms with depressed valuations and that undervaluation appears to be a key driver of returns to pre-transaction shareholders.

A second motive is agency cost reduction. Jensen (1986, 1989) argues that mature, cash-generating firms in public markets often suffer from agency problems: diffuse ownership and weak monitoring allow managers to pursue empire building, inefficient investment, or excess perquisite consumption. Leveraged buyouts address these issues by combining concentrated ownership, high leverage, and strong managerial incentives, constraining free cash flow (FCF) misuse and aligning management closely with owners.

Third, public markets impose short-term performance pressure and regulatory burdens. Quarterly reporting requirements, market scrutiny, and compliance costs may discourage long-term projects or complex restructuring. Private ownership under a buyout structure can allow for longer planning horizons and reduced public scrutiny, which is particularly relevant for transformation-intensive strategies (Jensen 1989, 63; Kaplan and Strömberg 2009, 121).

A defining feature of LBOs is the heavy use of debt. In a typical take-private, the acquisition is financed with a mix of sponsor equity and various layers of debt, including senior term loans, high-yield bonds, unitranche facilities, or mezzanine instruments. Leverage ratios of four to seven times EBITDA are common in large deals, depending on the credit environment and the target's cash flow profile (Rosenbaum and Pearl 2020, 303). From a corporate finance perspective, this structure exploits the tax shield on interest and the disciplining effect of debt on management (Jensen 1986, 323). Leverage also raises the probability and cost of financial distress, however, and Axelson et al. (2013) show that LBO leverage is strongly influenced by conditions in the debt markets. When credit is cheap and plentiful, deals are more highly

leveraged and, importantly, purchase price multiples are higher and subsequent returns lower. This suggests that abundant leverage can tempt sponsors into overpaying, reducing value for investors.

In take-private deals, additional constraints arise from regulation and market practice. Takeover rules across European jurisdictions require bidders crossing a threshold of voting rights, typically 30%, to make a mandatory offer to all shareholders at a minimum price, effectively anchoring the minimum acquisition price and limiting the sponsor's pricing flexibility (EU Takeover Directive 2004; Renneboog et al. 2007, 591). In Germany specifically, this obligation is codified under §29 WpÜG. Achieving a very high post-transaction leverage ratio may also be impractical for targets with volatile earnings or significant growth capital expenditure (CapEx) requirements, which is frequently the case in e-commerce and technology sectors.

Because the target is publicly listed, a take-private typically requires paying a control premium over the pre-announcement share price. Historical average premiums in public-to-private deals often range from roughly 20-40%, though they vary by market and period (DeAngelo et al. 1989, 278; Renneboog et al. 2007, 591). This premium reflects both compensation for shareholders relinquishing control and the bidder's expectations of value creation.

The key question is whether sponsors can maintain valuation discipline while offering such premiums. If public markets are reasonably efficient, a very high premium suggests either access to superior information or optimistic assumptions about future performance (Fama 1970, 383). Kaplan and Ruback (1995) show that buyout returns are highly sensitive to entry valuation, even substantial operating improvements may not compensate for paying too high a price. This is especially true in highly leveraged structures, where small negative deviations in performance or exit conditions can erode a large share of equity value. Consistent with this, entry multiples are a strong predictor of buyout returns (Kaplan and Ruback 1995, 1059). This underpins Hypothesis H1: in large, competitive take-private deals, sizable equity returns require not only operational success but also disciplined entry pricing.

In practice, PE sponsors assess expected returns through LBO models, which link entry price, capital structure, operating projections, and exit assumptions to the sponsor's target internal rate of return (Rosenbaum and Pearl 2020, 293). The model generally decomposes equity value at exit into contributions from EBITDA growth, net debt reduction, and changes in the exit multiple (Kaplan and Ruback 1995, 1059; Rosenbaum and Pearl 2020, 293). This modelling discipline enforces a valuation ceiling: sponsors typically work backwards from their required

return to derive the maximum price they can pay (Rosenbaum and Pearl 2020, 338). If the competitive process pushes the price beyond this level, the deal should be unattractive on a risk-adjusted basis (Axelson et al. 2013, 2223; Kaplan and Ruback 1995, 1059). The Zooplus take-private, which involved multiple bidders and a consortium of sponsors, is a prime example where competitive tension pushed the premium upward (Zooplus SE 2021d; EQT 2021). The analytical question becomes whether the assumed value creation and exit conditions can justify the implied purchase multiple and leverage.

At exit, sponsors may realise their investment through a trade sale, a secondary buyout to another PE fund, or an initial public offering (IPO) (Kaplan and Strömberg 2009, 121; Rosenbaum and Pearl 2020, 340). The chosen exit route influences the achievable exit multiple and therefore the final equity return.

2.3 Private Equity Value Creation Frameworks

The PE literature converges on four primary sources of value creation in leveraged buyouts: operational improvements, financial engineering, governance and incentive alignment, and multiple expansion at exit (Kaplan and Strömberg 2009, 130; Acharya et al. 2013, 368). These levers interact, and their relative importance has evolved over time.

Governance redesign is foundational, as it directly affects the sponsor's ability to implement operational and financial changes. Once a company is taken private, ownership becomes concentrated in the hands of one or a small group of sponsors (Kaplan and Strömberg 2009, 128). They appoint the majority of the board and exercise effective control over strategic and financial decisions. Boards under PE ownership are typically smaller, meet more frequently, and focus tightly on value creation metrics and performance targets (Kaplan and Strömberg 2009, 121). Managerial incentives are also fundamentally restructured. Senior executives are often required to roll over part of their equity into the new private entity and receive equity-based compensation tied to exit outcomes (Jensen 1989, 65; Rosenbaum and Pearl 2020, 353). This creates a high-powered incentive scheme in which management's personal wealth is closely linked to equity value realised at exit. Empirical evidence suggests that such incentive realignment plays a meaningful role in value generated in take-private transactions, particularly in the UK context (Renneboog et al. 2007, 591). The combination of concentrated ownership, intensive monitoring, and equity-linked incentives is therefore central to the PE governance model and is widely cited as a driver of performance improvements in buyout-backed firms (Kaplan and Strömberg 2009, 128).

Governance-based value creation is also subject to important limits. An excessively short-term focus on cash generation and debt repayment can lead to underinvestment in research and development, brand building, or human capital (Jensen 1989, 63). Effective PE governance requires balancing financial discipline with strategic investment. This is particularly challenging in sectors such as e-commerce that demand sustained technology and marketing expenditure (Kaplan and Strömberg 2009, 121; Haucap et al. 2019, 3-5).

Operational value creation refers to improving the firm's operating performance through cost reductions, efficiency gains, revenue growth, and strategic repositioning (Kaplan and Strömberg 2009, 134). Classic studies of 1980s management buyouts document significant improvements in operating margins, productivity, and cash flow following LBOs (Kaplan 1989, 244; Smith 1990, 143). More recent evidence from European and global buyouts suggests that operational improvements remain an important component of returns (Acharya et al. 2013, 368). In response to rising entry valuations and less favourable financing conditions, PE firms have increasingly relied on operating partners and sector-specialised teams to drive value in portfolio companies, reflecting a shift from financial engineering toward operational value creation (Acharya et al. 2013, 368; Bain & Company 2021).

Operational levers are constrained by industry structure, initial efficiency levels, and execution risk (Kaplan and Strömberg 2009, 134). Firms that are already well-run offer limited scope for dramatic cost reduction, and aggressive reductions may undermine growth potential or product quality. In highly competitive industries, pricing power is often limited. These constraints are particularly salient in e-commerce, where thin margins and high customer acquisition costs restrict the extent to which operational improvements alone can transform profitability (Haucap et al. 2019, 3-5).

Financial engineering encompasses the use of leverage, tax shields, and capital structure optimisation to enhance equity returns (Jensen 1986, 323; Rosenbaum and Pearl 2020, 299). By financing part of the acquisition with debt, sponsors reduce their equity commitment and can achieve high returns if enterprise value remains stable or increases. The tax deductibility of interest payments creates an interest tax shield that transfers value from the state to shareholders (Jensen 1986, 323; Kaplan and Strömberg 2009, 130). Leverage exhibits diminishing marginal benefits, however. As leverage increases, so do the expected costs of financial distress, reduced strategic flexibility, and the risk of insolvency (Kaplan and Strömberg 2009, 130; Axelson et al. 2013, 2223). From a welfare perspective, much of financial engineering reflects value transfer

rather than creation (Shleifer and Summers 1988, 33). Leverage cannot compensate for weak operating performance or an inflated entry price (Kaplan and Ruback 1995, 1059). This is directly relevant to Hypothesis H3.

Multiple expansion refers to exiting an investment at a higher valuation multiple than at entry. This can result from improved business quality, favourable industry trends, or buoyant capital markets at exit (Kaplan and Ruback 1995, 1059). Multiple expansion has contributed significantly to returns in technology-focused deals during periods of rising valuations (Bain & Company 2021). It is largely exogenous and uncertain, however, and relying on it as a primary return driver introduces speculative elements into the investment thesis (Kaplan and Ruback 1995, 1059). For conservative underwriting, sponsors typically assume flat or slightly lower exit multiples in their base cases, treating multiple expansion as upside optionality rather than a core pillar of the return case (Kaplan and Ruback 1995, 1059; Rosenbaum and Pearl 2020, 344).

The return contribution of each lever can be decomposed analytically. At exit, equity value creation is attributed to EBITDA growth driven by revenue expansion and margin improvement. Deleveraging, as debt is repaid from FCF generated during the hold period. Multiple expansion, reflecting the difference between entry and exit valuation multiples (Kaplan and Ruback 1995, 1059; Rosenbaum and Pearl 2020, 343). This decomposition framework is applied in Chapter 6.2 to the Zooplus case.

A central debate in the literature is whether PE primarily creates economic value or reallocates it among stakeholders. Operational improvements that increase productivity, quality, and innovation represent genuine value creation (Kaplan 1989, 244; Smith 1990, 143). Tax shields, wage cuts, or shifts in bargaining power, however, may generate investor returns by redistributing value away from the state, employees, or other stakeholders (Shleifer and Summers 1988, 33; Wang 2012, 594). Most empirical work suggests a combination: PE-backed firms, on average, become more efficient and profitable (Kaplan 1989, 217; Smith 1990, 143; Acharya et al. 2013, 368), while a portion of gains also reflects financial engineering and favourable exit timing (Kaplan and Strömberg 2009, 130).

2.4 Industry-Specific Value Drivers in E-commerce

The e-commerce setting of the Zooplus case introduces sector-specific dynamics that materially influence both value creation and valuation in a take-private LBO. E-commerce differs from

traditional retail in unit economics, cost structure, and growth drivers (Haucap et al. 2019, 3-5).

E-commerce firms' profitability depends heavily on unit economics: the relationship between revenue per customer over their lifetime and the cost to acquire and serve that customer (McKinsey & Company 2021b). Key metrics include customer acquisition cost (CAC), customer lifetime value (CLV), and churn rates. High CAC relative to CLV implies that growth is value-destructive; conversely, if customers generate sufficient repeat purchases, even high upfront CAC can be justified (McKinsey & Company 2021b).

Pet e-commerce is, in principle, attractive from a CLV perspective. Pet owners purchase food and supplies recurrently over many years, providing a structurally favourable repeat-purchase dynamic. Price transparency and low switching costs make retention challenging, however, as customers can easily compare offers across platforms (Haucap et al. 2019, 8). To mitigate this, leading e-commerce players emphasise loyalty programmes, subscriptions, and personalised marketing, using rich customer data to segment and target profitable groups (Haucap et al. 2019, 8). Research highlights that successful e-commerce companies treat CLV as a central steering metric and allocate marketing budgets to maximise CLV relative to CAC rather than pursuing pure top-line growth (McKinsey & Company 2021b). For a leveraged take-private, this focus on profitable growth is particularly important. Excessive marketing spend that does not translate into long-lived customer relationships erodes the FCF needed for debt service (Kaplan and Strömberg 2009, 121).

Unlike purely digital businesses, e-commerce companies must handle physical fulfilment, including warehousing, picking and packing, and last-mile delivery. These activities are cost-intensive and can represent a large share of revenue (McKinsey & Company 2021a). Fulfilment and delivery can account for 12 to 20% of e-commerce revenues in some segments, significantly compressing margins if not managed efficiently (McKinsey & Company 2021a). For a company like Zooplus, shipping relatively heavy and low-value products such as pet food directly to consumers makes logistics efficiency a pivotal value driver. Economies of scale and network design influence the cost per order materially (McKinsey & Company 2021a; Haucap et al. 2019, 12). Even small improvements in fulfilment cost as a percentage of sales can have a significant impact on Earnings Before Interest and Tax (EBIT) and, by extension, on equity value in an LBO (Kaplan and Ruback 1995, 1059).

E-commerce firms also rely on data-driven pricing and product mix optimisation to protect margins (McKinsey & Company 2021a). Online platforms allow for granular price experimentation, dynamic pricing, and targeted promotions. By analysing purchase histories and competitive pricing, companies can identify areas where they have pricing power and adjust accordingly. In categories such as pet supplies, higher-margin private-label offerings and cross-selling of accessories can enhance average order margins (McKinsey & Company 2021a). Top performers link pricing and promotion strategies closely to cost-to-serve insights, pricing high-fulfilment-cost items differently and promoting them less aggressively (McKinsey & Company 2021a). Such integrated commercial strategies can help protect or improve gross margins despite competitive pressure (Haucap et al. 2019, 12).

E-commerce companies often exhibit more volatile and less predictable cash flows than mature industrial firms (Kaplan and Strömberg 2009, 121). Seasonality, promotional cycles, and shifts in digital advertising effectiveness cause earnings fluctuations. The business model also requires sustained investment in technology, logistics infrastructure, and marketing to remain competitive (Haucap et al. 2019, 12). These characteristics complicate the design of a highly leveraged capital structure. Lenders are wary of volatility and limited tangible collateral, leading to lower tolerated leverage and potentially tighter covenants (Axelson et al. 2013, 2223; Kaplan and Strömberg 2009, 121). For a sponsor, an LBO of an e-commerce firm must therefore carefully balance growth ambitions with the necessity of generating sufficient cash flow to service debt.

In the Zooplus case, these sector-specific factors shape the feasible value creation path. Improvements in fulfilment efficiency, marketing effectiveness, and pricing strategy offer upside. The business also faces structural margin pressure and cash flow volatility, however. The subsequent empirical chapters examine whether the sponsors' LBO assumptions regarding growth, margins, and leverage are consistent with these industry realities.

2.5 Literature Gaps and Research Contribution

The preceding review highlights several gaps in the existing literature that this thesis seeks to address.

First, while there is substantial work on leveraged buyouts and going-private transactions, detailed integrated case studies of European sponsor-led take-privates remain relatively scarce. Much of the empirical research either focuses on broad samples (Renneboog et al. 2007, 591) or examines specific mechanisms in isolation. There is limited publicly available evidence

reconstructing a modern European take-private from the perspective of deal process, structuring, valuation, and value creation in a unified framework.

Second, academic work often treats transaction structure, valuation, and value creation as separate domains. Studies on value creation emphasise operating performance (Kaplan 1989, 217; Smith 1990, 143; Acharya et al. 2013, 368), while those on LBO pricing and leverage focus on credit conditions and capital structures (Axelson et al. 2013, 2223). There is relatively little research explicitly connecting the entry valuation and financing choices of a specific deal to a rigorous LBO-style return decomposition, assessing whether the implied assumptions on performance and exit are realistic in light of industry constraints.

Third, the e-commerce and digital retail context has received limited attention in the buyout literature. Despite growing PE interest in online platforms and digital consumer businesses, detailed analyses of how traditional LBO frameworks apply in these settings remain limited. Zooplus, as a pan-European online pet retailer, offers a rich context to explore how PE investors adapt their structuring and value creation approaches to an e-commerce business model.

This thesis contributes to filling these gaps in three ways. It provides an in-depth case study of a contemporary European take-private, the 2021 Zooplus transaction led by EQT and Hellman & Friedman, integrating insights from transaction documents, market data, and sector analysis. It develops and applies a constraint-based value creation framework explicitly linking transaction structure, value creation levers, and LBO return mechanics, enabling a structured assessment of whether the sponsors' implied return expectations are consistent with economic and industry realities. It also explores how e-commerce-specific characteristics, including customer economics, logistics cost structure, and margin dynamics, affect the design and feasibility of a leveraged take-private, providing insights relevant for both academics studying the digital economy and practitioners considering similar transactions.

3. Research Methodology and Data

3.1 Research Design and Case Selection

This thesis adopts a pragmatic research design combining qualitative and quantitative methods to address the research question on PE valuation and value creation in take-private transactions. The qualitative component focuses on contextual interpretation. It draws on academic literature, practitioner reports, transaction documentation, and public disclosures to analyse the rationale, structure, and value creation logic of the Zooplus take-private. The quantitative component

consists of a deal-specific LBO model and a DCF analysis, both constructed to estimate equity returns and intrinsic value under realistic assumptions. Scenario and sensitivity analyses are employed to examine how variations in key assumptions affect outcomes and to evaluate the hypotheses developed in Chapter 1. By combining qualitative interpretation with quantitative modelling, the research design enables a holistic assessment of PE value creation, capturing both the strategic intent of the sponsors and the financial feasibility of the transaction (Yin 2018, 15). All quantitative analysis is conducted from a strictly ex-ante perspective, meaning that only information publicly available before the announcement of the final consortium offer on 25 October 2021 is used as a model input, with the valuation anchored to 30 June 2021 as the most recent interim reporting date for which audited financial data were available prior to the offer. Post-transaction developments may be referenced in Chapter 7 for ex-post validation purposes only and play no role in the construction of model assumptions.

The thesis employs a single-case study design following explanatory logic. This choice is justified by the nature of the research question, which seeks to understand how and under what constraints value is created in a specific take-private transaction, rather than to estimate average effects across a large sample. Single-case studies are particularly suitable when the objective is an in-depth analysis of complex phenomena that are difficult to observe using large-sample methods (Yin 2018, 15). In PE, detailed transaction-level information such as valuation assumptions, capital structure design, and value creation plans is rarely publicly available. Large-sample studies therefore abstract away from deal-specific dynamics that are central to practitioner decision-making (Kaplan and Strömberg 2009, 121). While the findings of a single-case study are not statistically generalisable, the objective of this research is analytical generalisation rather than population inference (Yin 2018, 21). Insights from the case are interpreted through established theoretical frameworks and used to inform broader debates on PE valuation and take-private transactions.

The Zooplus take-private is selected as an analytically rich case for several reasons. First, the transaction represents a large-scale European take-private in the e-commerce sector, an area underrepresented in academic buyout literature. Zooplus therefore provides a setting in which traditional LBO frameworks can be examined under non-traditional economic conditions. Second, the deal occurred in a highly competitive bidding environment, culminating in a consortium offer at a premium of more than 70% to the undisturbed share price. This setting provides a natural context in which to examine valuation discipline, non-linear downside risk, and return sensitivity, which are central to the hypotheses developed in Chapter 1. Third, the

availability of detailed public information, including annual reports, takeover offer documents, press releases, and analyst commentary, makes it possible to reconstruct key elements of the transaction and develop a realistic LBO model despite the absence of internal sponsor data (Yin 2018, 15). Finally, the case is representative of broader structural trends in PE, including increased sponsor interest in digital business models, the use of club deals for large take-privates, and the interaction between elevated entry valuations and constrained value creation opportunities.

3.2 Case Study Protocol and Data Sources

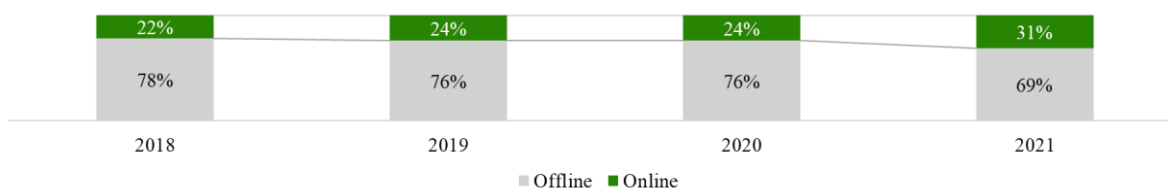
The empirical analysis draws exclusively on publicly available information, consistent with the ex-ante methodological discipline described in Section 3.1. All data sources are evaluated against two criteria: that they were publicly accessible before 30 June 2021, the chosen valuation date; and that they provide sufficiently granular information to support the construction of a realistic LBO model without requiring internal sponsor data. The data collection process follows the principle that the analysis should be replicable by any market participant with access to the same public information set available at the time of the transaction.

The primary source of transaction-specific information is the suite of regulatory and corporate documents published in connection with the takeover process. The initial voluntary public offer by Hellman & Friedman, announced on 13 August 2021, and the subsequent competing offer by EQT at €470 per share, announced on 25 September 2021, are sourced from the respective formal offer documents filed with the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) and published on both the Zooplus investor relations website and the sponsors' own websites. EQT's offer document explicitly states that Pet BidCo does not intend to enter into a domination and/or profit and loss transfer agreement with Zooplus, a disclosure with direct implications for the tax structure modelled in this thesis (EQT 2021). The final consortium offer at €480 per share, announced on 25 October 2021, is sourced from the joint H&F and EQT press release of that date (EQT 2021; Zooplus SE 2021d). The number of shares outstanding, 7,149,178, is sourced from Zooplus SE (2021a), confirmed unchanged in the formal offer documentation (EQT 2021). Management's mid-term financial targets for 2025 are sourced from the Zooplus AG press release of 25 March 2021 (Zooplus SE 2021b). Quarterly financial data used in the source financials sheets of the model are obtained primarily from LSEG Workspace (LSEG) database, which provides standardised observations of income statement, balance sheet, and

cash flow items for the period from FY2018 to H1 2021. Financial statement data for fiscal years 2018 to 2020, together with Q1 and Q2 2021 results published on 16 August 2021, are used to establish opening balance sheet positions and to validate underlying operating trends. These data form the basis for the dynamic computation of ratio-based assumptions and working capital metrics. The FY2021 revenue estimate is derived using an annualised run-rate approach based on the H1 2021 actual revenue of €1,002m (Zooplus SE 2021c). This is calculated as $(\text{H1 revenue} \div 6) \times 12$, resulting in an estimated FY2021 revenue of approximately €2,004m. This methodology reflects the information available at the valuation date of 30 June 2021 and avoids reliance on forward-looking analyst forecasts, which may incorporate post-announcement assumptions.

Market-level assumptions are grounded in three ex-ante institutional sources. Total European pet food market growth of approximately 3% per annum is derived from FEDIAF Facts & Figures 2020, published 21 June 2021, which reported market growth of 2.8% in 2020 (FEDIAF 2021). The online channel shift trajectory is grounded in a report published by Euromonitor International (2021), which projects online channel share in global pet care rising from approximately 20% in 2020 toward one-third of total sales by 2026. Figure 3 provides complementary historical evidence from Statista, illustrating the observed increase in online channel share and corresponding decline in offline sales over the period from 2018 to 2021. Together, these sources support the assumption of continued channel migration toward e-commerce.

Figure 3: Historical Online vs. Offline Share of Pet Food Sales (2018-2021)



Source: Statista (2025)

Country-level online pet food market size data for the 25 Zooplus operating markets are sourced from Statista Market Insights, with only the 2018 to 2020 historical series used as model inputs (Statista 2025). Post-2020 Statista data are excluded from all model assumptions and retained solely for ex-post validation purposes. The Statista 2025 citation references the database as accessed for data extraction purposes; only the 2018-2020 historical observations are used as

model inputs, consistent with the ex-ante methodological constraint. The historical country-level series for these years was publicly available prior to 30 June 2021 and its content is unaffected by subsequent database updates.

Several material limitations constrain the analysis. No public disclosure of the post-closing debt financing structure was made by either sponsor. The capital structure modelled is therefore a reconstruction based on 2021 European leveraged finance market conventions, as described in Section 3.3, rather than a replication of actual financing terms. No internal operating plan, management presentation beyond publicly disclosed targets, or sponsor investment thesis is available, meaning that the value creation assumptions modelled represent the author's independent ex-ante reconstruction. Zooplus does not disclose granular unit economics, including CAC, CLV, or fulfilment cost per order, limiting the analysis to aggregate financial ratios. McKinsey & Company (2021b), cited for the CLV-as-steering-metric framework in Section 2.4, was published in October 2021. It is used solely as a source for a structural industry characterisation of e-commerce marketing practice, not as a quantitative model input; the CLV/CAC framework it describes reflects established practice in European e-commerce that was observable before the valuation date. Finally, the analysis does not incorporate any information from the post-closing period, consistent with the strict ex-ante methodology applied throughout. These limitations are acknowledged as inherent to single-case empirical research in PE, where internal deal-level information is rarely accessible in the academic domain (Yin 2018, 15).

3.3 LBO Model Design and Key Assumptions

The LBO model is constructed to replicate the investment analysis a financial sponsor would have conducted at the time of the transaction, using only information available prior to 25 October 2021 and anchored to a valuation date of 30 June 2021. The model assumes a 5.5-year holding period, with entry at mid-2021 and exit at the end of 2026, consistent with standard private equity investment horizons (Rosenbaum and Pearl 2020, 340). The complete set of core LBO assumptions is summarised in Exhibit 6.

The entry EV is derived directly from primary sources. Zooplus SE (2021a) confirms 7,149,178 shares outstanding. At the final offer price of €480 per share, the equity purchase price is approximately €3,432m. After adjusting for a net cash position of €74m as of 30 June 2021, this implies an enterprise value of €3,358m. Relative to FY2020 EBITDA of €67m, this corresponds to an entry multiple of $50.1 \times \text{EV/EBITDA}$, representing one of the highest entry

multiples observed in European leveraged buyout transactions and substantially above the historical average for consumer and retail buyouts (Kaplan and Strömberg 2009, 121; Axelson et al. 2013, 2223).

No public disclosure of the post-closing debt financing terms was made by the consortium (EQT 2021; Zooplus SE 2021d). The financing structure is therefore reconstructed from first principles on the basis of 2021 European leveraged finance market conditions. The maximum debt quantum is derived by applying a fixed gross leverage assumption of $4.52 \times$ FY2021E EBITDA to the projected FY2021E EBITDA of €88m, yielding maximum supported debt of approximately €400m. This approach mirrors standard PE practice, in which sponsors establish a maximum leverage ratio consistent with the target's debt service capacity and prevailing lender appetite, and from that derive the achievable debt quantum rather than working backwards from a desired equity check (Rosenbaum and Pearl 2020, 303; Axelson et al. 2013, 2223). The leverage assumption reflects the current operating power of Zooplus's business model: at low single-digit EBITDA margins, lenders would not have supported materially higher leverage without meaningful covenant protection or additional credit enhancement (Kaplan and Strömberg 2009, 121).

At closing, the transaction was funded with committed equity from both H&F and EQT pursuant to the financing certainty requirements of §13 WpÜG, which requires a bidder to secure the necessary financing prior to publication of the offer document (Bundesrepublik Deutschland 2001). The permanent financing structure modelled comprises a Term Loan B (TLB) of €400m. The TLB was the appropriate and dominant instrument for large European PE buyouts in 2021 for several reasons. First, the Euro Interbank Offered Rate (EURIBOR) was negative at the valuation date, making a 0% EURIBOR floor standard market practice to ensure lenders received a minimum yield on their floating rate exposure (AFME 2021; Rosenbaum and Pearl 2020, 319). Second, covenant-lite TLBs had become the norm in European leveraged finance by 2021. By 2018, they already accounted for approximately 80% of institutional loan issuance, with the proportion continuing to rise through 2021 (ECB 2018; Axelson et al. 2013, 2223). This structure provides sponsors with operational flexibility and reduces the risk of technical default during periods of earnings volatility. Third, the seven-year tenor reflects standard European TLB maturity conventions. September 2021 market data confirm that institutional TLB issuance in Europe had reached €105bn year-to-date, on track to become the most active year on record, with average new issue spreads standing at EURIBOR + 402 bps and a 0% floor (Invesco 2021). The Term Loan B facility is modelled without

mandatory amortisation, reflecting its economic characteristics as a predominantly bullet-style instrument. In practice, Term Loan B structures typically include only minimal scheduled amortisation, often around 1% per annum, with the majority of principal repayment occurring at maturity. As a result, scheduled amortisation plays a limited role in overall deleveraging. Accordingly, omitting scheduled amortisation represents a simplifying assumption that does not materially affect the analysis, while maintaining consistency with the economic substance of the financing structure (Rosenbaum and Pearl 2020, 293). The resulting debt repayment profile is presented in Exhibit 9.

A margin of 425 basis points is consistent with this contemporaneous market evidence and with single-B rated European leveraged transactions executed in mid-2021, when average spreads on euro-denominated single-B TLBs were approximately 423 basis points at end-2021 (PitchBook LCD 2022). The implied all-in rate is 4.55%, aligned with the cost of debt applied in the DCF analysis to ensure methodological consistency across the two valuation frameworks. The resulting gross leverage is conservative relative to the typical range of 4-7× observed in large European buyouts (Axelson et al. 2013, 2223), reflecting the structural limit imposed by Zooplus's thin EBITDA base at entry, as discussed further in Chapter 6. The equity contribution totals approximately €3,090m, representing the residual funding after debt financing. Management contributes approximately 1.25% of the equity capital (€39m), but receives a 5% economic ownership stake at exit through a sweet equity structure with an envy ratio of approximately 4.16×, consistent with standard PE incentive design (Jensen 1989, 65). Accordingly, sponsor ownership is adjusted to approximately 95% of total equity for the purpose of return calculations. The resulting sources and uses structure is presented in Exhibit 7.

The revenue model segments Zooplus's 25 operating markets into five geographic tiers reflecting observable differences in e-commerce maturity and growth trajectory. Each Tier is assigned a tier-specific channel shift premium applied on top of the uniform 3% base market growth rate (FEDIAF 2021; see Exhibit 5). Tier 1, DACH (Germany, Austria, Switzerland), represents Zooplus's most developed and highest-penetration markets, where online pet food accounted for approximately 20% of total pet food sales in 2021. The applied channel shift premium decelerates from 11.0% in FY2022P to 3.0% by FY2026P, consistent with a penetration curve approaching maturity. Tier 2, Established International (United Kingdom, France, Netherlands, Belgium, Ireland), is characterised by heterogeneous but continuing channel shift momentum, with the United Kingdom at comparatively mature online penetration

levels while France and the Netherlands retain substantial structural runway. The applied channel shift premium declines from 12.0% in FY2022P to 5.0% by FY2026P. Tier 3, Southern Europe (Italy, Spain, Portugal, Greece), exhibits the strongest structural growth profile, supported by comparatively low current online penetration and favourable long-term e-commerce adoption trends. Euromonitor International projected strong medium-term growth in Southern European online pet care markets at the valuation date (Euromonitor International 2021). The applied channel shift premium declines from 13.0% in FY2022P to 6.0% by FY2026P. Tier 4, Northern Europe (Sweden, Denmark, Finland, Norway), already exhibited relatively advanced digital adoption in 2021, producing a lower channel shift premium declining from 6.0% to 3.0% over the projection period. Tier 5, Central and Eastern Europe (Poland, Czechia, Hungary, Romania, Slovakia, Bulgaria, Croatia, Slovenia, and Luxembourg), combines the lowest initial online penetration with the largest long-term structural runway driven by rising disposable income and increasing pet ownership rates (FEDIAF 2021). The applied channel shift premium declines from 14.0% in FY2022P to 7.0% by FY2026P. Applying these tier-specific growth assumptions to the flat market share framework produces a blended 25-country online addressable market increasing from approximately €7616m in FY2021E to approximately €12453m by FY2026P, corresponding to a CAGR of approximately 14.4% (see Exhibit 5). Under the management case, Zooplus captures approximately €2926m of this addressable market by FY2026P at a broadly stable market share of approximately 23-24%, consistent with the company's historical positioning. The implied Zooplus revenue growth profile moderates progressively over the projection period, from approximately 15.0% in FY2022P to approximately 6.5% by FY2026P, reflecting the gradual normalisation of channel shift dynamics as online penetration matures and the revenue base expands. The management case deliberately assumes no material market share gains against Amazon or the expanding online operations of Fressnapf, representing a conservative base-case assumption that avoids embedding incremental competitive outperformance into the valuation. The resulting trajectory remains materially below management's own 2025 revenue guidance of €3.4bn-€3.8bn (Zooplus SE 2021b), consistent with the methodological principle that an ex-ante academic valuation should not anchor directly to the seller's business plan (Kaplan and Ruback 1995, 1059; Rosenbaum and Pearl 2020, 317).

Gross margin is projected from a base of 30.5%, representing the FY2020A-FY2021E average, increasing by 0.3pp per year to reach 32.0% by FY2026P. The two most recent observable data points are used as the base rather than a longer historical average because they best represent

Zooplus's structural gross margin level once private-label penetration reached approximately 16% of sales and the pan-European logistics network had reached operating maturity. The FY2018A-FY2019A period, when own-brand share was lower and the logistics network was still expanding, is not representative of the projection-period starting point. The assumed annual improvement is grounded in the directional trend visible across FY2018A-FY2020A (gross margin rose from 28.9% to 30.4%), but applied at less than half the historical pace, as the FY2018A-FY2020A compound improvement was approximately 0.75pp per year, acknowledging that private-label efficiency gains are front-loaded and that competitive pricing pressure limits indefinite improvement (Haucap et al. 2019, 1). Each additional percentage point of own-brand penetration contributes approximately 10-15 basis points to blended gross margin (McKinsey & Company 2021b), and penetration is assumed to rise from approximately 16% in FY2020A to approximately 20-22% by FY2026P. The exit gross margin of 32.0% remains well below mature single-country benchmarks, confirming that the projection embeds no best-in-class convergence; the structural cost of a 25-country pan-European fulfilment network permanently constrains margins relative to single-market peers.

Selling, general and administrative (SG&A) expenses are projected at 5.1% of revenues throughout FY2022P-FY2026P, representing the FY2020A-FY2021E average. The two-year window is used because it reflects the cost structure observable closest to the valuation date, after the non-recurring FY2019A marketing campaign that inflated SG&A to 7.0% in that year. Including earlier years would introduce noise from that spike and from the earlier, smaller-scale cost base. The flat ratio is conservative: it embeds no benefit from the removal of public-company compliance costs (approximately 0.1-0.2%) and no scale-driven headcount efficiency, both of which are treated as potential upside.

Other operating expenses, covering logistics and fulfilment, marketing and customer acquisition, payment processing, and administrative overheads, are projected at 21.3% of revenues throughout FY2022P-FY2026P, representing the FY2019A-FY2021E average. The period begins in FY2019A rather than FY2018A because the FY2018A ratio of 22.4% included elevated one-off costs from new country launches that are not representative of the structural run-rate at scale. The three-year average from FY2019A to FY2021E best captures steady-state cost dynamics at revenues of approximately €1.5-2.0bn. The flat assumption reflects two broadly offsetting forces: growing order volumes spread fixed warehouse and technology costs over a larger revenue base, while expansion into Central and Eastern Europe introduces higher

per-parcel delivery costs in less-dense logistics networks (Haucap et al. 2019, 12; McKinsey & Company 2021a).

The combined effect of gross margin expansion alongside flat SG&A and other operating expense ratios produces an EBITDA margin improvement from 4.4% in FY2021E to 5.6% by FY2026P, driven entirely by gross margin rather than cost reduction. Potential EBITDA normalisations were considered but excluded, as detailed adjustment verification falls outside the scope of this thesis. The full projected profit and loss development across scenarios is presented in Exhibit 1.

Depreciation and amortisation (D&A) is modelled at 1.7% of revenues throughout FY2022P-FY2026P, representing the FY2019A-FY2021E average. The period begins in FY2019A, as IFRS 16 became mandatory from that year onwards, ensuring consistency with the accounting treatment applied in the model, under which D&A includes the depreciation of right-of-use (RoU) assets (IASB, 2016). FY2018A is excluded as it reflects pre-IFRS 16 reporting.

CapEx is projected at 0.3% of revenues throughout FY2022P-FY2026P, representing the FY2018A-FY2021E average. Including all four years captures a full investment cycle, as FY2018A represents a peak-spend year on warehouse automation and FY2019A-FY2021E the subsequent annualised run-rate, so the four-year average produces a more robust steady-state estimate than any sub-period. The CapEx-to-D&A ratio of approximately 20% throughout confirms no real-terms asset base expansion in the model. Any incremental CapEx from the Central and Eastern European logistics build-out signalled pre-transaction (Zooplus SE 2021a) is treated as downside risk.

Working capital assumptions are based on the standard days-based methodology commonly applied in LBO modelling, in which operating working capital components are projected as a function of revenue and cost drivers (Rosenbaum and Pearl 2020, 360). The resulting working capital and capital expenditure projections across scenarios are summarised in Exhibit 2. Days Inventory Outstanding (DIO) is projected at 41.4 days from FY2022P onwards, the FY2018A-FY2021E average. All four years are included because the FY2020A elevation reflects a pandemic-related inventory build that partially reverses in FY2021E, and the four-year average smooths both the spike and the recovery. Days Sales Outstanding (DSO) is projected at 6.6 days from FY2022P onwards, the FY2018A-FY2021E average, reflecting the online prepayment model that produces structurally near-zero receivables and a negative cash

conversion cycle. Days Payables Outstanding (DPO) is projected at 40.7 days from FY2022P onwards, the FY2018A-FY2020A. Unlike DIO and DSO, FY2021E is excluded from the DPO average because the FY2021E payables balance of 50.7 days is materially above the historical range, likely reflecting transaction-related timing effects around the ownership transition and including it would overstate the structural payables level. The reversion from 50.7 days in FY2021E to 40.7 days in FY2022P produces a one-time working capital cash outflow in the first full projection year. This is the conservative treatment: maintaining elevated FY2021E payables as structural would generate an unearned cash benefit whose sustainability cannot be established from public sources. The projected working capital metrics across scenarios are presented in Exhibit 3.

A blended effective corporate tax rate of 27.5% is applied throughout as a fixed assumption, calibrated to reflect the approximate mix of Zooplus's earnings between the German operating entity, where the statutory combined rate is approximately 29.9%, and non-German European subsidiaries, where effective rates average approximately 23%. A single-rate approach is adopted given the pan-European operating structure; no mechanical weighting by revenue distribution is modelled. No profit and loss transfer agreement (PLTA) was established between Zorro Bidco S.à r.l. and Zooplus AG (EQT 2021), meaning LBO debt interest remains at the Luxembourg Bidco level and does not generate a deductible interest charge at the German operating entity. The Zinsschranke interest barrier under §4h EStG therefore does not apply to the financing costs modelled.

The net debt bridge applies a net cash position of €74m, derived from cash and cash equivalents of €164m as of 30 June 2021, less IFRS 16 lease liabilities of €90m, comprising short-term obligations of €25m and long-term obligations of €65m (Zooplus SE 2021c). Pension provisions are set to zero throughout the model. This treatment ensures consistency across both the LBO and DCF frameworks. The detailed net debt bridge is presented in Exhibit 14.

The model assumes an exit on 31 December 2026, implying a 5.5-year holding period. The exit EV is derived by applying an exit EV/EBITDA multiple of 35× to the FY2026P EBITDA of €176m. The exit multiple assumption is discussed and justified in Chapter 6.1.

The model constructs three scenarios. The management case is assumed to represent the most likely outcome and is therefore used as the primary analytical base for the model. The principal

operating assumptions across the management, upside, and downside cases are summarised in Exhibit 4.

The upside case assumes revenue growth of approximately 16.5% in FY2022P, converging toward approximately 8.0% by FY2026P, reflecting a scenario in which Zooplus captures channel shift momentum ahead of schedule. Gross margin is 1.0pp higher than the management case throughout, reflecting faster private-label penetration, while SG&A and other operating expenses are each 0.5pp higher, reflecting the incremental marketing and logistics investment required to generate and sustain that growth.

The downside case assumes revenue growth of approximately 11.6% in FY2022P, declining to approximately 3.8% by FY2026P, reflecting intensified competitive pressure from Amazon and Fressnapf and a faster post-pandemic normalisation of online spending patterns. Gross margin is assumed to be 1.0pp lower than in the management case, reflecting slower private-label adoption and weaker pricing power. This is partially offset by reductions in SG&A and other operating expenses of 0.5pp each, reflecting lower discretionary marketing spend and a lighter logistics footprint.

Working capital assumptions vary marginally across scenarios, with DIO and DPO adjusted by one day and DSO by approximately 0.5 days. CapEx varies by approximately ± 0.1 pp of revenues. All return metrics presented in Chapter 6 are derived from the management case unless otherwise specified.

A DCF analysis is conducted as a cross-check of the entry valuation, applying the same operating projections and valuation date to ensure consistency with the LBO framework. The DCF applies the same valuation date of 30 June 2021 and the same operating projections as the LBO model, ensuring consistency between the two analyses. The Weighted Average Cost of Capital (WACC) of 5.7% is derived from a risk-free rate of 1.5% (10-year US Treasury yield at 30 June 2021, sourced from the Federal Reserve Statistical Release H.15), a peer group mean asset beta of 0.9 sourced from LSEG Workspace (LSEG), an Equity Risk Premium (ERP) of 4.7% per Damodaran's January 2021 estimate for developed markets (Damodaran 2021), and a cost of debt of 4.55% aligned with the LBO financing assumption. Although Zooplus generates predominantly EUR-denominated cash flows, the 10-year German Bund yield at the valuation date was negative due to the exceptional monetary conditions prevailing in the Eurozone during 2021. Consistent with common valuation practice in periods of distorted or negative sovereign

yields, the 10-year US Treasury yield is therefore used as a proxy for a normalised long-term risk-free rate (Damodaran 2021). The sensitivity analysis in Table 5 further mitigates the impact of this assumption by testing a range of discount rates around the base-case WACC. The detailed WACC construction and peer group asset beta calculations are summarised in Exhibits 15 and 16, respectively. Asset betas are derived using a no-tax unlevering approach based on enterprise value weights ($\beta_{\text{asset}} = \beta_{\text{equity}} \times E/(D+E)$) (Rubinstein 1973; Damodaran 2021). This convention is applied consistently across the peer group to isolate operating business risk independently of jurisdiction-specific tax assumptions and capital structure effects. A mid-year convention is applied for the first projection period, reflecting the mid-year entry point, with full-year discounting for all subsequent periods. The terminal value is computed using the Gordon Growth Model as the primary method, applying a terminal growth rate of 1.5% (Gordon 1962). The growth rate is deliberately conservative to reflect long-term steady-state assumptions. As a robustness check, an EBITDA exit multiple of 35 $\times$ is applied as an alternative valuation approach. Full results and interpretation of the DCF analysis are presented in Chapter 6.5.

3.4 Data Analysis Procedures

The quantitative analysis is structured around three sequential procedures: scenario modelling, sensitivity analysis, and qualitative triangulation. Each procedure addresses a distinct analytical objective and together they form the empirical basis for evaluating the research hypotheses.

As described in Section 3.3, the LBO model is constructed under three scenarios. The management case serves as the primary analytical base and generates the central return estimates discussed in Chapter 6. The upside and downside cases are constructed by applying systematic adjustments to the key operating assumptions, including revenue growth, gross margin, and EBITDA margin, to capture the plausible range of outcomes given the uncertainty inherent in projecting a thin-margin e-commerce business over a 5.5-year horizon. Return metrics, IRR and Multiple on Invested Capital (MOIC), are calculated for each scenario and compared to identify the asymmetric downside risk that underpins Hypothesis H2.

The model constructs two primary sensitivity tables. The first crosses the entry EBITDA multiple against the exit EBITDA multiple, producing a 5 $\times$ 5 IRR grid across entry multiples of 44.1 $\times$ to 56.1 $\times$ and an equivalent MOIC grid. These tables are used in Chapter 6.4 to identify

the conditions under which the transaction achieves a target return threshold and to quantify the margin of error available to the sponsors.

In addition, the model reports IRR and MOIC outcomes across different exit years under alternative exit multiple assumptions (Exhibit 11). Rather than constituting a separate sensitivity table, this analysis illustrates how returns evolve over the holding period as EBITDA grows.

The sensitivity framework is designed to test each hypothesis directly. H1 is evaluated through a break-even analysis of exit conditions, identifying the minimum exit multiple required to achieve a 15% IRR under management case operating performance, thereby assessing whether operational improvements alone are sufficient to generate acceptable sponsor returns. In addition, the sensitivity analysis examines how changes in exit valuation assumptions affect IRR and MOIC outcomes across alternative operating scenarios and holding conditions. H2 is examined through a series of sensitivity matrices crossing alternative entry multiples ($44.1\times$ to $56.1\times$) with alternative exit multiples ($25.0\times$ to $45.0\times$), as well as through sensitivities linking entry multiples to leverage assumptions. This framework allows the analysis to evaluate whether elevated entry valuations materially alter the downside characteristics of the return profile and reduce the margin of safety available to sponsors under adverse exit conditions. H3 is evaluated through the return bridge decomposition in Section 6.2, which quantifies the relative contributions of EBITDA growth, multiple change, and deleveraging to total equity value creation. In addition, a leverage sensitivity analysis examines the extent to which variations in leverage assumptions affect sponsor returns across different entry valuation levels. Together, these analyses assess whether the transaction's return profile remains structurally dependent on operational improvement rather than financial engineering, and benchmark the resulting value creation profile against conventional leveraged buyout settings documented in the literature (Axelson et al. 2013, 2223; Rosenbaum and Pearl 2020, 303).

The quantitative model outputs are interpreted in conjunction with the qualitative evidence assembled in Chapters 4 and 5, specifically the constraint-based value creation framework and the case study narrative of the transaction. This triangulation serves two purposes. First, it assesses whether the model assumptions are internally consistent with the industry-specific constraints identified in Chapter 4, including the fulfilment cost structure, customer acquisition dynamics, and competitive positioning described in Section 5.3. Second, it connects the numerical return decomposition in Chapter 6.2 on PE value creation, allowing the empirical

findings to be interpreted through the established frameworks of Jensen (1986, 323), Kaplan and Strömberg (2009, 130), and Acharya et al. (2013, 368). This combined approach is consistent with the pragmatic research design described in Section 3.1, in which analytical generalisation rather than statistical inference is the objective (Yin 2018, 21).

4. Analytical Framework: Value Creation Constraints in the Zooplus Take-Private

The theoretical literature reviewed in Chapter 2 identifies four primary value creation levers available to PE sponsors in leveraged buyouts: governance redesign, operational improvement, financial engineering, and multiple expansion (Kaplan and Strömberg 2009, 130; Acharya et al. 2013, 368). In practice, not all of these levers are equally available in every transaction. The extent to which each can be deployed depends on the specific structural and economic characteristics of the deal. This chapter develops the analytical framework applied in Chapters 5 and 6, by mapping the general mechanisms from the literature to the binding constraints that define the Zooplus case.

A central distinction in this framework is between intended and required value creation. Intended value creation reflects the sponsor's strategic plan at entry: the targeted operational improvements, leverage optimisation, and exit assumptions embedded in the investment thesis. Required value creation, by contrast, is the minimum level of performance necessary to achieve target equity returns given the entry valuation and capital structure (Kaplan and Ruback 1995, 1059; Rosenbaum and Pearl 2020, 293). These two figures need not coincide. When a competitive auction drives the entry price above the sponsor's initial estimate of intrinsic value, required value creation rises mechanically while intended value creation remains anchored to the operational plan. The gap between the two defines the margin of error available to the sponsors. When this gap is narrow, relatively small deviations from the business plan produce disproportionate declines in returns. At the entry multiple observed in the Zooplus transaction, achieving a target return requires a near-doubling of the entry-year EBITDA base over the hold period; the quantitative derivation of this threshold is presented in Chapter 6.4. This required burden defines the minimum value creation needed before any operational analysis of feasibility can begin.

Constraint 1: Zooplus's EBITDA margin of approximately 3.7% in FY2020A reflects the structural cost-intensity of pan-European e-commerce fulfilment, as established in Chapter 2.4 (Haucap et al. 2019, 12). Achieving the EBITDA levels required to justify the entry price demands sustained margin improvement across logistics efficiency, marketing effectiveness,

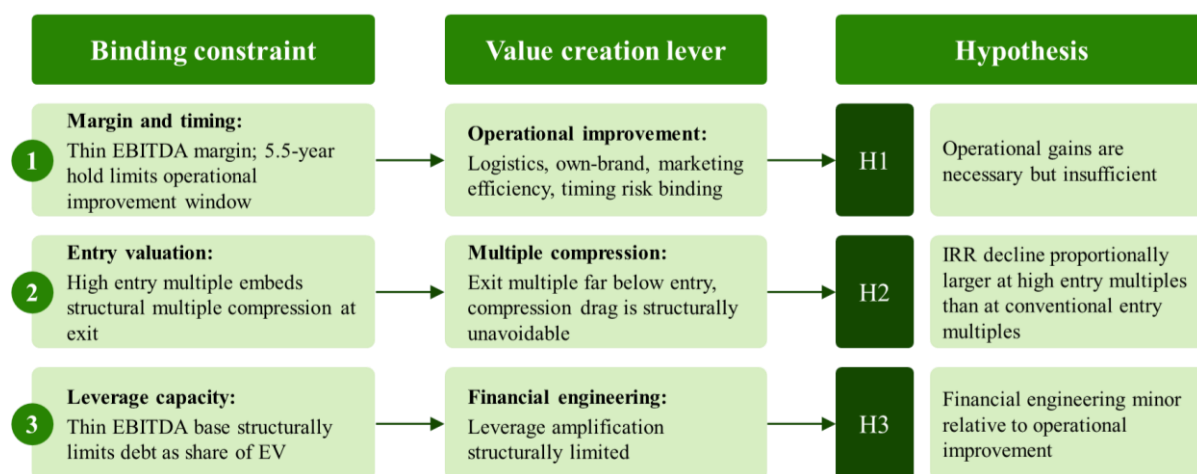
and private-label mix. Each of these improvements takes time to materialise. Private-label product penetration requires brand investment and consumer adoption cycles of two to three years. Logistics automation and network densification generate efficiency gains that typically emerge in years three to four of a capital programme (McKinsey & Company 2021a). In a 5.5-year hold period, the sponsors have a limited window in which to realise these improvements before the exit valuation is set. Initiatives begun in year two may still be maturing at year five, producing returns that are visible in the business but not yet fully reflected in EBITDA. This timing constraint is specific to PE's finite holding horizon and has no direct parallel in strategic acquisitions with indefinite ownership (Jensen 1989, 61; Kaplan and Strömberg 2009, 121). Competitive pressure from Amazon and Fressnapf's developing online offering simultaneously constrains the pricing power available to fund margin expansion (Haucap et al. 2019, 1). Operational improvement is therefore both necessary and subject to binding execution risk. This constraint forms the conceptual basis of Hypothesis H1, which tests whether full delivery of the management case operational plan is sufficient to achieve target returns, or whether the high entry valuation creates a required burden that operational improvement alone cannot reliably overcome without the concurrent achievement of a favourable exit valuation multiple.

Constraint 2: The scale of the required value creation burden is a direct arithmetic consequence of the entry valuation, not a reflection of Zooplus's operational quality. The empirical literature consistently identifies entry valuation as the single most powerful determinant of buyout returns (Kaplan and Ruback 1995, 1059; Axelson et al. 2013, 2223). At extreme entry multiples, the structure of the return model changes in a systematic way: because enterprise value at entry is far above the capitalised value of near-term earnings, exit enterprise value must either sustain or expand the entry premium, or the gap between the two creates a multiple compression drag that operates independently of operating performance. This mechanism, the structural drag imposed by entry multiple compression, is the central analytical force that the model in Chapter 6 is designed to quantify. Whether a given adverse deviation in exit conditions produces a proportionally larger IRR decline at higher entry multiples than at conventional entry multiples, generating an increasingly asymmetric return distribution, is an empirical question tested in Chapter 6.4. This constraint forms the conceptual basis of Hypothesis H2.

Constraint 3: Because the entry multiple places the total deal value far above what the target's EBITDA base can support through conventional debt financing, the debt quantum is structurally constrained to a fraction of enterprise value. This is far below the 60-80% debt financing typical of large PE buyouts (Axelson et al. 2013, 2223; Rosenbaum and Pearl 2020, 300). The precise

leverage ratio, supportable debt quantum, and resulting equity contribution are derived in Chapter 3.3 and presented in Chapter 6.1. The consequence for the value creation framework is that the return amplification available through financial engineering is structurally limited. The interest tax shield is modest in absolute terms, the annual deleveraging contribution is small relative to the equity invested, and the equity return profile is almost entirely a function of EBITDA growth and exit valuation. Jensen's (1986, 323) proposition that leverage imposes financial discipline and enhances managerial efficiency is less applicable here. The mechanism remains theoretically valid, but the debt quantum is too small relative to total invested capital to generate meaningful return amplification in this case. This constraint forms the conceptual basis of Hypothesis H3, which tests whether financial engineering contributes a materially smaller share of equity value creation than operational improvement, and whether the resulting value creation profile more closely resembles a growth equity investment than a conventional leveraged buyout. The empirical test is conducted through the return bridge decomposition in Section 6.2. The relationships between the identified structural constraints, corresponding value creation levers, and resulting hypotheses are summarised in Figure 4.

Figure 4: Constraint-Based Value Creation Framework for the Zooplus Take-Private



Source: Author's analysis

The constraint-based framework does not imply that value creation is impossible. It identifies the channels through which value can credibly be created within the structural limits of the transaction. Private ownership removes the short-term earnings pressure that constrained Zooplus's investment in logistics and technology as a public company. Under concentrated sponsor ownership, the board can sanction multi-year investment programmes in fulfilment automation, own-brand development, and customer retention infrastructure without the

quarterly performance scrutiny of public markets (Jensen 1989, 61; Kaplan and Strömberg 2009, 121). The key constraint is that these investments must generate EBITDA returns within the hold period. They must not merely build long-term strategic value. This creates a tension between the pace of reinvestment and the pace of cash generation required to service the debt and accumulate a meaningful net cash position by exit. Managing this tension is the central governance and operational challenge of the investment. The analytical task of Chapters 5 and 6 is to assess whether the management case operating projections reflect a credible resolution of this tension or an optimistic one.

The three binding constraints, margin and timing, entry valuation, and leverage capacity, are predicted to interact such that the standard PE value creation toolkit is only partially available in this transaction. Specifically: the thin EBITDA margin and 5.5-year hold create execution risk that makes operational improvement a necessary but time-constrained condition for target returns, while leaving open the question of whether delivery is sufficient without favourable exit conditions (H1); the extreme entry multiple creates a structural multiple compression drag and is predicted to produce an asymmetric return distribution in which adverse deviations at high multiples cause proportionally larger IRR declines than at conventional multiples (H2); and the thin EBITDA base structurally limits the debt quantum to a fraction of deal value, making meaningful financial engineering unavailable and shifting the predicted value creation profile toward that of a growth equity investment rather than a conventional leveraged buyout (H3). These are structural predictions derived from the transaction's observable characteristics at the valuation date. Whether they bind in the way the framework anticipates, and with what quantitative force, is the question to which Chapters 5 and 6 are addressed. The framework makes no claim about the sponsors' ultimate returns, that determination requires the model.

5. Case Study: Zooplus SE Take-private Transaction

5.1 Sponsor Investment Rationale

The take-private acquisition of Zooplus by a consortium of H&F and EQT in 2021 was grounded in three interrelated considerations: the structural growth potential of European pet e-commerce, the strategic limitations of public market ownership for a capital-intensive digital retailer, and the opportunity to implement a multi-year operational improvement programme under private ownership.

From a sectoral perspective, pet care exhibits structurally attractive demand characteristics. The category is non-discretionary in nature, benefits from high purchase frequency, and has exhibited consistent long-run growth driven by rising pet ownership rates and the increasing humanisation of pets across Europe (FEDIAF 2021; Euromonitor International 2021). Within this context, Zooplus had established a leading pan-European online platform with substantial scale, broad brand recognition, and a large recurring customer base. Sponsor communications at the time of the offer emphasised the opportunity to pursue long-term operational investments in logistics efficiency, private-label development, and customer retention infrastructure, freed from the short-term earnings pressure associated with public markets (EQT 2021; Zooplus SE 2021d). This rationale is consistent with a broader shift in private equity practice toward active ownership and operational value creation. While traditional leveraged buyouts relied more heavily on financial engineering and multiple expansion, more recent transactions increasingly depend on the sponsors' ability to drive operational improvements through in-house expertise and structured value creation programmes (Kaplan and Strömberg 2009, 130; Acharya et al. 2013, 368; Bain & Company 2021). Leading sponsors such as EQT and Hellman & Friedman have institutionalised this approach through dedicated operating teams and sector-focused investment strategies, enabling the transfer of capabilities across portfolio companies rather than the realisation of classical M&A-style synergies (Bain & Company 2021; Rosenbaum and Pearl 2020, 353). In this context, value creation is driven by repeatable operational levers, including digitalisation, pricing optimisation, logistics efficiency, and customer analytics (Bain & Company 2021; Acharya et al. 2013, 368). EQT's prior investments in the pet care sector, including Musti Group, further illustrate this model, where sector knowledge and digital capabilities are leveraged across portfolio companies (EQT 2021). The Zooplus transaction therefore reflects not only a valuation decision, but also the application of a broader operational investment strategy.

The second element of the investment rationale relates to governance and ownership structure. Prior to the transaction, Zooplus faced a structural tension between sustained investment in growth infrastructure and the profitability expectations of public market investors. Management guidance of at least 4% EBITDA margin by 2025, issued in March 2021, reflected this tension: the target was aspirational relative to historical performance but still conservative relative to the investment required to sustain the growth trajectory (Zooplus SE 2021b). The private ownership structure was presented by the sponsors as a means of enabling that investment without the constraints of quarterly reporting and market scrutiny (EQT 2021). This rationale

is consistent with the broader PE literature on the comparative advantage of private ownership in managing transformation-intensive businesses (Jensen 1989, 63; Kaplan and Strömberg 2009, 121).

Third, the transaction occurred in a period of historically favourable financing conditions and elevated public market valuations for digital businesses, which facilitated large-scale sponsor participation and the formation of a club deal structure (Bain & Company 2021; Axelson et al. 2013, 2223). While these conditions increased the entry valuation, they also enabled the sponsors to access sufficient debt financing to fund a transaction of this scale despite the thin EBITDA base, as discussed in Chapter 3.3. The high entry multiple implied a need for disciplined execution rather than reliance on multiple expansion as a return driver, a constraint that is central to the analytical framework developed in Chapter 4.

Alternative strategic paths were implicitly rejected. Remaining publicly listed would have preserved valuation volatility and quarterly performance pressure, constraining the pace of operational investment. A strategic sale to an incumbent retailer or marketplace operator would likely have triggered regulatory scrutiny and integration risk (Martos-Vila et al. 2013, 1). The take-private structure therefore represented the most feasible route to implementing the long-term value creation plan (Kaplan and Strömberg 2009, 121; Renneboog et al. 2007, 591).

5.2 Company Profile and Historical Performance

Founded in 1999, Zooplus developed into the leading online pet supplies retailer in Europe, offering a broad assortment of pet food, accessories, and consumables across approximately 25 national markets. The company operates a D2C e-commerce model, relying on centralised procurement, regional fulfilment centres, and digital marketing to serve a large and geographically dispersed customer base (Zooplus SE 2021a).

Over the period from FY2018A to FY2020A, Zooplus delivered strong and consistent revenue growth. Revenue grew from €1,342m in FY2018A to €1,524m in FY2019A and €1,802m in FY2020A, representing a compound annual growth rate of approximately 16% (LSEG 2026). Growth was driven by increasing online penetration in pet supplies across Europe, sustained new customer acquisition, and high repeat-purchase rates, with the company reporting revenue retention rates of approximately 97% in the period leading up to the transaction (Zooplus SE 2021b).

Despite this scale, profitability remained structurally limited. Reported EBITDA margins were 0.8% in FY2018A, 1.0% in FY2019A, and 3.7% in FY2020A (LSEG 2026). The improvement

in FY2020A reflected a combination of pandemic-driven volume tailwinds and modest operating leverage rather than a structural inflection in the cost base (SRH AlsterResearch AG 2021). Gross margins improved from 28.9% in FY2018A to 30.4% in FY2020A, driven in part by growth in own-brand product penetration from approximately 13% to 16% of total sales over the same period (Zooplus SE 2021a). This improvement was offset by logistics and fulfilment costs that remained elevated as a proportion of revenues, reflecting the cost-intensive nature of pan-European last-mile delivery, particularly for heavy and low-value items such as pet food (Haucap et al. 2019, 12; McKinsey & Company 2021a).

A notable feature of the balance sheet was the net cash position of €74m at the valuation date of 30 June 2021 (Zooplus SE 2021c). This reflected conservative financial management as a public company and limited use of leverage. It also represented a structural underutilisation of balance sheet capacity relative to a leveraged PE ownership model, a feature explicitly noted as attractive by contemporaneous commentary on the transaction (SRH AlsterResearch AG 2021).

Zooplus had not converted sustained revenue growth into a structurally profitable operating model by the time of the transaction. The persistence of sub-2% EBITDA margins through FY2019A, followed by the FY2020A improvement that was partly pandemic-driven, suggests that incremental scale was largely absorbed by fulfilment costs, competitive pricing, and continued reinvestment in customer acquisition rather than translating into operating leverage (Zooplus SE 2021a). Future margin expansion could therefore not be assumed to arise automatically from continued growth. It would require deliberate operational and structural interventions, a point directly relevant to the constraint-based framework established in Chapter 4.

5.3 Market Environment and Competitive Positioning

The European pet care market is characterised by stable demand growth, high purchase frequency, and increasing online penetration. Pet ownership rates across Europe have grown consistently, supported by demographic trends towards single-person households and the increasing role of pets in household life (FEDIAF 2021). Total European pet food revenues reached approximately €21.8bn in 2020, growing at approximately 2.8% per annum, with online channel penetration at approximately 17% of total sales and rising (FEDIAF 2021; Euromonitor International 2021). Euromonitor International projected in April 2021 that online channel share in global pet care would rise toward one-third of total sales by 2026, representing

a substantial and structurally driven growth runway for online-only operators such as Zooplus (Euromonitor International 2021).

Unlike the US market, European pet e-commerce operates across a fragmented regulatory, linguistic, and logistical landscape. This increases operational complexity and constrains the cross-border scale efficiencies available to any single operator (Haucap et al. 2019, 1). Zooplus held a dominant position within the European online pet category at the time of the transaction, with no comparable pan-European pure-play online competitor operating at similar scale (Zooplus SE 2021a; SRH AlsterResearch AG 2021).

Zooplus's competitive position must be assessed against two distinct reference points: global platform operators and specialist domestic or regional peers. Relative to Amazon, Zooplus faces a structural disadvantage in logistics density, cross-category scale, and the ability to subsidise margins through adjacent business units. Amazon's fulfilment infrastructure and Prime membership base create a cost-to-serve advantage in last-mile delivery that Zooplus, as a single-category specialist, cannot replicate (Haucap et al. 2019, 12). This limits Zooplus's ability to compete on price over the long run without compressing its already thin margins.

Relative to Fressnapf, its most direct European competitor, Zooplus's competitive dynamic is different. Fressnapf operates a predominantly store-based retail network and has been developing its online offering from a physical retail base, as disclosed in Zooplus's own management discussion of the competitive environment (Zooplus SE 2021a). Fressnapf benefits from brand recognition and in-store footfall, particularly in the German-speaking market, but has historically operated at lower online scale and with a less developed digital fulfilment capability than Zooplus. The structural shift of pet supplies purchasing from offline to online therefore favours Zooplus's positioning in the medium term, though it simultaneously attracts competing investment in digital infrastructure, increasing competitive intensity over the hold period.

Comparison with US-based peer Chewy illustrates the limitations of applying US margin benchmarks to the European context. Chewy operates in a single regulatory and linguistic market with high logistics scale and subscription penetration exceeding 70% of net sales (Chewy Annual Report 2020). Zooplus operates across 30 heterogeneous national markets, faces varying postal and logistics network quality, and carries higher cost-per-delivery rates on international shipments. European e-commerce fulfilment costs structurally exceed US benchmarks for comparable categories, limiting the degree to which Chewy's reported margins

can serve as a forward indicator for Zooplus's margin potential (Haucap et al. 2019, 12; McKinsey & Company 2021a).

Sustaining competitiveness requires continuous reinvestment in pricing, logistics, and customer experience. This constrains near-term cash generation and reinforces the importance of a long-term ownership horizon under PE sponsorship (Haucap et al. 2019, 12; Kaplan and Strömberg 2009, 121).

5.4 Transaction Overview

The take-private process unfolded in three distinct phases between August and November 2021, each governed by the mandatory tender offer framework under the WpÜG and the EU Takeover Directive (Bundesrepublik Deutschland 2001; European Parliament and Council 2004). Figure 5 illustrates the timeline of the transaction and the associated escalation in bid prices.

Figure 5: Timeline of the Zooplus Take-Private Process and Bid Progression



Source: Zooplus SE (2021d); EQT (2021); author's illustration

In the first phase, Hellman & Friedman announced a voluntary public tender offer for all Zooplus shares at €390 per share on 13 August 2021, representing a premium of approximately 40% to the undisturbed closing share price of 12 August 2021 (Zooplus SE 2021d). The formal offer document was published on 14 September 2021 (Bundesrepublik Deutschland 2001). Both the management board and supervisory board of Zooplus issued statements of support for the offer, citing alignment with the company's long-term strategic objectives (Zooplus SE 2021d).

In the second phase, EQT announced a competing voluntary public tender offer at €470 per share on 25 September 2021, with the formal offer document published on 6 October 2021 (EQT 2021). This introduced a bidding contest between two leading sponsors for the same asset, reflecting both the scarcity of scaled European e-commerce platforms and the constraints faced by individual sponsors at elevated valuation levels. The EQT offer document explicitly stated that Pet BidCo GmbH, the acquisition vehicle established by EQT for the transaction, did not intend to enter into a domination and profit and loss transfer agreement with Zooplus AG,

confirming the Luxembourg-based Zorro Bidco holding structure and its implications for the post-closing tax analysis (EQT 2021).

In the third phase, Hellman & Friedman and EQT announced on 25 October 2021 that they had entered into a partnership, with H&F making an improved joint voluntary public tender offer at the final price of €480 per share (Zooplus SE 2021d; EQT 2021). The club deal structure allowed both sponsors to share capital commitment and risk exposure while maintaining equal governance rights at the Zorro Bidco parent level. The minimum acceptance threshold of 50% plus one share was met on 4 November 2021. A voluntary delisting tender offer at €480 per share followed on 8 November 2021. By 17 January 2022, the sponsors had secured approximately 97% of Zooplus's share capital, following which admission to trading on the regulated market was revoked (Zooplus SE 2022).

The high acceptance rate reflects several factors. Public market investors, facing a business with around 4% EBITDA margins, ongoing capital requirements, and limited near-term re-rating catalysts, had limited incentive to reject a substantial cash premium relative to the pre-announcement share price (Renneboog et al. 2007, 591). The competitive bidding process provided additional confidence that the offer price reflected maximum achievable value in an arm's length auction (DeAngelo et al. 1989, 275; Renneboog et al. 2007, 591).

The consortium structure introduced governance and coordination considerations relevant to the value creation analysis in Chapter 6. With two sponsors holding equal governance rights at the parent level, strategic decisions, including exit timing, reinvestment levels, and operational priorities, require consensus. Academic evidence on club deals suggests this can introduce coordination frictions relative to sole-sponsor structures, particularly regarding exit flexibility (Kaplan and Strömberg 2009, 121; Axelson et al. 2013, 2223). Combined with the elevated entry valuation, the transaction structure effectively fixed a high minimum performance threshold required to generate acceptable equity returns for both sponsors, reinforcing the relevance of the constraint-based framework developed in Chapter 4.

6. LBO Valuation and Return Analysis

6.1 Management-Case LBO Model Framework and Results

The LBO model is constructed on the entry economics, capital structure, and operating assumptions described in Chapter 3.3. This section presents the model outputs under the management case, which serves as the primary analytical base throughout the chapter. It also

introduces the valuation methodology and notes the deliberate exclusion of comparable company trading multiples and precedent transaction multiples as standalone valuation approaches.

The entry economics are derived in Section 3.3: an enterprise value of €3358m, implying an entry multiple of $50.1\times$ FY2020A EBITDA of €67m. The high entry multiple directly determines the required value creation burden, as established in Chapter 4. The financing structure is described in Section 3.3: a TLB of €400m at 4.55%, yielding entry gross leverage of $4.52\times$.

Under the management case, revenues grow from the FY2020A base of €1,802m to an estimated €2,004m in FY2021E, computed as an annualised run-rate from the H1 2021 actual result of €1,002m (Zooplus SE 2021c), consistent with the methodology described in Section 3.3. From FY2022P onwards, the bottom-up market share model is used to derive the annual revenue growth trajectory and TAM development assumptions. These growth rates are subsequently applied in the Financial Overview to the annualised FY2021E revenue run-rate, rather than directly to the FY2020A calibration base used within the Revenue Forecast module. This produces projected revenues of approximately €2,306m, €2,547m, €2,753m, €2,926m, and €3,118m from FY2022P through FY2026P, respectively. The resulting FY2021E-FY2026P revenue CAGR of approximately 9.2% remains materially below management's own guidance of 13-16% CAGR toward a €3.4-3.8bn revenue target by 2025 (Zooplus SE 2021b), consistent with the deliberately conservative positioning of the base case (Kaplan and Ruback 1995, 1059).

EBITDA expands from €88m in FY2021E to approximately €176m by FY2026P, reflecting a margin improvement from 4.4% in FY2021E to approximately 5.6% at exit. The margin trajectory is discussed further in Section 6.2.

Under the management case and an exit on 31 December 2026, the model generates an equity IRR of approximately 13.7% and a MOIC of approximately $2.0\times$ over the 5.5-year holding period, which is just below the 15% PE target threshold (Rosenbaum and Pearl 2020, 296; Kaplan and Strömberg 2009, 134). The result empirically substantiates Hypothesis H1: operating performance improvements of the scale assumed are a necessary but insufficient condition for target returns at this entry valuation, without simultaneously favourable exit conditions. The analytical implications of this finding are developed in Sections 6.2 through 6.5.

The exit EBITDA multiple of 35× applied to FY2026P earnings requires explicit justification given its role as the single most consequential model assumption. Three lines of evidence support its calibration. First, at 35× applied to FY2026P EBITDA of €176m, the implied exit enterprise value of €6,159m represents an EV-to-revenue multiple of approximately 1.98× on projected FY2026P revenues of €3,118m. The entry transaction was completed at 1.81× FY2020A revenues (€3,358m ÷ €1,802m). The 35× exit multiple therefore embeds only modest EV/revenue expansion relative to the entry, which is conservative given that Zooplus will have materially improved its EBITDA margin over the hold period. Equivalent EV/revenue multiples provide a useful cross-check precisely because they are less sensitive to the entry-year margin profile and more stable across a business cycle than EV/EBITDA multiples in low-margin businesses (Rosenbaum and Pearl 2020, 293). By FY2026P, Zooplus will have demonstrated several years of profitable growth at revenue exceeding €3bn, which would position it within the lower end of comparable platform valuations. Third, 35× represents substantial multiple compression from 50.1× at entry, a 15.1× decline that already embeds a material normalisation from the 2021 peak valuation environment. The sensitivity analysis in Section 6.4 confirms that the model’s conclusions are robust to a range around this assumption: at 30× the IRR declines to approximately 10.8%, and at 25× to approximately 7.4%, providing a stress test that acknowledges the possibility of a more significant valuation correction at exit. The 35× assumption is presented as a base case representing achievable but not certain conditions, rather than a conservative floor. This framing is consistent with the thesis’s focus on identifying the structural constraints on value creation rather than asserting a specific outcome (Kaplan and Ruback 1995, 1059).

The analysis does not include a comparable company trading multiples assessment or a precedent transactions analysis as standalone valuation approaches. The universe of directly comparable European online pet food retailers is too narrow and heterogeneous to generate statistically robust valuation benchmarks. The most frequently cited US comparable, Chewy, operates in a structurally different regulatory and cost environment. European precedent transactions in the consumer e-commerce space are similarly limited. The LBO model and DCF analysis, presented in Section 6.5, therefore constitute the primary valuation framework, with broader transaction context provided in Chapter 7.1.

6.2 Equity Value Creation Analysis

EBITDA expands from €88m in FY2021E to approximately €176m by FY2026P, implying a five-year EBITDA CAGR of approximately 14.8%. Revenue expansion accounts for the

majority of this growth, driven by the structural channel shift from offline to online pet food retail documented in contemporaneous market research (Statista 2025; Euromonitor International 2021). Margin improvement from approximately 4.4% in FY2021E to 5.6% at exit accounts for the remainder, driven by gradual gross margin expansion, while SG&A and other operating expenses are held constant as a percentage of revenues.

The formal equity value bridge quantifies the contribution of each lever. At the enterprise value level, exit EV of €6,159m represents an increase of €2,801m over the entry EV of €3,358m.

Table 1: Sensitivity of Enterprise Value to Entry Multiple and EBITDA

EBITDA	Entry multiple				
	44.1x	47.1x	50.1x	53.1x	56.1x
59.0	2,603.1	2,780.0	2,957.0	3,134.0	3,310.9
63.0	2,779.6	2,968.5	3,157.5	3,346.5	3,535.4
67.0	2,956.1	3,157.0	3,358.0	3,559.0	3,760.0
71.0	3,132.6	3,345.6	3,558.5	3,771.5	3,984.5
75.0	3,309.1	3,534.1	3,759.0	3,984.0	4,209.0

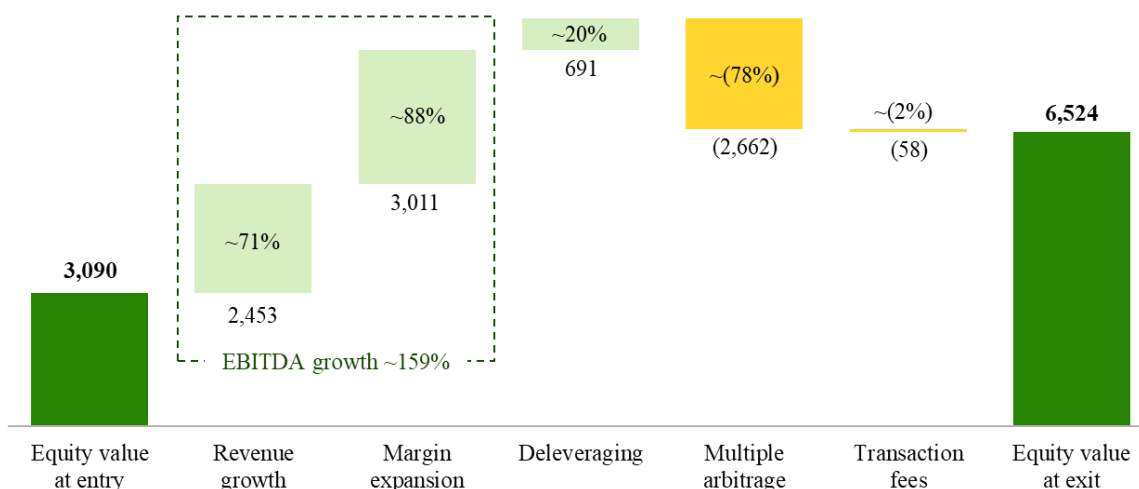
Source: Author's analysis

Table 1 highlights the high sensitivity of enterprise value to both operating performance and valuation assumptions, reinforcing the central role of EBITDA growth in the value creation framework.

At entry, the relationship between enterprise value and equity value is defined by the capital structure. The transaction EV of €3,358m implies an entry equity investment of €3,090m, representing the total funding committed by H&F, EQT and management at closing after accounting for the €400m Term Loan B, the €74m opening net cash position and transaction and financing costs of €58m. This establishes the equity base from which value creation is measured.

At exit, equity value is derived from enterprise value by adjusting for net debt and accumulated cash. Exit equity of approximately €6,524m is calculated as exit EV of €6,159m plus the opening net cash position of €74m plus accumulated operating free cash flow of €691m less the €400m Term Loan B outstanding at exit. Against entry equity of €3,090m, this results in total equity value creation of €3,434m.

*Figure 6: Decomposition of Equity Value Creation from Entry to Exit in the Zooplus LBO
(% represent contribution of total equity value created of €3,434m)*



Source: Author's analysis

Figure 6 illustrates the decomposition of equity value creation across the holding period. While the bridge is presented in equity terms, the underlying drivers originate at the enterprise value level. Expressed relative to total equity value created, EBITDA growth contributes approximately 159% in gross terms, comprising revenue growth of approximately 71% and margin expansion of approximately 88%. Deleveraging contributes approximately 20% and multiple arbitrage reduces value by approximately 78%. These figures indicate that the return profile is primarily driven by operational performance, while multiple contraction represents a structural headwind associated with the elevated entry valuation.

In contrast to conventional leveraged buyouts, where financial engineering often accounts for 30-50% of equity value creation (Kaplan and Strömberg 2009, 130), the Zooplus transaction exhibits a significantly lower contribution from deleveraging. This provides an important empirical basis for the evaluation of Hypothesis H3 in Section 8.2.

Zooplus enters the transaction with a net cash position of €74m. Over the holding period, FCF is assumed to accumulate on the balance sheet, as the cash sweep is deliberately deactivated (see Section 3.3). By FY2026P, the model projects a net cash position of approximately €365m, implying a cumulative operating cash contribution of approximately €691m over the hold period.

Zooplus's operating model supports efficient cash generation during the hold period. The business benefits from a negative cash conversion cycle: customers pay online at or before

delivery, while supplier payables extend over a longer period. Revenue growth therefore generates rather than consumes working capital.

6.3 Upside and Downside Scenario Analysis

The management, upside, and downside cases are constructed as described in Section 3.3. All three scenarios apply the same capital structure and exit assumptions, while differing in revenue growth rates and corresponding adjustments to cost lines, resulting in varying EBITDA margin outcomes across scenarios. The management case results are presented in Section 6.1: IRR of 13.7%, MOIC of 2.0×, FY2026P revenue of €3,118m and EBITDA of €176m.

The upside case assumes revenue growth peaking at 16.5% in FY2022P versus 15.0% in the management case, producing FY2026P EBITDA of approximately €216m. At the exit multiple of 35×, this implies an exit EV of approximately €7,573m, exit equity of approximately €8,070m, an IRR of 18.2% and a MOIC of 2.5×, consistent with the mid-range of typical PE return targets (Rosenbaum and Pearl 2020, 296; Kaplan and Strömberg 2009, 121).

The downside case assumes revenue growth moderating to approximately 6% per annum by FY2024P, reflecting intensified competition from Amazon and Fressnapf and post-pandemic demand normalisation (Haucap et al. 2019, 3-5). EBITDA margins decline relative to the management case, reflecting lower gross margins partially offset by cost adjustments. FY2026P EBITDA of approximately €130m produces an exit EV of approximately €4,550m, exit equity of approximately €4,763m, an IRR of 7.4% and a MOIC of approximately 1.5×.

The return decomposition pattern established in Section 6.2 holds consistently across all three scenarios. EBITDA growth remains the dominant lever in every case, with multiple compression acting as a structural drag and deleveraging contributing a broadly uniform share. The consistency confirms the structural point from Chapter 4: the binding constraints of the transaction ensure that operational performance is both the primary driver of upside and the primary source of downside risk, regardless of which scenario materialises. Financial engineering plays a negligible role in any case.

The 10.8pp IRR spread between the upside and downside scenarios reflects a meaningful return dispersion for the transaction. As shown in Table 2, this magnitude is broadly comparable to the IRR sensitivity to exit multiple variation at the base case entry multiple of 50.1×, where a shift from 25× to 45× produces an IRR range of approximately 7.4% to 18.8%. This indicates

that operational scenario variation and exit multiple assumptions contribute similarly to overall return dispersion. However, because leverage is low at 11.9% of EV, financial engineering does not materially amplify this dispersion. As a result, the transaction's risk profile is driven primarily by valuation assumptions and operational execution rather than by capital structure dynamics.

6.4 Sensitivity Analysis and Break-Even IRR Considerations

The sensitivity analysis examines the robustness of the management case returns to variations in entry and exit EBITDA multiples. The results provide the primary quantitative basis for evaluating Hypotheses H1 and H2.

H2 predicts that a given adverse deviation in exit conditions produces a proportionally larger IRR decline at higher entry multiples than at conventional entry multiples. The sensitivity data do not confirm this. A decline in the exit multiple from 45.0× to 25.0× reduces IRR by approximately 11.7pp at the 44.1× entry multiple and by approximately 11.1pp at the 56.1× entry multiple. The IRR response to a given shock is therefore broadly stable across the tested entry multiple range and marginally smaller at higher entry multiples. The sensitivity results therefore do not indicate materially increasing IRR sensitivity at higher entry multiples.

The more precise finding is that downside risk at high entry multiples is positional rather than structural. The IRR response to exit multiple shocks remains broadly stable across the tested entry valuation range. However, at the 50.1× base-case entry multiple, the management case IRR of 13.7% already sits modestly below the 15.0% hurdle rate, meaning that even moderate adverse deviations in exit conditions are sufficient to produce sub-threshold outcomes. At more conventional entry multiples, the same operating projections would generate materially higher returns and therefore a substantially larger margin of safety against exit multiple deterioration. The central risk at elevated entry valuations is therefore not greater absolute IRR sensitivity, but an exhausted margin of safety within the return distribution. This refined interpretation is evaluated formally in Section 8.2 (Kaplan and Ruback 1995, 1059; Axelson et al. 2013, 2223). Table 2 summarises the sensitivity of IRR and equity multiples to variations in entry and exit EBITDA multiples.

Table 2: Sensitivity of IRR and Equity Multiple to Entry and Exit EBITDA Multiples

Left panel shows IRR (%), right panel shows equity multiples (x)

IRR sensitivity – entry vs. exit EBITDA multiple						Cash multiple sensitivity – entry vs. exit EBITDA multiple					
Exit	Entry multiple					Exit	Entry multiple				
	44.1x	47.1x	50.1x	53.1x	56.1x		44.1x	47.1x	50.1x	53.1x	56.1x
25.0x	10.2%	8.8%	7.4%	6.2%	5.0%	25.0x	1.7x	1.6x	1.5x	1.4x	1.3x
30.0x	13.7%	12.2%	10.8%	9.5%	8.3%	30.0x	2.0x	1.9x	1.8x	1.6x	1.6x
35.0x	16.7%	15.2%	13.7%	12.4%	11.2%	35.0x	2.3x	2.2x	2.0x	1.9x	1.8x
40.0x	19.4%	17.8%	16.4%	15.0%	13.8%	40.0x	2.7x	2.5x	2.3x	2.2x	2.0x
45.0x	21.9%	20.3%	18.8%	17.4%	16.1%	45.0x	3.0x	2.8x	2.6x	2.4x	2.3x

Source: Author's analysis

The sensitivity table further indicates that achieving a 15% IRR requires an exit multiple above 35× under management case operating assumptions. At the base case entry multiple of 50.1×, IRR increases from 13.7% at 35× to 16.4% at 40×, implying a break-even exit multiple of approximately 37.5×. The feasible range of exit conditions is therefore narrow, with limited tolerance for multiple compression at exit.

A complementary perspective is provided by reversing the valuation framework and solving for the entry price consistent with a target return. Holding operating assumptions constant, achieving a 25.0% IRR would require an entry enterprise value of approximately €2123m, materially below the actual transaction EV of €3358m. This implies that the acquisition price embeds a valuation premium of approximately 58% relative to the level required to generate top-quartile private equity returns under the same operating assumptions (Exhibit 10).

A further perspective on the break-even conditions is obtained by working backwards from a 15.0% IRR target. At an exit multiple of approximately 37.5×, corresponding to the break-even threshold identified in the sensitivity analysis, Zooplus would need to achieve FY2026P EBITDA of approximately €169m, implying revenue of around €3000m at the assumed margin. This corresponds to an increase of approximately 91% in EBITDA relative to the FY2021E base over the holding period, equivalent to an annualised EBITDA growth rate of approximately 13.7%. The resulting break-even EBITDA level sits within, but toward the upper end of, the range implied by management's 2025 targets (Zooplus SE 2021b), suggesting that the investment thesis is achievable but leaves limited room for underperformance. While the 15.0% threshold is used throughout this thesis as the lower bound of acceptable PE returns, sponsors typically underwrite transactions against higher target returns in the range of approximately 20-25% to compensate for execution risk and adverse scenario outcomes (Rosenbaum and Pearl 2020, 296). Exhibit 10 therefore illustrates both the entry valuation consistent with a 25.0%

target IRR and the operational burden required to achieve minimum acceptable returns under the base-case transaction structure.

Hypothesis H3 is examined through a leverage sensitivity analysis, presented in Table 3.

Table 3: Sensitivity of IRR to Entry Multiple to Leverage Multiple

Leverage	Entry multiple				
	44.1x	47.1x	50.1x	53.1x	56.1x
2.5x	16.1%	14.6%	13.3%	12.1%	10.9%
3.5x	16.4%	14.9%	13.5%	12.2%	11.0%
4.5x	16.7%	15.2%	13.7%	12.4%	11.2%
5.5x	17.0%	15.4%	14.0%	12.6%	11.4%
6.5x	17.4%	15.7%	14.2%	12.8%	11.5%

Source: Author's analysis

The results show that increasing leverage has only a limited impact on IRR at elevated entry multiples. At the base case entry multiple of 50.1x, increasing leverage from 2.5x to 6.5x raises IRR from 13.3% to 14.2%, an increase of only 0.9pp. A similar pattern holds across all entry multiples, with IRR variation remaining modest even under substantial changes in leverage. This confirms the structural constraint identified in Chapter 4: at high entry valuations, leverage provides only limited return amplification. The Zooplus transaction therefore deviates from conventional leveraged buyouts, where financial engineering typically plays a more substantial role in value creation (Jensen 1986, 323; Axelson et al. 2013, 2223).

The sensitivity and break-even analysis indicate that return outcomes in this transaction are highly sensitive to both operational execution and exit conditions. A 10% shortfall in FY2026P EBITDA reduces IRR by approximately 3.8pp, while a 10-point contraction in the exit multiple reduces IRR by approximately 6.3pp at the base-case entry multiple of 50.1x. In addition, the break-even exit multiple lies only marginally above the 35.0x base-case assumption, implying an extremely limited margin of safety against exit multiple compression. These findings highlight the structural thinness of the return distribution at the elevated entry valuation. While the absolute magnitude of IRR sensitivity to adverse shocks remains broadly comparable across entry multiples, the constrained margin for underperformance means that relatively small deviations from the base-case assumptions are sufficient to produce sub-threshold outcomes.

Exhibits 11 and 12 reinforce this conclusion by illustrating the time dependency of value creation in the transaction. Exhibit 11 shows that IRR improves only gradually across the holding period, increasing from approximately 4.8% in FY2022P to 13.7% by FY2026P under the base-case 35.0x exit multiple assumption. Similarly, Exhibit 12 demonstrates that exit

proceeds are heavily back-loaded, with total proceeds increasing from approximately €3273m in FY2022P to approximately €6198m by FY2026P. Together, these exhibits indicate that the transaction relies on sustained EBITDA compounding over multiple years rather than rapid deleveraging or short-term multiple expansion. The elevated entry valuation therefore creates a structurally narrow path to acceptable sponsor returns, directly supporting Hypothesis H1 and providing the empirical basis for the evaluation of Hypothesis H2, including its rejection and the refined positional risk interpretation developed in Section 8.2.

6.5 Discounted Cash Flow Valuation Cross-Check

The DCF analysis serves as a standalone intrinsic valuation cross-check, addressing the distinct question of whether the offer price of €480 per share was consistent with Zooplus's fundamental value as a going concern or whether it embedded a transformation premium contingent on the sponsors' value creation plan. This question is of particular relevance given Zooplus's prior listing status, which provides a transparent basis for comparison (Brealey et al. 2020, 810; Rosenbaum and Pearl 2020, 163).

The DCF applies the management case operating projections from the Financial Overview, ensuring full consistency with the LBO analysis. The detailed DCF operating forecasts and valuation assumptions are presented in Exhibit 13.

The WACC of 5.7% is derived from a risk-free rate of 1.5% (10-year US Treasury yield at 30 June 2021, sourced from the ECB Statistical Data Warehouse), a peer group mean asset beta of 0.9 and an ERP of 4.7% per Damodaran's January 2021 estimate for developed markets (Damodaran 2021). The cost of debt is aligned with the LBO financing structure to ensure methodological consistency (Rosenbaum and Pearl 2020, 185). A mid-year convention is applied for the first projection period. The terminal value is computed using the Gordon Growth Model as the primary methodology and cross-checked against an EBITDA exit multiple approach applying a 35.0× exit multiple. Enterprise value outcomes across alternative valuation methodologies are summarised in Exhibit 17. The terminal growth rate of 1.5% is deliberately conservative relative to long-run European nominal GDP growth assumptions (Damodaran 2021). The four terminal value methodologies produce materially different implied enterprise values and share prices, as summarised in Table 4, with the perpetual growth model serving as the primary intrinsic valuation reference. The full DCF valuation under the perpetual growth methodology is presented in Exhibit 18.

Table 4: EV and Implied Share Price under Alternative Terminal Value Methodologies

Method	Enterprise Value (€m)	Implied Share Price (€)	TV Contribution (%)	UFCF Contribution (%)
Zero growth model	2,044.8	296.3	78.7%	21.3%
Perpetual growth model	2,646.5	380.5	83.5%	16.5%
Value driver model	1,613.5	236.0	73.0%	27.0%
EBITDA exit multiple model	4,908.3	696.8	91.1%	8.9%

Source: Author's analysis

The results show a wide dispersion in implied enterprise value, ranging from approximately €1614m under the value driver model to approximately €4908m under the EBITDA exit multiple approach. The zero-growth and perpetual growth methodologies produce intermediate valuations of approximately €2045m and €2647m, respectively, corresponding to implied share prices of approximately €296.3 and €380.5. The perpetual growth model therefore remains substantially below the transaction offer price of €480 per share. This dispersion reflects the fundamentally different economic assumptions embedded within each methodology. Intrinsic valuation approaches anchor value in internally generated cash flows and long-term growth sustainability, whereas the EBITDA exit multiple methodology incorporates prevailing market pricing conditions and assumes continued availability of elevated sector valuation multiples. As a result, the exit multiple approach produces materially higher valuations, suggesting that the transaction price is more closely aligned with market-based valuation benchmarks than with standalone intrinsic value estimates. The DCF analysis also highlights the substantial dependence of valuation on terminal assumptions. Under the perpetual growth methodology, terminal value contributes approximately 83.5% of total enterprise value, while explicitly forecast UFCFs contribute only approximately 16.5%. This indicates that a large proportion of intrinsic value depends on long-duration cash flow assumptions extending materially beyond the private equity holding period, reinforcing the transformation-risk characteristics discussed in Chapter 6.1. Across all methodologies, terminal value accounts for approximately 73.0% to 91.1% of total enterprise value, reflecting the growth profile of the business: early-period FCF remain modest due to continued investment in logistics and customer acquisition, with the majority of value realised in the terminal period. This high terminal value dependency reinforces the finding from the LBO sensitivity analysis that the transaction's risk profile is concentrated in long-dated operational assumptions rather than near-term cash generation (Kaplan and Ruback 1995, 1059).

Table 5: Sensitivity of EV and Implied EBITDA Multiples to WACC and Terminal Growth

Left panel shows EV (€m), right panel shows implied EBITDA multiples (x)

Sensitivity EV to WACC and perpetual growth						Implied EBITDA multiples 2021E					
WACC	Perpetual growth					WACC	Perpetual growth				
	0.5%	1.0%	1.5%	2.0%	2.5%		0.5%	1.0%	1.5%	2.0%	2.5%
4.7%	2,765.9	3,088.7	3,511.1	4,087.6	4,921.5	4.7%	31.3x	34.9x	39.7x	46.2x	55.6x
5.2%	2,456.6	2,705.4	3,020.6	3,433.1	3,996.1	5.2%	27.8x	30.6x	34.1x	38.8x	45.2x
5.7%	2,207.1	2,403.6	2,646.5	2,954.4	3,357.2	5.7%	24.9x	27.2x	29.9x	33.4x	37.9x
6.2%	2,001.6	2,160.1	2,352.1	2,589.3	2,890.0	6.2%	22.6x	24.4x	26.6x	29.3x	32.7x
6.7%	1,829.5	1,959.5	2,114.4	2,301.9	2,533.6	6.7%	20.7x	22.1x	23.9x	26.0x	28.6x

Source: Author's analysis

As shown in Table 5, the sensitivity analysis, crossing WACC against terminal growth rate, produces an implied enterprise value range of approximately €1,830m to €4,922m.

The DCF findings carry an important implication for the hypothesis framework. Under the base-case perpetual growth methodology, the transaction offer price of €480 per share exceeds the implied standalone intrinsic value of approximately €380.5, indicating that the sponsors paid a substantial transformation premium. The marginally sub-threshold LBO returns of 13.7% documented in Section 6.1 therefore reflect not only elevated entry pricing, but also the structural thinness of the EBITDA base relative to the purchase price, which constrains the amount of leverage available to amplify equity returns. The return challenge is consequently not reducible to simple valuation indiscipline. Rather, it arises from the interaction between a high-multiple acquisition environment and the limited debt capacity of a thin-margin e-commerce business. This distinguishes the Zooplus case from the classic overpayment narrative in the competitive auction literature, where weak returns primarily result from excessive acquisition pricing rather than from structural limitations in the buyout financing framework (Kaplan and Ruback 1995, 1059; DeAngelo et al. 1989, 275).

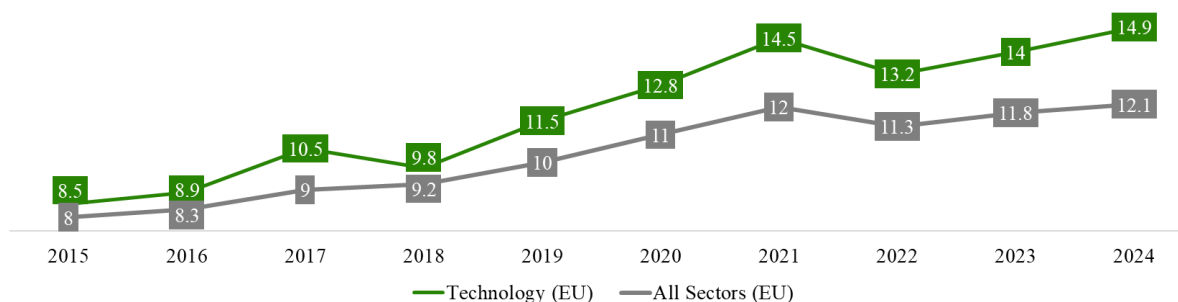
7. Discussion and Triangulation

7.1 The Transaction in Context

The LBO model and DCF cross-check in Chapter 6 establish the quantitative boundaries of the Zooplus take-private: a management case IRR of 13.7%, a transformation premium of approximately €100 per share above standalone intrinsic value and a structural feasibility constraint that renders conventional financial engineering largely unavailable. This section situates those findings within the broader PE market, the academic literature and, where available for validation, observable post-transaction developments. The entry multiple of 50.1×

sits in the extreme upper tail of European buyout pricing, as Figure 7 shows. In 2021, all-sector Western European buyout multiples averaged approximately 12× EV/EBITDA (Bain & Company 2025).

Figure 7: Evolution of Buyout Entry Multiples (EV/EBITDA) in Western Europe



Source: Bain & Company (2025), author's reconstruction

The Zooplus entry multiple is more than four times that average and reflects a competitive bidding process that pushed the price materially above the level consistent with target sponsor returns, as Section 6.4 demonstrates. This is not simply a product of a frothy market; it is a product of two well-capitalised sponsors with divergent initial investment theses being forced into a partnership to avoid mutually destructive overbidding, a dynamic consistent with the winner's curse literature on competitive auctions (Gorbenko and Malenko 2014, 2520).

The DCF cross-check developed in Section 6.5 provides an important reframing of this premium. The offer price of €480 exceeds the perpetual growth DCF implied value of approximately €380.5 not primarily because the sponsors overpaid relative to Zooplus's fundamental earnings power, but because the thin EBITDA base structurally prevents conventional leverage from amplifying returns. The return challenge therefore reflects both the transformation premium embedded in the acquisition price and the structural limitation that the thin EBITDA base constrains the amount of leverage available to amplify equity returns. This distinction matters for interpreting what the sponsors were actually purchasing: not primarily a cash-generating asset to be recapitalised, but a growth platform whose value is contingent on operational transformation over a multi-year horizon.

Substantial ex-post evidence is now available as of the date of submission in May 2026, spanning the first four and a half years of the sponsors' holding period and covering the period immediately approaching the model's assumed exit date of December 2026. Realised FY2022A revenue of approximately €2.39bn (Statista 2024) and FY2023A revenue of approximately

€2.68bn (Zorro Bidco S.à r.l. 2025) are both modestly above the management case projections of €2.31bn and €2.55bn respectively, confirming that the channel shift assumptions were conservative and that top-line growth has broadly materialised. However, FY2023A adjusted EBITDA of approximately €80-100m falls materially below the management case projection of €121m for the same year, implying a realised EBITDA margin of approximately 3-4% against a model forecast of 4.7% (Petonline 2025; Börsen-Zeitung 2025). For FY2024, EQT publicly targeted revenues above €3bn and EBITDA of approximately €150m (Börsen-Zeitung 2024); official audited results for FY2024 had not been published in the Unternehmensregister at the time of submission and are therefore not available for direct comparison. This divergence between revenue delivery and margin materialisation is precisely the pattern the analytical framework in Chapter 4 anticipates: channel-shift-driven revenue growth is achievable, while the simultaneous delivery of gross margin improvement, logistics efficiency gains and private-label penetration within a constrained timeline is significantly more demanding. The timing constraint identified in Constraint 1 appears to be genuinely binding in practice.

The exit trajectory reinforces this interpretation. A trade sale did not materialise in 2025 as sponsors had initially targeted; as of submission in May 2026, no exit has been completed and H&F and EQT are pursuing a potential IPO or strategic sale in 2026. Zooplus appointed Lionel Desclée as CEO on 15 September 2025, marking a second leadership change within the holding period and signalling a strategic refocus on market leadership and profitability ahead of a potential exit (Zooplus SE 2025). The downward revision in valuation expectations from the sponsors' range is consistent with EBITDA delivery tracking below the management case projection. This outcome is consistent with the thesis's core finding: the transformation premium embedded in the acquisition price requires sustained operational outperformance across all three value creation levers simultaneously to generate an exit multiple that compensates for the multiple compression built into the return structure. The margin component of the value creation plan has not materialised at the pace the management case required, meaning the sponsors approach the modelled December 2026 exit date facing the break-even constraint identified in Section 6.4 (a required exit multiple of approximately 37.5×) under conditions of compressed EBITDA relative to projection. These are ex-post observations offered for validation only; they do not alter the ex-ante model assumptions, which are the thesis's primary analytical contribution.

7.2 Feasibility of the Value Creation Plan

The management case projects EBITDA growth from €88.5m in FY2021E to €176m by FY2026E, driven by a revenue CAGR of approximately 9.2% and margin improvement from 4.4% to approximately 5.6%. This section evaluates each component against industry evidence and structural constraints observable at the valuation date.

The base case revenue CAGR from FY2021E to FY2026P sits below management's own guidance of 13-16% (Zooplus SE 2021b). Its achievability depends on two conditions: continued channel shift from offline to online pet food retail at the pace projected by Euromonitor International, and Zooplus maintaining its approximately 23-24% share of the European online addressable market (Statista 2025; Zooplus SE 2021a).

The channel shift assumption is supported by contemporaneous evidence. Euromonitor International projected in April 2021 that online channel share in global pet care would rise from approximately 20% toward one-third of total sales by 2026 (Euromonitor International 2021). On a European online addressable market of approximately €7.6bn in FY2020A (Statista 2025), even flat market share for Zooplus generates meaningful absolute revenue growth as the channel expands. FEDIAF data confirm 2.8% annual growth in the total European pet food market, providing the underlying demand floor (FEDIAF 2021). These inputs are consistent with the growth assumptions modelled and support the base case as a conservative but achievable projection.

The market share assumption is more uncertain. Historical share has been broadly stable at 24-27% between FY2019A and FY2021E (Statista 2025, using 2019-2021 historical series only; Zooplus SE 2021a), providing a reasonable calibration anchor. The risk is competitive erosion. Amazon's European logistics investment and Fressnapf's developing online capability both represent credible threats to Zooplus's share within the expanding online channel (Haucap et al. 2019, 12). Price transparency and low switching costs in online pet supplies reduce the stickiness of market share even for established operators (Haucap et al. 2019, 12). The management case assumption of broadly stable market share is defensible but remains exposed to competitive pressure from Amazon and Fressnapf.

The projected margin improvement from 4.4% in FY2021E to approximately 5.6% by FY2026P requires simultaneous delivery across three levers: logistics efficiency, private-label

mix improvement, and marketing cost leverage. Each is individually achievable, but the combination is more demanding. In transactions where leverage is constrained, sponsors depend primarily on operational value creation rather than financial engineering to generate returns (Kaplan and Strömberg 2009, 130; Acharya et al. 2013, 368). The feasibility of the Zooplus investment case therefore depends on whether these operational levers can be executed successfully within the available investment horizon.

Logistics efficiency improvements in pan-European e-commerce fulfilment typically require three to four years of capital investment and network maturation before generating meaningful EBITDA contribution (McKinsey & Company 2021a). The Budapest and Bratislava fulfilment centre expansions signalled in pre-transaction management communications confirm the appropriate strategic direction (Zooplus SE 2021a). Within a 5.5-year holding period, these investments provide only a limited window for EBITDA impact prior to exit. The timing constraint established in Chapter 4 is therefore structurally binding. Private-label penetration presents a more tractable lever. Own-brand share was already growing from 13% to 16% of sales between FY2018A and FY2020A (Zooplus SE 2021a). On gross margins estimated at approximately 10-15% above branded equivalents, each additional percentage point of own-brand penetration contributes directly to blended gross margin improvement. The comparable trajectory of European grocery retailers, which typically reached 20-25% own-brand penetration at similar points in their development cycle, suggests further gains are achievable (McKinsey & Company 2021b). This lever is comparatively credible and faster to implement than logistics infrastructure expansion, as it operates through product mix rather than infrastructure change.

Marketing efficiency improvement under private ownership is also plausible. As a public company, Zooplus invested in customer acquisition at rates that were strategically appropriate for market share building but financially suboptimal at the margin (SRH AlsterResearch AG 2021). Under concentrated PE ownership, more disciplined allocation of marketing spend toward high-CLV customer segments, as evidenced by the Subscribe and Save penetration data, can reduce effective CAC without sacrificing retention (McKinsey & Company 2021b; Zooplus SE 2021b).

In aggregate, the management case margin trajectory is achievable but requires successful execution across all three levers within a constrained timeline. The primary risk lies in the combined timing of these levers relative to the exit horizon. This is precisely the operational

feasibility constraint that Hypothesis H1 tests: operating improvements are necessary but require favourable execution timing alongside disciplined exit conditions to generate target returns.

The assumed exit multiple of 35× reflects compression of approximately 15× from the 50.1× entry multiple. Whether 35× is achievable at exit depends on capital market conditions in 2026 and the quality of earnings demonstrated over the hold period. A 35× EBITDA multiple remains elevated by historical LBO benchmarks for consumer businesses (Kaplan and Strömberg 2009, 121) but is consistent with the premium assigned to scaled and profitable digital consumer platforms in European capital markets (Bain & Company 2021). The risk profile is asymmetric. If e-commerce and technology valuations continue to normalise from their 2021 peaks, the achievable exit multiple could compress below 35×, materially reducing equity returns as demonstrated in the Chapter 6.4 sensitivity analysis. The exit multiple assumption therefore remains one of the most important exogenous determinants of sponsor returns, capable of driving returns below the management case independently of operational performance. This reinforces the finding from Chapter 6.4 that the margin for error at this entry valuation is structurally narrow.

A final consideration concerns the distribution of value created within the transaction. The Shleifer and Summers (1988, 33-35) breach-of-trust hypothesis proposes that takeover gains may arise partly from the transfer of value from other stakeholders rather than from efficiency improvements. In the Zooplus case, the structure of the value creation plan is predominantly consistent with genuine efficiency gains rather than redistribution. The projected margin improvement rests on private-label penetration (a product mix improvement that benefits customers through broader own-brand choice), procurement scale gains (a bilateral efficiency with suppliers), and marketing discipline (a reallocation of spend toward higher-CLV customers rather than absolute cost reduction). None of these levers relies on wage compression, supplier payment extension beyond normalised terms, or reductions in service levels. To the extent that redistribution effects exist, their contribution appears secondary relative to operational EBITDA growth. The dominant return driver is EBITDA growth through revenue expansion and product mix improvement, which represents genuine productivity enhancement in Kaplan and Strömberg's (2009, 130) taxonomy rather than value redistribution. The breach-of-trust hypothesis is therefore not the primary analytical lens for this transaction, though it remains a relevant consideration for PE investment in sectors with larger workforce restructuring components. Detailed operating projections are presented in Exhibit 1.

Taken together, the evidence suggests that operational execution is the primary determinant of outcomes, with limited contribution from capital structure effects. These findings have broader implications for the applicability of the traditional private equity value creation framework, particularly under conditions of elevated entry valuation and constrained leverage capacity.

7.3 Implications for Private Equity Practice

The Zooplus case provides evidence of a structural boundary condition for leveraged buyouts, allowing the PE value creation framework to be examined under constrained conditions. Three implications for PE practice emerge from the specific model findings.

First, the analysis establishes minimum structural conditions under which the conventional PE return model remains viable for e-commerce take-privates. The break-even analysis in Section 6.4 defines the minimum structural conditions required for achieving target returns. The analysis suggests that all three conditions must broadly be satisfied concurrently. Any single failure produces a sub-threshold outcome: the downside scenario analysis indicates that moderate underperformance in FY2026P EBITDA materially reduces sponsor returns, while a decline in the exit multiple from 35.0× to 25.0× reduces IRR by approximately 6.3pp. This quantifies the minimum bar that sponsors must clear when investing in thin-margin digital consumer platforms at elevated valuations. It implies that for similar e-commerce take-privates to generate standard PE returns, the entry multiple must be materially lower than 50.1×, the margin profile at entry must be structurally higher than Zooplus's low single digits, or the leverage capacity must be meaningfully greater. The Zooplus case sits at the boundary where none of these conditions is comfortably met, and the management case IRR of 13.7%, below the 15% threshold, reflects this precisely (Kaplan and Ruback 1995, 1059; Axelson et al. 2013, 2223).

The club deal structure introduces an additional constraint not captured in the financial model. With H&F and EQT holding equal governance rights at the Zorro Bidco parent level, strategic decisions on reinvestment pace, exit timing, and operational priorities require consensus between two sponsors with potentially divergent views on the optimal balance between growth investment and near-term cash generation. Academic evidence on multi-sponsor buyouts is limited (Kaplan and Strömberg 2009, 121), but the general proposition that coordination costs increase with the number of decision-making principals is well-established in organisational economics (Jensen 1989, 61). In a transaction where the margin of error is structurally narrow, coordination frictions during the operational implementation phase, for example, disagreements

regarding reinvestment pace or cash generation priorities, could delay operational improvements and compress the effective window for EBITDA gains to materialise before exit. The timing constraint identified in Chapter 4 is therefore not purely market-driven: it can be endogenously generated by the governance structure itself.

Third, the DCF finding that the transaction offer price of €480 materially exceeds the approximately €380.5 intrinsic value implied by the perpetual growth methodology has broader implications for how PE premia should be interpreted in digital asset acquisitions. The premium paid does not necessarily reflect valuation indiscipline, but rather the pricing of a scarce digital asset in a high-liquidity environment, consistent with the takeover literature (DeAngelo et al. 1989). The transformation premium remains economically rational provided the sponsors' operational programme generates the long-duration EBITDA growth embedded in the terminal value assumptions. The risk lies in the mismatch between the 5.5-year PE investment horizon and the duration of value realisation implied by the DCF analysis, where terminal value accounts for approximately 83.5% of enterprise value. Sponsors are therefore underwriting an asset whose fundamental value crystallises over a horizon extending materially beyond the expected hold period. This mismatch appears to be a structural feature of PE investment in scaled digital consumer platforms rather than a one-off characteristic of the Zooplus transaction, suggesting an increasing tension between finite PE holding periods and long-duration digital value creation cycles (Kaplan and Strömberg 2009, 121; Jensen 1989, 61).

More broadly, the Zooplus case allows a structural boundary condition to be derived that extends beyond the individual transaction. In a leveraged buyout, the supportable debt quantum as a proportion of enterprise value is approximately equal to the product of the maximum leverage multiple and the EBITDA-to-EV ratio at entry, which is itself the reciprocal of the entry EV/EBITDA multiple. Formally: $\text{debt/EV} \approx \text{leverage multiple} \div \text{entry EV/EBITDA multiple}$. At a conventional 5× EBITDA leverage and a 12× entry multiple, typical of mature consumer buyouts, this yields approximately 42% debt financing. At 5× leverage and a 20× entry multiple, the figure falls to 25%. At 5× leverage and the 50.1× multiple in the Zooplus case, it falls to approximately 10%, far below the threshold at which leverage generates meaningful return amplification or management discipline. The implication is a structural feasibility frontier: for digital consumer businesses with single-digit EBITDA margins, entry multiples above approximately 20-25× render the conventional LBO debt financing toolkit structurally unavailable, regardless of lender appetite or credit market conditions. Above this frontier, the economic characteristics of the transaction increasingly resemble those of a growth

equity investment rather than a conventional leveraged buyout. Sponsors operating above this frontier are implicitly underwriting the investment as a growth equity thesis (EBITDA expansion and multiple re-rating) while accepting LBO-style management control and a finite hold period. The Zooplus transaction exemplifies this boundary condition empirically. This frontier is not explicitly developed in the existing buyout literature, which does not treat entry multiple as a binding constraint on the availability of the financial engineering toolkit itself, rather than merely on the magnitude of leverage. This defines a structural feasibility frontier for leveraged buyouts, representing the thesis's primary generalisable contribution to the leveraged buyout literature.

8. Conclusion and Recommendations

8.1 Summary of Findings

This thesis set out to examine how PE sponsors structure and create value in take-private transactions, using the 2021 acquisition of Zooplus by H&F and EQT as an empirical case. The central research question was:

How do private equity sponsors structure and create value in take-private transactions, and what return profile does the Zooplus SE acquisition imply under realistic LBO assumptions?

The return bridge decomposition in Section 6.2 directly answers the structuring dimension of this question. At an entry multiple of $50.1\times$ and with debt representing only 11.9% of enterprise value, the sponsors structured a transaction in which operational improvement is the dominant lever of value creation. EBITDA growth contributes approximately 159% of total equity value created in gross terms, while deleveraging contributes approximately 20% and multiple compression acts as a structural headwind of approximately 78%. This composition is categorically different from the conventional PE template, where financial engineering typically accounts for 30-50% of equity returns (Kaplan and Strömberg 2009, 130) and confirms that the transaction is more accurately characterised as a growth equity investment with PE governance than as a leveraged buyout in the classic sense.

The LBO model produces a management case equity IRR of 13.7% and a MOIC of $2.0\times$ over the 5.5-year hold, both below the 15% lower bound of the typical PE target return range. The break-even analysis in Section 6.4 defines the precise condition under which target returns are achievable: an exit multiple of at least $37.5\times$. The sensitivity analysis demonstrates that the

absolute magnitude of IRR sensitivity to adverse exit conditions is broadly stable across the entry multiple range tested (Table 2), but that the starting position at the $50.1\times$ entry multiple already sits below the hurdle threshold, meaning any adverse shock of normal magnitude produces a sub-threshold outcome. Downside risk in this transaction is therefore positional rather than structural, the primary concern is not that returns collapse dramatically under stress, but that there is no safety margin to absorb even moderate adversity.

The DCF cross-check in Section 6.5 provides important context for interpreting this return profile. The implied share price of approximately €380.5 under the perpetual growth methodology lies materially below the transaction offer price of €480, confirming that the acquisition embeds a substantial transformation premium. As Section 7.1 argues, this premium does not necessarily represent valuation indiscipline but reflects the pricing of a scarce pan-European digital consumer platform in a high-liquidity environment. The return challenge is accordingly structural: the thin EBITDA base at entry limits supportable leverage irrespective of credit market conditions, and the premium paid over intrinsic value must be recovered through sustained operational improvement before the exit multiple is set.

Preliminary ex-post evidence discussed in Sections 7.1 and 7.2 provides partial validation of the model's predictions. Revenue growth has broadly tracked or slightly exceeded the management case, consistent with the channel shift assumptions. EBITDA margins have lagged materially: FY2023A adjusted EBITDA of approximately €80m compares to a model forecast of approximately €121m for the same year, confirming that the timing constraint on margin delivery identified in the analytical framework is genuinely binding. Exit valuations being explored by the sponsors as of 2024-2025 fall within or below the entry enterprise value.

The structural feasibility frontier developed in Section 7.3 represents the thesis's most generalisable contribution. The relationship $\text{debt/EV} \approx \text{leverage multiple} \div \text{entry EV/EBITDA}$ multiple implies that, for businesses with single-digit EBITDA margins, entry multiples above approximately $20\text{-}25\times$ render the conventional LBO debt financing toolkit structurally unavailable regardless of lender appetite. Above this frontier, the economics of the transaction increasingly resemble growth equity rather than leveraged buyout, and sponsors are implicitly underwriting operational transformation as the primary return mechanism. The Zooplus transaction sits well above this frontier and exemplifies its consequences empirically. This structural feasibility frontier is not developed in the existing buyout literature, which does not

treat the entry multiple as a constraint on the availability of the financial engineering toolkit itself rather than merely on the magnitude of leverage applied.

The formal evaluation of each hypothesis is presented in Section 8.2.

8.2 Hypothesis Evaluation

H1: *Operating performance improvements are a necessary but not sufficient condition for achieving target sponsor returns in the Zooplus take-private: the high entry valuation creates a required value creation burden that operational improvement alone may not be sufficient to overcome without the concurrent achievement of a favourable exit valuation multiple.*

H1 is **supported**. The management case demonstrates both components of the hypothesis. The necessary condition is confirmed by the downside scenario, in which EBITDA declines to approximately €130m by FY2026P. The IRR falls to approximately 7.4%, materially below the 15% threshold, establishing that EBITDA growth is required for any return approaching target levels. The insufficient condition is confirmed by the management case itself: despite a near-doubling of EBITDA from €88.5m in FY2021E to approximately €176m by FY2026P, the IRR of 13.7% falls just below the 15% threshold at the base case exit multiple of 35×. The break-even analysis in Section 6.4 quantifies the co-condition precisely: achieving a 15.0% IRR requires an exit multiple of approximately 37.5×, leaving only limited tolerance for exit multiple compression relative to the base-case assumption. Even under full management-case operational delivery, moderate deterioration in exit conditions is therefore sufficient to produce a sub-threshold outcome. Exit conditions are not merely beneficial; they are a binding co-condition for acceptable sponsor returns (Kaplan and Ruback 1995, 1059).

H2: *At higher entry valuation multiples, a given adverse deviation in exit conditions produces a proportionally larger decline in IRR than the same deviation would at a conventional entry multiple, such that the return distribution becomes increasingly asymmetric as the entry price rises.*

H2 is **not supported** by the model results. The sensitivity matrix in Section 6.4 crosses five entry multiples (44.1× to 56.1×) against five exit multiples (25.0× to 45.0×). Across the tested sensitivity range, a decline in the exit multiple from 45.0× to 25.0× reduces IRR by approximately 11.7pp at the 44.1× entry multiple and by approximately 11.1pp at the 56.1× entry multiple. The model therefore does not indicate materially greater IRR sensitivity to adverse exit conditions as the entry multiple rises within the tested range. Instead, the absolute

IRR response to exit multiple deterioration remains broadly stable across the entry valuation spectrum (Axelson et al. 2013, 2245).

The results nevertheless produce a more precise and economically relevant finding. Downside risk at elevated entry multiples is positional rather than structural. The IRR response to exit multiple shocks does not materially steepen at higher entry valuations, but the return distribution begins from a substantially weaker starting position that already sits near or below the hurdle threshold. At the $50.1\times$ base-case entry multiple and a $35.0\times$ exit multiple, the management case IRR of 13.7% already falls below the 15.0% hurdle rate, meaning that even moderate deterioration in exit conditions is sufficient to produce sub-threshold outcomes. At more conventional entry multiples, the same operating assumptions would generate materially higher returns and therefore a substantially larger margin of safety against exit multiple compression. The central risk at extreme entry valuations is therefore not greater absolute IRR sensitivity, but an exhausted margin of safety within the return distribution. This distinction is analytically important because it implies that sponsors evaluating downside risk at elevated entry valuations should focus primarily on the starting return profile relative to the hurdle threshold, rather than on the slope of the IRR response function itself (Kaplan and Ruback 1995, 1059).

H3: *Financial engineering contributes a materially smaller share of total equity value creation in the Zooplus take-private than documented in conventional leveraged buyout settings, such that the transaction's return profile is more consistent with a growth equity investment than with the standard PE buyout template.*

H3 is **supported**. The return bridge decomposition in Section 6.2 provides the empirical test: financial engineering accounts for approximately 20% of total equity value created against approximately 159% from EBITDA growth, materially below the 30-50% documented in conventional buyouts (Kaplan and Strömberg 2009, 130).

The more precise finding, however, is that the deviation from the conventional benchmark is not a matter of degree but of kind. In a standard leveraged buyout, financial engineering is a discretionary amplifier: sponsors choose how much leverage to apply based on lender appetite, target cash flows and return targets. In the Zooplus transaction, the debt quantum is not chosen but derived: at $50.1\times$ entry EBITDA, the maximum supportable leverage of $4.52\times$ FY2021E EBITDA yields only €400m of debt against a €3,358m enterprise value regardless of lender willingness. The structural feasibility frontier developed in Section 7.3 formalises this

relationship: debt as a proportion of enterprise value falls mechanically as the entry multiple rises, reaching a level at which leverage ceases to function as a return driver at all. Financial engineering is therefore not merely smaller in this transaction; it is structurally constrained as a primary lever, which is a categorically different condition from the conventional LBO where it is present but modestly deployed. The value creation profile that emerges, dominated by operational performance with financial engineering playing a secondary role, is more consistent with a growth equity investment than with the standard PE buyout template (Axelson et al. 2013, 2223; Rosenbaum and Pearl 2020, 293).

8.3 Limitations

The most significant limitation is the absence of internal sponsor data. The capital structure is reconstructed from contemporaneous market conditions rather than actual financing terms, introducing estimation uncertainty in the debt quantum, margin, and covenants. Similarly, the operating projections reflect the author's independent ex-ante reconstruction rather than the sponsors' internal business plan. The model therefore tests the structural logic of the transaction rather than replicating the sponsors' exact investment case.

The peer group of six listed European specialty retailers used to estimate the unlevered beta contains structural limitations. No pure-play European online pet food retailer is publicly listed, requiring the use of adjacent comparables with different demand and cost characteristics. The resulting mean asset beta of 0.9 reflects this heterogeneity. The sensitivity analysis in Chapter 6.5 mitigates this by testing a range of WACC assumptions, but the base case WACC remains subject to peer group composition uncertainty (Damodaran 2021).

The use of a single case study, while analytically appropriate for the research question, limits statistical generalisability. The findings are specific to the Zooplus transaction's combination of entry multiple, EBITDA margin profile, and e-commerce operating model. They cannot be directly extrapolated to other take-private transactions without replicating the analysis under different structural conditions (Yin 2018, 21). The strict ex-ante methodology precludes the use of post-transaction operating data as model inputs or calibration anchors. Chapter 7 supplements the ex-ante analysis with partial ex-post validation drawing on secondary trade press sources covering the period through early 2026; however, audited post-closing financial statements for Zorro Bidco S.à r.l. covering FY2024 had not been published in the Unternehmensregister at the time of submission, and the FY2023 consolidated accounts became

available only in July 2025. The ex-post evidence incorporated in Chapter 7 therefore relies on secondary reporting rather than primary audited disclosures, and the feasibility assessment in Section 7.2 remains partly dependent on industry benchmarks and historical analogues where granular post-closing data are unavailable, particularly for unit economics including CAC, CLV and fulfilment cost per order.

8.4 Directions for Future Research

Four directions present themselves as natural extensions of this work. The most immediate is a multi-case study comparing the Zooplus transaction with other European consumer e-commerce take-privates from the 2018 to 2023 period. Such a study would allow systematic examination of whether the structural constraints identified in this thesis, specifically the leverage floor imposed by thin margins and the return sensitivity to entry valuation, are generalised features of e-commerce LBOs or specific to the Zooplus case (Yin 2018, 15; Kaplan and Strömberg 2009, 121).

A second direction is longitudinal analysis of the Zooplus investment once post-closing financial data become publicly available. Such data would allow comparison of ex-ante projections with realised performance, providing an empirical test of whether the management case assumptions were structurally realistic at the time of investment. This would contribute to the small but growing literature on PE forecast accuracy (Acharya et al. 2013, 368).

Third, the WACC methodology applied in the DCF analysis highlights the limitations of peer group beta estimation for assets without direct listed comparables. Future research could develop alternative beta estimation approaches for unlisted e-commerce platforms, drawing on transaction data, private company financial disclosures, or factor model approaches that do not depend on public market equity regression (Damodaran 2021).

Finally, the club deal structure of the Zooplus transaction raises governance questions that this thesis does not directly address. The academic literature on coordination frictions in multi-sponsor buyouts is limited (Kaplan and Strömberg 2009, 121; Axelson et al. 2013, 2223). A comparative study of sole-sponsor versus club deal governance outcomes in European take-privates would contribute to understanding of whether the coordination costs of shared ownership materially affect operational value creation and exit outcomes over a typical hold period.

9. Appendix

Exhibit 1: Zooplus SE Historical and Planned P&L across Scenarios

in EUR m	Historic Annual			Estimate	Projected Annual						
Case selected: Management case	2018A	2019A	2020A	2021E	2022P	2023P	2024P	2025P	2026P	2027P	2028P
Sales	1,341.7	1,523.7	1,801.5	2,004.4	2,305.8	2,546.9	2,753.0	2,926.1	3,117.5	3,321.4	3,538.6
Cost of goods sold	(954.0)	(1,080.0)	(1,253.6)	(1,392.8)	(1,596.5)	(1,755.8)	(1,889.5)	(1,999.6)	(2,121.0)	(2,249.8)	(2,386.3)
Gross profit	387.7	443.7	547.9	611.6	709.3	791.1	863.4	926.5	996.4	1,071.6	1,152.3
SG&A expenses	(76.2)	(106.2)	(94.6)	(97.2)	(116.4)	(128.6)	(139.0)	(147.8)	(157.4)	(167.7)	(178.7)
Other operating expenses	(300.2)	(321.7)	(386.4)	(425.9)	(490.4)	(541.7)	(585.5)	(622.3)	(663.0)	(706.4)	(752.6)
EBITDA	11.3	15.9	67.0	88.5	102.5	120.9	138.9	156.4	176.0	197.5	221.0
Normalisations	--	--	--	--	--	--	--	--	--	--	--
EBITDA (normalised)	11.3	15.9	67.0	88.5	102.5	120.9	138.9	156.4	176.0	197.5	221.0
Depreciation & amortisation	(10.1)	(26.3)	(31.3)	(31.2)	(38.6)	(42.6)	(46.0)	(48.9)	(52.1)	(55.5)	(59.2)
EBIT (normalised)	1.2	(10.4)	35.7	57.3	63.9	78.3	92.9	107.5	123.9	141.9	161.8

in EUR m	Historic Annual			Estimate	Projected Annual						
Case selected: Upside case	2018A	2019A	2020A	2021E	2022P	2023P	2024P	2025P	2026P	2027P	2028P
Sales	1,341.7	1,523.7	1,801.5	2,004.4	2,335.0	2,601.1	2,824.1	3,015.9	3,256.0	3,515.3	3,795.1
Cost of goods sold	(954.0)	(1,080.0)	(1,253.6)	(1,392.8)	(1,593.3)	(1,767.1)	(1,910.2)	(2,030.8)	(2,182.7)	(2,346.0)	(2,521.4)
Gross profit	387.7	443.7	547.9	611.6	741.7	834.0	914.0	985.1	1,073.3	1,169.3	1,273.8
SG&A expenses	(76.2)	(106.2)	(94.6)	(97.2)	(117.9)	(131.4)	(142.6)	(152.3)	(164.4)	(177.5)	(191.7)
Other operating expenses	(300.2)	(321.7)	(386.4)	(425.9)	(496.6)	(553.2)	(600.6)	(641.4)	(692.5)	(747.6)	(807.1)
EBITDA	11.3	15.9	67.0	88.5	127.1	149.4	170.7	191.4	216.4	244.1	275.0
Normalisations	--	--	--	--	--	--	--	--	--	--	--
EBITDA (normalised)	11.3	15.9	67.0	88.5	127.1	149.4	170.7	191.4	216.4	244.1	275.0
Depreciation & amortisation	(10.1)	(26.3)	(31.3)	(31.2)	(27.4)	(30.5)	(33.1)	(35.3)	(38.2)	(41.2)	(44.5)
EBIT (normalised)	1.2	(10.4)	35.7	57.3	99.8	118.9	137.6	156.0	178.2	202.9	230.5

in EUR m	Historic Annual			Estimate	Projected Annual						
Case selected: Downside case	2018A	2019A	2020A	2021E	2022P	2023P	2024P	2025P	2026P	2027P	2028P
Sales	1,341.7	1,523.7	1,801.5	2,004.4	2,237.7	2,438.5	2,586.8	2,695.1	2,798.8	2,906.5	3,018.4
Cost of goods sold	(954.0)	(1,080.0)	(1,253.6)	(1,392.8)	(1,571.7)	(1,705.4)	(1,801.4)	(1,868.7)	(1,932.2)	(1,997.8)	(2,065.7)
Gross profit	387.7	443.7	547.9	611.6	666.0	733.1	785.4	826.4	866.6	908.7	952.7
SG&A expenses	(76.2)	(106.2)	(94.6)	(97.2)	(113.0)	(123.1)	(130.6)	(136.1)	(141.3)	(146.8)	(152.4)
Other operating expenses	(300.2)	(321.7)	(386.4)	(425.9)	(475.9)	(518.6)	(550.2)	(573.2)	(595.2)	(618.2)	(641.9)
EBITDA	11.3	15.9	67.0	88.5	77.1	91.3	104.6	117.1	130.0	143.7	158.3
Normalisations	--	--	--	--	--	--	--	--	--	--	--
EBITDA (normalised)	11.3	15.9	67.0	88.5	77.1	91.3	104.6	117.1	130.0	143.7	158.3
Depreciation & amortisation	(10.1)	(26.3)	(31.3)	(31.2)	(48.6)	(53.0)	(56.2)	(58.5)	(60.8)	(63.1)	(65.6)
EBIT (normalised)	1.2	(10.4)	35.7	57.3	28.5	38.4	48.5	58.6	69.2	80.6	92.8

Exhibit 2: Zooplus SE Historical and Planned WC & Capex across Scenarios

Working capital calculations:

Case selected: Management case

	<u>Historic Annual</u>		<u>Estimate</u>		<u>Projected Annual</u>						
	2018A	2019A	2020A	2021E	2022P	2023P	2024P	2025P	2026P	2027P	2028P
Inventories	107.6	117.7	156.7	158.0	183.7	202.0	217.4	230.0	244.0	258.8	274.5
Trade accounts receivable	28.1	27.7	30.3	34.0	42.0	46.4	50.2	53.3	56.8	60.6	64.5
Trade accounts payable	99.7	125.1	148.9	196.0	180.5	198.5	213.6	226.0	239.8	254.3	269.8
Working capital	36.0	20.4	38.0	(4.1)	45.2	49.9	54.0	57.3	61.1	65.0	69.3

Capital expenditure calculations:

Capital expenditure	7.3	3.2	4.7	2.9	6.7	7.4	8.0	8.5	9.1	9.7	10.3
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Working capital calculations:

Case selected: Upside case

Inventories	107.6	117.7	156.7	158.0	178.9	198.4	214.4	228.0	245.0	263.4	283.1
Trade accounts receivable	28.1	27.7	30.3	34.0	39.3	43.8	47.6	50.8	54.8	59.2	63.9
Trade accounts payable	99.7	125.1	148.9	196.0	184.5	204.7	221.2	235.2	252.8	271.7	292.0
Working capital	36.0	20.4	38.0	(4.1)	33.7	37.5	40.8	43.6	47.1	50.9	54.9

Capital expenditure calculations:

Capital expenditure	7.3	3.2	4.7	2.9	9.1	10.2	11.0	11.8	12.7	13.8	14.8
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Working capital calculations:

Case selected: Downside case

Inventories	107.6	117.7	156.7	158.0	185.2	200.9	212.2	220.2	227.7	235.4	243.4
Trade accounts receivable	28.1	27.7	30.3	34.0	43.9	47.8	50.8	52.9	54.9	57.0	59.2
Trade accounts payable	99.7	125.1	148.9	196.0	173.3	188.1	198.6	206.1	213.1	220.3	227.8
Working capital	36.0	20.4	38.0	(4.1)	55.8	60.7	64.4	67.0	69.5	72.1	74.8

Capital expenditure calculations:

Capital expenditure	7.3	3.2	4.7	2.9	4.3	4.7	4.9	5.2	5.4	5.6	5.8
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Exhibit 3: Zooplus SE P&L Ratios and Working Capital Metrics across Scenarios

Key P&L ratios Case selected: Management case	Historic Annual			Estimate	Projected Annual						
	2018A	2019A	2020A	2021E	2022P	2023P	2024P	2025P	2026P	2027P	2028P
Growth rates											
Sales growth %	n/a	13.6%	18.2%	11.3%	15.0%	10.5%	8.1%	6.3%	6.5%	6.5%	6.5%
Gross profit growth %	n/a	14.4%	23.5%	11.6%	16.0%	11.5%	9.1%	7.3%	7.6%	7.5%	7.5%
Normalised EBITDA growth %	n/a	40.1%	322.4%	32.1%	15.8%	17.9%	14.9%	12.6%	12.5%	12.2%	11.9%
Normalised EBIT growth %	n/a	(944.7%)	(443.8%)	60.3%	11.7%	22.4%	18.6%	15.7%	15.2%	14.6%	14.0%
Margins											
Gross profit margin	28.9%	29.1%	30.4%	30.5%	30.8%	31.1%	31.4%	31.7%	32.0%	32.3%	32.6%
EBITDA margin	0.8%	1.0%	3.7%	4.4%	4.4%	4.7%	5.0%	5.3%	5.6%	5.9%	6.2%
EBIT margin	0.1%	(0.7%)	2.0%	2.9%	2.8%	3.1%	3.4%	3.7%	4.0%	4.3%	4.6%
Ratios % of sales											
Cost of goods sold % of sales	71.1%	70.9%	69.6%	69.5%	69.2%	68.9%	68.6%	68.3%	68.0%	67.7%	67.4%
SG&A expenses % of sales	5.7%	7.0%	5.2%	4.9%	5.1%	5.1%	5.1%	5.1%	5.1%	5.1%	5.1%
Other operating expenses % of sales	22.4%	21.1%	21.4%	21.2%	21.3%	21.3%	21.3%	21.3%	21.3%	21.3%	21.3%
D&A % of sales	0.8%	1.7%	1.7%	1.6%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%
Capex % of sales	0.5%	0.2%	0.3%	0.1%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Capex % of depreciation & amortisation	72.5%	12.3%	15.0%	9.4%	17.4%	17.4%	17.4%	17.4%	17.4%	17.4%	17.4%
Working capital ratios											
Inventory days	40.6	39.2	45.0	40.8	41.4	41.4	41.4	41.4	41.4	41.4	41.4
Accounts receivables days	7.6	6.5	6.1	6.1	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Accounts payable days	37.6	41.7	42.8	50.7	40.7	40.7	40.7	40.7	40.7	40.7	40.7

Key P&L ratios

Case selected: Upside case

Growth rates

Sales growth %	n/a	13.6%	18.2%	11.3%	16.5%	11.4%	8.6%	6.8%	8.0%	8.0%	8.0%
Gross profit growth %	n/a	14.4%	23.5%	11.6%	21.3%	12.5%	9.6%	7.8%	9.0%	8.9%	8.9%
Normalised EBITDA growth %	n/a	40.1%	322.4%	32.1%	43.7%	17.5%	14.2%	12.1%	13.1%	12.8%	12.6%
Normalised EBIT growth %	n/a	(944.7%)	(443.8%)	60.3%	74.2%	19.2%	15.7%	13.4%	14.2%	13.9%	13.6%

Margins

Gross profit margin	28.9%	29.1%	30.4%	30.5%	31.8%	32.1%	32.4%	32.7%	33.0%	33.3%	33.6%
EBITDA margin	0.8%	1.0%	3.7%	4.4%	5.4%	5.7%	6.0%	6.3%	6.6%	6.9%	7.2%
EBIT margin	0.1%	(0.7%)	2.0%	2.9%	4.3%	4.6%	4.9%	5.2%	5.5%	5.8%	6.1%

Ratios % of sales

Cost of goods sold % of sales	71.1%	70.9%	69.6%	69.5%	68.2%	67.9%	67.6%	67.3%	67.0%	66.7%	66.4%
SG&A expenses % of sales	5.7%	7.0%	5.2%	4.9%	5.1%	5.1%	5.1%	5.1%	5.1%	5.1%	5.1%
Other operating expenses % of sales	22.4%	21.1%	21.4%	21.2%	21.3%	21.3%	21.3%	21.3%	21.3%	21.3%	21.3%
D&A % of sales	0.8%	1.7%	1.7%	1.6%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%
Capex % of sales	0.5%	0.2%	0.3%	0.1%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
Capex % of depreciation & amortisation	72.5%	12.3%	15.0%	9.4%	33.4%	33.4%	33.4%	33.4%	33.4%	33.4%	33.4%

Working capital ratios

Inventory days	40.6	39.2	45.0	40.8	40.4	40.4	40.4	40.4	40.4	40.4	40.4
Accounts receivables days	7.6	6.5	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
Accounts payable days	37.6	41.7	42.8	50.7	41.7	41.7	41.7	41.7	41.7	41.7	41.7

Key P&L ratios

Case selected: Downside case

Growth rates

Sales growth %	n/a	13.6%	18.2%	11.3%	11.6%	9.0%	6.1%	4.2%	3.8%	3.8%	3.8%
Gross profit growth %	n/a	14.4%	23.5%	11.6%	8.9%	10.1%	7.1%	5.2%	4.9%	4.9%	4.8%
Normalised EBITDA growth %	n/a	40.1%	322.4%	32.1%	(12.9%)	18.5%	14.6%	11.9%	11.0%	10.6%	10.1%
Normalised EBIT growth %	n/a	(944.7%)	(443.8%)	60.3%	(50.3%)	34.7%	26.3%	20.9%	18.2%	16.4%	15.1%

Margins

Gross profit margin	28.9%	29.1%	30.4%	30.5%	29.8%	30.1%	30.4%	30.7%	31.0%	31.3%	31.6%
EBITDA margin	0.8%	1.0%	3.7%	4.4%	3.4%	3.7%	4.0%	4.3%	4.6%	4.9%	5.2%
EBIT margin	0.1%	(0.7%)	2.0%	2.9%	1.3%	1.6%	1.9%	2.2%	2.5%	2.8%	3.1%

Ratios % of sales

Cost of goods sold % of sales	71.1%	70.9%	69.6%	69.5%	70.2%	69.9%	69.6%	69.3%	69.0%	68.7%	68.4%
SG&A expenses % of sales	5.7%	7.0%	5.2%	4.9%	5.1%	5.1%	5.1%	5.1%	5.1%	5.1%	5.1%
Other operating expenses % of sales	22.4%	21.1%	21.4%	21.2%	21.3%	21.3%	21.3%	21.3%	21.3%	21.3%	21.3%
D&A % of sales	0.8%	1.7%	1.7%	1.6%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%
Capex % of sales	0.5%	0.2%	0.3%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Capex % of depreciation & amortisation	72.5%	12.3%	15.0%	9.4%	8.8%	8.8%	8.8%	8.8%	8.8%	8.8%	8.8%

Working capital ratios

Inventory days	40.6	39.2	45.0	40.8	42.4	42.4	42.4	42.4	42.4	42.4	42.4
Accounts receivables days	7.6	6.5	6.1	6.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
Accounts payable days	37.6	41.7	42.8	50.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7

Exhibit 4: Zooplus SE Operating Scenario Assumptions across Scenarios

Operating scenarios		Projected Annual						
		2022P	2023P	2024P	2025P	2026P	2027P	2028P
Total sales growth in %		15.0%	10.5%	8.1%	6.3%	6.5%	6.5%	6.5%
Management case	<<<<<<	15.0%	10.5%	8.1%	6.3%	6.5%	6.5%	6.5%
Upside case		16.5%	11.4%	8.6%	6.8%	8.0%	8.0%	8.0%
Downside case		11.6%	9.0%	6.1%	4.2%	3.8%	3.8%	3.8%
Gross profit margin		30.8%	31.1%	31.4%	31.7%	32.0%	32.3%	32.6%
Management case	<<<<<<	30.8%	31.1%	31.4%	31.7%	32.0%	32.3%	32.6%
Upside case		31.8%	32.1%	32.4%	32.7%	33.0%	33.3%	33.6%
Downside case		29.8%	30.1%	30.4%	30.7%	31.0%	31.3%	31.6%
SG&A expenses % of sales		5.1%	5.1%	5.1%	5.1%	5.1%	5.1%	5.1%
Management case	<<<<<<	5.1%	5.1%	5.1%	5.1%	5.1%	5.1%	5.1%
Upside case		5.6%	5.6%	5.6%	5.6%	5.6%	5.6%	5.6%
Downside case		4.6%	4.6%	4.6%	4.6%	4.6%	4.6%	4.6%
Other operating expenses % of sales		21.3%	21.3%	21.3%	21.3%	21.3%	21.3%	21.3%
Management case	<<<<<<	21.3%	21.3%	21.3%	21.3%	21.3%	21.3%	21.3%
Upside case		21.8%	21.8%	21.8%	21.8%	21.8%	21.8%	21.8%
Downside case		20.8%	20.8%	20.8%	20.8%	20.8%	20.8%	20.8%
D&A % of sales		1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%
Management case	<<<<<<	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%
Upside case		1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%
Downside case		2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%
Inventory days		41.4	41.4	41.4	41.4	41.4	41.4	41.4
Management case	<<<<<<	41.4	41.4	41.4	41.4	41.4	41.4	41.4
Upside case		40.4	40.4	40.4	40.4	40.4	40.4	40.4
Downside case		42.4	42.4	42.4	42.4	42.4	42.4	42.4
Accounts receivables days		6.6	6.6	6.6	6.6	6.6	6.6	6.6
Management case	<<<<<<	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Upside case		6.1	6.1	6.1	6.1	6.1	6.1	6.1
Downside case		7.1	7.1	7.1	7.1	7.1	7.1	7.1
Accounts payable days		40.7	40.7	40.7	40.7	40.7	40.7	40.7
Management case	<<<<<<	40.7	40.7	40.7	40.7	40.7	40.7	40.7
Upside case		41.7	41.7	41.7	41.7	41.7	41.7	41.7
Downside case		39.7	39.7	39.7	39.7	39.7	39.7	39.7
CapEx % of sales		0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Management case	<<<<<<	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Upside case		0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
Downside case		0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%

Exhibit 5: Zooplus SE TAM (Online Pet Food Revenue) Historical and Planned

	Historic Annual			Estimate	Projected Annual				CAGR
in €m (Statista Market Insights, 25 country online pet food market)	2019A	2020A	2021E	2022P	2023P	2024P	2025P	2026P	
1. Addressable Market Size by Tier (€m, online pet food)									
TIER 1 — DACH	<i>Mature, high e-com penetration, established Zooplus brand</i>								
Germany	771	927	1260	1436	1580	1706	1825	1935	
Austria	142	160	195	222	244	264	282	299	
Switzerland	110	122	167	190	209	226	242	256	
Market growth rate (% yoy) = base market + channel shift		18.1%	34.2%	14.0%	10.0%	8.0%	7.0%	6.0%	
Subtotal	1023	1208	1621	1848	2033	2196	2350	2490	13.6%
TIER 2 — Established International	<i>Growing markets, strong channel shift trajectory</i>								
United Kingdom	614	642	824	947	1052	1146	1238	1337	
France	705	822	1103	1268	1408	1534	1657	1790	
Netherlands	383	470	658	757	840	916	989	1068	
Belgium	169	194	232	267	296	323	349	376	
Ireland	46	59	65	74	83	90	97	105	
Market growth rate (% yoy) = base market + channel shift		14.1%	31.7%	15.0%	11.0%	9.0%	8.0%	8.0%	
Subtotal	1917	2187	2881	3313	3678	4009	4330	4676	13.6%
TIER 3 — Southern Europe	<i>High growth potential, lower current e-com penetration</i>								
Italy	600	768	1050	1218	1376	1527	1665	1815	
Spain	268	350	473	549	620	688	750	818	
Portugal	42	50	64	74	84	93	101	111	
Greece	20	26	33	38	43	48	52	57	
Market growth rate (% yoy) = base market + channel shift		28.5%	35.7%	16.0%	13.0%	11.0%	9.0%	9.0%	
Subtotal	929	1194	1620	1879	2123	2357	2569	2800	17.1%
TIER 4 — Northern Europe	<i>Mature, high digital adoption, competitive</i>								
Sweden	123	142	195	213	230	246	261	277	
Denmark	88	102	133	145	157	168	178	188	
Finland	112	124	154	168	181	194	206	218	
Norway	46	49	59	64	69	74	78	83	
Market growth rate (% yoy) = base market + channel shift		13.0%	29.8%	9.0%	8.0%	7.0%	6.0%	6.0%	
Subtotal	369	417	541	590	637	682	723	766	11.0%
TIER 5 — Central & Eastern Europe	<i>Early-stage, largest growth runway</i>								
Poland	388	475	621	726	828	927	1020	1122	
Czechia	98	107	121	141	161	180	198	218	
Hungary	19	27	42	49	56	63	69	76	
Romania	27	38	60	70	80	90	99	108	
Slovakia	29	35	45	52	59	66	73	80	
Bulgaria	14	17	22	26	29	33	36	40	
Croatia	15	18	20	23	26	29	32	36	
Slovenia	8	10	12	14	15	17	19	21	
Luxembourg	9	10	11	13	14	16	18	19	
Market growth rate (% yoy) = base market + channel shift		21.5%	28.9%	17.0%	14.0%	12.0%	10.0%	10.0%	
Subtotal	608	738	952	1114	1270	1422	1564	1721	16.0%
TOTAL ADDRESSABLE MARKET (25 countries)	4845	5745	7616	8744	9741	10665	11535	12453	14.4%

GROWTH RATE INPUT ASSUMPTIONS

Channel shift

Tier / Component	Base market growth (FEDIAF)	2022P	2023P	2024P	2025P	2026P
Base market growth: all tiers	3.0%					
TIER 1 — DACH	3.0%	11.0%	7.0%	5.0%	4.0%	3.0%
TIER 2 — Established International	3.0%	12.0%	8.0%	6.0%	5.0%	5.0%
TIER 3 — Southern Europe	3.0%	13.0%	10.0%	8.0%	6.0%	6.0%
TIER 4 — Northern Europe	3.0%	6.0%	5.0%	4.0%	3.0%	3.0%
TIER 5 — Central & Eastern Europe	3.0%	14.0%	11.0%	9.0%	7.0%	7.0%

Exhibit 6: Key LBO Assumptions

Entry and exit assumptions

Entry date	30-Jun-2021
Exit date	31-Dez-2026
Years invested	5.50
Minimum cash balance (EURm)	50.0
Transaction costs (as % of EV)	1.5%
Trade tax rate (%)	14.2%
Corporate tax rate (incl. solidarity charge) (%)	27.5%

Ownership assumptions

	@ Entry	@ Exit
Financial investor	95.0%	95.0%
Management	5.0%	5.0%
Total equity	100.0%	100.0%

Sweet equity assumptions

	@ Entry	Payment
Financial investor	98.8%	2,963.2
Management	1.3%	37.5
Total equity	100.0%	
Envy ratio	4.16	

Exhibit 7: Sources and Uses Overview

Sources	Term	Margin	% of total	EURm	Multiple
Equity			90.4%	3,090.0	
Shareholder Loan			--	--	
Equity			90.4%	3,090.0	
Senior loan A	0-yrs	--	--	--	--
Senior loan B	7-yrs	4.6%	11.7%	399.9	4.5x
Senior loan C	0-yrs	--	--	--	--
Senior debt			11.7%	399.9	4.5x
Mezzanine	0-yrs	--	--	--	--
Vendor note	0-yrs	--	--	--	--
2nd Lien	0-yrs	--	--	--	--
Financial debt			11.7%	399.9	4.5x
Pensions			--	--	
Net Cash			(2.2%)	(73.6)	
Total sources			100.0%	3,416.4	

Uses	EURm
Normalised EBITDA (2020)	67.0
Applied acquisition multiple	50.1x
Enterprise value at entry	3,358.0
Equity purchase price (debt & cash free)	3,431.6
Pensions	--
Net Cash	(73.6)
Enterprise value at entry	3,358.0
Transaction costs (in % of EV)	50.4
Financing costs	8.0
Total uses	3,416.4

Exhibit 8: Planned P&L, Cash Flow and Credit Ratios

in EUR m	2021E	2022P	2023P	2024P	2025P	2026P
Sales	2,004.4	2,305.8	2,546.9	2,753.0	2,926.1	3,117.5
<i>Sales growth in %</i>	<i>11.3%</i>	<i>15.0%</i>	<i>10.5%</i>	<i>8.1%</i>	<i>6.3%</i>	<i>6.5%</i>
Normalised EBITDA	88.5	102.5	120.9	138.9	156.4	176.0
<i>EBITDA margin</i>	<i>4.4%</i>	<i>4.4%</i>	<i>4.7%</i>	<i>5.0%</i>	<i>5.3%</i>	<i>5.6%</i>
Capex	2.9	6.7	7.4	8.0	8.5	9.1
<i>Capex % of normalised EBITDA</i>	<i>3.3%</i>	<i>6.6%</i>	<i>6.1%</i>	<i>5.8%</i>	<i>5.4%</i>	<i>5.2%</i>

Cash flow statements	YF2021E	2022P	2023P	2024P	2025P	2026P
Normalised EBITDA	44.2	102.5	120.9	138.9	156.4	176.0
Capital expenditure	(1.5)	(6.7)	(7.4)	(8.0)	(8.5)	(9.1)
Change in working capital	(21.0)	49.3	4.7	4.0	3.4	3.7
Total cash interest payments	(9.1)	(17.8)	(17.5)	(17.2)	(16.8)	(16.4)
CF before amortisation	12.7	127.2	100.7	117.7	134.5	154.3
Mandatory repayments	--	--	--	--	--	--
Variation in revolver	--	--	--	--	--	--
Cash sweep	--	--	--	--	--	--
CF before equity service	56.6	127.2	100.7	117.7	134.5	154.3

Key credit ratios	YF2021E	2022P	2023P	2024P	2025P	2026P
Total senior debt / EBITDA	4.5x	3.9x	3.3x	2.9x	2.6x	2.3x
Total debt / EBITDA	4.5x	3.9x	3.3x	2.9x	2.6x	2.3x
Total debt / (EBITDA - capex)	4.7x	4.2x	3.5x	3.1x	2.7x	2.4x
Fixed charge cover (EBITDA)	4.9x	5.9x	7.2x	8.6x	10.2x	12.1x
Net debt / EBITDA	3.0x	1.4x	0.3x	(0.5x)	(1.3x)	(2.1x)

Exhibit 9: Debt Schedule

Debt schedule	2021E	2022P	2023P	2024P	2025P	2026P
Senior loan A	--	--	--	--	--	--
Senior loan B	399.9	399.9	399.9	399.9	399.9	399.9
Senior loan C	--	--	--	--	--	--
Revolver	--	--	--	--	--	--
Total senior debt outstanding	399.9	399.9	399.9	399.9	399.9	399.9
<i>% of senior debt at closing</i>	<i>100.0%</i>	<i>100.0%</i>	<i>100.0%</i>	<i>100.0%</i>	<i>100.0%</i>	<i>100.0%</i>
Mezzanine	--	--	--	--	--	--
Vendor note	--	--	--	--	--	--
2nd Lien	--	--	--	--	--	--
Pensions	--	--	--	--	--	--
Net Cash	(73.6)	(73.6)	(73.6)	(73.6)	(73.6)	(73.6)
Total debt	326.3	326.3	326.3	326.3	326.3	326.3
Cash	(56.6)	(183.9)	(284.5)	(402.3)	(536.7)	(691.0)
Total net debt / (cash)	269.7	142.5	41.8	(75.9)	(210.4)	(364.7)

Note: The "Net Cash" row reflects the opening balance sheet net cash position of €74m at the acquisition date, derived as gross cash of €164m less IFRS 16 lease liabilities of €90m (see Exhibit 14). This figure is held constant throughout the projection period because it represents the net cash component already deducted from the equity purchase price in the entry EV bridge, not a flow item. Accumulated operating free cash flows generated during the holding period are tracked separately in the "Cash" row above and increase from €57m in YF2021E to €691m by FY2026P.

Exhibit 10: Entry Valuation at a Target IRR of 25%

Entry Valuation for Target IRR (Financial Investor)

Net Equity Value @ Exit		6,524.0
Net Equity Value @ Exit (after dilution)	95.0%	6,197.8
Shareholder Loan		-
Interest / Redemption Cash Pymts Received & Reinvested @ Target IRR		-
Dividends Received & Reinvested @ Target IRR		-
Additional Equity Invested @Target IRR		-
Future Value from Equity Investment		6,197.8
Future Value from Recap		-
Target IRR		25.0%
Discount Factor from exit		29.3%
Discount Factor from recap		36.6%
Invested Capital @ Entry		1,816.5
Other Equity Investors @ Entry		37.5
Financial Net Debt @ Entry		399.9
Pensions @ Entry		-
Net Cash @ Entry		(73.6)
EV after Costs @ Entry		2,180.3
EV before Costs @ Entry		2,123.3

Exhibit 11: IRR Development across the Holding Period

in EUR m / FYE Dez-31	@ Entry	Estimate YF 2021E	2022P	2023P	Projected Annual 2024P	2025P	2026P
IRR to Financial Investor							
IRR @ 34.5x EBITDA Exit Multiple		(24.8%)	3.7%	10.5%	12.6%	13.2%	13.5%
IRR @ 35.0x EBITDA Exit Multiple		(22.4%)	4.8%	11.2%	13.0%	13.5%	13.7%
IRR @ 35.5x EBITDA Exit Multiple		(19.9%)	5.8%	11.8%	13.5%	13.8%	14.0%
Money Multiple to Financial Investor							
Money Multiple @ 34.5x EBITDA Exit Multiple		0.9x	1.1x	1.3x	1.5x	1.7x	2.0x
Money Multiple @ 35.0x EBITDA Exit Multiple		0.9x	1.1x	1.3x	1.5x	1.8x	2.0x
Money Multiple @ 35.5x EBITDA Exit Multiple		0.9x	1.1x	1.3x	1.6x	1.8x	2.1x

Exhibit 12: Proceeds at Exit across Different Holding Periods (35.0x EBITDA Multiple)

Total Cash Flows for Exit in Year	YF 2021E	2022P	2023P	2024P	2025P	2026P
(3,051.4)	2,685.7					
(3,051.4)	-	3,272.5				
(3,051.4)	-	-	3,978.6			
(3,051.4)	-	-	-	4,690.1		
(3,051.4)	-	-	-	-	5,400.2	
(3,051.4)	-	-	-	-	-	6,197.8
Total Proceeds over Investment Period	2,685.7	3,272.5	3,978.6	4,690.1	5,400.2	6,197.8
IRR	(22.4%)	4.8%	11.2%	13.0%	13.5%	13.7%
Money Multiple	0.9x	1.1x	1.3x	1.5x	1.8x	2.0x

Exhibit 13: Zooplus SE Forecasts and DCF Assumptions

in EUR m	<u>Historic Annual</u>			<u>Estimate</u>	<u>Projected Annual</u>				
Case selected: Management case	2018A	2019A	2020A	2021E	2022P	2023P	2024P	2025P	Term.
Sales	1,341.7	1,523.7	1,801.5	2,004.4	2,305.8	2,546.9	2,753.0	2,926.1	3,164.2
EBITDA	11.3	15.9	67.0	88.5	102.5	120.9	138.9	156.4	178.6
EBIT	1.2	(10.4)	35.7	57.3	63.9	78.3	92.9	107.5	125.7
-/- Tax on EBIT @ 27.5%	(0.3)	2.9	(9.8)	(15.7)	(17.6)	(21.5)	(25.5)	(29.6)	(34.6)
NOPLAT	0.9	(7.5)	25.9	41.5	46.4	56.7	67.3	77.9	91.1
+/+ Depreciation	10.1	26.3	31.3	31.2	38.6	42.6	46.0	48.9	52.9
-/+ Change in working capital	n/a	15.6	(17.7)	42.1	(49.3)	(4.7)	(4.0)	(3.4)	(3.8)
-/- CAPEX	(7.3)	(3.2)	(4.7)	(2.9)	(6.7)	(7.4)	(8.0)	(8.5)	(9.2)
Unlevered free cash flow	3.7	31.1	34.8	111.9	28.9	87.2	101.3	114.9	131.0
<u>Key ratios:</u>									
Sales growth	n/a	13.6%	18.2%	11.3%	15.0%	10.5%	8.1%	6.3%	8.1%
EBITDA growth	n/a	40.1%	322.4%	32.1%	15.8%	17.9%	14.9%	12.6%	14.2%
EBIT growth	n/a	(944.7%)	(443.8%)	60.3%	11.7%	22.4%	18.6%	15.7%	17.0%
UFCF growth	n/a	748.7%	12.0%	221.5%	(74.2%)	201.6%	16.2%	13.5%	14.0%
EBITDA margin	0.8%	1.0%	3.7%	4.4%	4.4%	4.7%	5.0%	5.3%	5.6%
EBIT margin	0.1%	(0.7%)	2.0%	2.9%	2.8%	3.1%	3.4%	3.7%	4.0%
NWC % of sales	2.7%	1.3%	2.1%	(0.2%)	2.0%	2.0%	2.0%	2.0%	2.0%
CAPEX % of depreciation	72.5%	12.3%	15.0%	9.4%	17.4%	17.4%	17.4%	17.4%	17.4%
CAPEX % of EBITDA	64.7%	20.4%	7.0%	3.3%	6.6%	6.1%	5.8%	5.4%	5.2%
Unlevered free cash flow % of EBITDA	32.3%	195.9%	52.0%	126.5%	28.2%	72.2%	72.9%	73.5%	73.4%
Timing (portion of year)				50.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Discount factor				98.6%	94.6%	89.4%	84.6%	80.0%	80.0%

Exhibit 14: Net Debt Calculation

Cash & cash equivalent	164.0
Associates	--
Short term debt debt	25.2
Long term debt debt	65.2
Unfunded pension liabilities	--
Minority interest	--
Total net debt / (net cash)	(73.6)

Exhibit 15: WACC Calculation Parameters

Target debt / (debt+equity)	4.1%
Avg. peer asset beta	0.89
Target debt / equity	4.3%
Assumed tax rate	27.5%
Equity beta (levered)	0.92
Risk free rate	1.5%
Equity risk premium	4.7%
Cost of equity	5.8%
Debt premium	306 bps
Pretax cost of debt	4.55%
After tax cost of debt	3.3%
Hardcoded WACC	5.7%
Calculated fixed post-tax WACC	5.7%

Exhibit 16: Peer Group Asset Beta Calculation

Company Name	Net Debt (2021-06-30, FY0, EUR)	Enterprise Value - Mean (2021-06-30, FY1, EUR)	Net Debt / Enterprise Value (2021-06-30, FY0, %)	Weekly Equity Beta - 2 Year (2021-06-30)	Weekly Asset Beta - 2 Year (2021-06-30)
Watches of Switzerland Group PLC	504,215,646.83	2,070,783,222.28	24.3%	1.53	1.15
Fielmann Group AG	222,644,000.00	5,518,816,800.00	4.0%	0.80	0.76
Pets at Home Group PLC	475,083,902.06	3,025,199,977.34	15.7%	1.29	1.09
WH Smith PLC	953,165,508.02	3,221,690,459.65	29.6%	1.37	0.96
Jumbo SA	-358,843,930.00	1,941,000,000.00	(18.5%)	0.97	1.15
Fenix Outdoor International AG	4,210,000.00	1,516,000,000.00	0.3%	0.49	0.48
Median					1.03
Mean					0.89

Exhibit 17: EV Calculations across Different Methodologies

EV calculations, on different methodologies	Terminal	Discount	Present value of		Total	Implied	in % of EV	
	Value	factor	TV	UFCF	EV	Share price	TV	UFCF
Zero growth model	2,249.0	0.715	1,608.9	435.8	2,044.8	296.3	78.7%	21.3%
Perpetual growth model	3,090.2	0.715	2,210.7	435.8	2,646.5	380.5	83.5%	16.5%
Value driver model	1,646.3	0.715	1,177.7	435.8	1,613.5	236.0	73.0%	27.0%
EBITDA exit multiple model	6,251.8	0.715	4,472.5	435.8	4,908.3	696.8	91.1%	8.9%

Exhibit 18: DCF Valuation Analysis (Perpetual Growth Method)

DCF Analysis	Min	Central	High
Unlevered free cash flow	131.0	131.0	131.0
Perpetual growth rate	0.5%	1.5%	2.5%
Terminal value	2,079.2	3,090.2	5,906.0
PV of terminal value	1,405.8	2,210.7	4,473.0
PV of Unlevered free cash flow	423.7	435.8	448.5
Enterprise value (EV)	1,829.5	2,646.5	4,921.5
Total debt	90.4	90.4	90.4
Cash & cash equivalents	164.0	164.0	164.0
Equity Value (EqV)	1,903.1	2,720.1	4,995.1
# of shares outstanding	7.1	7.1	7.1
Implied share price in €	266.2	380.5	698.7

Implied enterprise value split	Min	Central	High
Terminal value % of EV	76.8%	83.5%	90.9%
Forecast period % of EV	23.2%	16.5%	9.1%

Implied valuation multiples 2021	Min	Central	High
EV / EBITDA	20.7x	29.9x	55.6x
EV / (EBITDA - CapEx)	21.4x	30.9x	57.5x
EV / EBIT	32.0x	46.2x	86.0x
EV / Unlevered free cash flow	16.3x	23.7x	44.0x

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