

# Stada: A Back-of-the-Envelope Return Analysis

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## 1 Introduction

The acquisition of Stada by the two financial sponsors Bain Capital and Cinven belongs to the largest private equity transactions in Germany. Based on publicly available information<sup>1</sup>, the enterprise value amounts to over 5.4 billion Euro with a 2017 EBIT multiple of about 17.5:

<b>Purchase Price</b>	
Equity value	€ 4,324
Existing debt	€ 1,432
Cash	€ 321
EV	€ 5,435
EBIT 2017e	€ 311
Implied Multiple	17.48

Sources and uses of funds are summarized below:

<b>Sources of funds</b>	
Equity	€ 2,850
Debt	
Term loan B	€ 1,700
Senior notes	€ 340
Secured notes	€ 735
Total debt	€ 2,775
Cash on hand	€ 321
Total sources	€ 5,946
<b>Uses of funds</b>	
Equity	€ 4,324
Existing debt	€ 1,432
Transaction costs	€ 183
Other	€ 7
Total uses	€ 5,946

<sup>1</sup> <http://www.niddahealthcare-offer.com/>.

Instead of running a full-fledged LBO analysis, let's have a look how the investors can achieve a return on their invested equity of 25%.

## 2 Base Case

If we assume that

- the exit multiple in five years from now equals the entry multiple of 17.5 times EBIT,
  - the consensus estimates<sup>2</sup> for the EBIT will be achieved up to and including 2020, and
  - the EBIT will continue to grow at a rate of 5% in 2021 and 2022,
- the enterprise value of the company will increase to almost 8 billion Euro:

EBIT 2020e	€	413
EBIT 2022e	€	455
Exit multiple		17.48
Implied EV 2022	€	7,957

What we need to estimate is how much of the 8 billion Euro enterprise value will be equity. We can then calculate the IRR on the investment of 2.85 billion equity from the funds.

The debt is structured in a way that there are no principal repayments in the first seven years, i.e. the 2.775 billion Euro debt (term loan B, senior notes, secured notes) remains unchanged.

The only unknown variable is the cash generated (positive or negative) by Stada during the holding period. The following table summarized the base case assumptions.<sup>3</sup>

Cash generated until exit	2018	2019	2020	2021	2022	
EBIT	€ 346	€ 382	€ 413	€ 434	€ 455	
Taxes	€ 104	€ 115	€ 124	€ 130	€ 137	30% Tax rate
EBIAT	€ 242	€ 268	€ 289	€ 304	€ 319	
Reinvestment	€ 121	€ 134	€ 145	€ 152	€ 159	50% Reinvestment rate (as a percentage of EBIAT)
Operating cash flow	€ 121	€ 134	€ 145	€ 152	€ 159	
Interest term loan B	€ 68	€ 68	€ 68	€ 68	€ 68	4% Interest rate; repayment in 2024
Interest senior notes	€ 17	€ 17	€ 17	€ 17	€ 17	5% Interest rate; repayment in 2025
Interest secured notes	€ 26	€ 26	€ 26	€ 26	€ 26	3.50% Interest rate; repayment in 2024
Interest revolver	€ 10	€ 10	€ 10	€ 10	€ 10	5% Interest rate; revolving credit facility of €400 million
Total interest expense	€ 121	€ 121	€ 121	€ 121	€ 121	
Tax shield	€ 32	€ 32	€ 32	€ 32	€ 32	26.50% Tax rate; only 75% of interest expense deductible at trade tax on earnings
Net financing cash flow	€ 89	€ 89	€ 89	€ 89	€ 89	
Cash generated	€ 32	€ 45	€ 56	€ 63	€ 71	€ 267 Total cash generated during holding period

The EBIT forecast is based on the consensus estimates up to and including 2020 and assumes an annual growth rate of 5% thereafter. The 30% tax rate is the German marginal tax rate for corporations.

The reinvestment assumptions will have the biggest impact on the cash generated during the holding period. Reinvestment is defined here as capital expenditures plus increase in working

<sup>2</sup> Retrieved from Bloomberg terminal.

<sup>3</sup> I have no insight at all on the deal. I might be terribly wrong. In case you disagree with my assumption, I'm happy to share my Excel file so that you can run the model with your own predictions. Just drop me an e-mail (ralf.hafner@htw-berlin.de).

capital less depreciation. Growth requires reinvestment. And Stada management projects high EBITDA growth rates.<sup>4</sup> Industry averages for the reinvestment rate<sup>5</sup> are at about 50%<sup>6</sup>, and I will use this rate for the base case. The operating cash flow will then amount to 50% of the after-tax operating income.

Interest expenses will reduce this operating cash flow. The interest rates for the notes are publicly available, but I did not find a rate for the term loan B, so that I made an estimate of 4%.<sup>7</sup> Stada secured a revolving credit line of 400 million Euro. My assumption is a 50% average drawdown at an interest rate of 5%. The tax rate used for the tax shield considers that only 75% of the interest expense is deductible for the German trade tax on earnings (Gewerbesteuer).

Under these assumptions, the company will generate 267 million Euro of cash during the holding period.<sup>8</sup> This amount will reduce net debt at the end of the holding period, leading to an equity value of 5.449 billion Euro:

Return calculations							
EV 2022e	€	7,957					
Less: Debt 2022e	€	2,775	Assumes no principal repayment until exit				
Plus: Cash generated	€	267	Total cash generated during holding period				
Implied equity value 2022	€	5,449					
Equity invested 2017	€	2,850					
Holding period		5 Years					
IRR		13.84%	at	50%	Reinvestment rate (as a percentage of EBIAT)		

The resulting IRR on the invested equity of less than 14% is a bit off the default rate of 25% though.

### 3 25% Return Based on Consensus Estimates

Using the goal seek function of Excel we can set the IRR to 25% and see what reinvestment rate would be necessary to get to this return. The result would be a value of minus 178.5%, or positive cash flows of about 500 million Euro annually – a highly unlikely scenario.

<sup>4</sup> [https://www.stada.de/fileadmin/user\\_upload/A\\_stada.de/5\\_Investor\\_Relations.de/05\\_Finanzpublikationen/001\\_Finanzberichte/2016/Analysts\\_Conference\\_Presentation.pdf](https://www.stada.de/fileadmin/user_upload/A_stada.de/5_Investor_Relations.de/05_Finanzpublikationen/001_Finanzberichte/2016/Analysts_Conference_Presentation.pdf), page 23.

<sup>5</sup> Reinvestment as a percentage of the after-tax operating income.

<sup>6</sup> See for example the data available on Damodaran's website under Data, Cash Flow Estimation, Capital Expenditures, <http://www.damodaran.com/>.

<sup>7</sup> Lincoln International publishes financing terms, [http://liag.com.de/dl/DAG\\_Deal\\_Reader\\_Q2-2017.pdf](http://liag.com.de/dl/DAG_Deal_Reader_Q2-2017.pdf), page 5.

<sup>8</sup> I refrained from calculating compound interest here.

Cash generated until exit	2018	2019	2020	2021	2022		
EBIT	€ 346	€ 382	€ 413	€ 434	€ 455		
Taxes	€ 104	€ 115	€ 124	€ 130	€ 137	30%	Tax rate
EBIAT	€ 242	€ 268	€ 289	€ 304	€ 319		
Reinvestment	€ (432)	€ (478)	€ (516)	€ (542)	€ (569)	-179%	Reinvestment rate (as a percentage of EBIAT)
Operating cash flow	€ 674	€ 745	€ 805	€ 845	€ 888		
Interest term loan B	€ 68	€ 68	€ 68	€ 68	€ 68	4%	Interest rate; repayment in 2024
Interest senior notes	€ 17	€ 17	€ 17	€ 17	€ 17	5%	Interest rate; repayment in 2025
Interest secured notes	€ 26	€ 26	€ 26	€ 26	€ 26	3.50%	Interest rate; repayment in 2024
Interest revolver	€ 10	€ 10	€ 10	€ 10	€ 10	5%	Interest rate; revolving credit facility of €400 million
Total interest expense	€ 121	€ 121	€ 121	€ 121	€ 121		
Tax shield	€ 32	€ 32	€ 32	€ 32	€ 32	26.50%	Tax rate; only 75% of interest expense deductible at trade tax on earnings
Net financing cash flow	€ 89	€ 89	€ 89	€ 89	€ 89		
Cash generated	€ 586	€ 657	€ 716	€ 757	€ 799	€ 3,514	Total cash generated during holding period
<b>Return calculations</b>							
EV 2022e	€ 7,957						
Less: Debt 2022e	€ 2,775	Assumes no principal repayment until exit					
Plus: Cash generated	€ 3,514	Total cash generated during holding period					
Implied equity value 2022	€ 8,696						
Equity invested 2017	€ 2,850						
Holding period	5 Years						
IRR	25.00%	at	-179% Reinvestment rate (as a percentage of EBIAT)				

## 4 Sensitivity Analysis on 25% IRR

In the following scenario, I set the IRR to 25%, the reinvestment rate to zero and solved for the required annual growth rate of the EBIT 2017e of 311 million Euro. The EBIT would have to grow by 14% each year until 2022.

EBIT 2017e	€ 311
Implied multiple	17.48
Annual EBIT growth rate	14%
EBIT 2022e	€ 589
Exit multiple	17.48
Implied EVe 2022	€ 10,290

Cash generated until exit	2018	2019	2020	2021	2022		
EBIT	€ 353	€ 401	€ 456	€ 518	€ 589		
Taxes	€ 106	€ 120	€ 137	€ 155	€ 177	30%	Tax rate
EBIAT	€ 247	€ 281	€ 319	€ 363	€ 412		
Reinvestment	€ -	€ -	€ -	€ -	€ -	0%	Reinvestment rate (as a percentage of EBIAT)
Operating cash flow	€ 247	€ 281	€ 319	€ 363	€ 412		
Interest term loan B	€ 68	€ 68	€ 68	€ 68	€ 68	4%	Interest rate; repayment in 2024
Interest senior notes	€ 17	€ 17	€ 17	€ 17	€ 17	5%	Interest rate; repayment in 2025
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Total interest expense	€ 121	€ 121	€ 121	€ 121	€ 121		
Tax shield	€ 32	€ 32	€ 32	€ 32	€ 32	26.50%	Tax rate; only 75% of interest expense deductible at trade tax on earnings
Net financing cash flow	€ 89	€ 89	€ 89	€ 89	€ 89		
Cash generated	€ 159	€ 192	€ 231	€ 274	€ 323	€ 1,179	Total cash generated during holding period
<b>Return calculations</b>							
EV 2022e	€ 10,290						
Less: Debt 2022e	€ 2,775	Assumes no principal repayment until exit					
Plus: Cash generated	€ 1,179	Total cash generated during holding period					
Implied equity value 2022	€ 8,693						
Equity invested 2017	€ 2,850						
Holding period	5 Years						
IRR	24.99%	at	0% Reinvestment rate (as a percentage of EBIAT)				

