

DEEP RESEARCH FUND

# INSIGHT

Return  
Breakdown



DEEP RESEARCH FUND - INSIGHT

# How do we analyze returns?

Most portfolio returns are broken down into three components capital gain, dividend payment and movement in the foreign exchange rate. We developed a method to drill down and attribute returns to their true origination, such as the expansion of a business, margin improvement, smart buying and selling, or simply the cash earned by a company. In this Insight report, we provide you with an understanding of our detailed return analysis.

## Capital gain

A capital gain refers to an increase in the share price over a given time period. Most people attribute any change in share price to the simple result of supply and demand in the market. We chose a different perspective and decided to get more granular on the capital gain component. Instead of supply and demand, we base our analysis on the companies' underlying financial performance. Viewed from that angle, there is a lot more to capital gain than meets the eye. It comprises a firm's expansion into new markets, its operational efficiency, the market's valuation of the firm, its capital structure and ultimately the cash the firm earned. We include these factors in our analysis to truly understand what drove our fund's returns.

### Our methodology to understand capital gain

The analysis is based on an equation that – albeit quite simple – may not be intuitive when looked at the first time. Thus, we will walk you through it step by step. We will use the example of our past investment in Apple for illustration. The equation has the different factors that drive the stock price on one side and the stock price itself on the other side. So let's go through the different factors that ultimately determine the stock price.

#### Factor 1:

Our first stop is revenue, the money a company earns with every sale it makes. We invested in Apple in February of 2016. At the time, its revenue was USD 235.0 billion.

#### Factor 2:

When we take all expenses into account as well, we arrive at the operating profit, which quite simply can be written like this:

$$\text{revenue} \times \text{operating margin} = \text{operating profit}$$

In the case of Apple, the operating margin was 30.3%. Plugging in the numbers into the equation, we arrive at the operating profit:

$$\text{USD } 235.0 \text{ bn} \times 30.3\% = \text{USD } 71.2 \text{ bn}$$

#### Factor 3:

The total worth of a company is called the "enterprise value." This is the number people negotiate over when they buy and sell entire companies. The relationship between the operating profit and the enterprise value is the valuation, which is measured in what we are going to call the multiplier. The multiplier represents the relationship between the annual profit of a firm and the price that a purchaser is willing to pay for that profit. The more they pay in relation to the profit, the higher the multiplier.

$$\text{operating profit} \times \text{multiplier} = \text{enterprise value}$$

Returning to our example of Apple, the enterprise value at the time was USD 374.0 billion. The corresponding multiple was therefore 5.3.

$$\text{USD } 71.2 \text{ bn} \times 5.3 = \text{USD } 374.0 \text{ bn}$$

#### Factor 4:

Just like you would deduct your mortgage from the value of your house to calculate equity, we deduct net debt from the enterprise value to arrive at what shareholders get. This is also called the company's market capitalization.

$$\text{enterprise value} - \text{net debt} = \text{market capitalization}$$

When we bought Apple's stock in 2016, the company had more cash than debt. In this case, the net debt was actually negative. Expressed in our equation, this would look like this:

$$\text{USD } 374.0 \text{ bn} - (-\text{USD } 152.8 \text{ bn}) = \text{USD } 526.7 \text{ bn}$$

**Factor 5:**

Depending on the capital structure of a firm, a rise in enterprise value can lead to a leverage effect. Should the enterprise value increase while its net debt stays constant, then the market capitalization may increase by the same amount. However, the relative change can be bigger or smaller. We provide an example of this in the footnote.\*

**Factor 6:**

Finally, as the word "share" implies, buying a stock means we only own a share in the business. Hence, the market capitalization divided by the total number of shares equals the share price. In aggregation, this can look something like this:

$$\frac{[(\text{revenue} \times \text{profit margin}) \times \text{multiplier} - \text{net debt}]}{\text{number of shares}} = \text{share price}$$

We can now plug in the numbers for Apple to see our purchase price back in 2016. At the time, Apple had 5'545 billion shares.

$$\frac{[(\text{USD } 235.0 \text{ bn} \times 30.3\%) \times 5.3 - (-\text{USD } 152.8 \text{ bn})]}{5'545} = \text{USD } 95.00$$

What looks like a simple equation gets interesting very quickly though! With any move in the share price, we can now see what correspondingly changed on the left side of the equation. The changes within a day are usually simply driven by perception - of supply and demand - which is represented by the multiplier, which shows how much people are willing to pay for a given profit. Over a period of five years, though, the revenue of the company has likely changed. It may have bought back shares or changed its debt structure, or its operating margin may have improved or deteriorated. Now the fun begins. We can now precisely attribute what factors drove the change in share price.

An analysis from this perspective expands the three initially introduced factors - capital gain (CG), dividend (DY) and foreign exchange (FX) - to eight factors as shown in the following table.

\* A change in enterprise value can result in a leverage effect. This is best explained using an example. Let's assume a company has an enterprise value of 100 Swiss francs, consisting of 50 francs of debt and 50 francs of equity (market capitalization). Should the valuation increase by 20% while the operating profit stays unchanged, then we arrive at an enterprise value of 120 francs [100 × 120%]. Net debt is still 50 francs. Therefore, that market capitalization rose to 70 francs [120 - 50 = 70], which is a change of +40% over the previous 50 francs. In this example, 20% of the return can be allocated to valuation and 20% to the leverage effect.

**Figure 1: The eight factors influencing return**

#	Factor	Positive	Negative
1	CG Revenue	Growth	Decline
2	CG Operating margin	Improvement	Deterioration
3	CG Valuation (multiple)	Increase	Decrease
4	CG Net debt	Decrease	Increase
5	CG Leverage	Enhances positive returns	Worsens negative returns
6	CG Number of shares	Decrease	Increase
7	DY Dividend	Dividend payment	Decreases firm's cash
8	FX Foreign exchange	Gain	Loss



## Usefulness

You may wonder why one should go through all the trouble of calculating these individual factors. Well, breaking it down into these factors has many benefits. For instance, it tells you a lot about how a fund manager achieved the return you see. The significance each factor had on the return may reveal the investment strategy. A value investor expects to earn a return through the factor valuation, as they buy undervalued stocks and sell them again once the market appraises the stocks at a higher valuation. A growth investor invests in firms with high revenue growth, while an income investor searches for stocks with high dividend yields. Finally, a turnaround investor may look for an improved operating margin in a business under duress. Thus, this retrospective analysis reveals whether the investment fund delivered on the initially promised strategy.

## The example of Apple

We use this analysis for all our investments. After we sold our shares of Apple in July 2020 at a price of \$391.05, we analyzed what had happened during our investment. All we had to do was plug in the numbers to see what drove the increase in share price from \$95 to \$391.

Apple in February 2016 at the time of purchase:

$$[(\text{USD } 235.0 \text{ bn} \times 30.3\%) \times 5.3 - (-\text{USD } 152.8 \text{ bn})] / 5'545 = \text{USD } 95.00$$

Apple in July 2020 at the time of sale:

$$[(\text{USD } 268.0 \text{ bn} \times 24.5\%) \times 24.4 - (-\text{USD } 93.4 \text{ bn})] / 4'324 = \text{USD } 391.05$$

The changes at Apple over our four-year investment are summarized in Figure 2.

The operating profit of Apple declined over the four years due to the deteriorating operating margin, despite the growth in revenue. We are not going to dwell more on the reasons behind that here, however, in our analysis, understanding the reasons behind all the changes is crucial to making decisions. The biggest driver of Apple's return was an increase in valuation. When we bought our shares, the enterprise value to operating profit ratio was 5.3. When we sold our shares, the market was willing to pay us more than 24 times the operating profit for our shares.

Apple also earned a lot of money during these four years. The net debt increased, though (the cash on the balance sheet decreased), because the company spent even more money than it earned. Most of the money was used to buy back shares and to pay dividends of \$11.60 per share over that time span. Finally, the US dollar depreciated versus the Swiss Franc, which led to a small foreign exchange loss.

**Figure 2: The eight factors influencing the return for the example of Apple**

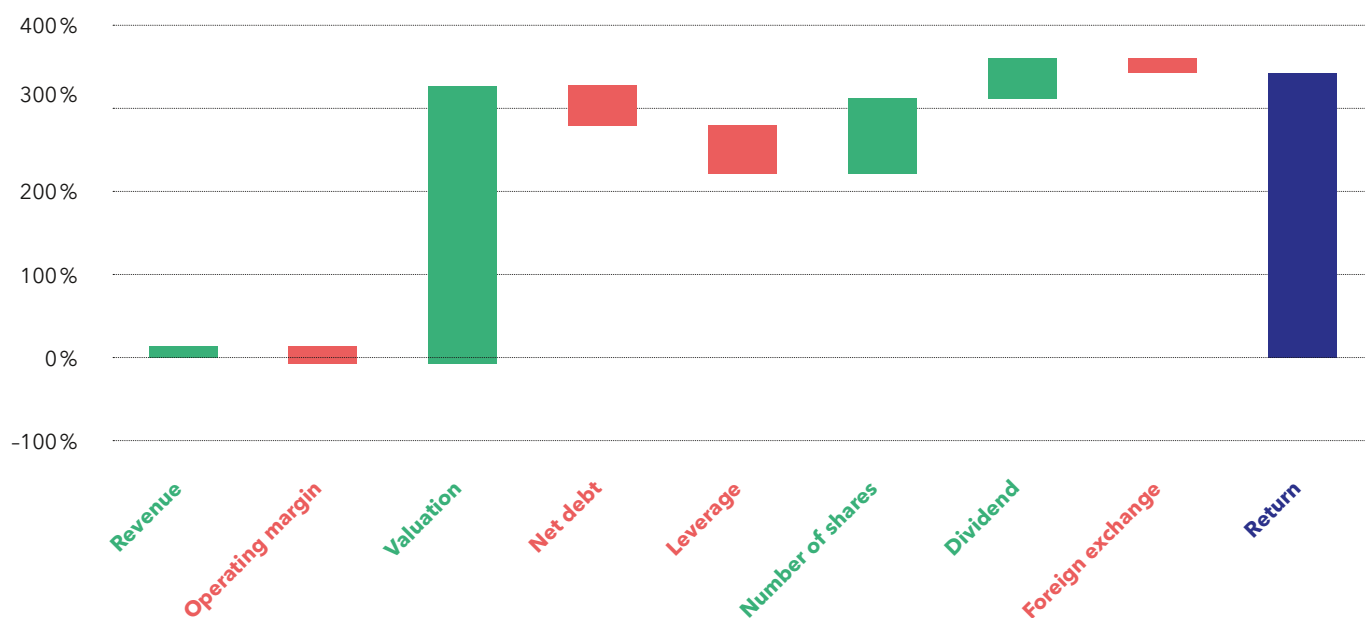
#	Factor	Buy 2016	Sell 2020	Return impact
1	Revenue	USD 235.0 bn	USD 268.0 bn	Revenue growth
2	Operating margin	30.3%	24.5%	Deterioration of margin
3	Valuation	5.3x	24.4x	Increase in valuation
4	Net debt	- USD 152.8 bn	- USD 93.4 bn	Increase in net debt*
5	Leverage	-	-	Negative leverage
6	Number of shares	5'545	4'324	Reduction in number of shares
7	Dividend	-	-	Dividend payments of \$11.60
8	Foreign exchange	0.98	0.94	Foreign exchange rate loss

\* Note: Apple has more cash than debt, hence the negative numbers.

Putting the equation into a graph, the contribution of each factor looks as shown in Figure 3.

This visualization makes it obvious that the change in valuation was the primary reason for the extraordinarily good return of over 300%. In 2016, the market was very pessimistic about Apple's future. Four years later, the sentiment had changed drastically. After this strong price increase, we sold Apple and invested in a stock which we considered to have more potential going forward.

**Figure 3: Return breakdown of our investment in Apple**



## The Deep Research Fund

The same analysis we did for Apple can be aggregated for all stocks in the portfolio. We started managing the Deep Research Fund's A Class in January 2016. A breakdown of the return (Figure 4) since then shows how we achieved the +10.3% net return per year. The first line shows how much our companies grew their revenue each year. While it is not central to our investment process to find fast-growing stocks, we seek out businesses with great products and services, which tend to attract new clients.

The profit margin in the second line has been our nemesis. The year 2020 can be attributed to the difficult times during the COVID-19 pandemic; however, even before it we had many companies in the portfolio that sacrificed short-term profit for higher R&D

spending, investments in the business and other measures that should aid the business in the long run. The third line is what we are all about. This is the value investing aspect reflecting the valuation gain - the factor we also called the multiplier earlier. We try to buy great businesses at a cheap price. Our deep analysis and research prior to the investment gives us insight into whether a given stock is under-appreciated by the market or not. If so, we wait and hope to sell one day when the stock is getting expensive. Make no mistake: Our average holding period has been around five years and we are very patient with the valuation aspect.

The next line shows the change in net debt of our companies. The reason why the net debt factor is not much of a contributor is that our companies don't accumulate their earnings, instead utilizing them to re-

Figure 4: ANREPA - Deep Research Fund: Class A - net return

#	Factor contribution	2016	2017	2018	2019	2020	2021	CAGR
1	Revenue growth	6,8%	12,0%	9,4%	7,0%	(3,6%)	8,2%	6,2%
2	Operating margin	(4,3%)	(1,5%)	(4,2%)	(2,0%)	(17,6%)	30,0%	(6,1%)
3	Valuation	5,4%	10,8%	(13,6%)	29,1%	43,0%	(13,2%)	13,2%
4	Net debt	(0,4%)	(2,0%)	(1,1%)	(0,7%)	3,9%	4,2%	(0,1%)
5	Leverage	0,0%	(0,8%)	(1,9%)	0,1%	0,2%	(0,9%)	(0,5%)
6	Number of shares	0,5%	0,6%	1,1%	1,7%	0,2%	1,2%	0,8%
7	Dividend	1,4%	2,1%	1,8%	2,1%	1,7%	2,1%	1,8%
8	Foreign exchange	0,1%	0,6%	(1,3%)	(2,3%)	(5,5%)	0,5%	(1,7%)
	<b>Gross equity return</b>	<b>9,4%</b>	<b>22,3%</b>	<b>(10,5%)</b>	<b>35,8%</b>	<b>13,8%</b>	30,4%	<b>13,1%</b>
	Cash impact	(2,2%)	(2,9%)	0,0%	(1,4%)	0,3%	(0,6%)	(1,3%)
	<b>Gross total return</b>	<b>7,2%</b>	<b>19,3%</b>	<b>(10,4%)</b>	<b>34,4%</b>	<b>14,1%</b>	<b>29,8%</b>	<b>11,9%</b>
	TER	(2,5%)	(1,6%)	(1,5%)	(1,4%)	(1,3%)	(1,3%)	(1,7%)
	Other	0,4%	(0,1%)	0,4%	(0,3%)	0,0%	(0,2%)	0,2%
	<b>Net total return</b>	<b>5,1%</b>	<b>17,6%</b>	<b>(11,6%)</b>	<b>32,7%</b>	<b>12,7%</b>	<b>28,3%</b>	<b>10,3%</b>



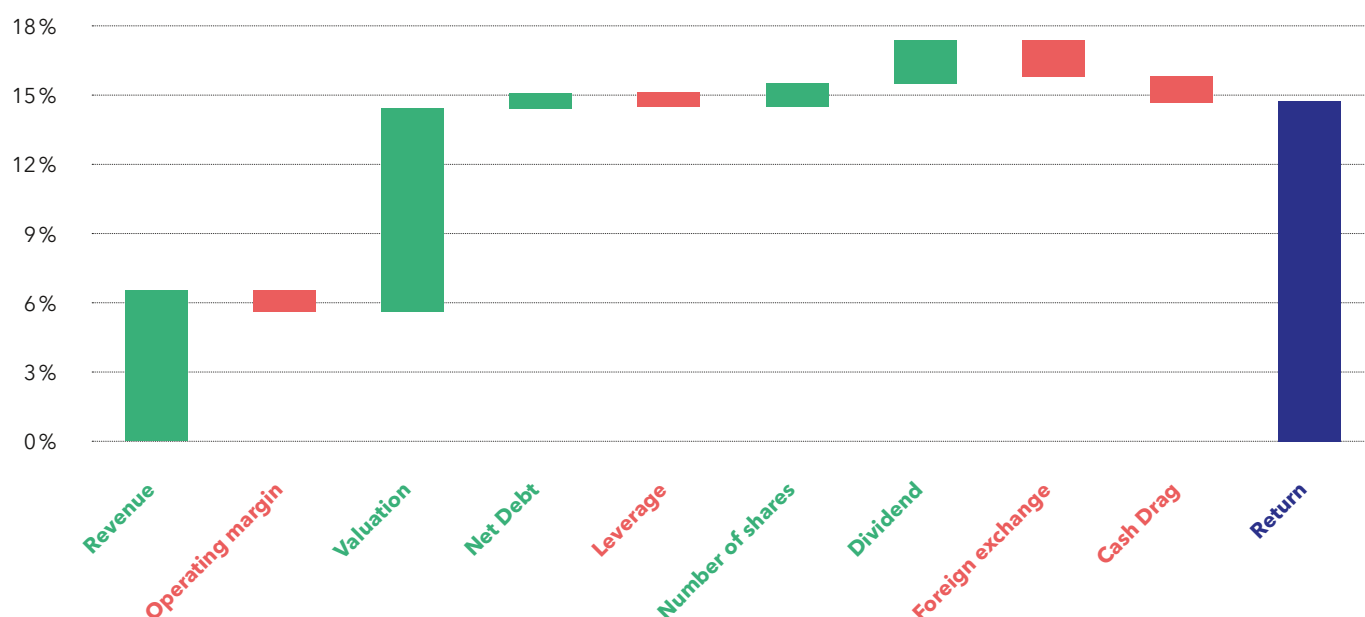
invest in the business, pay dividends, or buy back shares. Thus, the amount of net debt at the end of the year ended up being similar to that at the beginning of the year. The year 2020 marks an exception, when most firms preferred to retain a little more cash until the COVID-19 pandemic was under control. The next line is about the capital structure of our companies. Using leverage has never been of interest to us. The slightly negative contribution is a result of our preference for delevered capital structures: companies with very little debt.

As said before, many of our companies use their earned cash to buy back their shares and to pay dividends. Buying back shares reduces the number of shares a company has in circulation. In the process, our share of the business increases. The share buy-

back and dividend payment contributed after tax about +2.6% to the fund's return. This is how the +13.1% annual gross equity return came about. The cash impact stems from the portion of the fund's capital that was held in cash. Finally, the difference between the gross and net return is quite simply the expenses of running the fund.

Plugging the table above into the same visualization as we had for Apple, we arrive at the chart below. We are showing the CAGR - the compounded annual growth rate - or simply put, the annual gross return of the fund since launch. The annual gross return of the fund is +11.9%. After deducting the expenses for running the fund, we arrive at the annual net return of +10.3%.

**Figure 5: Breakdown of the gross return of the Deep Research Fund 2016-2021 per annum**



## **Conclusion**

As long as a fund stays true to its strategy, the relative contribution of the eight factors should stay more or less similar for each year. Any deviation should be explained. In our case, we had a big deviation from the norm in the year 2020, which was a reflection of the economic shutdown during the COVID-19 pandemic.

In the return analysis section of our website, you can find more about what happened in 2020 or any other year and what factors contributed to the success of the fund.



## **ANREPA Asset Management AG**

Neuhofstrasse 12  
6340 Baar (Zug)

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