Asset Management Area

Portfolio Management Report

Alessandro Patrizi (Head of Asset Management)
+39 3661037690
Icaro Baraglia (Head of Portfolio Management)
+39 3358179772

Table of content:

I. Executive Summary

Minerva IMS Portfolio Management Team manages two equity portfolios (multi-factor and passive) and is currently working for launching a third one in February 2020 built through fundamental analysis and macro research.

The following report aims to analyze construction principles, performances and investment ideas implemented for our portfolios by our team of analysts.

Multi-factor Portfolio: This portfolio is based on a zero-net investment (i.e., the sum of the weights of the long and the short component of the portfolios is equal to zero) factor investing strategy. We focused on the US and the European Stock Markets, picking a total of 78 stocks for a non-sector neutral portfolio, adopting an equal weighting scheme.

NEW PORTFOLIO NO SECTOR NEUTRAL

ACTIVE COMPONENT	S&P 500					STOXX 600				
	#	Name	Industry	Score	Weight	#	Name	Industry	Score	Weight
	1	AMCOR	Industrials	0.93969446	1/n	1	WIENERBERGER	Industrials	1.05952376	1/n
	2	MSCI	Financials	0.77856108	1/n	2	SEVERN TRENT	Utilities	0.7861838	1/n
	3	NVR	Consumer Goods	0.77778068	1/n	3	RENTOKIL INITIAL	Industrials	0.77832991	1/n
	4	AUTOZONE	Consumer Services	0.73799504	1/n	4	RTL GROUP (XET)	Consumer Services	0.76214341	1/n
	5	KIMBERLY-CLARK	Consumer Goods	0.70406578	1/n	5	NN GROUP	Financials	0.75748129	1/n
	6	ANTHEM	Health Care	0.63690721	1/n	6	ROYAL BANK OF SCTL.GP.	Financials	0.75071172	1/n
	7	MASCO	Industrials	0.62429931	1/n	7	SOCIETE GENERALE	Financials	0.73034487	1/n
	8	LAMB WESTON HOLDINGS	Consumer Goods	0.60419725	1/n	8	BT GROUP	Telecommunications	0.71070688	1/n
	9	LAM RESEARCH	Technology	0.60385516	1/n	9	UNITED INTERNET (XET)	Technology	0.68243741	1/n
	10	KLA	Technology	0.60041068	1/n	10	CYBG	Financials	0.66401752	1/n
	11	CLOROX	Consumer Goods	0.59453945	1/n	11	DEUTSCHE BOERSE (XET)	Financials	0.65811795	1/n
	12	HOME DEPOT	Consumer Services	0.59091291	1/n	12	SEB	Consumer Goods	0.65710106	1/n
	13	FOX A	Consumer Services	0.56499032	1/n	13	ALTRAN TECHNOLOGIES	Technology	0.64575493	1/n
	14	HARTFORD FINL.SVS.GP.	Financials	0.53694325	1/n	14	INVESTOR B	Financials	0.64542931	1/n
	15	LYONDELLBASELL INDS.CL.A	Basic Materials	0.53008815	1/n	15	1&1 DRILLISCH	Telecommunications	0.63200443	1/n
	16	CDW	Technology	0.52703743	1/n	16	HOCHTIEF (XET)	Industrials	0.60559519	1/n
	17	ALLSTATE ORD SHS	Financials	0.52204333	1/n	17	DECHRA PHARMACEUTICALS	Health Care	0.58945307	1/n
	18	SYSCO	Consumer Services	0.52201467	1/n	18	BOUYGUES	Industrials	0.57716583	1/n
	19	DEVON ENERGY	Oil & Gas	0.51331734	1/n	19	BB BIOTECH N	Health Care	0.5531732	1/n
						20	WEIR GROUP	Industrials	0.54779059	1/n
	20	WELLS FARGO & CO	Financials	-0.55930705	1/n	21	CELLNEX TELECOM	Telecommunications	-0.62905793	1/n
	21	MICRON TECHNOLOGY	Technology	-0.56884585	1/n	22	COMPASS GROUP	Consumer Services	-0.64234851	1/n
	22	TWITTER	Technology	-0.57361116	1/n	23	SMURFIT KAPPA GROUP	Industrials	-0.64429338	1/n
	23	KRAFT HEINZ	Consumer Goods	-0.59783447	1/n	24	SVENSKA HANDELSBANKEN A	Financials	-0.65153321	1/n
	24	BANK OF AMERICA	Financials	-0.60806669	1/n	25	TEMENOS N	Technology	-0.66017164	1/n
	25	TRIPADVISOR 'A'	Consumer Services	-0.62785082	1/n	26	DEUTSCHE POST (XET)	Industrials	-0.686152	1/n
	26	GENERAL ELECTRIC	Industrials	-0.63671979	1/n	27	VEOLIA ENVIRON	Utilities	-0.68637721	1/n
	27	MYLAN	Health Care	-0.65020649	1/n	28	BARRATT DEVELOPMENTS	Consumer Goods	-0.75638079	1/n
	28	ALIGN TECHNOLOGY	Health Care	-0.67861369	1/n	29	SUNRISE COMMUNICATIONS	Telecommunications	-0.76769956	1/n
	29	PAYPAL HOLDINGS	Industrials	-0.69920378	1/n	30	JARDINE LLOYD THOMPSON	Financials	-0.78588516	1/n
	30	WILLIAMS	Oil & Gas	-0.7149877	1/n	31	UNILEVER DUTCH CERT.	Consumer Goods	-0.80408637	1/n
	31	QUALCOMM	Technology	-0.78453818	1/n	32	ORKLA	Consumer Goods	-0.80615677	1/n
	32	DUPONT DE NEMOURS	Basic Materials	-0.80986349	1/n	33	DASSAULT AVIATION	Industrials	-0.84373892	1/n
	33	FEDEX	Industrials	-0.83423045	1/n	34	BANKINTER 'R'	Financials	-0.84428341	1/n
	34	NETFLIX	Consumer Services	-0.84706987	1/n	35	NATURGY ENERGY	Utilities	-0.87710463	1/n
	35	ADVANCED MICRO DEVICES	Technology	-0.92183717	1/n	36	AMUNDI (W1)	Financials	-0.8823507	1/n
	36	ABIOMED	Health Care	-0.98795009	1/n	37	BECHTLE (XET)	Technology	-0.91559059	1/n
	37	UNDER ARMOUR 'C'	Consumer Goods	-1.05020825	1/n	38	ADMIRAL GROUP	Financials	-0.93631397	1/n
	38	EDISON INTL.	Utilities	-1.18791354	1/n	39	TECAN 'R'	Health Care	-1.07189669	1/n
						40	DAIMLER (XET)	Consumer Goods	-1.32456098	1/n

12/04/19 - 17/10/19
Portfolio return +3.76%
Cumulative final gain +3612,42
Factors
Value (P/BV, EV/EBITDA)
Momentum
Quality (EPS, ROE)
Volatility (st.dev.)
Size (free-float)
ESG

Passive Portfolio: This portfolio is built applying passive investing strategies, with the aim of replicating market indexes thought ETFs selection. In this report, a "smart beta" approach has been implemented on the S&P 500 replicating ETF, overweighting stocks that showed lower Price-to-Book ratios according to a "value" strategy. This is in line with our current macro view: prices have been recently growing and reached new heights, so we expect an adjustment for some of them in the next future.

1/04/19 – 14/10/19
Portfolio return +1.875%

Discretionary Portfolio: This portfolio is currently under construction and it applies fundamental analysis and macro research in the securities selection process in order to achieve long term growth whilst controlling volatility. An accurate analysis of the portfolio construction principles can be found in the specific section of this report. Extensive research has been performed over Under Armour INC, McDonald's CORP and Bayer AG. The only stock included in the portfolio has been the latter, experiencing a moment of relative strength following a positive quarterly report (+6.9% since its purchase).

II. Multi-Factor Portfolio

Factors selection

In rebalancing the previous portfolio and building the new one, we decided to remove the Dividend Yield factor in order to make the asset allocation process more efficient. Indeed, this factor penalizes all the companies which don't distribute dividends. This policy is not necessarily a signal of low performance or low profitability, rather it could be a signal of growth and reinvestment in the firm (as it usually happens for high growth firms). Moreover, many companies are highly reluctant to change their dividend policy, which may often result in a DY score that is not updated with the current market performance of the firm.

Furthermore, the Total Market Capitalization has been replaced with the Free-Float Capitalization in computing the size factor, in order to be consistent with the real percentage of available shares. The free float consideration allows us to take into account the real industry size, defined as the number of shares really available for trading in the market without any constraint.

Finally, we decided to remove the sector-neutral portfolio which prevented us from considering (due to the sector neutrality constraint) some profitable companies. Indeed, analyzing the past performance of the sector-neutral portfolio and comparing it with the non-sector-neutral one we observed that the risk-adjusted return of the latter was significantly higher.

Therefore, our current multi-factor model is composed by the following eight factors:

a. Value Factors (Buy cheap, Sell expensive)

- Price-to-Book Value (P/BV): following the broad evidence provided by existing literature (e.g., Fama-French (1993)), we regard a high P/BV as a signal of relative overvaluation. We thus consider it as a selling indicator, since it shows that the company's equity is very expensive if compared with its underlying book value.
- EV/EBITDA: we regard a high EV/EBITDA as a selling signal, because it shows that the company is not able to generate a satisfactory level of profits if compared to the value of the assets used to generate such profits.

b. Momentum Factor (Buy recently best performing stocks, Sell worst performing stocks)

- MOM: following the evidence provided by Jegadeesh and Titman (1993) and Asness (1994), we consider momentum, defined as the compounded monthly return over the previous 13 months, excluding the last one, as a buy signal. In practice, we assume that the market will not invert its trend soon.

c. Quality Factors (Buy high quality stocks, sell low quality stocks)

- (FW 12m EPS-Trailing EPS): a higher value of this metric represents a buy a signal. Although not widespread, we introduced this factor in order to capture analysts' views (analysts' revisions). It is indeed built as the difference between the 12 month forecast EPS made by analysts and the trailing EPS recorded (last 12 months EPS). For companies with a high positive value of this indicator, we thus assume an increase in the stock price in the future that will mirror the earnings behaviour.
- ROE: we consider a high ROE, normalized for industry influence, as a signal of high profitability, and, thus, a buy signal. Specifically, we are assuming that investors' profitability will maintain its trend in the future and will be a reliable driver of future increases in stock prices.

d. Volatility Factor (Buy low volatility, Sell high volatility)

- Standard deviation: we deem a higher standard deviation to be a selling signal, since it reveals a riskier situation where returns are less stable, and, consequently, less predictable.

e. Size Factor (Buy small cap, Sell large cap)

- Free-Float Market Capitalization: a lower market cap is assumed to be a buy signal, since small cap stocks have historically shown relatively better performances than large cap stocks (see Banz (1981), Reinganum (1981) for empirical evidence in the academic literature).

f. ESG Factor

- Thomson Reuters ESG Combined Score: we assume a higher ESG score to be a positive signal, since it reveals more attention for the sustainability of a firm. Although this factor has still few data recorded, market evidence suggests that, in the long run, a higher ESG score allows sustainable investments to perform equally or even better than traditional ones, showing an improvement in the long-term risk-adjusted returns.

Portfolio Construction

The rebalancing of the non-sector-neutral portfolio consists in buying stocks with the highest total score and short-selling stocks with the lowest. The total score for each security is an equally weighted average of the final factors' scores that each stock has registered, after having applied the Winsorization technique and the data normalization procedure. The equally weighted scheme has been adopted in order to preserve the factors identity. In this way we avoided the possible drawbacks that optimization techniques, such as the ones based on the mean-variance approach, could have caused to our portfolio.

The rebalancing procedure led us to replace the majority of the stocks of our old portfolio. In detail, all the stocks from the S&P 500 have been changed except from one: we are still short on Abiomed. All the stocks from the EUROSTOXX 600 have been replaced except from three: we are still long on Wienerberger and on RTL Group (XET) and short on and Amundi (WI).

The best performing securities are Amcor, a new investment for us, and Wienerberger, respectively in the S&P500 and in the EUROSTOXX 600 Index. On the other hand, we are decisively bearish on Edison Intl and Daimler (XET), that proved to be the worst performers in terms of scores in our investment opportunity set.

Furthermore, comparing to the previous portfolio we still do not invest in any Utility in the S&P500, differently from the EUROSTOXX600 where we have several long positions on Utilities. Instead, we continue to be sensitively exposed to Heathcare and Technologies sectors and we also increased our exposure to Consumer Services.

Here is the composition of the new portfolio compared to the old portfolio of May 2019:

NEW PORTFOLIO NO SECTOR NEUTRAL										
	S&P 500					STOXX 600				
	#	Name	Industry	Score	Weight	#	Name	Industry	Score	Weight
ACTIVE COMPONENT	1	AMCOR	Industrials	0.93969446	1/n	1	WIENERBERGER	Industrials	1.05952376	1/n
	2	MSCI	Financials	0.77856108	1/n	2	SEVERN TRENT	Utilities	0.7861838	1/n
	3	NVR	Consumer Goods	0.77778068	1/n	3	RENTOKIL INITIAL	Industrials	0.77832991	1/n
	4	AUTOZONE	Consumer Services	0.73799504	1/n	4	RTL GROUP (XET)	Consumer Services	0.76214341	1/n
	5	KIMBERLY-CLARK	Consumer Goods	0.70406578	1/n	5	NN GROUP	Financials	0.75748129	1/n
	6	ANTHEM	Health Care	0.63690721	1/n	6	ROYAL BANK OF SCTL.GP.	Financials	0.75071172	1/n
	7	MASCO	Industrials	0.62429931	1/n	7	SOCIETE GENERALE	Financials	0.73034487	1/n
	8	LAMB WESTON HOLDINGS	Consumer Goods	0.60419725	1/n	8	BT GROUP	Telecommunications	0.71070688	1/n
	9	LAM RESEARCH	Technology	0.60385516	1/n	9	UNITED INTERNET (XET)	Technology	0.68243741	1/n
	10	KLA	Technology	0.60041068	1/n	10	CYBG	Financials	0.66401752	1/n
	11	CLOROX	Consumer Goods	0.59453945	1/n	11	DEUTSCHE BOERSE (XET)	Financials	0.65811795	1/n
	12	HOME DEPOT	Consumer Services	0.59091291	1/n	12	SEB	Consumer Goods	0.65710106	1/n
	13	FOX A	Consumer Services	0.56499032	1/n	13	ALTRAN TECHNOLOGIES	Technology	0.64575493	1/n
	14	HARTFORD FINL.SVS.GP.	Financials	0.53694325	1/n	14	INVESTOR B	Financials	0.64542931	1/n
	15	LYONDELLBASELL INDS.CL.A	Basic Materials	0.53008815	1/n	15	1&1 DRILLISCH	Telecommunications	0.63200443	1/n
	16	CDW	Technology	0.52703743	1/n	16	HOCHTIEF (XET)	Industrials	0.60559519	1/n
	17	ALLSTATE ORD SHS	Financials	0.52204333	1/n	17	DECHRA PHARMACEUTICALS	Health Care	0.58945307	1/n
	18	SYSCO	Consumer Services	0.52201467	1/n	18	BOUYGUES	Industrials	0.57716583	1/n
	19	DEVON ENERGY	Oil & Gas	0.51331734	1/n	19	BB BIOTECH N	Health Care	0.5531732	1/n
						20	WEIR GROUP	Industrials	0.54779059	1/n
	20	WELLS FARGO & CO	Financials	-0.55930705	1/n	21	CELLNEX TELECOM	Telecommunications	-0.62905793	1/n
	21	MICRON TECHNOLOGY	Technology	-0.56884585	1/n	22	COMPASS GROUP	Consumer Services	-0.64234851	1/n
	22	TWITTER	Technology	-0.57361116	1/n	23	SMURFIT KAPPA GROUP	Industrials	-0.64429338	1/n
	23	KRAFT HEINZ	Consumer Goods	-0.59783447	1/n	24	SVENSKA HANDELSBANKEN A	Financials	-0.65153321	1/n
	24	BANK OF AMERICA	Financials	-0.60806669	1/n	25	TEMENOS N	Technology	-0.66017164	1/n
	25	TRIPADVISOR 'A'	Consumer Services	-0.62785082	1/n	26	DEUTSCHE POST (XET)	Industrials	-0.686152	1/n
	26	GENERAL ELECTRIC	Industrials	-0.63671979	1/n	27	VEOLIA ENVIRON	Utilities	-0.68637721	1/n
	27	MYLAN	Health Care	-0.65020649	1/n	28	BARRATT DEVELOPMENTS	Consumer Goods	-0.75638079	1/n
	28	ALIGN TECHNOLOGY	Health Care	-0.67861369	1/n	29	SUNRISE COMMUNICATIONS	Telecommunications	-0.76769956	1/n
	29	PAYPAL HOLDINGS	Industrials	-0.69920378	1/n	30	JARDINE LLOYD THOMPSON	Financials	-0.78588516	1/n
	30	WILLIAMS	Oil & Gas	-0.7149877	1/n	31	UNILEVER DUTCH CERT.	Consumer Goods	-0.80408637	1/n
	31	QUALCOMM	Technology	-0.78453818	1/n	32	ORKLA	Consumer Goods	-0.80615677	1/n
	32	DUPONT DE NEMOURS	Basic Materials	-0.80986349	1/n	33	DASSAULT AVIATION	Industrials	-0.84373892	1/n
	33	FEDEX	Industrials	-0.83423045	1/n	34	BANKINTER 'R'	Financials	-0.84428341	1/n
	34	NETFLIX	Consumer Services	-0.84706987	1/n	35	NATURGY ENERGY	Utilities	-0.87710463	1/n
	35	ADVANCED MICRO DEVICES	Technology	-0.92183717	1/n	36	AMUNDI (WI)	Financials	-0.8823507	1/n
	36	ABIOMED	Health Care	-0.98795009	1/n	37	BECHTLE (XET)	Technology	-0.91559059	1/n
	37	UNDER ARMOUR 'C'	Consumer Goods	-1.05020825	1/n	38	ADMIRAL GROUP	Financials	-0.93631397	1/n
	38	EDISON INTL.	Utilities	-1.18791354	1/n	39	TECAN 'R'	Health Care	-1.07189669	1/n
						40	DAIMLER (XET)	Consumer Goods	-1.32456098	1/n

Figure 1 – Composition of the new active portfolio (Non-Sector-Neutral)

See below for the composition of the **old Non-Sector-Neutral portfolio**:

NEW PORTFOLIO NO SECTOR NEUTRAL OLD										
	S&P 500					STOXX 600				
	#	Name	Industry	Score	Weight	#	Name	Industry	Score	Weight
ACTIVE COMPONENT	1	EDWARDS LIFESCIENCES	Health Care	0,797324304	1/n	1	BOSKALIS WESTMINSTER	Industrials	0,84961138	1/n
	2	ULTA BEAUTY	Consumer Services	0,766282559	1/n	2	UNITED UTILITIES GROUP	Utilities	0,699014164	1/n
	3	KEYCORP	Financials	0,764116179	1/n	3	SIEMENS GAMESA RENEWABLE ENER	Oil & Gas	0,684850181	1/n
	4	AUTOMATIC DATA PROC.	Industrials	0,735095996	1/n	4	RTL GROUP (XET)	Consumer Services	0,668810222	1/n
	5	MGM RESORTS INTL.	Consumer Services	0,722024763	1/n	5	RELX	Consumer Services	0,658020909	1/n
	6	COCA COLA	Consumer Goods	0,712576804	1/n	6	WIENERBERGER	Industrials	0,634770147	1/n
	7	CINTAS	Industrials	0,707149709	1/n	7	SODEXO	Consumer Services	0,611844553	1/n
	8	CORNING	Technology	0,68019306	1/n	8	ENI	Oil & Gas	0,598321988	1/n
	9	KEYSIGHT TECHNOLOGIES	Industrials	0,665658538	1/n	9	PERSIMMON	Consumer Goods	0,588615613	1/n
	10	IHS MARKIT	Financials	0,638682132	1/n	10	BERKELEY GROUP HDG.	Consumer Goods	0,586632482	1/n
	11	HOLOGIC	Health Care	0,555455748	1/n	11	RUBIS	Utilities	0,572567802	1/n
	12	CARMAX	Consumer Services	0,532316139	1/n	12	REMY COINTREAU	Consumer Goods	0,56965402	1/n
	13	KELLOGG	Consumer Goods	0,510524731	1/n	13	REXEL	Industrials	0,565717502	1/n
	14	INGERSOLL-RAND	Industrials	0,504602664	1/n	14	SPIRAX-SARCO ENGR.	Industrials	0,561064647	1/n
	15	IRON MOUNTAIN	Financials	0,492031087	1/n	15	FERGUSON	Industrials	0,557706105	1/n
	16	COGNIZANT TECH.SLTN.'A'	Technology	0,489359477	1/n	16	ZURICH INSURANCE GROUP	Financials	0,553099272	1/n
	17	TAKE TWO INTACT.SFTW.	Consumer Goods	0,478445073	1/n	17	ASHTEAD GROUP	Industrials	0,549516639	1/n
	18	NEWMONT MINING	Basic Materials	0,472084518	1/n	18	CELLNEX TELECOM	Telecommunications	0,540426116	1/n
	19	SYMANTEC	Technology	0,464816446	1/n	19	LEGRAND	Industrials	0,537284119	1/n
						20	SWISS LIFE HOLDING	Financials	0,532380393	1/n
	20	MONSTER BEVERAGE	Consumer Goods	-0,609814043	1/n	21	INDITEX	Consumer Services	-0,588062629	1/n
	21	MYLAN	Health Care	-0,620189664	1/n	22	MERLIN ENTERTAINMENTS	Consumer Services	-0,622286841	1/n
	22	MATTEL	Consumer Goods	-0,658567204	1/n	23	DEUTSCHE TELEKOM (XET)	Telecommunications	-0,623875807	1/n
	23	UNIVERSAL HEALTH SVS.'B'	Health Care	-0,661268237	1/n	24	KERRY GROUP 'A'	Consumer Goods	-0,627899625	1/n
	24	PERKINELMER	Industrials	-0,663034276	1/n	25	GETINGE B	Health Care	-0,628825644	1/n
	25	PACCAR	Industrials	-0,6642542	1/n	26	RICHEMONT N	Consumer Goods	-0,674019763	1/n
	26	FRANKLIN RESOURCES	Financials	-0,686301802	1/n	27	UCB	Health Care	-0,674840021	1/n
	27	PROCTER & GAMBLE	Consumer Goods	-0,693244166	1/n	28	ZALANDO (XET)	Consumer Services	-0,685452593	1/n
	28	BALL	Industrials	-0,718458545	1/n	29	HOMESERVE	Industrials	-0,68660255	1/n
	29	ARISTA NETWORKS	Technology	-0,75558646	1/n	30	SAAB B	Industrials	-0,71707334	1/n
	30	IQVIA HOLDINGS	Health Care	-0,770040401	1/n	31	OMV	Oil & Gas	-0,755030134	1/n
	31	ALLERGAN	Health Care	-0,778412654	1/n	32	BANCO SANTANDER	Financials	-0,768483328	1/n
	32	GOODYEAR TIRE & RUB.	Consumer Goods	-0,820290798	1/n	33	WILLIAM HILL	Consumer Services	-0,81089852	1/n
	33	MARSH & MCLENNAN	Financials	-0,838028117	1/n	34	UNILEVER (UK)	Consumer Goods	-0,818591671	1/n
	34	TWENTY-FIRST CENTURY FOX CL.B	Consumer Services	-0,908917302	1/n	35	CARL ZEISS MEDITEC (XET)	Health Care	-0,946050943	1/n
	35	CVS HEALTH	Consumer Services	-0,940878025	1/n	36	AMUNDI (WI)	Financials	-1,085279962	1/n
	36	CHEVRON	Oil & Gas	-0,981917595	1/n	37	BANK OF IRELAND GROUP	Financials	-1,200922324	1/n
	37	ABIOMED	Health Care	-1,003851405	1/n	38	AMER SPORTS	Consumer Goods	-1,257659988	1/n
	38	HUNTINGTON BCSH.	Financials	-1,051436137	1/n	39	WIRECARD (XET)	Industrials	-1,301961921	1/n
						40	ADYEN	Industrials	-1,332402043	1/n

Figure 2 – Composition of the old active portfolio (Non-Sector-Neutral)

Portfolio Performance

In order to calculate the performance of the multi-factor portfolio we made approximations on the number of stocks bought (due to the constraint that is not possible to buy fractions of them).

The following graph shows the portfolio's cumulative daily gain/loss for the multi-factor portfolio from the inception date (12/04/2019) to 17/10/2019. This represents the value that a potential shareholder would have obtained daily by holding a long position for € 100,000 and a short position for € 100,000 in our strategy.

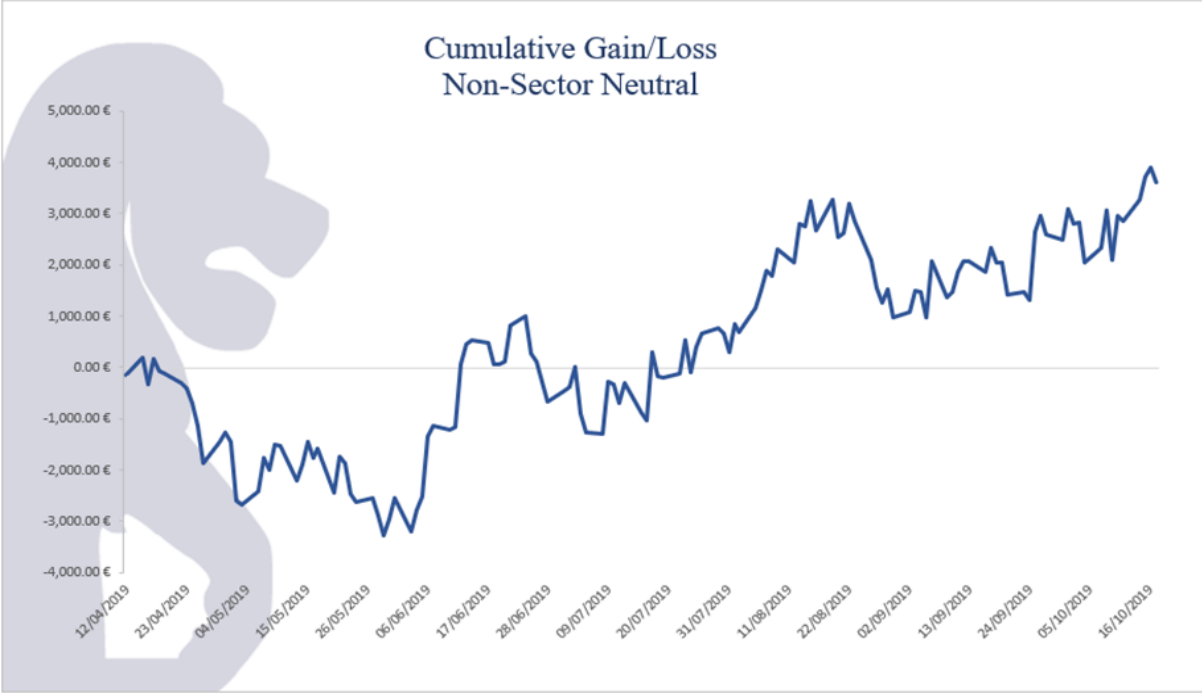

Figure 3 – Cumulative gain/loss (non-sector-neutral)

It starts from -147.17 and reach a cumulative final gain of **3612.42** that amounts to **3.76%** for the non-sector-neutral portfolio performance. Finally, we plotted the graph for **daily returns** computed as the sum of returns of long and short positions on our 78 stocks.

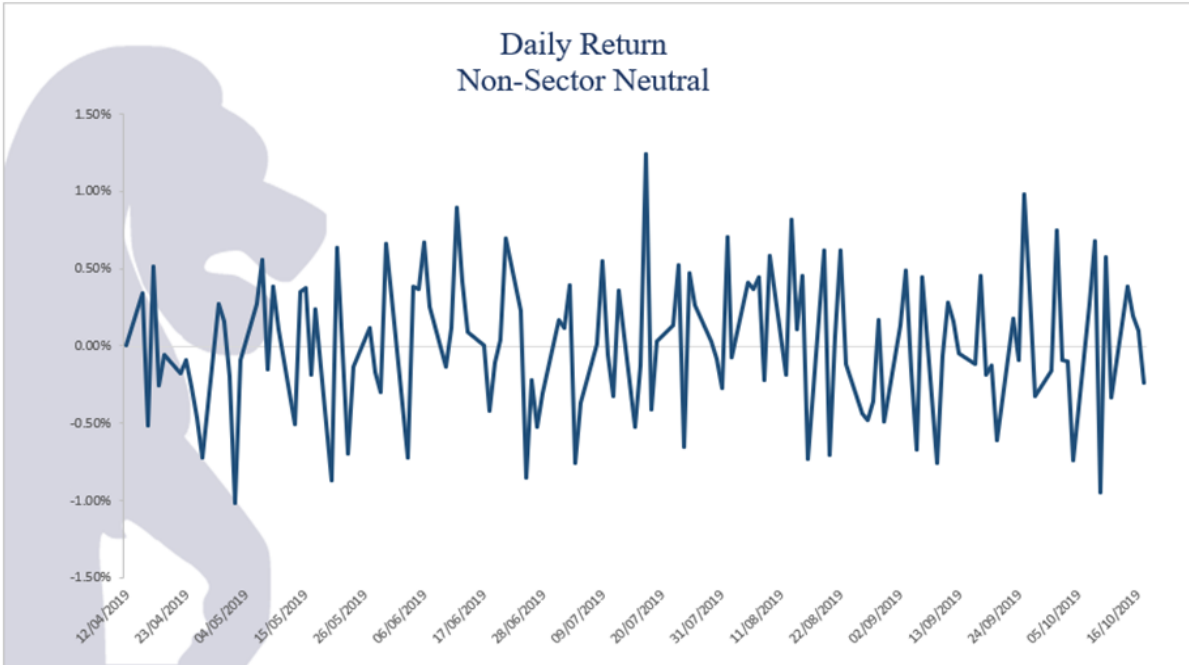

Figure 4 – Daily return (non-sector-neutral)

III. Discretionary Portfolio

Portfolio Construction Principles

The ultimate goal of this portfolio is to achieve long term growth whilst controlling volatility. To that end our portfolio will be comprised of a multitude of highly diversified assets with the possibility to take short-term speculative positions.

To ensure high diversification, this virtual portfolio will be spread across:

- *Geographies:* Europe, North America, South America, Asia.
- *Industries:* Energy, Materials, Industrials, Consumer Discretionary, Consumer Staples, Health Care, Financials, Information Technology, Telecommunication Services, Utilities, Real Estate.
- *Asset Classes:* Stocks, Bonds, Hybrid Securities, ETFs, Active Funds, Commodities (via ETCs), Currencies, Derivative Instruments.

Within each geography and industry, the asset allocation will aim to include 50-60 different securities with a risky component amounting to maximum 60% of the portfolio value. In order to defend against negative market impacts, a large proportion is to be allocated into debt securities through government and corporate bonds. The use of third parties' funds will allow us to increase the portion at risk of our portfolio by picking both passively (ETFs) and actively managed funds. Derivative securities are intended to be used for hedging purposes only, and the rationale underlying their usage will be extensively reported and justified. Finally, commodities and currencies will be included in our portfolio for defensive purposes, hedging purposes (foreign exchange risk management mainly, since the portfolio has a high global exposure) and, in a residual way, for speculative purposes.

Constructing a realistic portfolio is a constant concern for the team. For that reason, we are committed to take into consideration the diverse distortionary factors inherent in an actual portfolio. Therefore, dividend reinvestment policies, tax expense optimization (exploiting the compensation mechanism for reported losses), transaction costs, and management fees for funds and ETFs will be an important continuous task.

Investment Decision Process

The Investment decision process follows three approaches, which can all be implemented according to specific scenarios during the investment horizon. This is to assure multiple ways of strategical asset allocation.

The first is an extensive approach that begins with an agreed view on the macroeconomic outlook. After having identified the main trends and threatens on the current state of the economy, should the team identify a particularly appealing industry or geography an analysis of the main corporations operating within these will be carried out. This top-to-bottom approach should produce the most suitable investment opportunities within areas the team agrees have a strong growth potential.

The second approach occurs when a specific investment idea on a particular security (be it a stock, a fixed income instrument or any other asset class or trading strategy) is developed by a member and presented to the rest of the Team. From that point on, a discussion should follow in order not only to contemplate the validity of the suggestion, but also to assess the fitting of that particular strategy into

the already-running portfolio in terms of its risk-return contribution and the diversification benefits it would carry.

Finally, an investment can also be undertaken following a suggestion by the Equity Research Department. Past researches are revised in the light of the new events and the company updates which might have occurred since when the report has been released. Again, if the Team agrees on the soundness of the investment a "fitting test" is carried out before the final decision of the stock inclusion into our portfolio is taken. The final investment making decision method is based on a majority vote.

Equity Selection Process

When evaluating the soundness of an investment in a particular company through the purchase of ordinary shares, the analysis of some key characteristics is a fundamental passage to ensure a proper assessment of the stock.

The Team has identified some key factors to be used both as screening criteria and as minimum content for the analysis of the stock. Among them we trace:

- *Size:* We will tend to prefer companies with a large market cap / EV because of the historically lower volatility of their stock price and their financial statements.
- *Fundamental Analysis:* An analysis carried out by relying more on the fundamental figures rather than on the technical and graphical methods increase the reliability and the foundation of our choices.
- *Business Analysis:* We are aware that the idiosyncratic situation of the companies within the same industry can vary a lot, depending on how they are approaching and how they are reacting to the challenges of their businesses (technological innovation, geographical redistribution, etc…): a deep understanding of the business, therefore, is a key element for a sound assessment;
- *ESG Screening:* Probably something more than just a transitory trend, the ESG appeal of a company is something that the market is increasingly recognizing as a crucial driver for the long-term growth. Well aware of this market dynamic, we are committed to include this factor among our key screening elements. Our reference index will be the ESG Combined Score from Thomson Reuters: it presents an overall score of a company based on the reported information in the environmental, social and corporate governance pillars with an ESG Controversies overlay.
- *Timing:* Whilst we acknowledge that from the point of view of a long-term investor the acquisition price may be less relevant than the overall evaluation of the stock's quality and of its growth potential for the long run, our commitment to deliver the best result forces the Team to constantly assess the appropriateness of a given moment to open a position on a selected stock.

Investment Ideas

BAYER AG

Company Overview

Bayer AG is a life science company, founded in 1952 and incorporated in Germany. The Company operates in the following segments: Pharmaceuticals, Consumer Health, Crop Science. The Pharmaceuticals segment focuses on researching, developing and marketing prescription products and specialty therapeutics especially in the areas of cardiology, oncology, gynecology, hematology and ophthalmology, as well as radiopharmacology and others. The Consumer Health segment develops, produces and markets nonprescription over-the-counter products in the dermatology, dietary

supplement, analgesic, gastrointestinal, cold, allergy, sinus and flu, foot care and sun protection categories, among others. The Crop Science segment researches, develops and markets crop protection solutions and seeds, and includes the subsidiary Monsanto.

As of today (Oct 30th, 2019) the company has a market capitalization of €62.89Bn and revenues for €39,59Bn (2018), and its shares trade at €71.71 (Nov. 6th, 2019). The company currently (Oct 30th, 2019) employs 116,998 workers[1]. Its ESG Score (Thomson Reuters ESG Combined Score) is C (2018).

The geographical breakdown of the company's revenues is as follows:

- EMEA: 36%
- North America: 29%
- Asia / Pacific: 20%
- Latin America: 15%

Revenues' contribution for each business is: €16,7Bn from Pharmaceuticals; €14,3Bn from Crop Science (but up to €19Bn on a pro-forma basis, i.e. with the incorporation of Monsanto); €5,5Bn from Consumer Health; €1,5Bn from Animal Health (the business has recently been divested); € 1,5Bn from other sources of income.

Figure 5 – Stock development of Bayer AG for the last 5 years

Analysis of the Business and Business Outlook

The analysis of the industrial segments in which Bayer operates will be carried out individually.

- *Crop Science:* Following the acquisition of Monsanto Co. (final compensation of €63Bn), Bayer has become the main global player in this business. The rationale of this M&A operation was identified in the exploitation of relevant synergies, enabling the final conglomerate to offer products and services for all the phases of the agricultural production (from the seeds to the herbicides and to the digital services to monitor the harvest): unfortunately, the operation is experiencing severe complications and the effects of the synergies are being deferred (please refer to the next section for the complete analysis of the case). According to the 2019Q3 report, sales has grown by 4.8% (Fx adjusted) with respect to 2018Q3 (on non-pro-forma basis), leading to substantial increase in earnings as well. The leadership of Bayer in this business is ensured (at least for the medium run) both by a broadly-acknowledged quality of its products and by its constant efforts in innovation

[1] Bloomberg

(highly significant is the development of the Climate FieldviewTM platform, a system enabling farmers to plant the seeds and manage the harvest through big data analysis). Growth and stability drivers are represented by a steady demand and fast geographical penetration.

- *Pharmaceuticals:* Represents the historical business of the firm. Bayer produces some of the most widespread drugs, including Xarelto (the most broadly indicated anticoagulant) and Eylea (leader brand for retinal disease treatments) which together account for almost 1/3 of the overall revenues for the segment. The patents for these two blockbuster drugs are going to expire respectively in 2023 and 2025, but the current pipeline (i.e. the list of the drugs under development and testing) and the number of partnerships that Bayer is carrying out with external partners seem to calm any concern. This business has historically proven to be anti-cyclical, although subject to shocks driven by successful researches. The 2019Q3 report signals a surge in sales (+5.9% Fx. adjusted against 2018Q3), driven by a successful growth in China.
- *Consumer Health:* Under this segment are included some of the most renowned brands: Claritin, Aspirin, Canesten, Dr. Scholl's (recently divested). This is the segment which has suffered the most in the last period, due to drops in sales in the US and to temporary offer disruptions. The 2019Q3 report, however, signals an important enhancement of the performance in this business as well: +3,7% (Fx adjusted) with respect to 2018Q3 mainly due to a record growth in Latin America.

The Glyphosate Litigation and the Restructuring Plan

Following the acquisition of Monsanto Co., Bayer has undergone a severe legal attack which has been dealing with for more than one year. According to the last quarterly report (2019Q3), currently there are approximately 42,700 plaintiffs who have sued the company for having been exposed to glyphosate-based products manufactured by Bayer's subsidiary Monsanto and alleged to have caused severe diseases including non-Hodgkin lymphomas (NHL) and other forms of myeloma.

Starting from the first sentence, the conglomerate has lost around €30Bn of Equity Value: this discount can be broadly seen as the price of the liability that the market is expecting Bayer to be forced to pay in order to permanently settle the litigation. Is this a reasonable amount? According to our analysis, absolutely not.

A background checking carried out on similar litigations which took place over the last 15 years in the pharmaceutical and chemical industry suggests us that often (not to say always) the market overreacts in front of such events. Particularly significant are the cases of Actos (Takeda), Baycol (Bayer), Vioxx (Merck), Avandia (GlaxoSmithKline), where the final settlement agreed between the companies and the plaintiffs have been significantly lower than what the market originally expected. According to a number of analysts, a reasonable settlement for the Monsanto litigation could be actually priced in the region of €5Bn - €15Bn.

Another point to stress is the substantial absence of scientific evidence able to support the alleged correlation between glyphosate-based products and NHL, which entails the lack of severe forms of restrictions or warnings from supranational health authorities.

Parallelly, Bayer is performing a deep restructuring activity both on the financial side and on the business side (divesting some secondary segments and businesses such as Coppertone, Dr. Scholl's, the Animal Health business) which is improving the company configuration.

MINERVA
INVESTMENT MANAGEMENT SOCIETY

Financial and Relative Analysis

The financial statements show a conglomerate substantially healthy and steady growing. Every business shows a positive contribution to the company result, with key growth drivers within each of them boosting the sales and sustaining the geographical expansions. The management has repeatedly proven to be precise and overall correct with its guidance, and the good forecasts for the incoming years seem reliable. Also profitability is good, with all the segments of the company showing an EBITDA margin in the region of 21-34%.

The level of indebtment has recently risen due to some important debt issuances made by the company in order to finance the acquisition of Monsanto, but its "flat" and well time-diversified wall of refinancing and the company's strong cash generation ability calm down any arising concern on debt sustainability.

The following ratios summarize the company's situation with respect to its peers:

	EV/Revenue	EV/EBITDA	Price/EPS	Price/CF per share	Price/ BV per share	Price/Revenue	Dividend per share yield
Bayer AG	2.32	8.33	9.92	6.28	1.44	1.48	4.1%
Merck KGaA	1.32	4.92	17.85	14.98	2.56	0.83	1.3%
Sanofi SA	3.30	10.58	13.25	12.52	1.71	2.77	4.0%
Roche Holding AG	4.18	10.49	14.47	11.85	6.00	4.01	3.2%
Novo Nordisk A/S	5.36	11.36	20.03	19.19	14.13	5.50	2.4%
BASF SE	1.31	9.02	15.70	8.54	1.64	1.03	4.6%
AstraZeneca PLC	5.23	16.93	22.52	18.63	8.53	4.67	3.0%
GlaxoSmithKline PLC	3.42	10.74	14.41	11.89	14.44	2.44	4.6%
Peer mean	3.45	10.58	16.89	13.94	7.00	3.03	3.3%

The particularly depressed price of the stock with respect to its fundamental values leads, as we could expect, to a substantial undervaluation of the company according to the most classical relative valuation metrics.

Conclusion

Our assessment of Bayer AG highlights a situation in which the market seems to have overreacted and overpriced the liability associated with the Monsanto litigation, leading to a severe depression of the stock price. Parallelly, the businesses of the company seem to be stable and with valuable growth drivers, hence able to ensure low volatility in the financials for the incoming years. Also, the dividend paid by the stock should not be disregarded: Bayer currently pays a dividend yield of about 4.2%.

Therefore, we have decided to open a position on this stock and to allocate on it the 0.5% of our portfolio. Furthermore, the purchase has been split in two tranches in order to minimize the risk arising from unfavorable news in the quarterly report (released on October 30th):

- 0.3% invested on October 28th at EUR66.3749 (#4,520 shares, EUR300,014.55)
- 0.2% invested on October 30th at EUR67.1505 (#2,979 shares, EUR200,041.34)

UNDER ARMOUR INC

Company Overview

Under Armour Inc. is engaged in the development, marketing, and distribution of branded performance apparel, footwear, and accessories for men, women, and youth. Furthermore, the company is active in the software industry, under the connected fitness trading mark. Under Armour was founded in 1996 by Kevin Plank, a then 24-year old former special teams captain of the University of Maryland football team. The company's segments include North America, consisting of the USA and Canada; Europe, the Middle East and Africa (EMEA); Asia-Pacific; Latin America; and Connected Fitness which is sold worldwide. Its products are sold across the world and worn by athletes at all levels, from youth to professional. The company sells its branded apparel, footwear, and accessories in North America through its wholesale and direct to consumer channels. In addition, the company distributes its products in North America through third-party logistics providers with primary locations in Canada, New Jersey, and Florida.

As of today (6th of November 2019) the company has a market capitalization of $9.367 B and revenues, in 2018, of $ 5.229 B Furthermore, it employs 15.000 workers worldwide. Its ESG Score (Thomson Reuters ESG Combined Score) is C- (2017).

The geographical breakdown of the company's revenues in 2018 is as follows:

- North America: 72%
- EMEA: 11%
- Asia-Pacific: 11%
- Latin America: 4%
- Connected Fitness: 2%

The 2018 revenues can be broken down based upon each business unit:

- Apparel: 67%
- Footwear: 20%
- Accessories: 8%
- Licenses: 2%
- Connected Fitness: 3%

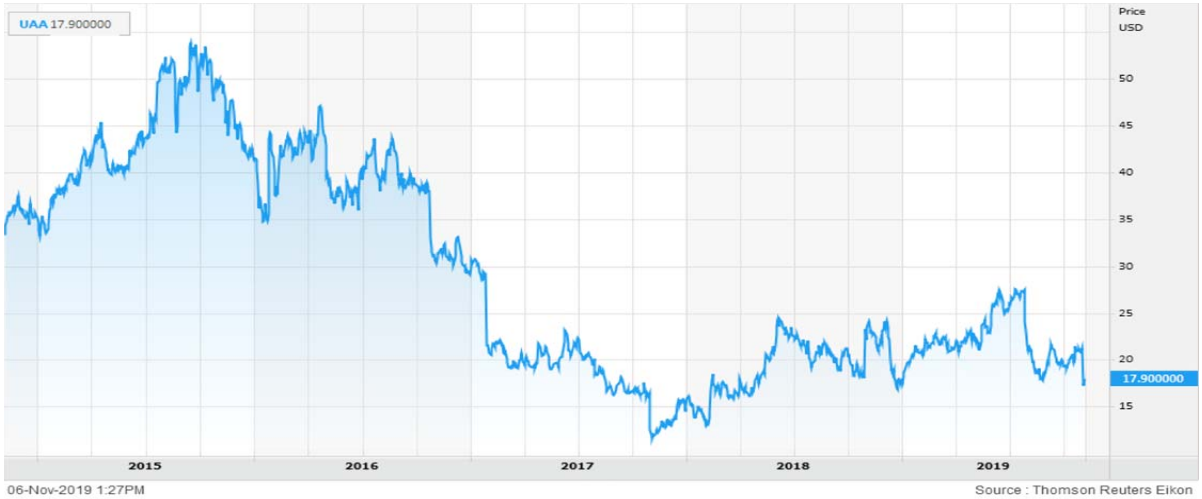

Figure 6 – Stock development of Under Armour Inc. for the last 5 years

Interesting to note are the two drops in 2019, due to the bad quarterly numbers and an investigation by the SEC regarding accounting practices respectively, to be discussed later.

Analysis of the Business and Business Outlook

Each business unit of Under Armour is analyzed individually, before a final evaluation and a prospective outlook is presented.

- *Apparel:* Under Armour's apparel is offered in a variety of styles and fits, intended to enhance comfort and mobility, regulate body temperature, and improve performance regardless of weather conditions. Under Armour aims to replace traditional non-performance fabrics in the world of athletics and fitness with performance alternatives, designed and merchandised with a variety of innovative techniques and gear lines. The respective gear lines are HEATGEAR® when the environment is hot and COLDGEAR® when the weather is cold. Under Armour perceives these products to be highly technical and extendable across sporting goods, outdoor and active lifestyle markets. Within each gear line, the apparel comes in three primary fit types: compression (tight fit), fitted (athletic fit) and loose (relaxed).
- *Footwear:* Under Armour's footwear offerings include running, basketball, cleated, slides and performance training, sport style, and outdoor footwear. The company perceives its own footwear to be light, breathable, and built with performance attributes for athletes. Furthermore, the footwear is designed with innovative technologies including UA HOVR™, Anafoam™, UA Clutch Fit® and Charged Cushioning®, which provide stabilization, directional cushioning and moisture management engineered to maximize the athlete's comfort and control. Footwear is marketed in collaboration with famous athletes such as Memphis Depay (football) and Steph Curry (basketball).
- *Accessories:* The company's accessories offerings primarily include the sale of athletic performance gloves, bags and headwear. The accessories include HEATGEAR® and COLDGEAR® technologies and are designed with advanced fabrications to provide the same level of performance as the other products, thereby complementing apparel and footwear.
- *Licenses:* Under Armour has agreements with licensees to develop certain UA apparel, accessories and equipment. In order to maintain top quality and performance, their product, marketing, sales and quality assurance teams are involved in substantially all steps of the design and go to market process, in order to maintain brand and compliance standards and consistency.
- *Connected Fitness:* Under Armour offers digital fitness subscriptions, along with digital advertising through MapMyFitness, MyFitnessPal, and Endomondo platforms. The MapMyFitness platform includes applications, such as MapMyRun and MapMyRide. The company aims to grow in this segment and is looking to expand and capture more market share.

Under Armour plans to continue to grow their business over the long-term through increased sales of their apparel, footwear and accessories, expansion of their wholesale distribution, growth in their direct to consumer sales channel while also expanding in international markets. Their digital strategy is focused on supporting these long-term objectives, emphasizing the connection and engagement with their customers through multiple digital touch points, including the Connected Fitness business.

New CEO Incoming, What Has To Change Within Under Armour?

Kevin Plank, current CEO of Under Armour, announced late October 2019 that he is going to step aside as CEO. Therefore, he follows a major part of the shareholders, which have been calling for major changes within Under Armour as the stock fell by 35% over the past five years. With the announcement of Patrik Frisk, current COO, becoming the new CEO on January 1st 2020, the stock went up by 6%.

Plank will remain as chairman of the board and as brand chief. Investors believe that Frisk has a lot to fix, given the declining sales, especially in its home markets.

In August 2017, Under Armour announced to cut 2% of its global workforce, while Plank also announced to fundamentally change the company. Specifically, he wanted to go from a product company to a consumer-led and category-managed brand, while also changing the business to a more disciplined financial model. These results are far from achieved in 2018, as North American sales dropped by 2%. Furthermore, Under Armour reported a 3% sales decline in this region for the second quarter of 2019 and lowered its outlook for the year-end.

International growth is looking good for Under Armour, and currently makes up about 26% of the company's overall revenues. However, the competition is hard to beat, with competitors such as Nike, Adidas and Puma. Furthermore, the decline of basketball sneakers has particularly hit Under Armour. This category has seen a 20% decline in recent years. Under Armour has been trying to remain steady sales in this market, with releases in collaboration with basketballer Steph Curry, but has lost it against popular retro releases from Adidas and Nike. Under Armour has also too often sold at discounts in recent years, while also having too much price promotion. This has watered down its brand image according to some analysts.

Next to the operational issues, there are also some further problems Frisk has to deal with, which are related to the financial analysis discussed next.

Financial Analysis

The financial statements show a company in a difficult phase. Under Armour has seen a weak sales development for the last two years. Since the end of last year, there has not been a quarter with more than two percent growth, while before growth within a certain business segment of 30% where not rare. Looking at the income statements for the last two consecutive years, there have been some remarkable aspects. Firstly, Under Armour has not been able to keep operating expenses down, showing that the growth within sales has not been managed efficiently. Furthermore, Under Armour has had restructuring and impairment charges for the last two years. Given the growing inventory account on the balance sheet, this is likely to happen again.

Furthermore, Under Armour is currently being investigated by the SEC as it is suspected for accounting fraud. Under Armour is accused to have been moving sales numbers from one to the other quarter, to report better results. The stock fell according to this news, which came out the 4th of November, just after the company reported the quarterly results on the 31st of October.

Comparing Under Armour to its main competitors on key multiples based upon forward valuation using Thomson Reuters SmartEstimate®, the following results are expected.

	EV/Revenue	EV/EBITDA	Price/EPS	Price/CF per share	Price/ BV per share	Price/Revenue	Dividend per share yield %
Under Armour	1.43	15.67	36.95	20.01	3.44	1.39	-
Nike	3.21	21.05	28.1	24.95	16.54	3.21	1.10%
Adidas	2.22	15.13	25.72	18.78	6.96	2.26	1.50%
Lululemon	5.69	22.16	35.58	32.27	12.22	5.83	-
Foot Locker	0.5	4.41	8.89	6.9	1.85	0.59	3.60%
VF Corp	2.96	16.81	23.42	20.68	6.93	2.79	2.30%
Tapestry Inc	1.31	6.7	10.37	7.62	2.14	1.25	5%
Capri Hodlings Ltd	1.25	6.29	6.64	5.15	1.41	0.87	0%
Peer mean	2.45	13.22	19.82	16.62	6.86	2.4	2.20%

Under Armour has a lower EV/Revenue multiple compared to the mean of its peers. This might signal a good momentum with regards to buying Under Armour stock, just based on this multiple. However, its EV/EBITDA multiple is expected to yield a higher value than the average within the industry. This result is similar to the expectations coming from the Price/EPS ratio. As the EBITDA, and therefore also the earnings of Under Armour are not promising, one would have to pay a high price for the earnings of Under Armour. Finally looking at the Price/Revenue multiple, and comparing this with the afore mentioned multiples, it can be clearly seen that operations within Under Armour do have some underlying problems. The Price/Revenue multiple is lower than the industry average, showing that having a share in Under Armour's revenue is relatively cheap. At the same time, we have seen that Price/EPS and EV/EBITDA yield high multiples.

Conclusion

Given the current conditions Under Armour is in, the team is concerned with investing in Under Armour for the long-term. Therefore, the discretionary portfolio team will be looking in to competitors of Under Armour which are meeting our investing requirements and have more potential.

McDonald's CORP

Company Overview

McDonald's Corporation is an American fast food company, founded in 1940 as a restaurant operated by Richard and Maurice McDonald, in San Bernardino, California, United States. The Company operates and franchises McDonald's restaurants, which serve locally-relevant menu of food and beverages in more than 100 countries.

As of today (Nov 6th, 2019) the company has a market capitalization is $153.753 billions and revenues for $10,012.7 millions (2018). The company at the end of 2018 employs 210,000 workers worldwide. This number includes corporate office employees and Company-owned restaurant employees[2]. Its ESG Score (Thomson Reuters ESG Combined Score) is C (2017).

The geographical breakdown of the company's revenues in 2018 is as follows:

- U.S.: 36,5%
- International Lead Markets: 36,15%
- High growth markets: 19%
- Foundational markets and Corporate: 8,4%

The business is structured with segments that combine markets with similar characteristics and opportunities for growth.

[2] From McDonald's 2018 Annual Report

U.S. is the company's largest segment. *International Lead Markets* includes established markets such as Australia, Canada, France, Germany, the U.K. and related markets. *High Growth Markets* includes markets that the Company believes have relatively higher restaurant expansion and franchising potential including China, Italy, Korea, the Netherlands, Poland, Russia, Spain, Switzerland and related markets. *Foundational Markets & Corporate* represents the remaining markets in the McDonald's system, and includes corporate activities.

The breakdown of the company's revenues by Company-owned restaurants and Franchised restaurants in 2018 is as follows:

- Company-operated restaurants: 48%
- Franchised restaurants: 52%

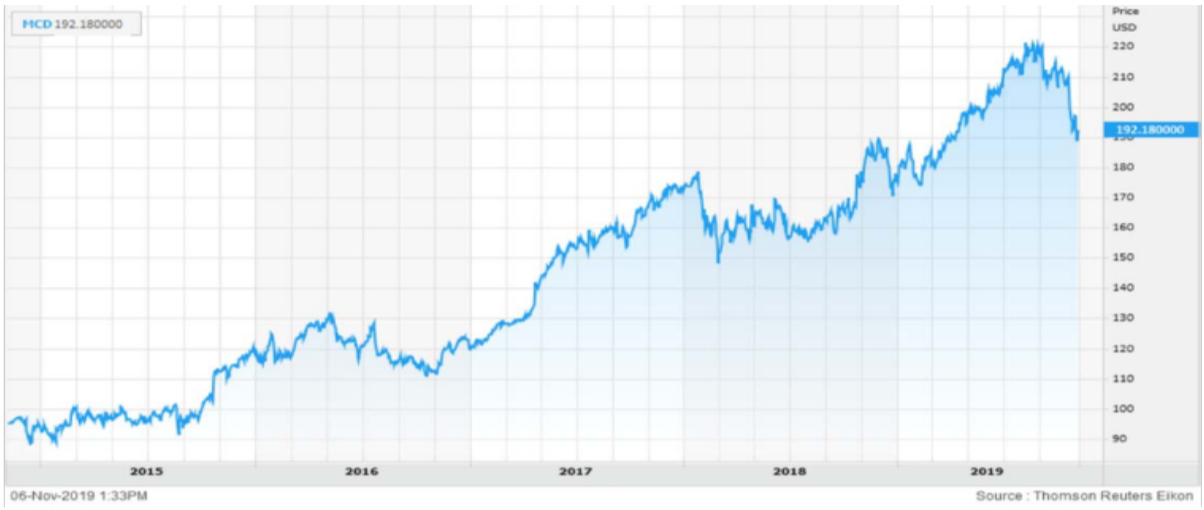

Figure 7 – Stock development of McDonald's Corp. for the last 5 years

In the period from 2017-2019 the price of the stock doubled, shifting from around $100 per share to $200 per share. This can be justified by the implementation of the *"Velocity Growth Plan"*.

Looking more in detail to the latest period, two events caused a drop in the share price: the release of the 2019 Q3 result on 10/22/19 (that shows revenues lower than expected) and the news about the CEO turnover happened on 11/04/19.

Analysis of the Business and Business Outlook

The company is organized in franchised restaurants and company-owned ones. The franchised restaurants are owned and operated under one of the following structures: conventional franchise (the Company generally owns the land and building. Franchisees are responsible for reinvesting capital in their businesses over time), developmental license or affiliate (licensees are responsible for operating and managing the business, providing capital and developing and opening new restaurants. The Company generally does not invest any and it receives a royalty based upon a percent of sales and/or initial fees upon the opening of a new restaurant).

The business relationship between McDonald's and its independent franchisees is supported by adhering to standards and policies and is of fundamental importance to overall performance of the company and to protect the McDonald's brand.

The Company is primarily a franchisor, with approximately 93% of Franchised McDonald's restaurants owned and operated in 2018 by independent franchisees. In order to help optimize the overall performance, McDonald's has set a goal of approximately 95% franchised restaurants over the long term. Franchising enables an individual to be his or her own employer and maintain control over all employment related matters, marketing and pricing decisions, while also benefiting from the strength of McDonald's global brand, operating system and financial resources.

On the other hand, directly operating McDonald's restaurants contributes significantly to the ability to act as a credible franchisor. One of the strengths of the franchising model is that the expertise from operating Company-owned restaurants allows McDonald's to improve the operations and success of all restaurants while innovations from franchisees can be tested and, when viable, efficiently implemented across relevant restaurants.

The Trends in the Industry and the Velocity Growth Plan

During the 2013-2018 period the industry of Foodservice had shown declining revenues. This situation is mainly due to a change in consumption habits and increasing competition, also given by the digitalization and new trends in the Foodservice industry. Fast food restaurants had lost market share, which has been gained by full-service restaurants, and home delivery/takeaway and the evolution of the industry had lowered barriers to entry. The fast-food industry global leaders are deploying rebranding strategies. During the last period, these players have launched much different marketing plans in order to improve their ingredients quality perception.

The "Velocity Growth Plan" was introduced by McDonald's in March 2017 in order to modernize the business model and increase sales. It is rooted in extensive customer research and insights, along with a deep understanding of the key drivers of the business.

The key pillars of our growth strategy were *"Retain", "Regain"* and *"Convert":*

- Retaining the existing customers, fortifying and extending the company areas of strength with focuses on breakfast and family occasions.
- Regaining the lost customers by improving the taste and quality of food, enhancing the convenience and offering strong value.
- Converting casual customers to more committed customers with coffee and snacks.

The plan has stabilized sales, which have been c. $21 billions.

Financial Analysis

The financial statement shows that the company is under a period of change. The main concerns are related to the decrease in revenues observed over the 2013-2018 period. The Company's revenues consist of sales by Company-operated restaurants and fees from restaurants operated by franchisees. Revenues from conventional franchised restaurants include rent and royalties based on a percent of sales, minimum rent payments and initial fees. Revenues in the consolidated income statement decreased by 8% and in 2018 and by 7% in 2017. For both periods, the decreases in revenues can be addressed to the Company's strategic refranchising initiatives, partly offset by positive comparable sales. Indeed, as declared in the 2018 Annual report, systemwide sales (made by franchised restaurants) increased by 6%.

Although refranchising allows the Company to generate more stable and predictable revenue and cash flow streams while operating with a less resource- intensive structure, the shift to a greater percentage

of franchised restaurants negatively impacts consolidated revenues as Company-operated sales are replaced by franchised revenues, made up by fees and royalties. Moreover, the company is putting efforts in reducing the COGS. Cost reduction in 2018 was about 16%. The net income is affected by the combined effect of these variables.

Comparing McDonald's to its main competitors on key multiples based upon forward valuation and comparing key ratios with the industry average using Thomson Reuters SmartEstimate®, the following results are expected.

	EV/Revenue	EV/EBITDA	Price/EPS	Price/CF per share
McDonald's Corp	8.78	17.04	22.92	17.95
Starbucks Corp	3.68	16.60	26.46	20.01
Wendys Co	3.96	16.68	33.41	16.82
Yum! Brands Inc	6.92	18.40	24.10	21.21
Darden Restaurants Inc	1.55	10.80	17.10	11.19
Domino's Pizza Inc	3.83	19.78	26.24	22.66
Jack in the Box Inc	3.28	11.58	17.17	11.74
Good Times Restaurant Inc	0.27	4.86	NA	NA
Peer mean	3.35	14.10	24.08	17.27

	Industry Median	2018	2017	2016	2015	2014	2013
Earnings Quality Score	61	74	73	84	95	85	80
Gross Margin	50.2%	51,30%	46,50%	41,40%	38,50%	38,10%	38,80%
EBITDA Margin	24.0%	47,90%	42,30%	37,80%	34,90%	34,90%	35,90%
Operating Margin	16.1%	42,00%	41,90%	31,50%	28,10%	29,00%	31,20%
Pretax Margin	10.5%	37,20%	37,60%	27,90%	25,80%	26,90%	29,20%
Effective Tax Rate	19.7%	23,20%	31,30%	31,70%	30,90%	35,50%	31,90%
Net Margin	7.6%	28,50%	25,80%	19,00%	17,80%	17,30%	19,90%

McDonald's has very high EV/Revenue and EV/EBITDA multiple compared to its peers and this is reflected in the relatively high share price. From the second table it can be pointed out that McDonald's has the highest EBITDA margin signaling the efficiency of the cost structure and of the overall production process. This is confirmed also by the high values of Operating margin and Pretax margin.

The value of debt has recently increased in the last years in relation to the process of restructuring. Overall the capital structure is solid.

Conclusion

Given the current condition of the company, the team will keep this share under observation and will further investigate in the company. Even though the industry of Food service shows signs of declining sales and low growth possibilities in developed markets, McDonald's is under a process of restructuring that may bring benefits to the company in the long term.

Portfolio Composition

The only stock we have included in our portfolio so far, Bayer AG, is experiencing a moment of relative strength following a positive quarterly report (+6.9% since its purchase).

The overall portfolio performance from inception has been: 0,04%.

The current asset allocation is as follows:

- Bayer AG: 0.5%
- EUR: 99.5%

The current portfolio performance is summarized by the following chart:

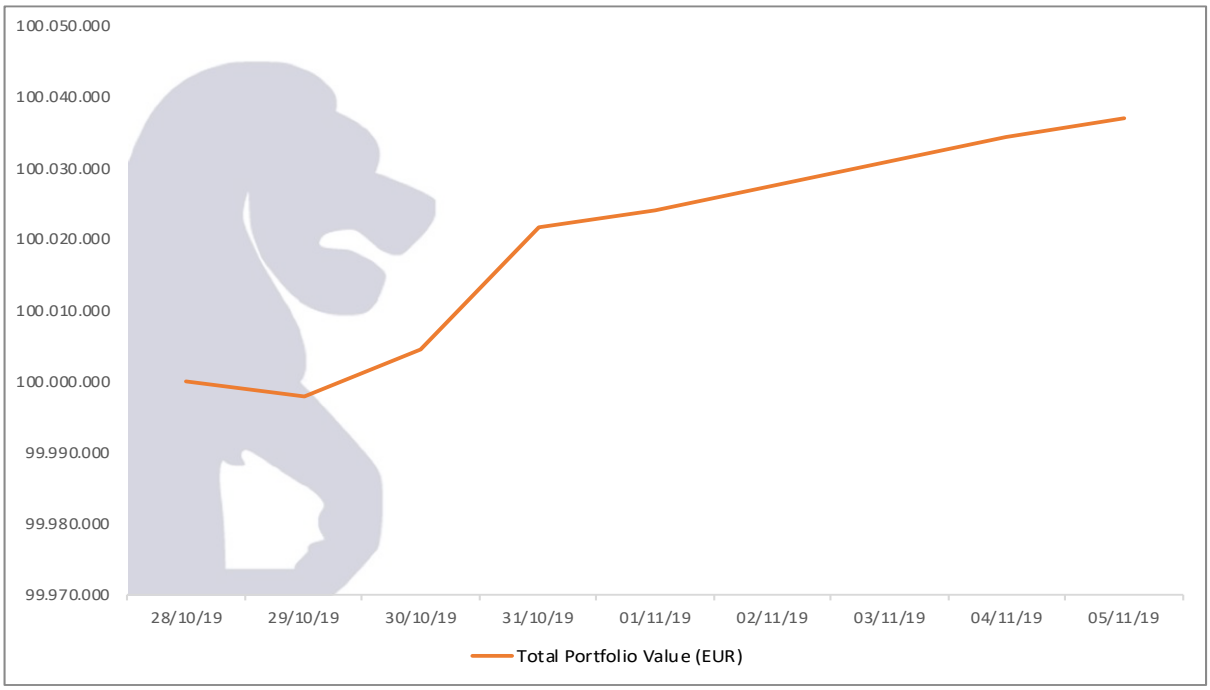

Figure 8 – Current portfolio performance

Further securities we are actively monitoring in order to open a position include: Eni Spa (IT0003132476), Moncler Spa (IT0004965148), McDonald's (US5801351017) Interpump Spa (IT0001078911), AMSL Holding NV (NL0010273215), IS ETF CORE S&P500 (IE00B5BMR087), MS Long Gold Euro Hedged – ES (JE00B8DFY052).

IV. Passive Component

Performance Review

We first look at the performance of the **previously constructed passive** portfolio, which was based on the **most diversified portfolio theory**. Daily returns in the period between April 1st 2019 and Oct 18th 2019 have been computed using the Total Return Index of ETFs. The daily returns were then applied to the 100,000€ initial capital through a daily compounding. The weights used to do so are reported in the table below.

ETF	Weights
iShares Core s&P 500 UCITS ETF	7,25%
iShares € Gov Bond 1-3yr UCITS ETF	31,40%
iShares $ High Yield Corp Bond UCITS ETF	8,49%
iShares Core MSCI Europe UCITS ETF	4,33%
iShares $ Treasury Bond 1-3yr UCITS ETF	18,09%
iShares $ Treasury Bond 7-10yr UCITS ETF	25,33%
Invesco Optimum Yield Diversified	5,11%

Figure 9 – Previous portfolio weights passive component

The following graphs show a more detailed performance of the passive component.

The first graph displays the daily performance of the passive component.

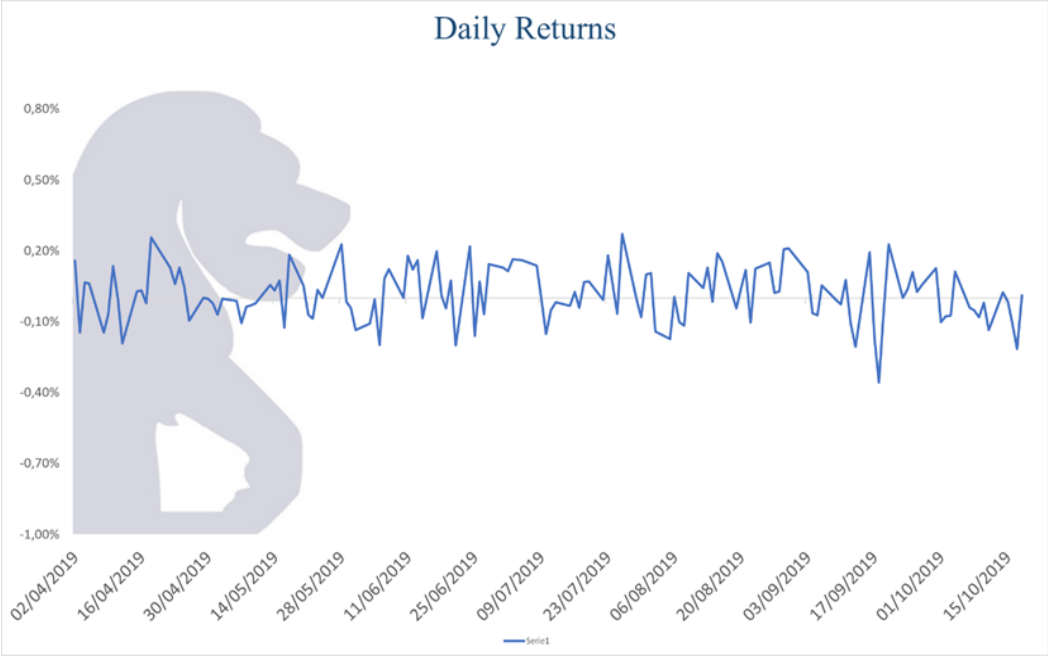

Figure 10 – Daily returns passive component

Whilst the second graph reports the cumulative investment, for which a **1.875%** return has been registered over the period considered.

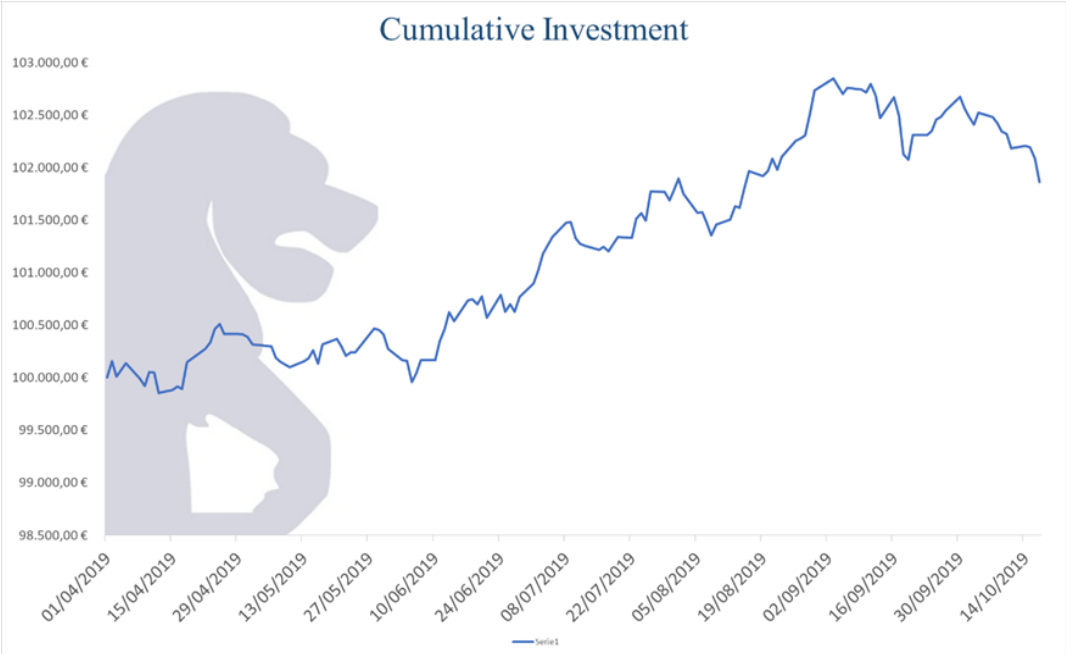

Figure 11 – Cumulative value passive component

Overall returns

As a final illustration, we report the overall performance of our portfolio. It is given by the sum of the performances of the active and of the passive component. For this report, the cumulative return has been **5.49%** and it has been computed only in respect to the non-sector-neutral portfolio.

Figure 12 – Overall cumulative value

For the sake of completeness, we also report the overall performance of the previous portfolio. The cumulative return was 5.71% in the period January 25th, 2019 – April 12th, 2019.

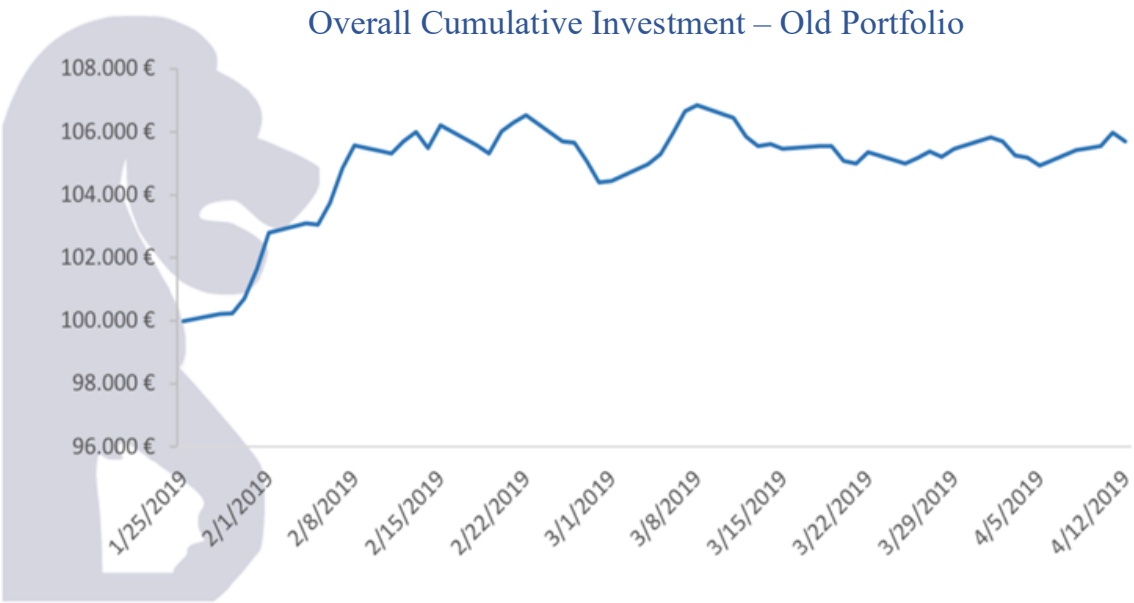

Figure 13 – Overall cumulative value previous portfolio

New passive component: "Smart beta"

In this report we introduce a new component to our portfolio: the "smart beta".

The current trends in the asset management industry see a growing focus on the ETFs, purely passive instruments replicating underlying indexes. Smart beta investments are an evolution of passive investments/ETFs as, starting from an ETF, they combine them with optimization techniques traditionally used by active managers, such as factor investing.

We therefore have ETFs smart beta which replicate an underlying index built with a different approach, often giving greater focus on some factors taken into consideration. As they are passive investments the formula, or better the "strategy", underlying the composition of the smart betas is fixed and cannot change.

They will usually be slightly more expensive than plain passive ETFs, due to the addition of some "strategy" (also considering the available data of their track records), but quite cheaper than actively managed funds.

Our strategy

Following a bottom up approach, we implemented a value strategy on the S&P 500 index and replicating ETF. We think that the "value" strategy will better perform in difficult times for markets. So far, for macroeconomic circumstances, prices have been growing and reached new heights, so we expect an adjustment for some of them in the next future.

In order to capture the value of a given stock on the S&P 500 we looked at the Price-to-Book ratio. We ranked the stocks in descending order according to this ratio and excluded the 26 lowest ones. Taking their weights in the S&P 500 on October 18th 2019, we evenly re-distributed them (~10%) among the top 39 ranked companies. In doing so we are putting a greater emphasis on value stocks, in accordance with our macro vision. This is the smart beta portfolio strategy which will replicate the S&P500 with a slight adjustment towards value stocks (to be kept ~10% of total weight), rebalancing itself automatically with a given frequency (to be determined).

Backtesting & Results

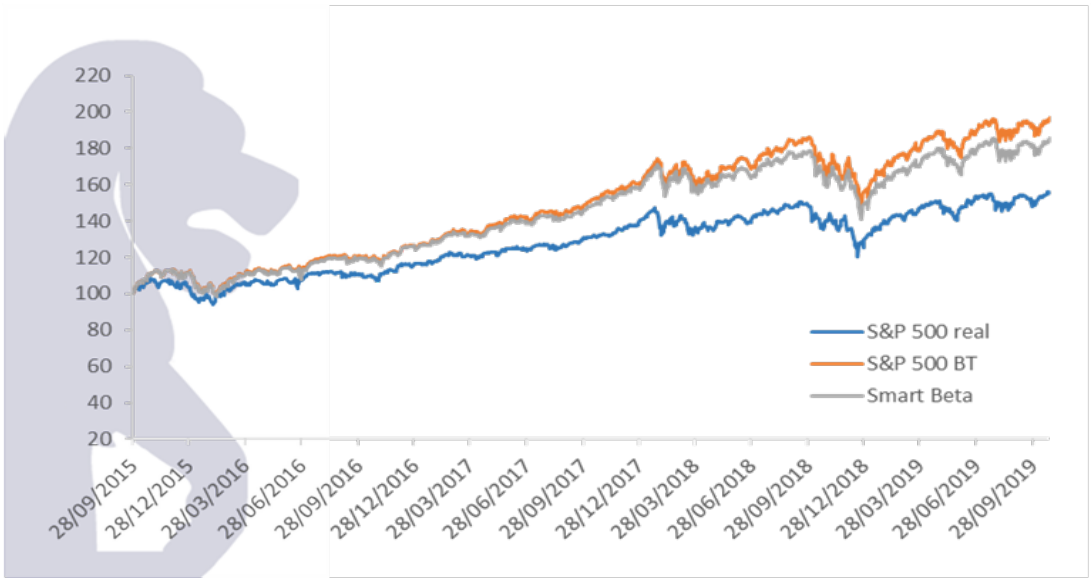

Figure 14 – Backtesting results

In order to prove the goodness of our intuition we run a backtest on S&P 500 past returns for our smart beta. As we are not yet rebalancing our portfolio (to be implemented next time), we computed the return (always log-returns) of the smart beta with the modified weights found on the October 18th 2019, kept constant since 2015, using S&P 500 daily prices. As we want to be consistent and conservative in our analysis, we do the same for the S&P 500, that is we calculate, from 2015, daily returns based on October 18th, 2019 non modified weights (S&P 500 BT below). Always considering total returns.

To be fair, the aforementioned analysis discounts **some biases**:

1. as we said, the time frame 2015-2019 has seen an almost steady growth, with a strong performance for "growth" stocks.
2. the index incorporates a survivorship bias as low performing stocks exited.
3. from 1+2 it follows that today we have greater weights on past "growth stocks", as they have increased more than others their market cap (mkt cap ~ weights in index).

All of these makes the selection of weights on October 18th, 2019 quite conservative, underestimating the goodness of our strategy.

Indeed, if we run a comparison with the real S&P 500 (with updated daily weights) we can see that our smart beta (still with const weights) outperform the S&P 500. This is clearly partly due to the fact that using 18/10/19 weights we have selected the best performing stocks (survivorship bias for the index at 18/10). But, if we consider that the majority of best performing stocks are "growth" stocks, which we have deleted from our smart beta (assuming price to book ratio is a good indicator), then this excess return is due to a positive trend in "value" stocks, or other correlated factors.

It is to be noted that we have an under-pricing of "value" stocks in "bull" markets, and a re-evaluation during "bear" market times (in 15-19 there have been only a few). A more detailed selection of "value" stocks and a dynamic reallocation/regular update of the weights of the smart beta would certainly lead to improved results.

MINERVA

INVESTMENT MANAGEMENT SOCIETY