

## Asset Management Area

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### Summary:

#### I. Portfolio Overview – Recap

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#### II. Active Component

- Factors Selection
- Portfolio Construction
- Portfolio Performance
- News – Portfolio Monitoring

#### III. Passive Component

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## I. Portfolio Overview – Recap

Our Portfolio is composed of two components:

- a) Active Component: this part of the portfolios 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 both the sector neutral and the non-sector neutral portfolio. The factors and the steps used to build the active component will be listed and explained more in detail in the following sections. We decided to adopt an equal weighting scheme 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.
- b) Passive Component: This part of the portfolio is a well-diversified component across different asset classes and markets. We picked many indexes able to represent a good portion of the investable universe. Since nowadays most indexes are well replicated by Exchange-Traded-Funds (ETF), we chose an ETF for each index, focusing on their cost structure and trying to choose the ETF with the lowest Total Expense Ratio (TER). However, it is worth to mention that, although a high TER is not, in any way, a signal of a good asset manager, and it is, by the way, the main cause of bad total performances for expensive funds, it seems that in some cases we must accept a higher TER to have a longer history of performances. In fact, many cheap ETFs are relatively young and do not provide us with enough data to perform a historical analysis on expected returns and standard deviations, which are fundamental in a Mean-Variance context.

## II. Active Component

### ***Factors selection:***

In rebalancing the previous portfolio and building the new one, we decided to maintain unaltered the list of factors. We thus picked the indicators already selected in November.

#### *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)*

-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).

**Portfolio Construction:**

Here below is the **revised portfolio**, after having applied the Winsorization technique and the data normalization procedure (for the details related to the procedure, please refer to the report published on 11.11.2018). In particular, we signal that, for both the S&P 500 and the EURO STOXX 600, one long stock and one short stock for each sector, still following the score's sort, has been selected. After completing the list of sectors, the procedure was eventually repeated until we reached the desired number of stocks in the portfolio.

NEW PORTFOLIO										
	S&P 500				STOXX 600					
ACTIVE COMPONENT	#	Name	Industry	Score	Weight	#	Name	Industry	Score	Weight
	1	LOCKHEED MARTIN	Industrials	1.308179381	1/n	1	PZU GROUP	Financials	1.084610258	1/n
	2	LAMB WESTON HOLDINGS	Consumer Goods	0.995860558	1/n	2	NATIONAL GRID	Utilities	0.943833259	1/n
	3	MCDONALDS	Consumer Services	0.971202732	1/n	3	KPN KON	Telecommunications	0.927980847	1/n
	4	BANK OF NEW YORK MELLON	Financials	0.962454567	1/n	4	BTG	Health Care	0.905899644	1/n
	5	AUTODESK	Technology	0.9577118	1/n	5	VOLVO B	Industrials	0.887968162	1/n
	6	BOEING	Industrials	0.936026836	1/n	6	LUNDBERGFORETAGEN B	Financials	0.873564175	1/n
	7	COMERICA	Financials	0.84469917	1/n	7	SECURITAS B	Industrials	0.859292597	1/n
	8	HUMANA	Health Care	0.774826935	1/n	8	BRITISH AMERICAN TOBACCO	Consumer Goods	0.849955196	1/n
	9	MOTOROLA SOLUTIONS	Technology	0.740229524	1/n	9	LOGITECH 'R'	Technology	0.790899053	1/n
	10	CBS 'B'	Consumer Services	0.739482532	1/n	10	SHIRE	Health Care	0.790296847	1/n
	11	LYONDELLBASELL INDS.CL.A	Basic Materials	0.631921264	1/n	11	BARRATT DEVELOPMENTS	Consumer Goods	0.744436745	1/n
	12	D R HORTON	Consumer Goods	0.607926655	1/n	12	PEARSON	Consumer Services	0.73268641	1/n
	13	NEXTERA ENERGY	Utilities	0.593897941	1/n	13	BP	Oil & Gas	0.648377134	1/n
	14	AT&T	Telecommunications	0.565877731	1/n	14	SSE	Utilities	0.605495848	1/n
	15	HOLLYFRONTIER	Oil & Gas	0.516842123	1/n	15	BHP GROUP	Basic Materials	0.534271216	1/n
	16	ZIMMER BIOMET HDG.	Health Care	0.459936756	1/n	16	ORANGE	Telecommunications	0.513855298	1/n
	17	AIR PRDS.& CHEMS.	Basic Materials	0.451171713	1/n	17	TELENET GROUP HOLDING	Consumer Services	0.449705949	1/n
	18	ONEOK	Oil & Gas	0.449213443	1/n	18	HEXPOL B	Basic Materials	0.411535855	1/n
	19	PINNACLE WEST CAP.	Utilities	0.448996323	1/n	19	VESTAS WINDSYSTEMS	Oil & Gas	0.397236529	1/n
	20	NUCOR	Basic Materials	-0.485240075	-1/n	20	ALTEN	Technology	0.306961205	1/n
	21	CENTURYLINK	Telecommunications	-0.512085324	-1/n	21	RANDGOLD RESOURCES	Basic Materials	-0.37572803	-1/n
	22	APACHE	Oil & Gas	-0.547319216	-1/n	22	ENEL	Utilities	-0.399122224	-1/n
	23	WEYERHAEUSER	Financials	-0.621547484	-1/n	23	SAIPEM	Oil & Gas	-0.402938932	-1/n
	24	DOWDUPONT	Basic Materials	-0.639603621	-1/n	24	1&1 DRILLISCH	Telecommunications	-0.426734941	-1/n
	25	MARATHON OIL	Oil & Gas	-0.641554194	-1/n	25	GLENCORE	Basic Materials	-0.42853283	-1/n
	26	UNDER ARMOUR A	Consumer Goods	-0.6649231	-1/n	26	WOOD GROUP (JOHN)	Oil & Gas	-0.506131337	-1/n
	27	AVALONBAY COMMNS.	Financials	-0.689483301	-1/n	27	DIAGEO	Consumer Goods	-0.53310728	-1/n
	28	NEWS 'B'	Consumer Services	-0.692175507	-1/n	28	AMBU B	Health Care	-0.586493985	-1/n
	29	RED HAT	Technology	-0.736526027	-1/n	29	WILLIAM HILL	Consumer Services	-0.656144838	-1/n
	30	QUALCOMM	Technology	-0.738486789	-1/n	30	AMS	Technology	-0.666453415	-1/n
	31	UNDER ARMOUR 'C'	Consumer Goods	-0.765202349	-1/n	31	OCADO GROUP	Consumer Services	-0.700036267	-1/n
	32	NRG ENERGY	Utilities	-0.808822642	-1/n	32	EVOTEC (XET)	Health Care	-0.750388524	-1/n
	33	GENERAL ELECTRIC	Industrials	-0.858052537	-1/n	33	AIB GROUP	Financials	-0.798362575	-1/n
	34	VERTEX PHARMS.	Health Care	-0.894160534	-1/n	34	CD PROJECT RED	Consumer Goods	-0.837387208	-1/n
	35	WATERS	Industrials	-0.930597116	-1/n	35	TEMENOS N	Technology	-0.846418229	-1/n
	36	NISOURCE	Utilities	-0.940608054	-1/n	36	LAND SECURITIES GROUP	Financials	-0.867631502	-1/n
	37	MCKESSON	Consumer Services	-0.961529042	-1/n	37	CELLNEX TELECOM	Telecommunications	-0.909822499	-1/n
	38	NEKTAR THERAPEUTICS	Health Care	-1.247660065	-1/n	38	MELROSE INDUSTRIES	Industrials	-0.938602466	-1/n
						39	SARTORIUS PREF. (XET)	Industrials	-1.025668301	-1/n
					40	UNIPER SE (XET)	Utilities	-1.322986104	-1/n	

Warning

The rebalancing procedure led us to replace 24 stocks (11 accounting for long positions and 13 accounting for short position) in the US stock market component and 27 stocks (17 accounting for long positions and 10 accounting for short positions) in the European stock market component. The newly introduced US stocks in which **the portfolio is long** are Bank of New York Mellon, Boeing, Comerica, CBS, Lyondellbassell Inds., D R Horton, Nextera Energy, AT&T, Zimmer Biomet Hdg., Air Prds. & Chems., and Oneok while the new long positions for the European constituent have been set in PZU Group, National Grid, KPN KON, BTG, Volvo, Lundbergforetagen, Securitas, Logitech, Shire, Barratt Developments, Pearson, BP, SSE, BHP Group, Orange, Telenet Group Holding, Hexpol, and Vestas Windsystems. Regarding **the short positions**, the new stocks introduced in the portfolio are Nucor, Apache, Under Armour 'C', Weyerhaeuser, Marathon Oil, Avalonbay Commns., News 'B', Red Hat, NRG Energy, Waters, Nisource, and McKesson for the US segment, and Randgold Resources, Enel, Saipem, Glencore, Diageo, Ocado Group, AIB Group, Land Securities Group, Sartorius, and Uniper SE for the EURO STOXX 600 constituents.

The stock with the highest final score among the S&P 500 constituents is still Lockheed Martin, as in the portfolio updated to 12.02.2019 (that has been labelled as the "old" portfolio). The best performing component in the EURO STOXX 600 Index resulted to be, instead, PZU Group, in which we have decided to invest starting from this month. On the other hand, we are decisively bearish on Nektar Therapeutics and Uniper SE, that proved to be the worst performers in terms of scores in our investment opportunity set.

Here below, it is presented **the composition of the old portfolio**:

OLD PORTFOLIO										
S&P 500					STOXX 600					
ACTIVE COMPONENT	#	Name	Industry	Score	Weight	#	Name	Industry	Score	Weight
	1	LOCKHEED MARTIN	Industrials	1.145499312	1/n	1	SOFINA	Financials	1.093045491	1/n
	2	AUTOZONE	Consumer Services	0.954057477	1/n	2	GLAXOSMITHKLINE	Health Care	1.05887055	1/n
	3	LAMB WESTON HOLDINGS	Consumer Goods	0.941516032	1/n	3	NEXT	Consumer Services	1.041997002	1/n
	4	KEYSIGHT TECHNOLOGIES	Industrials	0.698126109	1/n	4	JARDINE LLOYD THOMPSON	Financials	1.029993555	1/n
	5	ASSURANT	Financials	0.695810601	1/n	5	BRITISH AMERICAN TOBACCO	Consumer Goods	0.936347992	1/n
	6	MCDONALDS	Consumer Services	0.668367203	1/n	6	ROLLS-ROYCE HOLDINGS	Industrials	0.915665583	1/n
	7	HUMANA	Health Care	0.63244709	1/n	7	EDENRED	Industrials	0.909803452	1/n
	8	CLOROX	Consumer Goods	0.631783838	1/n	8	RECKITT BENCKISER GROUP	Consumer Goods	0.787731506	1/n
	9	HOLLYFRONTIER	Oil & Gas	0.627719622	1/n	9	WHITBREAD	Consumer Services	0.710594959	1/n
	10	AUTODESK	Technology	0.621240232	1/n	10	EVRAZ	Basic Materials	0.555968536	1/n
	11	MOTOROLA SOLUTIONS	Technology	0.618571001	1/n	11	ARGENX	Health Care	0.545681743	1/n
	12	VALERO ENERGY	Oil & Gas	0.616238315	1/n	12	GEMALTO	Technology	0.545247945	1/n
	13	WELLCARE HEALTH PLANS	Health Care	0.599568793	1/n	13	NESTE	Oil & Gas	0.532337644	1/n
	14	TRAVELERS COS.	Financials	0.581313435	1/n	14	JOHNSON MATTHEY	Basic Materials	0.498571328	1/n
	15	MOSAIC	Basic Materials	0.471210632	1/n	15	SUNRISE COMMUNICATIONS	Telecommunications	0.493982218	1/n
	16	EASTMAN CHEMICAL	Basic Materials	0.458715472	1/n	16	TGS-NOPEC GEOPHS.	Oil & Gas	0.487042585	1/n
	17	VERIZON COMMUNICATIONS	Telecommunications	0.377859645	1/n	17	ALTEN	Technology	0.407311154	1/n
	18	EVERGY	Utilities	0.342165619	1/n	18	EDP ENERGIAS DE PORTUGAL	Utilities	0.372712147	1/n
	19	PINNACLE WEST CAP.	Utilities	0.298583509	1/n	19	ELISA	Telecommunications	0.371811431	1/n
	20	CENTURYLINK	Telecommunications	-0.346816048	-1/n	20	PENNON GROUP	Utilities	0.282003828	1/n
	21	FIRSTENERGY	Utilities	-0.426612982	-1/n	21	RUBIS	Utilities	-0.271319022	-1/n
	22	HOME DEPOT	Consumer Services	-0.445362501	-1/n	22	TULLOW OIL	Oil & Gas	-0.471615243	-1/n
	23	FMC	Basic Materials	-0.498854524	-1/n	23	WOOD GROUP (JOHN)	Oil & Gas	-0.519922404	-1/n
	24	NOBLE ENERGY	Oil & Gas	-0.571724768	-1/n	24	NORSK HYDRO	Basic Materials	-0.523726912	-1/n
	25	CABOT OIL & GAS 'A'	Oil & Gas	-0.577861463	-1/n	25	EMS-CHEMIE 'N'	Basic Materials	-0.547412758	-1/n
	26	SCANA	Utilities	-0.611198354	-1/n	26	ORSTED	Utilities	-0.591693661	-1/n
	27	IPG PHOTONICS	Industrials	-0.614300909	-1/n	27	CELLNEX TELECOM	Telecommunications	-0.616348656	-1/n
	28	COCA COLA	Consumer Goods	-0.624427466	-1/n	28	ANHEUSER-BUSCH INBEV	Consumer Goods	-0.618806663	-1/n
	29	NETFLIX	Consumer Services	-0.707469941	-1/n	29	1&1 DRILLISCH	Telecommunications	-0.625029965	-1/n
	30	ADVANCED MICRO DEVICES	Technology	-0.7125139	-1/n	30	TEMENOS N	Technology	-0.662032299	-1/n
	31	QUALCOMM	Technology	-0.722658524	-1/n	31	AMS	Technology	-0.66433263	-1/n
	32	VERTEX PHARMS.	Health Care	-0.739916746	-1/n	32	AMBU B	Health Care	-0.70781619	-1/n
	33	CITIGROUP	Financials	-0.759917988	-1/n	33	WILLIAM HILL	Consumer Services	-0.717624979	-1/n
	34	UNDER ARMOUR A	Consumer Goods	-0.761171653	-1/n	34	LAFARGEHOLCIM	Industrials	-0.742402866	-1/n
	35	BANK OF AMERICA	Financials	-0.785209496	-1/n	35	AIR FRANCE-KLM	Consumer Services	-0.746623742	-1/n
	36	DOWDUPONT	Basic Materials	-0.810919624	-1/n	36	EVOTEC (XET)	Health Care	-0.785577206	-1/n
	37	NEKTAR THERAPEUTICS	Health Care	-0.916139948	-1/n	37	INDUSTRIVARDEN A	Financials	-0.851749003	-1/n
	38	GENERAL ELECTRIC	Industrials	-1.190507292	-1/n	38	MELROSE INDUSTRIES	Industrials	-0.885567285	-1/n
						39	BANKIA	Financials	-0.892492522	-1/n
					40	CD PROJECT RED	Consumer Goods	-0.963031155	-1/n	

Warning

Along with the rebalancing of the portfolio, we built on 26.11.2018, we also decided to construct a new portfolio, but this time **non-sector neutral**. Thus, we just took the highest and lowest stocks in the rankings to buy and sell. The logic behind this new strategy is the following: although in this way we are particularly exposed to some sectors, we are now more consistent with the idea of factor investing since we are actually exposed to the best and worst stocks. We will hedge these exposures by means of the strategies proposed by the Fixed Income and Alternative Research Division.

Here below, we report the **composition of this new portfolio**:

NEW PORTFOLIO 2- WITHOUT SECTOR NEUTRALITY										
	S&P 500					STOXX 600				
	#	Name	Industry	Score	Weight	#	Name	Industry	Score	Weight
ACTIVE COMPONENT	1	LOCKHEED MARTIN	Industrials	1.308179381	1/n	1	PZU GROUP	Financials	1.084610258	1/n
	2	LAMB WESTON HOLDINGS	Consumer Goods	0.995860558	1/n	2	NATIONAL GRID	Utilities	0.943833259	1/n
	3	MCDONALDS	Consumer Services	0.971202732	1/n	3	KPN KON	Telecommunications	0.927980847	1/n
	4	BANK OF NEW YORK MELLON	Financials	0.962454567	1/n	4	BTG	Health Care	0.905899644	1/n
	5	AUTODESK	Technology	0.9577118	1/n	5	VOLVO B	Industrials	0.887968162	1/n
	6	BOEING	Industrials	0.936026836	1/n	6	LUNDBERGFORETAGEN B	Financials	0.873564175	1/n
	7	KEYSIGHT TECHNOLOGIES	Industrials	0.850197525	1/n	7	SECURITAS B	Industrials	0.859292597	1/n
	8	COMERICA	Financials	0.84469917	1/n	8	BRITISH AMERICAN TOBACCO	Consumer Goods	0.849955196	1/n
	9	HUMANA	Health Care	0.774826935	1/n	9	ADP	Industrials	0.841127999	1/n
	10	ASSURANT	Financials	0.751454111	1/n	10	LOGITECH 'R'	Technology	0.790899053	1/n
	11	MOTOROLA SOLUTIONS	Technology	0.740229524	1/n	11	SHIRE	Health Care	0.790296847	1/n
	12	CBS 'B'	Consumer Services	0.739482532	1/n	12	3I GROUP	Financials	0.763920649	1/n
	13	PRINCIPAL FINL.GP.	Financials	0.700874564	1/n	13	DASSAULT AVIATION	Industrials	0.747741574	1/n
	14	AUTOZONE	Consumer Services	0.679708691	1/n	14	BARRATT DEVELOPMENTS	Consumer Goods	0.744436745	1/n
	15	SYMANTEC	Technology	0.659737949	1/n	15	BALFOUR BEATTY	Industrials	0.743773374	1/n
	16	LYONDELLBASELL INDS.CL.A	Basic Materials	0.631921264	1/n	16	PEARSON	Consumer Services	0.73268641	1/n
	17	T ROWE PRICE GROUP	Financials	0.62034214	1/n	17	SWEDISH MATCH	Consumer Goods	0.649917813	1/n
	18	D R HORTON	Consumer Goods	0.607926655	1/n	18	BP	Oil & Gas	0.648377134	1/n
	19	PHILIP MORRIS INTL.	Consumer Goods	0.604755644	1/n	19	KION GROUP (XET)	Industrials	0.63120422	1/n
	20	WEYERHAEUSER	Financials	-0.621547484	-1/n	20	BAYER (XET)	Health Care	0.613924546	1/n
	21	DOWDUPONT	Basic Materials	-0.639603621	-1/n	21	WILLIAM HILL	Consumer Services	-0.656144838	-1/n
	22	MARATHON OIL	Oil & Gas	-0.641554194	-1/n	22	INVESTEC	Financials	-0.660662971	-1/n
	23	UNDER ARMOUR A	Consumer Goods	-0.6649231	-1/n	23	AMS	Technology	-0.666453415	-1/n
	24	DARDEN RESTAURANTS	Consumer Services	-0.668529325	-1/n	24	OCADO GROUP	Consumer Services	-0.700036267	-1/n
	25	AVALONBAY COMMNS.	Financials	-0.689483301	-1/n	25	PHOENIX GROUP HDG.	Financials	-0.714181113	-1/n
	26	NEWS 'B'	Consumer Services	-0.692175507	-1/n	26	BANCO DE SABADELL	Financials	-0.745018253	-1/n
	27	FIRSTENERGY	Utilities	-0.716841118	-1/n	27	EVOTEC (XET)	Health Care	-0.750388524	-1/n
	28	RED HAT	Technology	-0.736526027	-1/n	28	BANKIA	Financials	-0.777057307	-1/n
	29	QUALCOMM	Technology	-0.738486789	-1/n	29	NATIXIS	Financials	-0.796014221	-1/n
	30	UNDER ARMOUR 'C'	Consumer Goods	-0.765202349	-1/n	30	AIB GROUP	Financials	-0.798362575	-1/n
	31	NRG ENERGY	Utilities	-0.808822642	-1/n	31	LAFARGEHOLCIM	Industrials	-0.816767753	-1/n
	32	PERKINELMER	Industrials	-0.848295815	-1/n	32	CD PROJECT RED	Consumer Goods	-0.837387208	-1/n
	33	GENERAL ELECTRIC	Industrials	-0.858052537	-1/n	33	TEMENOS N	Technology	-0.846418229	-1/n
	34	VERTEX PHARMS.	Health Care	-0.894160534	-1/n	34	LAND SECURITIES GROUP	Financials	-0.867631502	-1/n
	35	WATERS	Industrials	-0.930597116	-1/n	35	WIRECARD (XET)	Industrials	-0.885042108	-1/n
	36	NISOURCE	Utilities	-0.940608054	-1/n	36	CELLNEX TELECOM	Telecommunications	-0.909822499	-1/n
	37	MCKESSON	Consumer Services	-0.961529042	-1/n	37	OSRAM LICHT (XET)	Industrials	-0.916230399	-1/n
	38	NEKTAR THERAPEUTICS	Health Care	-1.247660065	-1/n	38	MELROSE INDUSTRIES	Industrials	-0.938602466	-1/n
						39	SARTORIUS PREF. (XET)	Industrials	-1.025668301	-1/n
						40	UNIPER SE (XET)	Utilities	-1.322986104	-1/n

Warning

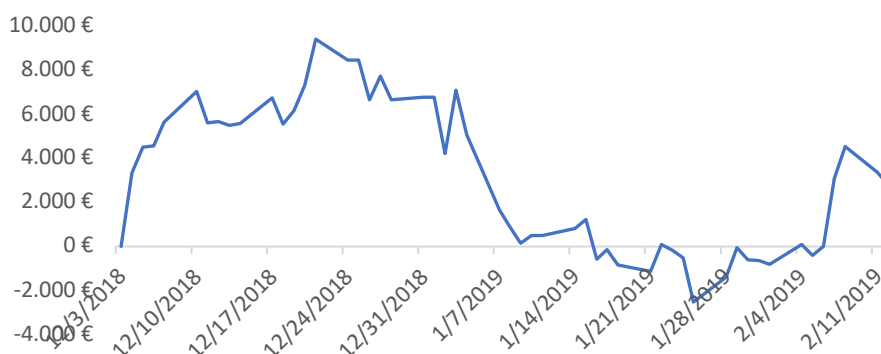
We also display the *old portfolio constituted of 40 stocks* constructed on 26.11.2018 for comparison.

40 STOCKS PORTFOLIO					
S&P 500	Industry	Weight	STOXX 600	Industry	Weight
MOSAIC	Basic Materials	1/n	EVRAZ	Basic Materials	1/n
LAMB WESTON HOLDINGS	Consumer Goods	1/n	BRITISH AMERICAN TOBACCO	Consumer Goods	1/n
AUTOZONE	Consumer Services	1/n	NEXT	Consumer Services	1/n
SVB FINANCIAL GROUP	Financials	1/n	JARDINE LLOYD THOMPSON	Financials	1/n
WELLCARE HEALTH PLANS	Health Care	1/n	GLAXOSMITHKLINE	Health Care	1/n
LOCKHEED MARTIN	Industrials	1/n	ROLLS-ROYCE HOLDINGS	Industrials	1/n
HOLLYFRONTIER	Oil & Gas	1/n	LUNDIN PETROLEUM	Oil & Gas	1/n
AUTODESK	Technology	1/n	ERICSSON B	Technology	1/n
VERIZON COMMUNICATIONS	Telecommunications	1/n	SUNRISE COMMUNICATIONS	Telecommunications	1/n
NRG ENERGY	Utilities	1/n	EDF	Utilities	1/n
FMC	Basic Materials	-1/n	EMS-CHEMIE 'N'	Basic Materials	-1/n
MOHAWK INDUSTRIES	Consumer Goods	-1/n	CD PROJECT RED	Consumer Goods	-1/n
NEWS 'A'	Consumer Services	-1/n	WILLIAM HILL	Consumer Services	-1/n
ALEXANDRIA RLST.EQTIES.	Financials	-1/n	INDUSTRIAL VARDEN A	Financials	-1/n
NEKTAR THERAPEUTICS	Health Care	-1/n	UDG HEALTHCARE PUBLIC	Health Care	-1/n
GENERAL ELECTRIC	Industrials	-1/n	LAFARGE HOLCIM	Industrials	-1/n
NOBLE ENERGY	Oil & Gas	-1/n	WOOD GROUP (JOHN)	Oil & Gas	-1/n
QUALCOMM	Technology	-1/n	TEMENOS N	Technology	-1/n
CENTURYLINK	Telecommunications	-1/n	CELLNEX TELECOM	Telecommunications	-1/n
SCANA	Utilities	-1/n	RUBIS	Utilities	-1/n

### Portfolio Performance:

Regarding the performance evaluation of the active component of the sector neutral portfolio, portfolio daily returns between 03.12.2018 through 12.02.2019 have been calculated from daily prices, adopting equal weights for the long and short stocks, respectively. The graph in the following page shows the value that a potential shareholder would have obtained on a daily basis by holding a long position for € 100,000 and a short position for € 100,000 in our strategy. The cumulative return up to the 12.02.2019 amounted to **3.02%**.

### Cumulative Gain/Loss - Active Component

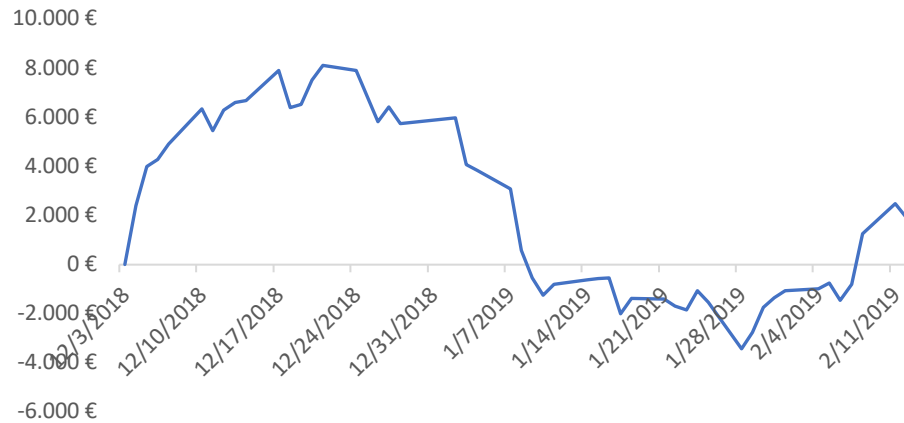


### Performance of the old portfolio constituted of 40 stocks

For the sake of completeness, we also report the performance of the portfolio composed by 40 stocks that we updated on 03.12.2018. The components are reported in the table below, with the values of the scores updated to 03.12.2018.

Warning

## Cumulative Gain/Loss - Old Active Component



As it is possible to appreciate in the graph below, the portfolio registered a lower cumulative return than the portfolio with 78 stocks, meaning that the innovations we introduced in December aimed in the right direction.

### News – Portfolio Monitoring

#### LONG POSITIONS

##### GlaxoSmithKline



On December 19, 2019 **Pfizer** and **GlaxoSmithKline** announced the Joint Venture between the two companies. The deal, which is expected to be closed in the second half of 2019, will give life to the biggest player in the OTC drugs industry, enjoying a 7.3 percent share in the global market. The announcement of the joint venture immediately had a positive impact on **Glaxo's** share price, which has experienced, as of February 21, an increase of 8.11 percent.



## Keysight Technologies



Since the beginning of 2019 **Keysight Technologies** has enjoyed, as of February 21, a 41.38 percent increase in its share price, thanks to a fourth quarter in 2018 that beat even the highest of estimates. The company announced an adjusted EPS of \$1.01 and revenues for \$1.05 billion, beating their estimates of, respectively, 91c and \$1.02.

The revenues for the first quarter of 2019 is expected to sit in the range between \$965 million and \$985 million.

## Edenred

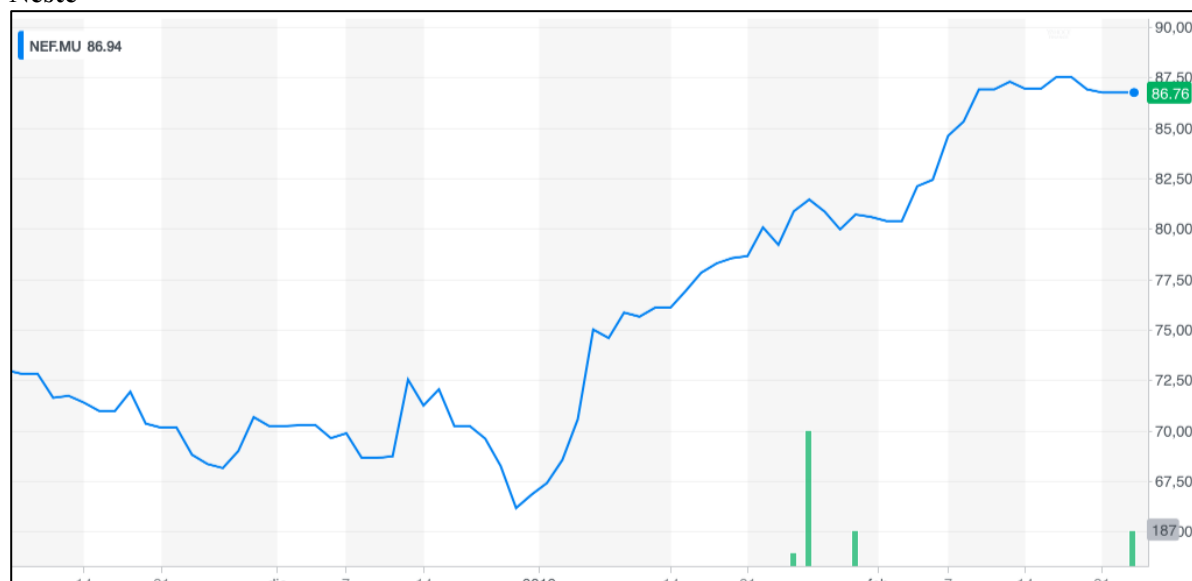


In January 2019, **Edenred**, a world leader in transactional solutions for companies, employees and merchants, announced the completion of its acquisition of **Corporate Spending Innovations (CSI)**, one of the leading providers of automated corporate payment software in North America. The Group also finalized the acquisition of 80% of the share capital of **The Right Fuelcard Company (TRFC)** group, the number four fuel card program manager in the United Kingdom.

The two companies fully consolidated in **Edenred's** financial statements as from January 1, 2019, which has since enjoyed an increase in the share price of 23.18 percent, as of February 21, 2019.



## Neste



Between January 27 2019 and February 22 2019 **Neste** registered a 24.64 percent increase in its share price, thanks to a Ham Trick campaign that exceeded any expectations.

**Neste** is the world's leading supplier of renewable diesel and produces a comprehensive range of major petroleum products. Every year, the company organizes the Ham Trick campaign, aimed at collecting and recycling the waste fat from hams, used in the production of Neste MY Renewable Diesel.

## Sunrise Communications



In February 2019, Switzerland's **Sunrise Communications Group** confirmed it is in talks over a potential acquisition of broadband provider **Liberty Global's** Swiss business UPC Schweiz. The drop registered by the share price in the last days of January was caused by rumors of the potential acquisition. Despite the many synergies coming from the acquisition, analysts seem to have accounted for the fact that Liberty has been hurt by weak operating momentum at its Swiss unit, making reduced exposure to the Alpine republic attractive for shareholders.

## 1&1 Drillisch

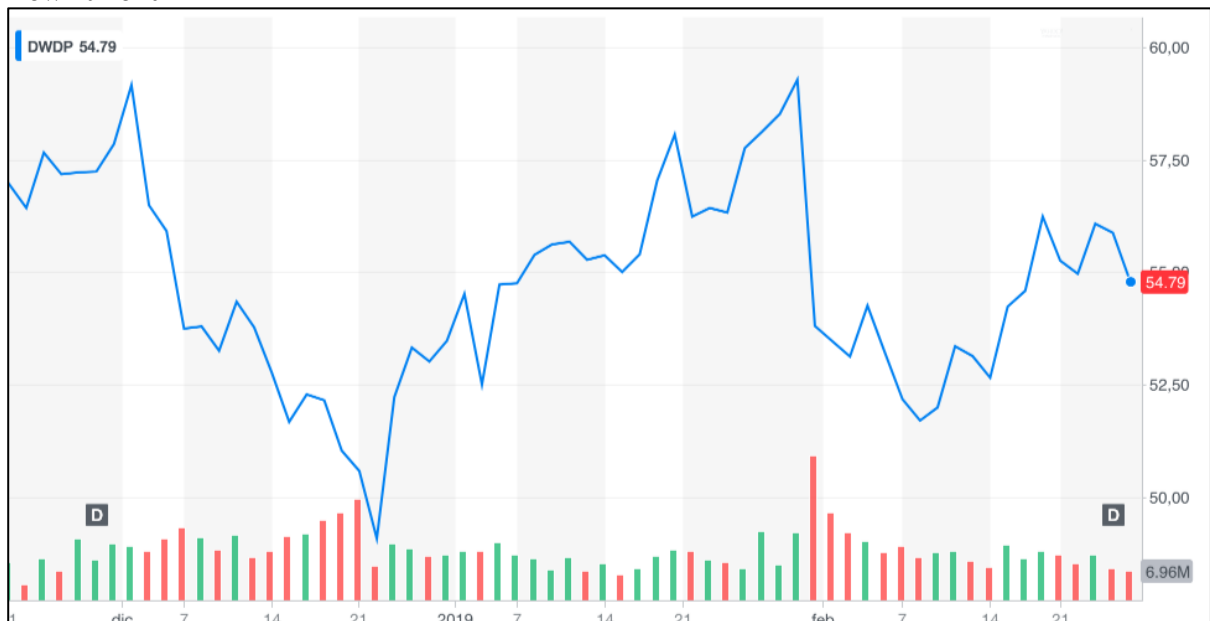


In January 2019, United Internet's mobile unit **1&1 Drillisch** announced it would apply to take part in Germany's auction of 5G licenses, opening the way for it to become the country's fourth network operator. Yet its shares fell on concerns that the German telecommunication service provider would give up its profitable business as a 'virtual' mobile network operator and incur heavy outlays to secure a license and build network infrastructure.

The stock has fallen by half over recent months on concerns that the costs of a 5G operatorship might prove prohibitive. Sources and analysts say **1&1 Drillisch** might opt to lease rather than invest in building its own network to keep capital costs under control. Analysts at Jefferies also speculate that the company may, in fact, use the 5G auction to extract better wholesale terms for its existing business.

## SHORT POSITIONS

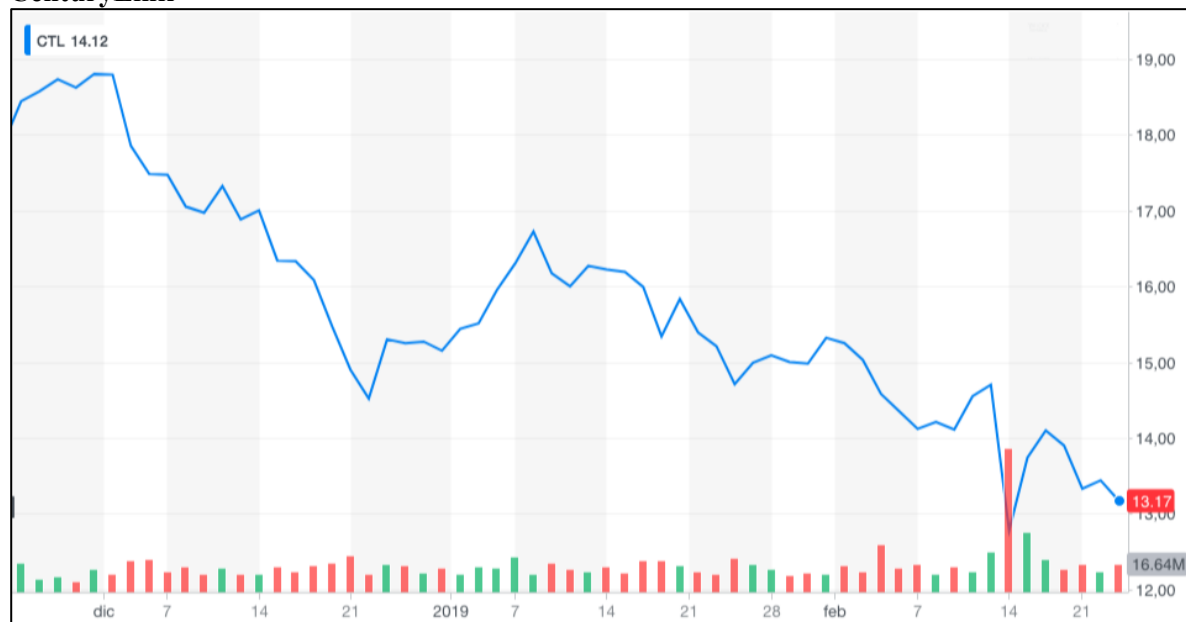
### DowDuPont



On January 31, 2019, leader of the chemicals industry **DowDuPont** suffered a drop in its share price, due to the announcement by the company that it will not be able to meet expectations for the first

quarter of 2019. The company announced revenues for 20.1 billion, well below the 20.92 billion, and expects a fall in the EBITDA for 10-15 percent.

### CenturyLink



The market continues to review the wrong metrics on **CenturyLink**, as EBITDA margins are expected to top 40 percent even while revenues continue to decline. The dividend yield at 13 percent is close to the highest in years despite better results. The market likes doing a lot of worrying about **CenturyLink** (CTL) to the point that longs regularly collect large dividend yields. Relatively new CEO Jeff Storey has a strong history of growing EBITDA margins and any indications of Enterprise revenue growth will reduce the risk assumed by a 13 percent dividend yield.

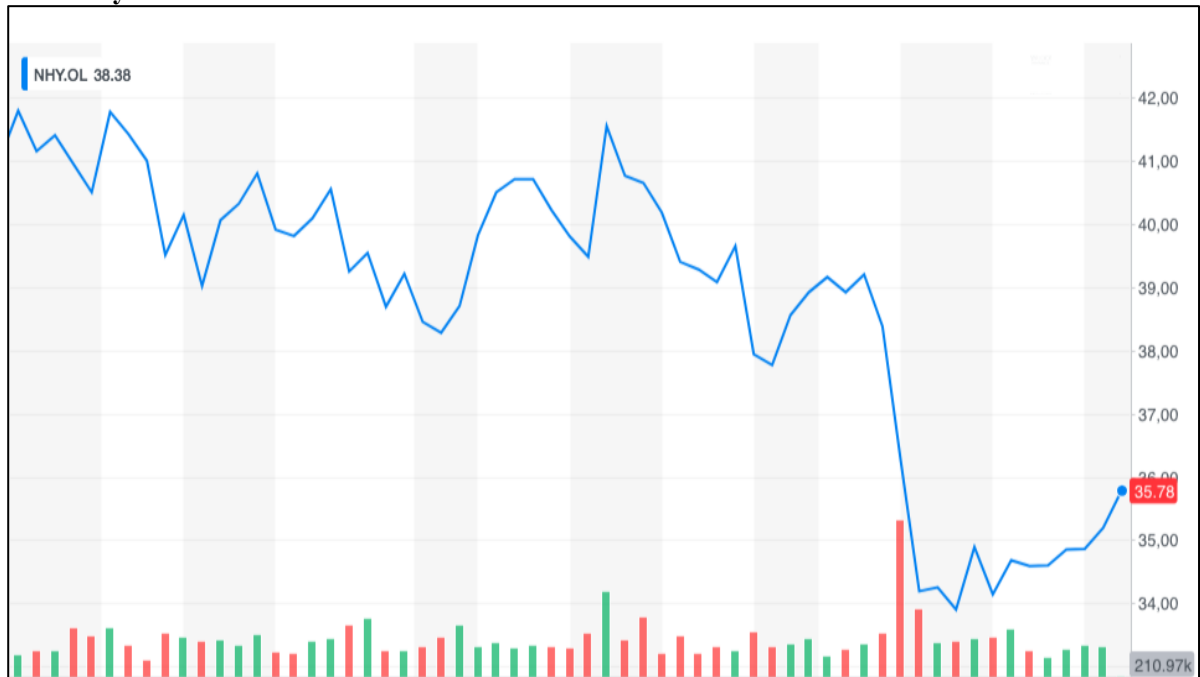
### Wood Group



Oil services company **Wood Group** suffered a 16.39 percent drop in its share price since December 2018, despite the announcement of a \$43 million contract to construct 80 miles of steel pipeline in

west Texas. The sharp drop the company experienced was mainly caused by growing tensions between the US and China.

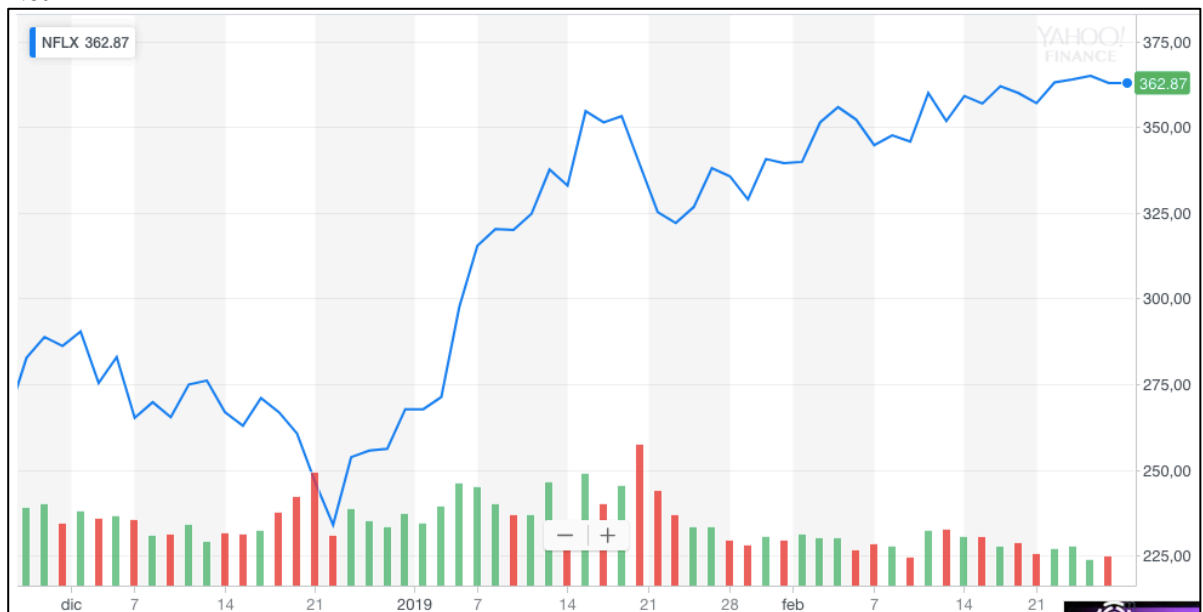
## Norsk Hydro



**Norsk Hydro** sees weaker aluminum demand growth in 2019.

Norwegian metals producer Norsk Hydro warned it would miss its 2019 savings targets after falling far short of fourth-quarter earnings forecasts due to restricted output in Brazil, sending shares down 8 percent to their lowest in two years. Higher costs also impacted underlying operating profit, which fell 85 percent to 534 million Norwegian crowns (\$62.48 million) versus the 1.45 billion crowns expected by analysts in a Reuters poll.

## Netflix



In January 2019, Netflix announced a raise in its prices again. The announcement had a positive impact on the market, immediately boosting the share price, that has since experienced a 27.43 percent

increase. The extra cash will help to pay for Netflix's huge investment in original shows and films, and finance the heavy debt it's taken on to ward off streaming threats from Amazon, Disney and Apple. Streaming incumbents like Netflix, HBO and Hulu have faced increasing pressure from new entrants, driving overall investment in the space to new highs.

### III. Passive Component

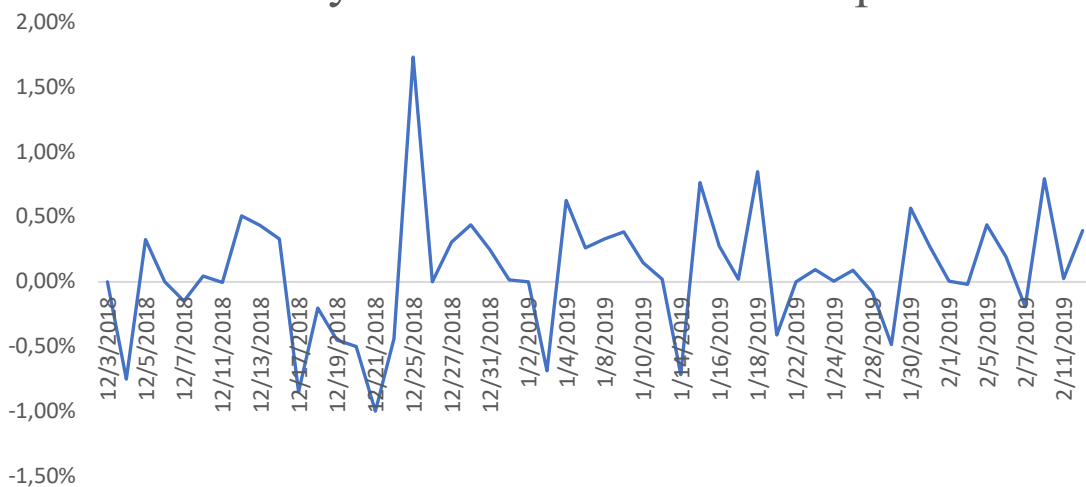
#### *Performance Review*

We first take a look at the performance of our **previously constructed passive** portfolio. Daily returns between 26.11.2018 and 12.02.2019 have been calculated from the daily prices of ETFs and, afterwards, applied to the 100,000€ initial capital through a daily compounding. The weights used are reported in the table.

ETF	Weights
iShares Core S&P 500 UCITS ETF	30%
iShares \$ Treasury Bond 1-3yr UCITS ETF	18,53%
Invesco Optimum Yield Corp Bond UCITS ETF	41,18%
iShares € Govt Bond 7-10yr UCITS ETF	5,29%
iShares \$ High Yield Corp Bond UCITS ETF	5%

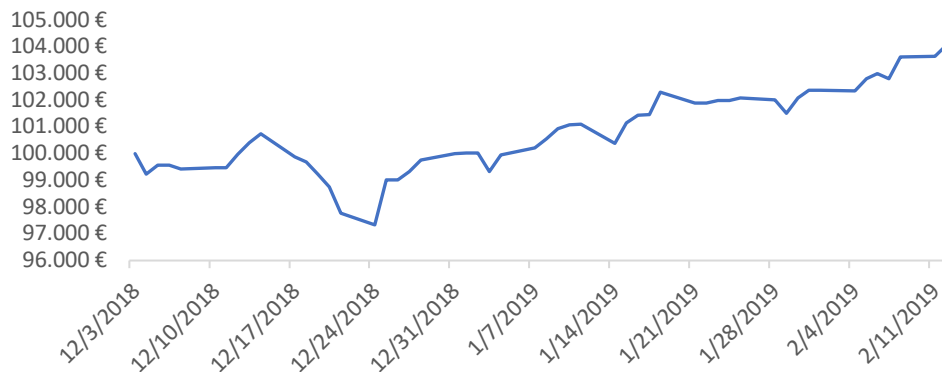
The graphs below show the performance of the passive component more in detail. The cumulative return has been **4.07%** over the period considered.

#### Daily Returns - Passive Component



Warning

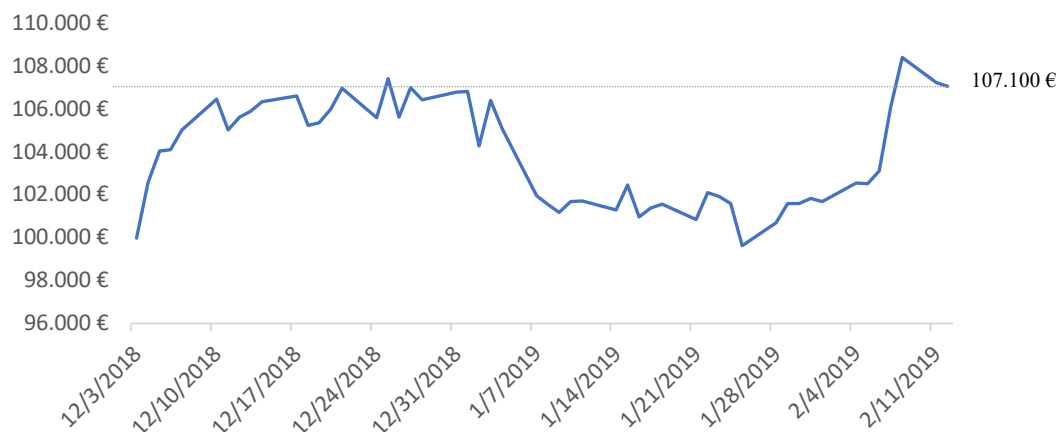
## Cumulative Investment - Passive Component



### 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, since the former is zero investment. The cumulative return has been **7.10%** in the two months considered.

## Overall Cumulative Investment



Performances have been computed using as active weights  $\pm 1/n$  (2.56%). The increase in the number of stocks has reduced the impact of single company returns compared to the previous portfolio, where we assigned a weight of  $\pm 5\%$ . On the other hand, however, since the market played in our favor, we gave up to a piece of the overall return. Keep using a weight of  $\pm 5\%$ , in fact, we would have created a long-short portfolio with a +195%, -195% exposure, obtaining an overall performance (active-passive) of 9.7%, but we would have been exposed to a remarkably higher risk.

## New Passive Component

Here below is our new passive component with *equally weighted risk contributions weights*

ETF	Weights
iShares Core S&P 500 UCITS ETF	2%
iShares € Govt Bond 1-3yr UCITS ETF	38%
iShares € Govt Bond 7-10yr UCITS ETF	4%
iShares \$ High Yield Corp Bond UCITS ETF	9%
iShares Core MSCI Europe UCITS ETF	2%
iShares \$ Treasury Bond 1-3yr UCITS ETF	34%
iShares IG Corp Bond UCITS ETF	4%
iShares \$ Treasury Bond 7-10yr UCITS ETF	5%
Invesco Optimum Yield Diversified	2%

For the iShares Core MSCI Europe UCITS ETF, the iShares Core S&P 500 UCITS ETF and the Invesco Optimum Yields Diversified the returns have been calculated through the percentage growth of the NAV from December 2014 to January 2019. Regarding the iShares IG Corp Bond UCITS ETF, the iShares € Govt Bond 1-3yr UCITS ETF, iShares \$ Treasury Bond 7-10y, iShares € Govt Bond 7-10yr UCITS ETF, iShares \$ High Yield Corp Bond UCITS ETF and iShares \$ Treasury Bond 1-3yr UCITS ETF returns have been calculated as the percentage growth of the fund return, considering the ex-dividends of the period between 12.2014 and 01.2019, for example the iShares IG Corp Bond UCITS ETF return, in addition to the previous ones, has been calculated considering the ex-dividends of 1,03 at 13/12/2018.

### *From mean-variance to equally-weighted risk contributions approach*

In the last portfolio implementation, we used the mean-variance approach; however, one of the main drawdowns entailed in the Mean-Variance approach is that the input parameters are processed into the mean-variance optimizer that treats them as if they were the true ones. This will lead to a serious implication: the procedure becomes completely deterministic as the parameter uncertainty is not considered. The outcome will be, in addition to other problems, an unstable portfolio with a poor out-of-sample performance.

To face this problem, in the December portfolio implementation, we used a heuristic approach focusing on the adjustment of the optimization process and so we implemented a Parametric Portfolio Resampling procedure (Michaud), without weights constraints, to investigate the variability characterizing our portfolio weights. This procedure entails the implementation of Montecarlo Simulations. Time series of returns for each Asset Class are characterized by their expected return and standard deviation. Assuming normality each Asset Class return is simulated many times as the length of the original dataset, and an efficient frontier is drawn using these simulated data.

This time we tried another theory, a risk-based asset allocation theory, which was implemented as attempts to address the practical problems of the mean-variance approach. This theory gives less room to estimation errors by not considering the expected returns estimates during the implementation of the asset's weights, they focus only on risk. In particular, we chose to focus on a specific paper about the equal risk contributions portfolios (Maillard, Roncalli, Teiletche). The peculiar goal of this portfolio implementation is to compute weights in order to reach an equal contribution of each asset class to the total portfolio's risk.



To check the effective equal risk contribution of the asset classes, we start from the computation of the marginal risk, which tells us the variation caused in the portfolio risk by an infinitesimal change in the asset class weight, and we arrive, as shown clearly from the tab in the next page, to an equal contribution to risk of 11,11% of each asset class, calculated as the product of the specific weight and the marginal risk.

From an analytical point of view, using Python, we will have: Given the vector  $w$  of the weights of each asset class and the covariance matrix  $\Sigma$  built from the returns on the data using `numpy.cov`,

$$w = \begin{bmatrix} w_1 \\ w_2 \\ \dots \\ w_i \\ \dots \\ w_N \end{bmatrix} \quad \Sigma = \begin{bmatrix} \sigma_{11} & \sigma_{12} & \sigma_{1N} \\ \sigma_{21} & \dots & \sigma_{2N} \\ \vdots & \ddots & \vdots \\ \sigma_{N1} & \dots & \sigma_{NN} \end{bmatrix}$$

We compute the marginal risk and the standard deviation of the portfolio:

$$MR_{\sigma_i} = \frac{(\Sigma w)_i}{\sqrt{w' \Sigma w}}$$

$$\sigma_p = \sum_i^N = w' \frac{\Sigma w}{\sqrt{w' \Sigma w}} = w' \nabla MR_{\sigma}$$

Afterwards, we compute the risk contribution of each asset  $i$  to the total portfolio in the following way:

$$TRC_{\sigma_i} = w_i \frac{(\Sigma w)_i}{\sqrt{w' \Sigma w}} \quad (1)$$

Finally, we use an optimization technique (`scipy.optimize.minimize`), using a SQP (Sequential Quadratic Programming) algorithm ('SLSQP'), as indicated in the paper, in order to minimize the difference in the risk contribution of each asset class to the portfolio's overall risk. As a function to be minimized the algorithm takes the one that computes the individual risk contribution of the asset (1) and as input values the covariance matrix built from the returns and the target distribution of weights (1/9 for each weight, given that we have 9 assets for equal risk contributions).

ETF (EW Risk Contributions)	Weights	Marginal Risk	Risk Contribution (%)
iShares Core S&P 500 UCITS ETF	2,2%	1.5%	11.11%
iShares € Govt Bond 1-3yr UCITS ETF	38,3%	0.1%	11.11%
iShares € Govt Bond 7-10yr UCITS ETF	4,5%	0.7%	11.11%
iShares \$ High Yield Corp Bond UCITS ETF	8,8%	0.4%	11.11%
iShares Core MSCI Europe UCITS ETF	1,7%	18.8%	11.11%
iShares \$ Treasury Bond 1-3yr UCITS ETF	33,9%	0.1%	11.11%
iShares IG Corp Bond UCITS ETF	3,6%	0.9%	11.11%
iShares \$ Treasury Bond 7-10yr UCITS ETF	5,0%	0.6%	11.11%
Invesco Optimum Yield Diversified	2,1%	1.5%	11.11%

If we consider the old portfolio, the mean-variance one, we see that the risk is not properly diversified, as can be seen from the next tab. In fact, the iShares Core S&P 500 ETF contributed to the total risk of the portfolio with an 85% and iShares 1-3-year Treasury Bond UCITS ETF with a 10%; the risk was concentrated, with a total of 95%, in two asset classes.

ETF (Mean-Variance approach)	Weights	Marginal Risk	Risk Contribution (%)
iShares Core S&P 500 UCITS ETF	0.1	3.2%	85.0%
iShares 1-3 Year Treasury Bond UCITS ETF	0.58	0.1%	10.0%
iShares € Govt Bond 1-3yr UCITS ETF	0.16	0.1%	3.0%
iShares € Govt Bond 7-10yr UCITS ETF	0.09	-0.1%	-2.0%
iShares € High Yield Corp Bond UCITS ETF	0.07	0.2%	4.0%

Regarding the implementation of the portfolio resampling, also developed in the December Portfolio in order to solve the estimation errors of the mean-variance theory, it can be easily seen from the tab in the next page that the risk is not well diversified. The 65% of the risk contribution belongs to the iShares Core S&P500 ETF, the 12% to the iShares € Govt Bond 1-3yr UCITS ETF and the 10% to the iShares 1-3 Year Treasury Bond ETF. The risk is not as well diversified as in the Equally Weighted Risk Contributions theory.

ETF (Portfolio Resampling)	Weights	Marginal Risk	Risk Contribution (%)
iShares Core S&P 500 ETF	7,35%	2.6%	65.0%
iShares € Govt Bond 1-3yr UCITS ETF EUR (Acc)	24,10%	0.1%	4.0%
iShares € Govt Bond 7-10yr UCITS ETF	6,22%	0.5%	12.0%
iShares € High Yield Corp Bond UCITS ETF	4,53%	0.3%	4.0%
iShares MSCI Europe UCITS ETF EUR (Acc)	0,30%	2.2%	2.0%
iShares 1-3 Year Treasury Bond ETF	56,20%	0.1%	10.0%
iShares Broad USD Investment Grade Corporate Bond ETF	0,30%	0.7%	1.0%
iShares 7-10 Year Treasury Bond ETF	0,40%	0.3%	0.0%
Invesco Optimum Yield Diversified Commodity Strategy No K-1	0,60%	1.3%	3.0%

The implementation of the equally weighted risk contributions theory brought to include also 4 more ETF that were excluded by the mean-variance approach. One of the new ETFs is the Invesco Optimum Yield Diversified Commodity Strategy No K-1 ETF – Commodities. For the analysis of the above-mentioned fund, please refer to the report published in December by the Fixed and Alternatives team. The F&A analysis, which suggested to monitor the performance of the fund, is showing correct, in fact, in the last month, Invesco Optimum Yield Diversified showed a positive return of 7,32% and the 2,1% of our latest implemented portfolio is invested in this fund.

#### IV. Conclusions

As a result of our analysis, we are now invested in two different portfolios. The first one is divided into an active component implementing the same factors used in the previous investment period, along with a passive one constructed following the risk parity theory. The second one is similar to the first, except for the Sector Neutrality strategy that has not been implemented. The reasons driving this strategy have been explained above. The Fixed and Alternative division will provide the latter with a hedging component covering for some sectors exposure and macro potentially adverse trends, we refer you to their report that will be published soon. During this investment period, we obtained an extraordinary performance that was due to different factors, not all of them were under our control of course. However, we would like to underline that the Passive performance was improved by the results of the Commodities ETF, that ended up satisfying the Fixed and Alternatives division's forecast, while on the Active side, the choice to increase the number of stocks seems to have been a wise choice to reduce the impact of idiosyncratic factors affecting single companies.

NEW PORTFOLIO										
	S&P 500					STOXX 600				
ACTIVE COMPONENT	#	Name	Industry	Score	Weight	#	Name	Industry	Score	Weight
	1	LOCKHEED MARTIN	Industrials	1.308179381	1/n	1	PZU GROUP	Financials	1.084610258	1/n
	2	LAMB WESTON HOLDINGS	Consumer Goods	0.995860558	1/n	2	NATIONAL GRID	Utilities	0.943833259	1/n
	3	MCDONALDS	Consumer Services	0.971202732	1/n	3	KPN KON	Telecommunications	0.927980847	1/n
	4	BANK OF NEW YORK MELLON	Financials	0.962454567	1/n	4	BTG	Health Care	0.905899644	1/n
	5	AUTODESK	Technology	0.9577118	1/n	5	VOLVO B	Industrials	0.887968162	1/n
	6	BOEING	Industrials	0.936026836	1/n	6	LUNDBERGFÖRETAGEN B	Financials	0.873564175	1/n
	7	COMERICA	Financials	0.84469917	1/n	7	SECURITAS B	Industrials	0.859292597	1/n
	8	HUMANA	Health Care	0.774826935	1/n	8	BRITISH AMERICAN TOBACCO	Consumer Goods	0.849955196	1/n
	9	MOTOROLA SOLUTIONS	Technology	0.740229524	1/n	9	LOGITECH 'R'	Technology	0.790899053	1/n
	10	CBS 'B'	Consumer Services	0.739482532	1/n	10	SHIRE	Health Care	0.790296847	1/n
	11	LYONDELLBASELL INDS.CL.A	Basic Materials	0.631921264	1/n	11	BARRATT DEVELOPMENTS	Consumer Goods	0.744436745	1/n
	12	D R HORTON	Consumer Goods	0.607926655	1/n	12	PEARSON	Consumer Services	0.73268641	1/n
	13	NEXTERA ENERGY	Utilities	0.593897941	1/n	13	BP	Oil & Gas	0.648377134	1/n
	14	AT&T	Telecommunications	0.565877731	1/n	14	SSE	Utilities	0.605495848	1/n
	15	HOLLYFRONTIER	Oil & Gas	0.516842123	1/n	15	BHP GROUP	Basic Materials	0.534271216	1/n
	16	ZIMMER BIOMET HDG.	Health Care	0.459936756	1/n	16	ORANGE	Telecommunications	0.513855298	1/n
	17	AIR PRDS. & CHEMS.	Basic Materials	0.451171713	1/n	17	TELENET GROUP HOLDING	Consumer Services	0.449705949	1/n
	18	ONEOK	Oil & Gas	0.449213443	1/n	18	HEXPOL B	Basic Materials	0.411535855	1/n
	19	PINNACLE WEST CAP.	Utilities	0.448996323	1/n	19	VESTAS WINDSYSTEMS	Oil & Gas	0.397236529	1/n
	20	ALLEN	Technology	0.306961205	1/n	20	ALLEN	Technology	0.306961205	1/n
	21	NUCOR	Basic Materials	-0.485240075	-1/n	21	RANDGOLD RESOURCES	Basic Materials	-0.37572803	-1/n
	22	CENTURYLINK	Telecommunications	-0.512085324	-1/n	22	ENEL	Utilities	-0.399122224	-1/n
	23	APACHE	Oil & Gas	-0.547319216	-1/n	23	SAIPEM	Oil & Gas	-0.402938932	-1/n
	24	WEYERHAEUSER	Financials	-0.621547484	-1/n	24	1&1 DRILLISCH	Telecommunications	-0.426734941	-1/n
	25	DOWDUPONT	Basic Materials	-0.639603621	-1/n	25	GLENCORE	Basic Materials	-0.42853283	-1/n
	26	MARATHON OIL	Oil & Gas	-0.641554194	-1/n	26	WOOD GROUP (JOHN)	Oil & Gas	-0.506131337	-1/n
	27	UNDER ARMOUR A	Consumer Goods	-0.6649231	-1/n	27	DIAGEO	Consumer Goods	-0.53310728	-1/n
	28	AVALONBAY COMMNS.	Financials	-0.689483301	-1/n	28	AMBU B	Health Care	-0.586493985	-1/n
	29	NEWS 'B'	Consumer Services	-0.692175507	-1/n	29	WILLIAM HILL	Consumer Services	-0.656144838	-1/n
	30	RED HAT	Technology	-0.736526027	-1/n	30	AMS	Technology	-0.666453415	-1/n
	31	QUALCOMM	Technology	-0.738486789	-1/n	31	OCADO GROUP	Consumer Services	-0.700036267	-1/n
	32	UNDER ARMOUR 'C'	Consumer Goods	-0.765202349	-1/n	32	EVOTEC (XET)	Health Care	-0.750388524	-1/n
	33	NRG ENERGY	Utilities	-0.808822642	-1/n	33	AIB GROUP	Financials	-0.798362575	-1/n
	34	GENERAL ELECTRIC	Industrials	-0.858052537	-1/n	34	CD PROJECT RED	Consumer Goods	-0.837387208	-1/n
	35	VERTEX PHARMS.	Health Care	-0.894160534	-1/n	35	TEMENOS N	Technology	-0.846418229	-1/n
	36	WATERS	Industrials	-0.930597116	-1/n	36	LAND SECURITIES GROUP	Financials	-0.867631502	-1/n
	37	NISOURCE	Utilities	-0.940608054	-1/n	37	CELLNEX TELECOM	Telecommunications	-0.909822499	-1/n
	38	MCKESSON	Consumer Services	-0.961529042	-1/n	38	MELROSE INDUSTRIES	Industrials	-0.938602466	-1/n
	39	NEKTAR THERAPEUTICS	Health Care	-1.247660065	-1/n	39	SARTORIUS PREF. (XET)	Industrials	-1.025668301	-1/n
40	UNIPER SE (XET)	Utilities	-1.322986104	-1/n	40	UNIPER SE (XET)	Utilities	-1.322986104	-1/n	
PASSIVE COMPONENT	1	iShares Core S&P 500 UCITS ETF			2%					
	2	iShares € Govt Bond 1-3yr UCITS ETF			38%					
	3	iShares € Govt Bond 7-10yr UCITS ETF			4%	Invested Capital (Active Long) € 100,000.00				
	4	iShares \$ High Yield Corp Bond UCITS ETF			9%	Invested Capital (Active Short) € (100,000.00)				
	5	iShares Core MSCI Europe UCITS ETF			2%	# Stocks 78				
	6	iShares \$ Treasury Bond 1-3yr UCITS ETF			34%	1/n € 2,564.10				
	7	iShares IG Corp Bond UCITS ETF			4%	Hedging Strategy NO				
	8	iShares \$ Treasury Bond 7-10yr UCITS ETF			5%					
	9	Invesco Optimum Yield Diversified			2%					

Warning

NEW PORTFOLIO 2- WITHOUT SECTOR NEUTRALITY										
	S&P 500					STOXX 600				
ACTIVE COMPONENT	#	Name	Industry	Score	Weight	#	Name	Industry	Score	Weight
	1	LOCKHEED MARTIN	Industrials	1.308179381	1/n	1	PZU GROUP	Financials	1.084610258	1/n
	2	LAMB WESTON HOLDINGS	Consumer Goods	0.995860558	1/n	2	NATIONAL GRID	Utilities	0.943833259	1/n
	3	MCDONALDS	Consumer Services	0.971202732	1/n	3	KPN KON	Telecommunications	0.927980847	1/n
	4	BANK OF NEW YORK MELLON	Financials	0.962454567	1/n	4	BTG	Health Care	0.905899644	1/n
	5	AUTODESK	Technology	0.9577118	1/n	5	VOLVO B	Industrials	0.887968162	1/n
	6	BOEING	Industrials	0.936026836	1/n	6	LUNDBERGFORETAGEN B	Financials	0.873564175	1/n
	7	KEYSIGHT TECHNOLOGIES	Industrials	0.850197525	1/n	7	SECURITAS B	Industrials	0.859292597	1/n
	8	COMERICA	Financials	0.84469917	1/n	8	BRITISH AMERICAN TOBACCO	Consumer Goods	0.849955196	1/n
	9	HUMANA	Health Care	0.774826935	1/n	9	ADP	Industrials	0.841127999	1/n
	10	ASSURANT	Financials	0.751454111	1/n	10	LOGITECH 'R'	Technology	0.790899053	1/n
	11	MOTOROLA SOLUTIONS	Technology	0.740229524	1/n	11	SHIRE	Health Care	0.790296847	1/n
	12	CBS 'B'	Consumer Services	0.739482532	1/n	12	3I GROUP	Financials	0.763920649	1/n
	13	PRINCIPAL FINL.GP.	Financials	0.700874564	1/n	13	DASSAULT AVIATION	Industrials	0.747741574	1/n
	14	AUTOZONE	Consumer Services	0.679708691	1/n	14	BARRATT DEVELOPMENTS	Consumer Goods	0.744436745	1/n
	15	SYMANTEC	Technology	0.659737949	1/n	15	BALFOUR BEATTY	Industrials	0.743773374	1/n
	16	LYONDELLBASELL INDS.CL.A	Basic Materials	0.631921264	1/n	16	PEARSON	Consumer Services	0.73268641	1/n
	17	T ROWE PRICE GROUP	Financials	0.62034214	1/n	17	SWEDISH MATCH	Consumer Goods	0.649917813	1/n
	18	D R HORTON	Consumer Goods	0.607926655	1/n	18	BP	Oil & Gas	0.648377134	1/n
	19	PHILIP MORRIS INTL.	Consumer Goods	0.604755644	1/n	19	KION GROUP (XET)	Industrials	0.63120422	1/n
	20	WEYERHAEUSER	Financials	-0.621547484	-1/n	20	BAYER (XET)	Health Care	0.613924546	1/n
	21	DOWDUPONT	Basic Materials	-0.639603621	-1/n	21	WILLIAM HILL	Consumer Services	-0.656144838	-1/n
	22	MARATHON OIL	Oil & Gas	-0.641554194	-1/n	22	INVESTEC	Financials	-0.660662971	-1/n
	23	UNDER ARMOUR A	Consumer Goods	-0.6649231	-1/n	23	AMS	Technology	-0.666453415	-1/n
	24	DARDEN RESTAURANTS	Consumer Services	-0.668529325	-1/n	24	OCADO GROUP	Consumer Services	-0.700036267	-1/n
	25	AVALONBAY COMMNS.	Financials	-0.689483301	-1/n	25	PHOENIX GROUP HDG.	Financials	-0.714181113	-1/n
	26	NEWS 'B'	Consumer Services	-0.692175507	-1/n	26	BANCO DE SABADELL	Financials	-0.745018253	-1/n
	27	FIRSTENERGY	Utilities	-0.716841118	-1/n	27	EVOTEC (XET)	Health Care	-0.750388524	-1/n
	28	RED HAT	Technology	-0.736526027	-1/n	28	BANKIA	Financials	-0.777057307	-1/n
	29	QUALCOMM	Technology	-0.738486789	-1/n	29	NATIXIS	Financials	-0.796014221	-1/n
	30	UNDER ARMOUR 'C'	Consumer Goods	-0.765202349	-1/n	30	AIB GROUP	Financials	-0.798362575	-1/n
	31	NRG ENERGY	Utilities	-0.808822642	-1/n	31	LAFARGEHOLCIM	Industrials	-0.816767753	-1/n
	32	PERKINELMER	Industrials	-0.848295815	-1/n	32	CD PROJECT RED	Consumer Goods	-0.837387208	-1/n
	33	GENERAL ELECTRIC	Industrials	-0.858052537	-1/n	33	TEMENOS N	Technology	-0.846418229	-1/n
	34	VERTEX PHARMS.	Health Care	-0.894160534	-1/n	34	LAND SECURITIES GROUP	Financials	-0.867631502	-1/n
	35	WATERS	Industrials	-0.930597116	-1/n	35	WIRECARD (XET)	Industrials	-0.885042108	-1/n
	36	NISOURCE	Utilities	-0.940608054	-1/n	36	CELLNEX TELECOM	Telecommunications	-0.909822499	-1/n
	37	MCKESSON	Consumer Services	-0.961529042	-1/n	37	OSRAM LICHT (XET)	Industrials	-0.916230399	-1/n
	38	NEKTAR THERAPEUTICS	Health Care	-1.247660065	-1/n	38	MELROSE INDUSTRIES	Industrials	-0.938602466	-1/n
						39	SARTORIUS PREF. (XET)	Industrials	-1.025668301	-1/n
					40	UNIPER SE (XET)	Utilities	-1.322986104	-1/n	
APASSIVE COMPONENT	1	iShares Core S&P 500 UCITS ETF			2%					
	2	iShares € Govt Bond 1-3yr UCITS ETF			38%	Invested Capital (Active Long)				
	3	iShares € Govt Bond 7-10yr UCITS ETF			4%	Invested Capital (Active Short)				
	4	iShares \$ High Yield Corp Bond UCITS ETF			9%	# Stocks				
	5	iShares Core MSCI Europe UCITS ETF			2%	1/n				
	6	iShares \$ Treasury Bond 1-3yr UCITS ETF			34%	Hedging Strategy				
	7	iShares IG Corp Bond UCITS ETF			4%					
	8	iShares \$ Treasury Bond 7-10yr UCITS ETF			5%					
	9	Invesco Optimum Yield Diversified			2%					
						Invested Capital (Active Long)		€ 100,000.00		
						Invested Capital (Active Short)		€ (100,000.00)		
						# Stocks		78		
						1/n		€ 2,564.10		
						Hedging Strategy		YES		

Both portfolios have been implemented on Interactive Brokers, a notorious trading platform that we recommend for academic purposes.

(Inception date: 25/1/2019)

## V. Appendix

<https://www.teleborsa.it/News/2018/12/19/pfizer-joint-venture-con-glaxo-da-12-7-miliardi-di-dollari-89.html#.XHLgYM9Kjs0>

<https://www.neste.com/ham-trick-campaign-exceeds-expectations-over-145000-households-finland-recycle-ham-fat-renewable>

<https://www.trend-online.com/ansa/dowdupont-prevede-un-ebitda-in-calo-nel-primo-trimestre-335742/>

<https://www.reuters.com/article/us-liberty-global-divestiture-sunrise-co/switzerlands-sunrise-in-takeover-talks-for-liberty-global-unit-idUSKCN1PU2HW>

<https://seekingalpha.com/article/4228527-centurylink-market-remains-wrong-13-percent-yielder>

<https://www.reuters.com/article/us-norsk-hydro-results/norsk-hydros-fourth-quarter-hit-by-restricted-brazil-output-shares-hit-two-year-low-idUSKCN1PW0CJ>

<https://www.reuters.com/article/us-norskhydro-outlook-cmd/norsk-hydro-sees-weaker-aluminum-demand-growth-in-2019-idUSKCN1NY0XG>

<https://it.reuters.com/article/idUSKCN1PI1MP>

<https://www.cnbc.com/2019/01/15/netflix-to-raise-prices-by-13percent-to-18percent-its-biggest-increase-ever.html>



#### Warning

This is an academic paper related to an academic project. This paper is not an investment suggestion and it does not in any way represent an invitation to purchase the securities we virtually invest in.