

MIMS - Diversified Passive Selection Fund

Portfolio Management Team

Report – April 2020

Fund description

The Diversified Passive Selection Fund is composed by a range of Exchange Traded Funds selected by Minerva Investment Management Society. These ETFs aim to replicate as closely as possible the performance of a basket of securities with specific common properties, thus being effective instruments for investors who wish to express a certain view on industry sectors or economic trends whilst capturing as little idiosyncratic risk as possible. This Fund therefore combines ETFs that when placed together reflect the global forecasts of the Fund management team.

Each of these ETFs was carefully chosen in line with the recent macroeconomic outlook, taking into account their ability to track their respective benchmark indexes. Diversification was a key element of the selection process and is reflected both into the asset and geographical allocation.

Finally, taking into account our commitment to build a realistic portfolio, we strived to make a proper balance between expense ratios, volatility and tracking errors to improve our probability of achieving a satisfactory overall risk-adjusted performance in these particularly volatile times. To that end, we attributed more weight to debt with respect to equities, focused on quality investments and included a “safe gold” ETF as this commodity tends to react less poorly to exogenous shocks such as the one the world economy is now facing.



Head of Asset Management

Alessandro Patrizi: +39 3661037690

Head of Portfolio Management

Icaro Baraglia: +39 3358179772

Portfolio Managers

Damiano Campini +39 3772372054

Edoardo Cordero +39 3924001284

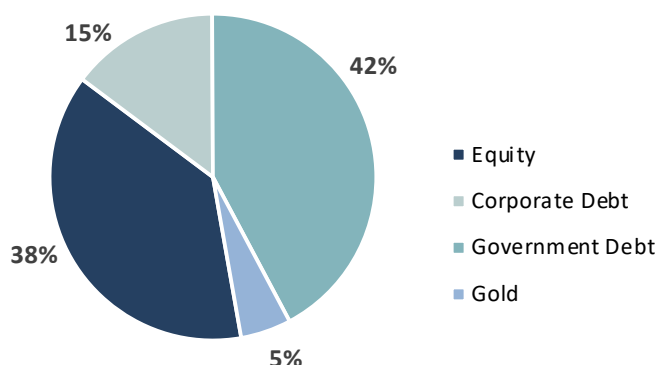
Portfolio Analysts

Vicente Capoulas +35 1927771881

Eleonora Di Veroli +39 3512307375

Marco Manzo Margiotta +39 3471320279

Asset Allocation



Investment Approaches

Quality Asset Allocation

Given the current levels of volatility, a decision was made to seek ETFs that replicated sound and stable indexes. By strongly diversifying according with asset class, geography and industry and by selecting instruments whose underlying securities were characterized by low volatility and strong fundamentals, we constructed a strong portfolio.

Multifactor Model

The ETFs choice is conducted in line with a model which follows a multifactor logic. The key factors contributing to the selection process are performance, volatility, asset under management, tracking error volatility and expense ratios. After a procedure of factors grading, each factor is weighted according to a subjective criterion and the ETFs collecting higher grades end up being selected.

Individual Breakdown

Each analyst has selected ETFs which look more promising in a period of uncertainty and weakness. In order to do so, a deep analysis of the Net Asset Value and volatility of each selected Fund has been performed.

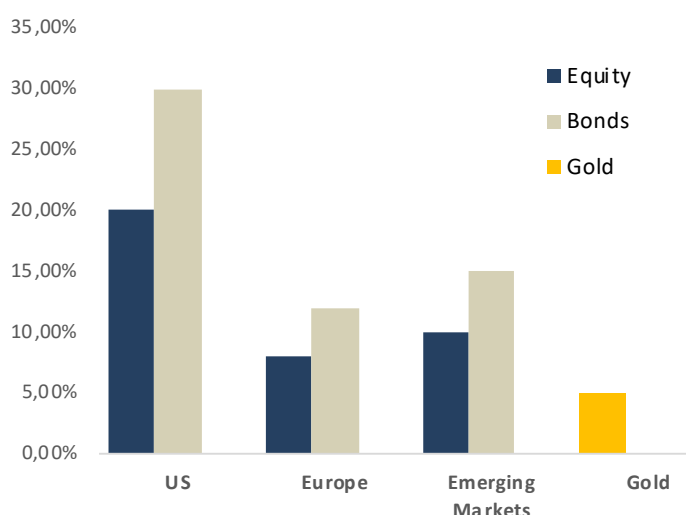
"Black Friday shopping-mode: on!"

Our asset allocation reflects our house views for the macro outlook. We think that after a 2019 FY when there was nothing left to buy, now we are facing a lot of opportunities. As our mandate consists in investing in ETFs, as much liquid as possible, we focus on seemingly liquid underlying. Relative valuations in 2019 seemed quite strange, HY bonds priced as "safe" BBB+ ones, A or higher value bonds looked incredibly expensive. Comparison with over-valued equities made them look "cheap" though. Fortunately-enough, this has come to an end. Unfortunately, volatility rose, making extremely difficult to understand correlations between stock-bonds in the near future.

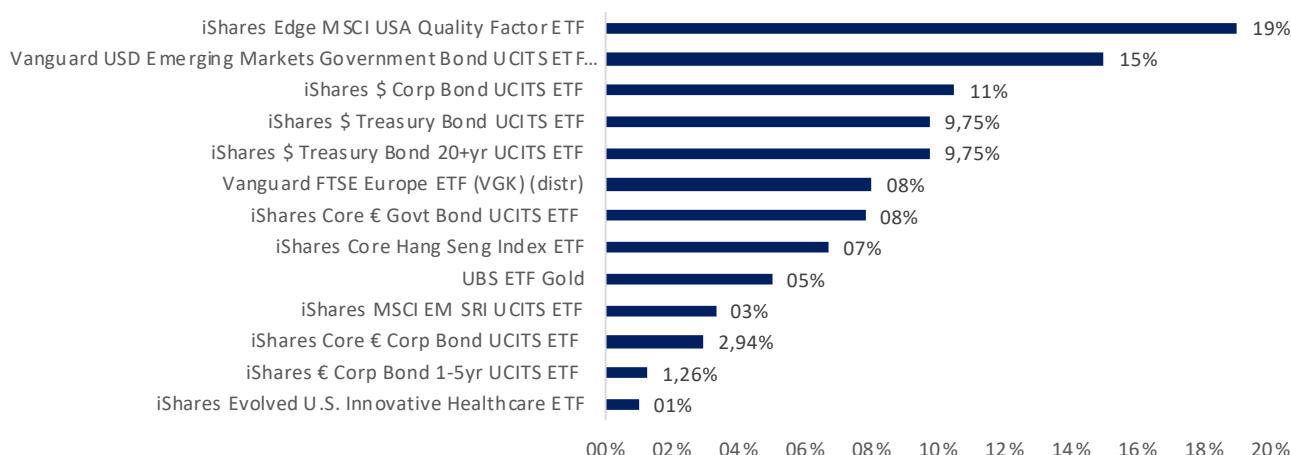
Empirically, we have seen a positive correlation in the last years between them. High volatility should increase correlation, as inflation (at least with growth stocks). As we are better off with little than nothing, we mainly invested in government bonds across all major geographies. Govt debts should be guaranteed, with the exception of some Emerging Markets cases (African countries, Argentina as usual). We also got exposure to corporate credit, with a high duration and relatively good quality, to trade off.

Big corporates should benefit from CB plans and government aids. We limited our portfolio to a bit more than a third invested in equities, with some exposure to Emerging Markets and US, as we think will recover faster than Europe. Correlations among asset classes from different markets (e.g. US and EU ones) are themselves not easy to capture during crisis.

We preferred investing more in discounted bonds ETF as perceived safer than discounted stocks (mainly growth ones). Indeed, looking at "value stocks ETF" (or supposed ones) the discount was more limited.



ETF breakdown



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ASSET ALLOCATION

After a positive 2019, the economy began the new decade with data continuing to show signs of improvement and with central banks intent on remaining accommodative in the coming year. Furthermore, markets showed a good mood and there were only a few signs of concern about the outbreak of coronavirus and brief flare-up in US-Iranian tensions.

However this positivity did not last long: the coronavirus started threatening most countries leading to a situation of economic disruption. Output contractions started to be felt in many economies, making the growth prospects deeply uncertain. The coronavirus represents an unprecedented shock which requires a very strong and effective policy response. This is what most countries have been focusing on during the last months: paying a proportion of workers' wages, government-backed loans and fiscal stimulus packages are among the policies undertaken to face this unprecedented shock. With regard to central banks, they have been focusing on cutting rates - in order to stimulate investments - and expanding assets purchase - in such a way to revive credit flows and stimulate economic activity.

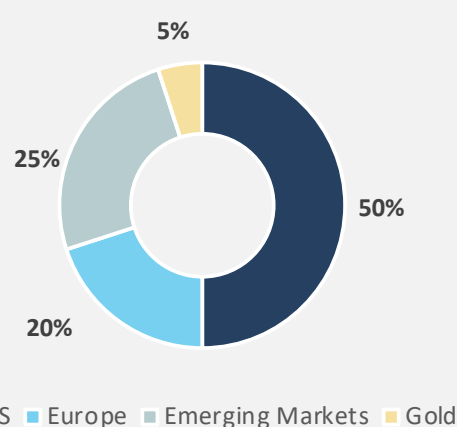
From a market perspective, commodity prices have fallen sharply over the last quarter following a decrease in demand, with gold - the safe heaven asset - ranking as the only one performing well, with a return of 5% year to date. As far as it concerns bonds, corporate bonds prices have declined as a result of the shutdowns on corporate profits while government bonds have assisted to an increase in price, due to the rates cut and the restarted quantitative easing. Finally, equities have faced a sharp fall with lots of losses, mainly in the month of March.

What is to be expected? By now growth prospects remain highly uncertain, both from a global GDP perspective and a State-specific one. What is needed is the support of governments in assisting the work of Central Banks through fiscal policies, to support the incomes of vulnerable social groups and the performance of major businesses.

EUROPE

Europe started the year in a healthy condition, with data pointing out a well performing labor market and a significant growth. In February, the first signs of the coronavirus outbreak started to be reflected into a decline of the PMI sub-component for export orders. Then, the impact of the pandemic started to be felt more and more, with economic conditions gradually deteriorating.

To respond to the negative effects exerted by the spread of the virus, the ECB responded with a Pandemic Emergency Purchase Programme and with refinancing operations, including an interest rate at -0.75%, aimed at ensuring that all sectors would absorb the exogenous shock of COVID-19.



Given this landscape, we decided to allocate a conservative portion of 20% of the Fund in European securities. Because of the unlikelihood of interest rate hikes anytime in the near future, most of this allocation will be destined towards debt securities which in turn will be 65% composed by Government debt. The choice of not a higher percentage in the allocation was driven also by the usually high correlation between the US and the EU market. The correlation however is not easy to capture during periods of strong pressure on both markets.

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USA

2020 looked as a year of moderately well-doing US economy, with some signs of weakness linked to manufacturing and business investments. January was a good month for markets, with a thawing in tensions with China and with consumers being in good shape. With the arrival of the coronavirus, the situation dramatically changed: equities assisted to big losses, the number of people filling for unemployment hit a record high and GDP growth slowed down.

In order to face the issue, a very substantial fiscal stimulus package was agreed, worth about 10% of GDP, with the aim of providing support to small businesses and increasing jobless benefits for the next few months. As regards monetary policy, the FED committed to purchase as many government bonds as needed. Furthermore, the central bank cut interest rates in order to stimulate the economy. These policies showed good results in the short term (with a registered performance of 3-5% in US markets), while the long-term results are uncertain and partly dependent on the future of fiscal and monetary policies.

US bond yields have tumbled as investors look for safety

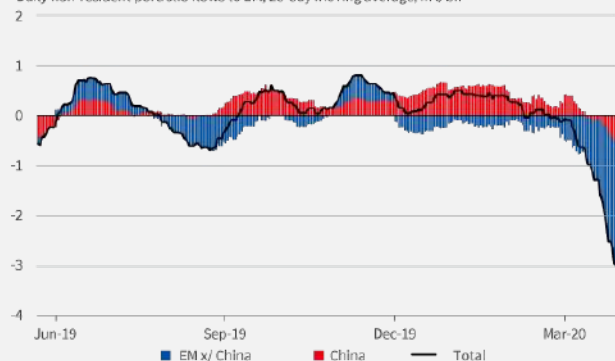


Given the possibility of a V (or also a W) shaped bounce of prices, we kept a significant weight of the Fund in the US market (50%). In this period of uncertainty we have employed a higher percentage of US bonds with duration of ETFs around 12 years. When talking about stocks, we have selected ETFs generally with a value component.

EMERGING MARKETS

Since China was the first country to be affected by the virus and is now in the process of returning to normalcy, there is now an idea on the toll the lockdown has had in the Chinese economy, with year-on-year industrial production plunging by 13.5% over January and February and fixed asset sales and retail sales down by 24.5% and 20.5% respectively. Despite this, volatility in Chinese equity seems to be smaller than the one verified in other developed countries. There has also been noticed a surge in demand for Chinese government bonds as investors shift from equities to debt. There is still no clear conclusion on the size of the stimulus, and, as global demand is reduced, total exports for the year will most likely be affected.

Daily non-resident portfolio flows to EM, 28-day moving average, in \$ bn



However, within emerging markets the effects are likely differ widely, with economies in north Asia, along with India, benefiting from lower energy prices and commodity exporters in Latin America looking more exposed.

Given the aforementioned, we decided to allocate 25% of the portfolio in emerging markets securities with most of this in the form of USD denominated government debt. Furthermore, as to avoid the volatility in the way we foresee emerging economies will be impacted by the crisis, the majority of the equity portion of this allocation will be directed towards Chinese securities, with a significant portion also destined towards securities in other emerging markets.

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MULTIFACTOR SELECTION

Given a universe of ETFs, the model provides an automatic selection of the best funds, which would be then analysed and selected individually by the Fund management team. The multifactor logic comes along with a Winsorization technique to actually get rid of outliers and to obtain a more reliable list of ETFs. Each ETF is given a score based on some factors decided arbitrarily, then individual analysis is pursued on the first half of the funds with the higher scores. This process is possible only by dividing each fund by geographical area (US, EU and EM) and by asset class (Equity, Bond, Commodity).

The discriminant factors are reported as it follows:

- **Performance:** the higher the performance relatively with other ETFs tracking similar indexes, the higher the score.
- **Volatility:** the higher the volatility relatively with other ETFs tracking similar indexes, the lower the score.
- **Asset Under Management:** the selection is tilted towards the more famous and liquid funds, specially in a moment of low liquidity and high market pressure.
- **Expense Ratio:** this key measure is essential to keep a relatively cheap portfolio. The higher the expense ratio, the lower the score.
- **Tracking Error Volatility:** it is crucial for the funds selection to replicate the index as closely as possible.

Depending on the nature of the replicated index the model considers also factors as **Duration** (for fixed income ETFs) and **P/E** (for equity ETFs). Since our aim, as highlighted in the macro outlook, was to keep a relatively stable portfolio in terms of low duration and low price earnings multiples, both Duration and P/E are given a small and negative score with respect to our target duration and P/E. As seen, our vision influences the choice of factors, obviously this shall not be intended as a pitfall of the model at all, but rather a strength.

WEIGHTS

The factors are not equally weighted, but we have chosen a subjective classification based on our economic outlook. The highest weight is given to the Expense Ratio in order to rule out unacceptably expensive funds, namely with fees per annum above 0.50%. Performance and Volatility then are both considered equally significant in our analysis, mainly to get rid of high volatility and extremely negative return ETFs. The remaining factors (TEV, P/E, Duration and AUM) are considered equally important, but still less significant than the abovementioned.

RESULTS

The selected funds should be among the cheaper ones, with lowest volatility, duration, Tracking Error Volatility and P/E. In the next section we will proceed with the individual analysis, which highlights how each ETF respects these criteria. For this reason this model is useful for a first selection, but it has to be integrated in further steps with a more detailed analysis and justification for the ETFs included in the final portfolio. Here it is a look at the first 8 funds selected by the model, and at the ETFs present in the final portfolio (light blue).

ETF	Score
iShares Core Hang Seng Index ETF	0.951
UBS ETF (CH) Gold hedged EUR	0.749
iShares € Corp Bond 1-5yr UCITS ETF	0.714
iShares Core € Govt Bond UCITS ETF	0.695
iShares \$ Short Duration Corp Bond UCITS E1	0.649
iShares \$ Treasury Bond 1-3yr UCITS ETF	0.514
iShares MSCI EM SRI UCITS ETF	0.500
iShares Edge MSCI USA Quality Factor ETF	0.400

For clarity, given the first 8 winners, we can see that 6 (light blue) out of the first 8 ETFs selected by the model, were eventually picked in the final asset allocation by our team, and so they were correctly considered among the best ones by the multifactor model.

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iShares Edge MSCI USA Quality Factor ETF

Index: MSCI USA Sector neutral Quality Index

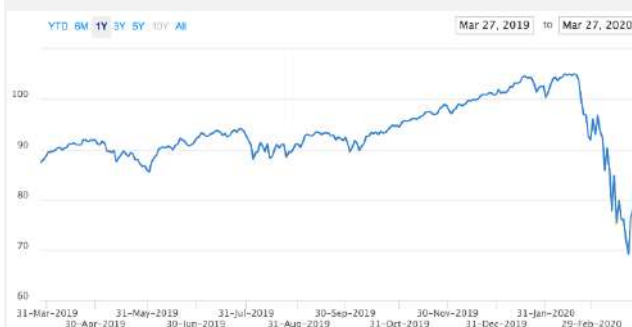
Expense Ratio: 0.20% Tracking Error Volatility: 0.05%

ETF Overview

The iShares Edge MSCI USA Quality Factor ETF seeks to track the investment results of an index that measures the performance of U.S. large- and mid-capitalization stocks as identified through three fundamental variables: return on equity, earnings variability and debt-to-equity.

Analysis

As of March 17th, the Net Asset Value has declined 8.16% over a 1 year period with most of this loss occurring recently due to the Covid-19 outbreak with an annualized daily volatility of 26.25% over the same period. The ETF follows the index with a 0.055% tracking error volatility. With 125 different holdings, this ETF is a well diversified vehicle to invest in companies with high ROE, stable earnings growth and low financial leverage, with most of its exposure in industries like Information Technology, Healthcare, Financials and Communication.



Conclusion

Given the need for geographical diversification and the macroeconomic outlook for the coming months marked by the Covid-19 pandemic, this ETF is in our view an efficient way to invest in US equities during this highly volatile environment, particularly because this fund includes a earnings variability factor which prioritizes companies with a stable earnings growth, and a low financial leverage factor. We believe the impact of the Covid-19 outbreak will be relatively smaller for companies with these characteristics.

iShares Evolved U.S. Innovative Healthcare ETF

Index: Barclays Euro Corporate Bond Index

Expense Ratio: 0.18% Tracking Error Volatility: 0.05%

ETF Overview

The iShares Evolved U.S. Innovative Healthcare ETF applies proprietary data science techniques to identify companies within the Health Care industry which are most exposed to innovation and research.

Analysis

The Net Asset Value has declined 4.04% over the past year with most of this loss occurring recently due to the Covid-19 outbreak with an annualized daily volatility of 23.32% over the same period. The ETF does not follow a particular index. With 229 different holdings, this ETF is a well diversified vehicle to invest in companies with exposure to the innovation in the healthcare sector.



Conclusion

We believe that given the highly protective characteristics of the overall passive portfolio, there was room to include a more aggressive element. Given the current landscape there will be, in our view, higher demand for technological research and innovation in the pharmaceutical industry in the near future, so it makes sense to invest in companies that are already strongly positioned to meet that demand. We also believe that the expense ratio of 0.18% is justifiable given the niche characteristics of this ETF.

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iShares Core Hang Seng Index ETF

Index: Hang Seng Total Return Index

Expense Ratio: 0.09% Tracking Error Volatility: 0.10%

ETF Overview

The iShares Core Hang Seng Index ETF seeks to track the results of the Hang Seng, one of the most famous index of the Chinese market, in particular the index is made of Hong Kong big cap equity.

Analysis

The main strength of this ETF is its low expense ratio (0.09%) with respect to other emerging market passive funds. From the Morningstar Style Box we can appreciate a blend style. Furthermore the average P/E ratio of the equities in the ETF is sufficiently low (around 10x).

With 250 different holdings, this ETF is a well diversified vehicle to invest in the Asian market. The significant component of Financials makes it able to react quickly to the Covid-19 measures in China.

The Tracking Error Volatility, which lays around 0.10% annual, does not appear problematic.



Conclusion

Given the need for a cheap and well diversified emerging markets ETF, the iShares Core Hang Seng provides us a liquid and reliable tool to track the EM Equities. The annual volatility computed on the last two years is 16%, quite reasonable compared to similar ETFs. The only con is the currency in HKD which, without a proper currency hedge, would leave us exposed to HKD.

iShares Core € Corp Bond UCITS ETF

Index: Barclays Euro Corporate Bond Index

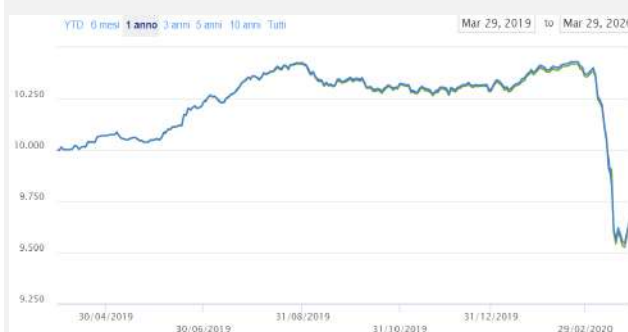
Expense Ratio: 0.20% Tracking Error Volatility: 0.12%

ETF Overview

The iShares Core € Corp Bond UCITS ETF seeks to track the result of the Bloomberg Barclays Euro Corporate Bond Index, which is made of investment grade European corporate bonds.

Analysis

The Net Asset Value has declined 3.57% over the past year with most of this loss occurring recently due to the Covid-19 outbreak with an annualized daily volatility of 5.02% over the same period, with more than 100 investment grade participations, denominated in Euro. The Tracking Error Volatility is 0.12% (below the median) and it is one of the biggest BlackRock funds as Asset Under Management (9 billions).



Conclusion

Since this fund has a relevant place in our overall portfolio, with a percentage of 11%, the low expense ratio and the high liquidity (9 billion AUM) makes it perfect to cover the European corporate bonds. The high diversification among participations with their investment grades, will provide the element of protection we are looking for in this period of crisis. For this reason, the “flying to quality” effect on bonds would give a boost to our portfolio in particular through this ETF.

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USD Emerging Markets Government Bond ETF (USD)

Index: Bloomberg Barclays EM USD

Expense Ratio: 0.25% Tracking Error Volatility: 0.17%

ETF Overview

The USD Emerging Markets Government Bond ETF seeks to track the result of an index made of EM government and quasi-government bonds. The bonds denomination is in USD.

Analysis

This ETF invests in companies in Asia, Middle East, South America, without overweighting China, a major problem in many “Emerging Markets” ETFs. The risk of illiquidity should be mitigated by its size (0.5 \$ bln), when we bought it was trading at discount with respect to the NAV. Overall Duration of 7 years and BBB rating should bring interesting returns, as rates are not meant to increase soon. The Tracking Error Volatility is moderate and about 0.17%.



Conclusion

As said it was important not to have a significant concentration in Chinese investments also from the bonds point of view. The broad participations and a low expense ratio gave us reasons to select this ETF among others to cover the Emerging Markets government bonds.

UBS ETF (CH) – Gold (EUR) Hedged

Index: LBMA Gold Price

Expense Ratio: 0.23% Tracking Error Volatility: 0.07%

ETF Overview

The UBS ETF Gold TF seeks to track the result of a particular gold index, the LBMA Gold Price EUR.

Analysis

When taking positions on gold, it is always difficult to understand which might be the best instrument to do so. Excluding futures, among many possibilities we have mint-companies funds and ETFs. In our analysis we included some quasi ETF/ “gold” funds, and we reached the conclusion that their liquidity and, sometimes, even their reliability is in doubt.

This ETF has a reasonable expense ratio, considering other options. The bid-ask spread has been of about 9% in times of major volatility. NAV always in between.

The ETF invests in physical gold, whose weight is about 400 ounces. Tracking Error Volatility is unsurprisingly one of the lowest in the portfolio (0.07%). The only con is the low level of Asset Under Management which is less than 300 mln.



Conclusion

Given the huge sell off performed by portfolio managers during March, the Gold had plumbed around 1,480. That was lower than the pre-crisis level, hence a good opportunity for the fund to diversify smartly the investments. This ETF is reliable both in terms of TEV and in terms of liquidity. The Expense Ratio is once again the main discriminant factor in our analysis.

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iShares MSCI EM SRI UCITS ETF

Index: MSCI EM SRI Select Reduced Fossil Fuel Index

Expense Ratio: 0.25% Tracking Error Volatility: 1.09%

ETF Overview

The iShares MSCI EM SRI UCITS ETF aims at replicating the performance of the benchmark index MSCI EM SRI Select Reduced Fossil Fuel Index, composed by Emerging Markets equities in line with the ESG (Environmental, Social and Governance) criteria.

Analysis

The Net Asset Value of the ETF has fallen dramatically compared to previous quarter performance. As the graph suggests, this is mainly due to the outbreak of Covid-19 which dramatically impacted on the performance of Emerging Markets. Furthermore, the Fund shows a 3 years standard deviation of 13,67% and a tracking error equal to 1,09%. Finally, with low price to earnings ratio and price-to-book ratio, this ETF appears to be undervalued and will eventually lead to high returns in the future.



Conclusion

With an expense ratio of 0,25%, this Fund has exposure on various Emerging Markets with a lower focus on China with respect to many EM ETFs, and hence grants a wider geographical diversification. Furthermore, its focus on Asian Markets could be profitable in a period in which Asian countries seem to react better to the spread of the pandemic compared to Western countries. Finally, its volatility is low compared to the one of similar ETFs.

iShares \$ Corp Bond UCITS ETF

Index: iBoxx \$ Liquid Investment Grade Index

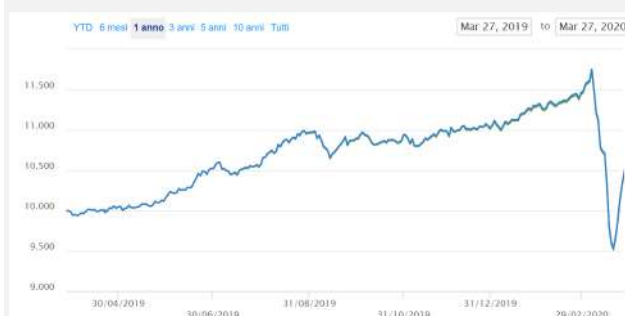
Expense Ratio: 0.20% Tracking Error Volatility: 0.26%

ETF Overview

The iShares \$ Corp Bond UCITS ETF seeks to replicate the results of the iBoxx \$ Liquid Investment Grade Index, composed of US dollar-denominated investment grade corporate bonds.

Analysis

In line with the general weak outlook due to the outbreak of Covid-19, the Net Asset Value of the ETF has declined through the last month, but still registers an increase of 4,49% over the past year, with an annualized daily volatility of 26,50%. The tracking error is 0,27% and the Fund mainly includes BBB (48%) and A (40%) corporate bonds, with the remaining 12% represented by higher graded bonds.



Conclusion

With its diversified exposition to US dollar-denominated bonds and its direct investments in multiple sectors, this ETF looks as an attractive investment in this unstable period. Furthermore, its diversification in terms of investment grades and the low expense ratio of 0,20% are among the reasons which lead it to be selected to cover the US Corporate Bonds.

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iShares \$ Treasury Bond 20+ yr UCITS ETF

Index: ICE U.S. Treasury 20+ Year Bond Index

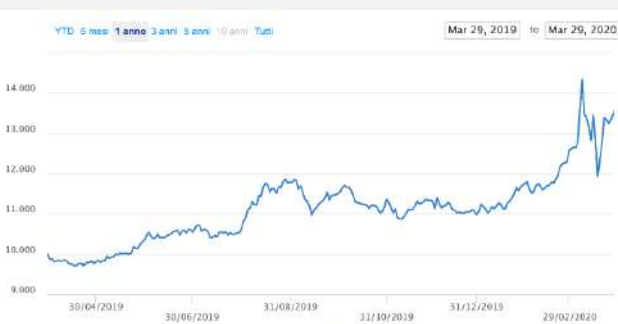
Expense Ratio: 0.07% Tracking Error Volatility: 0.17%

ETF Overview

The \$ Treasury Bond 20+ yr UCITS ETF seeks to track the results of the ICE U.S. Treasury 20+ Year Bond Index, an index composed of US Dollar denominated government bonds issued by the US Treasury.

Analysis

This ETF grants targeted exposure to long-term US treasuries; its weighted average maturity is 25.67 years and its effective duration is, in fact, 18.74. Its unmatched expense ratio (0.07 %) made this ETF stand out with respect to similar ones offered by competitors. The Tracking Error Volatility (0.171% over last year), smaller than other similar Fixed Income ETFs, and the AUM bigger than 1 Billion are other appealing features of this ETF.



Conclusion

Given the current turmoil in the Financial Market, we decided to allocate a large portion (19.5%) of our Fund to US Bonds, which are all characterized by a AAA rating. By this ETF, single country government bond exposure is granted. The vibrant request of liquidity in the markets, combined with the fund's six months horizon, justifies the decision of choosing this ETF with its own duration and maturity.

iShares Core \$ Treasury Bond UCITS ETF

Index: ICE U.S. Treasury Core Bond Index

Expense Ratio: 0.07% Tracking Error Volatility: 0.22%

ETF Overview

The iShares Core \$ Treasury Bond UCITS ETF seeks to track the result of the ICE U.S. Treasury Core Bond Index, an index composed of US Dollar denominated government bonds issued by US Treasury.

Analysis

This recently born ETF, with inception 30/08/2019, grants targeted exposure to US government bonds, with a wide range of maturities: from 1 year to 20+ years; it is composed by 60% of Treasury Bonds whose maturities are equal or smaller to 7 years, thus the ETF's weighted average maturity is 8,50 and its effective duration is 6.91; both of them are significantly lower than the iShares \$ Treasury Bond 20+ years UCITS ETF's one. The expense ratio is 0,07%, low when compared to peers.



Conclusion

This ETF aims to grant an access to a wide range of US treasuries, considered precious assets during the Covid-19 crisis, characterized by high levels of volatility. The selection of this ETF comes in pair with the choice of iShares \$ Treasury Bond 20+ years UCITS ETF. They both have the same portion (9,5%) in our portfolio, in order to obtain a weighted average maturity of 17,05. This choice was taken with the double objectives of conserving a significant duration, considering the current market conditions, and of getting closer to the 10-year benchmark.

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