MARKET OUTLOOK AND PORTFOLIO PROPOSITION : A DEEP DIVE IN INVESTMENT GOVERNANCE

THE TEAM

Baptiste
DUCERF

Nicolas
HIMMER

Thibault
PUPET

Camille
SERMIER

Ulysse
STEVENIN

Loris
VIAL

HONOR CODE

As students at the Ecole hôtelière de Lausanne, we uphold and defend academic integrity, academic rigor and academic liberty as core values of higher learning. We attest, on our word of honor, that work submitted in our names is our own work, and that any ideas or materials used in support of this work which are not originally ours are cited and referenced accordingly. B.D, N.H, T.P, C.S, U.S & L.V

TABLE OF CONTENT

01 EXECUTIVE SUMMARY

Methodology

- Sample selection
- Economic & Financial Outlook
- Portfolios analysis

Persona

- Volatility between 6% and 8%
- Looking for a sustainable way to invest

2 Portfolios

Mix Portfolio

- 4 asset classes
- 12 assets

ESG Portfolio

- 3 asset classes
- 21 assets with minimum ESG scrore (80 or AA)

Forecasts

- 1 year forecasts
- 3 years forecasts
- 5 years forecasts

Mix Risk Analysis

- Return = 6.89%
- Volatility = 8.00%
- Less diversified portfolio

ESG Risk Analysis

- Return = 7.25%
- Volatility = 8.00%
- Diversified portfolio

ESG Portfolio

- Higher return
- Same volatility
- Better diversification potential

METHODOLOGY

02

Selection of our sample

Refinitiv (figure 1)

- We have chosen to select our companies according to the ESG rating methodology used by Refinitiv (via Datastream extraction software), a London Stock Exchange Group company, and one of the most important financial market data and infrastructure providers in the world. Refinitiv rates companies on a scale of 0 to 100, with a score of 70 being considered a good ESG rating.
- Refinitiv offers one of the most comprehensive ESG databases in the industry, covering 70% of the global market cap, across more than 450 different ESG metrics.

MSCI

- To select the funds and bonds we wanted to include in our portfolio, we looked at the MSCI rating method. In contrast to Refinitiv, this company rates funds on a scale ranging from the highest AAA to the lowest CCC rating.
- We selected funds and bonds with a minimum rating of AA.

Risk-Free Rate

We chose to use the Risk-Free Rate of the US market, the Chinese market, and an average of the French and German to represent the European market. We calculated a weighted average of these risk-free rates to define the risk of the different markets in our assets as accurately as possible. We wanted to propose two types of portfolios, so we calculated two different risk-free rates with weights corresponding to the characteristics.

Portfolio construction

We wanted to compare a portfolio made up solely of ESG companies with a mixed portfolio of 4 asset classes divided between equity, debt, real estate, and alternative investments based on the investor's constraints.

We selected a large majority of indexes and some ETFs to best to represent the four asset classes imposed on us for our mixed portfolio. We also decided to create our ESG fund to insert into this portfolio. To make this fund, we first selected a sample of 80 companies with any ESG score since the beginning of 2015. We wanted our fund to be composed exclusively of companies with an excellent rating, so we kept only 15 companies, 4 funds, and 2 Green Bonds, all with an ESG score above 80. After studying the historical data (returns, excess returns, volatility, and sharpe ratio) of each of these assets (1 January 2015 - 31 January 2019) and to best represent them in our fund, we allocated them a minimum weight of 3% and chose to maximize the Sharpe ratio.

For the ESG portfolio, we have repeated the method used to select the companies in our fund.

**As ESG ratings are based on companies' financial reports, we could not extend our study beyond the end of 2019. **

Portfolios

We have decided to create two portfolios that we will compete with each other to select the one that best suits our investor. The first portfolio is the mix, and the second is composed exclusively of companies that we chose.

We then set up different types of portfolios with changing constraints such as MSR, and Max Return by playing on a minimum allocation for each asset in some cases.

Forecasts

To obtain the most accurate forecasts possible, we based our forecasts on the 3-factors style method by making our forecasts on a weekly basis. The three factors we used (MKT-RF, SMB, and HML) to draw our regressions and obtain our alphas and betas are taken from the FAMA French platform. We then made forecasts on investment horizons of 1, 3, and 5 years with the 3-factors style method.

To take the analysis of our forecasts a step further, we also used the data found in the first part of this report (economic & financial outlook). This allowed us to make adjustments to estimate the potential returns of each of our assets and adjust their risk profiles.

We decided to use two different methods to forecast our future returns and volatilities for our two types of portfolios (Mix & ESG).

First, and for all our future outlooks (1, 3 & 5 years), we used the 3-factor style method (Mkt-Rf/SMB/HML) extracted from the FAMA-French database on a weekly basis to obtain higher accuracy in our regressions (*the daily extraction had errors in the FAMA-French files*). We, therefore, ran regressions for each of our assets and for both portfolios (Y-axis being the asset in question and X-axis representing our 3 factors).

To calculate our Forecasts Returns, we first calculated the Risk Premium of each of our factors, and then we used the following formula for each of our assets and periods:

$$\boxed{\text{Excess Expected Return} = R_f + Beta_1 * RiskPremium_1 + \ldots + Beta_n * RiskPremium_n}$$

To calculate our Forecasts Volatility, we proceeded in exactly the same way, this time using the following formula and adding the Residuals from our regressions:

$$\boxed{\text{Expected Variance} = Beta^2_1 * Variance_{Factor1} + Beta^2_n * Variance_{factor\ n} + Variance_{Residuals}}$$

Finally, we have decided to give a weight of 70% to calculate our forecasts to the 3 Factor Model method and 30% to the adjustments we have made based on our Economic Outlook (see table & explanations).

03

ECONOMIC & FINANCIAL OUTLOOK

Current economic situation

The Covid-19 pandemic was a disaster for the population and resulted in a market crash (March 2020). Indeed, the supply chain disruption dampened growth, directly and indirectly, causing inflation to rise to levels unseen for decades. High inflation is expected to persist longer than anticipated (International Monetary Fund) as supply chain disruptions and high energy prices are expected to continue into 2022. While inflation expectations remain well-anchored, inflation is expected to decline gradually as supply-demand imbalances diminish in 2022 and monetary policy in the major economies takes effect.

Despite the economic crash, 2021 was a prolific year with high returns; the Dow Jones gained 18.7% and the S&P 500 26,9% (Forbes advisor). The high returns weren't achieved because the economy rebounded fast but because the Federal Reserve kept the interest rate near to zero and continued pumping billions of dollars each month in the market (Forbes). Therefore, with the help of central banks and governments, the economy was able to maintain flow, resulting in an outstanding year for the stock market.

The high return in the stock market might let you think that the economy has recovered from the Covid-19 pandemic. However, only some sectors are having a quick recovery while other sectors continue to lag, and millions of people still remain unemployed. Because of the Covid-19, we decided not to base our research on 2020 and 2021.

The stock market went back to normal through monetary intervention and low-interest rates. Still, for the first time since 2018, the US Federal Reserve has raised interest rates because central banks are struggling with covid, inflation, and war in Ukraine. The interest rate increase should fragilize the current economic situation and probably result in a second economic crisis in three years. Finally, the latest outlook projections suggest that the growth in GDP in developed countries will slow down in the following years, which will have a long-term impact on the market (Figure 2).

Economic & Financial Outlook

	EQUITY				
	Large Cap (US)	Small Caps (US)	Mid Caps (US)	International Equities	Emerging Countries Equities
1 Year Return Forecast	Still very low	Still negative for this period	A bit more than 2021	Around 5%-6% like 2010 (Bloomberg)	Around 1% to 2% (Nothern Trust)
3 Year Return Forecast	Grow after recovery (JP Morgan)	More than 6% at the end of 2025	Around 7% in 2025 (FieraCapital)	Growth (for the 4 next years)	Around 10% (Bloomberg) (FierCapital)
5 Year Return Forecast	Expected to be around 9-10% (Robecco)	Stabilize (no more information)	Stabilize (Fieracapital)	Stabilize (Fieracapital)	A slight decrease following a logical stabilization (Nothern Trust)

	EQUITY				
	Large Cap (US)	Small Caps (US)	Mid Caps (US)	International Equities	Emerging Countries Equities
1 Year Volatility Forecast	Increase (BCE) (PIMCO) (Unicredit)				
3 Year Volatility Forecast	Increase (BCE) (Unicredit)				
5 Year Volatility Forecast	Like historical data like 2018-2019 (JP MORGAN)				

	BOND			REAL ESTATE	ALTERNATIVE	
	Government Bonds (US)	Corporate Bonds (US)	High-Yield Bonds (US)	Listed REITs (US)	Commodities	Precious Metals
1 Year Return Forecast	Same as today	Historical Data	No information	Around 3%	Period of 5year between 0% to 1.5% (schroders)	Around 4%-5% (Capital.com)
3 Year Return Forecast	Augmentation from 0.5% to 1% (Robecco)	nt Increase if risk premium > 1% (Robec	No information	Increasing (JPM)	Period of 5year between 0% to 1.5% (schroders)	Increase (litefinance)
5 Year Return Forecast	Diminution (FED)	nt Increase if risk premium > 1% (Robec	No information	Stabilize	Period of 5year between 0% to 1.5% (schroders)	Decrease a bit or stabilize (litefinance)

	BOND			REAL ESTATE	ALTERNATIVE	
	Government Bonds (US)	Corporate Bonds (US)	High-Yield Bonds (US)	Listed REITs (US)	Commodities	Precious Metals
1 Year Volatility Forecast	Slighlty increase (BCE) (JP MORGAN)			Slightly increase (BCE)	Same tendance after 2007-2008: such as 2010 (UBS confidential DATA)	
3 Year Volatility Forecast	Increase (BCE)			Increase (PWC)	Increase (UBS confidencial DATA)	
5 Year Volatility Forecast	Equilibrium (no more data)			Stabilize (PWC)	Like historical data	

FORECASTS

04

1 Year Forecast

We have chosen to use 2015 as a reference because:

- World stock market has evolved in a rollercoaster ride.
- Slowdown in the stock markets partly due to (Fay, 2015):
    - Greek financial crisis,
    - Collapse of the Chinese market,
    - Investors' fears of a global economic meltdown.
- CAC 40 closed its year with a 8.54% profit / NASDAQ gained 10.83% / DowJones gained 1.63% (Bourassi, 2016).

We believe that 2015 will represent our 1 year forecast as stock markets are slowly recovering from the global economic and health crisis.

3 Years Forecast

We have selected the period 2017-2019 to establish our 3-year forecasts because:

- Overperforming markets during 2017.
- Significant decline during 2018 partly due to:
    - Fears of a sharp rise in inflation precipitated a drop in Wall Street markets (Jérôme, 2020),
    - Crisis in several emerging currencies (Jérôme, 2020),
    - Trade war initiated by the Trump administration (Benhamou, 2019).
- Substantial increase during 2019 exceeding 25% (Meyer-Vacherand, 2020).
    - Markets have been rising on average from 2017 to 2019.

We assume that the markets will follow a more or less similar trend over the next three years. We expect them to increase somewhat despite the uncertainties linked, particularly to the war in Ukraine and the Covid-19 pandemic, which is unfortunately still present.

5 Years Forecast

Economic outlook on the period from 2015 to 2019.

- Markets have been rising across the board.
- Periods of heightened investor fear:
    - Global political instability,
    - Economic instability.
- Markets are trending upwards following the beginning of the recovery from the COVID-19 pandemic.

We believe that the next 5 years will represent this study period because:

- Many political & economic uncertainties remain in the future:
    - War in Ukraine,
    - Risk of inflation,
    - Prospect of a global food crisis affecting mainly emerging countries.

References

- Benhamou, P., Dauzat, O., Fauvarque, A., Garrigues, P., Revenu L., (2019, 11 January). *Pourquoi la Bourse a baissé en 2018*. Le Revenu. https://www.lerevenu.com/bourse/pourquoi-la-bourse-baisse-en-2018
- Bourassi, N. (2016, 4 January). *Le CAC 40 gagne 8,53% sur une année 2015 en dents de scie*. La Tribune. https://www.latribune.fr/bourse/le-cac-40-gagne-8-53-sur-une-annee-2015-en-dents-de-scie-539501.html
- Fay, P. (2015, 23 December). *Ça s'est passé en 2015 : le krach chinois*. Les Echos. https://www.lesechos.fr/2015/12/ca-sest-passe-en-2015-le-krach-chinois-286059
- Jérôme. (2020, 29 July). *Donald Trump, l'alchimiste du S&P 500*. dividendes.ch. https://www.dividendes.ch/2020/07/donald-trump-lalchimiste-du-sp-500/
- Meyer-Vacherand, E. (2021, 22 February). *Pour les bourses, 2020 a été une année de complète volatilité*. Le Temps. https://www.letemps.ch/economie/bourses-2020-une-annee-complete-volatilite

05

PORTFOLIOS

Forecasts

The work carried out considered two types of portfolios: a mixed portfolio and a portfolio including only ESG investments. As a responsible advisor, the investor must understand the new issues of tomorrow and have a choice in the type of investor they want to be.

After setting up different portfolios :

- Maximum Sharpe Ratio and volatility between 6% and 8%.
- Maximum return and volatility between 6% and 8%.
- Maximum Sharpe Ratio, volatility between 6% and 8%, and minimum allocation
- Maximum Return, volatility between 6% and 8%, and minimum allocation

Following the implementation of these different strategies, we have selected the two optimal portfolios (one mix and one ESG) corresponding to the investor's constraints.

	Mix Portfolio			ESG Portfolio		
	MSR Volatility 6-8%			Max Return Volatility 6-8%		
	1 year	3 years	5 years	1 year	3 years	5 years
Return	3.74%	7.79%	6.89%	4.31%	9.32%	7.25%
Excess Return	2.77%	6.31%	5.34%	3.90%	8.50%	6.32%
Volatility	6.10%	7.30%	8.00%	8.00%	8.00%	8.00%
Sharpe Ratio	0.45	0.86	0.67	0.49	1.06	0.79
Risk-Free Rate	0.97%	1.48%	1.55%	0.41%	0.82%	0.94%

When comparing the two types of portfolios, we can see that the volatilities for a 5-year forecast are similar to 8%, which respects the constraint imposed by our investor.

The mix portfolio is divided into four assets (figure 3):

- S&P 500 Composite
- iShares Tips Bond
- Dow Jones Commodity Precious Metals
- The ESG fund that was created

In contrast, it can be seen that the ESG portfolio is spread over a more significant number of assets, 12 to be exact (figure 4).

In addition to the fact that the ESG portfolio provides a higher return over a five-year investment horizon, the portfolio invests in a more significant number of assets. As the number of assets in a portfolio increases, the portfolio's risk decreases due to a more considerable diversification effect (Edwin J., & Martin J. Gruber, 1977).

Reference

- Elton E.J., & Gruber, M.J. (1977). Risk reduction and portfolio size: An analytic solution. *The Journal of Business. The University of Chicago. https://www.jstor.org/stable/2352173*

IMPLEMENTATION PLAN

06

ESG & New Investment Trends

The ESG philosophy is a growing investment trend. Despite the fact that such investments somewhat follow the overall market, it is a certain that well governed companies will outperform the market in the long run. As such, following the investment profile of Mr. Scrooge, we have decided to put great emphasis on such investments. Other trends such as NFTs, SPAC or Meme stocks have also started to appear, however these investments, although offering an important potential yield, are subject to greater uncertainty and are therefore inclined to more risk tolerant investors.

Forex

Both proposed portfolios (ESG & Mix) contain European Indices and/or European companies. As such, since Mr. Scrooge is an American investor, we believe it would be relevant to hedge the risk link to the Forex. Different solutions such as forward/ futures contracts, put and call options, CFDs or ETFs, could be used to mitigate the risk. Although such hedging solutions offer an insurance in case foreign exchange rates fluctuate to the investor's disadvantage, they may come at a significant cost which will reduce his overall returns.

Active/Passive Management

An active management style allows for potential greater yield. However, it requires frequent buying and selling in order to outperform the index. As such, the risk and costs associated will be far superior than for a passive management style. In an efficient market, the returns of the investor will therefore be impacted. As part of our global ESG approach, we are looking for a greater flexibility in the allocation of our funds. A company may perform and be ranked very well in terms of ESG a certain year, but decline the following year. A more active management style would allow us to divest and re-invest the funds rather quickly which will allow us to mitigate the potential negative returns associated to the investment in certain companies.

Inflation

Our ESG portfolio will be negatively impacted by inflation which will deteriorate our returns as we have decided to invest solely in companies, funds and green bonds. However, on our Mix portfolio, the impact will of inflation will be reduced as it is further diversified with, amongst other things a REIT (highest performance during inflation periods) and Commodities (improved returns in a diversified portfolio during low and high inflation periods).

Mitigate Risk

It is close to impossible to anticipate a market crash. A market crash is a rapid and unanticipated drop in stock prices, it is therefore complicated to envision an effective hedging strategy. However, after analysis of our two portfolios, we've acknowledged very small correlations between our assets. Our diversified portfolios are, as a result, covered from some market crashes that could occur in specific sectors. We have decided to invest in the following sectors; Energy, Infrastructure, Technology, Pharmaceutical, Banking, Tourism, Thematic Funds, and Green Bonds.

Illiquid Assets

The two portfolios (ESG and Mix) created for our investor, do not hold any illiquid assets. However, different strategies could be implemented in the future to integrate such assets. Depending on the investor's aversion to risk, it is recommended to allocate between 5% and 10% of the portfolio illiquid assets.

Such strategies include;

- Private Equity:
  - High Returns & Portfolio diversification.
- Collectibles:
  - Diversification potential & Increased yield.
- Real Estate:
  - Stability in certain situation of crisis such as the Covid-19 & Retention of the asset's worth.

07

RISK BUDGET ANALYSIS & CONCLUSION

Risk Budget Analysis

Following the previous section, the risk analysis budget was carried out on the two portfolios that we decided to present to our investor: Mix portfolio MSR Volatility 6-8% and ESG Portfolio Volatility 6-8%.

In the case of the Mix Portfolio (figure 5):

We can see that the risk of this portfolio is not really balanced and that the total risk of the portfolio is mainly brought, more than 90%, by only two assets.

In the case of the ESG portfolio (figure 6):

In the case of this portfolio, even if we can see that Microsoft is the asset that brings the most risk to this portfolio, it is, in general, much more diversified, and the risk is much more shared than in the previous portfolio.

Conclusion

It is now up to the investor to select the portfolio that best suits them and the one they feel most comfortable with. Namely, the study conducted by Maxfield, S. & Wang, L. (2020) shows that sustainable investments positively impact the risk of a portfolio and play a significant role in total risk mitigation without affecting the expected returns. We still advise our investor to consider the ESG portfolio which offers a higher return for the same level of risk.

Reference

- Maxfield, S. & Wang, L. (2020). Does sustainable investing reduce portfolio risk? A multilevel analysis. *European Financial Management. https://doi.org/10.1111/eufm.12296*

REFERENCES

08

- Benhamou, P., Dauzat, O., Fauvarque, A., Garrigues, P., Revenu L., (2019, 11 January). *Pourquoi la Bourse a baissé en 2018*. Le Revenu. https://www.lerevenu.com/bourse/pourquoi-la-bourse-baisse-en-2018
- Bourassi, N. (2016, 4 January). *Le CAC 40 gagne 8,53% sur une année 2015 en dents de scie*. La Tribune. https://www.latribune.fr/bourse/le-cac-40-gagne-8-53-sur-une-annee-2015-en-dents-de-scie-539501.html
- David Chen Paul Kennedy Tony Manno Pete Reilly Doug Schwartz Alan Supple, D. C. P. K. T. M. P. R. D. S. A. S. (2022, 12 janvier). *Global Real Estate Outlook | J.P. Morgan Asset Management*. JP Morgan. https://am.jpmorgan.com/dk/en/asset-management/institutional/insights/portfolio-insights/alternatives/global-alternatives-outlook/real-estate/
- Elton E.J., & Gruber, M.J. (1977). Risk reduction and portfolio size: An analytic solution. *The Journal of Business. The University of Chicago. https://www.jstor.org/stable/2352173*
- European Central Bank. (2022, 10 mars). *ECB staff macroeconomic projections for the euro area, March 2022.* https://www.ecb.europa.eu/pub/projections/html/ecb.projections202203_ecbstaff%7E44f998dfd7.en.html
- Fay, P. (2015, 23 December). Ça s'est passé en 2015 : le krach chinois. Les Echos. From https://www.lesechos.fr/2015/12/ca-sest-passe-en-2015-le-krach-chinois-286059
- Fiera Capital, F. C. (2018). *Global Financial Forecast 2018–2025*. FieraCapital. https://media.uk.fieracapital.com/media/8390/global-financial-forecast-2018-2025-english-web.pdf
- GreaterGoodFinancial, G. G. F. (2022). *Active vs. Passive ESG Investments, which is best?* Greatergoodfinancial. https://www.greatergoodfinancial.com/active-vs-passive-esg
- Guardian. From https://www.theguardian.com/business/2022/mar/16/us-federal-reserve-interest-rates-inflation
- Guardian News and Media. (2022, March 16). *US Federal Reserve raises interest rates for the first time since 2018.* The
- Jackson. A-L. (2022, January 3). *2021 stock market year Review.* Forbes. From https://www.forbes.com/advisor/investing/stock-market-year-in-review-2021/
- Jérôme. (2020, 29 July). Donald Trump, l'alchimiste du S&P 500. dividendes.ch. From https://www.dividendes.ch/2020/07/donald-trump-lalchimiste-du-sp-500/
- JP Morgan Asset Management, J. P. M. (2022). *Long Term Capital Market Assumptions*. JPMorgan. https://am.jpmorgan.com/content/dam/jpm-am-aem/global/en/insights/portfolio-insights/ltcma/ltcma-full-report.pdf
- Jérôme. (2020, 29 July). *Donald Trump, l'alchimiste du S&P 500*. dividendes.ch. From https://www.dividendes.ch/2020/07/donald-trump-lalchimiste-du-sp-500/

- Meyer-Vacherand, E. (2021, 22 February). *Pour les bourses, 2020 a été une année de complète volatilité*. Le Temps. https://www.letemps.ch/economie/bourses-2020-une-annee-complete-volatilite
- O'Connel. B. (2022, March 16). *What happens when the Fed raises interest rates ?* Forbes. From https://www.forbes.com/advisor/investing/fed-raises-interest-rates/
- Potter, S. P. (2022, 3 janvier). *Bloomberg - Here's (Almost) Everything Wall Street Expects in 2022*. Bloomberg. From https://www.bloomberg.com/tosv2.html?vid=&uuid=15462e38-adf7-11ec-ad1f-6a486961474d&url=L2dyYXBoaWNzLzIwMjItaW52ZXN0bWVudC1vdXRsb29rcy8=
- PWC & The Urban Land Institute, P. W. C. (2021). *Emerging Trends in Real Estate - Road to Recovery*. PWC. https://www.pwc.com/gx/en/asset-management/emerging-trends-real-estate/assets/emerging-trends-in-real-estate-europe-2022.pdf
- Rick Chan, Abhishek Nadamani, Christopher Youssef, R. C. A. N. C. Y. (2022). *Rise in Treasury Yields May Portend Volatility in the Months Ahead*. Pimco. https://blog.pimco.com/en/2022/01/rise-in-treasury-yields-may-portend-volatility-in-the-months-ahead
- S. Cheah, S. Gaynor, S. C. S. G. (2022). *Global fixed income markets - New Year 2022*. RBC Global Asset Management. https://www.rbcgam.com/en/ca/article/global-fixed-income-markets-new-year-2022/detail
- Schroders Investment Management Limited, S. (2020). *10-Year Return Forecasts (2021–2030)*. Schroders Investment. https://www.schroders.com/en/sysglobalassets/digital/insights/2020/december/10yr-returns/2020-december-10y-return-forecasts-v2-final.pdf
- UniCredit, U. C. (2021, 10 décembre). *The UniCredit Macro & Markets 2022–23 Outlook*. UniCredit. https://www.research.unicredit.eu/DocsKey/economics_docs_2021_181953.ashx?EXT=pdf&KEY=C814Ql31Ejqlm_1zIJDBJB6dDKN-ZlwQwmzPU8lXdJ8=&T=1
- *World Economic Outlook Update, January 2022 : Rising Caseloads, A Disrupted Recovery, and Higher Inflation*. (2022, 25 janvier). IMF. https://www.imf.org/en/Publications/WEO/Issues/2022/01/25/world-economic-outlook-update-january-2022

09

APPENDIX

Figure 1: Method of calculation - Refinitiv

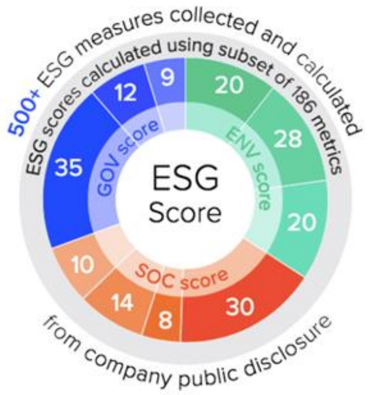

Figure 2: Latest world economic outlook growth projections

Latest World Economic Outlook Growth Projections

(real GDP, annual percent change)	ESTIMATE 2021	PROJECTIONS 2022	PROJECTIONS 2023
World Output	5.9	4.4	3.8
Advanced Economies	5.0	3.9	2.6
United States	5.6	4.0	2.6
Euro Area	5.2	3.9	2.5
Germany	2.7	3.8	2.5
France	6.7	3.5	1.8
Italy	6.2	3.8	2.2
Spain	4.9	5.8	3.8
Japan	1.6	3.3	1.8
United Kingdom	7.2	4.7	2.3
Canada	4.7	4.1	2.8
Other Advanced Economies	4.7	3.6	2.9

Figure 3: Mix portfolio allocations

	Mix Portfolio			
	EQUITY	**BOND**	**ALTERNATIVE**	**OUR FUND**
	Large Cap (US)	Government Bonds (US)	Precious Metals	ESG Fund
	S&P 500 COMPOSITE	ISHARES TIPS BOND	Dow Jones Commodity Precis Metals	EHL ESG Alternatives Fund
Expected Return	9.38%	1.78%	4.23%	10.85%
Expected Volatility	12.60%	5.25%	14.77%	14.44%
Weights	25.07%	32.42%	9.90%	32.61%
	100.00%			

Figure 4: ESG portfolio allocations

	ESG Portfolio											
	Equities									Funds		Green Bonds
	VEOLIA ENVIRON	WASTE MANAGEMENT	AGILENT TECHS.	CADENCE DESIGN SYS.	CISCO SYSTEMS	JOHNSON & JOHNSON	HILTON WORLDWIDE HDG.	ACCOR	MICROSOFT	PICTET-WATER-HP CHF	SHELTON GREEN ALPHA FD.	ISHARES GREEN BOND INDEX
Expected Return	8.24%	7.99%	11.93%	11.94%	12.22%	9.74%	11.03%	8.74%	13.65%	7.41%	10.58%	2.40%
Expected Volatility	21.03%	14.52%	22.50%	23.64%	21.88%	16.34%	22.18%	26.34%	21.08%	14.10%	18.11%	4.41%
Weights	2.35%	0.01%	3.80%	4.76%	6.70%	0.56%	9.14%	0.00%	19.62%	2.11%	1.22%	49.75%
	100.00%											

Figure 5: Mix portfolio risk budget analysis

Asset	Contribution to the volatility	Contribution to the total risk
EHL ESG Alternatives Fund	4..44%	55.48%
S&P 500 Composite	2.89%	36.11%
Dow Jones Commodity Precious Metals	0.42%	5.26%
iShares Tips Bond	0.25%	3.16%

Figure 6: ESG portfolio risk budget analysis

Asset	Contribution to the volatility	Contribution to the total risk
Microsoft	3.64%	45.48%
Hilton Worldwide Hdg	1.30%	16.26%
Cisco Systems	1.08%	13.55%
Cadence Design System	0.75%	9.40%
Agilent Techs	0.60%	7.48%
Véolia Environnement	0.21%	2.66%
Pictet Water Fund	0.18%	2.24%
Shelton Green Alpha Fund	0.17%	2.06%
Johnson & Johnson	0.04%	0.55%
iShares Green Bond Index	0.02%	0.31%
Waste Management	0.00%	0.01%