COVID-19. The ultimate stress test for robo advisors.

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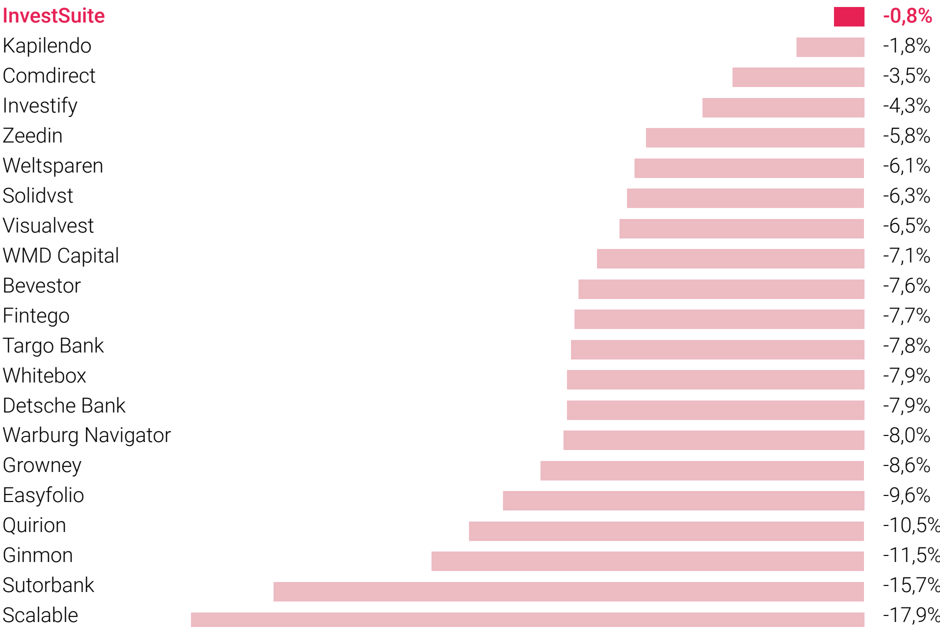
Robo advisors are supposed to guide their clients towards personalized and well-diversified portfolios that match each client's risk profile, goals and investment horizon. Robo advisors pride themselves on being able to execute such an individualized investment strategy without suffering from traditional behavioral biases that tend to hurt performance, especially during volatile and stressful market circumstances. So, surely, robo advisors should have done relatively well during the recent COVID-19 crisis?

German website brokervergleich.de compared the performance of 20 German B2C robo advisors over the period from 01/05/2019 until 31/03/2020. This period includes both the bull market of the second half of 2019 and the impact of the 2020 Corona pandemic. Brokervergleich invested real money with each robo advisor, enabling them to compare real-life after-cost performance. They selected balanced portfolios with around 50% invested in equity, although the actual percentages differ between robo advisors, explaining part of the performance difference.

It is interesting to note that a traditional 50/50 global equity/bond index (50% MSCI World + 50% Barclays Aggregate) lost only 3.9% over the period, leaving behind the vast majority of the robo advisors, some by a staggering 14 percentage points. A very humbling statistic.

InvestSuite wasn't included in the test (as it's not a B2C robo advisor), but we invested 10.000 EUR of our own money back in April 2019 with our first Dutch wealth manager client in a 50/50 bond/equity ETF portfolio using our proprietary portfolio construction algorithm. In the below overview, we added our portfolio's real-life after-cost performance over the same period, and came out on top.

So the question is, why did the InvestSuite portfolio hold up so well in comparison? In what follows, we give an overview about what sets InvestSuite apart from traditional robo advisors.



Source: https://www.brokervergleich.de/robo-advisor/echtgeld-test

WHAT SETS INVESTSUITE'S ROBO APART FROM TRADITIONAL ROBO ADVISORS?

1. WE HAVE DEVELOPED A UNIQUE RISK MEASURE

Most robo advisors construct portfolios based on outdated measures of risk, such as volatility or Value at Risk (VaR). These measures do not only suffer from theoretical flaws (such as ignoring non-normal return distributions or tail losses), but are also not consistent with what real-life investors actually perceive as risk. InvestSuite therefore developed its own measure of investment risk, iVaR. This measure of risk takes into account both the magnitude of drawdowns and the time to recover from these drawdowns, thereby measuring exactly what investors are scared of: losing money and taking a long time to recover from those losses.

More information can be found in our whitepaper (https://www.investsuite.com/article/embracing-the-human-perception-of-risk)

2. WE HAVE BUILT A UNIQUE PORTFOLIO CONSTRUCTION METHODOLOGY ON TOP OF THIS RISK MEASURE

Traditional robo advisors tend to construct their portfolios based on "Mean-Variance Optimization", a part of "Modern Portfolio Theory" that was developed in 1952 by Harry Markowitz, for which he received the Nobel Price in 1990. This methodology requires an accurate estimation of the expected returns of all assets in the investment universe, as well as their volatilities and pairwise correlations. The methodology will then return the portfolio with the highest expected return for a given (acceptable) level of volatility. It results in risk-return optimal portfolios if:

- **Predictions for expected returns, volatilities and correlations are fully accurate.**
- **Either volatility is the measure of risk investors actually care about or asset return distributions are (multivariate) normally distributed.**

Unfortunately, in the real world, none of the above assumptions hold. Portfolios constructed using this framework are extremely sensitive to slight variations in the input parameters. They are especially sensitive to regime changes, such as the one caused by COVID-19, when returns, volatility and correlation estimates break down. This gets amplified by many users of the framework basing their expected return predictions on recent history.

InvestSuite makes use of the technological advances of the past 70 years to base its portfolio construction on its proprietary iVaR risk measure. We build portfolios with the objective of minimizing drawdowns as well as minimizing the time to recovery. This approach solves a lot of the shortcomings of the traditional framework. While computationally about a billion times more difficult, optimization theory and computing power have developed so much since 1952 that this is no longer an issue.

3. WE DO NOT OVERREACT

Even though robo advisors pride themselves on avoiding traditional human behavioral biases, many actually suffer from those same behavioral biases themselves. They calculate client risk profiles based on (recent) historical market volatility, allowing higher equity allocations in client portfolios in calm market circumstances, while significantly reducing equity exposure when market volatility increases. These players (Scalable being the prime example) were significantly invested in equity markets before the corona pandemic hit, and ended up panic selling at the bottom, missing the subsequent recovery.

We believe in maintaining constant equity allocations when possible, buying rather than selling during periods of crisis and taking advantage of the well-known short-term reversal effects in financial markets. Our methodology allows us to build all-weather portfolios that can withstand market volatility without needing "panic adjustments". For example, we had a significant investment in a Gold ETF, more than 6 months before the corona pandemic hit, providing great diversification in the crisis itself.

4. WE TRULY DIVERSIFY

Loss aversion is not the only behavioral bias robo advisors tend to suffer from. Another one is home bias: we notice that many robo advisors are often significantly more exposed to their local equity markets than to other global equity markets (i.e. many European robo advisors invest mainly in European equity, US robo advisors mainly in US equity). For traditional fundamental investors, a good case can be made for home bias, as being close to and knowing the companies they invest in can give them an edge. However, for robo advisors that invest in (passive) ETFs, this is an unnecessary restriction that limits global diversification opportunities.

5. WE HELP INVESTORS TO HOLD ON THROUGH THE BAD TIMES

One of the main reasons portfolios of retail investors tend to significantly underperform over the long run is that investors lose trust in the strategy that is applied to their investment portfolio. As a consequence, they tend to sell out of it at the worst possible time.

We solve this in first instance by focusing on the risk retail investors actually care about, but also by allowing portfolios to be personalized to the needs and preferences for each individual investor, rather than having one single model portfolio for each risk profile. Research has shown that investors have a much higher probability of holding on to their portfolios during bad times if they feel comfortable with how the portfolio was constructed and if it matches their preferences and philosophy.

CONCLUSION

The InvestSuite portfolio construction philosophy and methodology is really different from those used by traditional robo advisors. The fact that the InvestSuite portfolios held up well during the COVID-19 crisis was not a coincidence. The results are consistent with the backtests that we have run on a wide range of investment universes, from ETFs to individual stocks to even cryptocurrencies, covering the last 30 years.

If you are interested in learning more about InvestSuite and our products, please drop us a message via **https://www.investsuite.com/contact**