# Academia Macro Finance Group

# Portfolio Management Program

2019 – 2021 • ACADEMIA MACRO FINANCE GROUP




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### 1. STRATEGY AND APPROACH OF THE GROUP

The Academia Macro-Finance Group puts emphasis on the analysis of cyclical macroeconomic dynamics. Our developed strategies are backed with theoretical findings and empirical evidence on investment decisions provided by recent academic literature.

We took over the portfolio shortly after the market bottomed out in the wake of the COVID crisis. As a consequence of expected market recovery, we decided to deviate from the asset allocation targeted by our previous managers in favor of equity. The first step was optimizing the existing portfolio: We restructured our exposure in Asia from six to two positions and thus decided against the previously pursued betting against beta strategy since it did not appear to be a viable investment option at the time. In a further step, we sold our gold position in tranches. Our gold position helped us hedge during the crisis, but we did not expect any significant increase in value following the initial market downturn. Next, we exited a poorly performing and expensive actively managed emerging markets fixed income position. We replaced it with an EM fixed income position with lower fees and that did not offer dividends so we could still keep our exposure to emerging markets.

To further grasp market recovery opportunities, we increased our equity position by adding exposure to small-cap stocks through our purchase of Xtrackers Russel 2000 ETF. During the crisis, firms with small-cap stocks suffered the most due to their higher sensitivity to the economy. Our portfolio's initial low small-cap to large-cap position ratio strengthened us in our decision. Moreover, the relatively higher personal savings rate provided strong support for greater future consumption.

Leading up to the US presidential election in November 2020, US presidential candidate Joe Biden was listed in polls as having a higher possibility of winning the presidency. As a response to his campaigning stance on clean energy and climate change initiatives, we chose to enter the clean energy market before the election. We reasoned that the US government would become an essential player in the clean energy market, making the market more attractive to firms and investors. Besides, the EU had set more policies regarding clean energy. Hence, growth has not been fully priced in. Furthermore, when we gained our exposure in the market, governments had been delaying their execution in clean energy policies due to the COVID-19 surrounding. Hence, our clean energy market position could also benefit from the relatively low price. Also, we later gained exposure to lithium due to the rising awareness of climate change and the increasing demand for the material for electric vehicles.

During our manager year we implemented two systematic trading strategies, the VIX strategy and the FX strategy. Trading the VIX term structure is a continuation of our research and work we carried out in our analyst year. The strategy exploits empirical characteristics of the VIX futures market by taking long or short positions in the first-nearby and second-nearby monthly futures contracts. The first-nearby position is opened if the difference to the spot is sufficiently large, while simultaneously the second-nearby future of opposite direction is opened to hedge against adverse movement in the term structure. A carry return is generated by the difference in convergence speeds of both positions.

As to the FX strategy, we improved our previous managers' work to trade one-month FX NDFs and forwards. We implemented a pure basis strategy after observing in our backtests that momentum has not performed well since 2013. Basis is defined by the cost-of-carry relationship between the forwards and spots. Theoretically, it captures the information about future spot risk premium and the cash yield — it is a powerful predictor of the future spot risk premia. In the strategy, we long three local currencies that have the lowest basis (highest implied yield) among the 30 currencies in our universe, including DM and EM, and short USD with equal weight. The FX strategy accounted for 20% AuM and of the four trades, three have ended in a profit since its start in November 2020. However, there is some room for improvement; adding fundamental reasoning to support the strategy could overcome some drawdowns.

## 2. PORTFOLIO PERFORMANCE

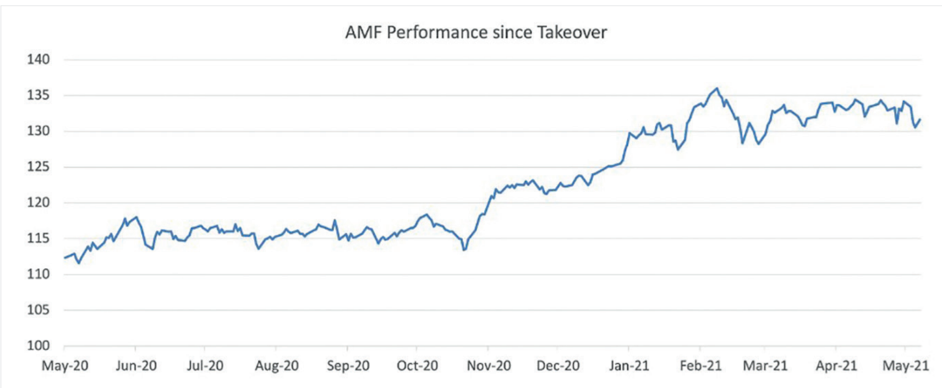
### 2.1. OVERALL PERFORMANCE



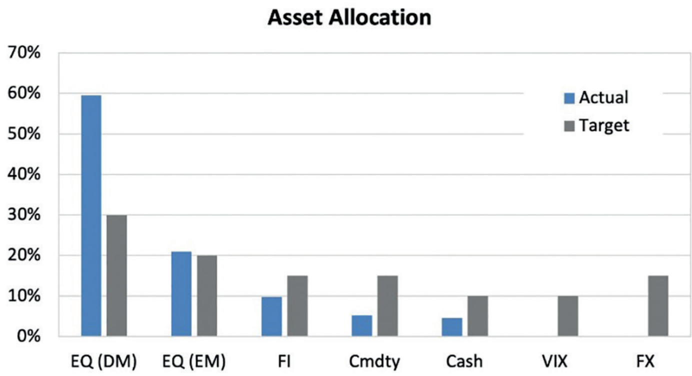
Overall, our portfolio ended with an impressive positive performance of 17.15%. This is well above the program's 9% goal and 24.37% greater than our previous managers' end performance. Adding to our growing gains since takeover, we enjoyed the majority of our positive performance from November 2020 through March 2021. It is worth noting that a few weeks before handing over the portfolio we reached a peak performance since takeover of 19.68% in mid-April. However, as almost 27% of our portfolio is exposed to Asia as well as having new energy and small-cap positions, we experienced a drawdown in this peak performance right before the new managers' takeover. Despite this drop in performance we were cushioned by having kept some of our anti-cyclical positions. We are leaving the portfolio in a completely different investment environment than the one we started. While we started our manager year with a value at risk of 158,878 EUR and a negative Sharpe ratio, we are finishing our manager year with a value at risk of 64,384 EUR and with a Sharpe ratio of 1.28.

### 2.2. ASSET ALLOCATION

Having initially obtained the portfolio with conservative anti-cyclical positions in a rallying market, we began our man-




PORTFOLIO PERFORMANCE 05/2020–05/2021




ASSET ALLOCATION COMPARISON 05/2020 AND 05/2021

ager year by consolidating and updating our asset allocation to put more weight in equities and less weight in fixed income. The previous managers had a target asset allocation of 26% fixed income, 55% equity (32% DM and 23% EM), 15% commodities, 4% cash, and 15% FX. We wanted to incorporate our group's VIX strategy into this mix and decided on the following new asset allocation that seemed appropriate for the high volatility and bullish market environment: 15% fixed income, 50% equity (30% DM and 20% EM), 15% commodities, 10% cash, 10% FX, and 15% VIX. However, near the end of our manager year we moved to hold only a 5% cash position so that we could add exposure to lithium through a battery solutions ETF and closed out our FX and VIX positions. We ultimately will hand our portfolio over to the new managers with roughly the following allocation: 10% fixed income, 81.5% equity (60.5% DM and 21% EM), 5% commodities, 5% cash, 0% FX, and 0% VIX. Although this is not listed as its own asset class, the large equity position is also due to our group trying to incorporate more green energy and ESG stocks into our portfolio; these specific positions make up about 12% of the exposure.

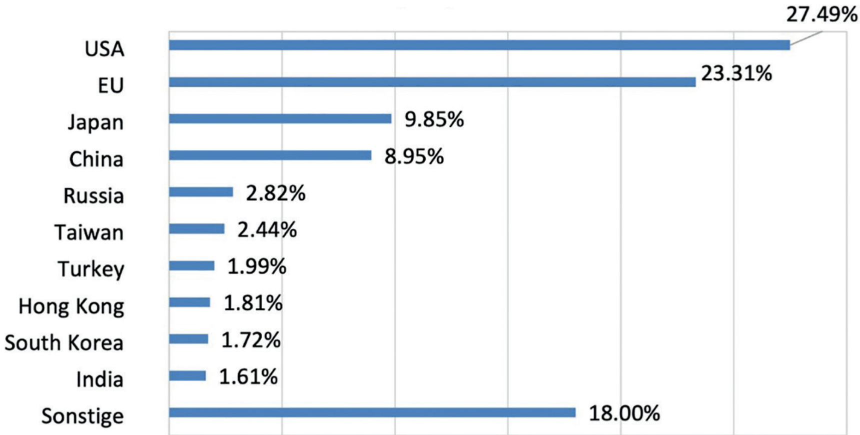


### 2.3. EXPOSURE

Throughout most of our manager year, we actively followed our systematic trading strategies for FX and VIX. We often utilized the full risk budget we were allotted for the VIX futures contracts and the FX forwards/NDFs. This often brought us to an overall exposure ranging between 120 and 130%. Our currency and country exposure remains relatively similar to each other. Our greatest country and currency exposure is in the US (27.45%), while our second greatest regional exposure is in Asia (26.38%) and our third greatest in the EU (23.31%).

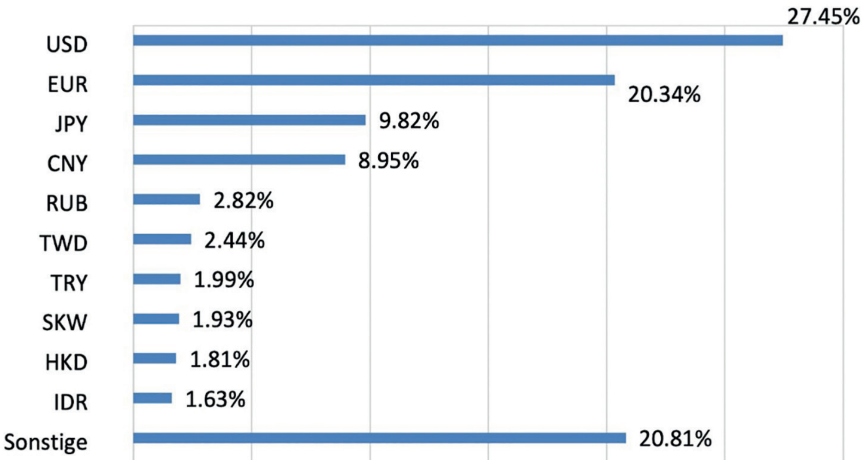
## 3. MARKET CONDITIONS THROUGHOUT THE YEAR

When we took over the AMF portfolio in May 2020, the world economy faced an




COUNTRY ALLOCATION 05/2021






CURRENCY ALLOCATION 05/2021

unprecedented crisis. The crash in the stock markets in February and March hit our group hard and we had problems profiting from the recovery in April. In response to this, our first decision as new managers was to shift exposure from bonds to equity for two reasons. Firstly, equity was cheap because of lower earnings as well as a high amount of uncertainty. During times of uncertainty taking risk earns the highest premium. Secondly, the already low interest rates were cut further all over the world because of worldwide massive monetary stimulus packages. This made it unattractive to hold bonds. When buying equity in the summer of 2020, we focused on value stocks because their recovery lagged, whereas tech stocks had already surpassed their all-time highs.

The main event in fall 2020 was the US presidential election. Until the end it was not clear who would win. Although Joe Biden led in all polls, the market was nervous about Donald Trump winning a second term. In the 2016 election, the polls had inaccurately predicted the democratic frontrunner as the clear winner. Therefore, the markets observed high volatility and low equity prices. This uncertain environment led to a rally in the gold price, which already had an outstanding performance because of the COVID-19 crisis. We took the chance to sell gold with the clear intention to buy it back as soon as the world economy stabilized. Our group believed in a democratic victory and therefore we invested into equity from the clean energy sector. This was one of the best performing sectors from November to January.

By the end of January 2021, the rally in global equity across all sectors was over. The main reason was the fear of rising inflation and subsequently interest rates. The sectors that suffered most were among those with the best performance in 2020: the so-called "COVID-19 winners" like big tech companies, clean energy or hydrogen firms. The sector that profited most from rising interest rate expectations was the banking industry, which also presented strong earnings that beat consensus. We also observed a disappointment in the markets because of the slow vaccination speed and continuously extended lockdowns in Europe.



In the spring of 2021, there was low volatility in the markets, but we did not see a uniform direction. Also, the end of many lockdowns and rising vaccination coverage in Europe and the US did not lead to a bull market, because the return to normality in summer was already priced in.

## 4. INVESTMENT BEHAVIOUR BY ASSET CLASS

### 4.1. FIXED INCOME

Our fixed income strategy was quite simple: Reduce in favor of equities. In accordance we sold off non-performing positions but rotated one new position into the portfolio, a local currency EM debt fund where it was our belief that the addition of an exchange rate risk premium made the overall expected return attractive.

### 4.2. GOLD

We viewed gold as an interesting asset (in a portfolio context) for its empirical characteristic to hedge very sudden drawdowns in other financial markets through a safe haven effect of investors forgoing risky assets and piling into gold. Despite this, we saw the potential for a large and sudden drawdown as rather low. Therefore, we liquidated half of our gold position before the 2020 US elections and the other half after an unfavourable election result would mean potential risk to the markets and our portfolio.

### 4.3. EQUITIES



Equities were our preferred asset class for the year. Accordingly, we used spare cash and parts of the fixed income allocation to increase our allocation to equities. The selection of the individual positions was based on a discretionary approach.

We followed two broad ideas here:

1. Buy pockets of the market that are (in our eyes) attractively valued on a relative basis, for example, because valuations had not recovered as quickly as the general market. The prime example of this idea being the inclusion of the S&P Dividend Aristocrat Index, which at the time of inclusion showed a very attractive aggregate dividend yield.

2. Buy parts of the market that we viewed as positioned for profiting from secular trends. Our restructuring of our Asian equity positions, which increased the exposure to China, followed this rationale, as we see the Asian region as one of the most important, if not the most important, drivers of future global GDP growth. Additionally, our positions in new energy/battery technology stocks has to be thought of in this strategy context, where the underlying trend is a generally recognized need for the world to reduce its greenhouse gas emissions in addition to (anticipated) incentives and policies from many developed market governments that have made this their stated goal. The positions bought for this rationale have unfortunately underperformed recently as they include significant exposure to technology companies, but it is our continued belief that they will remain attractive over the long-term.

### 4.4. FX

We held off on trading our FX carry strategy for the first months of our manager year, as non-treasury carry strategies are negatively exposed to general financial market volatility. We saw this as a potential risk. After that we followed a simple systematic strategy that bought the three currencies with the lowest basis (highest implied yield), against the US dollar. The strategy proved relatively successful with some losses when TRY exchange rates moved against us in late February/March.

### 4.5. VOLATILITY

This asset class is represented in our portfolio through our VIX futures strategy. We trade calendar spreads, long or short depending on the shape of the futures curve. With this we harvested a risk premium for selling insurance against volatility in the short-term, while buying ourselves insurance against volatility in the short-to-medium term.

After the large volatility spike during the corona crash of 2020, the demand for such insurance (either through direct demand for VIX calls, or indirect demand through S&P 500 puts) was high, meaning the risk premium we harvested was quite large.

However, the strategy is not always on the selling side of the trade. For example, we bought the front month contract and sold the second month contract during the run-up to the US elections where the general unease and uncertainty around the results had strongly increased VIX futures demand in the front end of the curve. After the uneventful resolution of this uncertainty we of course paid the price for having held insurance against an unfavourable outcome and realised the only loss within the 9 trades made during the strategy implementation.

That is not to say that there were not other difficult times for the strategy. Early September saw an episode of a "spot up vol up"-dynamic driven by speculative retail demand for short dated call options and the resulting dealer net gamma positioning. Both implied volatility as well as the prices of the underlying went up. As the calendar spread hedges out level risk without being exposed to this correlation risk we fared well during this period and made a nice profit, but nonetheless had to close out the trade early.

Additionally, there were quite painful times early on in 2021 when retail speculation on a few stocks pushed the implied (and to some extent realized) volatilities on these into, frankly, unreasonable territories. Despite these stocks being of small capitalization and not included in the S&P 500, they had effects on the S&P 500 options markets and thus of course on the VIX. In the end of January our position was also caught up in the volatility spike, leading to large intra-day losses. It was our firm conviction that this cross-effect onto the S&P 500 options market was technical and highly transitory, so we overrode the systematic signal on this occasion and held the position. This decision netted us the most profitable trade in the strategy at 5.7% over the course of just a few days, for an annualized return of 83%.



Overall the strategy generated a cumulative annualized return of 20.56% with remarkably low volatility and a total contribution to the portfolio of almost USD 32,000 (before tax but after transaction costs).

## 5. CONCLUSION, OUTLOOK, AND TIPS FOR THE ANALYSTS

In summary, we were well able to anticipate the upswing following the crisis that manifested itself in the spring of 2020. We were able to put the work from our analyst year into practice and implement our ideas and expectations in the portfolio. The new situation required a medium-term reorientation and an adjustment to a new phase in the economic cycle. Uncertainty that existed at the beginning of our manager year, for example, the US election, dissipated in the course of it, but new challenges opened up. Now that the immanent effects of the global pandemic are further receding, dealing with its consequences will be one of the main drivers of macroeconomic developments in the future.

We are pleased that the new managers want to continue implementing our strategies, improve and develop them with their own ideas, but also pursue their own approaches. We wish them every success in doing so. The pandemic has shown that academic exchange, stimulating discussions and excellent teamwork in-person are important parts of the PMP experience. We wish the new managers that, as the situation continues to ease, they will also be able to share this experience and further grow together as a team.