BRIEFING PAPER

MAY 2018

Risk gets Personal

Family offices and portfolio risk management

'Managing the risks of the perception gap
is not just about making the facts clear, that's not enough.
There will still be risks that need to be managed
because we sometimes get risk wrong'

António Damásio, Descartes' Error: Emotion, Reason, and the Human Brain (1994)

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Executive Insights

In this paper, we summarise the opinions expressed by Single Family Office Executives at the 'Portfolio Risk Management' breakfast briefing held in London on Wednesday 9th May. We would like to thank Philip Higson and Marius Mueller of Carlyon AG for their valuable contribution to the discussion.

Having reviewed the paper we have drawn out the following insights:

Insight #1 Risk taking is idiosyncratic

The Family Office perspective on investment risk is idiosyncratic, driven by the degree of involvement of the original wealth creator, investment time horizon and number of beneficiaries.

Family Offices are quasi-institutional, meaning they are different from both companies and individuals. They also differ from each other because their risk appetite largely depends on which generation the office is serving. If a single powerful principal, the wealth creator is still in control and active in investment decision-making, this individual will have a different risk-return perspective than if the baton has passed to the next generation. You need to know the family and recognize where they are in their lives, to better understand their risk preferences.

Insight #2 Risk tolerance needs stress testing

Family Offices are vulnerable to the psychological impact of financial loss.

Communication between Family Office Executives and their families will determine success or failure of the relationship. Family Offices Executives worry that risk tolerances agreed in a rising market, and based on long-term commitments, may prove fragile if the market turns. While the good times roll, the rationale for such long-term investments is that the length of commitment will see investors through short-to-medium term market volatility. But, unless the psychological impact of short-term losses has been properly stress- tested, the commitment to a given strategy may prove illusory.

Insight #3 Search for yield gets personal

A benign environment with abnormally low rates and a preference for more direct control generates enthusiasm for assets such as real estate and private market investments. These are generally longer duration and illiquid.

The search for yield amidst super-low interest rates, and ‘recency bias’ of investors continues to cause Family Offices to look more closely into private debt markets and private equity. If the family has significant expertise in a particular industry, they can use their expertise to mitigate risk and invest more heavily than they might otherwise. Family Offices are not required to invest to satisfy external third parties that will typically have pre-determined exit timetables. Families can buy assets for the long term.

Who we are

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We are delighted to produce this briefing paper based on a Family Office Council (FOC) roundtable held on the topic of "Family offices and portfolio risk management"

This closed door debate was held with a select group of senior Family Office executives in order to explore in-depth the issues faced by single family offices and the families they represent. The discussion was organised by the Family Office Council, a membership group for single family offices.

Family Office Council helps single family offices expand their origination and co-investing network. FOC encourage a broader understanding of the Single Family Office market through training courses and networking events, both with family offices and professional intermediaries. Finally, FOC conducts regular research into single family offices and produces insightful reports with practical outtakes.

Carlyon AG retained by a significant US multi-strategy hedge fund performing certain services related to financial research, analysis and information services dealing with industry conditions and development in capital markets. Some of our recent work includes tracking market performance in multi-asset context, primary research on specific hedge fund strategies, analysis of ETF flows and liquidity, analysis of tail hedge cost and effectiveness as well as alpha from alternative data. Carlyon AG supports a family-backed charitable foundation with a range of services including manager selection, risk monitoring and participation on the investment committee.

Philip Higson founded Carlyon AG in Zurich in 2017. Since 2000, Philip worked in senior positions for UBS Group including Investment Bank, Group Finance and Wealth Management, and most recently as Vice Chairman Global Family Office Group. Capital markets expertise equity and cross-asset research, credit instruments and bank capital, multi-asset portfolios, hedge fund portfolios, private equity, collateralized lending solutions and portfolio credit optimization.
Years of experience: 32

Marius Mueller is a research analyst and monitors asset performance including analysis of hedge funds. Previous experience includes Deutsche Boerse Group's index operations and IT in Frankfurt, STOXX Ltd where he was responsible for monitoring the product universe tracking indices (ETFs, Structured Products, Options and Futures) and as head data management at Derivative Partners AG.
Years of experience: 8

Family Offices have a different perspective of risk

The starting point for the briefing was a short introduction by Family Offices attending the meeting. Participants had the opportunity to explain the context of the family wealth and role of the Family Office. The objective was to understand the source of wealth, the existence or not of an operating company, the extent of involvement of the beneficial owner(s), the generation(s) served and the number of family members. From experience, we know that these factors materially alter the expectations for risk and return.

Entrepreneur first-generation wealth often has a different risk-return expectation as compared to the second or third generations. The former is typically unexcited by diversified public market investment portfolios.

Successful entrepreneurs, who frequently start with nothing, have multiplied their wealth by hundreds of times whilst committing their entire working life to building their business. An investment portfolio with single digit returns is just not comparable to what they have delivered from their operating company.

'A confident first generation beneficial owner has a tendency to pursue higher risk profile investments with more binary like outcomes.'

Investment Director, SFO

The latter, the next generation, grows up knowing there are assets in the family and these individuals, who are less likely to have the character traits as the entrepreneurs who built the wealth, may join the family business or choose a path through choice of education and early career experience to get acquainted with investment skills.

A defining moment for the family is the point of which they decide to sell part or all of the family operating company. Family offices face very different risk-return expectations from the beneficial owners subject to whether or not this liquidity event has happened.

'The first question that I normally ask people in Family Office is: Have you had your liquidity event already or not, because this pushes people into one camp or another.'

Investment Director, SFO

The business experience of the wealth creator usually determines the path when it comes to direct investments, which requires an active involvement in the governance of the company including accepting a role on the board of directors. Having greater access to the management of the company, the entrepreneurial 'investors' can then leverage their skills and expertise in specific business segments. In addition, entrepreneurs with philanthropic goals can execute their plans via direct investments, precisely targeting businesses with ESG objectives.

'Some invest small portions of their portfolio in high tech with high risk despite the fact that it is very time-consuming conducting research and it is not economically rewarding, but simply because of the opportunity to network with smart people, hear great and interesting stories.'

Founder, Single Family Office

As previously mentioned, families focus on sectors where they have already been successful. Given they created the wealth on their own terms, they typically structure Family Offices and the ownership of assets where they continuously have a higher degree of control. One of the key questions is how to transfer wealth to future generations whilst still having control over the outcome.

‘Control is fundamental. People don’t want partial control, because, when problems arise, the lack of control means time wasted and opportunity lost.’

Philip Higson, Carlyon

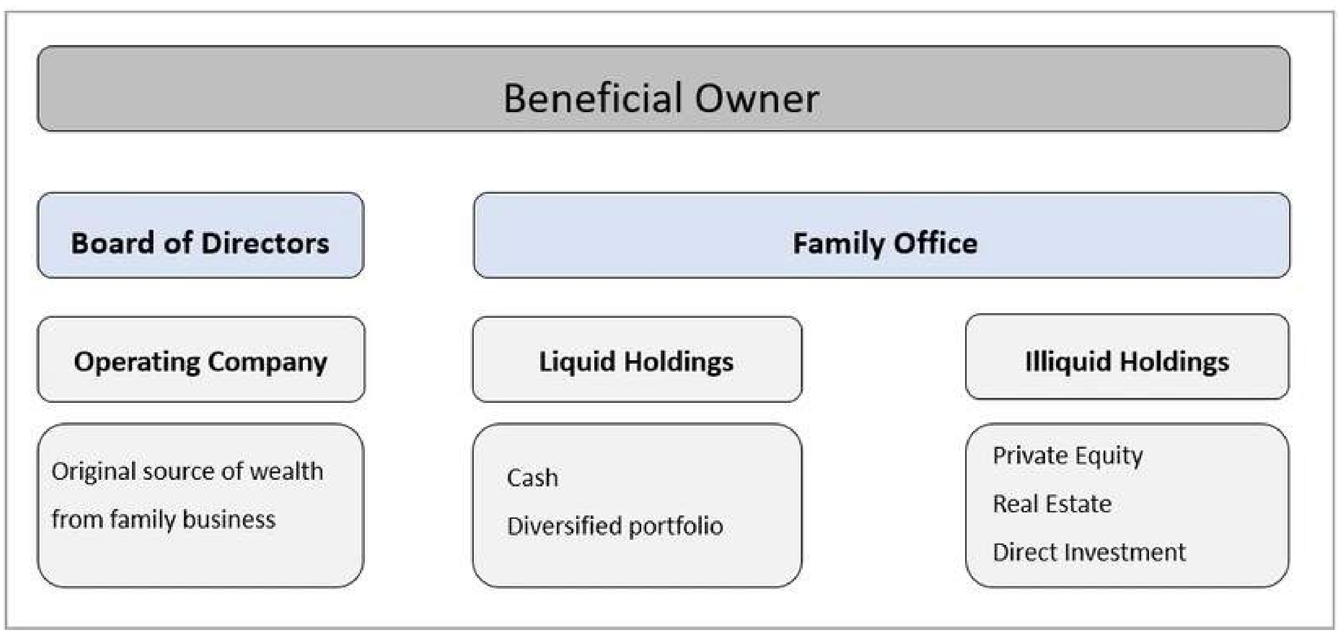
The goal of most successful families is to maintain this wealth over multiple generations. If they have sufficient capital, it gives them the luxury to choose investments with very long time horizons.

A critical component is the rate of cash consumption vs cash flow generation, which in turn is a function of absolute wealth, the number of beneficiaries and the proportion of the portfolio producing income.
With substantial assets and fewer mouths to feed it is relatively easier to plan super long-term investments.

This situation allows the Family Office to make an opportunistic investment in times of distress and not feel compelled to invest when assets are expensive.

Having understood the context of families and their wealth, the direction of travel is clearer when discussing the asset allocation, risk-return expectations of the beneficial owners and time horizon of investment portfolios.

The following diagram depicts a frequently observed set-up that wealthy families have constructed to look after their wealth:



Public markets portfolio building blocks

As per the earlier discussion, the overall picture of the wealth creation and asset mix will determine the positioning of the liquid portfolio. The participants shared insights on their main liquid asset portfolio building blocks, recent changes to their portfolios, as well as some comments on expected returns.

'Trying to shoot the lights out in the liquid capital markets is a very low chances game.'

Executive, Single Family Office

'We have 75% in our core portfolio through market indices via ETFs, 15-20% in illiquid real estate and the rest in direct investments.'

Founder, Single Family Office

The Single Family Offices present at the meeting represented a wide range of family business activities. Therefore, their opinions did not hold to a single consensus view whether regarding the construction of portfolios or the approach to risk.

'The liquid part of the portfolio is pretty static and has a very low turnover'.

Investment director, SFO

'We have increased equities slowly, but very much towards equities which we will be comfortable holding for a long time.'

Investment manager, SFO

Family offices require cash flow either from dividends or bond coupons or from rent generated by their property portfolios.

In addition, capital gains from the sale of investments will from time to time be a source of funds. In this context, many portfolios will have an allocation to a higher yielding building block. In the conversation around the table, there was a discussion about the returns available from private debt instruments. Private debt of the type described in the meeting is generating yields in access of 10% per year.

'We have been adding exposure to private debt through third-party managers and the expected income return is in access of 10% per annum'

Portfolio Manager, SFO

'There is always enough liquidity until you really need it.'

Investment director, SFO

'There has been considerable debate in the credit market over the deterioration in bond covenants; it seems possible that covenant-lite documentation could result in higher losses in a default scenario.'

Philip Higson, Carlyon AG

The conversation moved on to hedge funds. With extremely low spreads for most credit instruments and the prospect of central banks normalizing their policy, hedge funds could be a relevant building block for Family Office portfolios.

In Europe, the UCITs legislation has re-awakened the interest for alternative investments via Hedge funds. However, the investments via hedge funds remain quite polarized. The Family Offices present had wide-ranging opinions about Hedge Funds. The consensus view is that larger funds are dominating industry assets, which has altered the shape of the marketplace and these funds are considered to perform a different role versus the early 2000s era.

Hedge funds can deliver an uncorrelated component to the portfolio even though not providing the same order of magnitude of returns as in the past. Given the likely headwinds for bonds, low volatility hedge funds are a useful part of a bond replacement strategy.

There are geographical differences in the development of the hedge fund industry. As mentioned Europe has focused on UCITs. However, the centre of gravity for hedge funds is still North America.

‘Family Offices have a different perspective between the US and Europe. If you compare the US, you will find that they have more math talent and more tech talent that has been evolving finance, particularly in quant Hedge Fund strategies more than anywhere else has. Larger investors in the US still believe in these strategies, especially in the ones that are data driven.

Philip Higson, Carlyon AG

As part of the breakfast briefing, a set of supporting material was distributed to the attendees, including a table of 10-year returns derived from different asset classes.

Looking at the long-term performance of various asset classes, including the financial crisis year of 2008, the data shows that over the last 10 years, small cap equities delivered the best returns, with mid-caps and large caps following closely behind.

Given the advantages of liquidity, the returns depicted in this table, specifically those of equities, compare well to the returns of many private equity investments over the same period.

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	10 years
Bonds 7.6 %	EM 68.9%	REITs 28.4%	TIPS 13.3%	EM 19.1%	Small Cap 41.0%	REITs 30.4%	REITs 2.4%	Small Cap 26.6%	EM 37.3%	Small Cap 10.7%
Cash 1.6%	Small Cap 41.6%	Small Cap 27.2%	REITs 8.6%	Int'l Stocks 18.8%	Mid Cap 35.2%	Large Cap 13.5%	Large Cap 1.3%	Mid Cap 20.5%	Int'l Stocks 25.1%	Mid Cap 9.7%
TIPS -0.5%	Mid Cap 37.6%	Mid Cap 26.3%	Bonds 7.7%	REITs 17.6%	Large Cap 32.3%	Mid Cap 9.4%	Bonds 0.5%	Comdty 12.9%	Large Cap 21.7%	Large Cap 8.5%
Mid Cap -36.5%	REITs 30.1%	EM 16.5%	Large Cap 1.9%	Large Cap 16.0%	Int'l Stocks 21.4%	Bonds 6.0%	Cash -0.1%	Large Cap 12.0%	Mid Cap 15.9%	REITs 7.7%
Large Cap -36.8%	Int'l Stocks 27.0%	Comdty 16.2%	Small Cap 1.1%	Small Cap 15.7%	REITs 2.3%	Small Cap 5.5%	Int'l Stocks -1.0%	EM 10.9%	Small Cap 13.1%	Bonds 3.9%
REITs -37.0%	Large Cap 26.4%	Large Cap 15.1%	Cash 0.0%	Mid Cap 15.2%	Cash -0.1%	TIPS 3.6%	TIPS -1.8%	REITs 8.6%	REITs 4.9%	TIPS 3.4%
Comdty -37.4	Comdty 20.1%	Int'l Stocks 8.2%	Mid Cap -1.5%	TIPS 6.4%	Bonds -2.0%	Cash -0.1%	Small Cap -1.8%	TIPS 4.7%	Bonds 3.6%	Int'l Stocks 1.9%
Small Cap -37.6%	TIPS 8.9%	Bonds 6.4%	Int'l Stocks -12.3%	Bonds 3.8%	EM -3.7%	EM -3.9%	Mid Cap -2.5%	Bonds 2.4%	TIPS 2.9%	EM 1.4%
Int'l Stocks -41.0%	Bonds 3.3%	TIPS 6.1%	Comdty -14.0%	Cash 0.0%	TIPS -8.5%	Int'l Stocks -6.2%	EM -16.2%	Int'l Stocks 1.4%	Comdty 0.7%	Cash 0.2%
EM -48.9%	Cash 0.3%	Cash 0.0%	EM -18.8%	Comdty -2.1%	Comdty -11.1%	Comdty -18.6%	Comdty -28.2%	Cash 0.1%	Cash 0.7%	Comdty -8.0%

Funds: EEM, VNQ, MDY, SLY, SPY, EFA, TIP, AGG, DJP, BIL

Practical ways to monitor portfolio risk

In order to perform sensible risk monitoring, one has to form opinions on a) what are the risk concentrations of the portfolio and b) where a significant market sell-off impacts the risk concentration. Given the low US interest rate environment has ended, there were some concerns around the table about the outlook for credit.

'There is a credit bubble, which is time to emerge, when this will reverse it will take bond market with it, it will take the equity market with it and will also affect the private debt market.'

Portfolio manager, SFO

'Half of the risk metrics around the world were developed for the US mutual fund space. They arecompletely irrelevant for a Family Office with a 20-30 year investment horizon.'

CIO, Single Family Office

Even with a Family Office managing to a 20-year investment horizon, there are many circumstances, which can intervene along the way. For example, serious market drawdowns can materially alter perspective of both the beneficial owner and the Family Office manager, family dynamics change and investment strategies change.

A short discussion on risk monitoring followed and it was explained how risk monitoring and scenario analysis can be performed very effectively using Bloomberg tools. Participants of the meeting received literature covering both, PORT and FTW functions of Bloomberg.

Bloomberg's PORT (portfolio) function or Bloomberg's FTW (factors to watch) function can support better understanding of the structure of portfolios, drivers of historical performance and the sensitivity to future risk events.

This may be a useful addition for Family Offices that do not spend their entire effort on selecting managers. Discussing potential loss outcomes in a 'what if scenario' and shocking the portfolio can be helpful in aligning the definition of the term 'risk' between the family and the Family Office manager.

Return expectations for the next 12 months

The Family Office participants of the breakfast meeting raised the question of what might be the outcome for investments during the next 12 months.

People may have got used to low rates and the most recent experience for investors has been a very positive one. If market parameters like volatility and interest rates are going back to normal levels, the issue is that no one knows how difficult this transition is going to be, as the US policy makers are projecting a steeper path than the markets for interest rate increases.

Although rates in Europe and Japan are still low, in this cycle, US policy is a global lead indicator.

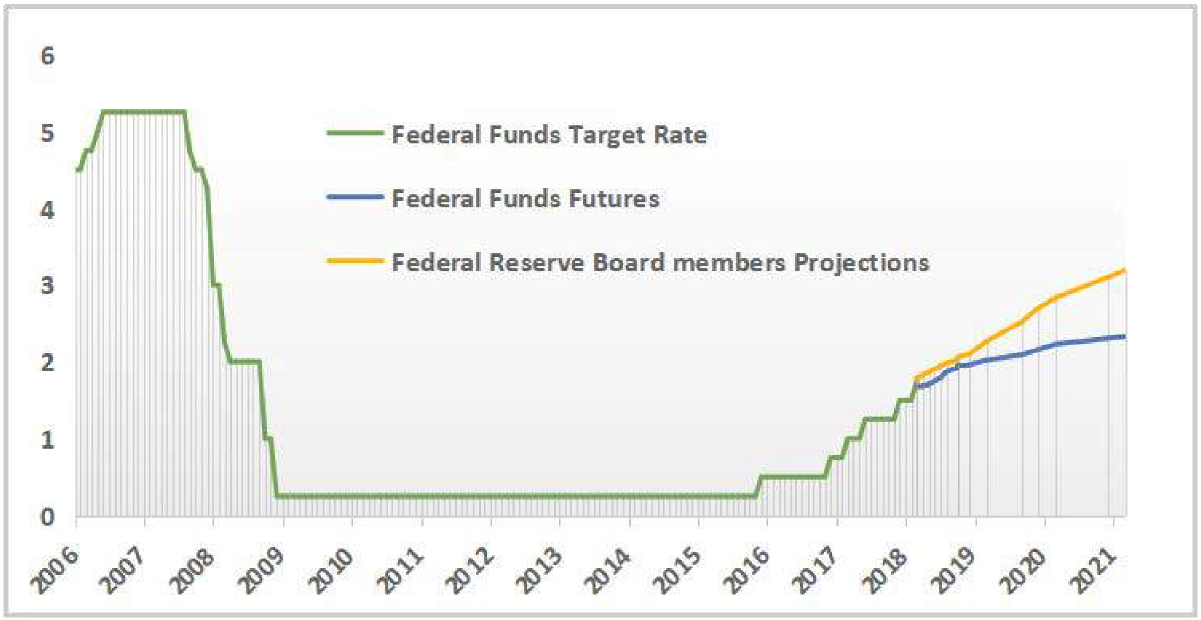
The period where interest rates were zero or close to zero was the abnormality.

'I'm worried that all of these asset classes are actually a lot more correlated than everyone thinks.'

Portfolio manager, SFO

'The era of super-low interest rates has finished, with some people not realizing it. They were the ones selling volatility with inverse VIX strategies. That was contributing to unnaturally low volatility from spring 2017 until February. 2018. We now need to be more cautious. Family Offices will have more optionality if they raise their cash allocation and it will give them the opportunity to react to market changes as they occur.

Philip Higson, Carlyon AG



Communication between Family Office and owners

The discussion moved on to the topic of communication between family members and family office as well as how to involve the next generation. Concerns raised by the Family Offices at the breakfast briefing were as follows:

- Insufficient engagement with the next generation.
- Failing to properly explain and agree on the terms and rationale for long-term investments.
- A tendency for overweighting the impact of recent outcomes versus past performance.
- The need to have an effective communication channel via a family member accepted as the spokesperson of the family.

Educating the next generation is perhaps also as important as spending time with the dominant stakeholder. Do not leave the next generation out of your sight. The sooner they get educated, the better for the Family Office manager.

Founder, SFO

'Recency bias is a big thing now. Typically, family and investors think they are more risk tolerant than they actually are.'

Head Analyst, SFO

'You can do things on 20-year cycles as long as the family understands the purpose. As long as you genuinely have this long-term commitment.'

CIO, Single Family Office

'There is one person from the family to communicate with and then he communicates with the rest of the family members, so there is one link. If many people sit at the table, their decision-making becomes very risk averse.'

Head Analyst, SFO

'Rule number 1 is don't lose any money. Rule number 2 is don't forget about rule number 1'

Portfolio Manager, SFO

Message from Carlyon

In preparation for the roundtable, we provided a series questions to guide the conversation as shown below. Portfolio risk management is an essential component of managing family wealth and we hope the discussion paper provides some useful insights.

Strategic Asset Allocation

- What is the risk profile of the beneficial owner(s) and the expected return associated with the risk?
- Do you target risk or target return?
- Is your performance measured on a 'risk adjusted basis'?
- Do you accept market risk and expect to be paid for it, or prefer giving up returns by implementing hedging strategies?
- How realistic is it to diversify risk with traditional hedges e.g. bonds, gold, commodities, yen?
- To what extent do you hold Hedge Funds in your portfolio to add non-correlated returns?

Risk monitoring

- How do you monitor portfolio risk?
- Do you perform stress tests and if so, how frequently?
- Do you use Bloomberg or other software packages for stress testing?
- How useful do you find the scenarios like the '1987 crash', or '2008 credit crisis'?
- Do you model a range of outcomes from changes in rates, volatility, correlations?
- Do you monitor the time to liquidate your portfolio, including the redemption period of funds?

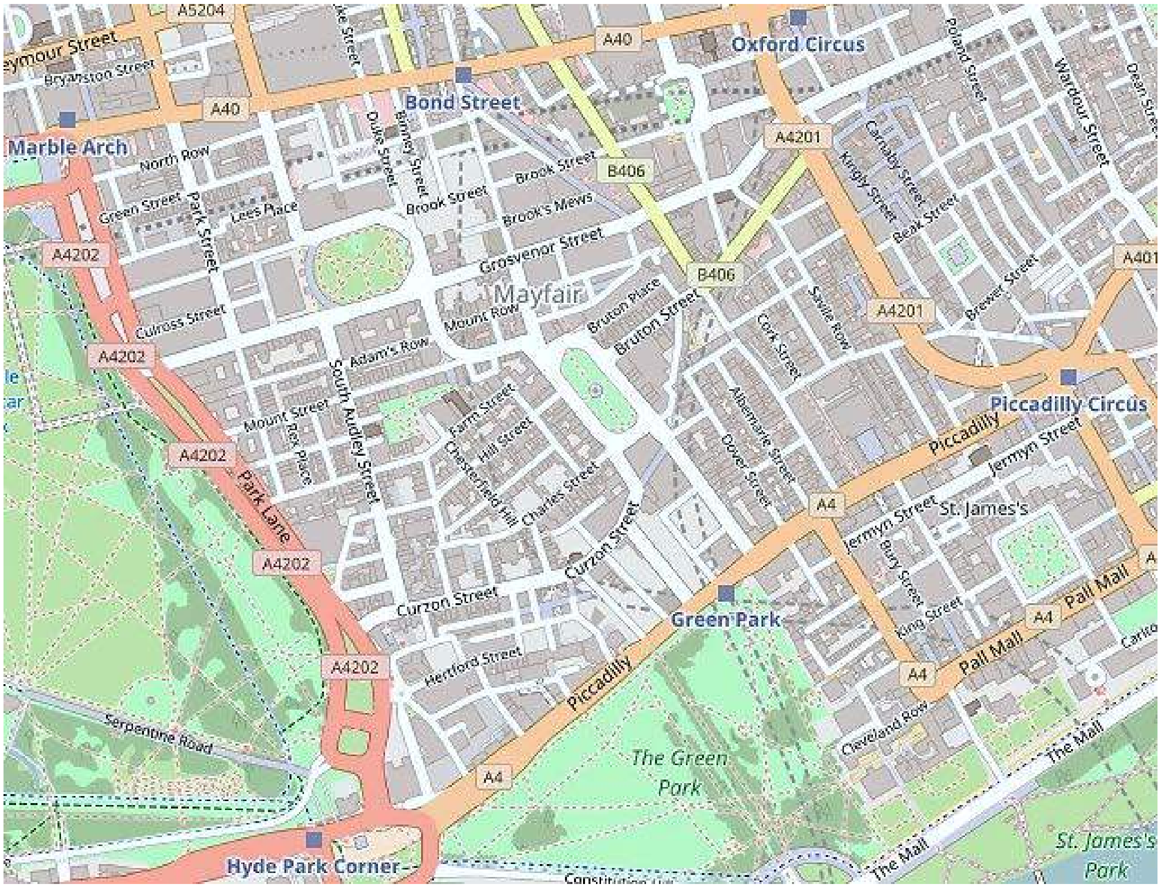
Risk mitigation

- How do you think about diversification? Do you worry about 'non-correlated/inverse-correlated' assets performing with an unexpected outcome during market stress conditions?
- For FX risk, do you prefer to buy FX hedged share classes?
- Do you have EM equity and bond exposure in local currency or US dollars?
- For any HF exposure, are you increasing or decreasing the weight?
- Do you hold TIPS as inflation hedge? Have
- you been using option strategies to hedge your portfolio?
- If traditional safe havens are not working e.g. bonds, gold, yen; do you engage in derivatives trades to create portfolio protection?

Philip Higson
Founder

Carlyon AG

Family Office Council breakfast roundtable was held at
Dartmouth House, 37 Charles Street, London



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