Frontier International

Liquid alternative strategies

Merger arbitrage, systematic global macro, trend following

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About us

Frontier has been at the forefront of institutional investment advice in Australia for over 25 years and provides advice on $600 billion of assets across the superannuation, charity, public sector, insurance and university sectors.

Frontier's purpose is to empower our clients to advance prosperity for their beneficiaries through knowledge sharing, customisation, technology solutions and an alignment and focus unconstrained by product or manager conflict.

Scott Pappas
Head of Alternatives and Derivatives Solutions

Scott Pappas joined Frontier in March 2021 as a Principal Consultant and Head of Alternatives and Derivatives Solutions. He is responsible for leading Frontier's alternatives and derivatives solutions, research and advice program. Scott has around 15 years of experience in the asset management industry and joined Frontier from Cbus, where he managed the Fund's alternatives program. Prior to this, he worked at Vanguard as a member of the global investment strategy group. Scott started his asset management career at QIC in 2003 working predominately as a multi-asset derivatives trader and portfolio manager. Scott holds a PhD in Finance from Griffith University and is a CFA charter holder.

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Michiel Swaak joined Frontier in January 2022 as a Senior Consultant Alternatives and Derivatives Solutions. Michiel has 20+ years of relevant experience in investment management with a strong focus on Hedge Funds and Quantitative Solutions. He joined Frontier from Deloitte where he was Director Quantitative Finance Solutions. Prior to this he worked for 10 years at Macquarie Bank in their Quantitative Hedge Funds business, and 5 years at QIC as head of their Quant Hedge Fund team. Michiel started his career in The Netherlands where he worked at ABN AMRO, The Dutch Railway Pension Fund, and Aegon Asset Management. He earned his Masters degree in Financial Econometrics at Erasmus University Rotterdam and is a CFA charter holder. Michiel is a guest-lecturer at Macquarie University in Sydney.

INTRODUCTION

Liquid alternative strategies

Our recent virtual research trip focused on three distinct liquid alternative strategies – merger arbitrage, trend following and systematic global macro.

These strategies offer a valuable source of diversification with performance unrelated to traditional asset classes such as equities, debt, and real assets. This edition of *Frontier International* provides an overview of each of the three strategies with a focus on the investment rationale supporting each, performance and key investment considerations. Performance during the first half of 2022 has reinforced the valuable role liquid alternatives can play in institutional portfolios.

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Liquid alternatives – a recap

Liquid alternatives are an eclectic mix of investment strategies that aim to provide diversification to traditional portfolio risks.

These investment strategies are fundamentally different to traditional long-only investments. This paper focuses on three commonly used liquid alternative strategies – trend following, systematic global macro and merger arbitrage. These three strategies were the focus of our recent virtual research trip and have been employed by investors for many decades, are well researched and understood, and are popular as a source of diversification.

The **three strategies** share the following characteristics.

- They are dynamic, long-short investments that trade in and out of markets based on short- to medium-term opportunities.
- They use leverage to scale returns.
- They are highly liquid with most investments providing monthly if not daily liquidity.
- They offer diversification for portfolios concentrated in traditional asset classes.

The most important feature of these three investments, and liquid alternative in general, is that they offer diversification to the traditional risks that dominate diversified portfolios. This is due to the unique underlying investment logic supporting the strategies. The rationales for trend following, merger arbitrage and global macro are distinct from those of traditional asset classes, thus providing strong diversification potential.

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Merger arbitrage

Strategy overview

Merger arbitrage aims to generate returns by participating in the takeovers of listed companies. When a takeover is announced, the price of the takeover target increases, sometimes dramatically, resulting in a large capital gain for existing shareholders. At this point, existing shareholders tend to liquidate their holdings to realise the capital gain, however, there are no natural buyers of the stock after the announcement. Few fundamental investors are interested in analysing or buying a stock that is likely to be delisted soon. As a result, there is a large liquidity imbalance as sellers vastly outweigh buyers. This is where arbitragers can enter the market and purchase shares in the takeover target at the prevailing market price. The arbitragers buy the shares at a discount to the takeover price and hold the shares until the takeover is completed at which time they lock in a small profit. Chart 1 illustrates the process for a recent Australian takeover deal.

Chart 1: Sydney Airport share price during takeover

Source: Bloomberg and Frontier

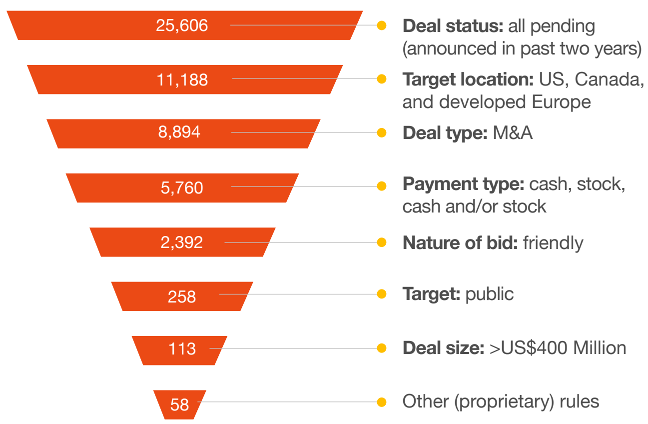
If all goes to plan, the takeover completes on time and the arbitrager earns a positive return. Not all takeovers are successfully closed, however, and the arbitrager bears this risk. Historically the great majority of takeovers, on average about 95%, do complete successfully[1]. For the small percentage of deals that fail, the price of the share will typically fall and the arbitrager will need to sell out of the shares, usually at a loss. Even when these losses are taken into consideration, arbitragers make money on average as the many small gains that they earn on successful takeovers more than outweigh the occasional larger losses that occur on unsuccessful takeovers.

The merger arbitrage investment process can be broadly broken into four components.

- **Deal selection** – which takeover deals to purchase or participate in.
- **Deal sizing** – how much of each takeover deal to purchase.
- **Leverage used** – how much leverage to apply to the overall portfolio.
- **Deal exit** – under what conditions should a position be closed.

Managers typically focus their attention on deal selection. By carefully selecting deals, managers can reduce the probability of takeover deals failing which in turn can improve returns. To narrow the universe of deals they consider managers generally use a filter. Figure 1 provides an example of the types of characteristics used to filter deals. Given the nature of the investment process, merger arbitrage lends itself to systematisation.

Figure 1: Example of deal filtering process



Source: Frontier, merger arbitrage managers

1. Deal failures vary depending on a range of factors. Managers aim to minimise deal failures by using proprietary insights and models.

Investment rationale

Merger arbitrage is conceptually similar to writing insurance. Once an arbitrager has purchased a takeover target, the return payoff becomes asymmetric. If the deal completes, the arbitrager will earn a small positive return – akin to an insurance premium – if the deal breaks, the arbitrager will sustain a potentially large loss – akin to paying out an insurance claim. As with insurance, the frequency of losses impact returns.

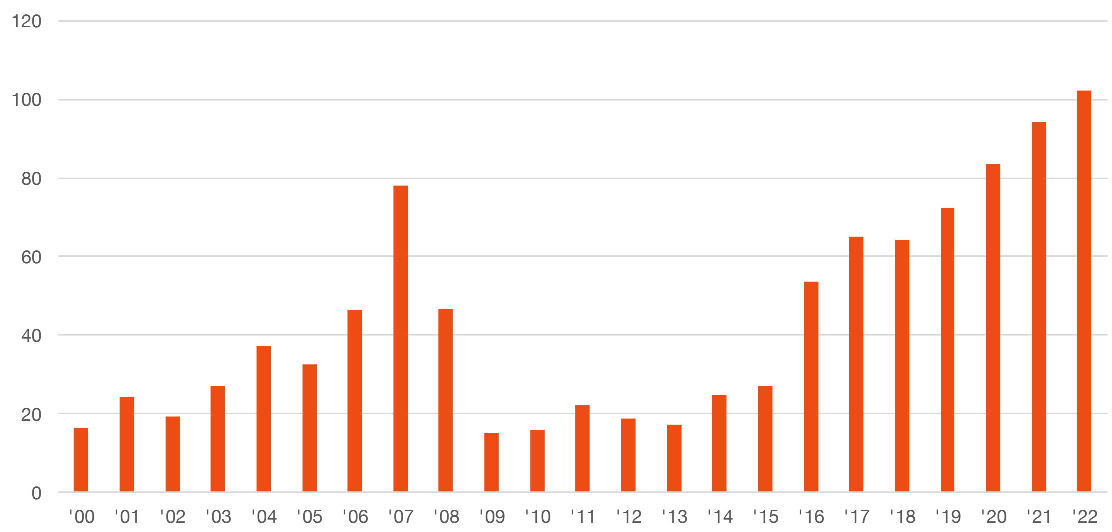
Despite being the enemy of the merger arbitrage investor, deal breaks have two attractive traits from a risk management perspective. First, breaks are independent of market conditions. That is, market crises or corrections do not increase the number of deal breaks. This reduces the risk of large losses from deal breaks occurring when equity markets are underperforming. Second, takeover deals are largely independent of each other. For example, the failure of a biotech deal will not impact an industrial sector deal. This reduces the risk that a large number of takeovers fail at the same time causing a large loss. While these are attractive traits from a risk perspective, they do not guarantee positive performance for the strategy.

Historically, deal breaks occur about 5% of the time, however, the market usually prices in a break probability much higher than this, typically around 12 to 15%. This difference is the takeover premium. The size of the premium is more than would be expected as compensation for the risk of a takeover failing. This suggests another factor is involved. The most likely candidate is liquidity. When a takeover is announced, long-term holders seek to lock in the gain of the higher stock price, creating a large supply of stock to the market. Merger arbitragers provide liquidity to the market by taking the other side of the trade. In summary, there is a clear investment rationale for the merger arbitrage premium which is intuitive and well understood.

Assets under management

Merger arbitrage is a widely used strategy among investors. Exposures are typically implemented either as a standalone allocation or part of a more diversified multi-strategy approach. The current level of assets under management (AUM) is estimated at USD100 billion for the sector, with individual manager AUM generally about USD1 to 2 billion. Strategy AUM came down sharply during the 2008 Global Financial Crisis due to deleveraging and the liquidation of various event-driven hedge funds. But since 2016, AUM has grown strongly.

Chart 2: Merger arbitrage assets under management (USD billion)

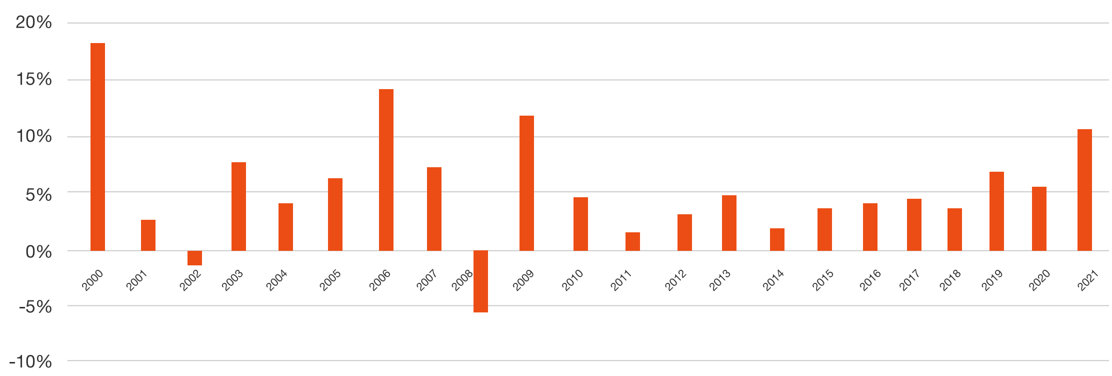


Source: Frontier, BarclayHedge

Performance

Chart 3 shows the consistency of positive annual returns for arbitrage investors, with the largest loss occurring in 2008. As we have described, losses mainly occur because of deal breaks, however, spread widening can also create performance volatility. Spreads typically widen during periods of market stress. As highlighted previously, market stress does not increase the probability of deals breaking, so spreads typically revert as deals continue to close. This results in merger arbitrage performance being highly correlated to equity markets in the short term, but correlation decreases when observed over longer periods. While merger arbitrage offers potential diversification for traditional portfolios, it will not protect performance in stress markets.

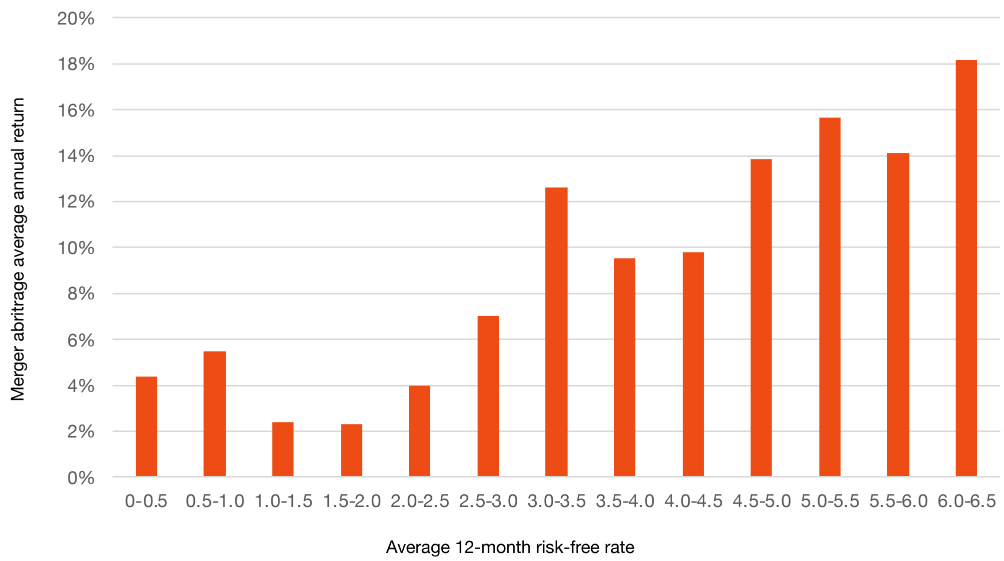
Chart 3: Merger arbitrage returns by year



Source: Frontier, HFR

Another positive feature of merger arbitrage is that higher interest rates usually lead to higher returns. This is illustrated by Chart 4 which plots annualised monthly merger arbitrage returns against US Treasury bill rates. The relationship is because of a combination of higher deal spreads and higher interest earnings on cash collateral occurring when interest rates rise. Looking forward, it is expected that in a higher interest rate environment the returns for merger arbitrage will be higher as well. Unlike fixed income and other long-duration assets, merger arbitrage performance should improve as interest rates rise.

Chart 4: Merger arbitrage returns and interest rates



Source: Frontier, HFR, FRED

Key considerations

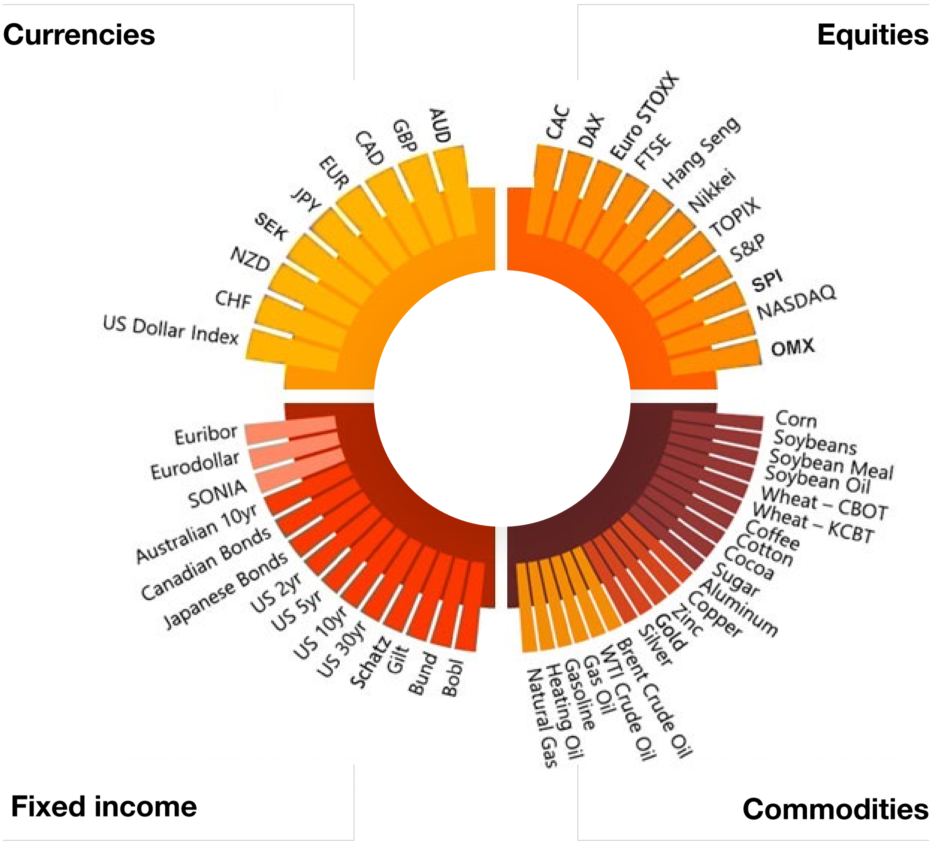
- Historically performance has been consistently positive with occasional moderate losses.
- A key risk for investors is the proportion of deals that fail.
- Returns can be highly correlated to equities in the short-term but offer diversification in the medium- to long-term.
- Managers can add value through deal selection. That is, avoiding deals that fail.
- Leverage is commonly used by managers and can be a key factor in determining performance.
- There is a positive relationship between cash rates and merger returns.
- Historically, correlation between managers returns has been high.

Systematic global macro

Strategy overview

Global macro investing aims to generate returns by dynamically trading global markets such as currencies, rates and bonds, equity indices and commodities. Positions are typically implemented using derivatives such as futures, forwards and swap contracts. Derivatives are extensively used by managers as they are typically very liquid, cheap to trade, and allow both long and short positioning, as well as leverage. Managers trade a wide range of markets to reduce portfolio concentration and reduce risk. Chart 5 illustrates the markets traded by global macro managers.

Chart 5: Markets traded



Source: Frontier, global macro managers

Global macro investors use a range of different strategies to generate profits and control risk. While managers are protective of their underlying processes, they typically provide high level insights into how they aim to generate profits. Managers within this sector are highly differentiated as they have a high degree of freedom in how they generate returns. This can lead to large differences in performance and emphasises the importance of manager selection.

There are commonalities in the types of models managers use to analyse and forecast markets. Having met with a range of managers, we can broadly categorise the types of models used across the sector. Some of the most common models we have seen are:

- **Value** – Positions are based on the difference between the estimated value of an asset and its current price, for example purchasing power parity in currency markets.
- **Carry** – Positions are based on relative interest rates, for example the yield difference between two bond markets.
- **Trend** – Positions are based on recent price moves (see the next section for further details).
- **Sentiment** – Positions are based on estimates of investor risk aversion, for example net equity short positions.
- **Nowcasting** – Positions are based on up-to-date estimates of economic conditions, for example high frequency models of US CPI.
- **Macro momentum** – Positions are based on changing economic conditions, for example recent monetary policy.
- **Investor flows** – Positions are based on forecasts of price moves resulting from market transactions, for example mutual fund flows.
- **Seasonality/event-driven** – Positions are based on predictable recurrent market moves, for example treasury bond auctions.

Managers will use their own unique combination of models and model definitions to determine portfolio level positions. Each model will receive a risk allocation or weighting and these will often vary widely across managers. The types of models used, the allocation or weighting to each, and their definitions will all impact on performance.This design freedom results in a wide dispersion of performance outcomes and highlights the importance of rigorous manager due diligence.

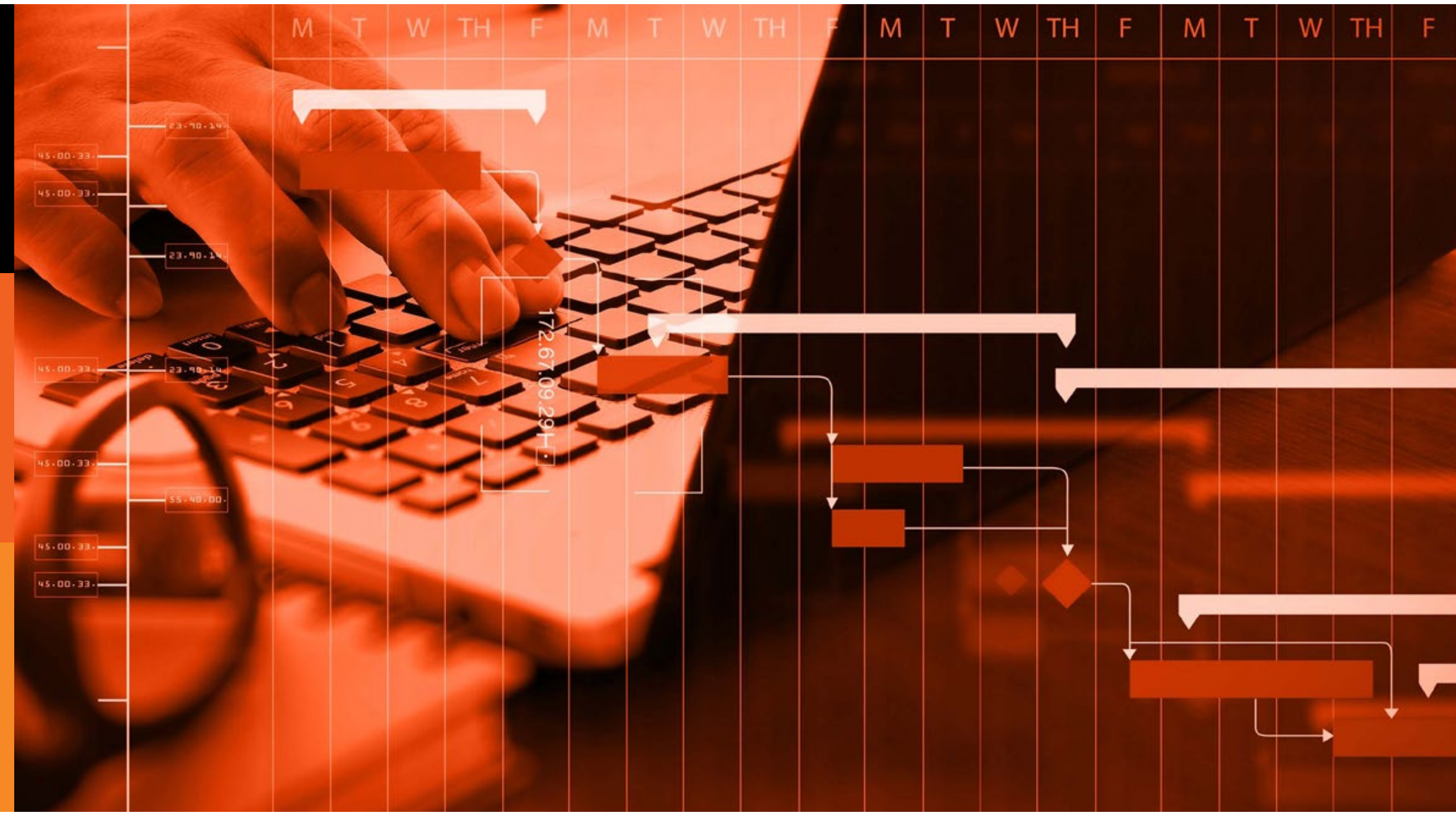
Investment rationale

There are two parts to the rationale supporting global macro investing, manager skill and the opportunity to exploit that skill. Managers try to forecast future market moves and position their portfolios to profit accordingly. As mentioned, managers use different models to generate returns. While models may incorporate insights into investor behaviour and biases, or attempt to exploit risk premia, performance is largely determined by manager skill in forecasting markets, portfolio construction and risk management.

Importantly, manager skill can only result in positive performance in the presence of profit opportunities. Manager skill by itself is not a sufficient condition for generating positive returns. Opportunities for profitable trading can occur from several underlying causes.

- **Non-profit maximisers** – For example, central banks, commodity hedgers and passive investors. These participants typically transact regardless of market pricing.
- **Behavioural biases** – For example, investor risk aversion, over-reaction to recent market moves and under-reaction to data releases.
- **Market mis-pricing** – For example, when market pricing diverges from manager expectations.
- **Divergent economic conditions** – For example, growth differentials between countries.
- **Investor flows** – For example, end-of-month hedging transactions

The important message is that to generate positive returns managers must have both the skill to exploit opportunities and sufficient opportunities.



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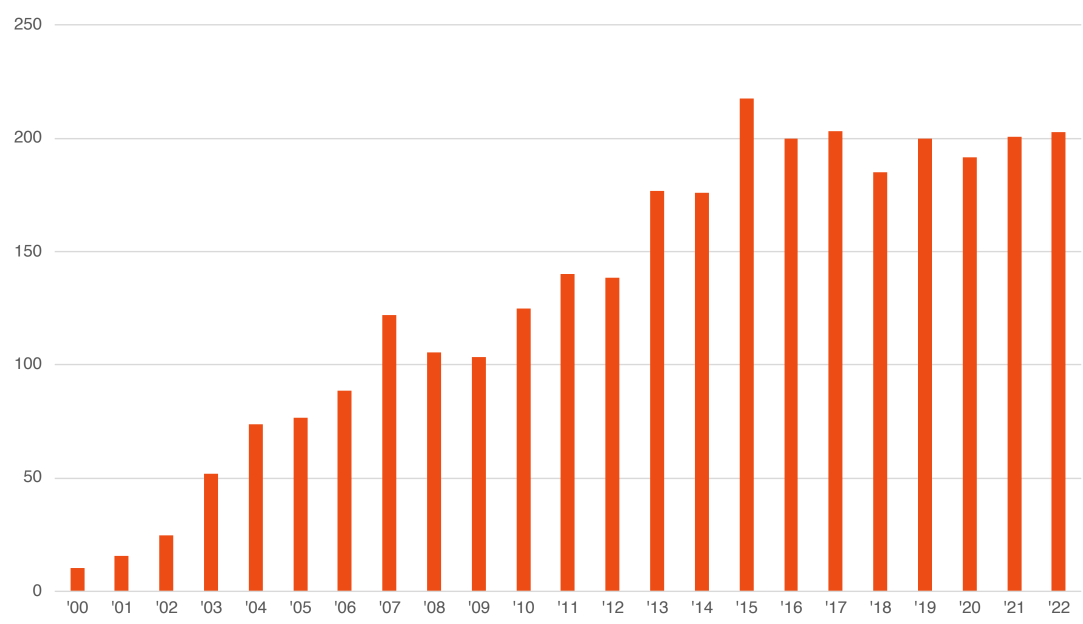
Assets under management

Global macro is a popular strategy often included in an alternative's portfolio. Currently there is more than USD200 billion invested in global macro strategies.

Despite lacklustre performance during the 2010-2020 period, assets under management continued to grow before leveling off in more recent years.

Chart 6: Global macro total assets under management (USD billion)

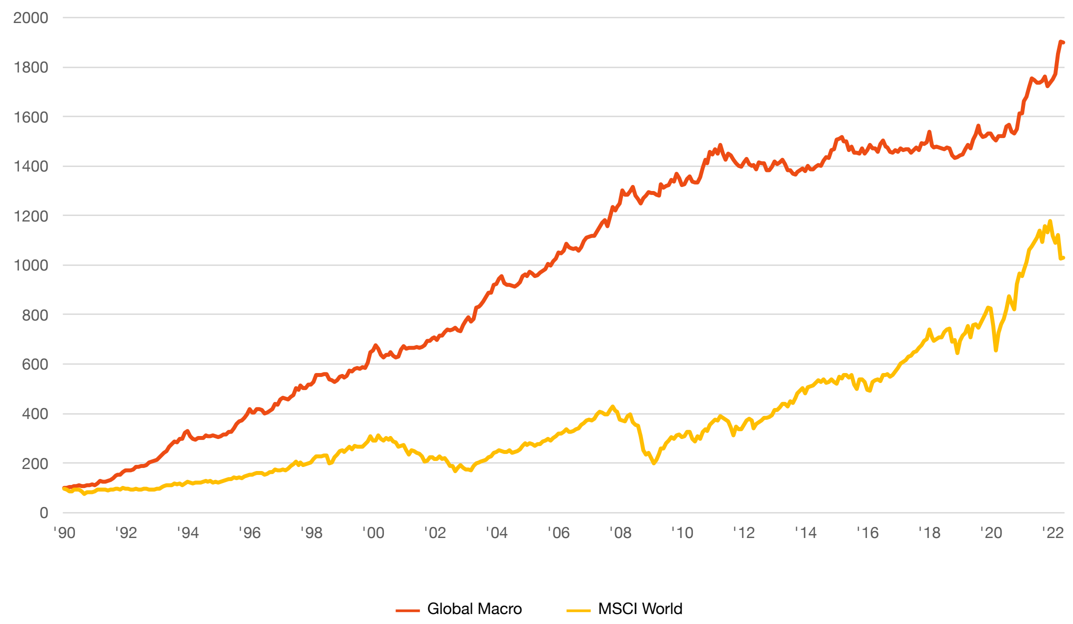


Source: Frontier, BarclayHedge

Performance

The HFRI Macro Index, a proxy for global macro hedge funds, has performed strongly over the long-term. It has generated higher returns than the MSCI World Index with significantly lower risk for the period January 1990 until May 2022. As with other asset classes, performance during this period has varied. After the Global Financial Crisis, accommodative monetary policy has limited the effectiveness of commonly used strategies such as value and carry. During this period, widening valuation spreads and converging interest rates have reduced opportunities for managers and constrained performance. However, it appears as though global macro has finally turned the corner, with recent returns in the high single digits. This has coincided with changing economic and monetary conditions which has provided more opportunities for managers to apply their skills. The defensive nature of the strategies has also been highlighted with year-to-date returns to May 2022 over 9% for the HFRI index. A period when the MSCI World has declined close to 13%.

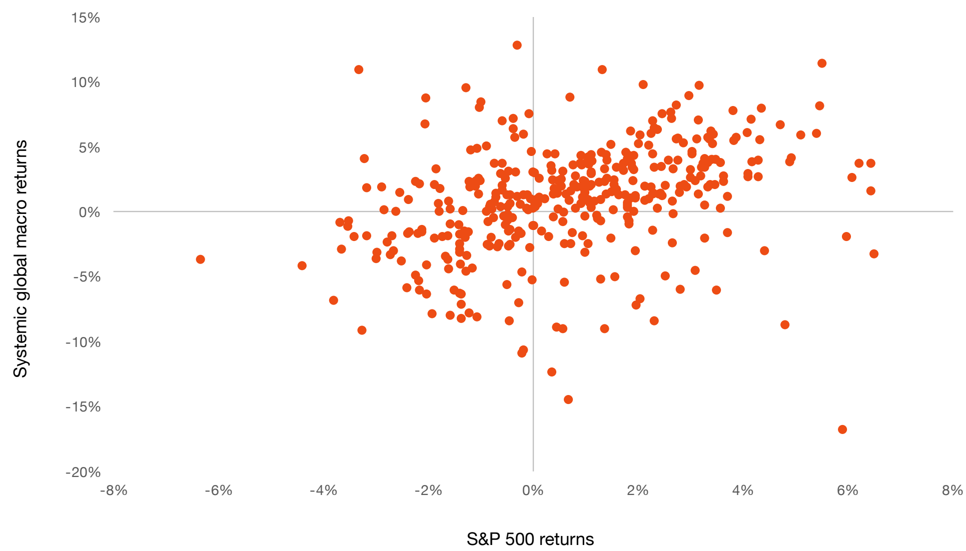
Chart 7: HFRI Global Macro v MSCI World cumulative returns



Source: Frontier, HFR, MSCI, EIKON

In addition to strong performance over the long term, global macro funds also display a weak relationship with equity returns, as shown in Chart 8. Not only do global macro funds perform strongly in isolation, they also provide strong diversification benefits to a traditional portfolio – potentially improving both absolute returns and risk-adjusted returns. As evidenced by the long-term performance numbers, while performance can continue to lag for extended periods as it has in the last decade, over multiple cycles performance should be strong, have limited downside and provide diversification benefits to a traditional portfolio.

Chart 8: Global Macro v S&P 500 monthly returns



Source: Frontier, HFR, S&P, EIKON

Key considerations

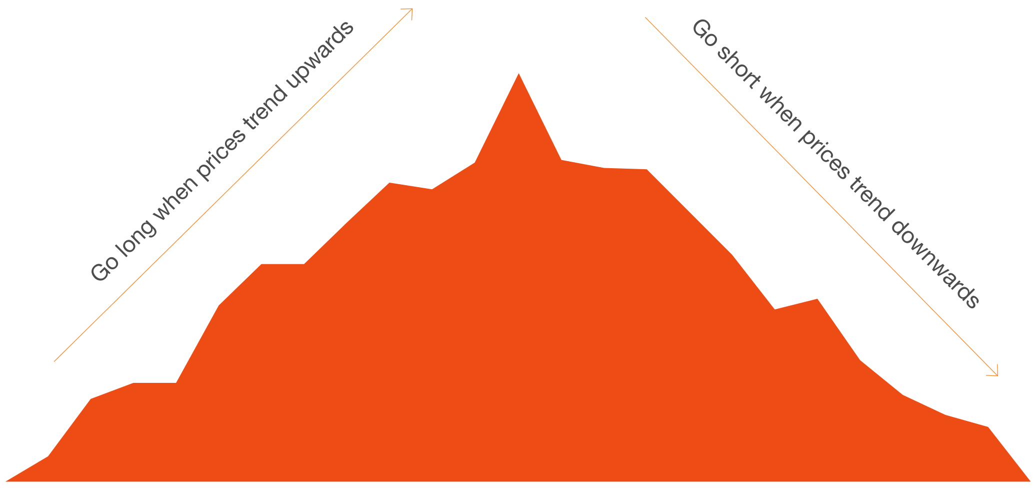
- Returns are typically uncorrelated to equities and offer the potential for strong diversification.
- Performance can be sporadic. Periods of poor or moderate performance can be punctuated with large returns in short periods of time.
- Manager performance is sensitive to skill and the opportunity to apply that skill.
- Volatility is expected to be lower than equities over the medium term, but funds can experience losses over the short term.
- Managers employ a wide range of different models to generate returns that can lead to a high degree of dispersion in manager performance.
- Manager selection is critical for identifying the manager skill that will determine performance.

Trend following

Strategy overview

Trend following strategies attempt to identify future price movements in global markets by analysing historical price data. Like the global macro managers discussed earlier, trend followers dynamically trade long and short positions across equity indices, fixed income, currency, and commodity markets. Managers use quantitative models to identify trends and take long positions in upward trending markets and short positions in downward trending markets. Positions are implemented using futures, forward and swap contracts. Trend following relies on identified price movements that will persist into the future. The strategy aims to profit from trends ranging from one to 12 months with positions typically held for about three to four months on average. The larger the move, and the longer its duration, the more likely it is the strategy will perform well. If a price trend fails to occur, managers will typically close positions before substantial losses occur. In periods where this occurs frequently across markets, that is, markets trade sideways or are choppy, the strategy will struggle as small losses aggregate. This was most recently demonstrated from 2010 to 2018 when the strategy performed poorly relative to traditional asset classes. Over this period, returns were largely flat, however, recent performance has been very strong.

Figure 2: Trend following example



Source: Frontier, trend managers

An important characteristic of trend following is symmetry, that is, managers are just as likely to be short a market as they are to be long. This provides diversification and, importantly, the ability to profit from bear markets. Historically, trend following has performed well in periods of market crisis, and this has again been demonstrated in early 2022. Trend following also performed well in the inflationary period of the 1970s as well as the recent period of inflationary concerns. This makes intuitive sense for a strategy that aims to profit from persistent changes in price. The defensive nature of trend following – whether it is defending against equity market weakness or inflation – is a key characteristic of the strategy.

The trend following investment process can be broadly broken into three component parts.

- **Market selection** – which markets to trade.
- **Trend identification** – how to determine if a market is trending.
- **Portfolio construction** – how to allocate risk across markets.

While the process is relatively simple conceptually, each part of the process typically involves a high level of sophistication and managers devote significant resources to researching and improving each of these steps. Different variants of trend following strategies exist which may use different markets or models.

Investment rationale

Trend following is fundamentally different from traditional assets and other liquid alternative strategies.

The underlying rationale for trend following is that market participants exhibit behavioural biases that can be profitably exploited. Rather than being a result of fundamental economic relationships (e.g. the equity risk premium) or manager skill, trend following performance is a result of investor behaviour. The following concepts and behavioural phenomena are thought to lead to the price trends that trend followers exploit.

Markets underreact to news

Rather than reacting immediately, markets tend to adjust incrementally to reflect new information releases. This provides an opportunity for trend followers to identify a trend early and establish a position before prices have moved significantly. The associated behavioural phenomena are known as the disposition effect and anchoring.

Investors tend to herd

Rather than acting independently, participants tend to copy the behaviour of other participants. This leads to a mechanism where price moves, either positive or negative, will tend to persist as participants mimic the behaviour they perceive in the market.
As a result, price trends, once they have begun, can be exacerbated.

Delayed overreaction to news

Rather than evaluating news objectively, investors tend to overemphasise news which confirms their existing beliefs – confirmation bias. For example, recent price moves are interpreted as representative of future price moves. Again, this is thought to encourage price trends.

Non-profit maximisers

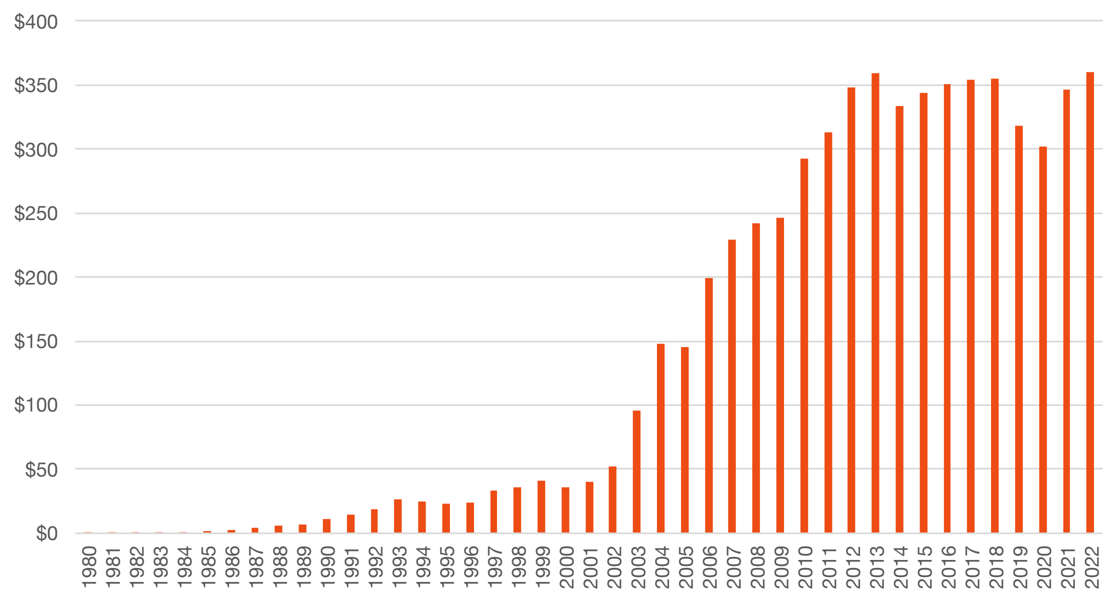
As mentioned in the discussion of global macro, the existence of non-profit maximisers provide profit opportunities across global markets.

Assets under management

Trend followers are sometimes referred to as commodity trade advisors (CTAs). The CTA sector comprises mostly trend followers but also includes managers that employ other investment strategies.

Currently there is more than USD350 billion invested in the CTA sector, the majority of which is in trend following strategies. This makes trend following one of the largest liquid alternative strategies. Recently, investors have demonstrated renewed interest in trend following due to the defensive performance described on the next page.

Chart 9: CTA assets under management (USD billion)



Source: Frontier, BarclayHedge

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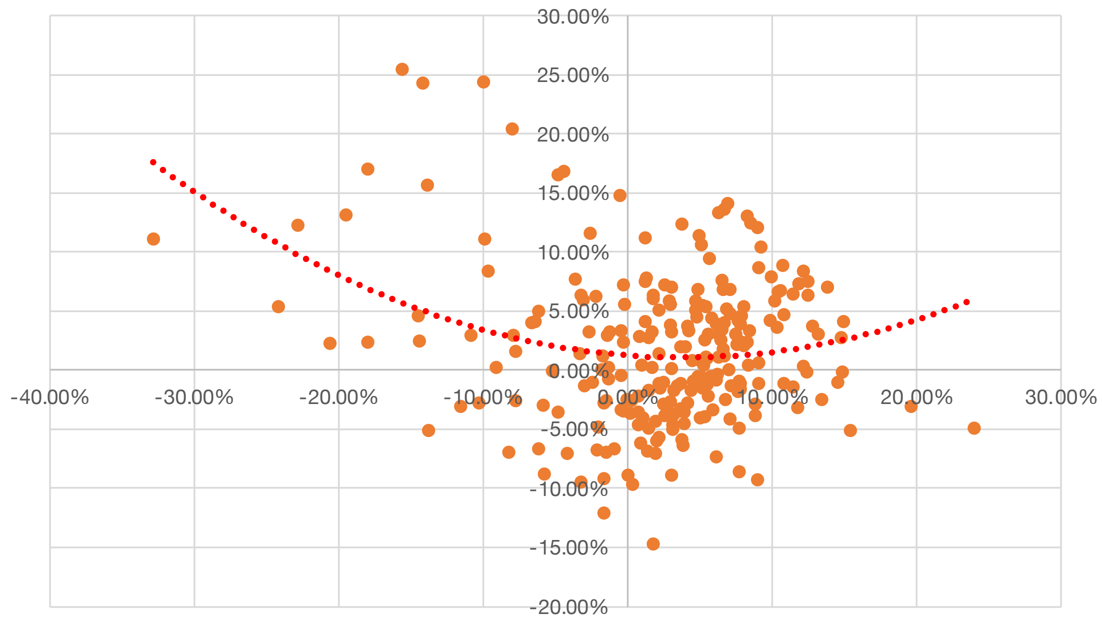
Performance

Trend following has a low correlation to traditional asset classes such as stocks and bonds and also to other alternatives.

Trend following also exhibits strong ‘convexity’. That is, historically it has performed well in both falling and rising markets. Over the past 20 years, the widely followed Société Générale trend following index has been positive in all but one of the 10 worst months for the S&P 500. This convexity makes trend following an attractive addition to a traditional stock/bond investment portfolio.

Adding trend following to a traditional investment portfolio will help to improve the expected risk-return characteristics of a portfolio. It is important to realise, however, the positive convexity offered by trend following is not guaranteed. Historically trend following has performed positively in most down-markets, but not in all.

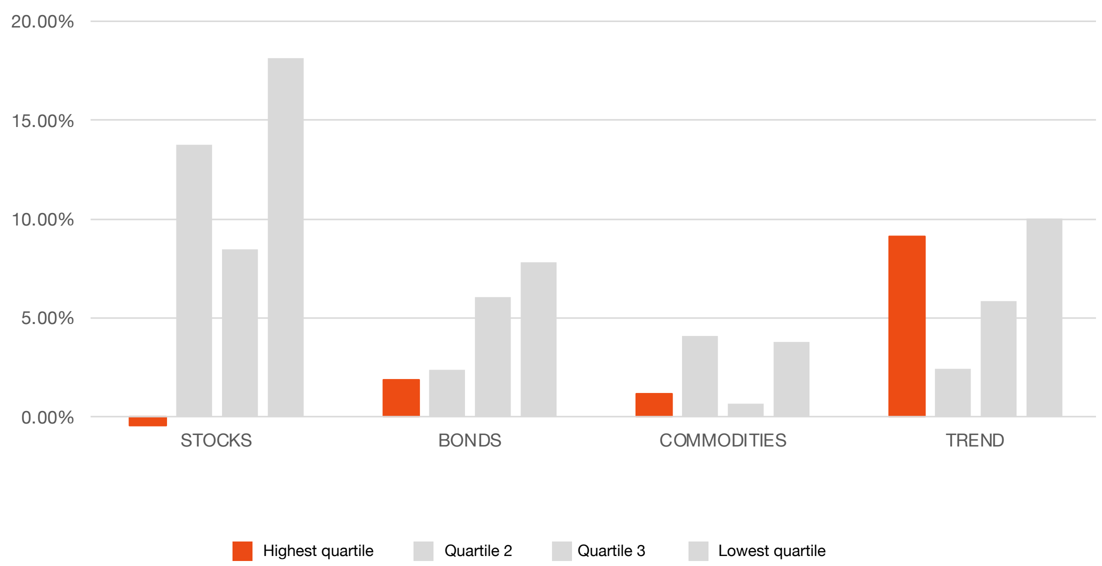
Chart 10: Trend v Stock Returns (quarterly)



Source: Frontier, Societe Generale, S&P, EIKON

Historically, the strategy has performed positively in inflationary environments. Positive performance during inflationary periods has been a result of (long) commodity and (short) fixed income positions. Performance during periods of high inflation can be seen in Chart 11. The chart illustrates performance according to realised inflation, the coloured bar showing performance in the highest quartile of inflationary periods. During these times, trend following has outperformed other asset classes including commodities. Overall, unlike many other asset classes, trend following is expected to benefit from periods of higher inflation.

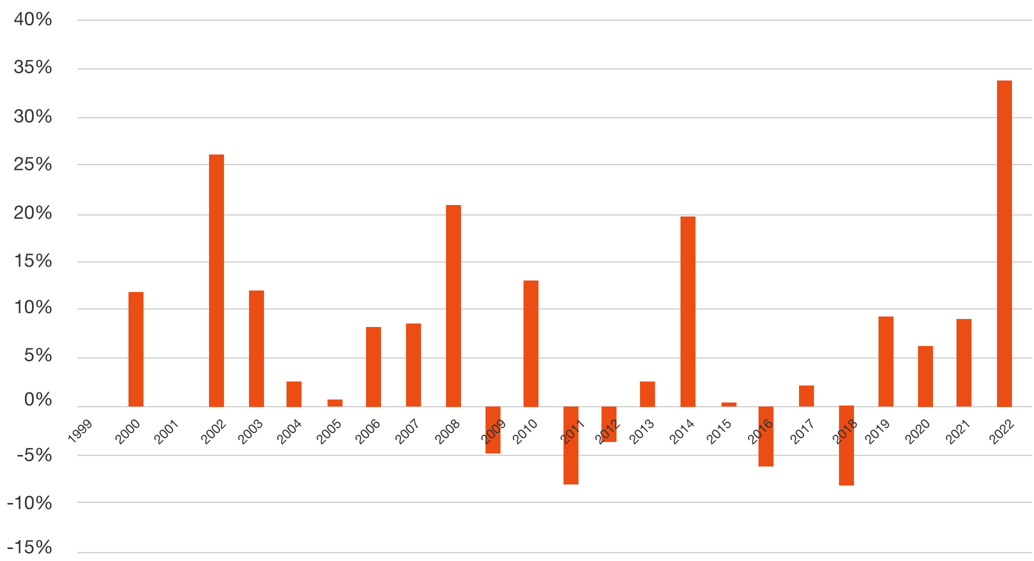
Chart 11: Trend following performance during periods of high inflation



Source: Frontier, Societe Generale, EIKON, FRED

Trend following performs well when markets move significantly. Recently this has been the case with the current environment comparable to 2014 (major moves in oil markets), the Global Financial Crisis, and the bursting of the Dot-Com bubble. All of these periods were strongly positive for trend following. So far in 2022, the performance of trend following has been very strong. This compares particularly well to the year-to-date performance of traditional assets such as stocks and bonds which have both struggled. This strong performance, however, has occurred after a period of flat returns. During the 10-year period 2009-2018, returns were flat with many managers experiencing drawdowns during this period. Due to this 'lumpy' return profile, successful investing in trend following requires a long-term, disciplined approach.

Chart 12: Annual returns of the Societe Generale Trend Index



Source: Frontier, Societe Generale

Key considerations

- Returns are typically uncorrelated to equities and offer the potential for strong diversification.
- Performance can be sporadic. Periods of moderate performance can be punctuated with large returns in short periods of time.
- Historically, has performed well when equity markets fall.
- Is positively related to inflation and has historically performed well in periods of inflation.
- Different variants of trend following are available. The main variants trade different markets or include non-trend signals.

Indicative investment terms for the three strategies

These figures are based on our internal analysis and manager reporting. Actual values will vary across managers and products, the figures are a guide only.

Table 1: Indicative investment terms

	Merger arbitrage	Systematic global macro	Trend following
Return target	5-8%	7-10%	6-10%
Volatility target	5-8%	10-12%	10-15%
Base fees	0.5-1.5%	1-2%	0.75-1.5%
Performance fees	0-20%	10-20%	0-20%
Historical correlation to equity returns	Moderate	Low to moderate	Low
Expected performance in equity market falls	Negative	Flat	Positive

- Returns are estimates only and will vary depending on multiple factors.
- Volatility targets are based on our survey of manager products.
- Fees are indicative and vary widely depending on the product, as well as risk and return targets. Managers may offer a choice of fee structures, e.g. a higher base fee with no performance fee.
- Historical correlation to equity returns varies widely over time, the descriptions are representative of long-term correlations.
- Expected performance in equity market falls is a long-term expectation. Performance in individual market falls will vary.

The final word

Traditional asset markets have struggled in the first half of 2022 reminding investors of the importance of diversification.

Frontier's recent virtual trip focused on three strategies that offer diversification to traditional asset classes – merger arbitrage, systematic global macro and trend following.

These strategies have well understood investment rationales with unique return drivers, are popular among alternatives investors, and offer unique performance characteristics.

With rising interest rates, inflation uncertainty, and valuation levels presenting headwinds to traditional assets, investors should consider an allocation to liquid alternatives to help mitigate these risks.

Want to learn more?

Frontier has undertaken extensive research on liquid alternative strategies and is well placed to advise investors on this theme. We encourage investors to reach out to Frontier's Alternatives and Derivatives Team for a discussion on how we may be able to help.

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