TUNGSTEN
Investment Funds

Managed futures and modern strategy variants

Diversification tools for institutional portfolios

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More than a quarter of institutional investors in Europe recently expressed an interest in managed futures strategies. In contrast, this type of investment has been relatively poorly represented in German institutional portfolios to date. International investors appreciate managed futures, especially thanks to the strong portfolio diversification effects: not least in an environment of low interest rates and high equity valuations, managed futures can offer an attractive add-on to strategic asset allocation (SAA). A wide range of different product variations is now available on the market, facilitating coverage of investor needs.

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Germany needs to catch up

Globally, the number of institutional investors with expo-sure to managed futures has more than tripled since the end of 2008, to more than US$340 billion at present. According to a survey carried out in 2012, among German-speaking countries, only Switzerland showed a more extensive use of managed futures strategies. Now that access has at least been facilitated for German investors, through the increasing popularity of UCITS formats as well as a number of domestic providers being available, this topic deserves closer attention.

Since managed futures are not established as part of traditional SAA concepts, portfolio inclusion requires some initial effort – which, however, should be compensated for by their positive impact on the portfolio as a whole.

Definition and characteristics of managed futures

Managed futures strategies comprise the (usually systematic) trading of futures, and – in some cases – options contracts. Strategies are usually applied across different asset classes, including equity indices, fixed income markets and currencies – often also encompassing commodities. Directional positions are generally established in 30 or more markets. Trend-following strategies are most frequently used in the managed futures space.

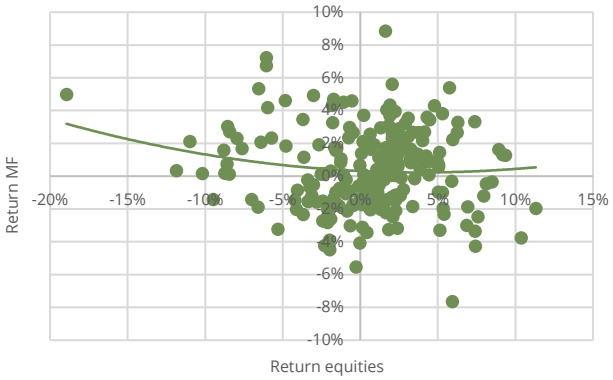
Besides their usually very low correlation with other types of investment, managed futures are seen as less vulnerable during times of crisis – particularly thanks to the following properties:

- adaptive response to market changes, via long or short positions;
- highly liquid instruments, allowing for virtually continuous ability to trade – with low transaction costs and minimum counterparty credit risk;
- usually deployed as systematic strategies – hence avoiding emotional impact and behavioral bias;
- no long bias;
- no de-facto short volatility strategies.

Systematic implementation of multi-asset long/short allocations provides diversification benefits

Including managed futures in the strategic asset allocation of traditional investors over the long term provides a high degree of diversification, to an extent that is hardly achievable through any other liquid strategy – with no material correlation measurable with equity, bond or commodity investments. Even when compared to most other alternative investments, managed futures indices do not show any material correlation. With this in mind, managed futures are an obvious choice for risk-conscious investors. It is thus all the more surprising that to date, they have not been included in German institutional portfolios to date.

Correlation with equity markets: –0.10
The "managed futures smile"



Sources: Bloomberg, own calculations – period: January 2000 to November 2017.

Correlation with government bonds: 0.27

Sources: Bloomberg, own calculations – period: January 2000 to November 2017.

Over and above the attractive correlation properties, long-term allocations to managed futures have offered attractive absolute returns in the past – comparable to those of equity or fixed-income investments. Likewise, the risk-return ratios are similar to traditional investments, with drawdowns generally markedly lower than for equity investments. A further shared property is a switch between stronger and weaker periods (with the latter sometimes extending over longer periods of time). Hence, a strategic allocation is critical for managed futures investments – in other words, managed futures appear to be rather unsuitable for purely tactical plays. If timing issues are considered at all, the recent strong performance of equities, corporate bonds and

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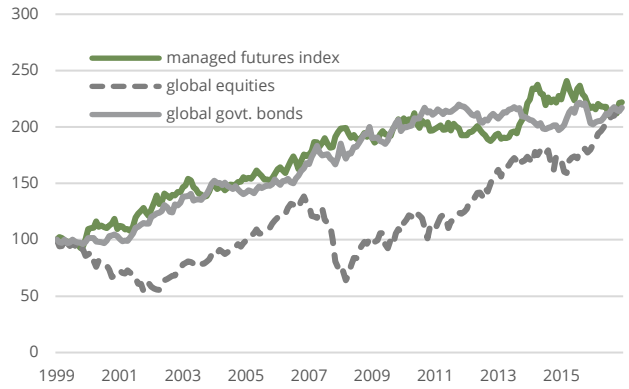
government bonds might be seen as an attractive entry point for gaining exposure managed futures.

Performance versus equities and government bonds



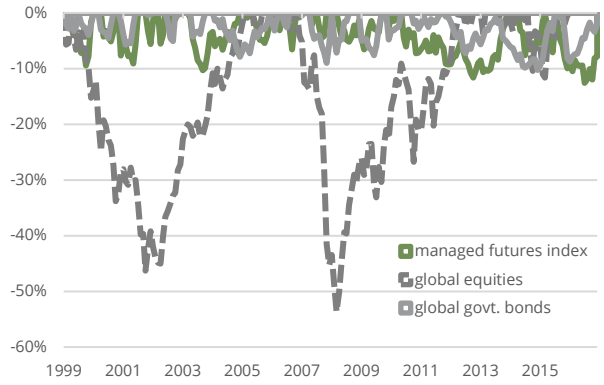
Source: Bloomberg – period: January 2000 to November 2017.

Performance indicators (annualised):

	Return	Volatility
Managed futures	4.6%	8.6%
Equities	4.6%	15.1%
Government bonds	4.4%	6.8%

Sources: Bloomberg, own calculations – period: January 2000 to November 2017.

Relative drawdown behavior

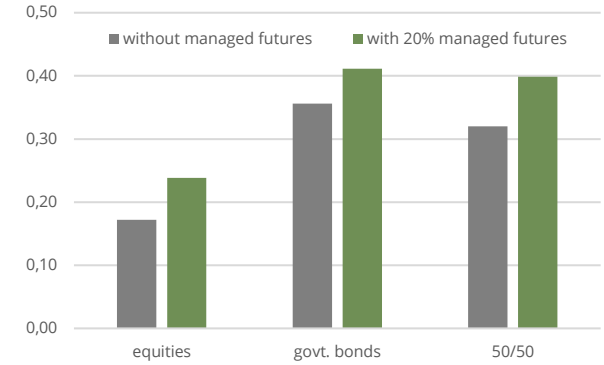


Sources: Bloomberg, own calculations – period: January 2000 to November 2017.

Managed futures are generally seen as crisis-proof. Indeed, historically, they yielded clearly positive contributions during periods of strong market distortions – such as in 2008. Nonetheless, depending on the specific portfolio allocation at the time of a market correction, managed futures may suffer as well since they can take both long and short positions. Equating managed futures with a tail hedge would therefore appear to be a bold assumption: after all, there is a reason why the market demands sizeable insurance premiums for hedges with a highly negative correlation, e.g. via put options. Still, during most markedly negative phases of balanced portfolios in the past, managed futures have shown a positive contribution.

The positive impact of managed futures in a portfolio context can also be illustrated by reference to the Sharpe ratios which can be achieved. In the following analysis, a 20 per cent managed futures allocation was added to different underlying portfolios.

Impact on the Sharpe ratio

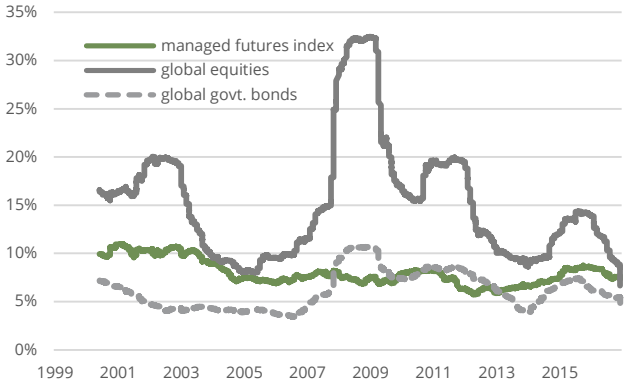


Sources: Bloomberg, own calculations – period: January 2000 to November 2017.

During the past four years, a global portfolio of equities and government bonds delivered an above-average Sharpe ratio – two and a half times the value shown above. It may come as a surprise that including managed futures would have improved risk-adjusted results even during this extraordinary period. The additional deployment of a modern strategy variation – as described below – would even have facilitated a further enhancement of the Sharpe ratio.

Besides their attractive correlation properties, managed futures are also noteworthy due to their consistent risk profile: whilst volatility in traditional asset classes is subject to greater fluctuations, the volatility levels of managed futures are quite consistent, even during times of volatility spikes in equity and bond indices.

Rolling 12-month volatility



Sources: Bloomberg, own calculations – period: January 2000 to November 2017 (daily data).

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The challenge of classification in a portfolio context

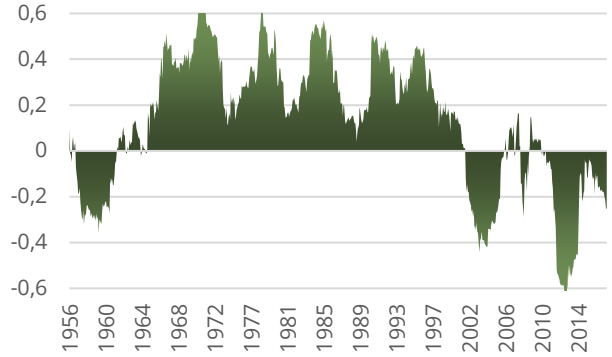
In the past, managed futures were often used to diversify equity market risk. Firstly, this may have been due to the fact that many products in this segment exhibited a volatility level similar to the equity markets. Another likely reason is investors' stronger desire for protection against equity risk relative to fixed income risk in the past. Nowadays, however, there are managed futures products available on the market which have a lower risk profile. These may be suitable for investors looking for investment alternatives in reaction to the current state of the bond markets – for example, because they fear that in the prevailing low-interest rate environment, bonds provide less diversification and potential protection than in the past.

But regardless whether the primary focus is on reducing the risk of an equity portfolio or on identifying building blocks for diversification of the fixed income side, managed futures can be valuable for both use cases.

Managed futures less vulnerable to asset price inflation

Portfolios which are solely diversified across the traditional asset classes of bonds and equities appear increasingly risky in the current capital market environment. A fact that should not be overlooked is that the widely-held assumption of negative correlation between these two investments did not hold true in the past – at least temporarily: in fact, it was possible to observe longer periods of positive correlation between equities and bonds in the past.

Government bonds and equity markets do not always move in opposite directions



Rolling 36-month-correlation between the S&P 500 index and 10-year (constant maturity) US Treasuries; source: Bloomberg – period: April 1953 to November 2017.

Real assets have increasingly been sought after as alternative building blocks for institutional portfolios since the low interest rate environment set in. It is worth bearing in mind, however, that this involves swapping liquid into illiquid investments. Moreover, these investments also benefited from the historical inflation of central bank balance sheets.

Switching into corporate bonds holds similar problems: moreover, their liquidity is restricted – especially during times of crisis, and their potential for diversification is limited due to their correlation with the equity market.

These insights point to the conclusion that the timing seems attractive for enhancing portfolio diversification through managed futures, also compared to other alternative investments.

As with many other strategies, managed futures have yet to prove their suitability in a longer phase of rising interest rates. Especially when looking at products using longer-term trend-following strategies, it is important to note that the negative roll-over yield (carry) of short fixed income positions is likely to burden performance. On top of this, it is uncertain whether the bond markets will in fact form tradeable and sustainable trends in this scenario – or whether potential yield increases will instead materialize in shorter, erratic movements. Both aspects are in favor of considering more short-term (and less trend-dependent) managed futures strategies.

Some managed futures characteristics have prevented an allocation to date

As a low-correlation investment, managed futures can underperform equity markets during equity bull markets. Investors are thus prone to underestimate the long-term benefits of an allocation to managed futures. The fact that during such phases, institutional investors benefit from their traditional investments – as opposed to the contributions from diversification elements – is often overlooked.

Their typical volatility levels – low double-digit percentages, at product level – made managed futures unsuitable for some institutional portfolios, or restricted their use to diversifying equity investments. Combined with cyclical performance, maintaining a strategic allocation may turn out to be challenging for investors. Nowadays, managed futures products offering moderate volatility (at similar levels to bond investments) are also available, with sufficiently long track records.

Assets in managed futures are predominantly managed using medium- to long-term trend-following models. Given their very nature, these are strongly dependent upon corresponding trends

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forming on the markets; at the same time, they respond to changes in the market environment with a certain time lag.

Modern strategy variants vs. traditional managed futures strategies

	Traditional managed futures	Modern variants
Complexity	Few input factors	Thousands or millions of input factors
Data processing	Mostly linear rules	Linear as well as non-linear relationships
Model generation	Driven by the developer's hypotheses	Data-driven using algorithms (such as artificial intelligence)
Model updates	Static; or manual recalibration	Learning based on new data
Type of data	Structured	Structured as well as unstructured

New strategy variants provide different return profiles

Investors today have a broad spectrum of managed futures strategies at their disposal, which go beyond traditional trend-following approaches and short-term strategies, offering a high degree of diversification.

The focus here is on flexible strategies which frequently employ powerful, state-of-the-art analytical technologies such as artificial intelligence (AI).

Traditional managed futures strategies are often based on assumptions as to how the markets work. Developers use these assumptions as a basis for formulating rules. Conversely, AI algorithms offer the ability of identifying cross-relationships in the financial markets (which are often non-linear) from a vast number of variables. Where traditional strategies were based on a single- to double-digit number of variables, modern strategies can process thousands or even millions of input factors. This is made possible by more powerful algorithms (software) and the development of IT hardware with far superior computing power and storage capacity than in the past.

Properly applied, artificial intelligence offers tangible benefits for systematic strategies. This is because AI is a powerful tool for analyzing data, identifying complex relationships, and for picking up trading opportunities which traditional quantitative strategies cannot capture.

For lack of sufficient public data, we are offering our own experience as a concrete example of a newer generation managed futures strategy. Based on a live track record looking back on more than four years and more than 20,000 transactions (proving its statistical significance), this AI-based trading approach has shown less cyclical returns than a typical trend-following model. In addition, the risk/return ratio was superior to the peer group[1].

The product range of a new generation of managed futures strategies is likely to grow further. Yet at the same time, the successful application of state-of-the-art data analysis methods (including artificial intelligence) requires extensive research and development. This is because the financial markets, which are characterized by significant uncertainty, pose a particular challenge. Given the higher complexity of such strategies, a manager's ability to show proven and reliable evidence is advantageous – to prevent investors from finding themselves in a beta testing role.

Summary

Managed futures may provide valuable contributions to diversification of institutional portfolios. These products are available in the form of UCITS structures, with different levels of volatility. The strategies are based on using highly liquid underlying instruments, thus providing investors with a high degree of flexibility, even in the event of a crisis.

More recent innovations combine beneficial correlation benefits with state-of-the-art data analysis methods, which address the weaknesses of traditional managed futures strategies and/or provide additional potential for diversification.

Managed futures are modern portfolio elements, thanks to their independence from economic cycles. They may be especially important in the current environment, where traditional risk premia are increasingly difficult to realise and many institutional investors in Germany switch to illiquid assets – involving subliminal risks which are difficult to quantify. In contrast, managed futures offer an attractive portfolio component based on liquid investments.

[1] SG CTA Index and SG Short-Term Traders Index

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