# INSIGHT

# Building profitable strategies using non-trending financial assets

**Tom Pansegrau, CFA, Head of Volatility**
Tom Pansegrau is responsible for the management of 7orca's volatility strategies. He has more than 10 years of professional experience in quantitative asset management.

In financial theory, some assets are referred to as „mean extending," which implies that they show a positive trending drift over time and therefore can provide a buy-and-hold return. Thus, investors do not require special skills to time the market to earn a profit over time. Yet, this investment universe is rather narrow and offers limited diversification benefits.

Investments in assets without a positive trend, i.e. having asset price volatility and returns reverting to their long-run mean ("mean reversion"), require the timing of the market, which is generally difficult, even for expert investors (see figure 1).

**A strategy increasing the investable, timing-free investment universe would certainly be beneficial to many investors.** This INSIGHT will demonstrate how volatility risk premium strategies in non-trending assets can yield attractive returns, thus broadening the investment universe.

Most financial assets do not provide a simple buy-and-hold return. In fact, solely equity (or equity-like) investments have proven to have a positive drift over time. The price of the broad stock markets is expected to gradually rise over time. In the short term, the stock market can move widely up or down. Moreover, this applies only to the broad stock market, not to an individual stock, which could take such extremes as shooting through the roof or going bankrupt.

However, in the long term – and this has been clearly shown by empirical evidence – equities are expected to rise in value.[1] This phenomenon is referred to as the equity risk premium in financial literature: Risk-averse investors provide companies with cash when buying their stock and demand a return above the risk-free rate as a compensation for bearing this investment risk. If an investor's money is at a greater risk for a loss, a higher

***Fig. 1: Mean extending vs. mean reverting assets***

| | Asset | Payment received | Buying rate | Drift rate (LT) |
|---|---|---|---|---|
| Characterized by **Mean Extension** | Stocks | Company earnings, dividends | At discount | ++ |
| | High Yield/Credit | Coupon payments | At discount, if positive rates > safe haven aspects | +/- |
| | Real Estate | Rent | At discount, yet difficult to appraise value | ++ |
| | Private Equity | Company earnings, dividends | At large discount | +++ |
| | Cash/Bonds (AAA, Govies) | Interest rate payments | At par (no excess return) | +/- |
| | Collectibles (Art, Cars etc.) | No cash flow | At discount to appraised terminal value (E[P_T]) | + |
| Characterized by **Mean Reversion** | Interest Rates | Fixed vs. floating IR payments, both ways, not directional | Interest Rate Swaps with zero NPV at inception | / |
| | Currencies | No direct payments | Spot/Forwards/Futures, no cash outlay, zero NPV at inception | / |
| | Commodities | No cash flow, potentially negative cost of carry | Demand and supply as the only determinants | / |
| | Volatility (VIX etc.) | No payments | No direct investment possible | / |

*Source: 7orca Asset Management AG (31.12.2021)*

premium is likely needed to entice him to buy. Investors, therefore, buy shares at a discount expecting the share prices to move upwards as earnings materialise – all else being equal. For investors this means that they can "simply" buy a range of stocks and hold them passively to earn, on average, an attractive return over the long term. Studies show that this passive style of investing often is more beneficial than active stock picking due to transaction costs and other factors. Yet, this is a discussion for another day.

Credit behaves very similar to equity as it serves, basically, the same purpose. Real estate or private/venture capital holds a significant illiquidity risk premium. Investors exchange liquid cash for illiquid assets like real estate and can earn a return over time. As real estate investments often combine different risk premia, it is not easy to separate the actual source of return.

The excess return argument for buy and hold applies to any asset with an (un)certain expected cash flow in the future. These financial assets are usually bought at a discount to fair/terminal value.

On the contrary, we have assets showing no real drift in the long term. This holds true for interest rates (not bond returns, but the actual underlying rates), currencies, commodities and volatilities. Financial contracts trading these assets are initiated at zero net present value or sole determinants of direction are based on supply and demand. Empirically looking at long time horizons, we see that these assets trade within a set corridor and revert to a long-run mean. Within a shorter time span, they obviously can deviate or trend. A simple buy-and-hold strategy would not generated excess returns, though.

**Yet, there is a way transforming a non-trending asset into a passive-like, upward-trending investment strategy using its volatility.**

## Harvesting volatility to increase the investable, timing-free investment universe

A volatility risk premium strategy aims at extracting the risk premium embedded in financial assets. This premium exists primarily because market participants use options on these assets to hedge their portfolio risks.

In equity markets, this is more pronounced on the downside due to the net long positioning of investors and the asymmetric return distribution of equities. Put options are generally the hedging instrument of choice. In fixed income, foreign exchange and commodities, on the other hand, the direction is not clear and depends on current holdings and market situations. The volatility risk premium is therefore more symmetrical in these asset classes. Investors, including many hedgers from the real economy, protect their holdings or cash flows against rising/falling rates, foreign exchange rates and commodity prices depending on their exposure and business model.

Volatility risk premium strategies can be structured in different ways. Yet, they all involve selling options (puts and/or calls) on an underlying reference price or rate. Selling options is like providing insurance to market participants against severe market moves while collecting a premium for doing so. Usually the option sellers hold the options until maturity or a specified roll date without altering the terms of the option. At expiry/roll date, the seller writes new options with a set tenor.

Hence, this is not a simple passive, buy-and-hold strategy, but more a semi-passive strategy as you would need to adjust the portfolio at the options' maturity date.

The beauty is that the strategy can achieve positive returns in sideways drifting markets without an upward or a downward trend. Even better, oscillating underlying prices allow for higher returns in volatility risk premium strategies – across multiple asset classes that are not necessarily correlated with each other.

To provide empirical evidence for this statement, we illustrated performances of various asset classes and the corresponding volatility risk premium strategy over representative periods. The findings and conclusions hold firm for other and longer periods.

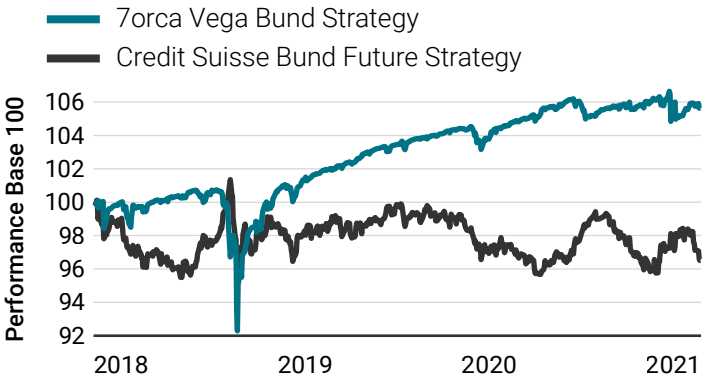
## Interest Rates – Making a Profit in Directionless Markets

### German Interest Rates

From mid-2019 to end-2021 the German 10-year interest rates largely moved within a range of -0.6% and -0.1% – except for a brief move towards -0.9% during the peak of the COVID-19 pandemic in February and March 2020. The Bund showed now clear direction and moved relatively erratic. For a buy-and-hold bond investor, but also for a bond selector this environment provided no to minimal performance potential. This is illustrated in figure 2, which compares the performance of the Credit Suisse Euro-Bund Futures EUR Total Return Index, a long rolling Bund Future index, to a short volatility strategy on the Bund future as the underlying.[2]

The volatility strategy on the Bund Future achieved positive returns most of the time and ended significantly higher after 2.5 years. It is also visible that the strategy suffered losses in the event of large, abrupt moves of the underlying, such as in February and March 2020.

*Fig. 2: Performance comparison of Bund strategies*




*Source: 7orca Asset Management AG, Bloomberg (31.12.2021)*

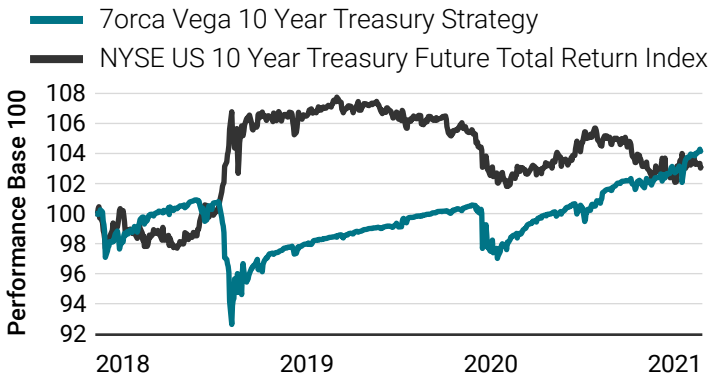
Yet, it is shown that the strategy can quickly recover losses.

### US Interest Rate

Looking at the 10-year US interest, we see a somewhat different pattern. Nevertheless, it leads to similar conclusions.

During the first COVID-19 lockdown starting March 2020, a long US government bond investor was able to profit from the pronounced decline in yields as a reaction to the prevailing COVID-19 situation. To depict this, we have displayed the performance of the NYSE US 10 Year Treasury Future Total Return Index in figure 3.

*Fig. 3: Comparison of 10yr Treasury strategies*




*Source: 7orca Asset Management AG, Bloomberg (31.12.2021)*

U.S. interest rates have risen since then, but not above mid-2019 levels. As a result, bond investors' returns have been flat to declining since mid-2020. The volatility strategy on 10Y US Treasury futures showed comparable results to the Bund strategy.[3]

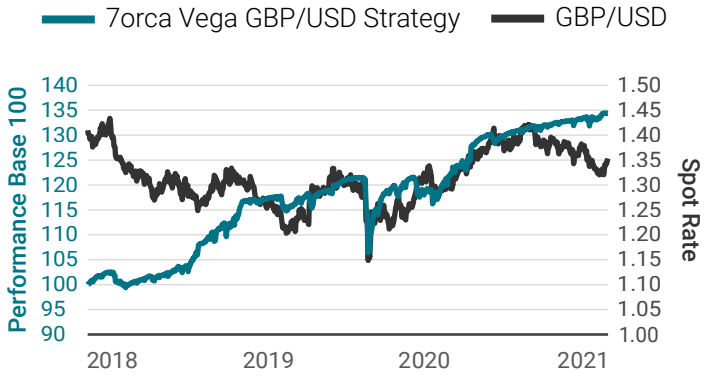
The loss at the beginning of 2020 was followed by a significantly positive performance, although the underlying remained in a sideways range. Even in an environment of moderately rising interest rates and thus declining futures prices, the strategy achieved positive performance and is able to do so in the future.

### Currencies – Benefiting in Directionless Markets

Investing in currencies without suitable models for market timing is even more difficult than in interest rates, where cycles might be more pronounced.

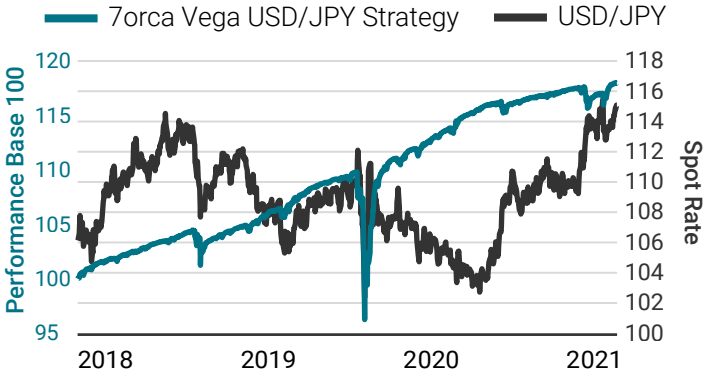
If the example of the GBP/USD[4] and the USD/JPY[5] is taken as a basis, no significant trend was seen from the beginning of 2018 to the end 2021 (see figures 4 and 5). The GBP (see figure 4) traded around 1.35 against the USD. The JPY traded near 110 relative to the USD, with a slight depreciation in 2021.

*Fig. 4: Comparison of GBP/USD strategies*




*Source: 7orca Asset Management AG, Bloomberg (31.12.2021)*

*Fig. 5: Comparison of JPY/USD strategies*



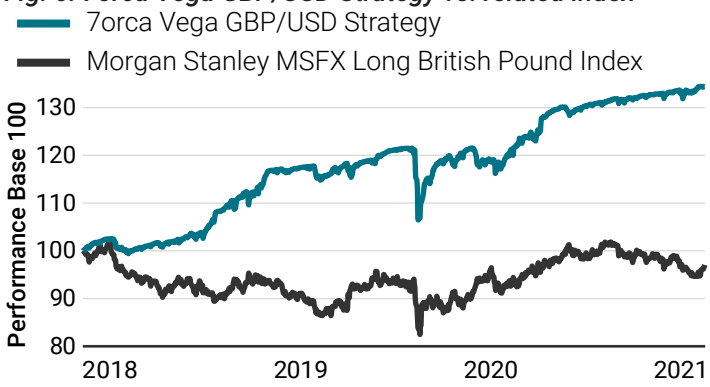

*Source: 7orca Asset Management AG, Bloomberg (31.12.2021)*

In contrast, both short volatility strategies as displayed in figures 6 and 7, extracting the risk premium from the two FX-underlyings showed an upward trend over the entire period of these 4 years and generated a positive return. The uptrend was interrupted from time to time by short-lived setbacks, most notably during the global COVID-19 outbreak.

In order to better understand the performance of the short volatility strategies, they are compared to the performance of a long investment in the respective foreign exchange rate against the USD (here exemplary from the viewpoint of an US investor buying foreign currency).

A buy-and-hold investment in GBP against USD, as illustrated in figure 6 based on the Morgan Stanley MSFX Long British Pound Index, performed flat over these 4 years.[6]

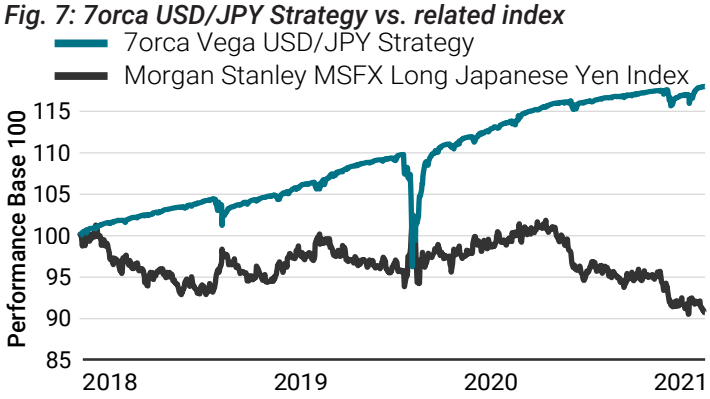
***Fig. 6: 7orca Vega GBP/USD Strategy vs. related index***




*Source: 7orca Asset Management AG, Bloomberg (31.12.2021)*

The same applies for an investment in JPY against USD, depicted in figure 7 using the Morgan Stanley MSFX Long Japanese Yen Index.[7]

***Fig. 7: 7orca USD/JPY Strategy vs. related index***




*Source: 7orca Asset Management AG, Bloomberg (31.12.2021)*

Opposed to this, the volatility risk premium strategies with GBP/USD1 futures and USD/JPY2 futures as underlyings were able to decouple from this sideways development.

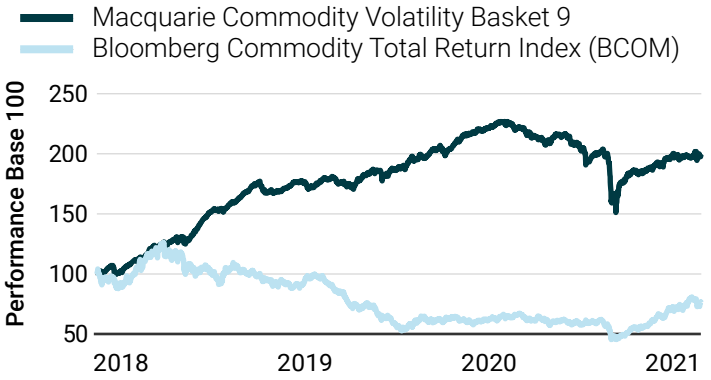
Comparing the GBP strategy with the JPY strategy, it is noticeable that the performance of the GBP strategy is about twice as high with the same weighting. This is partly attributable to the elevated risk premiums stemming from the uncertainty related to Brexit. Environments with oscillating rates and prices, accompanied by an increased uncertainty as it was the case throughout the Brexit discussion or in the aftermath of the COVID-19 outbreak, are favourable settings for capturing the volatility risk premium.

## Commodities – Yield on Unpredictable Assets

As we described before, commodity prices follow supply and demand and can have decisive price swings depending on the commodity's abundance or shortage.

To illustrate this in a comprehensible way, we depict in figure 8 a passive investment in a diversified portfolio of commodities represented by Bloomberg Commodity Index Total Return, which returned disappointing results in the past 12 years. The index is slightly negative since 2010.

***Fig. 8: Commodity volatility vs. commodity total return***




*Source: 7orca Asset Management AG, Bloomberg (31.12.2021)*

In contrast, a volatility harvesting strategy on a diversified basket of commodities, such as the Macquarie Commodity Volatility Basket 9 Index yielded a much more promising and consistent return over the same period. Some losses were higher than the ones of the corresponding long-only investment. However, they were short-lived as they were recovered during a subsequent phase of increased volatility premiums providing higher income to option sellers.

## Expanding the investable universe: unlocking performance potential and diversification benefits

Apart from equity investments, the passively investible universe to achieve attractive returns is rather limited.

Investors face the difficult task of finding the best active managers based on their skill and expertise. In addition to the limited significance of past performance, evaluating the manager's alpha is complex and the difference between skill (repeatable performance) and luck (non-repeatable performance) is often blurred.

**Volatility risk premium strategies give investors the opportunity to expand their investment universe and to diversify their portfolio across multiple asset classes.**

Whereas the focus often is on harvesting the equity volatility risk premium, there is empirical evidence, that the performance characteristics hold true for other underlyings and mean-reverting underlyings serve as a viable basis for extracting a profitable premium.

## 7orca's Approach to Volatility Risk Premium Investing

Extracting the volatility risk premium is a semi-passive investment style, as options have to be rolled forward. Thus, it is not a simple buy-and-hold approach. Yet, with a precisely defined roll schedule and a rule-based framework, it is possible to achieve positive returns in a semi-passive investment style.

7orca employs a quantitative investment process to provide a stable performance based on the volatility risk premium while controlling for downside risk. As investors have to bear short-lived, but at times severe losses, they are rewarded by the subsequent recovery phase.

**Active elements in the investment process** can help to improve returns without changing the true nature of the volatility risk premium strategy. Due to the volatility structure, there are certain times in which a volatility premium extraction is more attractive than in others. The emphasis here is on "more" attractive. To account for this, we employ a **dynamic exposure management**, which allows us to increase the strategy's exposure in more attractive volatility environments and to reduce it in less attractive regimes. The second and equally important active element is the **risk management**. Although drawdowns are an important part of volatility risk premium strategies and are at the core of its existence, it is possible to reduce the negative impact of sudden adverse market movements. In the recent past, effective risk management was the key distinctive feature, as demonstrated by the COVID-19 related market crash in February and March 2020.

In general, short volatility strategies are appealing because they employ a passive-like and quantitative investment process free of discretionary elements. In similar market phases, they can thus deliver repetitive and comparable results as the strategy is very consistent in character.

**Sources**

1 As measured by the S&P 500 Index from 01.01.1928 to 31.12.2021: Return of 9.74% p.a.. Source: Bloomberg
2 Source: 7orca Asset Management AG, Bloomberg. 01.01.2018 – 31.12.2021. Past performance is not a reliable indicator of future results. The BVI method is used to determine the performance (not including front-end loads). The performance shown is the isolated performance (carve-out) of the option strategy on Bund Future of the 7orca Vega Return investment fund, share class I. In addition, the investment result may be reduced by the individual deposit costs accrued.
3 Source: 7orca Asset Management AG, Bloomberg. 01.01.2018 – 31.12.2021. Past performance is not a reliable indicator of future results. The BVI method is used to determine the performance (not including front-end loads). The performance shown is the isolated performance (carve-out) of the option strategy on 10Y US Treasury Future of the 7orca Vega Return investment fund, share class I, until. In addition, the investment result may be reduced by the individual deposit costs accrued.
4 Source: 7orca Asset Management AG, Bloomberg. 01.01.2018 – 31.12.2021. Past performance is not a reliable indicator of future results. The BVI method is used to determine the performance (not including front-end loads). The performance shown is the isolated performance (carve-out) of the option strategy on GBP/USD Future of the 7orca Vega Return investment fund, share class I. In addition, the investment result may be reduced by the individual deposit costs accrued.
5 Source: 7orca Asset Management AG, Bloomberg. 01.01.2018 – 31.12.2021. Past performance is not a reliable indicator of future results. The BVI method is used to determine the performance (not including front-end loads). The performance shown is the isolated performance (carve-out) of the option strategy on USD/JPY Future of the 7orca Vega Return investment fund, share class I. In addition, the investment result may be reduced by the individual deposit costs accrued.
6 Source: 7orca Asset Management AG, Bloomberg. 01.01.2018 – 31.12.2021. Past performance is not a reliable indicator of future results. The BVI method is used to determine the performance (not including front-end loads). The performance shown is the isolated performance (carve-out) of the option strategy on GBP/USD Future of the 7orca Vega Return investment fund, share class I. In addition, the investment result may be reduced by the individual deposit costs accrued.
7 Source: 7orca Asset Management AG, Bloomberg. 01.01.2018 – 31.12.2021. Past performance is not a reliable indicator of future results. The BVI method is used to determine the performance (not including front-end loads). The performance shown is the isolated performance (carve-out) of the option strategy on USD/JPY Future of the 7orca Vega Return investment fund, share class I. In addition, the investment result may be reduced by the individual deposit costs accrued

**Disclaimer**

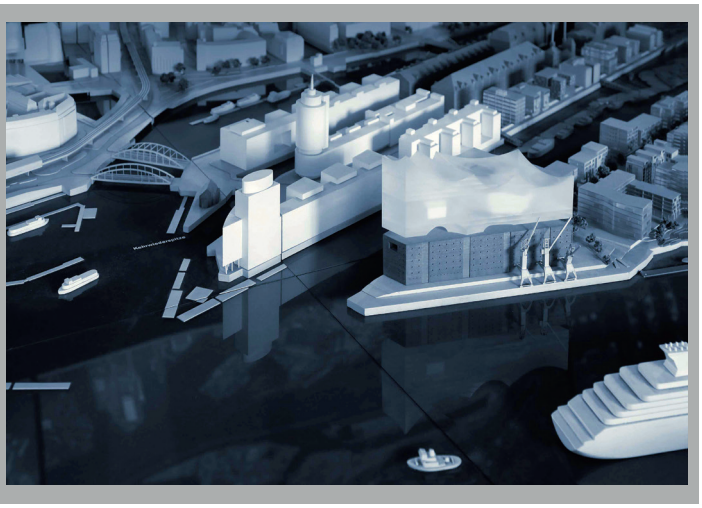
The investment strategy presented in this document is aimed exclusively at professional clients according to the German Securities Trading Act (WpHG) and can only be implemented for such clients (typically in a fund structure). All assumptions, forecasts and information are based on the standardised set-up of the 7orca Vega Return strategy, which was implemented at average market costs. Further information on this standard investment process can be found in the Generic RfP, which is available from 7orca Asset Management AG upon request. Due to the different investor needs and situations as well as the resulting specific pricing, further individual costs for administration and custody are not taken into account. However, 7orca Asset Management AG will be pleased to provide you with a specific offer that reflects your individual requirements and conditions. **Past performance is not a reliable indicator of future results.** All information in this document has been compiled to the best of our knowledge based on the data available to us. However, no civil liability can be assumed in this respect. References to specific financial instruments are purely exemplary and should under no circumstances be construed as recommendations in the sense of investment advice. A publication of 7ora Asset Management AG. (15.03.2022)

**Contacts**

**Tindaro Siragusano, CEO**
tindaro.siragusano@7orca.com
+49 40 33 460 46 10

**Sven O. Mueller, Head of Relationship Management**
sven.mueller@7orca.com
+49 40 33 460 46 13

**7orca Asset Management AG**
Am Sandtorkai 77
20457 Hamburg
Germany



7orca Asset Management AG is an independent, systematic and well-focused asset manager. With its experienced team, the company serves institutional clients with overlay management and short volatility strategies. More information at www.7orca.com